



Desktop Analytics

Solution Guide

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CONTENTS

1: Introducing Desktop Analytics	11
Scope of this Guide	12
Document Revision History	14
2: Desktop Analytics Solution Workflow	23
3: Preparing for the Desktop Analytics Installation	25
Accessing Advanced Process Automation Installation Files	26
Data Mart Installation Prerequisites	27
4: Installing the Desktop Analytics Client	29
Installing the Desktop Analytics Client Component	30
Unattended (Silent) Installation	39
5: Configuring Desktop Analytics Settings	65
Application Monitoring Settings	66
Viewing Application Monitoring Resolvers	67
Troubleshooting the Oracle Forms Display	71
Desktop Application Monitoring Settings	73
Desktop Process Monitor Settings	75
Real-Time Database Clean-up of Records Older Than X Days	77
Configuring Desktop Analytics Parameters for WFM	78
Configuring SmartCenter (TotalView) Parameters for WFM	79
Configuring XML File Parameters for Desktop Analytics	81
Configuring Desktop-to-Citrix Support for Application Usage Events Monitoring ..	87
Desktop-to-Citrix Support for Application Usage Events Monitoring Configuration	88

Configuring Message Days	90
Configuring Masking	91
6: Application and Process Monitoring in Real-Time Designer	93
Defining the Real-Time Designer Desktop Process Monitor	95
Application and Page Display Names	96
Creating Categories for Display Names	98
Importing Selected Application/Page Names into Display Names Table	101
Exporting Display Name Mappings	106
Importing Display Names	106
Exporting Display Names	108
Defining Display Names for Applications and Pages	109
Accessing the Display Names Local File	121
Web Domain and Page Mapping	124
Re-Posting Data	125
Defining Process Monitoring in Real-Time Designer	128
Configuring a Process and Its Tasks	129
Process and Task Design Guidelines	130
Configuring an Automatic Process	131
Configuring Tasks	140
Process Path Discovery	147
Monitoring a Process	149
Process Monitoring Functions	153
Process Functions	154
Task Functions	156
Process Monitoring Properties	157
Using Desktop Work Tracker	158
Desktop Work Tracker Workflow	160
Performing Additional Miscellaneous Configurations	161
Defining Manual Processes and Their Stop Reasons	163
Configuring Process Stop Reasons for Manual Processes	164
Configuring a Manual Process (Desktop Work Tracker)	168
Configuring Activities	173

Customizing the Desktop Work Tracker Client Look-and-Feel	176
Using the Desktop Work Tracker Client	178

7: Desktop Analytics Reports	185
Overview - Working with Reports	186
Accessing Desktop Analytics Reports	187
Selecting Filter Parameters	190
About the Desktop Analytics Reports Drill-down Functionality	194
Desktop Application Analytics Reports	196
Application Usage Report	197
Application Usage Report - Business Impact	198
Application Usage Report - Defining and Running	199
Analyzing the Application Usage Report	201
Employee Productivity Report	208
Employee Productivity Report - Business Impact	209
Employee Productivity Report - Defining and Running	210
Analyzing the Employee Productivity Report	213
Desktop Process Analytics Reports	221
Application Path Analysis Report	222
Application Path Analysis Report - Business Impact	223
Application Path Analysis Report - Defining and Running	224
Analyzing the Application Path Analysis Report	230
Application Usage In Process Report	235
Application Usage In Process Report - Business Impact	236
Application Usage in Process Report - Defining and Running	237
Analyzing the Application Usage In Process Report	240
Process Duration Analysis Report	248
Process Duration Analysis Report - Business Impact	249
Process Duration Analysis Report - Defining and Running	250
Analyzing the Process Duration Analysis Report	253
Running the Application Usage in Process Report	256
Process Utilization Report	258
Process Utilization Report - Business Impact	259
Process Utilization - Defining and Running	260

Analyzing the Process Utilization Report	263
Total Work Item Handling Duration Report	273
Total Work Item Handling Duration Report - Business Impact	274
Total Work Item Handling Duration Report - Defining and Running	275
Analyzing the Total Work Item Handling Duration Report	280
Desktop Work Tracker Reports	283
Application Path Analysis Report	283
Application Path Analysis Report - Defining and Running	283
Analyzing the Application Path Analysis Report	288
Application Usage In Process Report	292
Application Usage in Process Report - Defining and Running	293
Analyzing the Application Usage In Process Report	296
Process Duration Analysis Report	298
Process Duration Analysis Report - Defining and Running	299
Analyzing the Process Duration Analysis Report	300
Running the Application Usage in Process Report	303
Process Utilization Report	304
Process Utilization Report - Defining and Running	305
Analyzing the Process Utilization Report	306
Troubleshooting the Desktop Analytics Reports	315
Missing Data in the Reports	316
8: Server Dashboard - Administrative Reports	317
Administrative Reports in the Server Dashboard	318
Viewing the Auto Update Downloads Report	320
Viewing the Solution Downloads Report	324
Viewing the Logged-in Users Report	328
Viewing the Callout Display Report	329
A: Data Mart Schema	333
Data Mart Table Relationships	335
General Data Mart Schema Tables	337
GNR Tables	338
General DIM Tables	339

Dwh_Sites_Dim	340
Dwh_Calendar_Dim	341
Dwh_Agents_Dim	343
Dwh_Team_Dim	344
KPI Tables	345
KPI_META	346
KPI_RESULT	348
KPI_RESULT_AGGREGATION	350
DC_SAMPLE Table	352
Data Mart Database and Operational Database Jobs	354
Desktop Analytics Data Mart Schema Tables	357
Desktop Analytics DIM Tables	358
Dwh_Tasks_Dim	359
Dwh_QTag_Dim	360
Dwh_Process_Dim	361
Dwh_ApplicationPage_Dim	362
Dwh_HierarchyLevel_Dim	363
Dwh_AgentState_Dim	364
Dwh_Ref_Process_Stop_Reason_Dim	365
DWH_OFF_DESKTOP_REASON_DIM	365
Raw Data Fact Tables	367
Dwh_AgentStateAppPage_Fact	368
Dwh_Task_Fact	370
Dwh_Path_Fact	372
Dwh_Process_Instance_Fact	374
Dwh_Off_desktop_User_Reportings_Fact	375
Aggregated Data Fact Tables	377
Dwh_Application_Day_Fact	378
Dwh_Process_Day_Fact	381
Dwh_ApplicationProcess_Day_Fact	384
Dwh_Task_Day_Fact	387
Data Mart Objects	390
Data Mart Entities	391
Data Mart Durations	392
Data Mart Hierarchies	393

B: Using the Recording Method for Defining Processes and Tasks	395
Recording Workflow	398
Process Recording Toolbar	399
How to Record an Employee Session	401
Recording Pane	402
Recording Pane Information - Per Column Per Event	403
Filter Area	407
Trigger Tab	408
Snapshot Tab	410
Creating a Process	411
C: Integration with Third-Party Applications	413
Application Monitoring REST API	414
User Application REST API	414
Services and Log Files	418
Resolver REST API	419
Resolver Authorization API	419
OpenAM - Best Practice for Token Management	420
Best Practice for Token Management	420
D: Desktop Analytics Best Practices	423
Create and Define Your Desktop Analytics Solution	424
Mapping Display Names and Categories	425
Tips When Mapping Display Names and Categories	429
Define Desktop Process Monitoring - Phase 1	432
Defining Which Processes to Monitor	433
Configure Start and Stop Triggers for the Processes	435
Define Dynamic Process Properties	436
General Process Definition Tips	437
Review Problematic Process Properties	437
Monitor Reports - Phase 1	438
Refine Your Desktop Analytics Solution	439
Define Desktop Process Monitoring - Phase 2	440

Complete Process Triggers That Were Missed	440
Monitor Reports - Phase 2	441
Define Desktop Process Monitoring - Phase 3	442
Desktop Analytics Reports Guidelines	443
Perform Routine Desktop Analytics Activities	444
Use the Reports to Analyze the Cause for Spikes in Productivity	444
Maintain Display Names and Applications	444
Use the Reports to Analyze Efficiency Vs. Productivity	445
Use Application Monitoring to Handle Compliance Issues	445
Reflect Changes in Target Applications	445
Create a Solid Partnership Between the Customer Business and IT	446
Schedule Maintenance Activities	446
 E: Desktop Analytics - WFM Web Services	 449
 F: Data Scripts	 455
Data Validation Script	456
Application and Page Display Names Script	458

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Introducing Desktop Analytics

The Desktop Analytics solution is part of the Advanced Process Automation system.

NOTE:

- The Desktop Analytics solution was previously known as the Real-Time Activity Monitoring (RTAM) solution.
- NICE Advanced Process Automation was previously known as NICE Real-Time Solutions.

This solution guide provides a comprehensive guide to the Desktop Analytics solution.

Contents

Scope of this Guide	12
Document Revision History	14

Scope of this Guide

This guide was updated for NICE Advanced Process Automation Release 7.0, previously known as NICE Real-Time Solutions.

Who should use this guide?

This guide is intended for personnel responsible for managing the Desktop Analytics processes to be monitored in the Real-Time Solutions system.

NOTE: Before using this guide, users should be familiar with the concepts described in the *Designer User Guide*, particularly Physical Objects, Screen Elements, Business Entities and Business Logic, including Rules and Event Handlers.

What is included in this guide?

- Installation and configuration
- Overview of Process and Application Monitoring
- Process Monitoring: guidelines, configuration, and usage
- Application Monitoring: configuration and usage
- Best practices
- Reports: running reports and creating reports
- Server administration
- Database schema management

What is not included in this guide?

For these additional related procedures:	See the following:
For details about concepts and examples introduced in this guide.	<i>Designer User Guide</i> <i>System Administration Guide</i>
To define Physical Objects, Screen Elements, Business Entities and Business Logic, including Rules and Event Handlers.	<i>Designer User Guide</i>
Define data collection.	<i>Designer User Guide</i>

For these additional related procedures:	See the following:
Configuring settings in Process Path Discovery.	<i>System Administration Guide</i>
Details on the Monitor.	<i>Designer User Guide</i>
Creating reports in Real-Time Designer	<i>Designer User Guide</i>
Real-Time Solutions reports.	<i>Designer User Guide</i>
Limitations	<i>Advanced Process Automation Release Notes</i>

Document Revision History

Revision	Software Version	Date	Description
7.0-A1	Advanced Process Automation 7.0	February 2019	<ul style="list-style-type: none">■ Updated note in Installing the Desktop Analytics Client Component on page 30
7.0-A0	Advanced Process Automation 7.0	December 2018	<ul style="list-style-type: none">■ Added Integration with Third-Party Applications on page 413:<ul style="list-style-type: none">■ Application Monitoring REST API on page 414■ Resolver REST API on page 419■ Added the new Real-Time Site Launcher for Single Client Package. See: Silent Installation: EGRUNONSTARTUP on page 53 .■ Added new silent parameters for Automation Finder. See Unattended (Silent) Installation on page 39.■ Client and Designer servers must be installed in a secure environment with HTTPS. Removed EG SERVER HTTPS and EG SERVER PORT from Unattended (Silent) Installation on page 39.
6.7-A0	Advanced Process Automation 6.7	May 2018	<ul style="list-style-type: none">■ Updated Data Mart Database and Operational Database Jobs on page 354.■ Added Configuring Masking on page 91.

Revision	Software Version	Date	Description
A9	Advanced Process Automation 6.6	July 2017	<ul style="list-style-type: none">■ Added additional jobs to Data Mart Database and Operational Database Jobs on page 354.■ Updated Real-Time Solutions to Advanced Process Automation and RTAM to Desktop Analytics.■ Added parameter to age Desktop Analytics messages. See Configuring Message Days on page 90.

Revision	Software Version	Date	Description
A8	Real-Time Solutions 6.5	February 2017	<ul style="list-style-type: none">■ Added Importing Display Names on page 106.■ Added Exporting Display Names on page 108.■ Added search for a process in Desktop Work Tracker. See Using Desktop Work Tracker on page 158■ Updated Desktop Work Tracker button to Activity (instead of Off Desktop). See Using Desktop Work Tracker on page 158■ Updated the change to the active_application_threshold . See Desktop Analytics - WFM Web Services on page 449.■ Updated the description of idle and lock to include the DWT activity. See Desktop Analytics - WFM Web Services on page 449.■ Added the options to configure which messages to send from the RT Client to the Web Server. See Desktop Analytics - WFM Web Services on page 449.■ Added selecting an activity (with no processes enabled). See Using Desktop Work Tracker on page 158 and Performing Additional Miscellaneous Configurations on page 161.■ Added specifying the maximum and minimum length of the process UID. See Using Desktop Work Tracker on page 158 and Performing Additional

Revision	Software Version	Date	Description
			<ul style="list-style-type: none">■ Miscellaneous Configurations on page 161.■ Added maximum number of stop reasons. See Configuring Process Stop Reasons for Manual Processes on page 164 and Performing Additional Miscellaneous Configurations on page 161.■ Added the queue tag limitation of 64 characters. See Configuring a Manual Process (Desktop Work Tracker) on page 168 and Configuring an Automatic Process on page 131.■ Updated Importing Selected Application/Page Names into Display Names Table on page 101 to include the automated list of generic Display Names as a mapping suggestion.■ Added data scripts. See Data Scripts on page 455.
A7	Real-Time Solutions 6.4	July 2016	Added note regarding Other Periods category to Employee Productivity Report - Defining and Running on page 210.
A6	Real-Time Solutions 6.4	June 2016	Guide Reorganization

Revision	Software Version	Date	Description
A5	Real-Time Solutions 6.4		<ul style="list-style-type: none">■ Reports:<ul style="list-style-type: none">■ Updated the Process Duration Analysis Report (see Analyzing the Process Duration Analysis Report on page 253).■ Added the Total Work Item Handling Duration Report on page 273.■ Updated the Employee Productivity Report with the new Running the Application Usage Report on page 219 drill-through.■ Updated the Data Mart schema.■ Updated the deployment flow (see Desktop Analytics Solution Workflow on page 23.)■ Added a new chapter on the Desktop Work Tracker feature (see Using Desktop Work Tracker on page 158 for details).■ Revised the chapter Defining the Real-Time Designer Desktop Process Monitor on page 95.■ In the Real-Time Designer Process Monitoring procedure, added the new manual and automatic processes configuration procedures (see Configuring a Process and Its Tasks on page 129 for details).■ Updated the Accessing Advanced Process Automation Installation Files on page 26 page.

Revision	Software Version	Date	Description
			<ul style="list-style-type: none"> ■ Updated Installing the Desktop Analytics Client Component on page 30 including WFM support. ■ The page Removing Raw Data from Display Names was updated to Masking Raw Data in Display Names on page 117 per the change to the UI. ■ Added the appendix Desktop Analytics - WFM Web Services on page 449.
A4	Real-Time Solutions 6.3		<ul style="list-style-type: none"> ■ Updated the explanation on configuring tasks (see Configuring Tasks on page 140 for details). ■ Added troubleshooting missing data in RTAM Reports. See Missing Data in the Reports on page 316
A3	Real-Time Solutions 6.3	December 2015	<ul style="list-style-type: none"> ■ Added an explanation on using tasks with processes. ■ Updated the deployment flow. ■ Added an explanation on tasks and processes and their statuses. ■ Updated the configuration parameter names and references in Importing Selected Application/Page Names into Display Names Table on page 101 ■ Updated the RTAM client component installation procedure.

Revision	Software Version	Date	Description
A2	Real-Time Solutions 6.3	August 2015	<p>Added information on the Data Mart Database and Operational Database jobs (see Data Mart Database and Operational Database Jobs on page 354 for details).</p>
A1	Real-Time Solutions 6.3	June 2015	<ul style="list-style-type: none">■ Added a revised Data Mart Schema chapter (see Data Mart Schema on page 333 for details).■ KPIs have been changed to Success Measurements throughout the guide.■ Updated the Configuring a Process and Its Tasks section.■ Updated the Process Path Discovery section (see Process Path Discovery on page 147).■ Updated the deployment flow.■ Added new RTAM reports (see Desktop Analytics Reports on page 185 for details).■ Updated the section Desktop-to-Citrix Support for Application Usage Events Monitoring Configuration on page 88■ Updated the section Application and Page Display Names on page 96■ Updated the section Installing the Desktop Analytics Client on page 29

Revision	Software Version	Date	Description
A0	Real-Time Solutions 6.3	June 2015	<p>A new solution guide for release 6.3.</p> <p>Includes:</p> <ul style="list-style-type: none">■ Updated reports (see Desktop Analytics Reports on page 185)■ Data Mart Database Schema■ Defining Desktop Analytics Categories Per Group on page 118

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Desktop Analytics Solution Workflow

The following table details the workflow for installing and running the Desktop Analytics solution.

NOTE:

This Solution Guide contains all of the information that is specific to the solution you are deploying.

In this document, you may also be referred to other NICE documentation for additional information. Please note that other NICE documentation may contain references to NICE solutions and products that are not relevant to your solution.

Task	Description	Reference
Prerequisites		
1.	<p>Review and verify that all prerequisites are in place before beginning the deployment process.</p> <p>NOTE: For all sizing requirements, see <i>Advanced Process Automation Design Document</i>.</p>	See <i>Site Preparation Guide</i>
2.	Install the Real-Time Server with Data Mart and Cognos Reporting.	See Installing a Clean Real-Time Server with Data Mart Database in the <i>Server Installation and Upgrade Guide</i>

Task	Description	Reference
3.	<p>Install the Real-Time Client and Designer.</p> <p>NOTE: When installing the Real-Time Client and Designer, if you use the Oracle Forms application and need to monitor it, in the installation Custom Setup window, make sure you install the Java Connector and Oracle Forms components.</p>	See <i>Client and Designer Installation Guide</i>
4.	Access the Desktop Analytics Client files from the NICE Software Download Center and Install the files.	See Accessing Advanced Process Automation Installation Files on page 26
Install and configure Real-Time Designer and Client and Desktop Analytics Component		
5.	Install the Desktop Analytics Client.	See Installing the Desktop Analytics Client on page 29
Configure Desktop Analytics Settings		
6.	Configure Desktop Analytics in the Real-Time Designer.	See Configuring Desktop Analytics Settings on page 65
Application monitoring		
7.	<p>Define the Real-Time Designer Desktop Process Monitor</p> <p>Define Process Monitoring in the Real-Time Designer</p>	See Application and Process Monitoring in Real-Time Designer on page 93
8.	Set up the back-office using Desktop Work Tracker	See Using Desktop Work Tracker on page 158
Set up and generate reports		
9.	Generate Desktop Analytics Reports.	See Desktop Analytics Reports on page 185
10.	Generate Server Dashboard - Administrative Reports.	See Administrative Reports in the Server Dashboard on page 318

3

Preparing for the Desktop Analytics Installation

This section describes the procedures that must be performed before installing Desktop Analytics.

Contents

Accessing Advanced Process Automation Installation Files	26
Data Mart Installation Prerequisites	27

Accessing Advanced Process Automation Installation Files

Advanced Process Automation software components are available as part of the customer order on the NICE Software Download Center (NSDC), depending on the purchase order.

NOTE: The graphics below are by way of example only. Release numbers and packages may vary.

► To access the latest Advanced Process Automation software:

1. Navigate to NICE Software Download Center, or **NSDC > Product Updates**.

The Product Updates page appears.

2. Click **Advanced Process Automation**.

For more details, see the *Client and Designer Installation Guide*.

Data Mart Installation Prerequisites

Please verify that the following prerequisites are in place before beginning the installation:

Requirement	Details	Comments
SQL Server	SQL Enterprise Edition version 12	
Authentication Prerequisites	<p>Verify that the SqlServer login credentials, which will be used in the installer to create the Data Mart Database, have the relevant Server Roles permissions.</p> <p>➡ To verify permissions:</p> <ol style="list-style-type: none"> 1. Open Microsoft SQL Server Management Studio, locate the database and navigate to Security > Logins. 2. Locate the login name, right-click it and select Properties. 3. In the Login Properties window, click Server Roles. 4. Verify that the following Server Roles are selected and then click OK. <ul style="list-style-type: none"> ■ Bulkadmin ■ Public ■ Sysadmin 	
Domain Name	If you are using Windows Authentication (and not SQL Server Authentication), you will need to define a domain user and password before you begin installing.	Required only for Windows Authentication.
Install Integration Services(SSIS)	The Data Mart must be installed with Integration Services.	Run SQL 2012 EE installer again, select Features, then click on Integration Services and run to install it.

SSIS Project Location on the SQL Server	Define a folder in the SQL Server to which you will be copying the SQL Server Integration Services (SSIS) Project.	
.Net 4.5 Framework	This installation requires the .Net 4.5 Framework to be installed on the machine. If not installed, the setup wizard will automatically install it for you.	
Windows Authentication	<p>If you wish to install the Data Mart Database using Windows Authentication, you will need to verify that the Operational Database is installed using Windows Authentication.</p> <p>You will also need to verify that the Windows user (DOMAIN\User and password) is the same user in both installations or use two users in the same domain that have SysAdmin permissions to both the Data Mart Database and the Operational Database.</p> <p>If your site uses Windows Authentication, before installing the Real-Time Server, verify you have already performed the procedures in the System Administration Guide in the section Configuring OpenAM with Windows Desktop SSO Module.</p> <p> Important! If you are using Windows Authentication and are planning to install the Data Mart Database and Data Hub Operational Database on separate machines, do not connect the Data Hub to the Data Mart during the installation process. Instead, use the Data Mart UI.</p>	

4

Installing the Desktop Analytics Client

This section describes how to install the client components that support Desktop Analytics. These components must be installed only **after** installing the Advanced Process Automation system.

Contents

Installing the Desktop Analytics Client Component	30
Unattended (Silent) Installation	39

Installing the Desktop Analytics Client Component

For Desktop Analytics implementations, **after installing the Advanced Process Automation system**, you must also install the component that supports the Desktop Analytics module on the Real-Time Client.

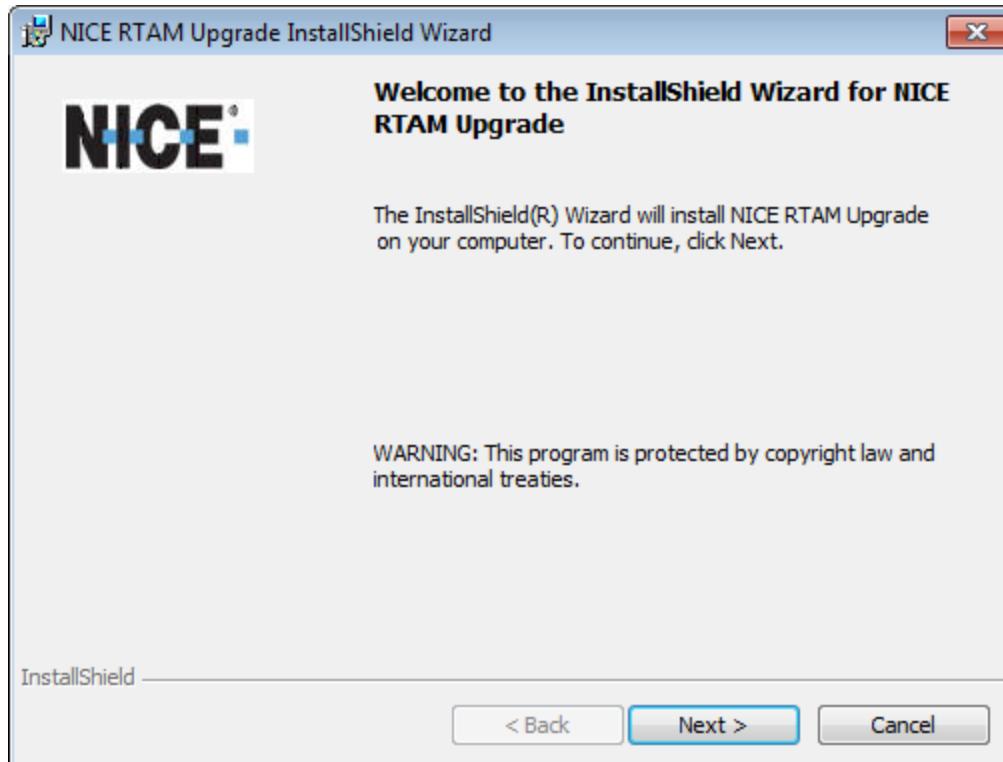
To install the Desktop Analytics Component for the Client using **silent installation** go to [Unattended \(Silent\) Installation](#) on page 39.

NOTE: The client component should be installed only **after** installing the Advanced Process Automation system. Make sure you have also installed RTClient first before installing this component.

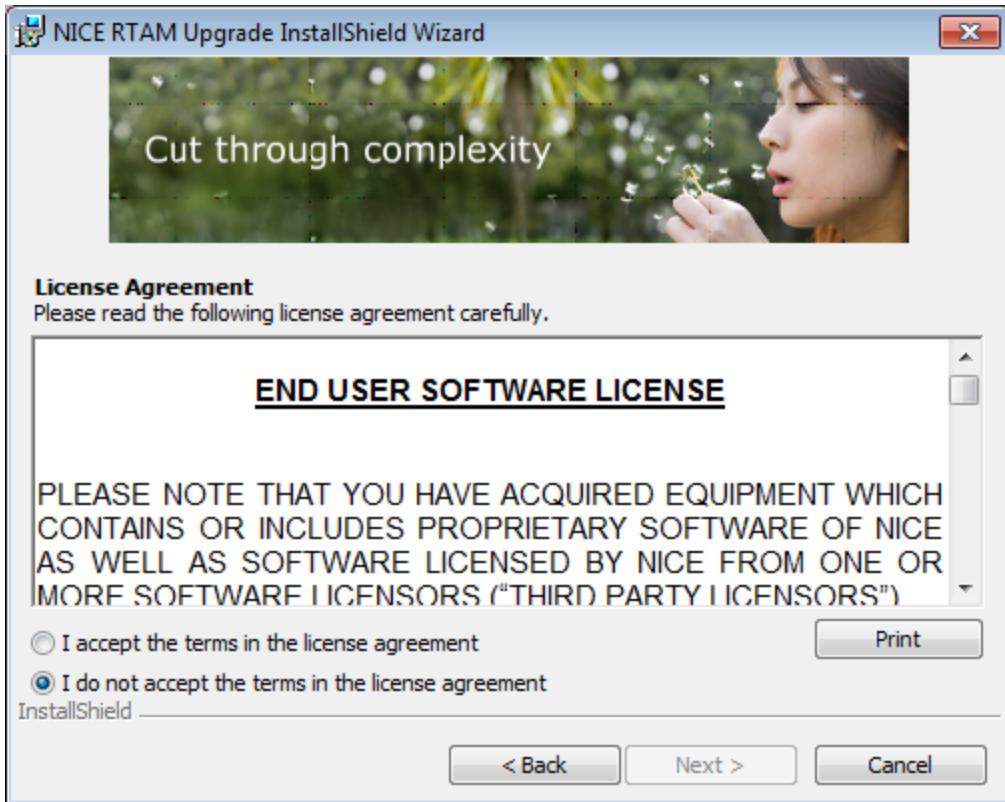
To install the component that supports the Desktop Analytics module, use the following procedure.

► To install the Desktop Analytics component for the Real-Time Client:

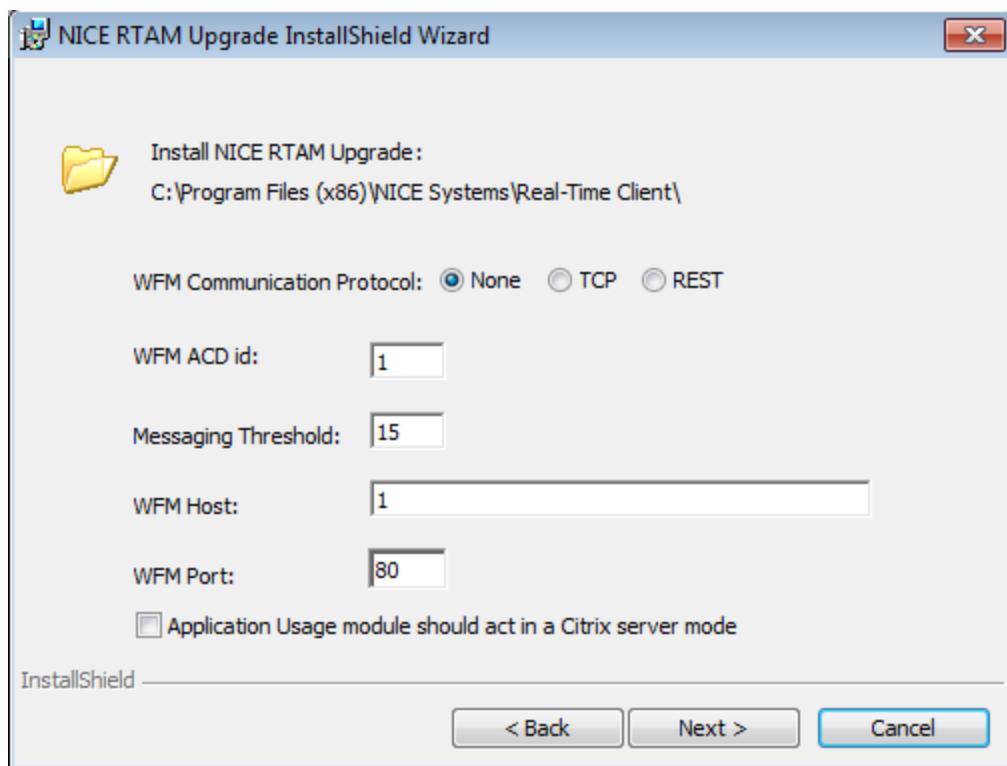
1. On the Client machine, double-click the **NICE RTAM Upgrade Rx.x.x.msi** installation file. The installation wizard starts and the Welcome window appears.



2. Click **Next**. The License Agreement window appears.



3. Select the **I accept the terms in the license agreement** radio button and click **Next**.
The installation destination window is displayed.

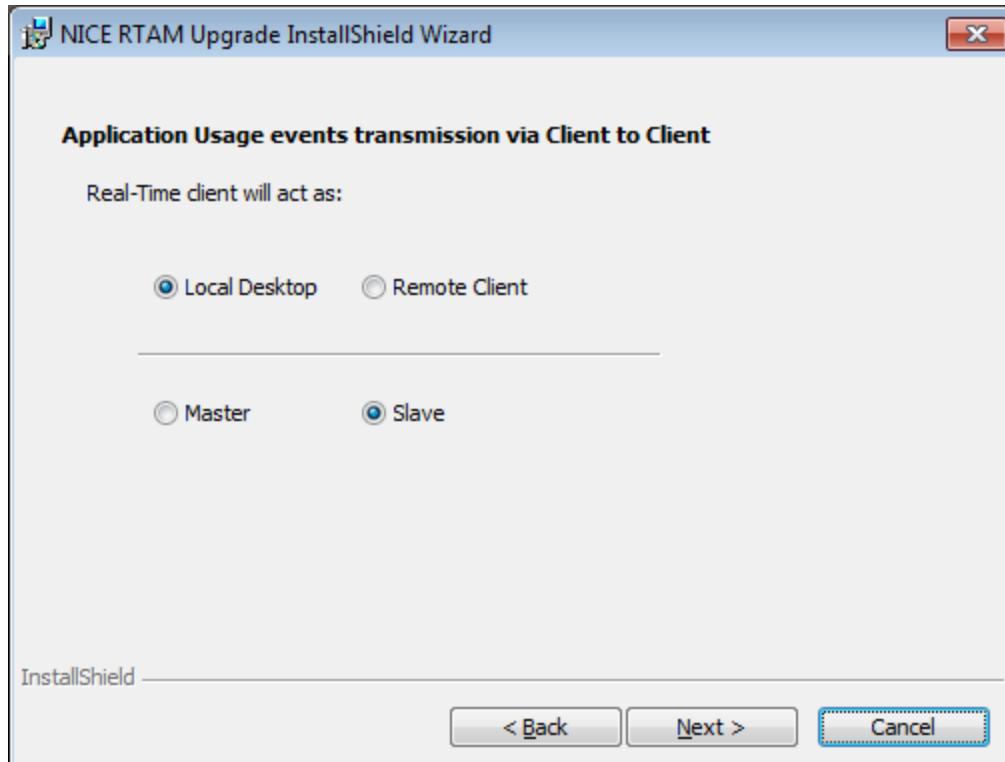


4. In this, specify the following:
 - a. If you are using an Aggregator server, in the **WFM Communication Protocol** select the protocol you intend to use (if at all): **TCP** or **REST**. If you are not using an Aggregator server, leave the default **None**.
 - b. In the **Messaging Threshold** field, specify how often the Real-Time Client sends the last event for the Process, Agent and Application states after a change occurs (if nothing has occurred, no notification is sent). The default is 15 seconds.

NOTE: The threshold is configured in seconds; the number of seconds are counted from when the last event was sent, if an event occurred.
 - c. In the **WFM Host** field, enter the Aggregator server's IP or Fully Qualified Domain Name.
 - d. In the **WFM Port** area, enter the Aggregator server's Port number (the default is 80).

5. *(Optional)* To use the Desktop Monitoring module for client-to-client communication, select **Application Usage module should act in Citrix server mode**. In this scenario, one client sends application usage data to another client, and not directly to the Real-Time Server. The Real-Time Client that receives the data aggregates the information for both itself and the *remote* client.
6. If your Desktop Monitoring module will **not** work using client-to-client communication, continue with [Step 8](#).

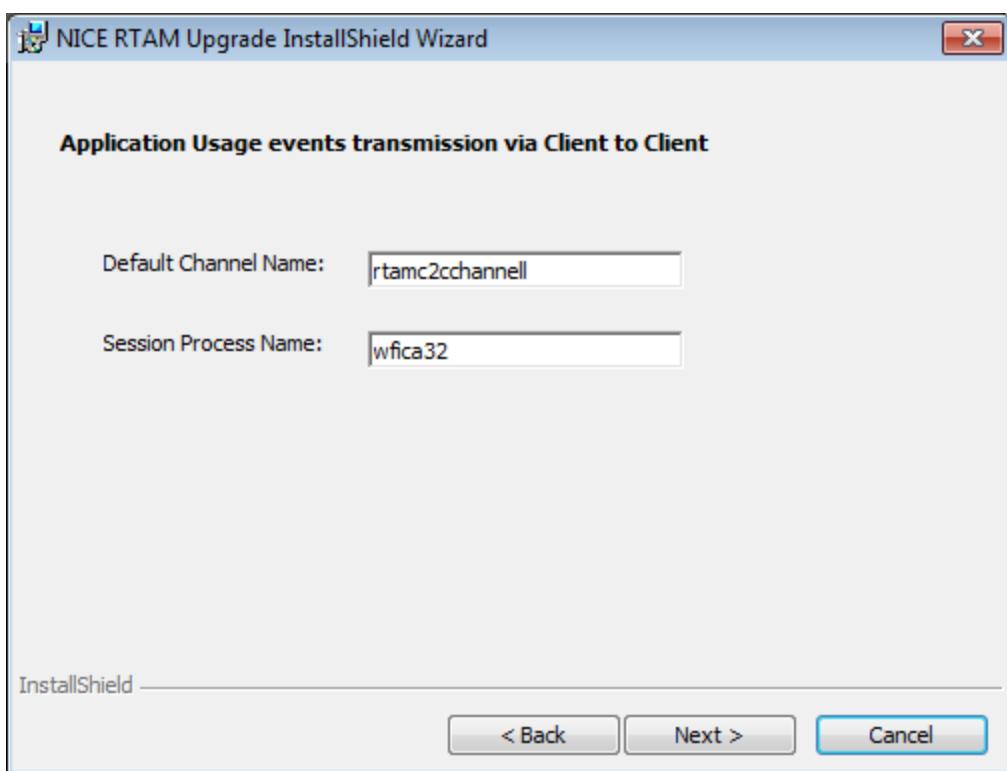
The Application Usage events transmission via Client to Client window is displayed.



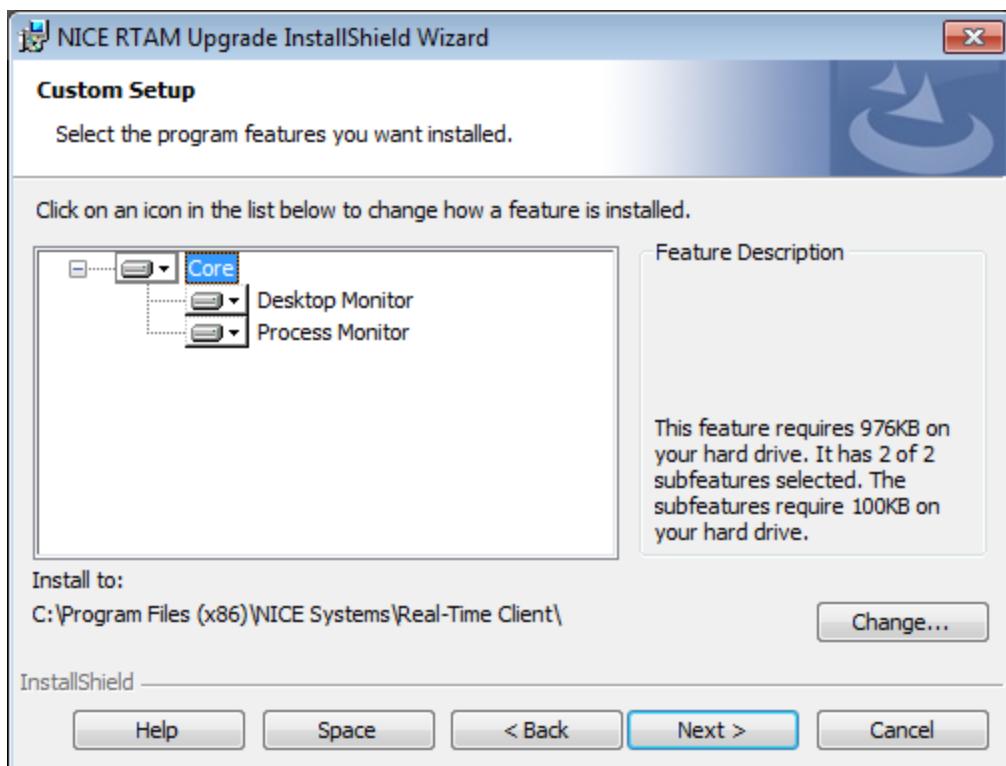
NOTE: This option refers to application usage information only.

- e. In the top row of radio buttons, define the client type for this installation. Select one of the following radio buttons in that row:
 - **Local Desktop:** The client is installed locally on the client desktop.
 - **Remote Client:** The Real-Time Client is installed on the Citrix server. In this case, the installation itself is run on the Citrix server.

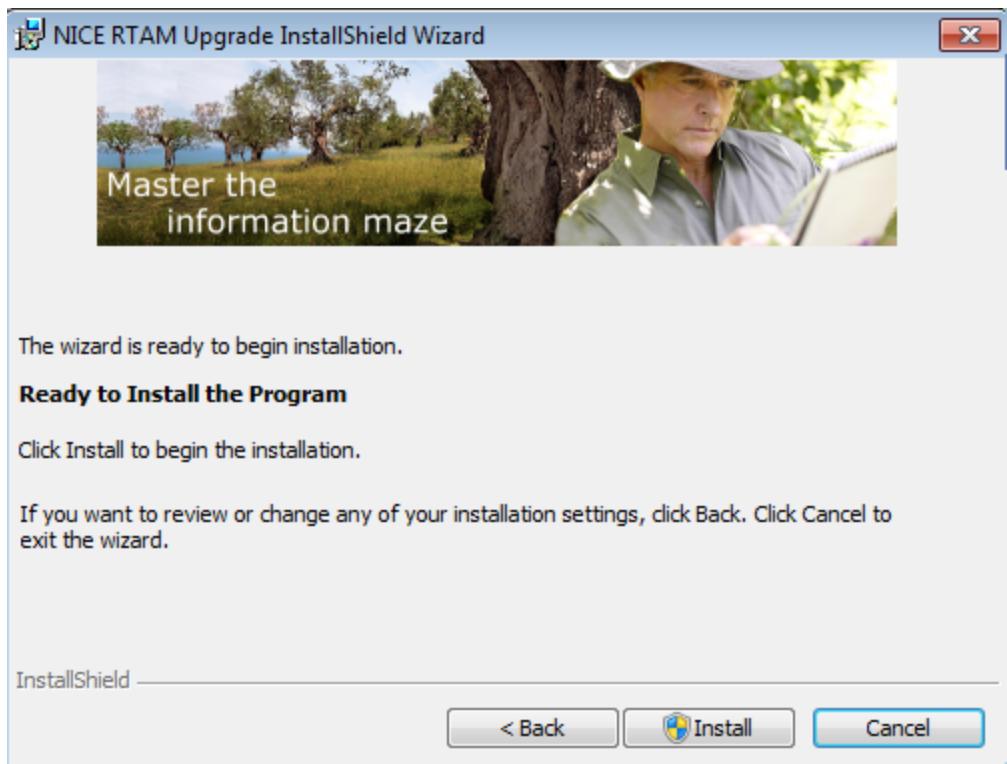
- f. In the second row of radio buttons, specify whether the current installed Real-Time Client will send the application usage **directly** to the Real-Time Server or to a **different** client that in turn sends the information. This communication is performed using a dedicated virtual Citrix channel. Select one of the following radio buttons in that row:
 - **Master:** When selected, the Real-Time Client sends its application usage information directly to the Real-Time Server. In addition, the Real-Time Client sends any application usage information received from other Real-Time Clients to the Real-Time Server.
 - **Slave:** The Real-Time Client sends the application usage information to a master client.
- g. Click **Next** to display the next window.



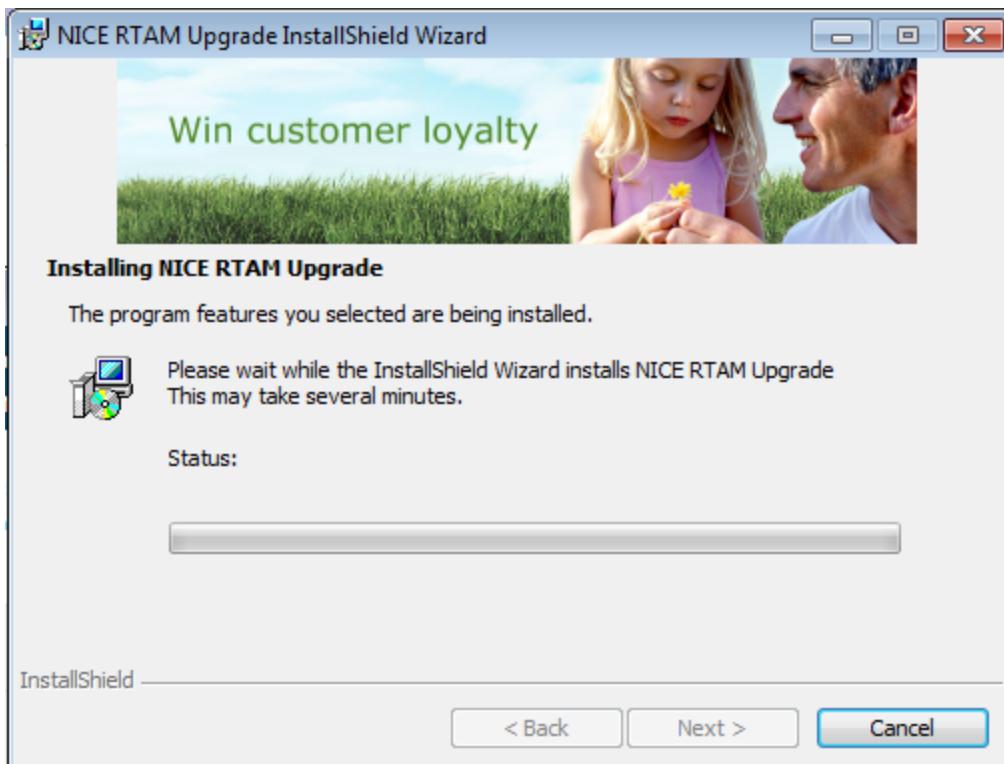
- h. Specify how application usage events are to be transmitted using client-to-client communication by selecting one of the following options:
 - In the **Default Channel Name** field, specify the Citrix channel to be used for client-to-client communication when sending application usage information.
 - In the **Session Process Name** field, specify the Citrix session process name used to identify that the application usage information arrived from Citrix.
7. Click **Next**. The Custom Setup window is displayed.



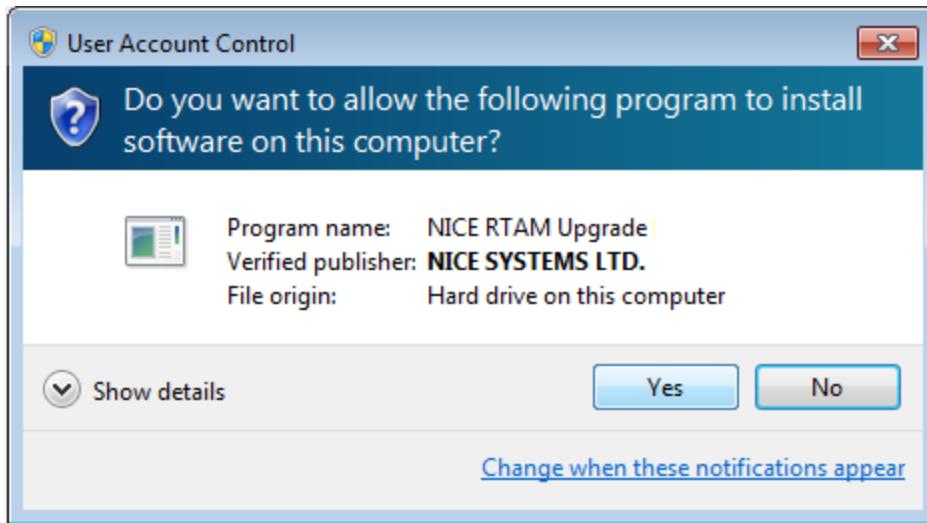
8. Select **Core** and click **Next**. The Ready to Install the Program window is displayed.



9. Click **Install**. The installation begins.

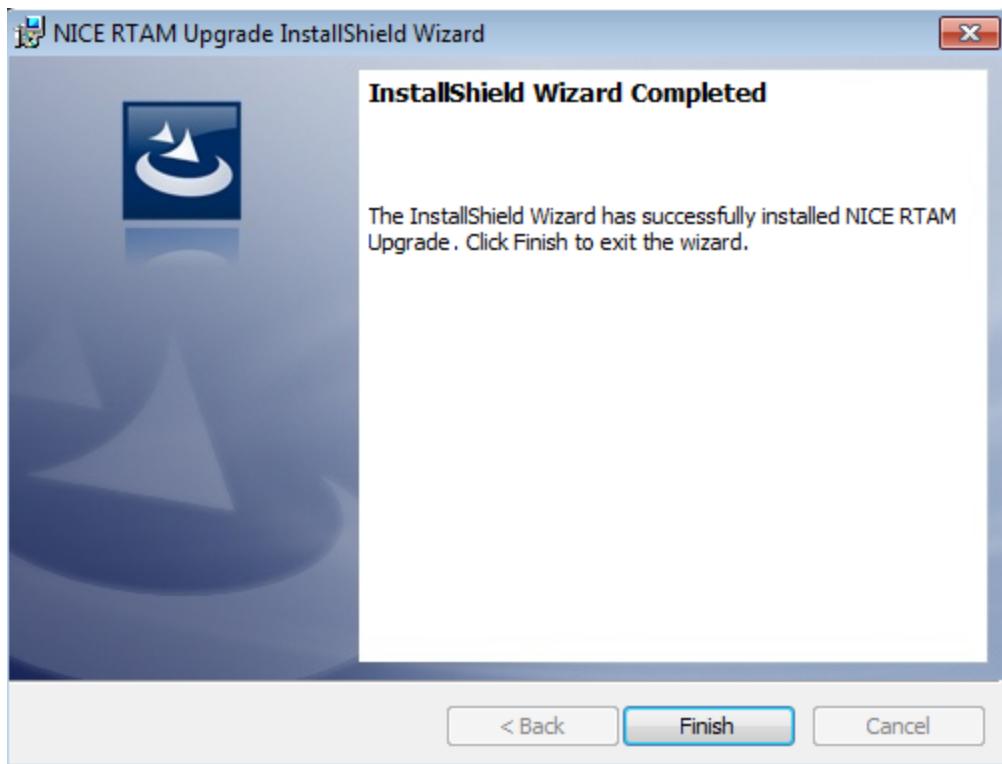


10. If the User Account Control window is displayed, click Yes.



11. When the setup wizard completes, click Finish.

Installing the Desktop Analytics Client Component



Unattended (Silent) Installation

It is possible to install the Desktop Analytics component silently using a command line. The syntax of the silent installation for the client is:

```
msiexec /i "RTAM Upgrade.msi" /qn EG_DESKTOP="3" EG_PROCESS="3" EGAGGREGATOR=rest EGHOST="1.1.1.1"  
EGPORT="1" EGWFMACDID="2" EGWFMMMSGTHROTTLE="15"
```

In this example, Desktop Analytics is installed with sending messages to the **Aggregator** (IP: 1.1.1.1; port: 1), and both **Desktop Monitoring** (EG_DESKTOP) and **Process Monitoring** (EG_PROCESS) are installed.

NOTE: When installing the silent installation, both the EG_DESKTOP and EG_PROCESS values must appear and must equal 3.

The parameters for the arguments are detailed in the following table:

Table 4-1: Unattended (Silent) Installation Syntax Parameters

Property	Values	Default value	Description	Used In...
ACTIVE_INSTANCE	True / False	False	Used for Screen Connectivity general configuration.	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
AF_ENABLE	True / False True = Collect data from the Client for Automation Finder False = Do not collect data for Automation Finder	False	When using Automation Finder, must be set to True.	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
AF_HASHING	<p>none / hide / securehash / mask</p> <p>none = save as plain text.</p> <p>Hash anything that might be a password (length 8-16 characters with a combination of digits or symbols and upper and lower case letters).</p> <p>hide = text is not saved.</p> <p>securehash =</p> <p>Text and url parameters are hashed.</p> <p>Passwords are hashed.</p> <p>Title of active window: Hash when there are more than 4 consecutive digits.</p> <p>mask =</p> <p>Text: replace digits with 'd', lower-case letters with 'c', and upper-case letters with 'C'.</p> <p>Url: mask everything after '?'.</p>	none	Determines how data is stored.	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
	Title of active window: Hash when there are more than 4 consecutive digits.			
AF_SENSITIVEAPPS	Comma separated list	empty	If AF_HASHING is not securehash, you can still apply securehash properties to specific applications. This is a comma separated list of applications by their process name. Example: explorer, notepad++	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
BUSINESSUSERNAME	Text string	When EGUSEWINAUTH value is set to No , the default path is: RTRA\RTClient1 When EGUSEWINAUTH value is set to Yes , the default path is: RTRA RTClient username	Indicates the Robotic Automation Client user name.	Client
DOMAIN	Text string	no value	Domain name to be used for Server authentication.	Client
EG_DESKTOP	2 = Not installed. 3 = Installed.	2	Indicates whether or not to install RTAM's desktop monitoring component.	RTAM
EG_PROCESS	2 = Not installed. 3 = Installed.	2	Indicates whether or not to install RTAM's process monitoring component.	RTAM

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EG_VCRE	1 = checked. No value = unchecked.	1	Indicates whether or not to install vcredist_x86.	Designer Client
EGAGGREGATOR	1 or Not included	Not included	Indicates whether or not to send messages to the aggregator server.	RTAM
EGAPPDATAFOLDER	Text string	%appdata%	Path to custom APPDATA Folder.	Designer Client
EGAPPMONMODE	master/slave	not included	Application monitoring mode	RTAM
EGAUTOUPDATE	1 = checked. No value = unchecked.	no value	Indicates whether or not to activate automatic updates.	Designer Client
EGC2CCHANNEL	Text string	no value	Default channel name.	RTAM

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGC2CTYPE	citrixlocal/citrixserver	no value	How the Real-Time Client should act.	RTAM
EGC2C	1 = checked. No value = unchecked.	no value	When set to 1, indicates that the application usage module should work in Citrix server mode.	Client RTAM
EGCACRM	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Java connector for Amdocs CRM.	Designer Client
EGCCTIT	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Java connector for CTI Tool Bar.	Designer Client
EGCHROME	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Chrome connector.	Designer Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGCJAVA	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Generic Java connector.	Designer Client
EGCNET	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the .NET connector.	Designer Client
EGCOFFICE	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Microsoft Office connector.	Designer Client
EGCONTEXT	Text string		Context	Designer Client
EGCORACLEF	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Java connector for Oracle Forms.	Designer Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGCOS	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Operating System connector.	Designer Client
EGCPB	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Power Builder connector.	Designer Client
EGCREATE_NATIVE_IMAGE	True / False	FALSE	Create native image	Designer Client
EGCS6	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Siebel 6 connector.	Designer Client
EGCSAP	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the SAP connector.	Designer Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGCTERMINAL	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Terminal connector.	Designer Client
EGDEFAULTP	Text string	no value	Default solution to load	Designer Client
EGDESKTOPICON	True / False	TRUE	Indicates whether or not to create a desktop shortcut for the Real-Time Client.	Designer Client
EGFIREFOX	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not the Firefox connector is installed.	Designer Client
EGFLEX	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Adobe Flex connector.	Designer Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGFQDN	True / False	FALSE	Indicates whether or not the Real-Time Client should use FQDN.	Designer Client
EGHOST	hostname/IP address.	No value	Specifies the aggregator hostname. Specifies the Server hostname.	RTAM ITI Bridge - all versions
EGINSTALLJAVA	2 = Not installed. 3 (or no value) = Installed.	2	Install java connector	Designer Client
EGLICENSE	Text string	No value	The license key.	Designer Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGLOUD	True / False	TRUE	Silent / GUI installation.	Designer Client RTAM
EGMSGFLDR	Text string			TI 4.1
EGpauseRecordingFailedText	Text string	Pause Recording Failed	Describes the actual text which will appear if pause failure occurs.	ITI Bridge 4.1.4x ITI Bridge 6.3
EGpauseRecordingSucceededText	Text string	Pause Recording Succeeded	Describes the actual text which will appear when pause success occurs.	ITI Bridge 4.1.4x ITI Bridge 6.3

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGPORT	Number	No value	Specifies the aggregator port. Specifies the Server port number.	RTAM ITI Bridge - all versions
EGPW	Text string	anonymous	The User password.	Designer Client
EGreruleRecordingFailedText	Text string	Resume Recording Failed	Describes the actual text which will appear if resume recording failure occurs.	ITI Bridge 4.1.4x ITI Bridge 6.3

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGRresumeRecordingSucceededText	Text string	Resume Recording Succeeded	Describes the actual text which will appear when resume recording success occurs.	ITI Bridge 4.1.4x ITI Bridge 6.3
EGRTRAPORT	Number	1414	Indicates the Robotic Automation Server port.	Client
EGRTRASERVER	FQDN	hostname.domain	Indicates the Robotic Automation Server fully qualified domain name.	Client
EGRTRASYSLOG	FQDN	hostname.domain	Indicates the Robotic Automation syslog fully qualified domain name.	Client
EGRTRATIMEOUT	Number	600000	Indicates the Robotic Automation Client conversation timeout in milliseconds.	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGRTRA	Yes / No	no	Indicates how the Client should act in Robotic Automation mode. If you select Yes, then on startup, this will force activate autoupdate & RTI Launcher .	Client
EGRUNONSTARTUP	startup = Start the Client during startup. launcher = Start the RTI Launcher during startup as a process. service = Start the RTI Launcher during startup as a service. sitelauncher = Start the RTI Site Launcher during startup as a process. This is for Single Client Package. false = Do not start the Client or RTI Launcher during startup. You can start them manually as needed.	launcher	Indicates whether or not the Client, RTI Launcher, or RTI Site Launcher are automatically started when the machine starts. If the RTI Launcher or RTI Site Launcher are started, then they automatically start the Client. If the RTI Launcher is started as a service, then it can only be stopped by an administrator.	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGSERVERIP	FQDN	hostname.domain	RTPO server fully qualified domain name.	Designer Client
EGSHOWCALLOUT	1 = checked. No value = unchecked.	no value	Show callout for feedback on recording automation actions.	ITI 4.1 Web Analytics
EGSHOWSYSTRAYICON	1 = checked. No value = unchecked. "" = unchecked.	1	Show Client icon in System Tray	Client
EGSIDEBYSIDE	True / False	no value	Indicates whether or not to install the ITI Bridge side by side.	ITI 6.3
EGSIEBEL	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the Siebel connector.	Designer Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGSTARTMENUICON	True / False	TRUE	Indicates whether or not to create a Start menu icon for the Real-Time Client.	Designer Client
EGstartRecordingFailedText	Text string	Start Recording Failed	Describes the actual text which will appear in the event of start recording failure.	ITI Bridge 4.1.4x ITI Bridge 6.3
EGstartRecordingSucceededText	Text string	Start Recording Succeeded	Describes the actual text which appears in the event of start recording success.	ITI Bridge 4.1.4x ITI Bridge 6.3

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGstopRecordingFailedText	Text string	Stop Recording Failed	Describes the actual text which appears in the event of stop recording failure.	ITI Bridge 4.1.4x ITI Bridge 6.3
EGstopRecordingSucceededText	Text string	Stop Recording Succeeded	Describes the actual text which appears in the event of stop recording success.	ITI Bridge 4.1.4x ITI Bridge 6.3
EGSVNHTTPS	1 = checked. No value = unchecked.	0	Selection of HTTP or HTTPS in GUI/silent installation.	Designer
EGSVNIP	FQDN	hostname.domain	SVN server fully qualified domain name.	Designer

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGSVNPORT	Number	For HTTP, the default is 3691. For HTTPS, the default is 3692.	SVN server port.	Designer
EGSYNCINTERVAL	Number	30	Synchronize interval in minutes.	Iti 4.1
EGUSERNAME	Text string	anonymous	The User name.	Designer Client
EGUSEWINAUTH	Yes / No	Yes	Use windows authentication	Designer Client
EGVAPPNAME	Text string	No value	Indicates the session process name.	RTAM
EGWPF	2 = Not installed. 3 (or no value) = Installed.	2	Indicates whether or not to install the WPF connector.	Designer Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
EGWRITETOAPPDATARTRA	0 or 1	1	When set to 1 or omitted, indicates that write settings are to the Application Data folder. When set to 0, write settings are not to the Robotic Automation Application Data folder.	Client
EGWRITETOAPPDATA	1 or 0	0	When set to 1 or omitted, indicates that write settings are to the Application Data folder. When set to 0, write settings are not to the Application Data folder.	Designer Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
INSTALLDIR	Directory path	%Program Files (x86)%\NICE Systems\Real-Time Designer %Program Files (x86)%\NICE Systems\Real-Time Designer	Installation directory	Designer Client
RANODELIST	Text string in the format: node1:portA,node2:portB,node3: portC...	No value	A list of cluster nodes used for Robotic Automation.	Client
SAME_PROCESS	True / False	false	Used for screen connectivity general configuration.	Client
SOAPListenerEnabled	True / False	True	Enable or disable the Real-Time Client API.	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
SOAPLISTENERMAXPORT	number between 1024-65535	41414	Defines the Real-Time Client API highest port number in the available port range.	Client
SOAPLISTENERMINPORT	number between 1024-65535	41414	Defines the Real-Time Client API lowest port number in the available port range.	Client
SOAPListenerPort	number	8080	The Real-Time Client API port number.	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
SOAPLISTENERRESOLUTIONMETHOD	WindowsUsernameOnly WindowsUsernameWithDomain WindowsUsernameWithFQDN MachineNameWithSessionId	WindowsUsername Only	Defines the Real-Time Client API unique identifier to be used. WindowsUsernameOnly Example: johns WindowsUsernameWithDomain Example: nice_systems\johns WindowsUsernameWithFQDN Example: nice.com\johns MachineNameWithSessionId Example: <machine_name>.<session_id>	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
SOAPLISTENERUSESHEREDRESOURCESMODE	True / False	False	Determines whether the Real-Time Client API is set to shared resource mode (for example, Citrix). Set this to True when using a shared resource environment.	Client
STANDALONE	1 or 0	0	When set to 1, the Client and Designer work without a server in standalone mode.	Designer Client
UNIQUEOSLOGIN	1 = checked. No value = unchecked.	no value	Indicates whether to use a unique Operating System login.	ITI Bridge
useDomain	true / false	true	Determines that the Real-Time Client will use the Domain during log on.	Client

Table 4-1: Unattended (Silent) Installation Syntax Parameters (continued)

Property	Values	Default value	Description	Used In...
USESILENTLOGIN	True / False	True	<p>Controls the behavior of the login.</p> <p>When set to True, the login is silent and the login form is not shown to the user.</p> <p>When set to False, the login is manual and the login form is shown to the user.</p>	Designer Client

NOTE: If the Aggregator is not used, EGAGGREGATOR, EGPORT and EGHOST can be omitted.

For example, `msiexec /i "RTAM Upgrade.msi" /qn EG_DESKTOP="3" EG_PROCESS="3"` installs RTAM without using the Aggregator, with both Desktop Monitoring and Process Monitoring.

Remember that in a silent installation both the `EG_DESKTOP` and `EG_PROCESS` values must appear and must equal 3.

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Configuring Desktop Analytics Settings

This chapter describes how to configure the Desktop Analytics Solution after installation.

Configuring the Desktop Analytics solution is done in the Real-Time Designer Settings, in the Real-Time Client branch.

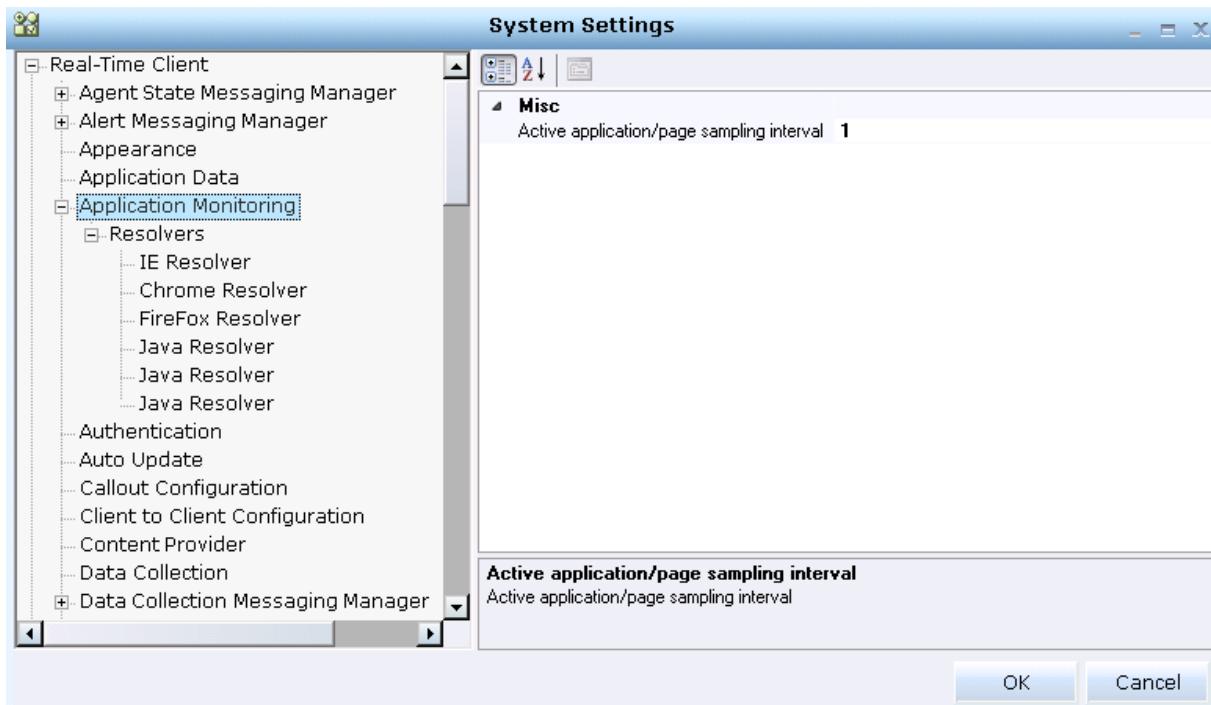
Additional special configurations are required for WFM environments.

Contents

Application Monitoring Settings	66
Desktop Application Monitoring Settings	73
Desktop Process Monitor Settings	75
Real-Time Database Clean-up of Records Older Than X Days	77
Configuring Desktop Analytics Parameters for WFM	78
Configuring Desktop-to-Citrix Support for Application Usage Events Monitoring	87
Configuring Message Days	90
Configuring Masking	91

Application Monitoring Settings

The Real-Time Client > Application Monitoring branch, shown below, contains the following option:



- **Active application/page sampling interval:** Specifies the interval for sampling the active application that is being monitored. For example, if this value is one second, then every second a check is made to determine which application is active.

Viewing Application Monitoring Resolvers

A major part of the Desktop Analytics is the ability to get the active page/window in the application currently used by the agent, and to represent it as a Business Unit Use Case in the overall processes the agent is performing.

Following are the potential values that can be obtained from the active window:

- Process Name
- Page/Window Title (Caption)
- Web page URL

Note: Java applications are checked for embedded IE browsers.

General Information:

- Resolvers are the components that are responsible for gathering the relevant data from the active application (*for example*: from the Caption, URL, and so on).
- There are four Resolvers that are automatically included in the Client installation:
 - **Win32 Resolver:** This Resolver is used for all Applications which are not specifically defined to use a specific or another Resolver.
 - **IE Resolver:** This Resolver is used for Internet Explorer.
 - **Chrome Resolver:** This Resolver is used for Chrome.
 - **FF Resolver:** This Resolver is used for Firefox.
- Resolvers that are not included in the Client installation are dependent on which Screen Connectors are installed during the Client installation (in other words, they are Screen Connector-dependent).

For Example: When the HLLAPI Terminal Connector is installed, the HLLAPI Resolver is added.

- The Win32 Resolver retrieves only the Caption.
- The Java Resolver retrieves the Caption, the Java application name, and tries to get the URL.
- All other Resolvers retrieve both the Caption and the URL.

➡ To view the Resolver System Settings:

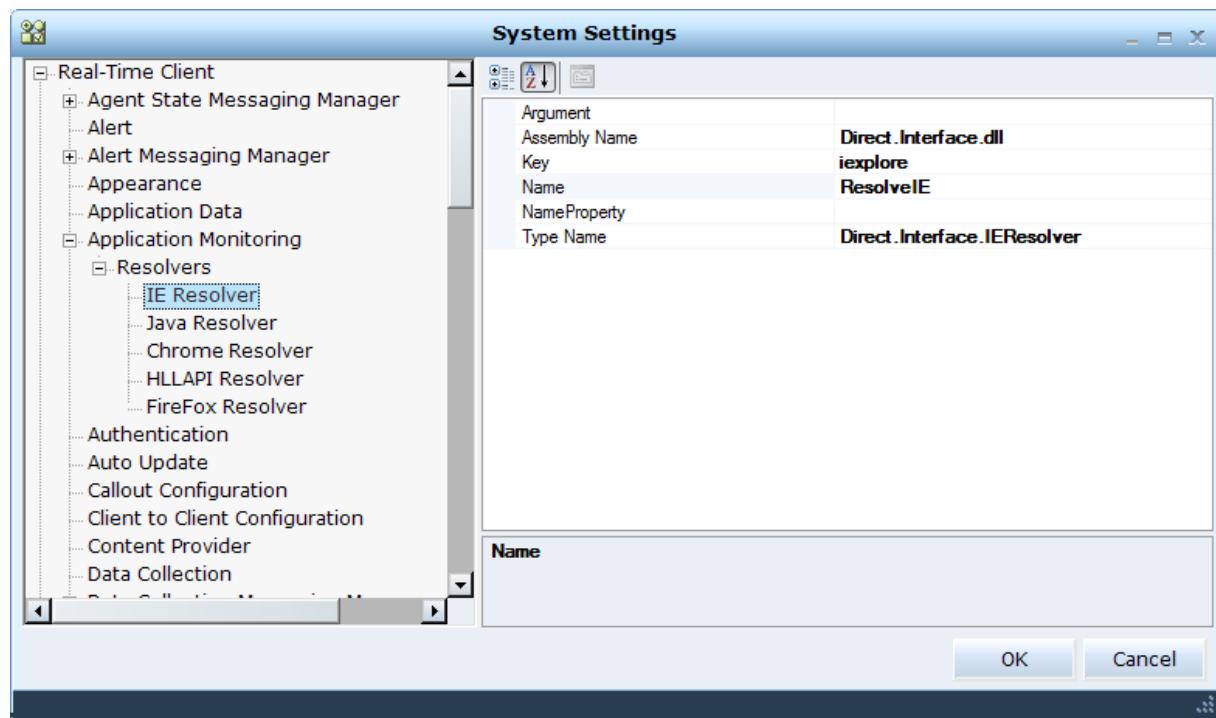
1. Click the relevant Resolver.
2. Each Resolver displays the following properties:
 - **Assembly Name:** The Assembly file (DLL) containing the resolver object.
 - **Key:** The Application's Process Name to be handled using this Resolver.
 - **Name:** The Resolver's internal name.

- **Type Name:** The Resolver Object Type name.
- **Argument:** An optional property that can be used by the Java Resolver (in this property, you may use either the "useWin32Caption" or the Java caption).
- **NameProperty:** The name of the object in the background of the URL, this is a **mandatory** property for Chrome and Firefox resolvers.

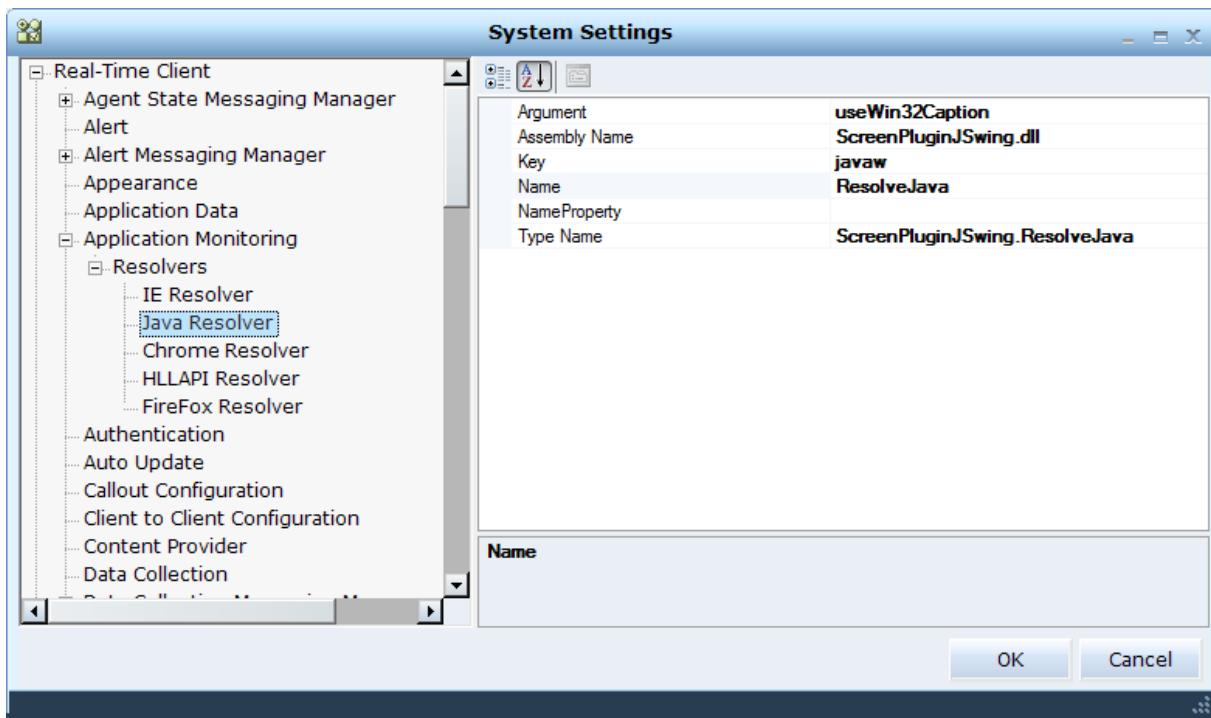
NOTE: The **NameProperty** has a default value; therefore, if used in localized installations of the browser, you will need to change this value accordingly.

Example:

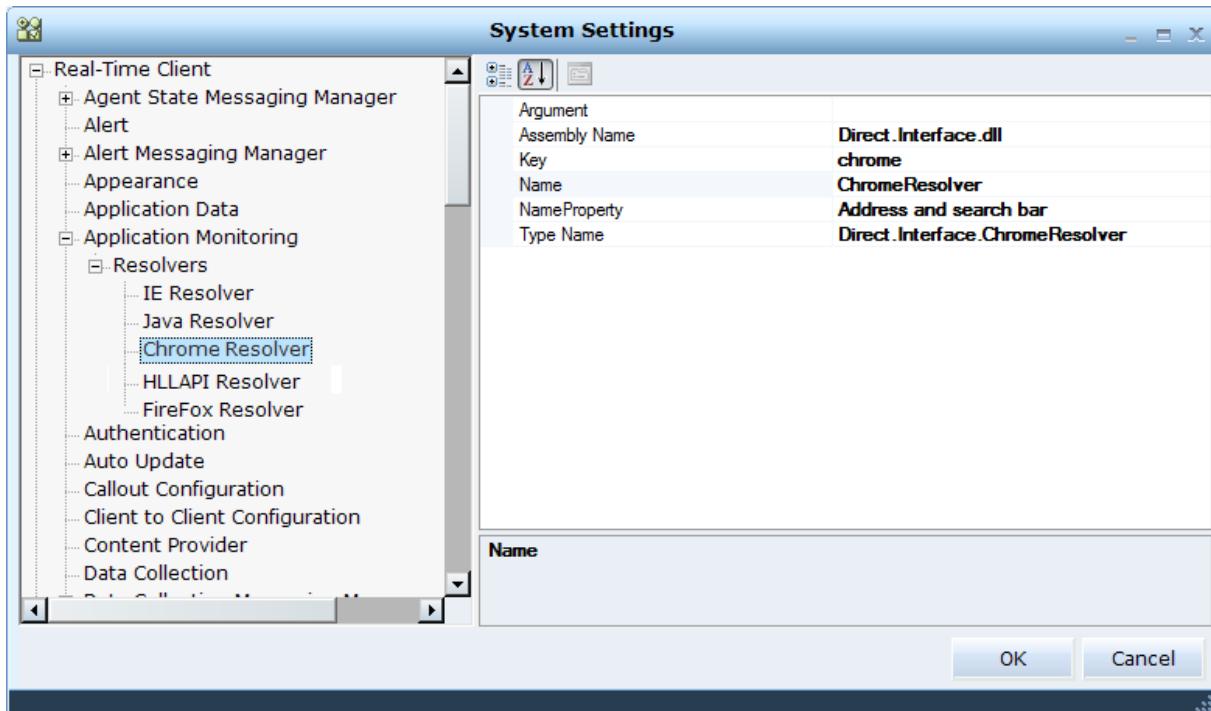
IE Resolver settings



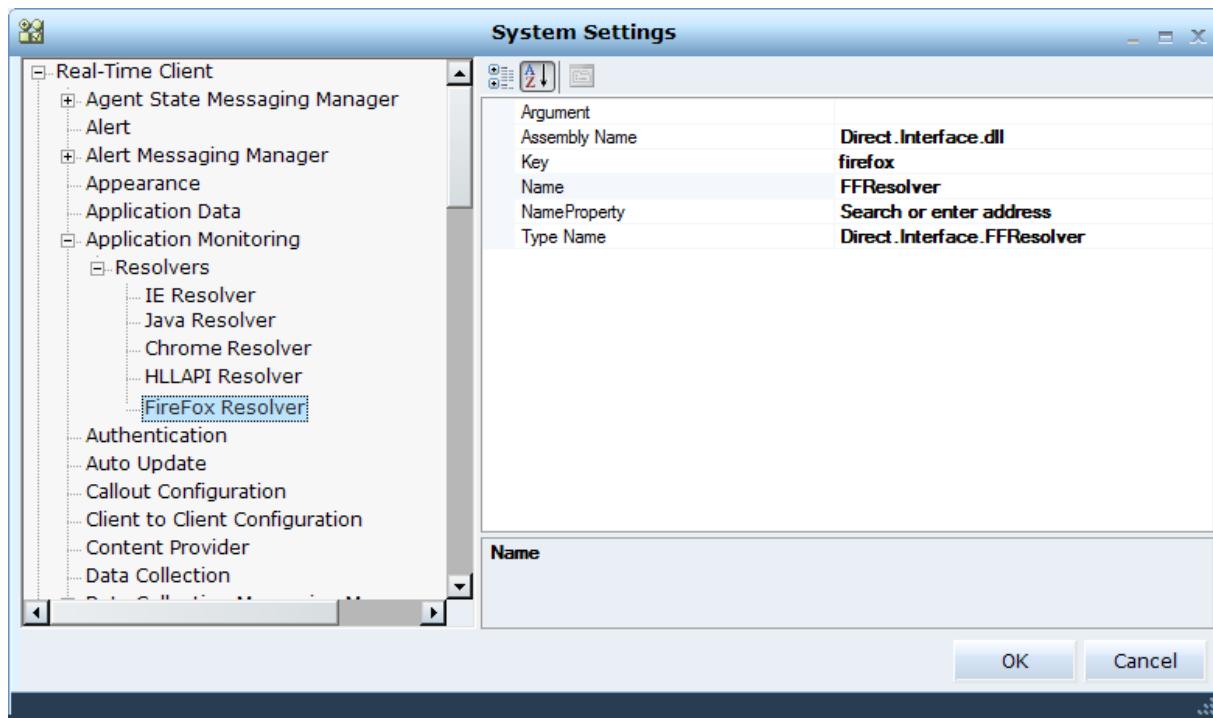
Java Resolver settings



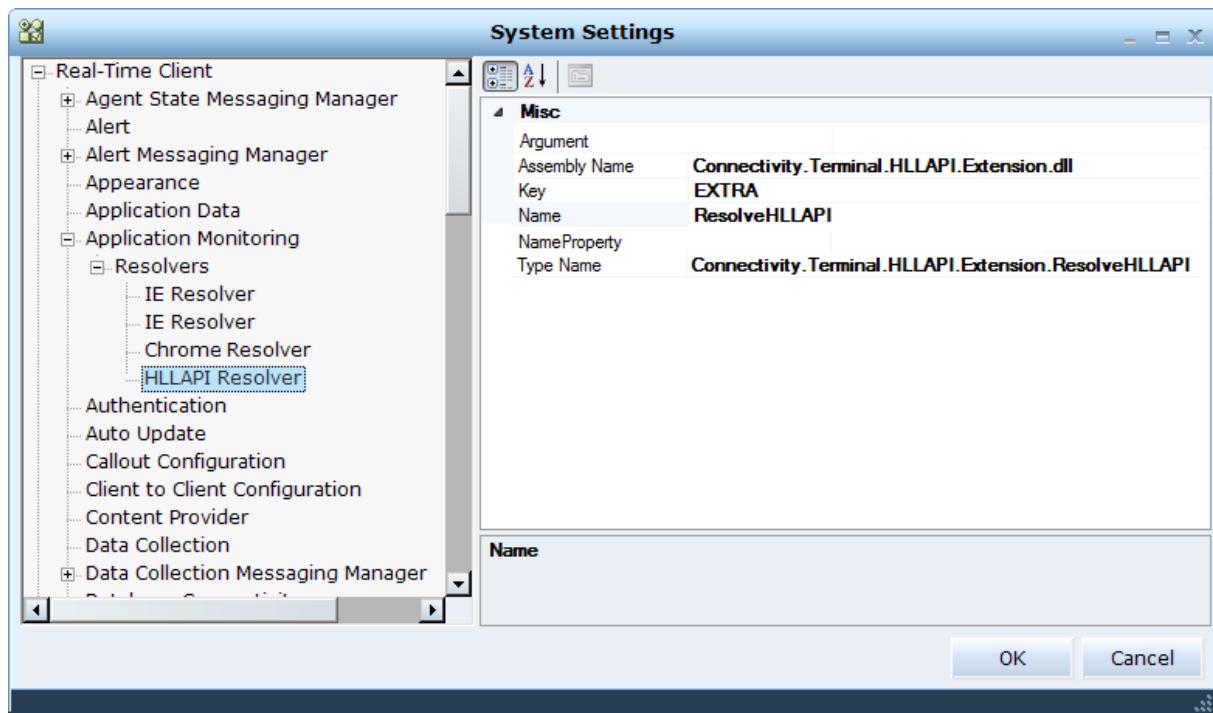
Chrome Resolver settings



Firefox Resolver settings



HLLAPI Resolver settings



Troubleshooting the Oracle Forms Display

You need to verify that the windows process name of the application you are trying to monitor is the one that appears in the **key** attribute of the resolver configuration.

To this purpose, there are three resolver configuration entries in the configuration file (there are three lines):

- **Java**
- **Javaw**
- **jp2launcher**

In the main, Oracle Forms runs under the **jp2launcher** resolver configuration entry using the attribute **argument="useInternalFrame"**.

Oracle Forms can also run under the **Java** resolver configuration entry, so the same attribute argument must be modified in the appropriate configuration line.

To do this, use the following guidelines.

➡ To troubleshoot the Oracle Forms display:

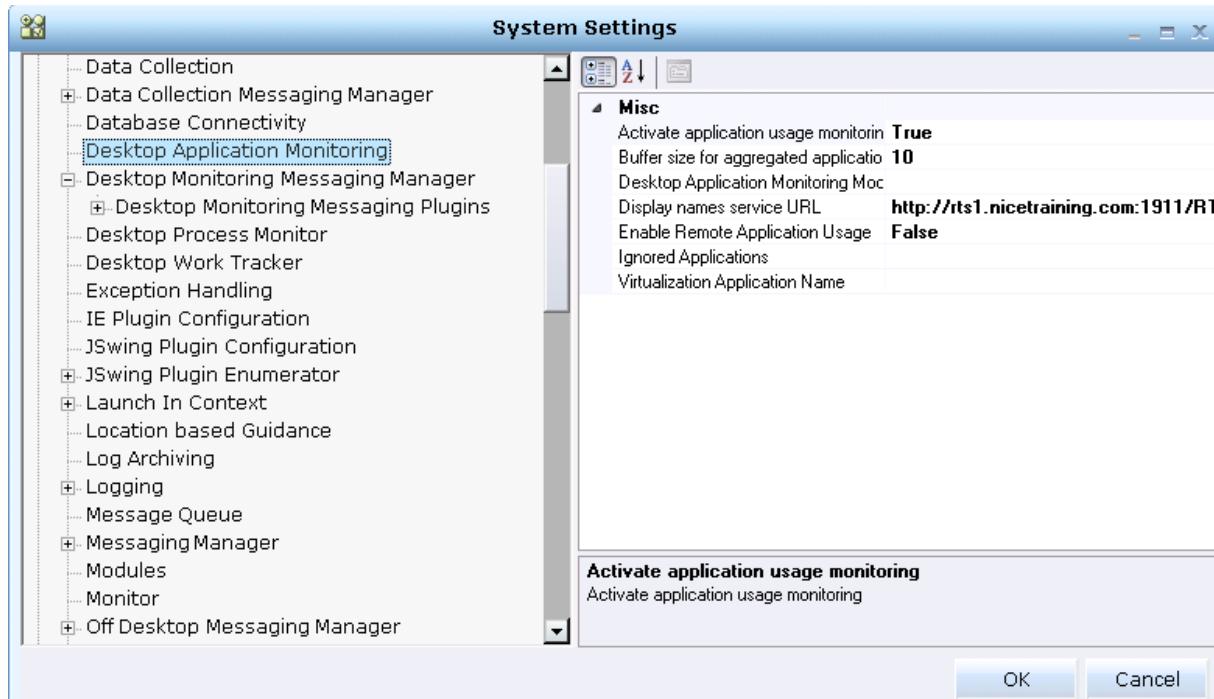
1. Verify that **Real-Time Client** is installed.
2. Verify that **RTAM Upgrade** (RTAM Client) is installed.
3. Open the Real-Time Client, and then open the Oracle Form application.
4. In the Database, in the table **WFM monitoring event**, verify that Oracle child windows appear.
In other words, verify that the windows' process name of the application you are trying to monitor is the one that appears in the **key** attribute of the resolver configuration.
5. If Oracle child windows **do not** appear, do the following:
 - a. From the app data, open the **client.exe.config** file.
 - b. In the Resolver area, three Java resolvers appear.
 - c. In each Java resolver, one of two arguments appear:
 - **useInternalFrame**
 - **useWin32Caption**
 - d. In the **key** attribute of the resolver configuration, modify the **Java** resolver configuration entry to **useInternalFrame**.

- e. In the Database, in the table **WFM monitoring event**, verify that Oracle child windows appear.
- f. Make sure that next installations are adjusted to the findings above.

Desktop Application Monitoring Settings

You can monitor desktop applications and review the collected data through various reports.

These settings are configured in the Designer Real-Time Client Settings, in the **Desktop Application Monitoring** branch.



The following settings are located in the Desktop Application Monitor branch:

Setting	Details
Activate application usage monitoring	Determines whether to monitor for application usage. When set to True , application monitoring is enabled, and information about the active application and page is logged to the Real-Time server. This setting does not affect process monitoring in any way.

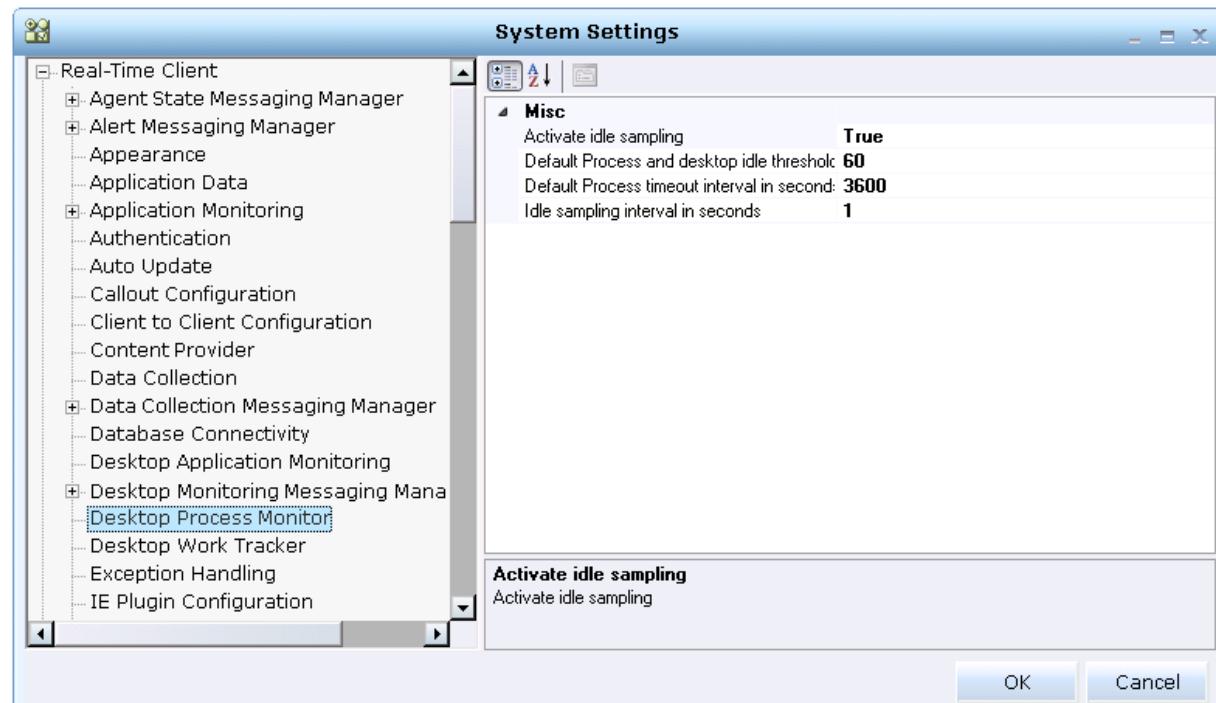
Setting	Details
Buffer size for aggregated application usage events stored in memory	Specifies the maximum number of events in the buffer in memory that is used to store application usage events. When this limit is reached, events are flushed to persistent storage. Be sure to set this value so that the system is not overloaded.
Desktop Application Monitoring Mode	Specifies whether the client sends the monitoring information to another client (Citrix/desktop) or directly to the server. Valid values are Master or Slave .
Display names service URL	Specifies the URL used to receive the display names mapping from the Real-Time server.
Enable Remote Application Usage	Sets the use of the Citrix feature, as described in Desktop-to-Citrix Support for Application Usage Events Monitoring Configuration on page 88.
Ignored Applications	Specifies the applications (process names) not to be monitored. Multiple values can be entered, separated by semicolons (;). When a user moves from a monitored application to an ignored one, the current application event is closed and a new one is opened when a non-ignored application comes into focus.
Virtualization Application Name	Specifies the Citrix session process name that is to be ignored. This value is provided by the customer's IT department. See Desktop-to-Citrix Support for Application Usage Events Monitoring Configuration on page 88 for details.

Desktop Process Monitor Settings

You can monitor desktop processes, and review the collected data through various reports.

These settings are configured in the Designer Real-Time Client Settings, in the **Desktop Process Monitor** branch.

NOTE: Process Monitoring is not available with the license for Desktop Application Analytics.



The following settings are located in the Desktop Process Monitor branch:

Setting	Details
Activate idle sampling	Determines whether to monitor for idle time within a process. When the active task for a process is paused, the process enters an idle state and the system begins counting the time as idle time from that point forward until the next keyboard event is received (keyboard or mouse). The process exits the idle state (and stops counting the time as idle time) when the next input event is received. When set to True , monitoring to detect and measure idle time within a process occurs.
Default Process and desktop idle threshold in seconds	Specifies the default threshold to wait after the last input event is received, before changing a process's state to idle. This value is in seconds. A process idle threshold can be defined for any project. If no such value exists for a given process, then the default value specified here is used. The value you specify here is also used to set the default idle threshold that is used for desktop monitoring.
Default Process timeout interval in seconds	Specifies the default threshold before timing out a process. This value is in seconds.
Idle sampling interval in seconds	Specifies the interval at which the client samples the operating system to determine when the last input event occurred. This value is in seconds.

Real-Time Database Clean-up of Records Older Than X Days

This feature enables you to schedule the automatic deletion of Desktop Analytics and data collection records that are older than a configured number of days (X days).

NOTE: This feature applies to Data Collection and Desktop Analytics tables only. It does **not** purge data from other database objects (such as KPIs, alerts, audit tables and so on).

 **Important!** This feature does not back up any data before deletion. A database backup, if needed, must be implemented by the customer's IT department.

➡ To configure Real-Time Database clean-up:

- The feature is configured using the QUARTZ link for the server configuration. See the QUARTZ parameters in [Configuring SmartCenter \(TotalView\) Parameters for WFM](#) on page 79.

Configuring Desktop Analytics Parameters for WFM

For WFM environments, additional configurations need to be performed. These configurations are performed in the QUARTZ settings in the Designer and in specific XML files.

NOTE: For detailed information on configuring Desktop Analytics (and WFM) for receiving employee data from WFM and configuring Desktop Analytics (and WFM) for historical data that is sent to WFM, see the *Back Office Proficiency Suite Integration Guide*.

Continue with:

- [Configuring SmartCenter \(TotalView\) Parameters for WFM](#) on the facing page
- [Configuring XML File Parameters for Desktop Analytics](#) on page 81

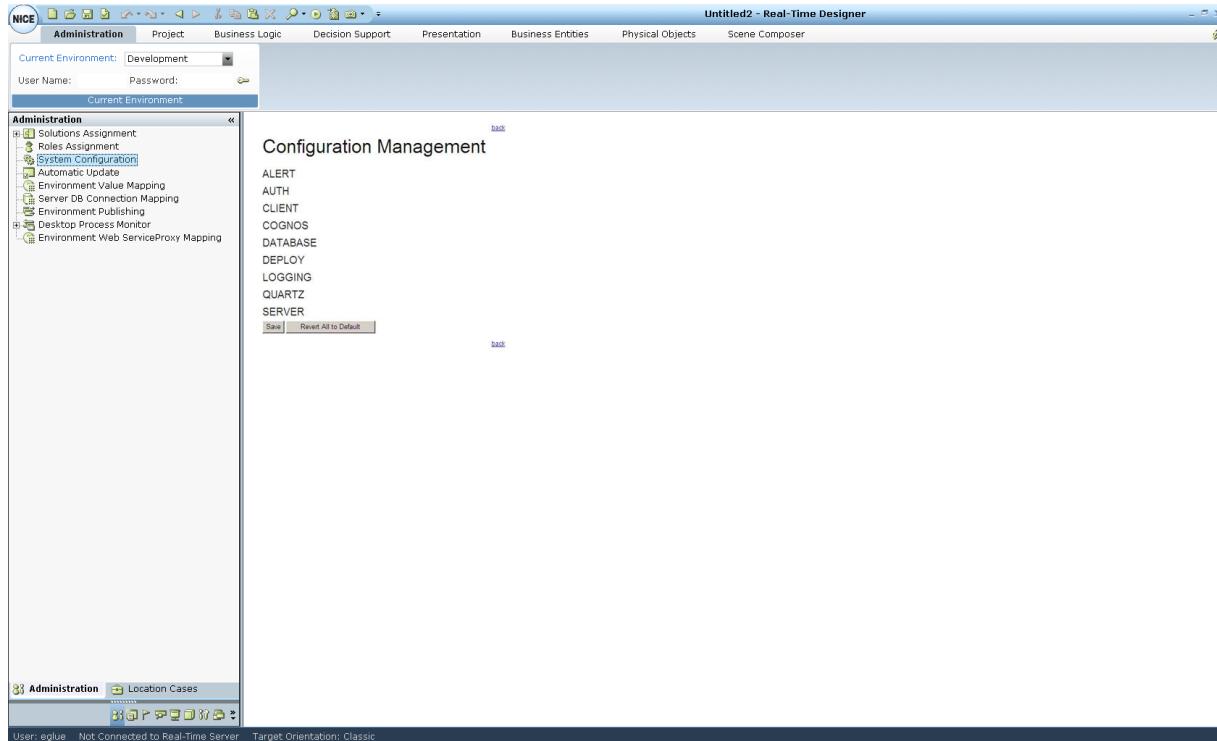
Configuring SmartCenter (TotalView) Parameters for WFM

The following parameters need to be configured in the QUARTZ section in the Designer System Configuration branch:

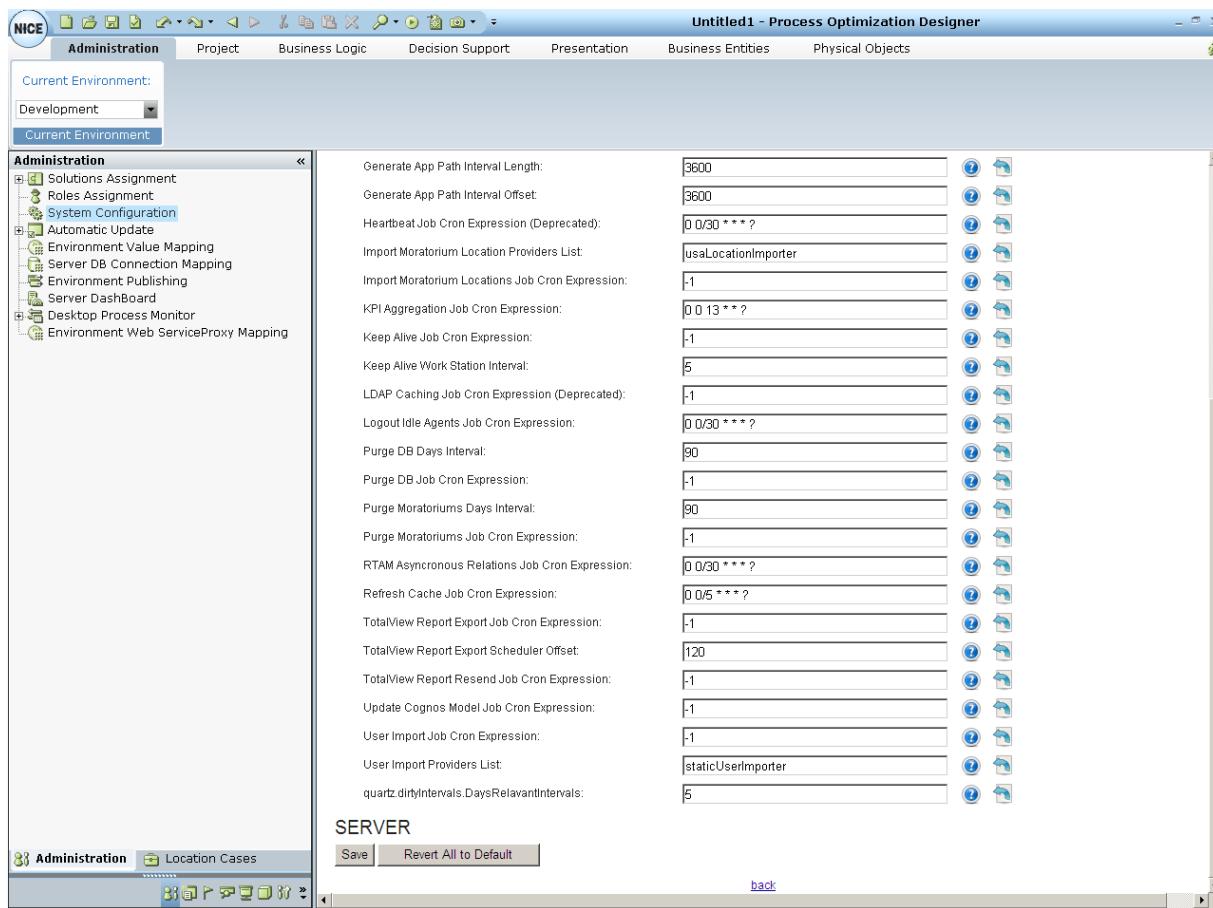
- TotalView Report Export Job Cron Expression
- TotalView Report Export Scheduler Offset
- TotalView Report Resend Cron Expression

➡ To configure the QUARTZ parameters:

1. In the Designer application on the Real-Time Server, navigate to the **Administration** tab.
2. In the Administration tree, click on **System Configuration**. The Configuration Management area appears on the right.



3. Click **QUARTZ**. A list of configurable parameters appears.



4. Scroll to the TotalView parameters and configure them as follows:

TotalView Report Export Job Cron Expression:	<input type="text" value="-1"/>
TotalView Report Export Scheduler Offset:	<input type="text" value="120"/>
TotalView Report Resend Job Cron Expression:	<input type="text" value="-1"/>

- a. Set the value for the **TotalView Report Export Job Cron Expression** parameter.

The **TotalView Report Export Job Cron Expression** parameter specifies the setting that controls when to export Desktop Analytics reports. The settings for this parameter are:

- **-1:** Disabled.
- **0 2/30 * * ?:** (Recommended) Runs twice every hour, at XX:02 and XX:32, where XX represents the hour.
- **0 2/15 * * ?:** Runs four times per hour, at XX:02, XX:17, XX:32 and XX:47, where XX represents the hour.

- b. Set the value for the **TotalView Report Export Scheduler Offset** parameter.

The **TotalView Report Export Scheduler Offset** parameter specifies what data to include for the reports export, based on an offset interval that is specified in seconds. For example, if this value is set to 120 seconds, it means that the data included in the reports export is from 120 seconds before the actual running of the export.

NOTE: The **TotalView Report Export Job Cron Expression** and **TotalView Report Export Scheduler Offset** parameters work in tandem to specify when and what data is to be included in the export, respectively.

For Example: Assume that the values for these two parameters are set as follows:

- **TotalView Report Export Job Cron Expression:** 0 2/30 * * *
- **TotalView Report Export Scheduler Offset:** 120 seconds

This means that the reports export runs at two minutes and 32 minutes after the hour (10:02, 10:32 and so on) using data from 120 seconds (two minutes) prior to the export's actual execution, which means that the data is from 10:00, 10:30 and so on.

- c. Set the value of the **TotalView Report Resend Cron Expression** parameter.

The **TotalView Report Resend Cron Expression** parameter specifies the setting that controls when to export the Employee Work Journal report. This report is typically run once a day. Be sure to configure this parameter using the cron syntax shown above.

5. Click **Save** to save your changes.

Configuring XML File Parameters for Desktop Analytics

In WFM environments, certain Desktop Analytics parameters must be configured in the following 2 XML files:

- **total-view-report-beans.xml** file
- **user-management-beans.xml** file

► To configure the XML file parameters:

1. In the **Installation Directory\config\spring** directory, locate the **total-view-report-beans.xml** file, and select **Edit** to open the file for editing.
2. Locate and configure the following parameters:

Parameter	Details
<pre> version="1.0" encoding="UTF-8"> <xsi:schemaLocation="http://www.springframework.org/schema/beans http://www.w3.org/2001/XMLSchema-instance" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.springframework.org/schema/beans" http://www.springframework.org/schema/beans/spring-beans.xsd> <!-- Begin TotalView Reports (Export) --> <bean id="totalViewReportManager" class="com.eclipsesoft.totalview.export.ReportManager" scope="prototype"> <property name="localReportDirectory" value="\${interact.installDir}/reports/out" /> <property name="remoteReportDirectoryPath" value="ftp://writches/0" /> <property name="ftp" ref="totalViewReportManagerFTP" /> <property name="queue" value="1" /> <property name="reports"> <list> <ref bean="agentDetailDataReport" /> <ref bean="agentSystemPerformanceReport" /> <ref bean="queueReport" /> </list> </property> <property name="exportTimeframeDuration" value="1800" /> <!-- In seconds, 30 minutes --> </bean> <bean id="totalViewReportManagerFTP" class="com.eclipsesoft.ftp.FtpUtilImplCommonsNet"> <constructor-arg index="0" value="ftp.hostname" /> <!-- host --> <constructor-arg index="1" value="ftp.username" /> <!-- username --> <constructor-arg index="2" value="ftpPassword" /> <!-- password --> </bean> </beans> </pre>	<p>Define the properties listed under this parameter as needed.</p>

Parameter	Details
exportTimeframeDuration  <pre><ref bean='agentDetailDataReport'/> <ref bean='agentSystemPerformanceReport'/> <ref bean='queueReport'/> </list> </property> <property name='exportTimeframeDuration' value='1800' /> <!-- In seconds, 30 minutes --> </bean> </beans></pre>	<p>Set the property value, in seconds.</p> <p>This property specifies the amount of time (duration) for sending a report during the reports export process. The value here should equal the number of minutes you specified in the WFM Report Export Cron Expression parameter in Step above.</p> <p>The number of minutes for the exportTimeframeDuration and WFM Report Export Cron Expression parameters must be the same, in order for all report data to be sent during an export process. Failure to do so will result in some report data not being sent.</p> <ul style="list-style-type: none"> ■ 1800: Set the property to this value to indicate 30 minutes. ■ 900: Set the property to this value to indicate 15 minutes. <p>NOTE: The values for the exportTimeframeDuration and WFM Report Export Cron Expression parameters should have the same logical value. Note that the exportTimeframeDuration property value is in seconds and the WFM Report Export Cron Expression parameter value is in minutes.</p>

Parameter	Details
	minutes.
localReportsDirectory	Specify the path to which the exported report for this property should be written.
remoteReportsDirectoryPath	Specify the relative path on FTP server to which the report information for this property should be written.
exportTimeframeDuration	Set the property value, in seconds
totalViewReportManagerFTP	Enter the ID of the FTP configuration bean. The FTP configuration bean consists of three properties that define the FTP connection settings (host, username and password). Define each of the properties.
reportName	This parameter specifies the suffix of the report file name and is used to distinguish WFM reports from EWJ reports. Leave this field as is (empty).
reports	Specify which reports to run. For WFM reports, these include: <ul style="list-style-type: none"> ■ agentDetailDataReport ■ agentSystemPerformanceReport ■ queueReport

3. Save the file.

4. In the **Installation Directory\config\spring** directory, locate and open the **user-management-beans.xml** file.

5. Locate and configure the following parameters:

Parameter	Details
totalViewUserImporter <pre><bean id="totalViewUserImporter" class="com.eglue.um.importer.implementations.TotalViewUserImporter"> <property name="ftp" ref="ftpUserIn" /> <property name="remoteDir" value="/exports/sync/dpm/" /> <!-- remoteDir should end with slash! --> <property name="remoteSystemId" value="2" /> </bean></pre>	<p>Leave the existing value for the totalViewUserImportFTP property.</p> <p>If you need to change its value, do so as follows:</p> <ul style="list-style-type: none"> ■ Specify the path on the FTP site to the XML user export folder for the remoteDir parameter. ■ Leave the default value for the remoteSystemID parameter. This is a static field that holds the system ID that is preconfigured for TotalView. Do not change this value.

Parameter	Details
totalViewUserImportFTP <pre><bean id="totalViewUserImportFTP" class="com.eclue.infra.ftp.FtpUtilsImplCommonsNet"> <constructor-arg index="0" value="ftpHostname" /> <!-- host --> <constructor-arg index="1" value="ftpUsername" /> <!-- username --> <constructor-arg index="2" value="ftpPassword" /> <!-- password --> </bean></pre>	<p>This parameter configures the FTP values required for the User Import process.</p> <p>Enter the FTP connection settings that indicate where to locate the file for the User Import process (host, username and password) in the three rows beneath this row. For these three parameters, look at the remark at the far right of each of these rows to see which parameter is which.</p>

6. Save the file.

NOTE: Once you have completed the Desktop Analytics implementations, you must also import the Cognos package. See the installation guide for more details.

Configuring Desktop-to-Citrix Support for Application Usage Events Monitoring

Desktop-to-Citrix Support for Application Usage Events Monitoring Configuration 88

Desktop Analytics' application monitoring monitors all applications running on the employee's desktop. If the user is using Citrix on their desktop, it is considered as a desktop application, but excludes the actual remote applications running in the Citrix session.

If Desktop Analytics' application monitoring is running in a Citrix server, it only monitors applications running in that Citrix server, unaware of the local desktop applications.

In versions preceding Real-Time Solutions 4.8.20, in a mixed environment of local desktop applications and Citrix applications, the two Desktop Analytics clients were considered as separate clients providing duplicate entries, with different computer names and user IDs.

This feature enables Desktop Analytics' application monitoring in a mixed environment so that the application monitoring provides a single, coherent application monitoring feed.

The communication between the local and remote client is achieved via a Citrix client-to-client (C2C) mechanism.

NOTE: If the employee's desktop contains only a Citrix session that contains other internal Citrix sessions, it is possible that the master client be installed in the *main* Citrix server (where the desktop sessions run from) while collecting Desktop Analytics feeds from the internal Citrix sessions.

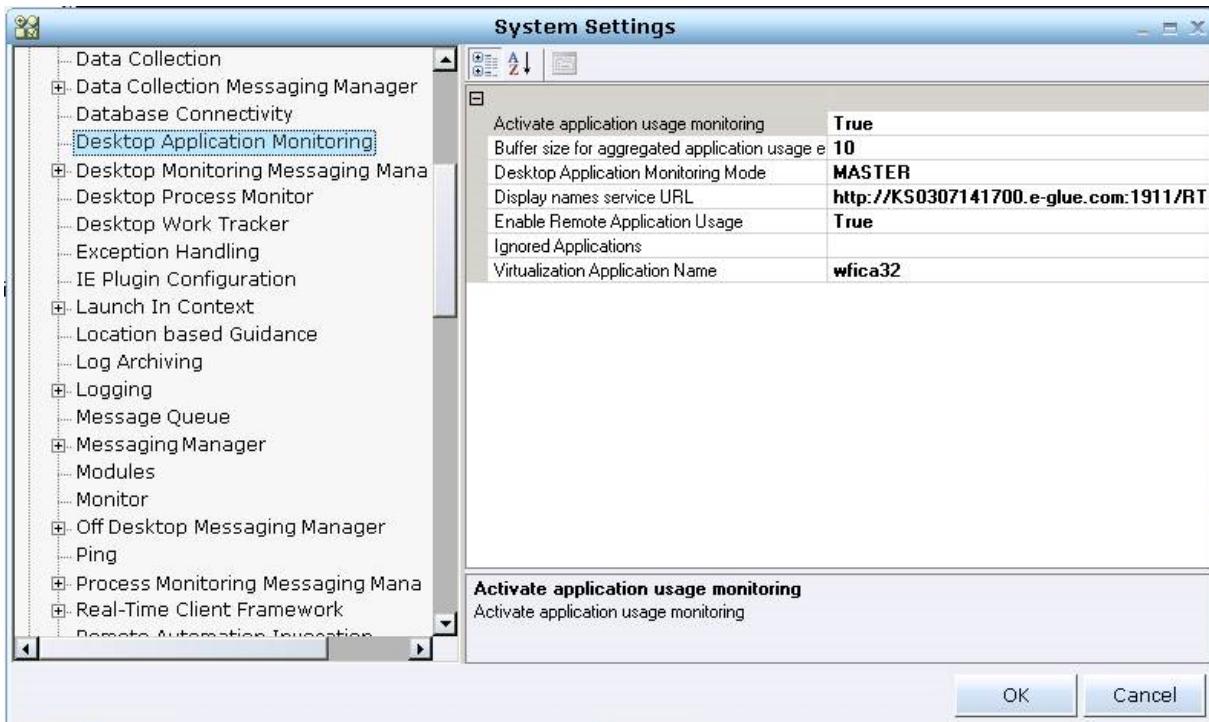
This feature enables either the desktop client or the Citrix session client to be configured as the *master* client.

Desktop-to-Citrix Support for Application Usage Events Monitoring Configuration

The following System Settings window shows a sample configuration for the master client, where the local desktop client is defined as the master client.

Important!

- A master client (desktop or Citrix) can only receive an Desktop Analytics feed from a Citrix channel that is directly connected.
- If more than one Citrix session is in use, the **master client** must be running on the local desktop.
- Processes cannot run from the slave machine.



The following table shows an example of how to properly configure this feature. In this example, the desktop client is the master client. When the Citrix client is the master client, modify the configuration accordingly.

Configuration Parameter Description	Configuration Parameter	Value for Desktop Client	Value for Citrix Client	Comments
Sets the client monitoring mode	Desktop Application Monitoring Mode	Master	Slave	
Sets the use of the feature	Enable Remote Application Usage	True	True	The default is False .
The Citrix sessions' process names that are to be ignored, separated by a comma, provided by the customer's IT.	Virtualization Application Name	For example, "wfica32,CDViewer"	NA	The default value is "".
For the following parameters, you will need to scroll down in the Settings window until you reach RTAM Channel Enumerator. Click the + sign to open and then click RTAM C2C Channels > rtamc2ccchannel:				
 <p>The screenshot shows the 'System Settings' window with the 'RTAM Channel Enumerator' section expanded. Under 'RTAM C2C Channels', the 'rtamc2ccchannel' item is selected. The right pane displays the properties for 'rtamc2ccchannel': Channel Name (rtamc2ccchannel), Connect On Load (False), and Type (citrixlocal).</p>				
Type of client	Type	CitrixLocal	CitrixServer	Per Citrix channel.
Citrix channel name	Channel Name	""	""	<ul style="list-style-type: none"> ■ The value must be identical for both the master client and Citrix client.

Configuring Message Days

You can set the number of days that the server uses as a threshold for rejecting old messages, that is, if the message has a start time older than the specified number of days, the message will not be handled and the data will not be pushed to the database. The default value is set to 90 days.

➡ To configure the message days parameters:

1. In the Designer application on the **Real-Time Server**, navigate to the **Administration** tab.
2. In the Administration tree, click on **System Configuration**. The Configuration Management area appears on the right.
3. Click **Server**. A list of configurable parameters appears.
4. Set '**Days from now**' for **allowed old RTAM messages** to the required number of days.

Configuring Masking

This feature enables you to set the level of page masking, that is, when to mask raw data sent by the client.

► **To configure the masking:**

1. Double-click the RTServer shortcut icon the desktop.
2. Click the **Server Console** link.
3. Enter your username (*rtiadmin*) and password (default is *admin123*).
4. Click the **Configuration Management** link.
5. Click the **DESKTOP ANALYTICS** link.
6. In **Sets level of page masking**, enter one of the following:
 - 0 - No masking (with the exception that whatever is assigned by a user to be masked during display name mapping is masked as per version 6.6 and earlier).
 - 1 - Mask only unmapped application (only the application name/domain is collected).
 - 2 - Mask all pages (only the application name/domain is collected).

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Application and Process Monitoring in Real-Time Designer

Desktop Analytics monitors which applications and processes an employee is using at any given time on the desktop. The goal of process monitoring is to determine the lapse time for an employee's usage of an application or a given page in an application.

Together with the Process Monitoring, the Application Monitoring can be used to support workforce management (WFM) efforts, which work together to facilitate the analysis of employee productivity and efficiency.

For application monitoring, events indicating which application or page is currently open are collected and logged. Events are logged at the application or page level, which means that they are logged for each specific application window title or URL. For example, when an application event becomes active on an employee's desktop, application monitoring identifies which screen of that application is active. If the active screen is an Internet Explorer page, then the URL designates the active screen or page.

Event data is transmitted and then aggregated on the Real-Time Server, where it can be used for reporting purposes. This reporting enables you to perform further analysis about the historical usage of an application by an employee.

When event data is detected on the desktop, it may optionally be transmitted by the Real-Time Client to the WFM server, where it can be viewed and further analyzed.

As part of the implementation of Desktop Analytics' application monitoring, the Real-Time Server contains tables for mapping application and page names to display names. See [Application and Page Display Names](#) on page 96.

Desktop Analytics' application monitoring only requires limited configuration in the Advanced Process Automation system to define the global configuration settings needed to enable this functionality. See [Desktop Application Monitoring Settings](#) on page 73.

NOTE: Process Monitoring is not available with the license for Desktop Application Analytics.

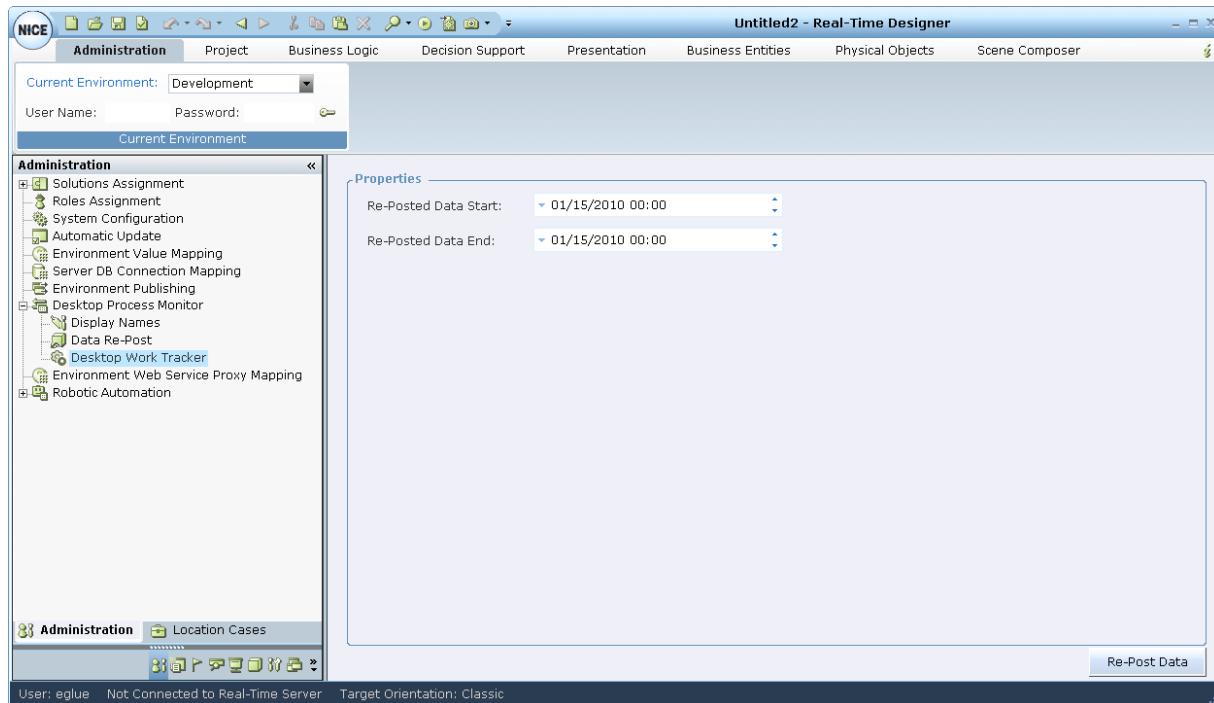
Contents

Defining the Real-Time Designer Desktop Process Monitor	95
Defining Process Monitoring in Real-Time Designer	128

Using Desktop Work Tracker	158
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Defining the Real-Time Designer Desktop Process Monitor

The Real-Time Designer **Desktop Process Monitor** branch enables you to perform several operations related to Desktop Analytics.



The **Desktop Process Monitor** branch includes the following sub-branches:

- **Display Names:** Enables you to map the display name of an application and the pages within it so that they are more indicative and easily recognizable in generated reports. See [Application and Page Display Names](#) on the next page for details.
- **Data Re-Post:** Used to manually re-post interval data for a specific interval. For Desktop Analytics reporting, the Real-Time Server automatically sends interval data to the TotalView server. See [Re-Posting Data](#) on page 125 for details.
- **Desktop Work Tracker:** Enables keeping track of agent activity on **manual processes** using Stop Reasons and Off Desktop Reasons. See [Using Desktop Work Tracker](#) on page 158 for details.

Application and Page Display Names

Display names are used for the reporting and analysis of information gathered during application monitoring activities. They are used as a kind of shorthand that enables you to easily recognize the associated application's Windows OS process or application page.

The **Display Names** branch enables you to map the display name of an application and the pages within it so that they are more indicative and easily recognizable in generated reports.

NOTE: If you do not map any display name, then unmapped applications will appear bucketed as pages without display names in Desktop Analytics reports.

You can perform the following operations in the Display Names window:

- **Create Categories** for the Applications or Pages. See [Creating Categories for Display Names](#) on page 98.
- **Import** selected or all Application or Page names into the Display Names tables. See [Importing Selected Application/Page Names into Display Names Table](#) on page 101.
- **Export** Display Name mappings to another environment. See [Exporting Display Name Mappings](#) on page 106.
- **Manually define** Display Names for Applications and Pages:
 - Define the Display Name for an Application. See [Defining the Display Name for an Application](#) on page 110.
 - Add a Page to an Application and define its Display Name. See [Adding a Page to an Application and Defining Its Display Name](#) on page 113.

Example: An Administrator needs to define display names for applications, but prefers to do it in multiple sessions. Instead of filling a .CSV file with all the information in the Database and configuring the entire CSV file, the Administrator automatically imports the information directly from the Database using the Designer user interface. In addition, the Administrator only selects specific applications and pages they want to define at the moment.

If the database includes the following information:

- **App 1:** www.nice.com
 - **Page 1:** http://www.nice.com/engage/services
 - **Page 2:** http://www.nice.com/about-nice
 - **Page 3:** http://www.nice.com/protecting/what-we-do
- **App 2:** Excel
 - **Page 1:** Workday summary
 - **Page 2:** Salary track
 - **Page 3:** Grocery list

Then a selective import of Display Names when the Administrator requests the list of unmapped applications they will receive the following:

- **www.nice.com**
- **Excel**

When the Administrator clicks on each unmapped application, the list of unmapped pages, per application is displayed. The Administrator can then map each unmapped Page to a Display Name.

For example, if the Administrator selects **www.nice.com** and then maps each unmapped page to the Display Names, the next time the Administrator requests the list of unmapped applications, only the Excel appears in the list because **www.nice.com** was mapped.

Creating Categories for Display Names

Using the Category feature, Real-Time Designer can map large quantities of technical information on applications and the pages within it, and translate this technical information into information that can be understood and used to benefit the business through generated reports.

There are two default categories:

- **Business Related**
- **Uncategorized**

You can use these default categories or create other categories that can be selected for each Application or Page.

Using categories, you can:

- Create a list of categories for the Display Names, which can be used as filters when creating and running reports.
- Select a category for each application or page.

Guidelines for Assigning Categories to Display Names

Consider the following when assigning categories to display names:

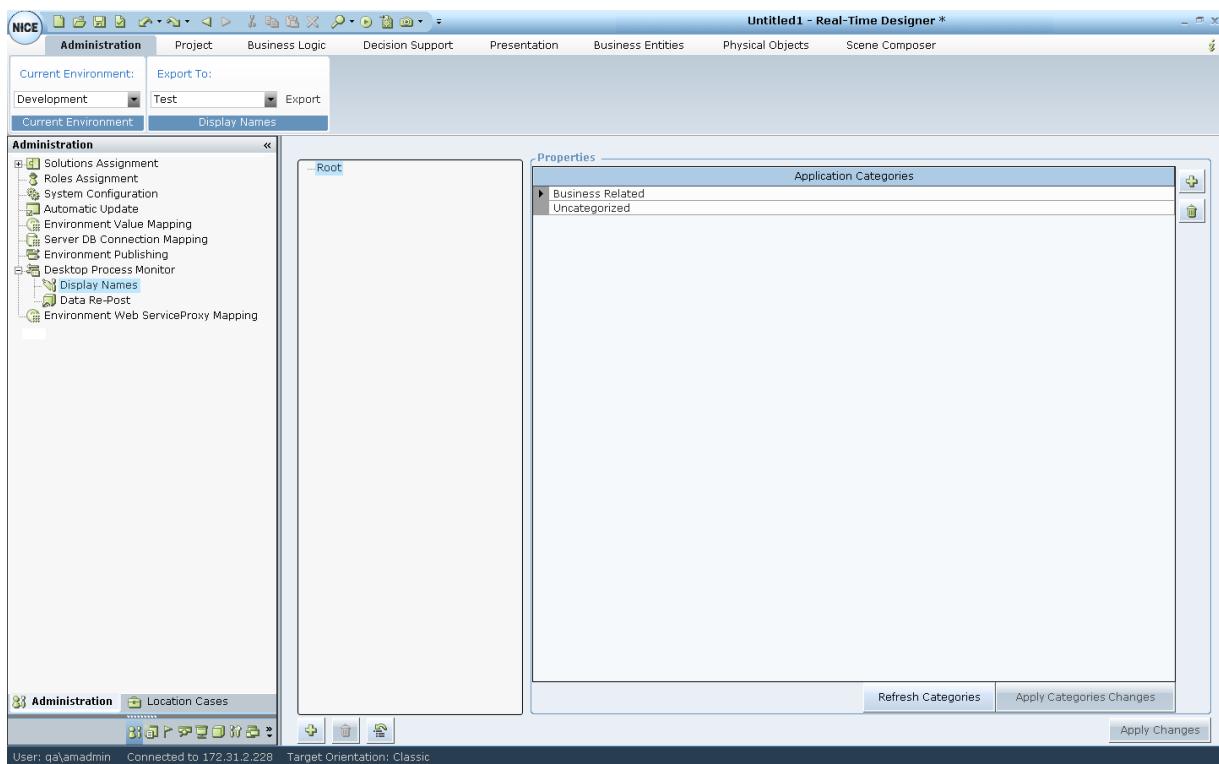
- Any application/page display name that is not specifically categorized is, by default, categorized as **Uncategorized**, and appears in the reports under the category **Uncategorized**.
- Any application/page display name can be included in more than one category. No other category can be selected together with **Uncategorized**.
- Applications and pages can have different categories as they may have different display names. In the database, application and page categories are separated into separate entries. In any categorized report, only one category is represented to avoid duplicate counting.
- Categorized reports first show page categories. If there are no page categories, then the application categories are shown. If there are no application categories, then the **Uncategorized** category is shown.

TIP: Do not assign more than one category to a display name. Selecting multiple categories per display name, may create duplication in the reports.

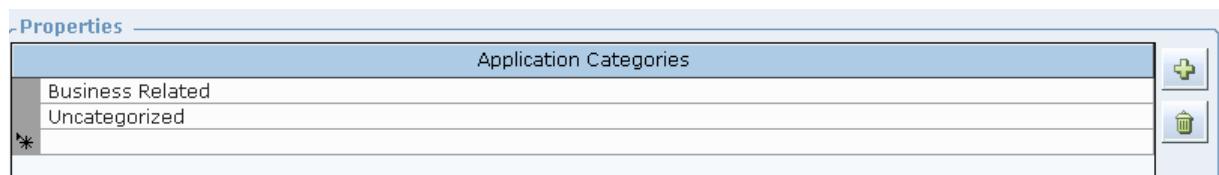
► To create a Category List for Display Names:

1. In the Administration area, navigate to **Desktop Process Monitor**, then click on **Display Names**.
2. In the middle pane, select the **Root** folder.

Creating Categories for Display Names



3. In the right pane, in the **Application Categories** area, click .
- A text line is added below.



4. In the text line, enter a meaningful category name.
5. Repeat **Step 3** to **Step 4** for each category that you need to create.
6. After creating all the required categories, click the **Apply Categories Changes** button , to save the changes.
7. The categories you create are available for selection for each Application or Page under the Display Names Root folder.

8. To delete a category that you created, select the category and click .

Importing Selected Application/Page Names into Display Names Table

You can import pre-existing applications and pages into the Desktop Analytics Module. These applications and pages are imported from the Client machines.

By importing pre-existing applications and pages into the Desktop Analytics Module, the administrator can quickly fill the Display Names Root folder tree with raw data, and then easily update the imported applications and pages using the Display Names option.

When importing, Real-Time Designer creates an automated list of generic Display Names as a mapping suggestion. This enables you to view duplications and optionally select the suitable pattern for unifying similar applications into the minimum number of Display Names. This eliminates redundant Display Names.

The unmapped application names are grouped together under a common node using the wildcard. For example:

```
*.EBAY.COM  
PAY.EBAY.COM  
CHECKOUT.EBAY.COM  
WWW.EBAY.COM
```

If more than one wildcard is added the child nodes reflect the nested generic Display Names respectively. For example:

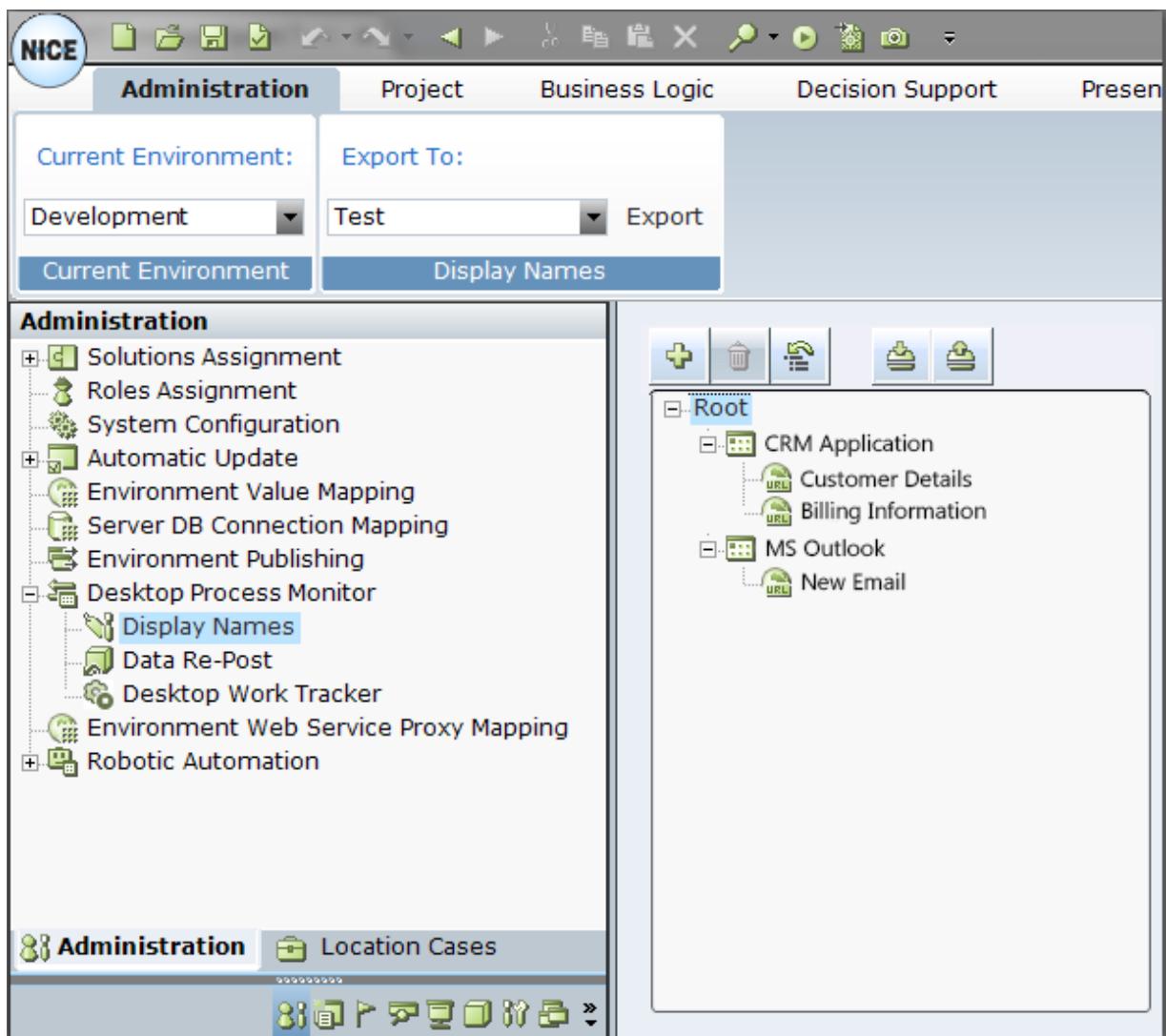
```
*.NICE.CO*  
*.NICE.COM  
NICEWEB.NICE.COM  
VLAB.NICE.COM  
SOMETHING.NICE.CO.IL
```

► To import selected Applications/Pages into the Display Names table:

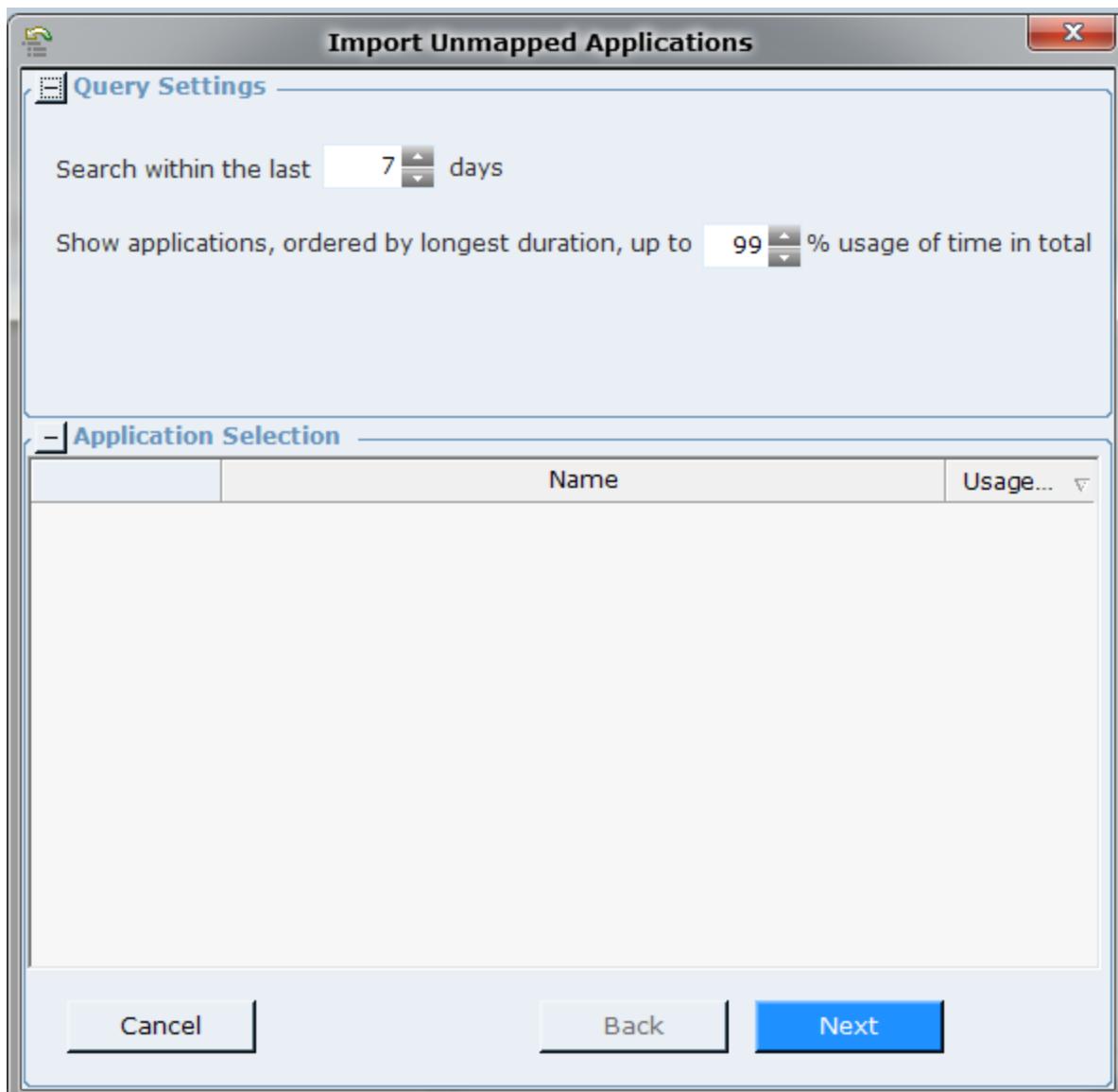
1. In the Real-Time Designer, navigate to **Administration tab > Desktop Process Monitor > Display Names**.



2. In the **Root** folder pane, click .

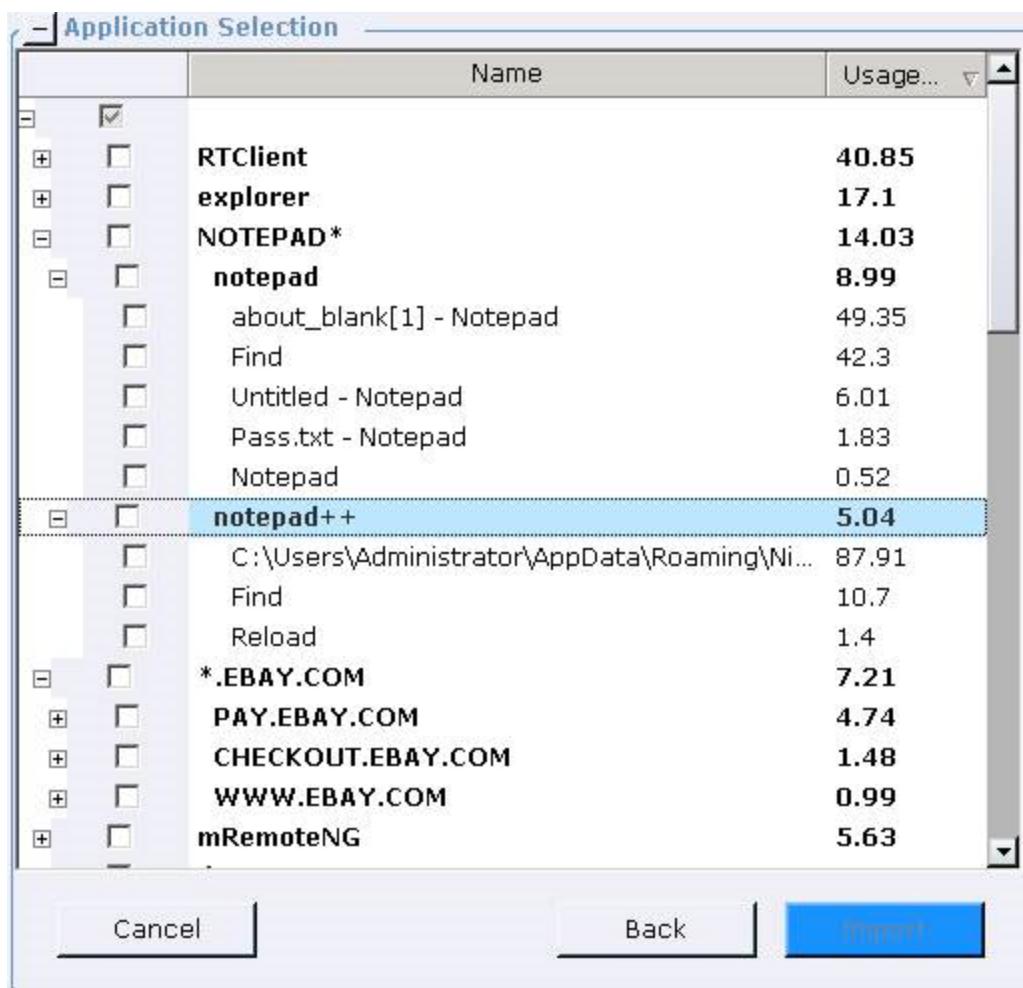


The Import Display Names window appears.



3. In the **Query Settings** area, specify the number of days in the **Search within the last X days** option. Enter a value between 1 and 92 (default is 7). All unmapped applications are included from the period (minus the last hour).
4. Define the percentage in the **Show applications, ordered by longest duration, up to X% usage of time in total** option. This will include the applications with the highest durations accumulated up to the percentage specified. The default is 99.
5. Click **Next**.

The list of selected applications and pages appears in the Application Selection area.



NOTE: Only pages that do not yet already appear in the Root will appear in the Application Selection area.

You can sort the applications and pages by name or by usage by clicking on the column header.

6. Click **Back** to change your selection of the number of days or percentage of applications.
7. Select the relevant applications and pages.
 - If an application is not expanded in the tree, and you select the application, only the application (but none of its pages) is selected.
 - If you expand the application in the tree, and then select the application, the application AND all its pages are selected.
 - If you select a page, the application is automatically selected.

8. Click **Import** to import the selection to the Root folder.

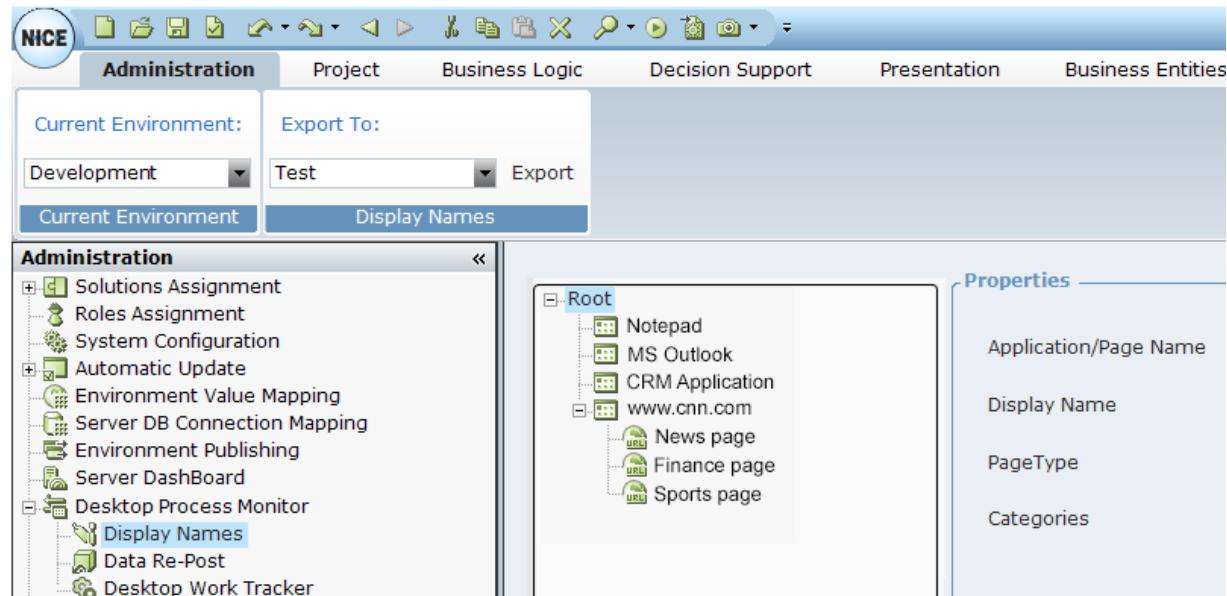
The **Root** folder tree is updated with the selected Applications and Pages.

Exporting Display Name Mappings

Display name mappings can be exported to another environment. Exporting to another environment automatically overwrites any display name mappings that exist in the target environment.

► To export display name mappings to another environment:

1. In the **Current Environment** area at the top left of the window, from the drop-down list select the environment from which you want to export display names.



2. In the **Export To** area, select the environment to which you want to export display names.
3. Click **Export**.

The entire Display Name database for the selected environment is exported to the selected target environment.

Importing Display Names

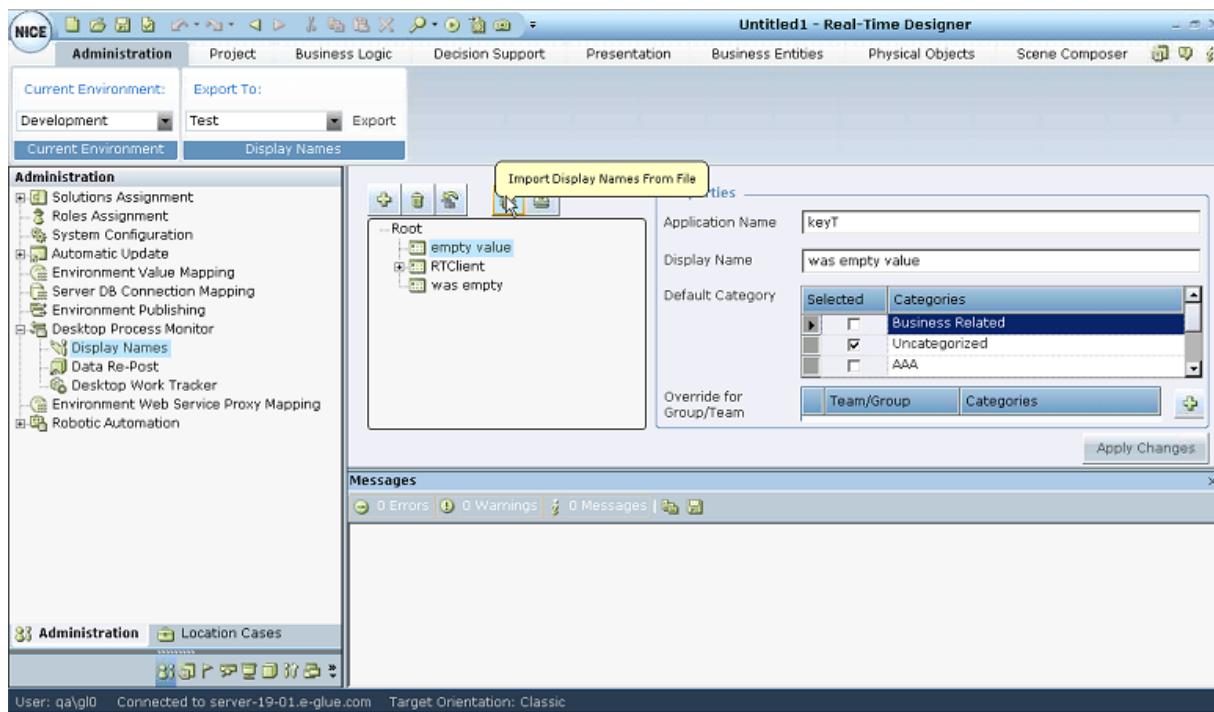
You can import display names from a CSV file and add them to the application tree. The file must include the following fields (with these exact names and in this order) separated by commas:

- **NAME:** Mandatory. The page or application display name, that is, the node name in the application tree.
- **KEY:** Mandatory. The page or application name.
- **VALUE:** Mandatory. The page or application display name.

- **ACTIVE:** Mandatory. Whether to add (TRUE) or remove (FALSE) the page or application (NAME) from the application tree. If a NAME is marked for removal in the CSV and the GUID cannot be found in the tree, then the NAME will not be removed from the application tree.
- **APP_NAME:** Either the parent application name if the name is a page, or blank if the name is an application.
- **TYPE:** The display name type, either CAPTION or URL. If you leave this blank, URL will be used by default. You can change this manually in the tree after the import is completed.
- **GUID:** Must be unique. If a GUID is duplicated in the file, the last record overwrites any previously loaded record with the same GUID. If the GUID is left blank, a generated GUID will be added automatically.

➡ To import display names:

1. In the Real-Time Designer, navigate to **Administration tab > Desktop Process Monitor > Display Names**.



2. Click .
3. Navigate to and select the required CSV file and then click **Open**.

The file is processed and any relevant messages appear in the **Messages** pane.

Exporting Display Names

You can export display names from the application tree to a CSV file. The file will include the fields separated by commas. The fields are described in [Importing Display Names](#) on page 106.

► To export display names:

1. In the Real-Time Designer, navigate to **Administration tab > Desktop Process Monitor > Display Names**.
2. If changes have been made to the tree, click **Apply Changes** to ensure that what you export is all the information in the database.
3. Click .
4. Navigate to the required location and enter the required CSV file name and then click **Save**.
The file is created and a confirmation message appears.
5. Click **OK**.

Defining Display Names for Applications and Pages

Defining display names enable you to define more indicative names for the following application elements:

- An application's Windows OS process names
- Main window captions
- URLs (pages)

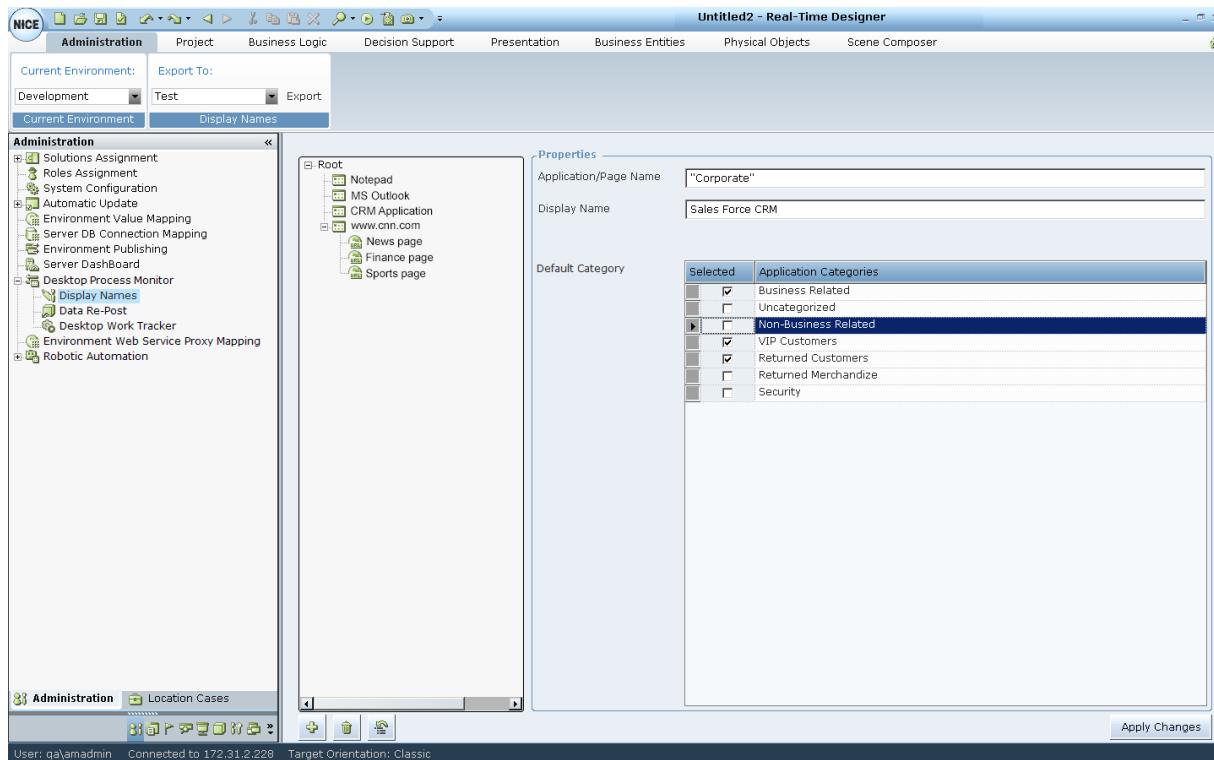
The **Display Names** branch displays a **Root** tree structure in the middle pane of the window that lists those applications already defined and their associated pages. Pages must be manually added to each application in the middle pane of the window, if you want to map them to a display name for reporting purposes.

Defining the Display Name for an Application

You can define a more intuitive name for different Applications that will be easily recognizable in generated reports.

→ To define a display name for an Application:

1. In the **Root** folder tree select an Application. The properties area for that Application appears in the right pane.



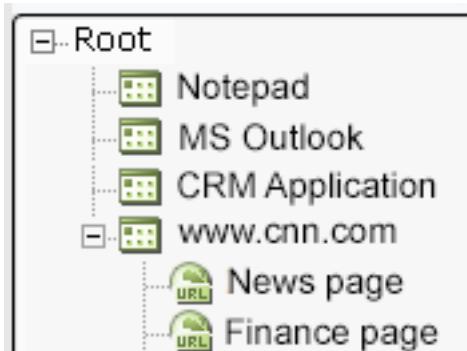
2. In the **Properties** area in the right pane of the window, in the **Application/Page Name** field, enter a name for the page.

NOTE: You can use asterisks as wildcards in this field. For example, if you specify ***Corporate*** in this field, the display name for all pages for that application that contain the string Corporate are changed accordingly, based on the display name you specify in [Step 3](#) below.

When using wildcards in this manner, the entire page name or caption is affected, and not only the part that matches the string within the wildcard characters.

- In the **Display Name** field, specify a display name. Display names can have a maximum of 300 characters.

NOTE: Display names longer than 300 characters are marked with a red line in the tree.



- From the **Category** list, select a category from the list of available categories. Selecting a category will enable the user to use filters in relevant reports, per the selected category.

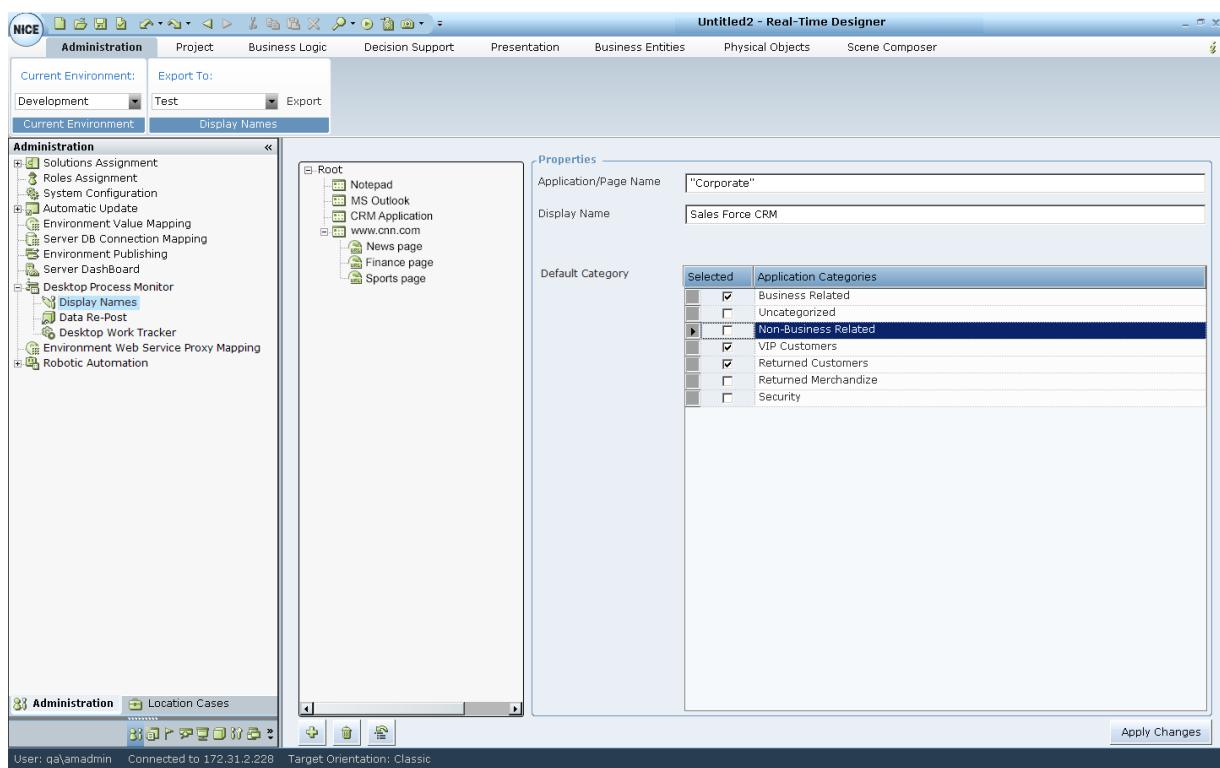
Default Category	Selected	Application Categories
	<input checked="" type="checkbox"/>	Business Related
	<input type="checkbox"/>	Uncategorized
	<input type="checkbox"/>	Non-Business Related
	<input checked="" type="checkbox"/>	VIP Customers
	<input checked="" type="checkbox"/>	Returned Customers
	<input type="checkbox"/>	Returned Merchandise
	<input type="checkbox"/>	Security

NOTE: Use the **RTAM Categories Per Group** feature to assign a **non-default category** to one or more teams. See [Defining Desktop Analytics Categories Per Group](#) on page 118 for details.

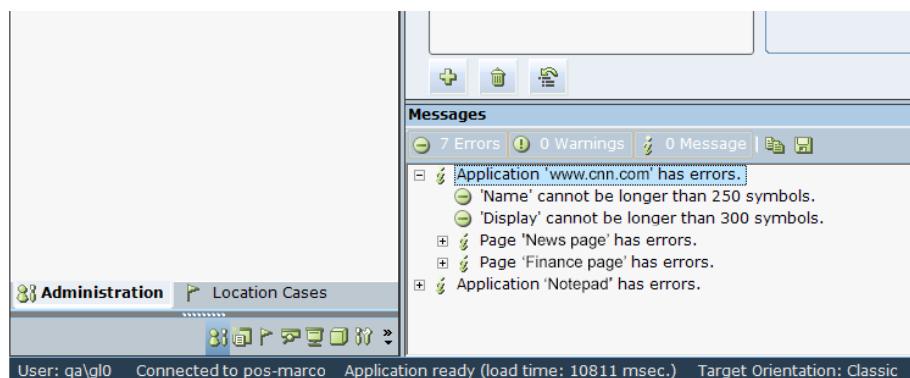
- Click the **Apply Changes** button at the bottom of the window to save your settings.

6: Application and Process Monitoring in Real-Time Designer

Defining Display Names for Applications and Pages



6. If there are any errors, they are displayed in the **Messages** pane at the bottom of the window.



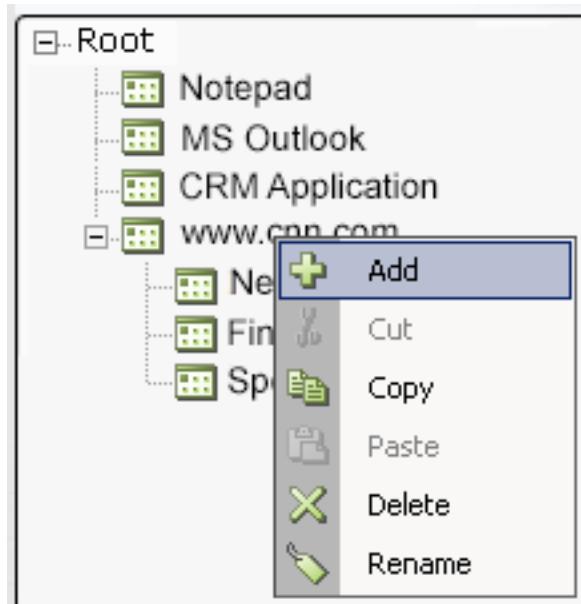
Adding a Page to an Application and Defining Its Display Name

You can add a Page to an existing Application, and then define a Page name that is more intuitive and easily recognizable in generated reports.

You can also change an existing Page name.

► To add a page to an application and define its display name:

1. In the **Root** folder tree select an Application, right-click, and select **Add**.

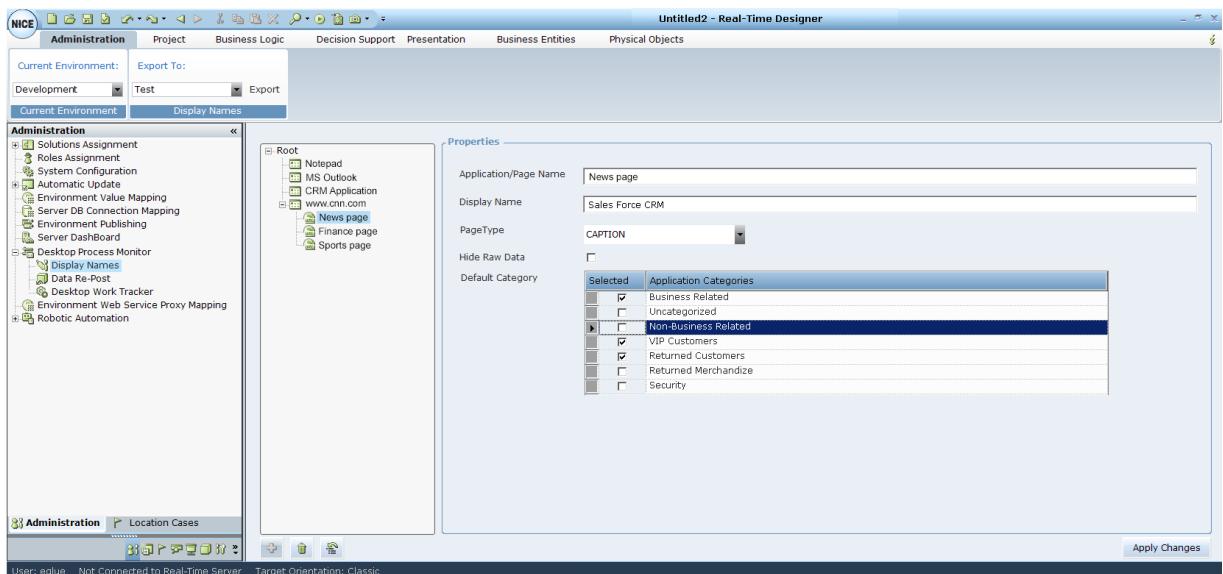


- A Page is added under the selected Application

TIP: You can also select an application in the tree and then click  at the bottom of the window.

- The following is displayed in the **Properties** area in the right pane of the window:

Defining Display Names for Applications and Pages



2. In the **Application/Page Name** field, enter a name for the page.

NOTE: You can use asterisks as wildcards in this field. For example, if you specify *Corporate* in this field, the display name for all pages for that application that contain the string Corporate are changed accordingly, based on the display name you specify in Step 3 below.

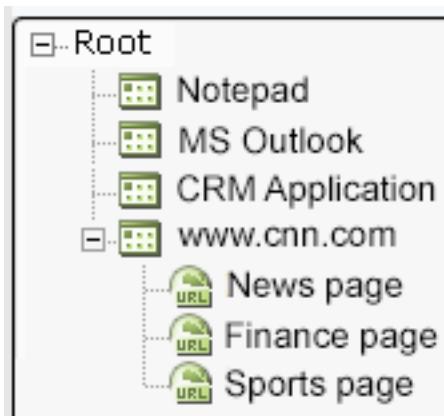
When using wildcards in this manner, the entire page name or caption is affected, and not only the part that matches the string within the wildcard characters.

Properties

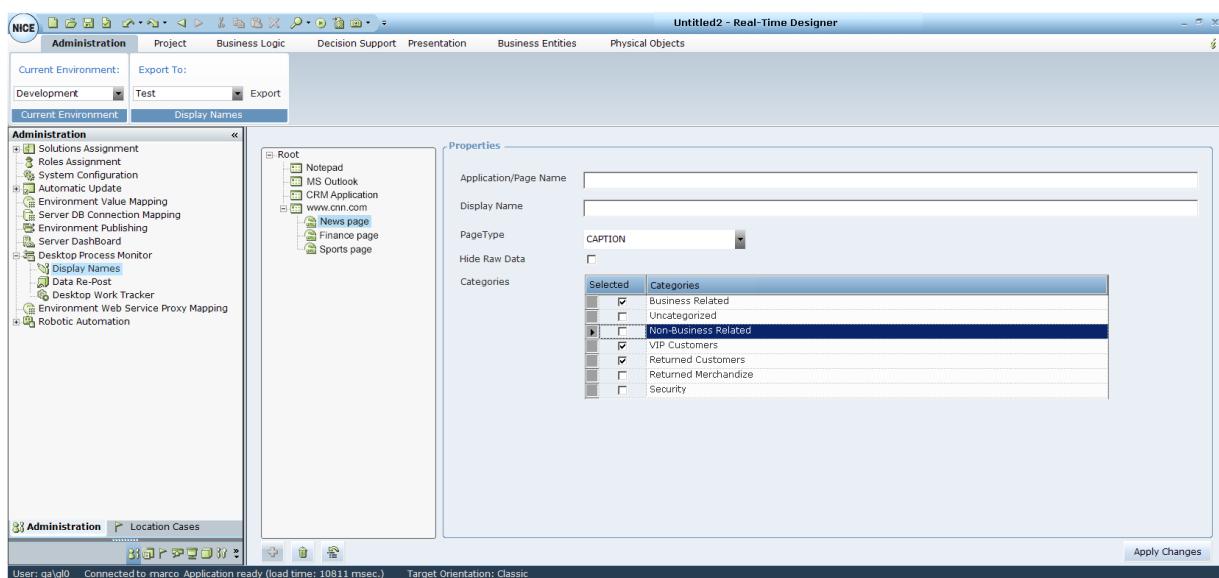
Application/Page Name	News page
Display Name	SalesForce Home Page

3. In the **Display Name** field, specify a display name. Display names can have a maximum of 300 characters.

NOTE: Display names longer than 300 characters are marked with a red line in the tree.

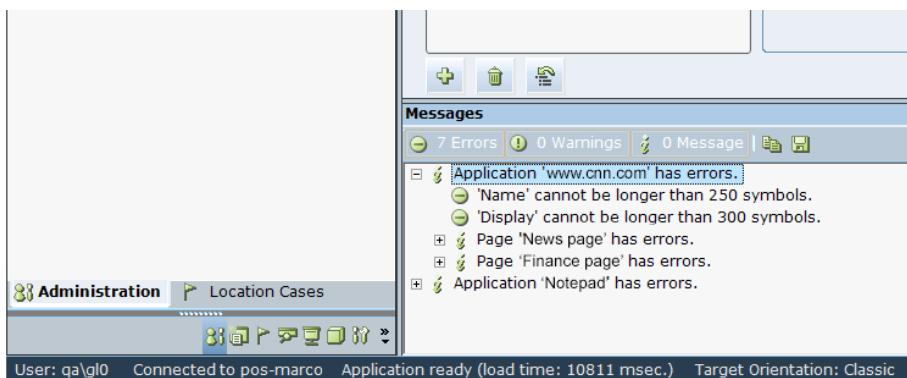


4. In the **Page Type** dropdown list, select one of the following options:
 - **CAPTION:** Indicates whether to use the page name, as specified in the title bar of the browser window, to identify the page.
 - **URL:** Indicates whether to use the page name, as specified by the page's URL, to identify the page.
5. From the **Category** list, select a category from the list of available categories. Selecting a category will enable the user to filters in relevant reports, per the selected category.
6. Click the **Apply Changes** button at the bottom of the window to save your settings.



7. If there are any errors, they are displayed in the **Messages** pane at the bottom of the window.

Defining Display Names for Applications and Pages

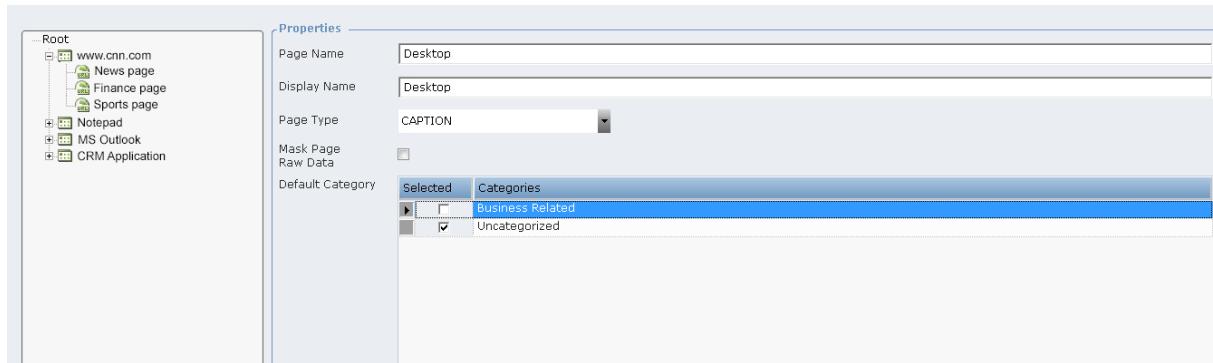


Masking Raw Data in Display Names

User's Display Names are often captured together with additional data that is either irrelevant or may contain identification details that you do not wish to store in your database. When defining a page Display Name, you can choose to mask this raw data.

► To mask raw data in Display Names:

1. When defining a Page Name, select the **Mask Page Raw Data** checkbox (the checkbox is not selected by default).



2. Remove the detailed part of the URL or caption from the Page Name and Display Name and replace it with an asterisk (*). This ensures that the windows and pages are captured by their display names without their specific details.
3. Click **Apply Changes** at the bottom of the window to save your settings.

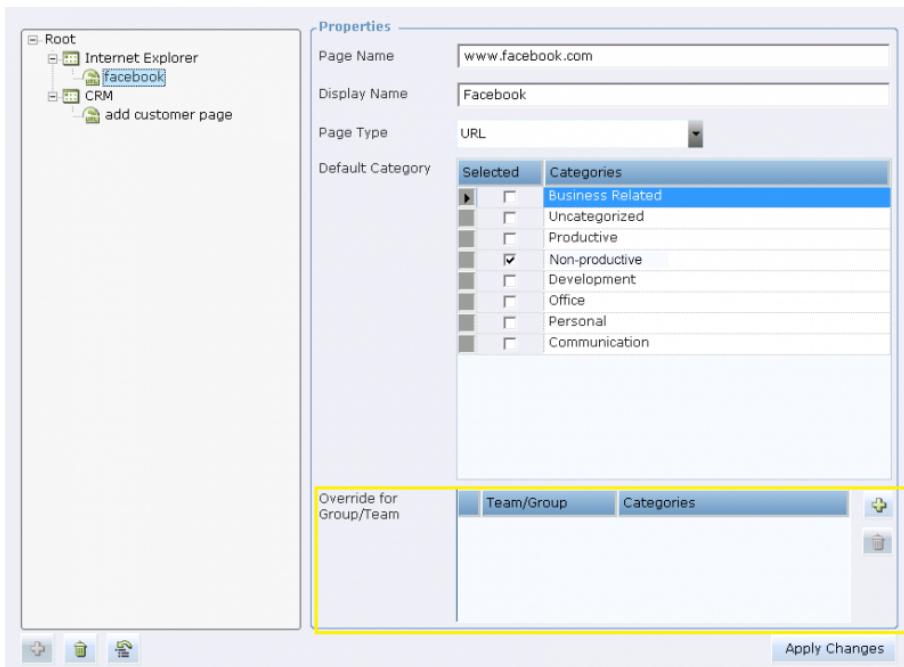
The client will not send the raw data for the masked page display name.

Defining Desktop Analytics Categories Per Group

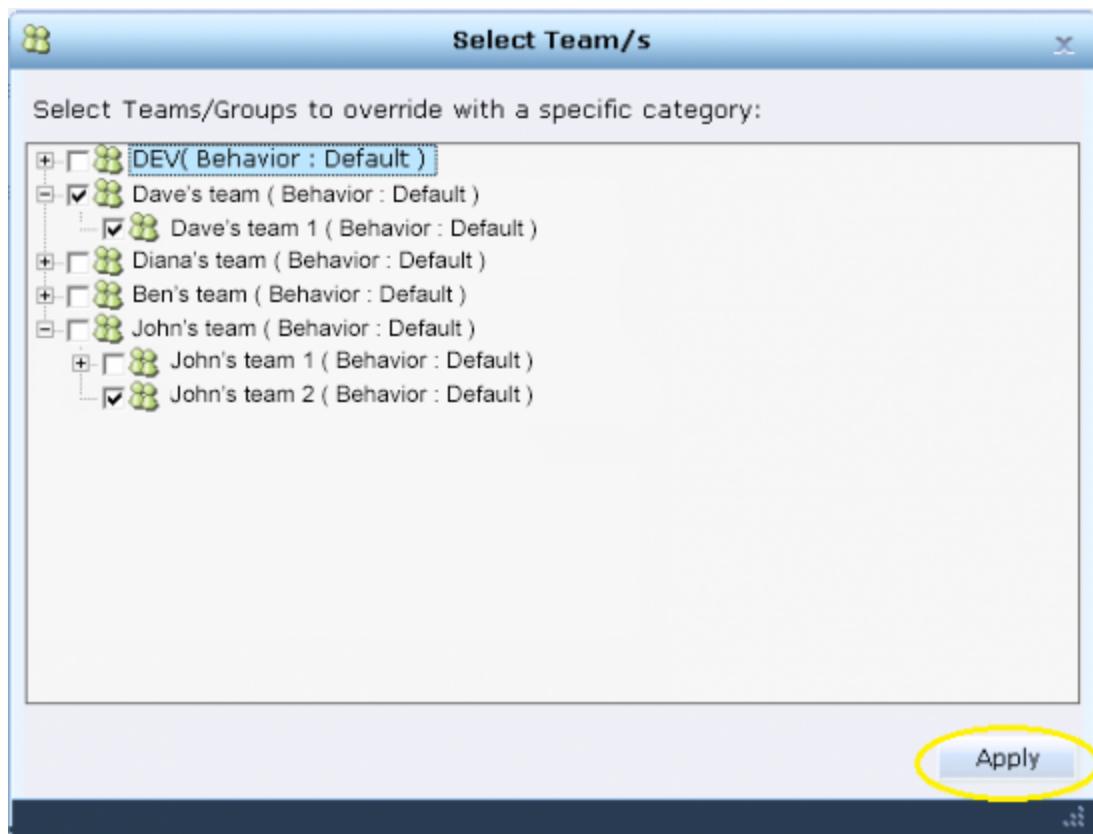
In a single organization, different business groups or lines of business may have different uses for the same applications. To enable these groups to define different categories per group, the Real-Time Designer **Desktop Analytics Categories Per Group** feature enables the user to assign a **non-default category** to one or more teams.

► To set a new assignment of category per group:

1. In the Real-Time Designer, navigate to **Administration tab > Desktop Process Monitor > Display Names**.
2. In the left pane, select an application or application page.
3. In the Display Name definition screen, go to the **Default Category** section.



4. To override the default category with a different category for a specific group(s) of users, click the plus icon (+) in the window.
5. In the Select Team/s window, select the group or groups from the list by selecting the relevant check box.



6. Click Apply to add the group(s) to the category panel. The new group(s) will be added as "Uncategorized".
7. To modify the new category, click the category list and select a different category.

Override for Group/Team	Team/Group	Categories
	<input type="checkbox"/> Dave's team	Uncategorized
	<input type="checkbox"/> Diana's team	Business Related
	<input type="checkbox"/> Ben's team	Uncategorized
	<input type="checkbox"/> John's team	Productive
		Non-Productive
		Development
		Office
		Personal
		Communication

8. You may apply the same category per group definition to any page or application by selecting the page or application from the left pane.
9. When you have completed defining the pages and applications for the category per group, click **Apply Changes** to save the new definition to the server.
10. To remove existing group category definitions, select the check box of the relevant definition and click the trash icon  in the window.

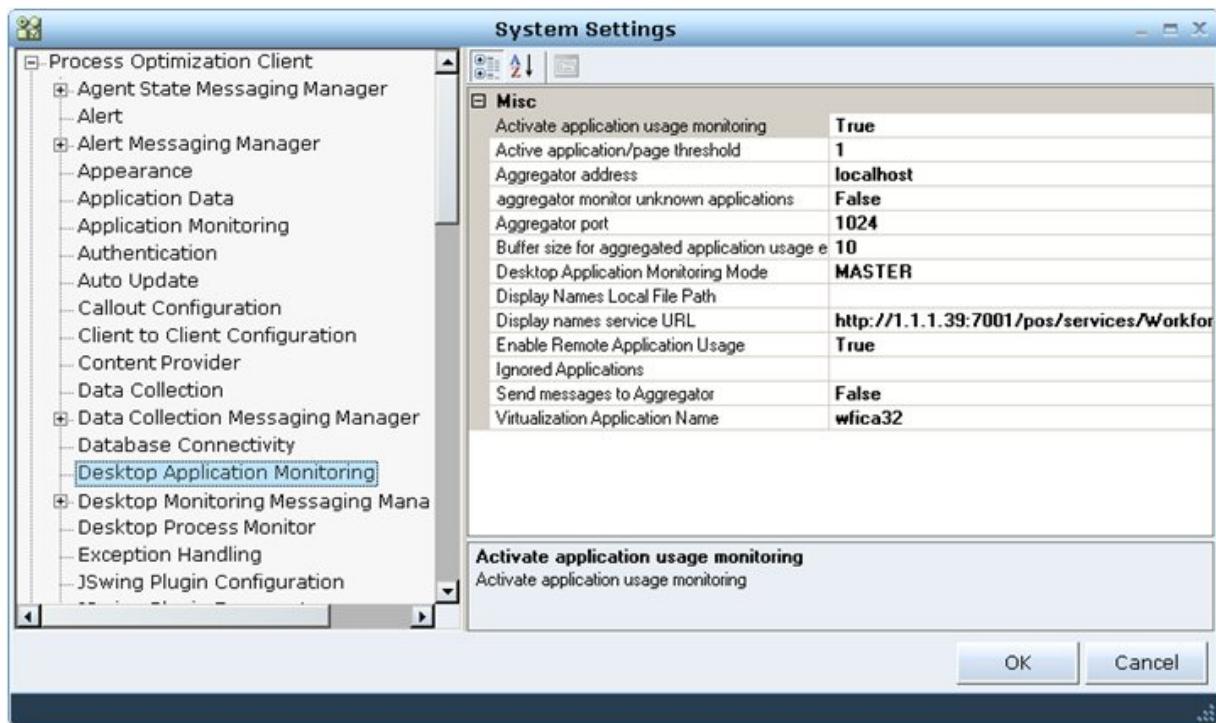
Override for Group/Team	Team/Group	Categories	
	<input type="checkbox"/> Dave's team	Productive	
	<input checked="" type="checkbox"/> Diana's team	Communication	
	<input type="checkbox"/> Ben's team	Personal	
	<input checked="" type="checkbox"/> John's team	Development	

11. In the confirmation message, click **Yes** to confirm the deletion.

Accessing the Display Names Local File

If the source for the Display Names feature is a local file on the Real-Time Client, to access this local file you must navigate to the following location:

1. In the Real-Time Client, open the System Settings window, and select the Desktop Application Monitoring branch.
2. In the right pane, Misc area, select the Display Names Local File Path property. This property specifies the file path for the local file.



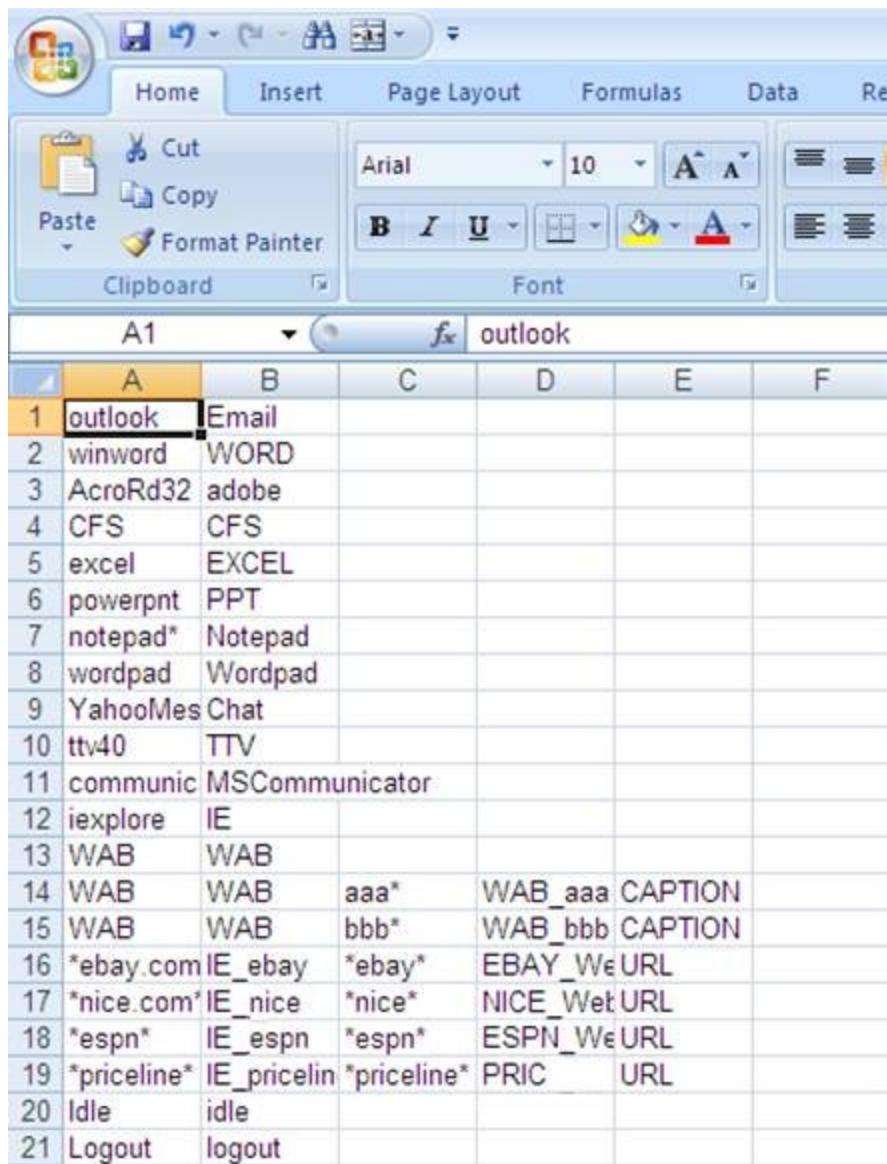
3. When using a local file as the source for display name mapping, see the next section for information about guidelines.

General Guidelines When Using the Display Names Local File Path

The following conditions apply when using a local file as the source for display name mapping:

- If the **Display Names Local File Path** property value is empty or the file specified by it does not exist, then no display names are created.
- The client looks for the local file at startup when the client is set to Standalone mode or if the connection to the server fails. Otherwise, the local file is ignored.

- The local file should be a *.csv file with five cells in each row, and where each row contains information in the following format: APP_KEY, APP_VALUE, PAGE_KEY, PAGE_Value, PAGE_TYPE.



A screenshot of Microsoft Excel showing a spreadsheet titled "outlook". The spreadsheet has 21 rows of data, each containing five cells. The columns are labeled A through F. Row 1 contains "outlook", "Email", "", "", "", and "F". Rows 2 through 10 contain various application names like "winword", "AcroRd32", etc., followed by their corresponding values. Rows 11 through 21 contain entries starting with asterisks, likely representing wildcards or specific process states. The "Font" tab of the ribbon is selected.

	A	B	C	D	E	F
1	outlook	Email				
2	winword	WORD				
3	AcroRd32	adobe				
4	CFS	CFS				
5	excel	EXCEL				
6	powerpnt	PPT				
7	notepad*	Notepad				
8	wordpad	Wordpad				
9	YahooMes	Chat				
10	ttv40	TTV				
11	communic	MSCommunicator				
12	iexplore	IE				
13	WAB	WAB				
14	WAB	WAB	aaa*	WAB_aaa	CAPTION	
15	WAB	WAB	bbb*	WAB_bbb	CAPTION	
16	*ebay.com	IE_ebay	*ebay*	EBAY_W	URL	
17	*nice.com	IE_nice	*nice*	NICE_W	URL	
18	*espn*	IE_espn	*espn*	ESPN_W	URL	
19	*priceline*	IE_pricelin	*priceline*	PRIC	URL	
20	Idle	idle				
21	Logout	logout				

NOTE: The following requirements apply:

- Applications hold information using **APP_KEY** and **APP_VALUE** columns only.
- Internet Explorer, Firefox and Chrome pages require information for all columns.
- If some of the fields are missing, the information is ignored, and the actual names are sent to the Real-Time server.
- The **APP_KEY** must be supplied as it is the UID for the entire process.

Following are the names of the columns in the local file and in the server's database:

- **APP_KEY:** The application's original name that is to be replaced with a display name. For most applications, it is the process name as it appears in the Task Manager (for example, *calc*, *outlook* and so on). For Internet Explorer, Firefox and Chrome it is the host name of the site (for example, *www.google.com*, *niceweb.com* and so on).
- **APP_VALUE:** The application display name. This is the display name that the user selects for this application.
- **PAGE_KEY:** The original value of the page caption or URL, if applicable (for Internet Explorer, Firefox and Chrome).
- **PAGE_Value:** The display caption/URL. This is the display name that the user selects for this web page.
- **PAGE_TYPE:** Indicates if the PAGE_KEY is a caption or URL (values should be **CAPTION** or **URL** only).

Web Domain and Page Mapping

The Web Domain and Page Mapping feature works in concert with the Display Names feature. When the application being monitoring is Internet Explorer (IE), Firefox or Chrome the application name is masked by the host name in the display name tables.

Example: Let's assume that IE is typically denoted as iexplore in the display name tables. Because this notation is generic, it does not clearly indicate the actual application being monitored. In this case, the application name is masked to show the actual host name part of the URL, such as www.google.com. If the host name cannot be found in the display name mapping tables, the display name shows as the host name itself, instead of iexplore.

For display name mapping purposes, if no URL can be retrieved from the browser, for example, when a page not loaded error or other type of failure occurs, the APP_KEY serves as the process name (such as iexplore).

Let's look at some examples in more detail:

- If the application is **iexplore**:
 - The web application domain is mapped according to the application display name mapping (example: [www.nice.com](#) to Nice).
 - The web page URL is mapped according to the page display name mapping (example: [www.nice.com\Enterprise...](#) to Nice Enterprise).
- If no relevant display name mapping is found:
 - The web application domain is the host name (example: [www.nice.com](#)).
 - The web page URL is the full URL (example: [www.nice.com\Enterprise...](#)).

Re-Posting Data

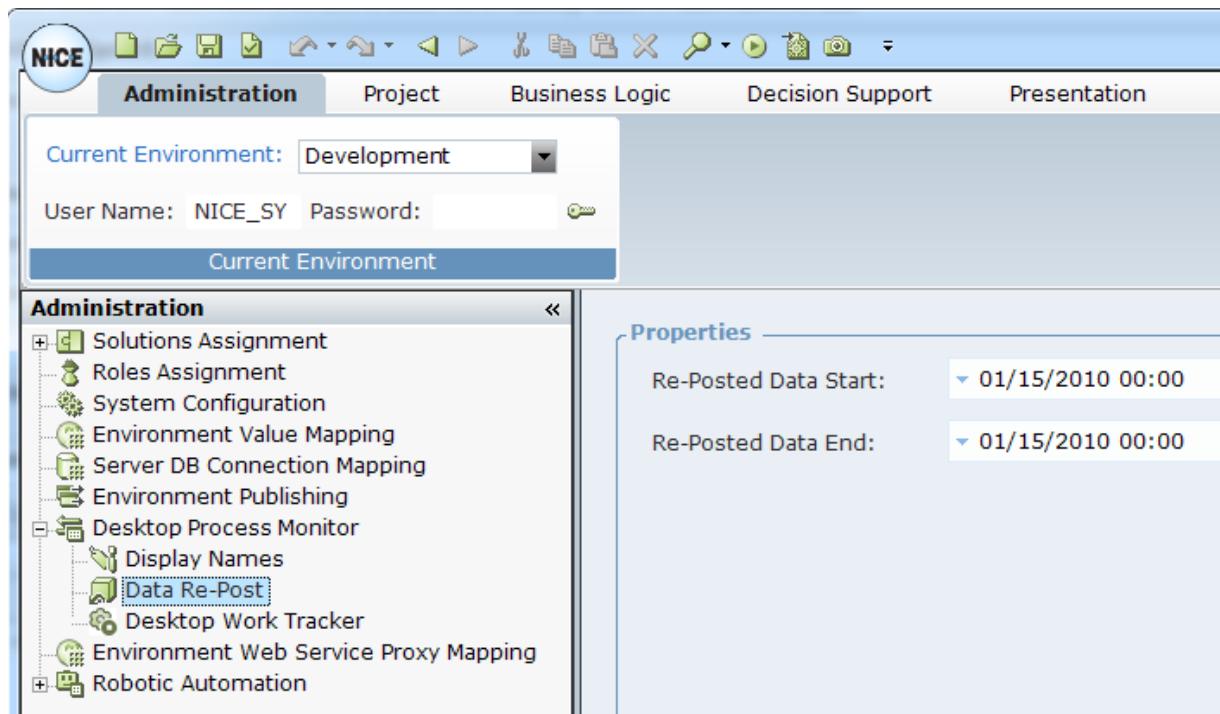
The **Data Re-Post** branch is used to manually re-post interval data for a specific interval. For Desktop Analytics reporting, the Real-Time server automatically sends interval data to the TotalView server. The **TotalView Report Resend Cron Expression** parameter in the **cron.properties** file controls this automatic process. This parameter sets the frequency for the system to automatically scan posted data to check for dirty intervals (meaning those intervals that contain data that was not sent). When a dirty interval is detected, the system automatically resends its data so that the interval is clean. This means that it sends all the data for that interval again, which now includes any data that was never sent before.

NOTE: The **TotalView Report Resend Cron Expression** parameter is also configurable via the Real-Time Designer GUI by selecting **Server** branch > **Batch** > **Quartz** > **TotalView Report Resend Cron Expression** in the System Settings window. For more details, see *System Administration Guide*, Batch section.

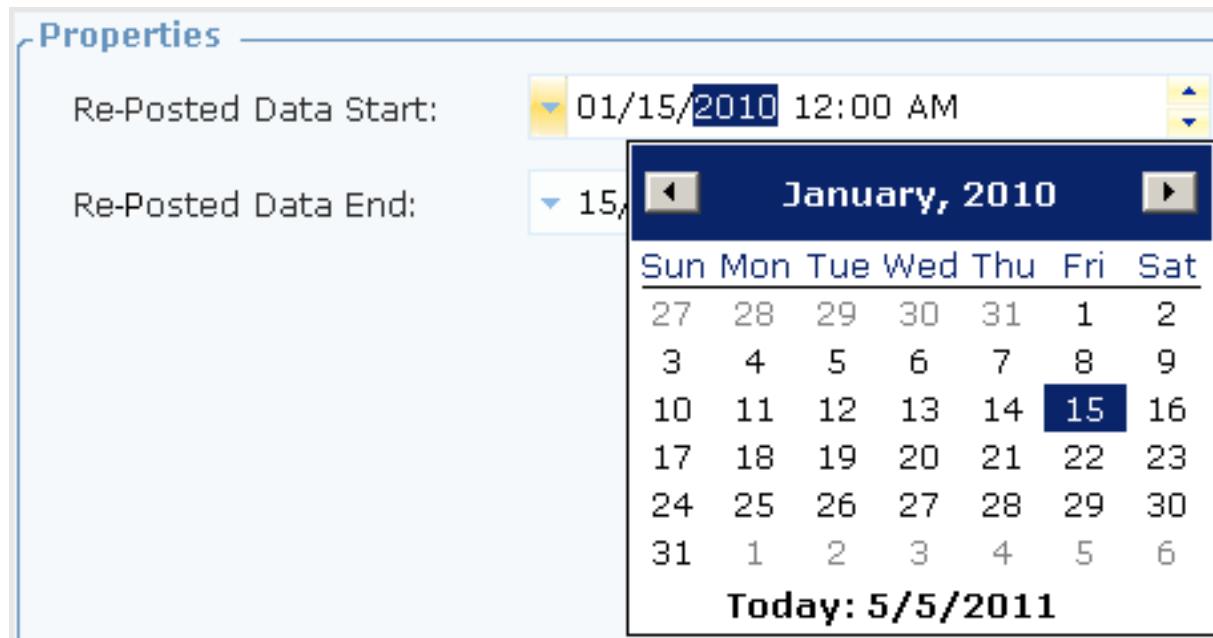
In some cases, it may be necessary to manually re-post data for a given interval. To do so, you define the start and end times for the interval, as described below.

► To define an interval for manual re-posting of data:

1. Select the **Data Re-Post** branch in the Administration module tree.



2. In the **Re-Posted Data Start** field, specify the **date** and the **time** to re-post the data:

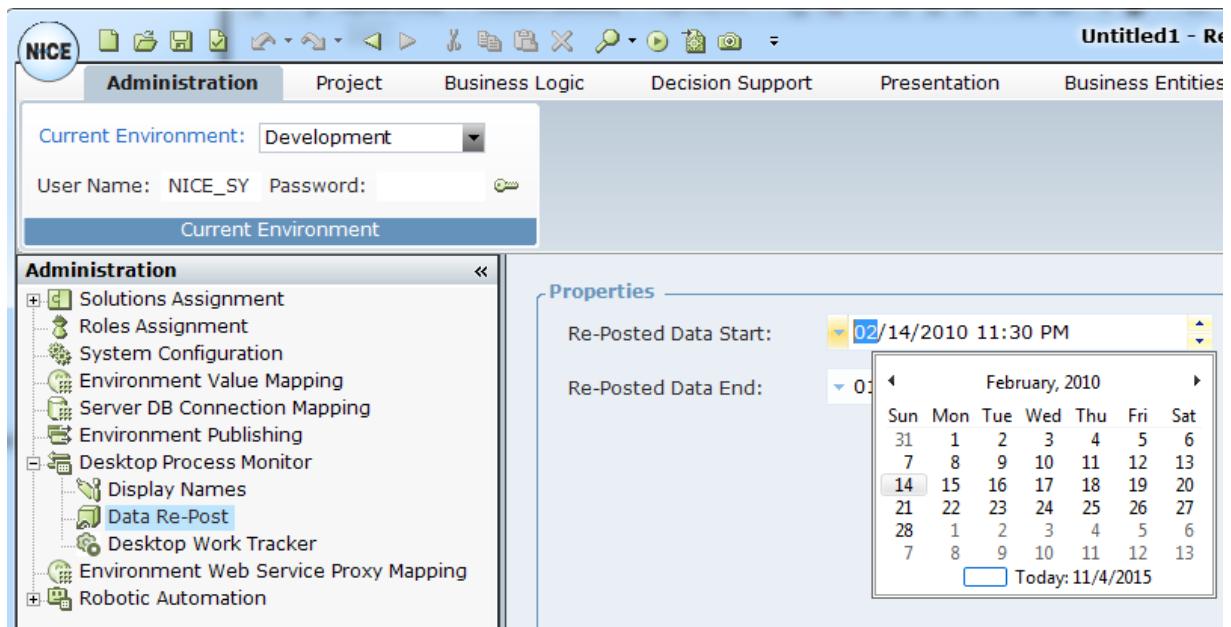


- To re-post the **date**, click the down arrow at the left of the field, which opens a calendar, then select the date in the calendar.
You cannot manually enter a date.
- To re-post the **start time** for the interval, use the up and down arrows at the right of the field to scroll through the list of intervals.
By default, intervals are defined by 30-minute periods.

NOTE: The default interval period is configurable by selecting **Server branch > Batch > Quartz > WFM Report Export Cron Expression** in the System Settings window. For more details, see *System Administration Guide*, Batch section.

3. In the **Re-Posted Data End** fields, specify the end date and interval in the same manner as described in Step 2 above.
4. Click the **Re-Post Data** button at the lower right of the window to generate a report that contains those entries within the specified interval.

Re-Posting Data



Defining Process Monitoring in Real-Time Designer

Process monitoring enables the monitoring of the activities on an employee (client) desktop. The activities to be monitored are represented as processes and tasks that can be monitored by the Real-Time Solutions solution.

This chapter introduces Desktop Analytics' Process Monitoring concept and describes how to configure the necessary elements in Real-Time Designer for Desktop Analytics' Process Monitoring scenario. Together with the Application Monitoring, the Process Monitoring can be used to support workforce management (WFM) efforts, which work together to facilitate the analysis of employee productivity and efficiency.

NOTE: Log messages for the Process/Application monitoring modules are logged using dedicated Process Monitoring and Application Monitoring loggers.

Configuring a Process and Its Tasks

Process and Task Design Guidelines	130
Configuring an Automatic Process	131
Configuring Tasks	140

NOTE: Process Monitoring is not available with the license for Desktop Application Analytics.

This section describes how to configure automatic processes and their tasks. The procedures described in this section give you step-by-step instructions for setting up the email message handling process and two of its tasks, as described in [Introducing Desktop Analytics](#) on page 11. Follow the procedures below to configure the process and tasks in Real-Time Designer.

For the purpose of this scenario, it is assumed that the required business processes have already been defined in Real-Time Designer, including their details to be monitored (triggers and their details). It also assumes that the necessary Screen Elements have already been mapped.

NOTE: To set up manual processes and their stop reasons, see the next chapter, [Using Desktop Work Tracker](#) on page 158.

Before You Begin:

Verify that you have reviewed and understood the guidelines in [Process and Task Design Guidelines](#) on the next page.

Process and Task Design Guidelines

It is important that you follow the guidelines below when designing processes and tasks to be monitored:

- By default, tasks must be mutually exclusive. Therefore, make sure that the triggers or logical procedures that these tasks represent are also mutually exclusive in real life.
- In some cases, there may be a logical order for executing tasks. In such situations, you may want to link the start of one task to the end of another task. This means that the end of the first task acts as the trigger for the start of the second task.
In other cases where you cannot be sure of the order of performance of tasks, you need to define standalone triggers.
- Verify that tasks have start and stop triggers that correctly reflect what you are trying to measure.

Configuring an Automatic Process

This section describes how to configure an example **automatic** process introduced in [Introducing Desktop Analytics](#) on page 11. After setting up the process, you configure the tasks comprising that process, as described in [Configuring Tasks](#) on page 140.

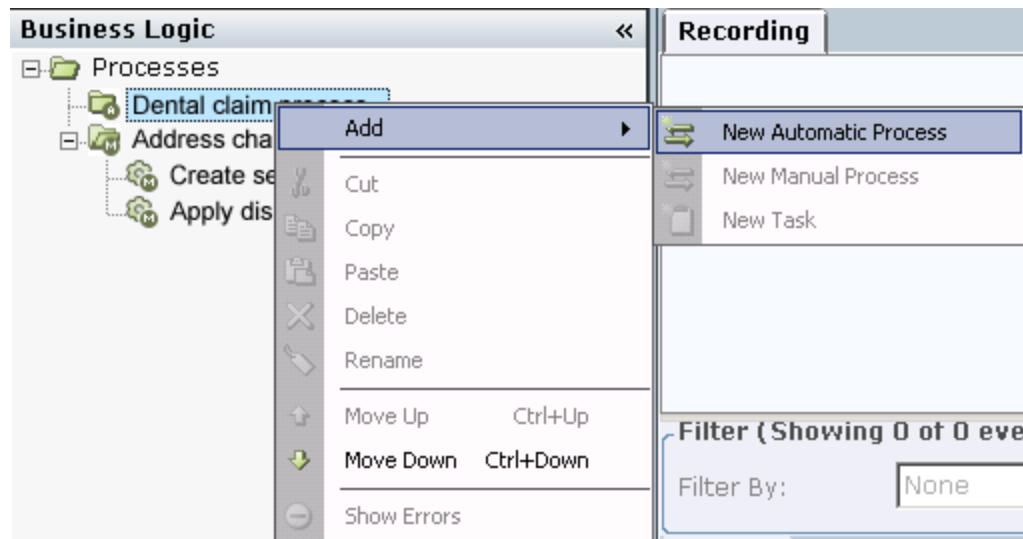
NOTE: Processes and tasks can be defined in Real-Time Designer using standard methods (described below), or using a recording approach. See [Using the Recording Method for Defining Processes and Tasks](#) on page 395 for details about the latter.

Step 1 through **Step 5** in the scenario described below assume that standard methods have been used.

► To configure an automatic process for monitoring in Real-Time Designer:

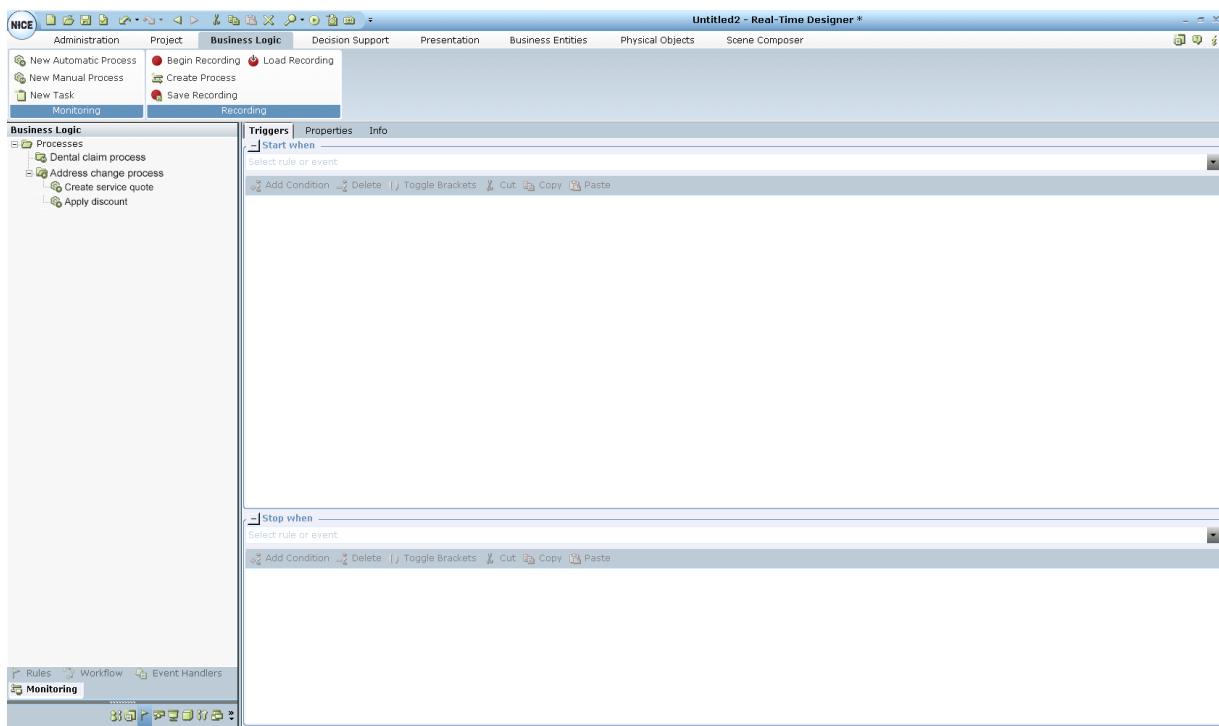
1. Open the Business Logic window by clicking the **Business Logic** module tab.
2. In the **Processes** tree, select **Automatic Processes** and then click  **New Automatic Process**, or

Right click **Automatic Processes** and select **Add > New Automatic Process** from the popup menu:

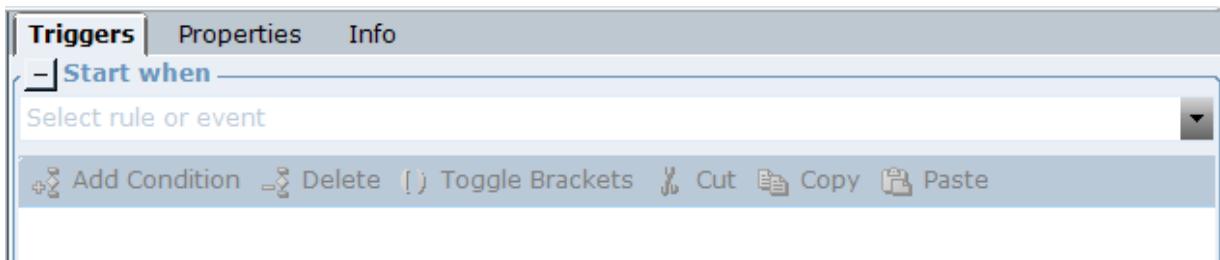


A new automatic process is added to the tree.

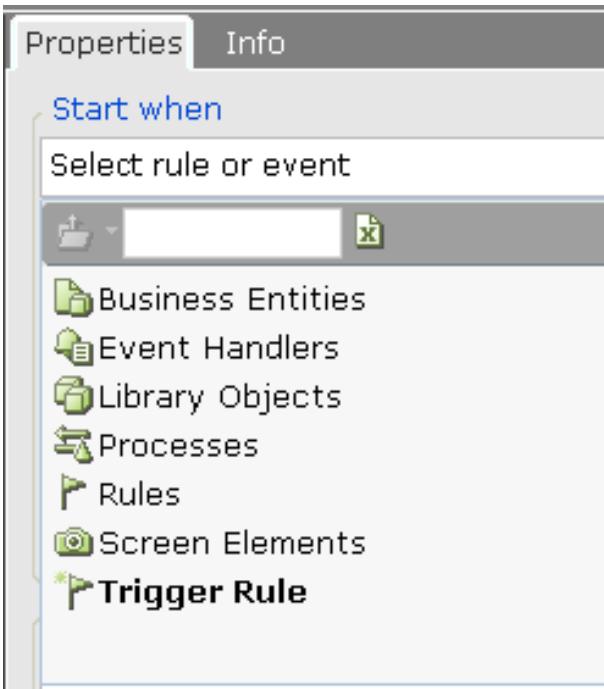
Configuring an Automatic Process



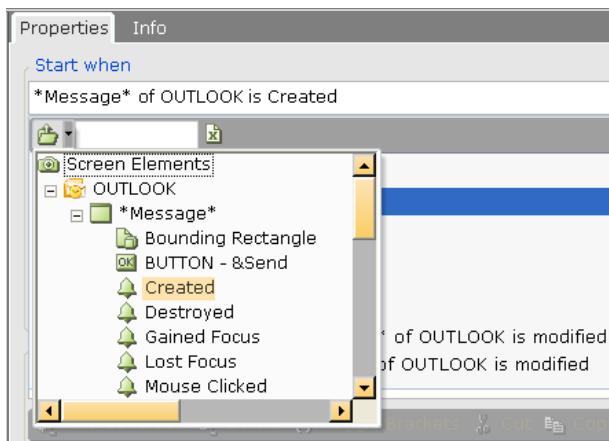
3. Assign a recognizable name to the process.
4. Define the relevant Screen Elements to be used as triggers and the unique identifiers of the processes and tasks.
It is assumed that this step has already been performed by an integration expert. For more details, see the **Defining Screen Elements** section in the *Real-Time Designer User Guide*.
5. Create the Business Entities to store the values of these Screen Elements or represent their events and functions.
It is assumed that this step has already been performed by an integration expert. For more details, see the **Business Entities** section in the *Real-Time Designer User Guide*.
6. Define the triggers of the process:
 - a. Click the down arrow in the **Start when** area to define its value. In our example, an event is used as the start trigger.



The following window is displayed:

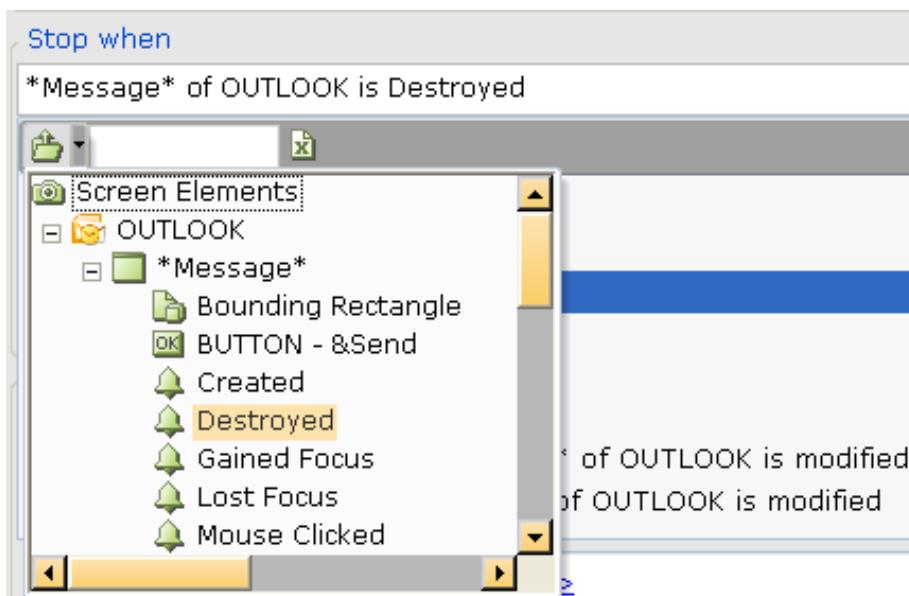


- b. Select **Screen Elements > Outlook > *Message* > Created** in the drop-down list, as shown below:



This selection means that as long as the original message window is active (not closed), then this process is active.

- c. Define the **Stop when** value to indicate when the message window is closed. Select **Screen Elements** > **Outlook** > ***Message*** > **Destroyed** in the drop-down list, as shown below:



This selection means that as long as the original message window is destroyed (inactive), then this process is active.

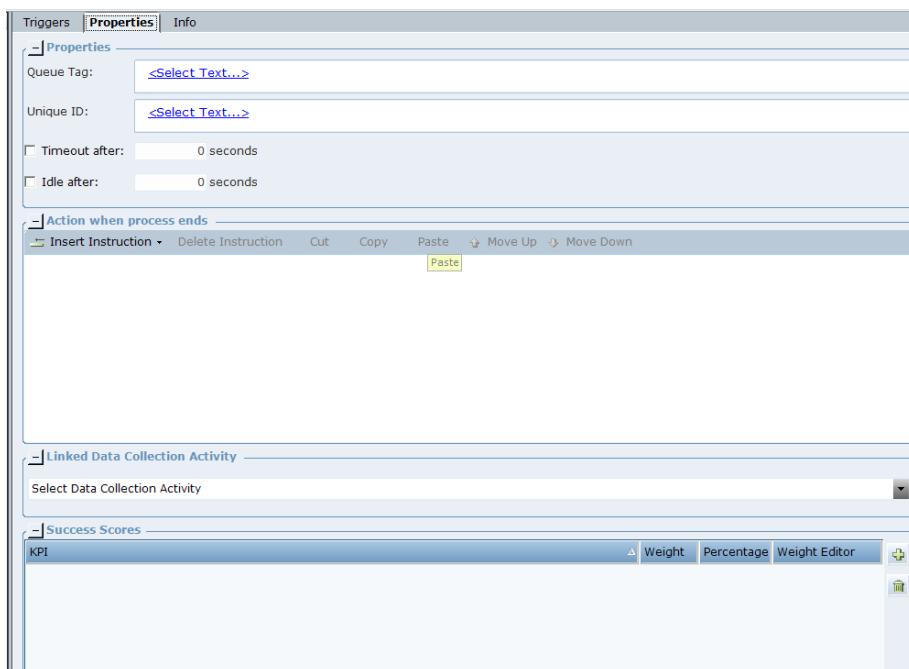
7. Define the properties of the process:

- a. Define the **Queue Tag** value. The **Queue Tag** provides a means to categorize the process. For example, because handling emails is a generic activity, you may want to categorize the emails being handled by type, such as claims-related emails, request-related emails and so on. In a WFM environment, different types of emails are automatically handled separately. In order to provide information to the WFM system in the most usable form, you also want to categorize emails by type, so that email handling time for different email types can be counted separately. Using queue tags can help differentiate between the various contexts of the usage of a process.

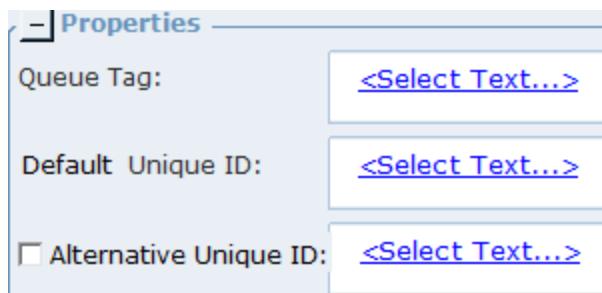
NOTE: For automatic processes, a queue tag must have 64 or fewer characters and must not include spaces or tabs. This limitation is required when sending process information to Workforce Management (WFM).

If the process information is not being sent to WFM and you require more than 64 characters in the queue tag, use a text business entity in the queue tag instead of a static value. The business entity and its initial value can include more than 64 characters.

For our scenario, select **Business Entities > Message orientation** in the drop-down list.



The Message orientation value means that the email type can be determined directly from the email itself. In effect, this selection extracts the prefix of the email address in the **To** field of an email, up to the @ sign in the address. The extracted prefix is then used to tag (categorize) emails by type, so that email handling time for different email types can be counted separately.



- b. Define the **Unique ID** value. The **Unique ID** identifies the process instance currently being executed. This field is used to support multiple instances of a process in a seamless manner. The **Unique ID** is assigned once, when the process starts. The **Unique ID** typically has some type of business meaning and is used to uniquely identify a specific transaction, problem or issue being handled.

NOTE: Real-Time Designer's screen integration and connectivity technology can connect to multiple instances of a window or application at any given point in time. However, for the purpose of this exercise, we assume that only the active instance of an email message window is considered.

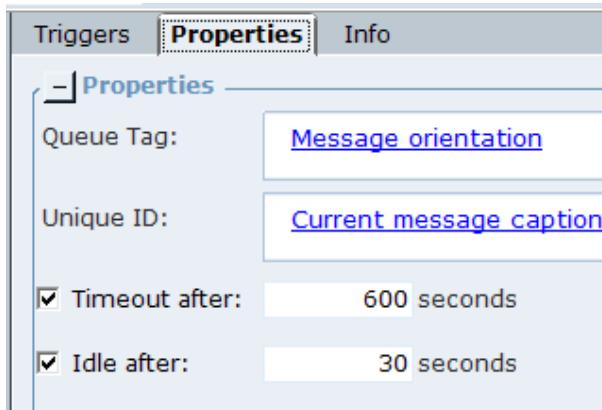
The **Unique ID** is limited to 250 characters. If it is longer than that, the value is truncated by the server.

If preferred, use the **Alternative Unique ID** property to temporarily store a business Unique ID while the process uses an operational Unique ID. At run time, the value you specify for this property is assigned to the **Unique ID** of the process when the process stops.



Important! The **Unique ID** enables you to handle various types of circumstances described below. The uniqueness of the value is crucial for a process.

For our scenario, the email caption (subject) is used to determine the **Unique ID**. To do so, select **Current Message Caption** in the drop-down list.



This selection means that the **Unique ID** is taken from the subject line (shown in the message window caption) of the email message window currently in focus, even when multiple email message windows are open simultaneously.

For example, let's say that you first open Email A that contains the subject AAA and then you open Email B, which contains the subject BBB. You now have two instances of the same process, where one is assigned to a message window with subject AAA and the other to a message window with the subject BBB. Real-Time Designer process monitoring can differentiate between these two process instances and can count for each of them accordingly. Therefore, when the user performs another action, such as clicking the **Reply** button in one of these emails, the reply action is automatically associated with the correct process instance, based on the value of the business entity property Current Message Caption at the time of the click event.

In the example described above, the **Unique ID** associates a process instance with a physical entity (in this case, a message window).

You can also use the **Unique ID** to associate handling time across multiple users or processes. For example, you could use a Claim ID as the **Unique ID** for this purpose.

The **Unique ID** enables you to handle both types of circumstances described above. It is important to specify the correct type of value in the desktop in order to ensure that it is in fact unique, such as Claim ID or [Claim ID + Day + Hour]. The uniqueness of the value is crucial for this purpose.

- c. Define the **Timeout after** value by checking its checkbox and then assigning a numeric value in the adjacent box. The Timeout defines the **process total time**; once reached, the process will be terminated, and is not dependent on the activity in the process time.

This field is optional and is useful if the standard stop trigger does not occur or is never reached.

NOTE: If this option is not checked and there is no value assigned to it, the default **Timeout** value will be according to the Real-Time Designer Settings (3600 seconds). However, if you assign a value in the Automatic Process, it will override the timeout configured in the Settings.

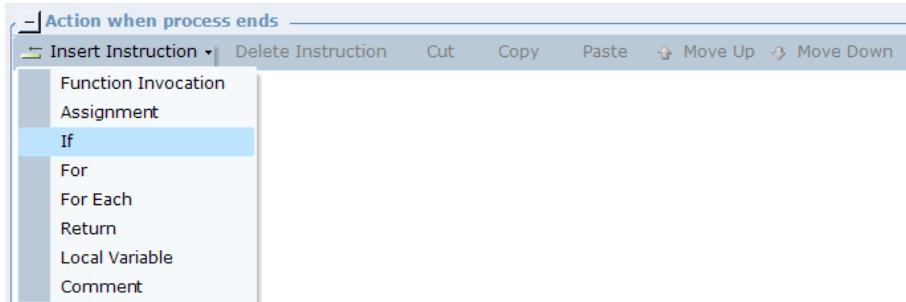
- d. Define the **Idle after** value by checking its checkbox and then assigning a numeric value in the adjacent box. This field enables you to specify an idle threshold, in seconds. Idle time is measured at the process level, and indicates when no mouse or keyboard action is detected for longer than the specified threshold. In this case, the value is 30 seconds. This field is optional and is useful when the idle threshold of the process should be different than the idle threshold of the desktop. For more details about the desktop idle threshold, see [Desktop Process Monitor Settings](#) on page 75.

This selection means that if no action is detected on the desktop within the specified threshold, such as a mouse press or keyboard action, then the state of the process changes to Idle.

When a process becomes idle, it automatically pauses all of its active tasks. The process resumes when the next input event is received (keyboard or mouse).

NOTE: A "Lock" state indicates that the user's desktop is locked.

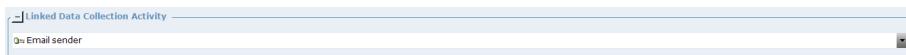
8. Define the **Action when process ends** using the action editor in the middle of the window. Use the action editor to define the instructions to be performed when the process ends. For example, to start a workflow once the process ends.



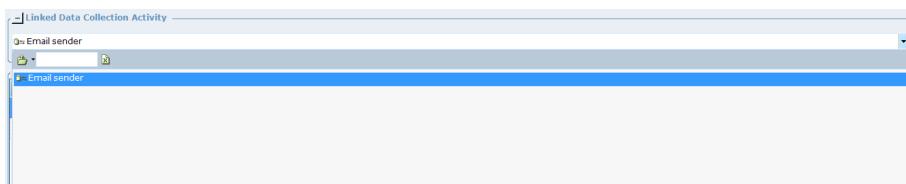
This action editor works in the same manner as other action editors available in Real-Time Designer.

9. Specify the **Linked Data Collection Activity** value.

NOTE: When you select **Data Collection** in the process **Properties**, the **Activate** and **Collect** functions are triggered behind the scenes when the process's stop trigger is triggered.



10. Click the down arrow in the **Linked Data Collection Activity** field to define its value. Only one data collection activity can be selected.



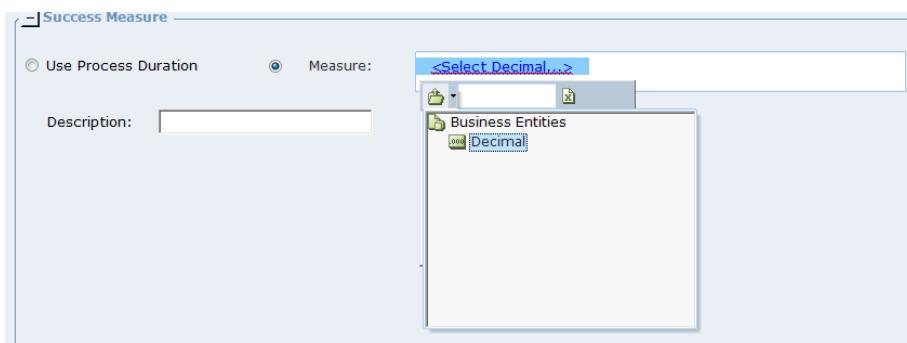
NOTE: For details about how to define data collection, see *Designer User Guide*, Defining Data Collection section.

11. In the Success Measure area, select **Measure value and data source**.

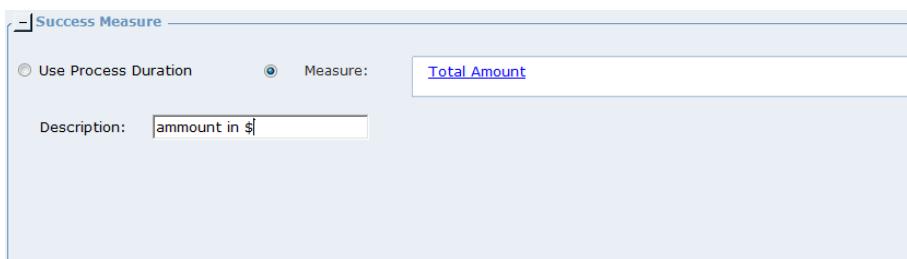
The Success Measure area enables you to specify a measure value, thereby providing additional performance information for that process. The process Handling Time, in seconds, is the default measure value set. Alternatively any decimal business entity can be set.



12. Select the **Measure**option and then click in the Measure field.



13. Select any Decimal Business Entity as a data source for the Measure value.



14. Enter a short description for the Measure value. This will be the **Measure Type** shown in the reports.

NOTE: The sum of all **Percentage** values is always 100%.

15. Repeat Step 11 through Step 14 for each measure.

You are now ready to specify the tasks for the process and define their properties. To do this, proceed to [Configuring Tasks](#) on the next page.

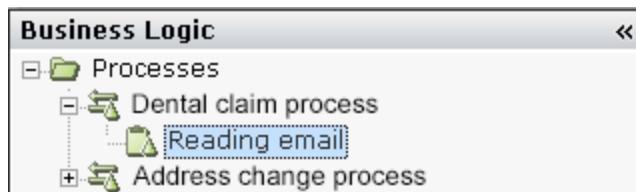
Configuring Tasks

This section describes how to configure two of the three tasks comprising an email message handling process.

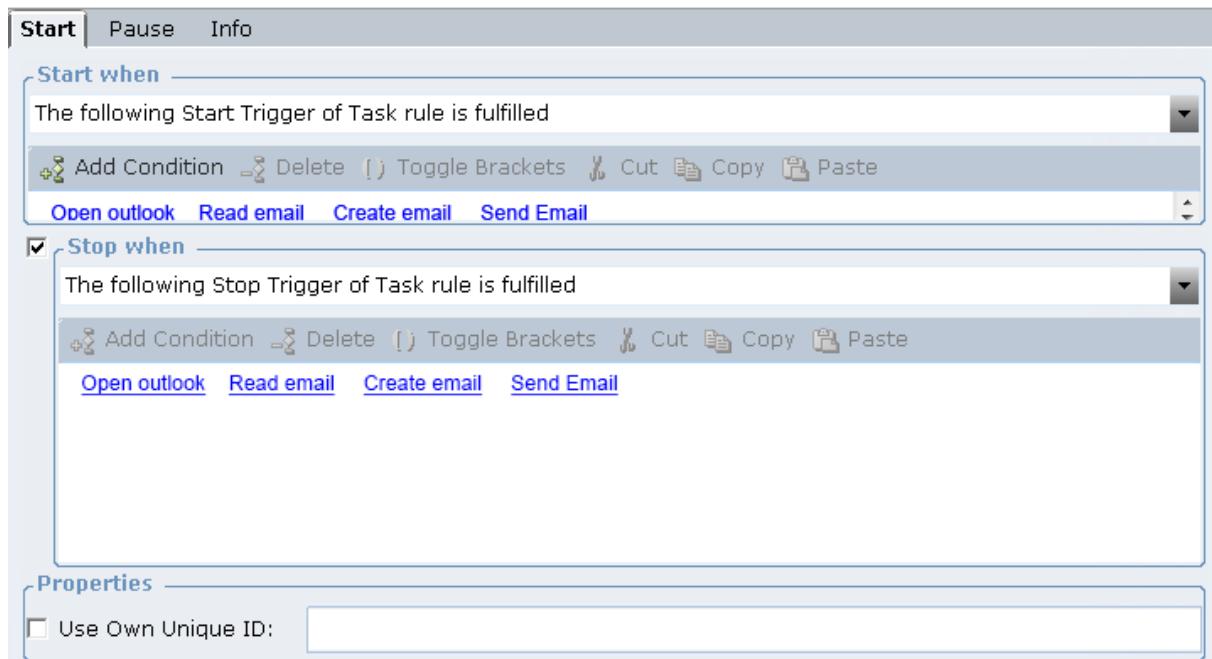
► To configure a process's tasks for monitoring in Real-Time Designer:

1. In the Business Logic window, click  New Task to display a New Task branch under the process.

Assign a recognizable name to the task, such as **Reading email**.

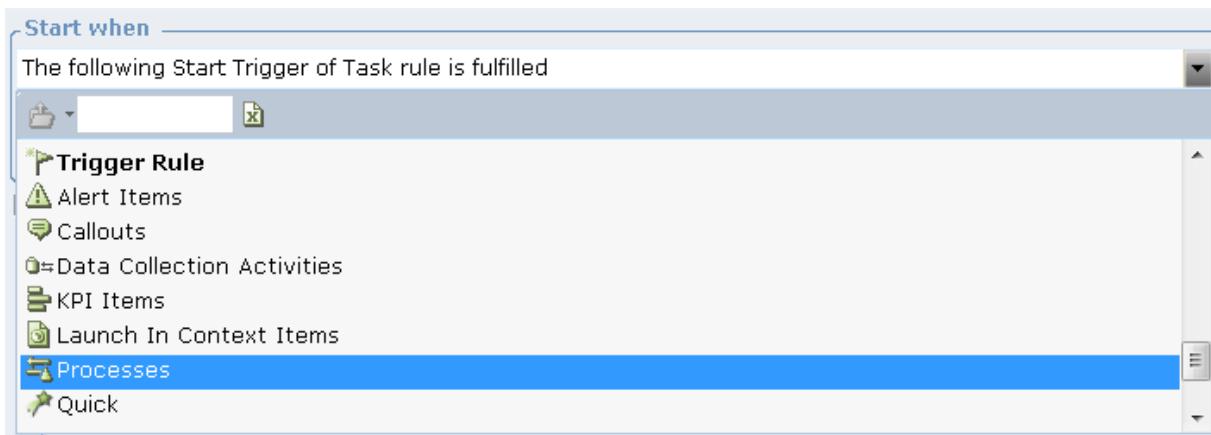


2. Select the **Start** tab to define start and stop trigger properties for the task.

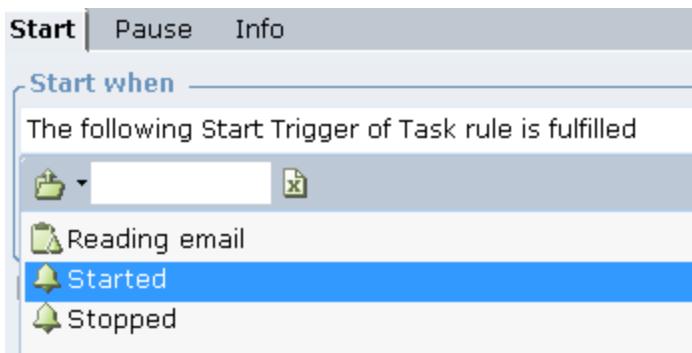


3. Click the down arrow in the **Start when** field to configure its value. This field indicates when the task begins. Every task must have at least a start trigger.

The following window is displayed:



4. Select Processes > [Name of Process] > Started in the drop-down list, as shown below:



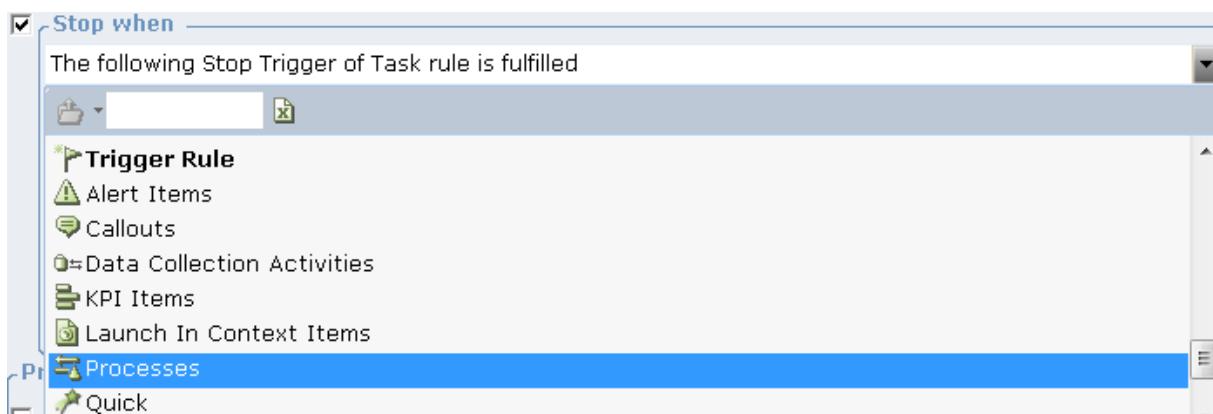
This selection indicates the start event for the task. In this example, the task should start immediately **when the process starts**.

5. Next, specify the value for the **Stop when** field. This field specifies the trigger for stopping the current active task:

If the checkbox is not selected, this means that when the process stops, so does its task.



6. If the **Stop when** field is selected, you will need to specify the trigger that stops the task by clicking the **Select rule or event** dropdown list.



7. Specify the value for the **Use Own Unique ID** field.

Typically, a process's **Unique ID** is automatically assigned to its component tasks whenever a task changes its state (start, stop, pause or resume), in order to ensure that the task instance is correctly assigned to the correct process instance. When you enable the **Use Own Unique ID** field, the value of the data source that you select is used instead of the process's **Unique ID** data source value. This field is useful when the process's **Unique ID** is not available at the time when the task event should occur. In effect, the **Use Own Unique ID** field specifies a backup location to look for the **Unique ID**, if for any reason it cannot be found in the data source assigned to the process.

In this case, the checkbox is unchecked for this task.



Defining Pause and Resume Triggers

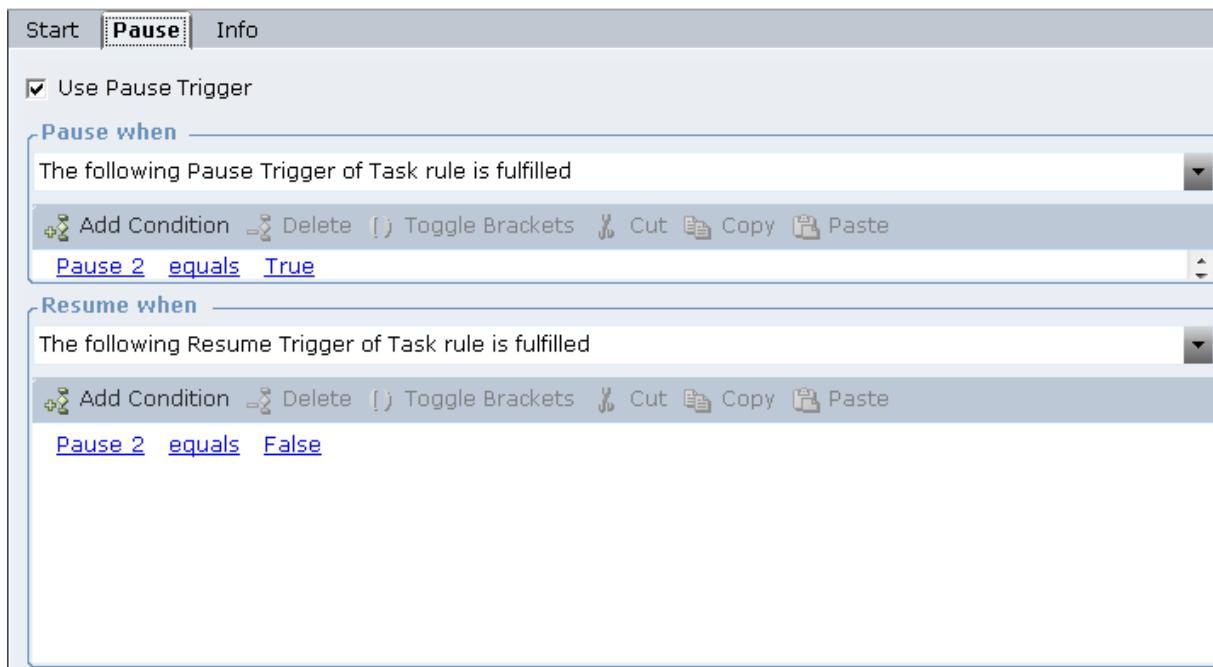
When defining **multiple instances of the same process type** (for example, an email reply), the Real-Time Client can recognize when an instance has been paused automatically - according to the instance that is currently in-focus. Moving between **different instances of the same process** will, therefore, pause and resume the processes accordingly.

When defining **multiple processes**, the Real-Time Client is also able to identify that the agent has switched between processes and will automatically pause the first process; however, in order to resume the first process, you will need to define a **resume trigger** for the process.

► To define pause/resume triggers:

1. Select the **Pause** tab and define the trigger for pausing/resuming the task.

2. Specify the trigger, event or logical expression that pauses and resumes the task. When you select this option, you must define the trigger condition or event for pausing and resuming.



3. Remember to define a **Resume** trigger for the task- you will need to define a Resume trigger even if there is no defined Pause trigger (in other words even if the **Pause** checkbox is not selected).

NOTE: If, for the same process type, there is more than one instance running, because both instances receive their unique ID value from the same data source (defined in the process type), when the unique ID value changes, the process pauses and resumes automatically according to the unique ID value and the instance it matches.

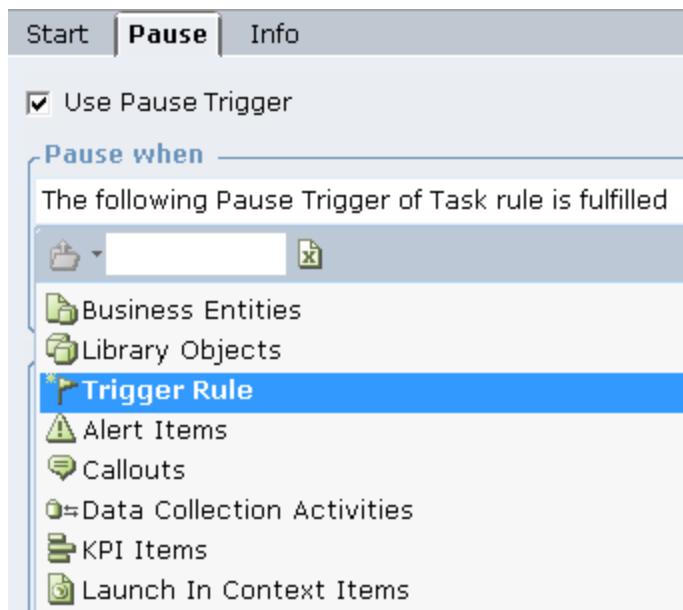
The Resume trigger is taken into consideration if it occurs; however, when a trigger is fired (for any process trigger that is defined in the process type) it looks at the current unique ID value to ensure that it is applied to the correct process instance. The Resume trigger will have no effect if it is fired from a process that is already running (since the unique ID has probably not changed) and it will try to resume the same instance that is already running.

The Resume trigger is mandatory, even if there is no Pause trigger defined, in cases where a process type is paused but is not automatically resumed. If the paused 'new' process is closed, the 'old' process will not necessarily resume automatically and needs to be resumed using the trigger.

4. Click  **New Task** to add a **New Task** branch under the process. Give this task a recognizable name, such as **writing a response**, as shown below:



5. Specify the value for the **Pause when** field by selecting **Trigger Rule** in the dropdown list, as shown below:



The following is displayed:



When writing a task, we are defining a **rule as the trigger** for when the task begins. As such, you must now define the condition(s) for this rule.

6. Click the **Start** tab and define the conditions for the rule, as shown below:

Start when

The following Start Trigger rule is fulfilled

Add Condition Delete () Toggle Brackets Cut Copy Paste

Send button is available equals True
And
Current Message Caption contains Caption of handled email message
And
Current Message Caption contains **Re**

As shown above, this rule has three conditions to ensure that the email is in fact a response email. These conditions are described below:

- For condition **1**, the **Send** button in the email message is now available. The logic here is that when the user clicks the **Reply** button in an email message, the **Send** button becomes available in the email message for sending the reply. This indicates that the reply email message for the specific received email message is currently in edit mode.
- Condition **2** states that the current message caption (email subject) contains the caption (subject) of the handled email message and is therefore associated with the same process instance of the handled email message.
- Condition **3** states that the current message caption contains the text **Re**, thereby indicating that the email is a reply to the originally opened email. The logic here is that when the user opens an email, the value of its caption (subject) is stored. Therefore, when the user clicks the **Reply** button in the email, a check can be made to determine whether the message response contains the same caption as the originally opened email.

7. Define the **Stop when** value for the task. In this case, a stop condition is specified (unlike in the reading the email task).

Check the **Stop when** checkbox and then select **Screen Elements > OUTLOOK > *Message Window* > Send BUTTON > Clicked** in the drop-down list, as shown below:

Stop when

Send BUTTON of *Message Window* of OUTLOOK is Clicked

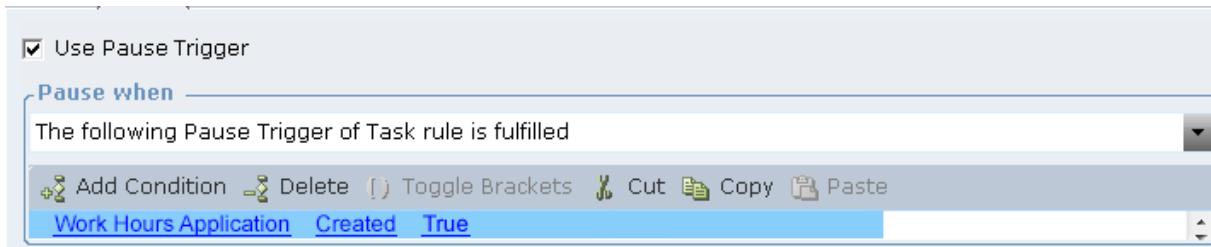
Screen Elements

- > OUTLOOK
 - > *Message Window*
 - > Send BUTTON
 - > Clicked
 - > Created
 - > Destroyed
 - > Gained Focus
 - > Lost Focus

ON of *Message Window* of OUTLOOK is modified
N of *Message Window* of OUTLOOK is modified

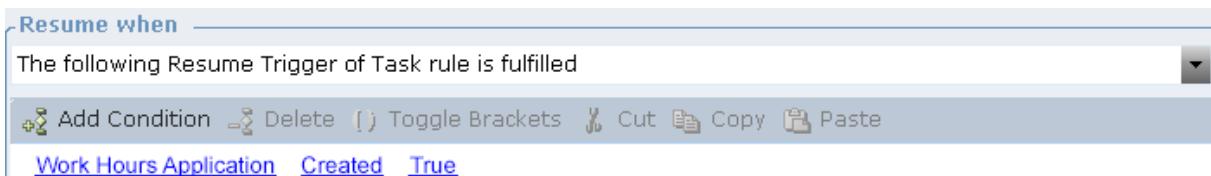
This selection means that the task is stopped when the user clicks the **Send** button in this specific instance of the email message.

8. Next, select the **Pause** tab and define the trigger for pausing/resuming the task. In this case, the **Pause when** option at the top of the pane is selected. When selecting this option, you must define the condition(s) that trigger when to pause and resume the task.
9. Define the conditions for pausing the task:



This selection specifies that the task is paused according to the condition specified.

10. Define the conditions for resuming the task:



This selection specifies that the task is resumed according to the condition specified.

Process Path Discovery

Desktop Analytics' *Process Path Discovery* feature provides a strong analytical tool for discovering the actual process execution methods, in terms of applications and process tasks, used by call center or back office employees to accomplish their business processes. To accomplish a process, each employee may actually use slightly different methods, such as different applications in a different order, or performing process tasks in a different order.

Because processes have a success measure that represents the business goal, each process performed (process instance) has a measure value that represents that process instance's success in achieving the business need.

The Process Path Discovery utilizes the Success Measure associated with a process to determine the overall measure value of a process instance. Go to [Step 11 in Configuring an Automatic Process](#) on page 131 for more details about success measures.

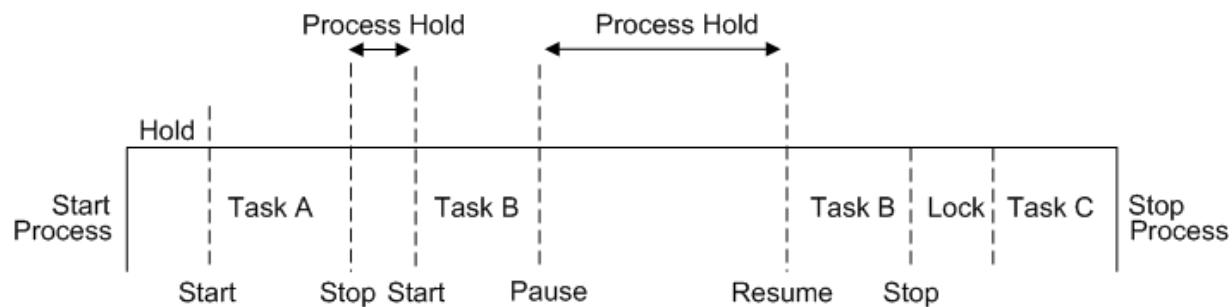
For the purpose of path discovery, *non-active* time on the client is considered only when it reaches a duration threshold (meaning, the time was very long). Non-active time on the client includes idle time, hold time and locked time, as follows:

- **Idle time:** The time when no mouse or keyboard action is detected on the client for longer than a specified threshold.
- **Hold time:** The time that begins after a process starts, but before the first task starts, or the time between tasks.

NOTE: All States, **Process on Hold**, **Process Active**, **IDLE** and **LOCKED** are separated one from the other. In other words, the states are not overlapped.

- **Locked time:** The time when the client computer is in a locked state (by pressing Ctrl+Alt+Del and then locking the computer).

This concept is illustrated in the following figure:



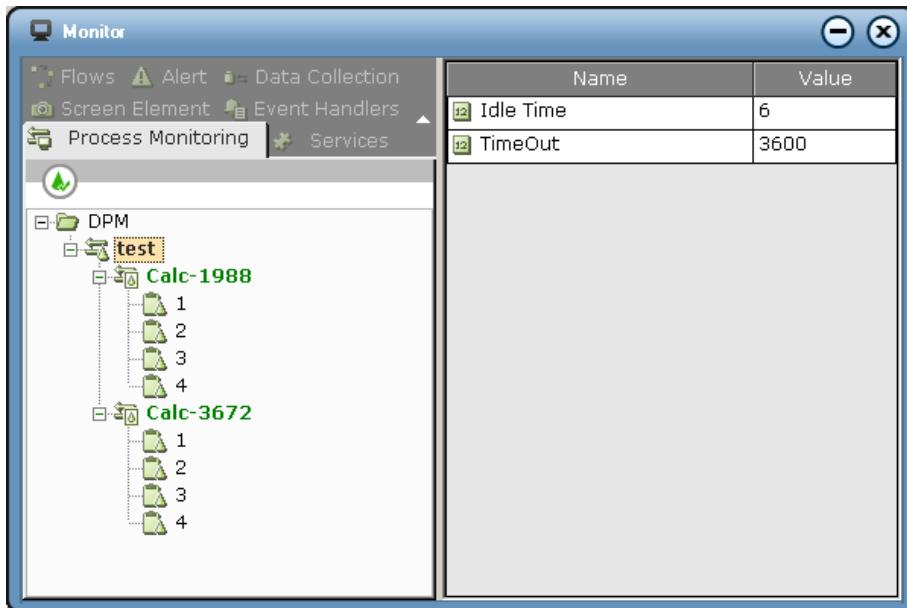
A threshold can be defined for each non-active time (idle, hold, locked). Values below these thresholds are ignored, in order to eliminate unnecessary *noise*. Idle, hold and lock time settings are configured in the System Settings window.



For details about configuring the settings described in this section, see the **Real-time Server > Server** branch in the System Settings window, which is described in the *System Administration Guide*.

Monitoring a Process

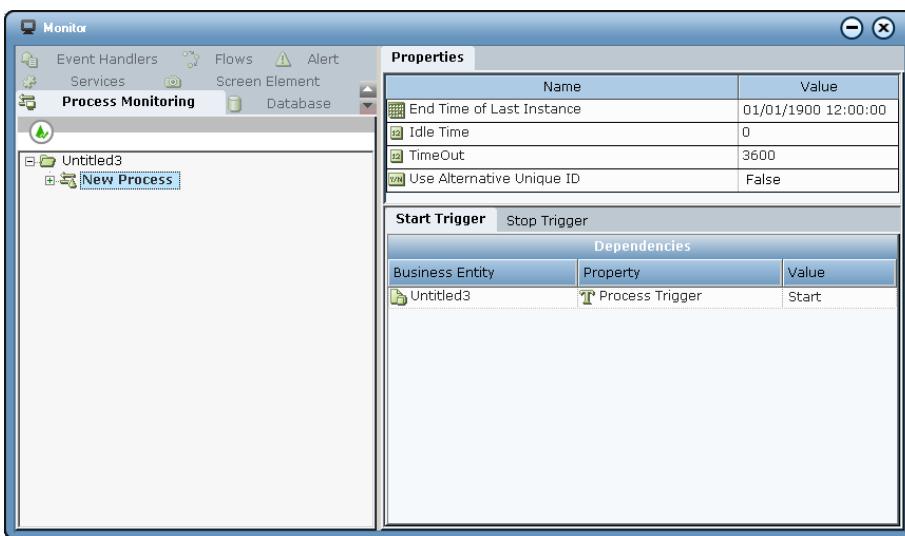
The Monitor window contains the **Process Monitoring** tab, which can be used to monitor processes and their instances and tasks. This tab shows all the processes defined in a project.



NOTE: When using the Monitor, you can immediately see the name of a process that you created. However, you can only see a process's instances and tasks after the process starts running.

The Navigation pane of the window has a branch for each process and sub-branches for each currently running instance of that process. For example, the figure above shows one solution named *DPM*, which has a single process named *test*. The *test* process has two instances named *Calc-1988* and *Calc-3672*. Each instance has four tasks named 1, 2, 3 and 4.

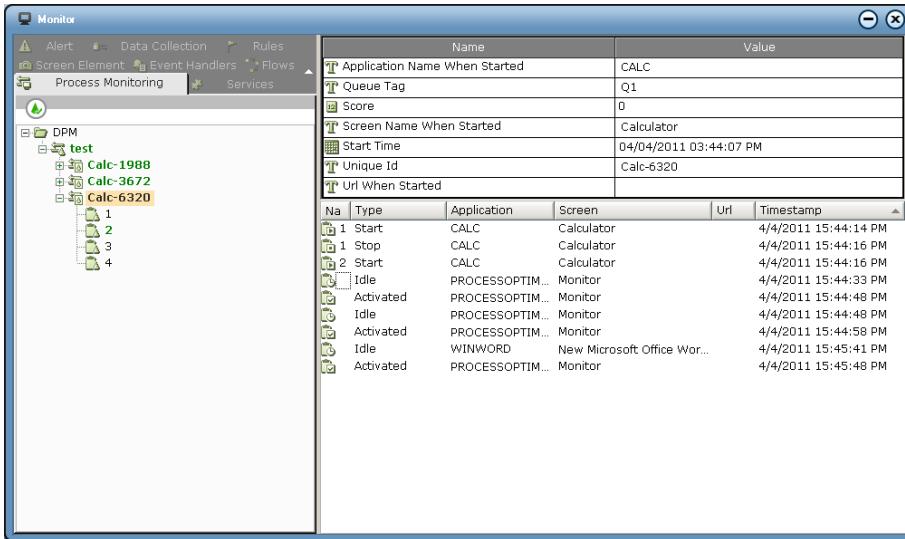
Select a process branch in the Navigation pane to display its properties in the top-right pane. The bottom-right pane displays the condition triggers for that process. It contains a **Start Trigger** tab and a **Stop Trigger** tab. The **Start Trigger** tab contains a row for each condition that acts as a start trigger for the process. The **Stop Trigger** tab contains a row for each condition that acts as a stop trigger for the process.



After a start/stop condition is met (triggered), the actual values that triggered that action are shown in the respective tab. The tabs in the bottom-right pane display the following information for each condition row:

- **Business Entity**
- **Property**
- **Value**

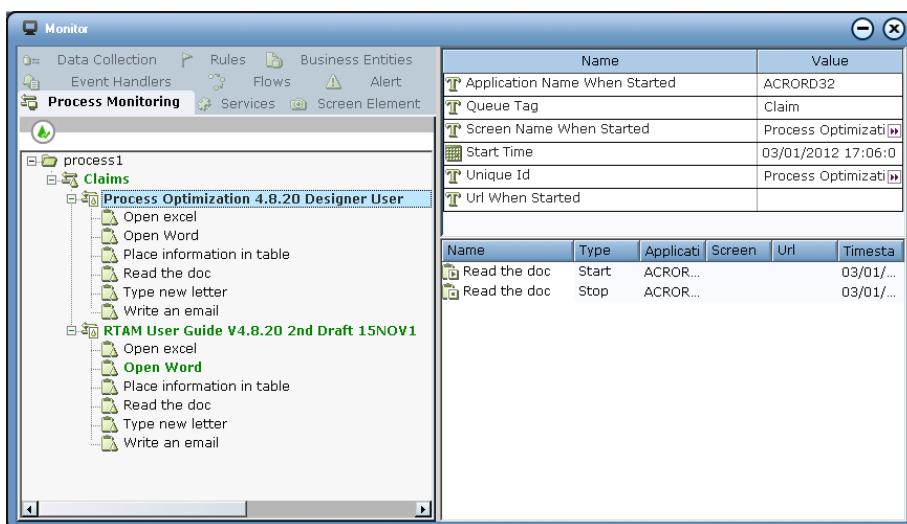
Select an instance branch in the Navigation pane to display realtime information about that instance, such as its **Queue Tag**, **Score** and so on in the top pane on the right, as shown below:



The following information is displayed for a selected instance:

- **Application Name When Started:** Specifies the name of the application when the instance began running.
- **Queue Tag:** Specifies the queue tag, as described in [Step a](#).
- **Score:** Specifies the success score, as described in [Step 11](#).
- **Screen Name When Started:** Specifies the screen caption when the instance began running.
- **Start Time:** Specifies when the process instance began running, as described in [Step a](#).
- **Unique ID:** Specifies the unique ID, as described in [Step b](#).
- **Url When Started:** Specifies the application URL when the instance began running.

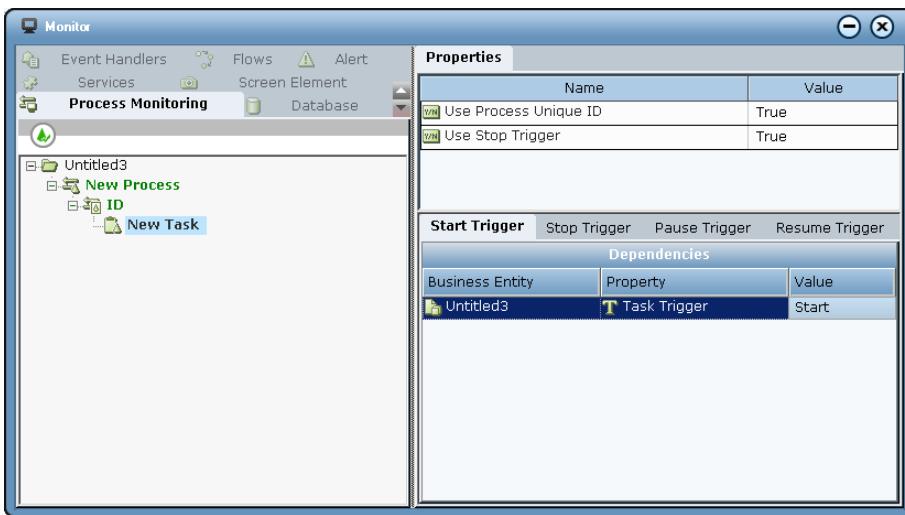
The information in the bottom-right pane lists the events that occurred related to the selected instance, along with their details.



The events list provides the following information for each event:

- **Name:** Specifies the name of the task where the event occurred.
- **Type:** Indicates the type of event that occurred, such as Start, Stop, Idle, Activated, Pause and Resume.
- **Application:** Specifies the name of the application that was running when the event occurred, meaning the application being monitored.
- **Screen:** Specifies the screen caption of the application, meaning the caption in the title bar of the application.
- **Url:** For web applications, specifies the application's URL.
- **Timestamp:** Specifies the timestamp when the event started.

Select a task branch in the tree to display realtime information about that task, as shown below:



The following information is displayed for a selected task in the top-right pane:

- **Use Process Unique ID:** Indicates whether to use the process's unique ID or the unique ID for the task, as described in [Step 7](#).
- **Use Stop Trigger:** Indicates whether a stop trigger is in use for the task, as described in [Step 7](#).

The bottom-right pane contains a series of tabs that correspond to the condition triggers for that task:

- The **Start Trigger** tab contains a row for each condition that acts as a start trigger for the task.
- The **Stop Trigger** tab contains a row for each condition that acts as a stop trigger for the task.
- The **Pause Trigger** tab contains a row for each condition that acts as a pause trigger for the task.
- The **Resume Trigger** tab contains a row for each condition that acts as a resume trigger for the task.

After a start/stop/pause/resume condition is met (triggered), the actual values that triggered that action are shown in the respective tab. The tabs in the bottom-right pane display the following information for each condition row:

- **Business Entity**
- **Property**
- **Value**

For more details about the Monitor, see *Designer User Guide*, Monitoring a Project section.

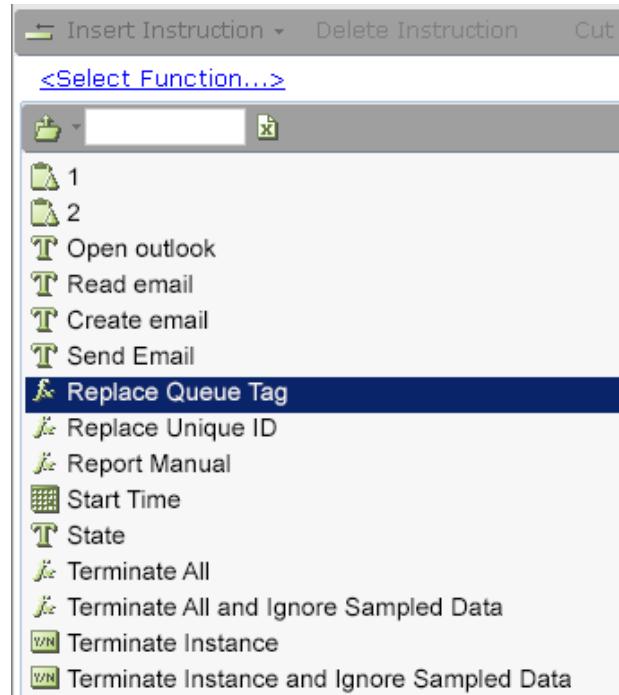
Process Monitoring Functions

This section describes the usage of Real-time Designer functions for processes and tasks, and includes the following subsections:

Process Functions	154
Task Functions	156

Process Functions

The following functions are available for processes:



- **Active Task:** Use this function to retrieve the name of the active task within the specific process instance, according to the specified **Unique ID**. This function can only be used for a task that was started or that is paused.

Assign [Active Task of Some Process](#) <Select uniqueID...> into [Active Task name](#)

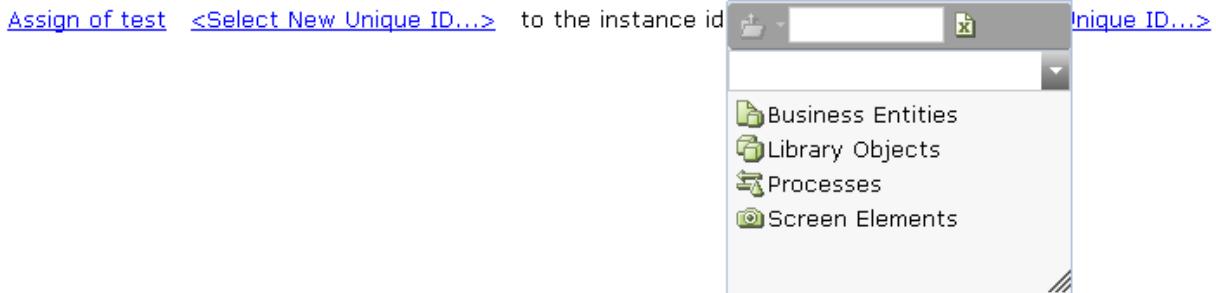
- **Queue Tag:** Use this function to retrieve the queue tag of a specific process instance, according to the specified **Unique ID**.

Assign [Queue Tag of Some Process](#) <Select uniqueID...> into [Process Queue Tag](#)

- **Replace Queue Tag:** Use this function when you want to change the **Queue Tag**.

Assign of test <Select New Queue Tag...> to the instance identified by <Select Unique ID...>

- **Replace Unique ID:** Use this function to change the **Unique ID**. The parameters for this function specify the old **Unique ID** and the new **Unique ID** that is to replace it.



NOTE: Use of the Replace Unique ID function introduces risk if not synchronized with the data source for the **Unique ID** property in the process properties. This means that following an invocation of the Replace Unique ID function, you must ensure that the data source assigned to the **Unique ID** property returns the same new **Unique ID** value that you assigned to in the invocation of Replace Unique ID. If you have not done so, process/task events occurring after the Replace Unique ID invocation are lost, as the value from the data source of the **Unique ID** property no longer matches the new **Unique ID** value that the process instance now holds.

- **Report Manual:** Use this function when you want to report manual processes or work items.

[Report Manual of Some Process](#) [<Select Start Time...>](#) , [<Select End Time...>](#) , [<Select Quantity...>](#) , [<Select Success Score...>](#)

- **Start Time:** Use this function to retrieve the time when a specific process instance was activated, according to the specified **Unique ID**.

Assign [Start Time of Some Process](#) [<Select uniqueID...>](#) into [Process Start Time](#)

- **State:** Use this function to retrieve the state of a specific process, which can be Active, Idle, On Hold or Locked according to the specified **Unique ID**.

Assign [Start of Some Process](#) [<Select uniqueID...>](#) into [Process Start](#)

- **Terminate All:** Use this function to stop all active instances of the process.

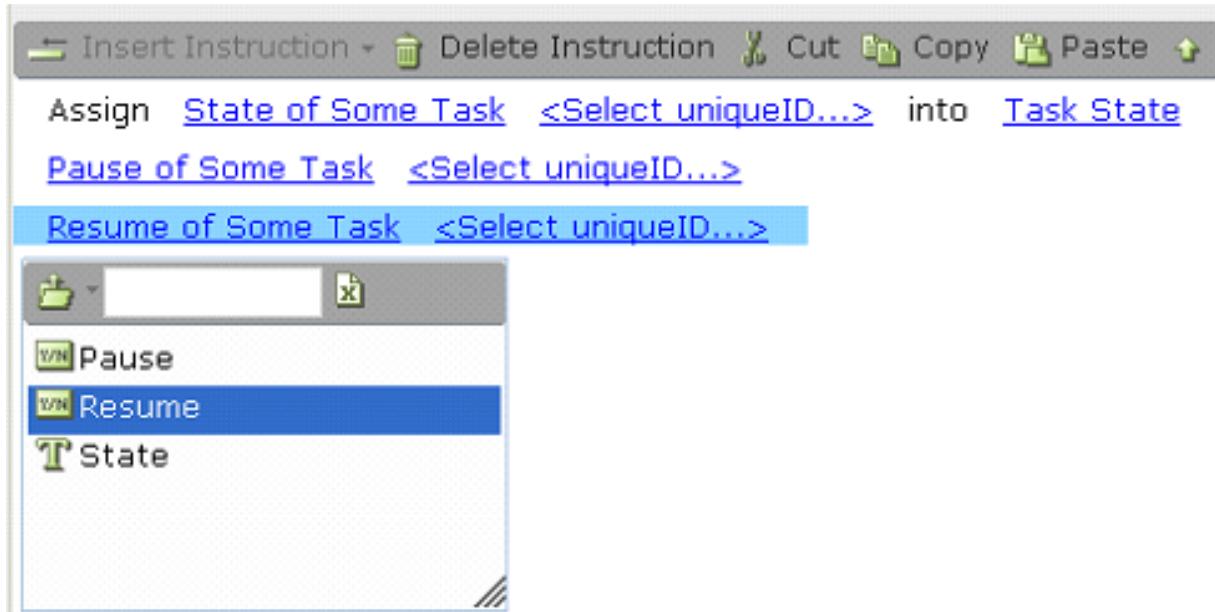
[Terminate All of Some Process](#)

- **Terminate Instance:** Use this function to stop a specific instance of the process, according to the specified **Unique ID**. This is useful instead of specifying a stop trigger for a process. For example, in unique cases when at the time that the stop trigger event is detected, the **Unique ID** value may not be available in the **Unique ID** data source that was specified for the process.

[Terminate All of Some Process](#)

Task Functions

The following functions are available for tasks:



- **Pause:** Use this function to pause a specific task instance according to the specified Unique ID.
- **Resume:** Use this function to resume a specific task instance according to the specified Unique ID.
- **State:** Use this function to retrieves the state of a specific task instance, which can be Start, Pause or Idle, according to the specified Unique ID.

Process Monitoring Properties

The following property is available when defining a process:

- **Name:** Specifies the display name of the process object.

Using Desktop Work Tracker

Desktop Work Tracker is a feature that enables an employee to manually insert processes into the system, from the employee's desktop. **Desktop Work Tracker** is intended for organization employees, providing them with full control of starting and stopping processes and identifying processes.

Using Desktop Work Tracker, the administrator can:

- Define manual processes
- Define Process Stop Reasons for manual processes
- Define Activity Reasons to be used by the agent during runtime

This provides management with the ability to keep track of agent activity and application usage on **manual processes**.

Using the **Client Desktop Work Tracker**, the agent is then able to:

- Select between process types and set the unique ID (UID).
- Start, stop, pause, and resume a process instance (pause in this case refers to putting the process into "sleep" mode".)
- Select an off-desktop activity.

NOTE: There is a configuration option to allow employees to set their off-desktop activity only (and not allow them to handle processes). See [Performing Additional Miscellaneous Configurations](#) on page 161.

The Desktop Analytics reports will then present the data for these manual processes in the same way as for standard processes.

About Desktop Work Tracker

Desktop Work Tracker uses the basic Real-Time Designer Process Monitoring capabilities to employ "manual" process management.

The agent is prompted with a callout containing a list of predefined processes and a UID text box. The agent must then select start, stop, pause, or resume for any of the processes.

The agent can also manually set an 'Activity' reason and pause all processes (meaning the agent is now in another activity, for example: lunch break, meeting, and so forth).

The manual process type has one task defined in it , which is set to start and stop together with the process. When the agent selects to pause or resume the process, this pauses or resumes the task itself.

Desktop Work Tracker Workflow

1. Define Process Stop Reasons.
2. (Optional) Create Activities: If you do not define any activity in the Activities tab, when the agent clicks the **Activity** button in the Desktop Work Tracker Client, the reason will be recorded as "Paused Work").
3. Go to the Business Logic tab, configure manual processes, and then apply the process stop reasons (see [Configuring a Manual Process \(Desktop Work Tracker\)](#) on page 168 for details).
4. Publish the solution so that the agent can use the Desktop Work Tracker Client to track manual processes and their activity (refer to the *Real-Time Designer User Guide* for details).

NOTE: You will not be able to publish the solution if there are no Stop Reasons defined for the manual process.

Desktop Work Tracker Workflow

The following table details the workflow for using the Desktop Work Tracker.

Task	Description	Reference
Step 1: Desktop Process Monitor - Define Process Stop Reasons and Off Desktop Activities (Administrator).		
1.	In the Real-Time Designer, using the Administration module tree, configure Process Stop Reasons.	See Configuring Process Stop Reasons for Manual Processes on page 164
2.	Optional: Set up Activities.	See Configuring Activities on page 173
3.	Optional: Set up default Process Stop Reasons.	See Configuring Process Stop Reasons for Manual Processes on page 164
4.	Optional: Configure the number of concurrent processes instances.	See Performing Additional Miscellaneous Configurations on the facing page
Step 2: Configure a Manual Process (Desktop Work Tracker) (Administrator).		
5.	Use Real-Time Designer Process Monitoring, configure manual processes and assign them Process Stop Reasons.	See Configuring a Manual Process (Desktop Work Tracker) on page 168
Step 3: Using the Desktop Work Tracker Client (Agent).		
6.	Use the Desktop Work Tracker Client to manage processes, stop reasons, and off desktop activities.	See Using the Desktop Work Tracker Client on page 178

Performing Additional Miscellaneous Configurations

Various miscellaneous options can be configured for Desktop Work Tracker. The number of concurrent process instances that can be displayed on the agent's Desktop Work Tracker Client can be configured. This is used to avoid situations where the agent has too many instances, and is unable to address each one properly. The maximum number of stop reasons per process can also be configured.

An option to use the activity tracker only allows employees to set their off-desktop activity in the Desktop Work Tracker window (without handling processes). There are also options to specify the maximum and minimum length of the process UID entered by the employee in the Desktop Work Tracker window.

► To perform additional miscellaneous configurations :

1. In the Administration module tree, navigate to **Desktop Process Monitor > Desktop Work Tracker** and select the **Misc** tab.

The screenshot shows the 'Misc' tab of the Desktop Work Tracker configuration interface. It contains five configuration fields:

Setting	Value
Max number of concurrent Process Instances:	5
Max number of Stop Reasons per process:	5
Use Activity Tracker callout only (without processes):	<input type="checkbox"/>
Max length of UID:	7
Min length of UID:	4

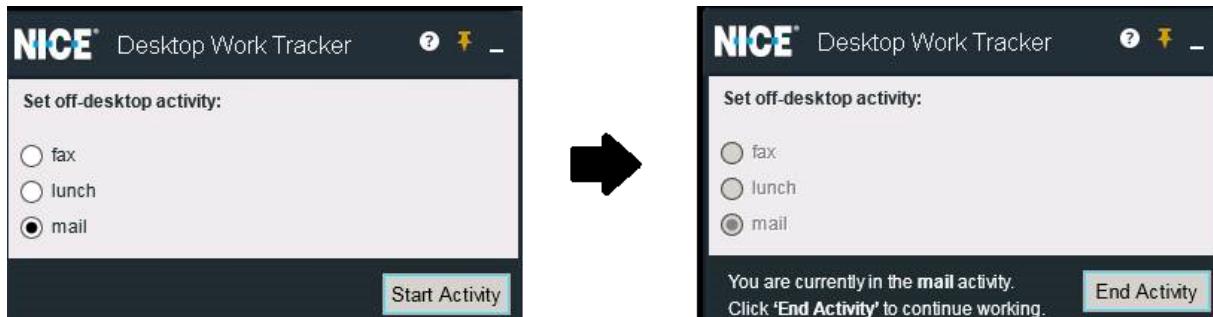
2. In the **Max number of concurrent Process Instances** field, enter the number of concurrent processes you want to display on the agent's Desktop Work Tracker Client.

NOTE: The number of concurrent process instances can also be configured through the Server Console; see System Administration Guide for details.

3. In the **Max number of Stop Reasons per process** field, enter the maximum number of Stop Reasons allowed per process.

You can define these reasons in the Manual Processes branch in the Business Logic tab of the Designer.

4. Select the **Use Activity Tracker callout only (without processes)** checkbox to allow employees to set their off-desktop activity only (and not allow them to handle processes). When this option is selected the Desktop Work Tracker window only includes the option to select an off-desktop activity and does not include any processes.



NOTE: This option is only applied if the client is connected to the Real-Time Server. No Real-Time Designer solution is required. If the client does not connect to the Real-Time Server, this option is not applied, and the behavior is as if this option was unchecked.

5. In the **Max length of UID** field, enter the maximum length (between 1 and 100) allowed for a new manual process UID (entered in Desktop Work Tracker).
6. In the **Min length of UID** field, enter the minimum length (between 1 and 100) allowed for a new manual process UID (entered in Desktop Work Tracker).

NOTE: There are no limitations in UID length if the client is not connected to the Real-Time Server.

7. Click **Apply** to save your changes.

Defining Manual Processes and Their Stop Reasons

Configuring Process Stop Reasons for Manual Processes

Desktop Work Tracker provides organization employees with a tool for defining **Process Stop Reasons** for manual processes. These Process Stop Reasons then enable management to track agent activity on **manual processes**, which are defined in the Business Logic (see [Configuring a Manual Process \(Desktop Work Tracker\)](#) on page 168 for details).

Desktop Work Tracker includes three **system-based stop reasons** that are preinstalled with the system:

- **Shut Down**
- **Time Out:** If the manual process has been configured with a preset timeout and the process reaches its timeout, this Stop Reason will be applied as relevant (see [Step c in Configuring a Manual Process \(Desktop Work Tracker\)](#) on page 168 for details).
- **Completed:** This reason will appear in the Process Stop Reasons list by default, and can be deleted or modified as needed (see below for details).

NOTE: If you do not set any Process Stop Reasons in the Desktop Work Tracker, only the system-based reasons will be included for the manual processes. The reasons **Shutdown** and **Time Out** will not appear in the Real-Time Designer or Real-Time Client, but will be used by the system in the relevant situations (when the Real-Time Client shuts down or when the process times out).

You may add reasons, edit existing reasons, and delete reasons. Because multiple users may be accessing the system at the same time, you may want to refresh the list of Process Stop Reasons before making changes. The Process Stop Reasons will be displayed alphabetically in the setup but according to their defaults in the selection.

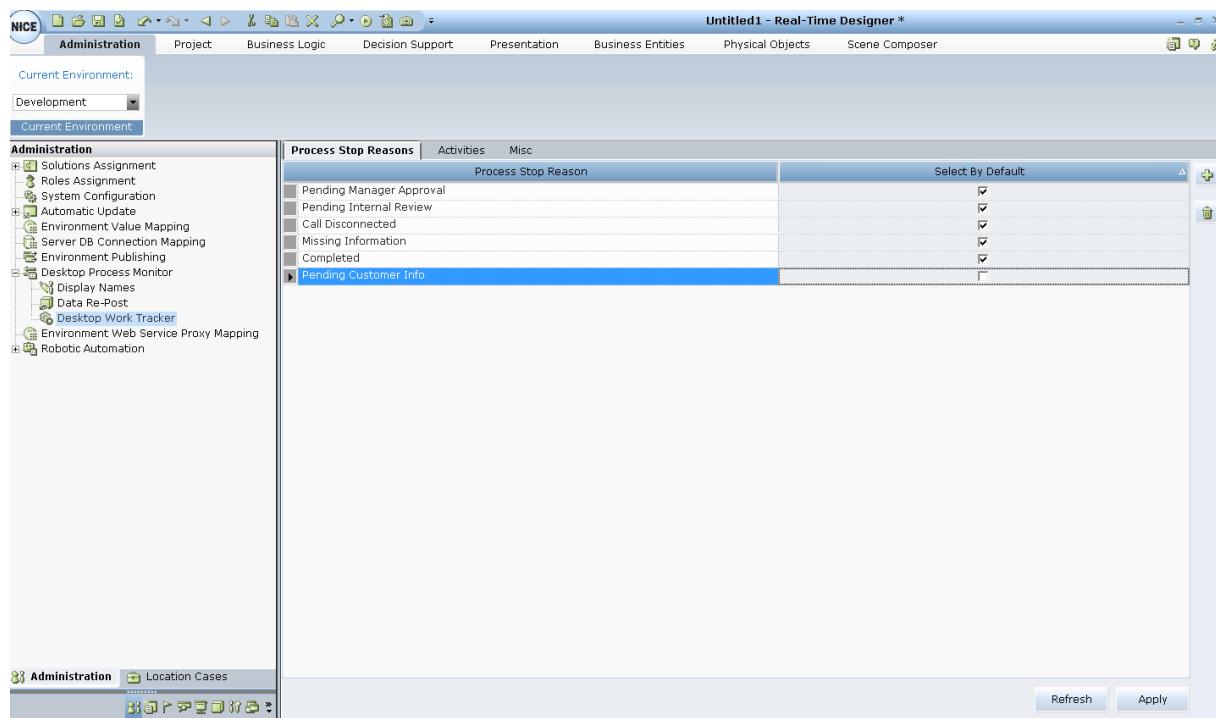
NOTE: The maximum number of stop reasons per process can also be configured. See [Performing Additional Miscellaneous Configurations](#) on page 161.

► To add, edit or delete Process Stop Reasons:

1. In the Administration module tree, navigate to **Desktop Process Monitor > Desktop Work Tracker** and select the first tab, **Process Stop Reasons**.

The **Process Stop Reasons** tab displays the current Process Stop Reasons in alphabetical order.

Configuring Process Stop Reasons for Manual Processes



2. Click .

A row is added to the list of reasons.

Process Stop Reasons		Activities	Misc
Process Stop Reason	Select By Default		
Pending Manager Approval	<input checked="" type="checkbox"/>		
Pending Internal Review	<input checked="" type="checkbox"/>		
Call Disconnected	<input checked="" type="checkbox"/>		
Missing Information	<input checked="" type="checkbox"/>		
Completed	<input checked="" type="checkbox"/>		
Pending Customer Info	<input type="checkbox"/>		
*			

3. Enter a Stop Reason in the new row. The reason should not exceed 25 characters.
4. To add the next reason click the space under the existing reasons and then click  to add a new row.
5. When you have finished adding Process Stop Reasons, click **Apply** to save your changes. Real-Time Designer will display a notification that your changes were applied successfully.

NOTE: The reasons will be displayed in the **Monitoring** tab; see [Defining Process Monitoring in Real-Time Designer](#) on page 128 for details.

6. To edit an existing reason, select it, modify the reason name and click **Apply** to save your changes. Real-Time Designer will display a notification asking that your changes were applied successfully.
7. To delete an existing reason, select the reason (or select multiple reasons from the list by holding down your mouse) and click .
8. When asked to confirm the deletion, click **Yes** to delete.

NOTE: If you delete a Process Stop Reason and it is already assigned to a process, the Process Stop Reason will be displayed with an **asterisk** next to it in the **Monitoring** tab; see [Defining Process Monitoring in Real-Time Designer](#) on page 128 for details.

Setting Default Process Stop Reasons (Optional)

When configuring Process Stop Reasons, you may specify which reasons should be set as the default ones applied to each process. These will then be displayed in the Desktop Work Tracker Client (see [Using the Desktop Work Tracker Client](#) on page 178 for details). However, if you change the default Process Stop Reasons on a per-process basis in the Business Logic, the default Process Stop Reasons displayed will differ from process to process.

➡ To change the default Process Stop Reasons

1. In the list of Process Stop Reasons, select the checkboxes of the reasons you wish to set as default. The maximum number of default reasons is limited to **five**.
2. Click **Apply** to save your changes.

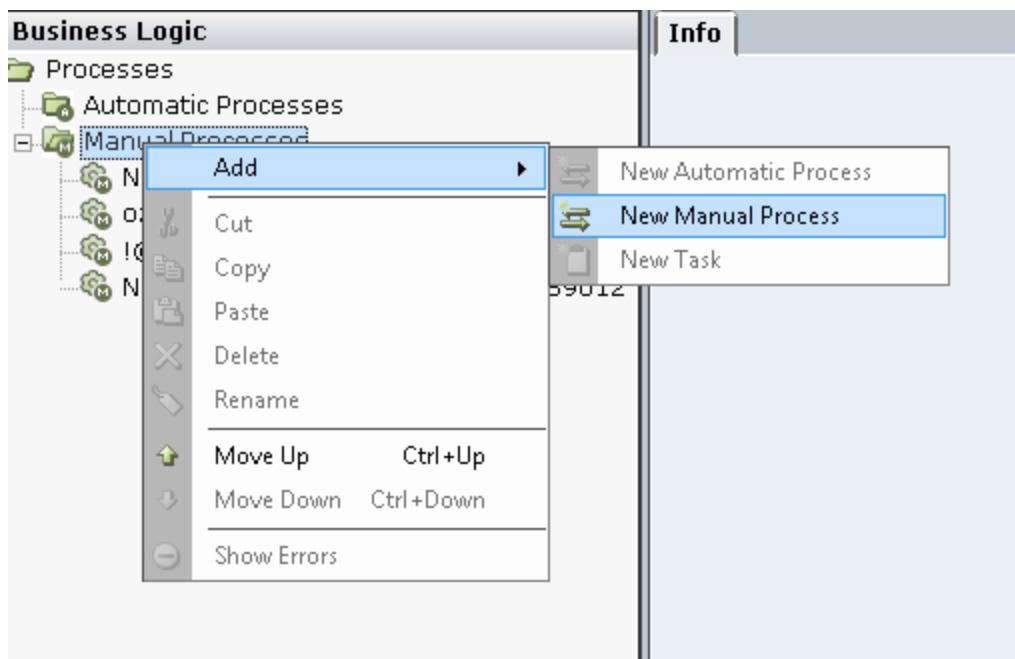
Configuring a Manual Process (Desktop Work Tracker)

Manual processes are an integral feature of Desktop Work Tracker and are designed to allow you to manually insert processes into the system from your desktop.

This section describes how to set up and configure a **manual process**. You will not need to define any tasks for manual processes, since the tasks are created in the background and defined automatically.

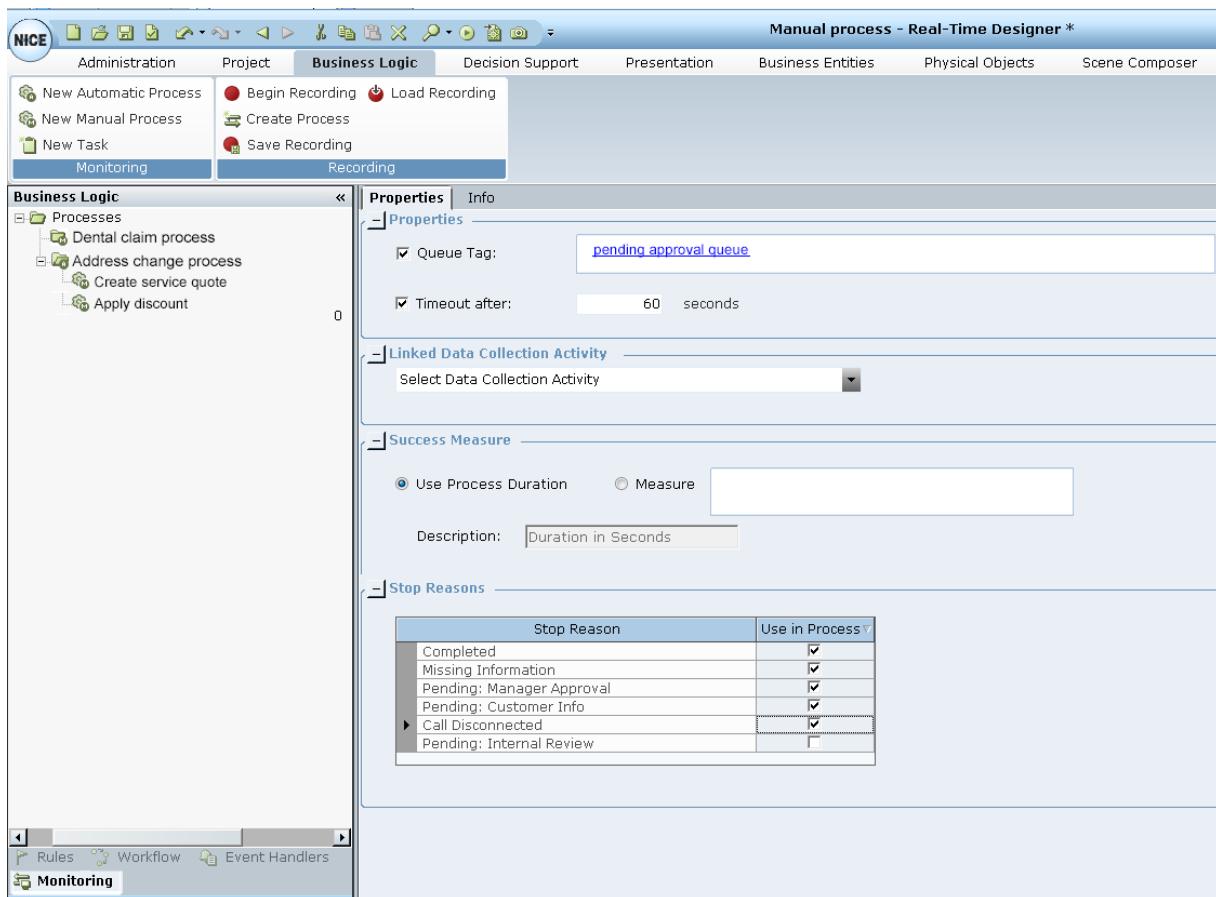
- To configure a manual process for monitoring in Real-Time Designer:

1. Click the **Business Logic** module tab.
2. In the **Processes** tree, select **Manual Processes** and then click  **New Manual Process** . or Right click **Manual Processes** and select **Add > New Manual Process** from the popup menu:



A new manual process is added to the tree.

6: Application and Process Monitoring in Real-Time Designer
Configuring a Manual Process (Desktop Work Tracker)



3. Rename the process.

NOTE: If a queue tag is NOT specified, the process name must have 64 or fewer characters and must not include spaces or tabs.

4. Define the properties of the process:

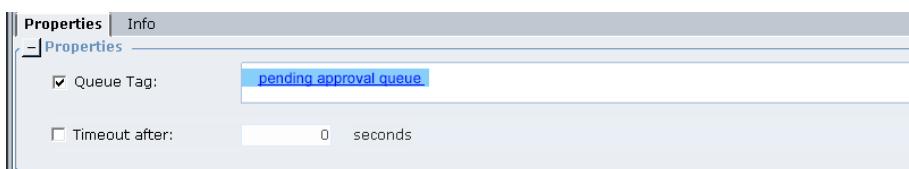
- a. Define the **Queue Tag** value. The **Queue Tag** provides a means to categorize the process. For example, because handling emails is a generic activity, you may want to categorize the emails being handled by type, such as claims-related emails, request-related emails and so on. In a WFM environment, different types of emails are automatically handled separately. In order to provide information to the WFM system in the most usable form, you also want to categorize emails by type, so that email handling time for different email types can be counted separately. Using queue tags can help differentiate between the various contexts of the usage of a process.

NOTE: If specified, a queue tag must have 64 or fewer characters and must not include spaces or tabs. This limitation is required when sending process information to Workforce Management (WFM).

If the process information is not being sent to WFM and you require more than 64 characters in the queue tag, use a text business entity in the queue tag instead of a static value. The business entity and its initial value can include more than 64 characters.

- b. For our scenario, select **Business Entities > Message Orientation** in the drop-down list.

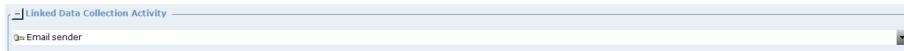
The Message orientation value means that the email type can be determined directly from the email itself. In effect, this selection extracts the prefix of the email address in the **To** field of an email, up to the @ sign in the address. The extracted prefix is then used to tag (categorize) emails by type, so that email handling time for different email types can be counted separately.



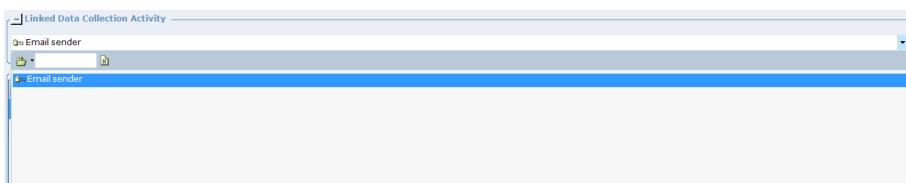
- c. Define the **Timeout after** value by checking its checkbox and then assigning a numeric value in the adjacent box. This field enables you to specify a timeout value, in seconds, that once reached, terminates the process. This field is optional and is useful if the standard stop trigger does not occur or is never reached. If this option is not checked and there is no value assigned to it, the default **Timeout** value will be according to the Real-Time Designer Settings (3600 seconds). However, if you assign a value in the process, it will override the timeout configured in the Settings.

5. Specify the **Linked Data Collection Activity** value.

NOTE: When you select **Data Collection** in the process **Properties**, the **Activate** and **Collect** functions are triggered behind the scenes when the process's stop trigger is triggered.



6. Click the down arrow in the **Linked Data Collection Activity** field to define its value. Only one data collection activity can be selected.



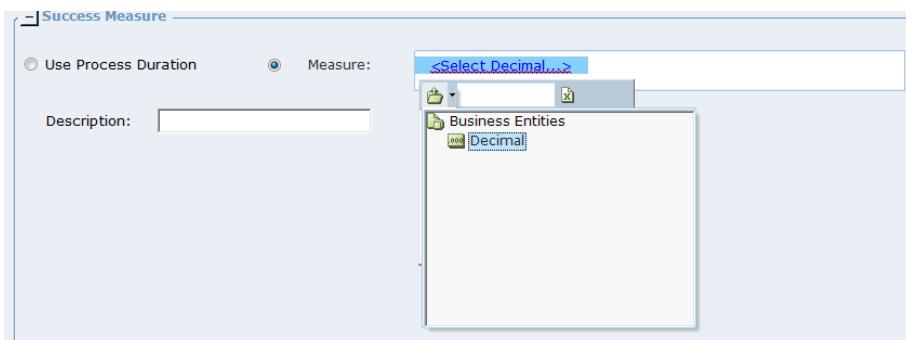
NOTE: For details about how to define data collection, see **Defining Data Collection** in the *Real-Time Designer User Guide*,

7. In the Success Measure area, select **Measure value and data source**.

The Success Measure area enables you to specify a measure value, thereby providing additional performance information for that process. The process Handling Time, in seconds, is the default measure value set. Alternatively any decimal business entity can be set.



8. Select the **Measure** option and then click in the Measure field.



9. Select any Decimal Business Entity as a data source for the Measure value.



10. Enter a short description for the Measure value. This will be the **Measure Type** shown in the reports.

NOTE: The sum of all **Percentage** values is always 100%.

11. Repeat **Step 7** through **Step 10** for each measure.

You are now ready to define the process Stop Reasons.

NOTE: The administrator configures all of the relevant Stop Reasons using the Desktop Work Tracker, and specifies which reasons should be the default ones (see [Configuring Process Stop Reasons for Manual Processes](#) on page 164 for details) However, you may change the default Stop Reasons for each process accordingly to the logical choice..

12. In the **Stop Reasons** field, select the reasons that should be assigned to this process.

Stop Reasons	
Stop Reason	Use in Process
Completed	<input checked="" type="checkbox"/>
Missing Information	<input checked="" type="checkbox"/>
Pending: Manager Approval	<input checked="" type="checkbox"/>
Pending: Customer Info	<input checked="" type="checkbox"/>
► Call Disconnected	<input checked="" type="checkbox"/>
Pending: Internal Review	<input type="checkbox"/>

NOTE: If a Stop Reason was deleted during the configuration process, it will be displayed with an asterisk and you will not be able to assign it to the process.

Stop Reasons	
Stop Reason	Use in Process
Completed	<input checked="" type="checkbox"/>
* Missing Information	<input checked="" type="checkbox"/>
Pending: Manager Approval	<input checked="" type="checkbox"/>
Pending: Customer Info	<input checked="" type="checkbox"/>
► Call Disconnected	<input checked="" type="checkbox"/>
Pending: Internal Review	<input type="checkbox"/>

See [Configuring Process Stop Reasons for Manual Processes](#) on page 164 for details.

Configuring Activities

Desktop Work Tracker provides organization employees with a tool for defining the reasons why an agent leaves their desk when handling a manual process, which enables management to track agent activity and application usage on **manual processes**.

The **Activities** feature does not include any default activities, which enables the administrator to set relevant activities according their organizational needs, for example, coffee break, lunch break, and so forth.

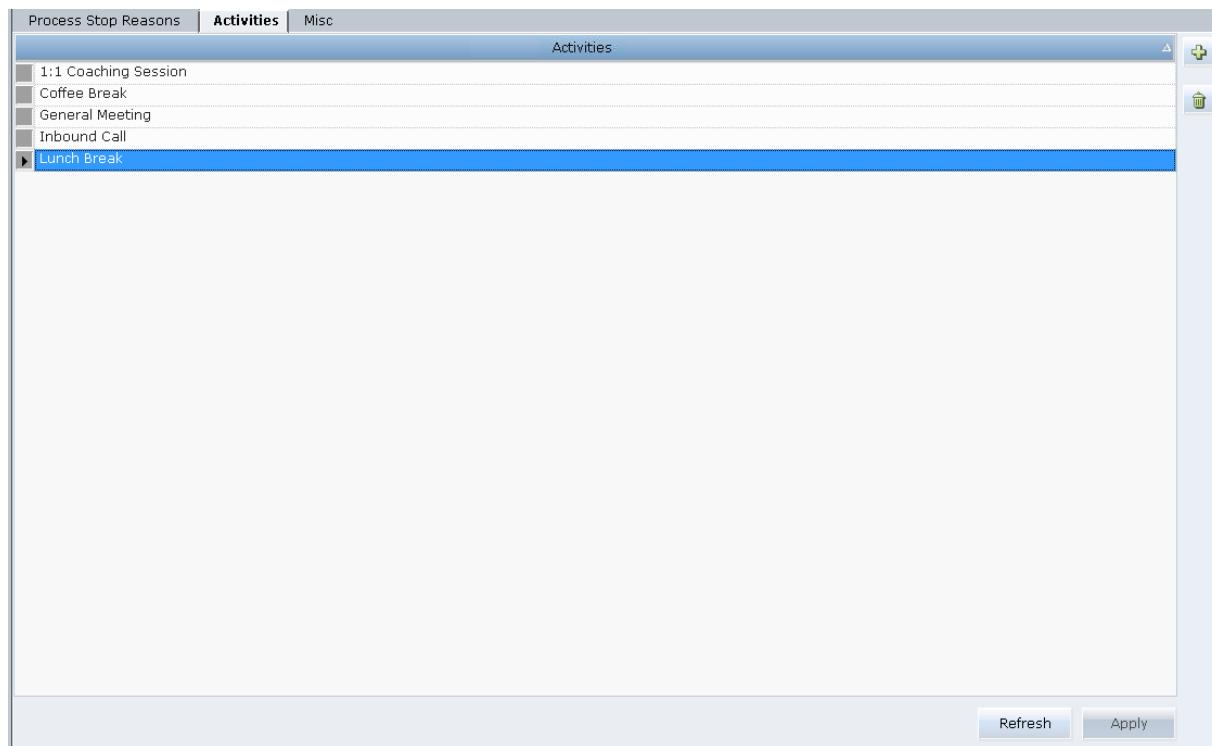
NOTE: If you do not set any Activities in the Desktop Work Tracker, the only activity the agent will be able to choose is "Activity."

Because multiple users may be accessing the system at the same time, you may want to refresh the list of Activities before making changes. The reasons will be displayed alphabetically in the setup but according to their defaults in the selection.

► To add, edit or delete Activities:

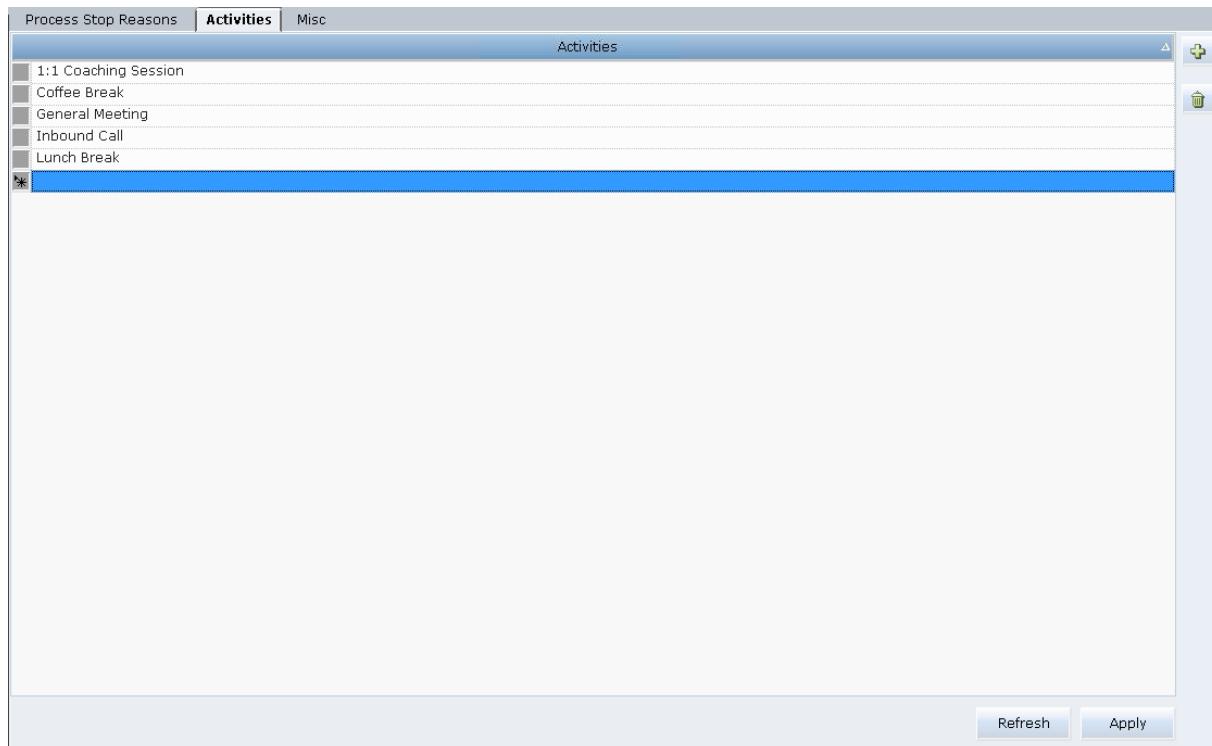
1. In the Administration module tree, navigate to **Desktop Process Monitor > Desktop Work Tracker** and select the **Activities** tab.

Real-Time Designer displays the current Activities in alphabetical order.



2. Click .

A row is added to the list of activities.

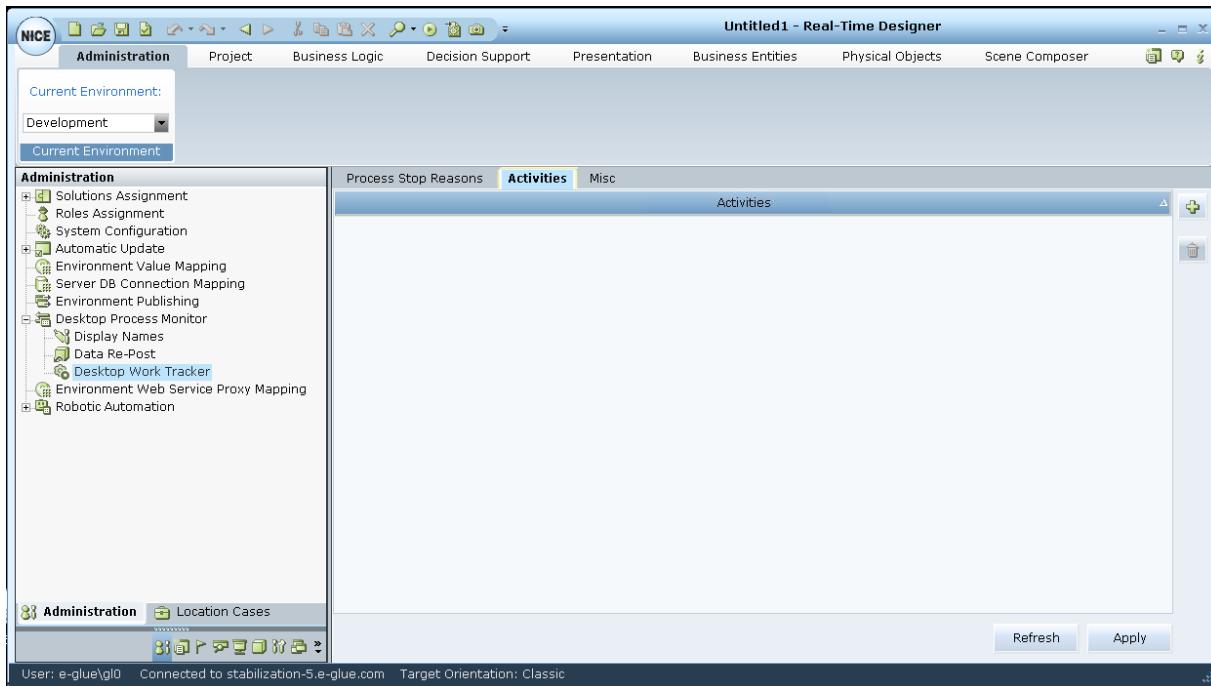


The screenshot shows the 'Activities' tab selected in the top navigation bar. A new row has been added to the list, indicated by a blue selection bar at the bottom of the list area. The list contains several items: 1:1 Coaching Session, Coffee Break, General Meeting, Inbound Call, Lunch Break, and a new row starting with an asterisk (*). The interface includes standard buttons for Refresh and Apply at the bottom right.

3. Enter an Activity in the new row. The activity name should not exceed **25 characters**.
4. Enter additional activities, or click **Apply** to save your changes.
Real-Time Designer will display a notification asking that your changes were applied successfully. The activities will then be displayed in the **Monitoring** tab according to their defaults in the selection.
5. To edit an existing activity, select it, modify the name and click **Apply** to save your changes.
Real-Time Designer will display a notification confirming that your changes were applied successfully.
6. To delete an existing reason, select a reason from the list (or select multiple reasons by holding  down your mouse) and click .
7. When asked to confirm the deletion, click **Yes** to delete.

Default Reason

If there is no defined activity, Real-Time Designer is pre-configured with one default reason, "Paused Work". This reason will not be displayed in the Real-Time Designer or in Desktop Work Tracker Client.



When no activities are defined, if the agent clicks the **Activity** button in the Desktop Work Tracker Client, all active processes are placed on hold (pause state), no popup is displayed, and the agent is informed that they are in an off-desktop state. When the agent clicks **Resume**, they are returned to an active status.

Customizing the Desktop Work Tracker Client Look-and-Feel

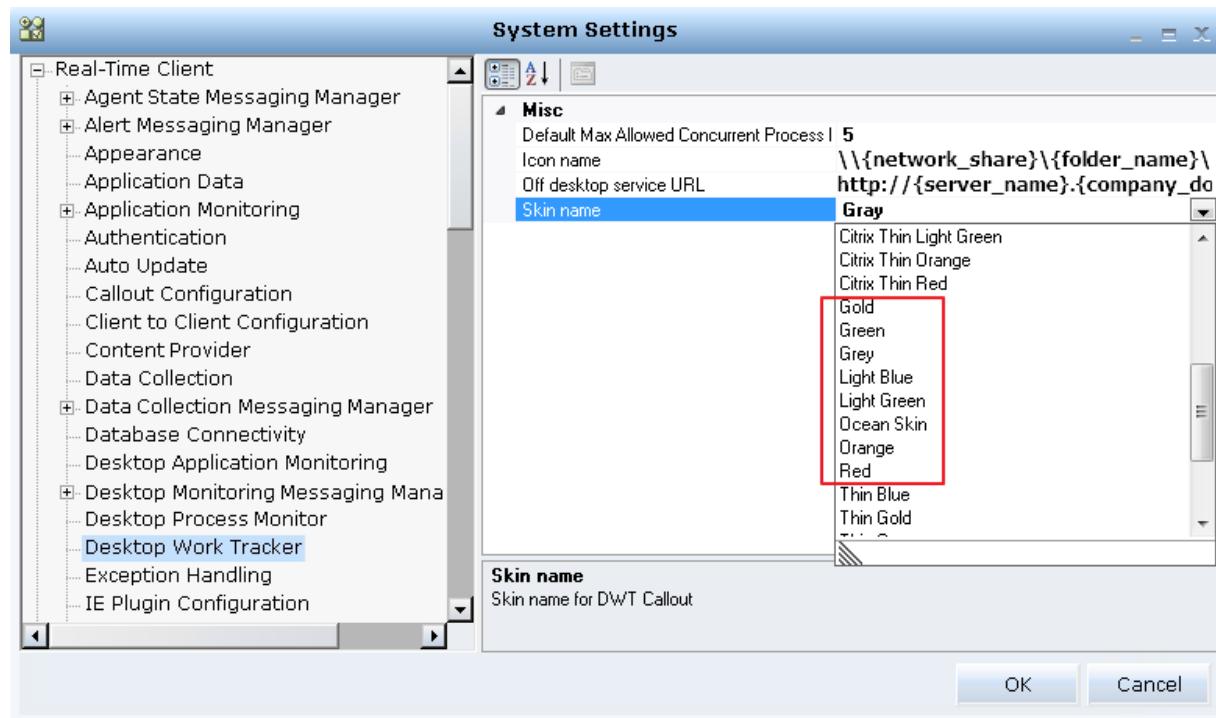
When setting up the Desktop Work Tracker Client, the implementer can customize the look-and-feel by selecting a color scheme and incorporating a customized icon in the agent callout.

There are two methods for implementing a custom look-and feel:

- In the **Designer Settings**: Use the settings to determine the optimal color scheme and icon setup
- In the **RTAM Client Silent installation**: This is the customized look-and-feel you will then implement throughout your organization.

► To customize the Desktop Work Tracker Client in the Real-Time Designer settings:

1. Open the Real-Time Designer and navigate to the Real-Time Designer System Settings window.
2. Open **Real-Time Client > Desktop Work Tracker**.
3. Click the **Skin name** parameter and select from one of the nine color scheme options (the default is the Ocean Skin, which is black with white text).



4. Click the **Icon name** parameter and select an .ico file to be used in the agent callout (for example, your organization's logo).



Important! The icon you upload in the customized callout **must be saved on a shared online folder** - do not upload an icon that is stored in a local machine, because the image will not be saved and shared.

NOTE: To ensure that the icon you upload fits properly, it is recommended to use a graphic designer to prepare the icon to fit the callout window.

➡ To customize the Desktop Work Tracker Client in the RTAM Client Silent (unattended) installation:

1. In the installation command line, specify the following:
 - a. The color of the callout skin.
 - b. The name of the ico icon file and its online shared folder.

```
msiexec /i "C:\Users\Administrator\Desktop\RTAM\NICE RTAM Upgrade R6.4.0.msi"  
skin=Gray icon=\{network_share}\{folder_name}\file.ico.
```

NOTE: If you use a skin color of two words (for example, light blue), the skin color name should appear between quotation marks: `skin="light blue"`.

If you use a skin color of one word (for example, Gray), the skin color name should be listed without any quotation marks.

For more information about the silent installation, see [Unattended \(Silent\) Installation](#) on page 39.

Using the Desktop Work Tracker Client

The **Desktop Work Tracker Client** is a feature in the Real-Time Client that tracks your activity while you handle processes on your desktop.

This functionality is triggered automatically when you log into your desktop, but only if your administrator has defined manual processes that require tracking (automatic processes are tracked automatically).

The **Desktop Work Tracker Client** provides two main functionalities:

- Adding processes to your work tracker and then tracking their activity.
- Managing down-times when you are not handling processes.

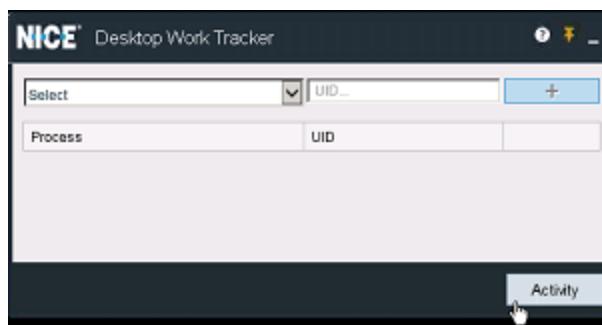
NOTE: There is a configuration option to allow employees to set their off-desktop activity only (and not allow them to handle processes). See [Performing Additional Miscellaneous Configurations](#) on page 161.

Starting Processes on Desktop Work Tracker

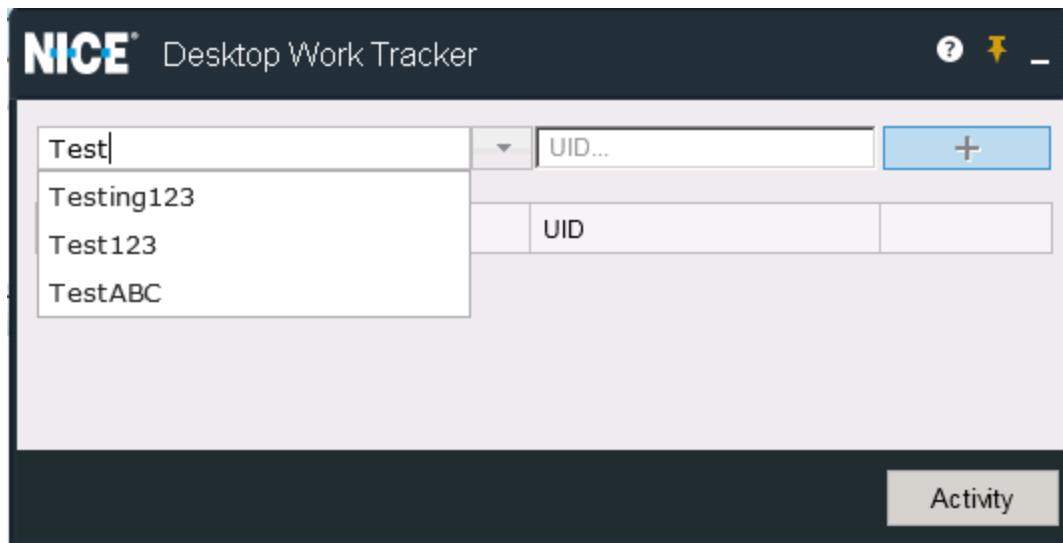
► To start processes:

1. Log into your desktop.

Desktop Work Tracker pops up on your desktop.



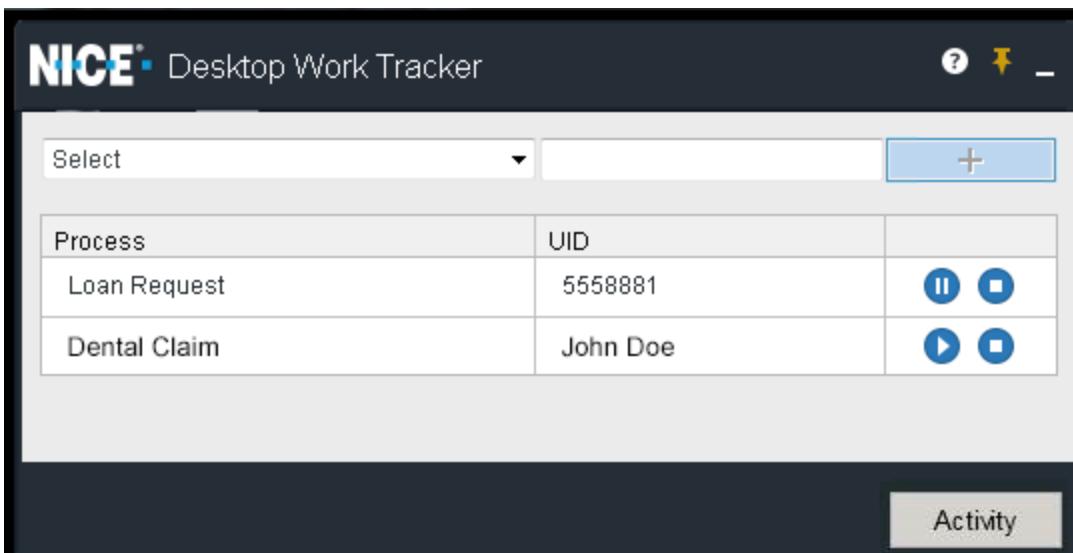
2. From the **Select** dropdown, select one of the manual processes, or if you know the name of your process, type the process name. All processes that include the search string appear.



3. In the field next to the process name, enter a unique identification for the process (according to your organization's guidelines). The minimum and maximum UID length is configurable.
4. Click to add the process to your process list and to activate it (this button is disabled until you enter a unique identification of the correct length).
5. Repeat steps 2 through 4 to add additional processes (the maximum number of processes you can add is determined by your administrator).
6. If you reach the maximum number of processes allowed, you will need to stop and then start one of the existing processes in order to add a new one (see [Activating, Pausing, and Stopping Processes](#) below for details).

Activating, Pausing, and Stopping Processes

Whenever you add a new process to Desktop Work Tracker, that process is set as the active process,. Only one process can be active at any given time, because this tracking tool is based on your current activity, the rest of the processes are paused automatically.



► To activate and pause processes:

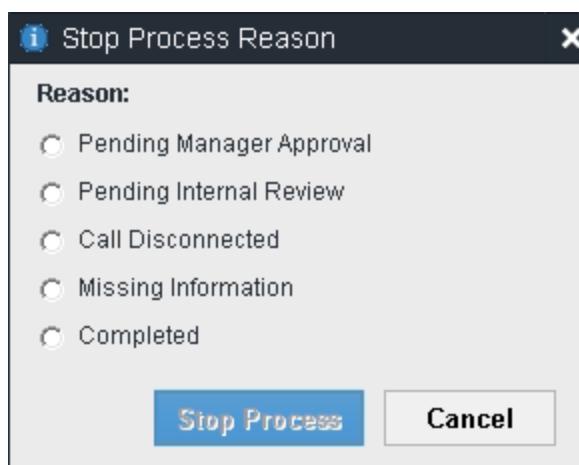
1. To activate a process, click .
2. To pause a process, click .

This will automatically pause the previously-active process and change the current process to an active status.

► To stop a process:

1. To stop a process click .

Desktop Work Tracker displays the Stop Process Reason window.



NOTE: The stop reasons displayed are determined by your administrator and may differ from process to process.

2. Select the reason why you are stopping the process.
3. Click **Stop Process**.

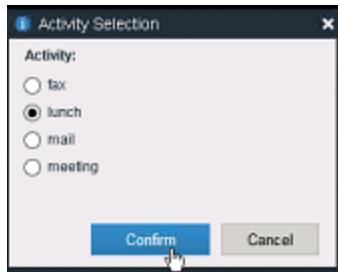
Selecting an Activity (with Processes Enabled)

The **Desktop Work Tracker Client** enables you to manage the down-times when you are not handling processes using the Desktop Work Tracker **Activity** feature.

➡ To select an activity:

1. In the main Desktop Work Tracker window, click **Activity**.

Desktop Work Tracker displays the Activity Selection window, which enables you to specify why you are pausing the processes. The reasons displayed are determined by your administrator.

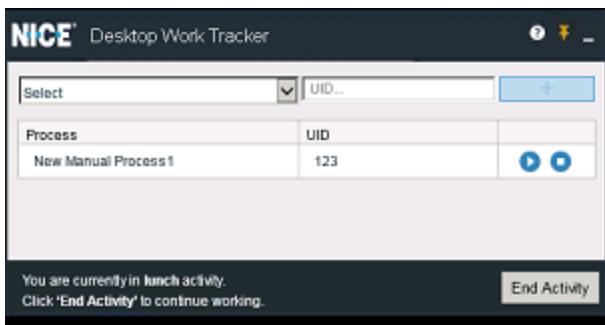


2. Select the reason you are pausing all processes, and click **Confirm**.

The window closes and displays the Desktop Work Tracker, which now shows the notification "You are currently in <x> activity. Click End Activity to continue working." The information on your activity is then sent to the database for analysis.

NOTE: If there are is only one activity defined in your organization, the Activity window will not be displayed, and the Desktop Work Tracker Client will simply display an activity notification.

3. When you return to your desktop, click **End Activity** to resume the last process that was active when you went off duty.



NOTE: If the Real-Time Client is turned off, all of the processes in your Desktop Work Tracker are stopped automatically using the "Shutdown" reason, and the data will be sent to the database.

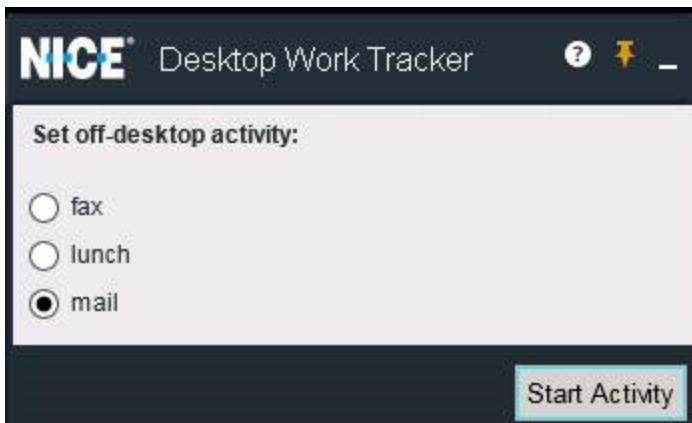
If a process reaches its pre-configured time-out, the process will be stopped automatically using the "Time-Out" reason, and the data will be sent to the database.

Selecting an Activity (with No Processes Enabled)

The **Desktop Work Tracker Client** enables you to select activities using the Desktop Work Tracker **Activity** feature. When only the activities are enabled (and the processes are disabled) the activities appear directly in the Desktop Work Tracker window.

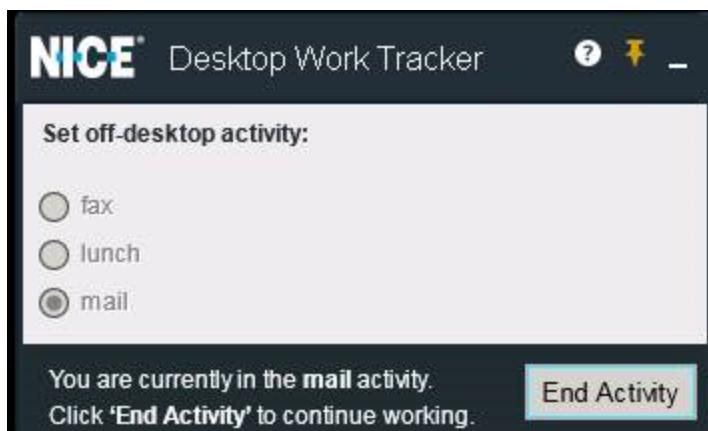
➡ To select an activity:

1. In the main Desktop Work Tracker window, select an activity and then click **Start Activity**.



The window now shows the notification "Your are currently in the <x> activity. Click 'End Activity' to continue working. The information on your activity is then sent to the database for analysis.

2. When you return to your desktop, click **End Activity**.



Configuring the Location of the Desktop Work Tracker on Your Desktop

Desktop Work Tracker is configured to remain active throughout your work session.

- To pin the window to a certain part of your screen, click the  icon.
- To minimize the window to the bottom right of your screen, click .

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Desktop Analytics Reports

This section describes how to work with and use Desktop Analytics reports.

Contents

Overview - Working with Reports	186
Accessing Desktop Analytics Reports	187
Selecting Filter Parameters	190
About the Desktop Analytics Reports Drill-down Functionality	194
Desktop Application Analytics Reports	196
Desktop Process Analytics Reports	221
Desktop Work Tracker Reports	283
Troubleshooting the Desktop Analytics Reports	315

Overview - Working with Reports

This chapter describes how to read the reports and describes the information that each report contains. The reports can be accessed through the intranet site using the URL <http://<Cognos IP or FQDN>/ibmcognos/bi>.

NOTE: To schedule the Desktop Analytics reports, and to filter the scheduled Desktop Analytics reports, see the Cognos documentation, available from the Cognos Help.

After generating reports, you can then drill-down into the reports to view information on a specific issue, such as process, application, and more. When you drill down, the filters and selections that are displayed at the top of the report are for the drilled report and not the main report.

The reports do not include a back/undo option.

NOTE: The group hierarchy levels are set up in the database during the installation process. The group names have default settings, and when you import users into the system, each group is assigned to one of the levels. This can be changed in the database configuration, but should be done after installation and before you run any reports

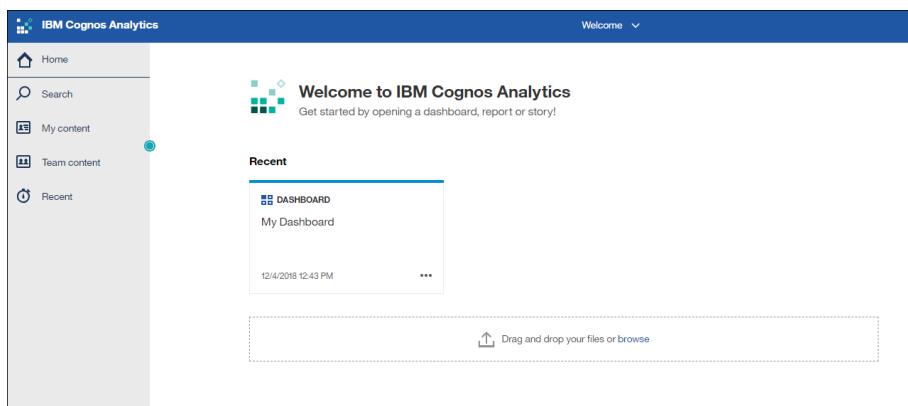
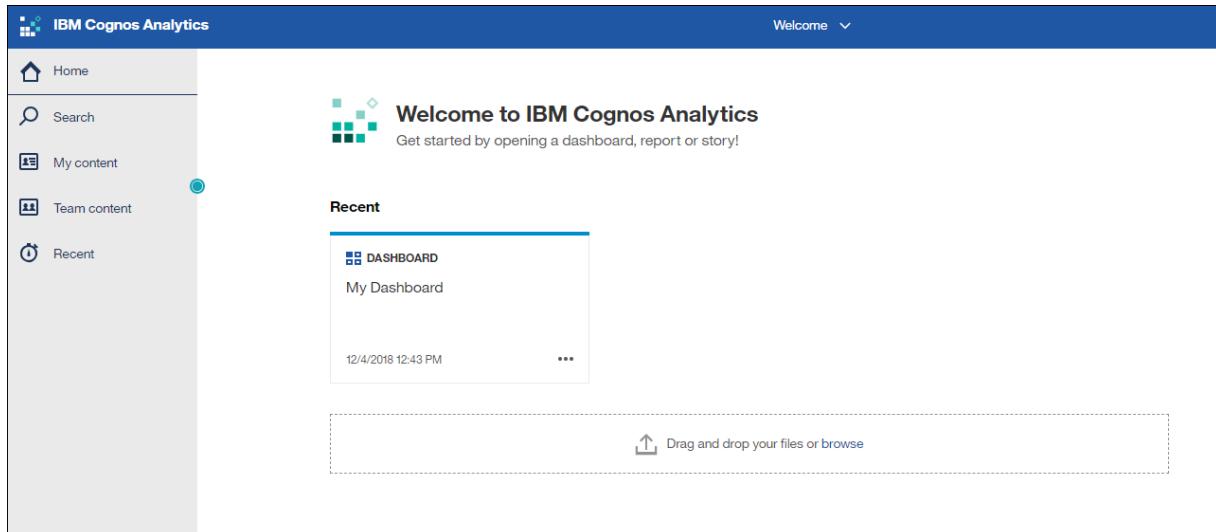
Accessing Desktop Analytics Reports

This section describes how to access the Desktop Analytics reports.

► To access the Desktop Analytics Reports through the Cognos site:

1. Open the Cognos Server on the intranet site using the URL <http://<rtserver>/ibmcognos/bi>.

The IBM Cognos NICE Analytics page is displayed.



2. In the NICE Analyst Workspace page, click **My Home** and then navigate to **Public Folders**.

NICE Analyst Workspace

Public Folders My Folders

Public Folders

	Name
Desktop Application Analytics Reports	Desktop Application Analytics Reports
Desktop Process Analytics Reports	Desktop Process Analytics Reports

3. To access the following reports, click **Desktop Application Analytics Reports**:

- **Application Usage Report**
- **Employee Productivity Report**

NICE Analyst Workspace

Public Folders My Folders

Public Folders > Desktop Application Analytics Reports

	Name
Application Usage	Application Usage
Employee Productivity	Employee Productivity

4. To access the following reports, click **Desktop Process Analytics Reports**:

- **Application Path Analysis Report**
- **Application Usage In Process**
- **Process Duration Analysis**
- **Process Utilization**
- **Total Work Item Handling Duration**

The screenshot shows the IBM Cognos Connection interface. At the top, there is a dark header bar with the text "IBM Cognos Connection". Below this, a navigation bar contains two tabs: "Public Folders" (which is selected and highlighted in blue) and "My Folders". Underneath the navigation bar, the text "Public Folders > Desktop Process Analytics Reports" is displayed. The main content area is a list of reports, each represented by a small icon followed by the report name. The reports listed are:

	Name
	Application Path Analysis
	Application Usage in Process
	Process Duration Analysis
	Process Utilization
	Total Work Item Handling Duration

Selecting Filter Parameters

The following filters are relevant to most Desktop Analytics reports, while report-specific filters are documented in the relevant reports. All of the filters detailed below are mandatory and must be completed before running the report.

Step 1: Selecting a Time Period

All Desktop Analytics reports are based on a specified time period, which enables you to select from two date options: **Standard** and **Custom**.

Select a report time period according to the options below and then continue to the next step:

- **Standard:** This is the default setting; when selecting this date option you will then need to select the "From" date, for example, Yesterday, Week to date and so forth. The date for the report will then be from the selected date to today's date.

* Standard Custom ?

* Yesterday 2015-04-29

--Select--

Yesterday 2015-04-29

Week to date 2015-04-27 - 2015-04-30

Month to date 2015-04-01 - 2015-04-30

Year to date 2015-01-01 - 2015-04-30

- **Custom:** When selecting this date option, you will then need to specify the start and end dates for the report by entering the dates in the **Start Date** and **End Date** fields, or by selecting the date from dynamic calendars.

* Standard Custom

Start Date: * 30/02/2015

End Date: * 30/04/2015

Step 2: Selecting a Data Hub

In organizations that have more than one data hub (a hub of centralized data), you will first need to select a data hub from the dropdown list. Selecting a data hub will automatically display the **Group/Employee** selection option.

Organizations that **do not** have multiple data hubs will only show the Group/Employee selection option.

Employee Selection

Select a Data Hub:

* --Select--

--Select--

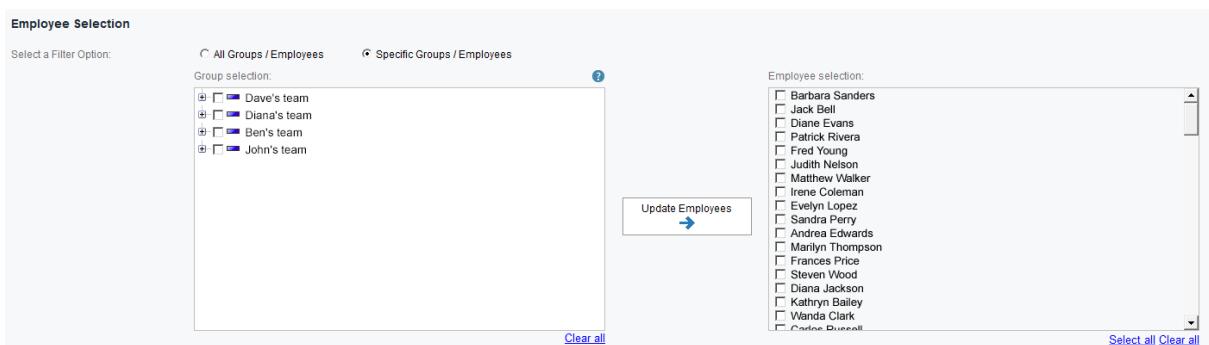
Jacksonville site
Richardson site
Washington site
NYC site

Step 3: Selecting Groups and Employees

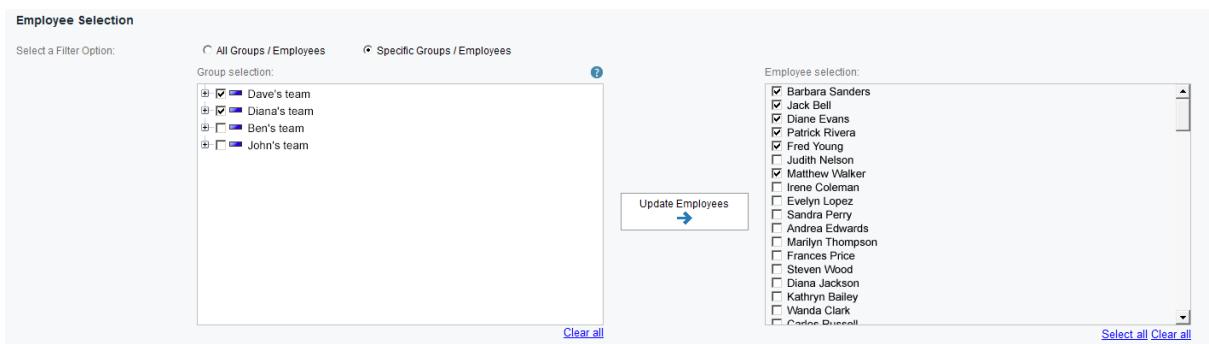
After selecting a data hub (in companies with multiple hubs) or in companies with single data hubs, the next step is to specify whether to include all available groups and employees in the report (the default), or to select specific groups and employees.

To select groups and employees:

1. If you select **All Groups/Employees**, continue to [Step 4: Specifying the Hierarchy Presentation](#) on the next page. Otherwise, select **Specific Groups/Employees**.
2. In the **Group selection** pane, select one or more groups and then click **Update Employees**.



The employees listed in the **Employee selection** pane change to only those employees that belong to the groups you specified:



3. In the **Employee selection** pane, select only the employees you wish to include in the report. Otherwise, leave the selection blank, and then all the employees in the list will be included in the report.

Step 4: Specifying the Hierarchy Presentation

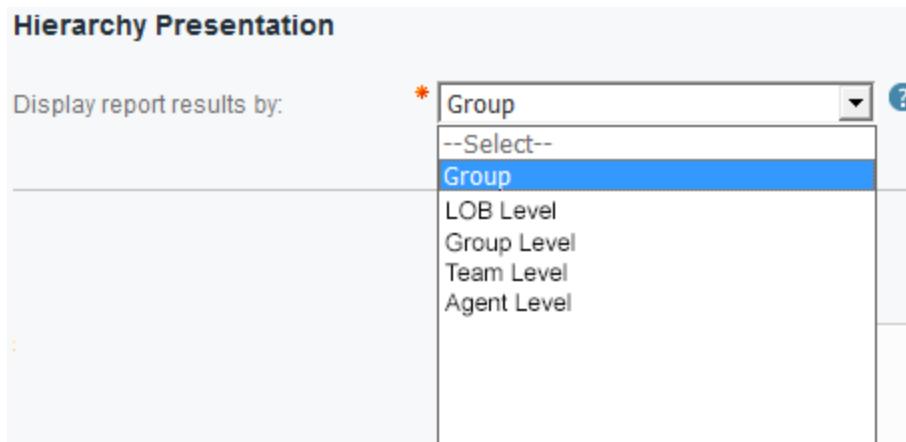
The Hierarchy Presentation filter enables you to select the **granularity** of the data to be presented in the report.

NOTE: This filter is not relevant for the **Application Path Analysis** report or the **Process Utilization - Multiple Processes Report**.

- **Group:** Displays the average data for predefined groups. Groups are the highest level in the hierarchy.
- **Team:** Displays the average data for predefined teams. The data displayed is the average data for each team.
- **Employee:** Displays the data for each individual employee.

➡ To specify the hierarchy presentation:

1. In the Hierarchy Presentation section, click the **Display report results by** dropdown to display the different levels:



2. Select the level for which you wish to display the report results.

NOTE: The higher the level you select, the more detailed the report.

Next: Continue with the report-specific filters to generate the required report, and then run the reports.

Refining the Report

Clicking the Run Report  in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

About the Desktop Analytics Reports Drill-down Functionality

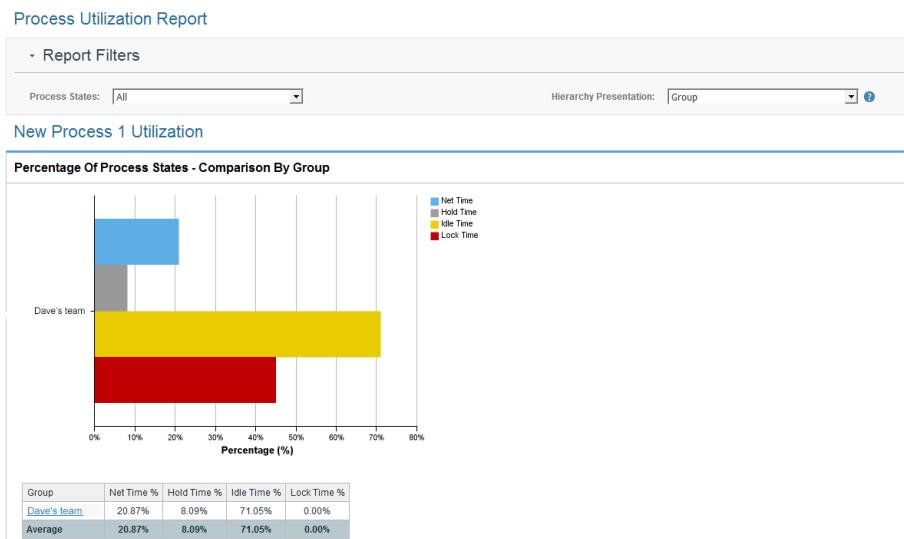
When defining the Desktop Analytics reports, employees are filtered at the definition stage for each report.

After running the report, if you play or select the presentation level, you will save the same data on the selected groups and employees throughout the filtered hierarchy.

When you drill down into a selected group using a **drill-down link**, you will then see the data on the employees of the selected group. However, when you go back up again to the higher hierarchical level, you will not see the data of the original filters, but rather for the group for which you drilled down into the report.

► Here is how this works:

1. Run a report, and then go to the bottom of the report and click the link of one of the processes displayed in the table.



The report is updated to show the results for a specific process and for a specific group. In addition, the report now includes a **Hierarchy Presentation** dropdown, which lets you select to go back to the previous population selection or move down further into the team and employee levels.

2. Select Group C (Team Level 1) and then Group CA (Team Level 2) until you reach User X.
3. Using the Hierarchy Presentation drop-down, select one level up (back to Team Level 2). Note that now you can only see a single Team Level 2 group whereas before there were more.

4. Select Team Level 1, and again, note that there is only one Team Level 1 team available.
5. To avoid this filtering, and to view all possible members of the selected population, use the **Hierarchy Presentation** dropdown selection instead.

NOTE: Clicking the **Run Report**  will return you to the report definition, where you can redefine the report parameters. However, pay attention that the latest changes you made to the report, in other words the drill-down, are now reflected in the report definition selections, and you will need to change them to run the full report.

Desktop Application Analytics Reports

This section details the **Desktop Application Analytics Reports**, which include the following:

Application Usage Report	197
Application Usage Report - Business Impact	198
Application Usage Report - Defining and Running	199
Analyzing the Application Usage Report	201
Employee Productivity Report	208
Employee Productivity Report - Business Impact	209
Employee Productivity Report - Defining and Running	210
Analyzing the Employee Productivity Report	213

Application Usage Report

The Application Usage report analyzes the applications and web pages used the most by employees. Use this report to view the total and average time spent by groups or employee, in selected applications and Web pages.

NOTE:

- The report displays specific information for the most-used applications only. The number of applications reported is defined in the report filters. All other applications are reported as an aggregate amount in a category called **Others**.
- The report displays specific information for applications/web pages that are mapped into Display Names. Unmapped applications are aggregated to **Application Without Display Code**.

Next:

- [Application Usage Report - Business Impact](#) on the next page
- [Application Usage Report - Defining and Running](#) on page 199
- [Analyzing the Application Usage Report](#) on page 201

Application Usage Report - Business Impact

The Application Usage report is used to analyze groups or employees usage of applications and web pages. This is shown by comparing the amount of time spent on the most used applications. The report shows the total amount of time for all groups/employees selected in the report filters, as well as the average time per use.

Total Application Usage

The **total time** provides insights on the most widely used applications and web pages. Knowing this information enables knowing which applications are important and to focus and prioritize applications when considering improvements and enhancements.

Average Time Per Use

The **average time** per use provides insight into the average time spent on this application or web page per visit. A short period of time per use may suggest that the application is very efficient, while a long period of time per use may indicate that the application should be investigated (for example, to see if the application is too complex, has low performance, or has a poor user experience design), which may lead to improvements in the application.

Organizational Hierarchy

The **organizational hierarchy** allows you to further drill down to view **results per group**, which shows the percentage of usage per group. Click a group to display results for that group. This is located on the left side of the screen and can be hidden or displayed.

Application Usage Report - Defining and Running

➡ To run the Application Usage report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Application Analytics Reports** and then select **Application Usage**.

The screenshot shows the configuration interface for the Application Usage report. It includes sections for Time Period, Employee Selection, and Hierarchy Presentation, each with mandatory fields indicated by an asterisk (*).

Time Period

* Standard Custom [?](#)

Dates: * [▼](#)

Employee Selection

Select a Data Hub: * [▼](#)

Hierarchy Presentation

Display report results by: * [▼](#) [?](#)

2. Define the standard (mandatory) filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.
3. Next, in the **Application Selection** section, select which applications should be included in the report.

Application Selection

Select an Application:

Notepad
MS Outlook
CRM Application
www.cnn.com

[Clear all](#)

NOTE: If the application you select has been removed from the Real-Time Designer (and is, therefore, out-of-date), the application name will also display the date when it became outdated.

NOTEPAD++ (Deleted On: 05-17-2015 08:20)

4. In the Applications Display section, enter the number of top applications to display.

Applications Display

Select the top: * applications to display

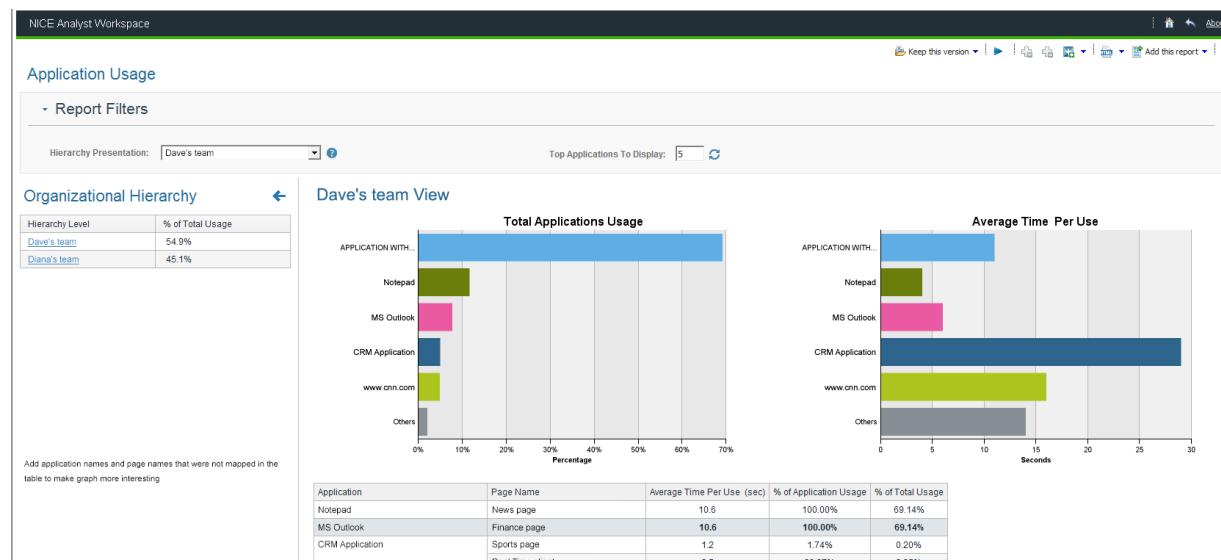
[Run Report](#) [Cancel](#)

5. When you have completed the report filters and parameters, click **Run Report**.

Next: [Analyzing the Application Usage Report](#) on the facing page.

Analyzing the Application Usage Report

The Application Usage Report results enable you to analyze the applications and web pages that are used the most by employees. The report enables you to view the total and average time spent by groups or employee, in selected applications and Web pages.



NOTE: An application whose mapping is out-of-date will be displayed with a light-gray bar. When defining and running the report, these applications are denoted with the date when they became outdated.

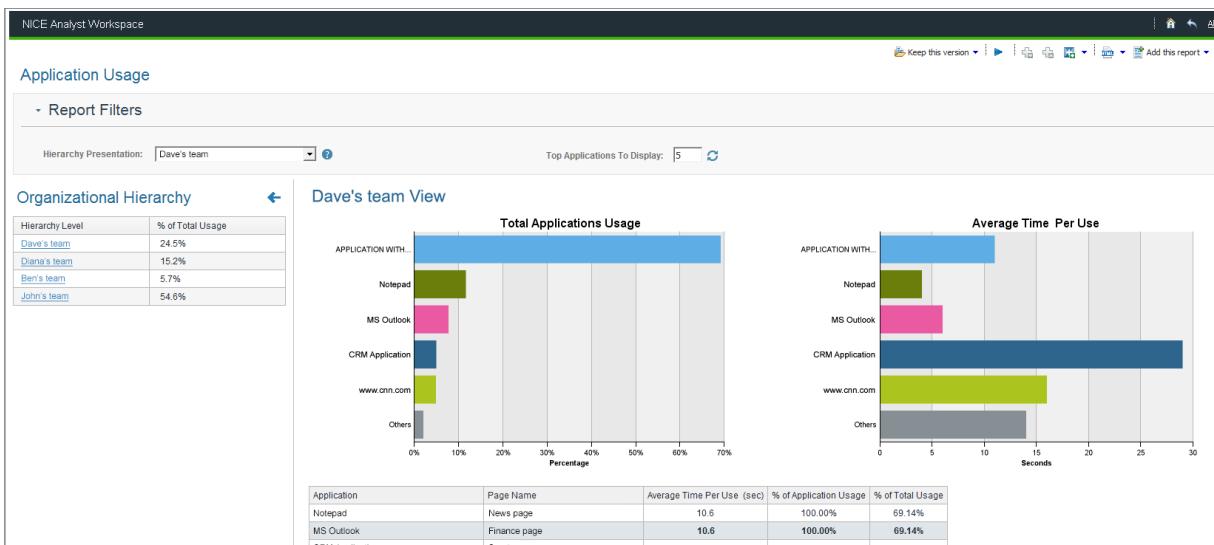


Updating the Hierarchy Presentation

To change the level of the hierarchies displayed in the report result, from the **Hierarchy Presentation** dropdown, select a different level.

The report will be updated according to your selection.

Analyzing the Application Usage Report



Updating the Top Number of Applications to Display

the **Top Applications To Display:** [x] field, enter the number of top applications you wish to display in the report and then click the refresh button to update the page results.

Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

Application Usage

Report Filters

Date Range:	26/05/2014 - 26/05/2015	Group Selection:	Dave's team, Diana's team, Ben's team, John's team
Applications Selection:	NotePad, MS Outlook, CRM Application, www.cnn.com	Employees:	Barbara Sanders, Jack Bell, Diane Evans, Patrick Rivera, Fred Young, Judith Nelson, Matthew Walker, Irene Coleman, Evelyn Lopez, Sandra Perry, Andrea Edwards, Marilyn
Data Hub:	Jacksonville site		

The filters are displayed according to the selection you made:

- **Date Range:**
 - If you selected **Custom** in the definition stage, the data range will appear as either two dates separated by a hyphen, or one date (if you only specified a single day).
 - If you selected the **Standard** date option, your selection (for example, Yesterday) will appear in the range.

See [Step 1: Selecting a Time Period](#) on page 190 for details
- **Applications Selection:** Displays the applications you selected.
- **Data Hub:** If there are multiple Data Hubs in your system, the Data Hub you selected in the definition stage will appear here (see [Step 2: Selecting a Data Hub](#) on page 190).

- **Group Selection:** Displays the groups you selected in the Employee Selection filter (see [Step 3: Selecting Groups and Employees on page 191](#)).
- **Employees:** Displays the employees you specified in the Employee Selection filter (see [Step 3: Selecting Groups and Employees on page 191](#)).

Refining the Report

Clicking the **Run Report**  in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

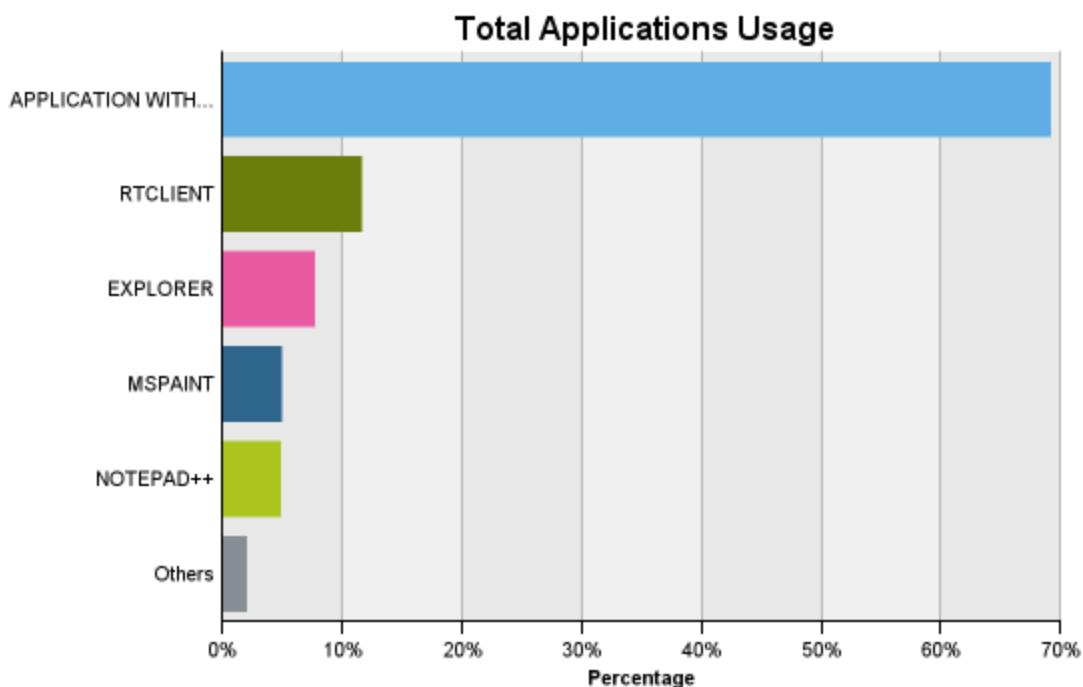
The information in the Application Usage report is displayed as described in the following sections:

- [Application Usage Report Total Applications Usage Bar Graph](#) on the next page
- [Average Time Per Use in Process Bar Graph](#) on page 244
- [Application Usage In Process Organizational Hierarchy](#) on page 246
- [Application Usage Report Summary Table](#) on page 207

Application Usage Report Total Applications Usage Bar Graph

This graph presents a measurable comparison of application usage according to **applications used**. The report displays the **time or percentage** of the selected population in the search for each application.

TeamLevel1 View



The graph shows the following:

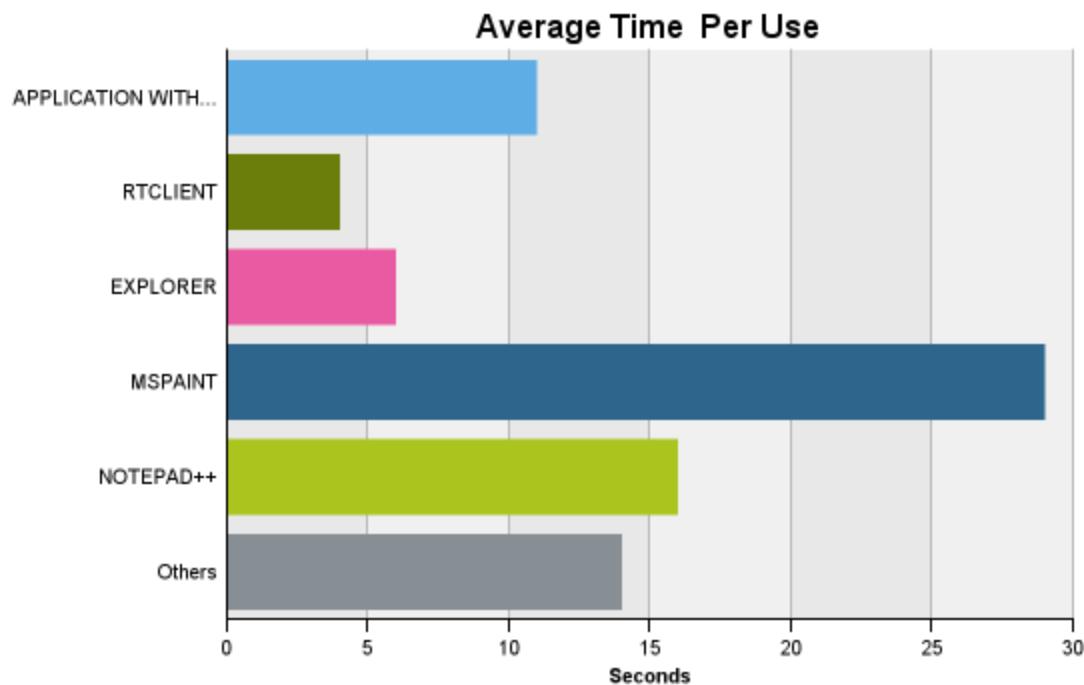
- **Top applications used:** The most used applications are each represented by a bar on the graph. Each bar displays the total time that the application was used by the selected population. The applications are listed from top to bottom with the most used application on top. The number of applications displayed is determined during the report definition process (see [Application Usage in Process Report - Defining and Running](#) on page 237).
- **Amount of time used:** The percentage of time that the selected groups, teams, or employees use each application. This is displayed along the X-axis at the bottom of the graph.

Hover information: Hovering the mouse over the bars displays:

- The name of the application represented by the bar where the mouse is hovering.
- The percentage of time the application was used by all of the selected population.
- The rank of the application according to percentage of time used.

Application Usage Report Average Time Per Use Bar Graph

This graph displays the average amount of time that an application was used by the selected population. Each bar represents an application, and displays the average time used.



This graph shows the following:

- **Top applications used:** The most used applications are each represented by a bar in the graph. Each bar displays the average amount of time, per instance, that the application was used by the selected population. For example, in the graph above, the selected groups used the Real-Time client for an average of seven seconds each time the application was used.
- The applications are listed from top to bottom in the same order as presented in the Total Usage bar graph.
- **Amount of time used:** The average amount of time that the selected population use each application per instance. This is displayed along the X-Axis at the bottom of the graph.

Hover information: Hovering the mouse over a colored section of the graph displays:

- The name of the application represented by the bar where the mouse is hovering.
- The average amount of time the application was used by the selected population per use.

Application Usage Report Organizational Hierarchy

The organizational hierarchy allows you to further drill down to view results per group.

This selection controls the report resolution in terms of hierarchy. Set the table resolution to the selected hierarchy level:

- **Group:** Displays the average data for predefined groups. Groups are the highest level in the hierarchy.
- **Team:** Displays the average data for predefined teams (there can be a number of team levels). The data displayed is the average data for each team.
- **Employee:** Displays the data for each individual employee.

The report results show the percentage of total usage for this application for each level.

[Organizational Hierarchy](#) 

Hierarchy Level	% of Total Usage
LOB Level	3.2%
Group Level	63.8%
Team Level	33.0%

Application Usage Report Summary Table

The summary table presents the statistics for each application in table form. The table includes a column for each of the statistics presented in the graphs.

Application	Page Name	Average Time Per Use (sec)	% of Application Usage	% of Total Usage
www.cnn.com	News page	2.5	3.74%	2.02%
	Finance page	6.8	37.44%	20.29%
	Sports page	8.2	58.82%	31.87%
www.cnn.com - Summary		7.0	100.00%	54.18%
MS Outlook	New Email	6.7	100.00%	25.22%
MS Outlook - Summary		6.7	100.00%	25.22%
CRM Application	Customer Details	1.3	4.78%	0.27%
	Billing Information 1	3.1	6.26%	0.36%
	Billing Information 2	2.4	8.82%	0.51%
	Others	4.2	80.13%	4.60%
CRM Application - Summary		3.5	100.00%	5.74%
Notepad	Introduction	4.4	100.00%	3.35%
Notepad - Summary		4.4	100.00%	3.35%
		6.1	100.00%	100.00%

Employee Productivity Report

Employee Productivity Report - Business Impact	209
Employee Productivity Report - Defining and Running	210
Analyzing the Employee Productivity Report	213

Employee productivity measures the comparative productivity between groups/employees. For the purposes of this report, applications are mapped to categories that are predefined by the organization (see [Defining Desktop Analytics Categories Per Group](#) on page 118 for details on how applications are mapped to categories).

For example, applications can be mapped into categories such as:

- **Productive:** Applications such as the Microsoft Word and Microsoft Excel may be included in this category.
- **Unproductive:** Applications such as games.
- **Work Related:** Applications such as the calculator, which is used directly for work activities.

In addition, web pages can also be mapped into the predefined categories. For example, the company website or Wikipedia, if being used for research, may be mapped to the Productive category, but Facebook would be mapped to Unproductive.

In addition to any predefined categories created by the organization, the following default categories are automatically available:

- **Uncategorized:** The amount of time that the employee uses applications that are not mapped to a specific category.
- **Business related:** The amount of time that the employee uses applications that are related to their job (this category requires that applications/web pages be mapped into it).

The report also shows the activity states for employees or groups of employees:

- **Idle:** The amount of time where no keyboard or mouse activity is detected for the employee.
- **Locked:** The amount of time where the employee is in a locked state.

The report shows how group/employees working time is distributed between the different application/web pages categories.

Employee Productivity Report - Business Impact

The Employee Productivity report is used to analyze 100% of each employee's time and show how the time is utilized. per group or per employee.

This is shown in time-based and percentage-based bar graphs. The time-based graph shows the average time that the employee spends in each category or activity state per day. The percentage-based bar graph shows the percentage of time that each employee spends using applications in each category per day.

In addition, a time-based summary table and a percentage-based summary table are provided.

Employee Productivity Report - Defining and Running

► To run the Employee Productivity report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Application Analytics Reports** and then select **Employee Productivity**.

Employee Productivity

Time Period

* Standard Custom [?](#)

Dates: * [▼](#)

Time Unit: * [▼](#)

Employee Selection

Select a Data Hub:

*
Jacksonville site
Richardson site
Washington site
NYC site

Hierarchy Presentation

Display report results by: * [?](#)

Categories

Search by Keywords:

Keywords:
Type one or more keywords separated by spaces.

Results:
Productive
Non-productive
Not work related
MS Office Apps

Selected:

2. Define the **Time Unit** in which to display the result: **seconds, minutes, or hours**.
3. Define the standard (mandatory) filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.
4. **Optional:** Scroll down to the **Categories** field.
5. Type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard.
6. Click the **Insert** button to transfer the results from **Results** pane to the **Choice** pane.
 - Use the **Keywords** field and **Search** button to search for specific categories.
 - Use % as a wildcard in the Category Selection section to display all results.

Categories

Search by Keywords: **Keywords:**
Type one or more keywords separated by spaces.

Results: **Search**

Selected:

Insert **Remove**

NOTE: In order to view the amount of time an employee was logged out of the system, you must search for and select **Other Periods** from the categories. If **Other Periods** is not selected, it will not be displayed by default in the report results.

7. When you have completed the report filters and parameters, click **Run Report**.
8. Continue with analyzing the report. See [Analyzing the Employee Productivity Report](#) on the facing page.

Analyzing the Employee Productivity Report

The Employee Productivity Report results enable comparative productivity between groups/employees by time or by percentage.

Updating the Hierarchy Presentation

To change the level of the hierarchies displayed in the report result, from the **Hierarchy Presentation** dropdown, select a different level.

The report will be updated according to your selection.

Updating the Report Categories

To change the categories displayed in the results, from the **Choose Categories** dropdown, select a different category (the default is **All categories**).

The report will be updated according to your selection.

Changing the Report Time Unit

To change the report time unit (seconds, minutes or hours), from the **Time Unit** dropdown, select a different time unit.

The report will be updated according to your selection.

Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

Employee Productivity Report

The screenshot shows a user interface for the 'Employee Productivity Report'. At the top, there is a header 'Employee Productivity Report'. Below it, a section titled 'Report Filters' is expanded. This section contains several filter settings: 'Date Range: 26/05/2014 - 26/05/2015', 'Category: All', 'Data Hub: Jacksonville site', 'Group Selection: All', 'Employees: All', and 'Time Unit: Minutes'. The 'Report Filters' section has a grey background, while the rest of the interface is white.

The filters are displayed according to the selection you made:

■ Date Range:

- If you selected **Custom** in the definition stage, the data range will appear as either two dates separated by a hyphen, or one date (if you only specified a single day).
- If you selected the **Standard** date option, your selection (for example, Yesterday) will appear in the range.

See [Step 1: Selecting a Time Period](#) on page 190 for details

- **Category:** Displays the categories you selected.
- **Data Hub:** If there are multiple Data Hubs in your system, the Data Hub you selected in the definition stage will appear here (see [Step 2: Selecting a Data Hub](#) on page 190).
- **Group Selection:** Displays the groups you selected in the Employee Selection filter (see [Step 3: Selecting Groups and Employees](#) on page 191).
- **Employees:** Displays the employees you specified in the Employee Selection filter (see [Step 3: Selecting Groups and Employees](#) on page 191).
- **Time Unit:** Displays the time unit selected

Refining the Report

Clicking the Run Report  in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

The information in the Employee Productivity report is displayed as described in the following sections:

- [Employee Productivity Report Time-Based Bar Graph](#) on the facing page
- [Employee Productivity Report Percentage-Based Bar Graph](#) on page 216
- [Employee Productivity Report Summary Tables](#) on page 217
- [Running the Application Usage Report](#) on page 219

Employee Productivity Report Time-Based Bar Graph

This graph displays a measurable comparison of usage according to each predefined category. This is displayed as the average time that an employee is using the applications selected in the filters. The bar represents the average time that the employee uses these applications per day. Each color represents a predefined category. Compares the averages of each group or employee with other group or employees for a given time frame and category. Click the **Time** button on the top right to display this graph.

The graph displays the following:

- **Organizational hierarchy:** The groups, teams, and employees selected in the hierarchy filter (see [Step 4: Specifying the Hierarchy Presentation](#) on page 192). This is shown on the Y-axis.
- **Time Unit:** The time duration for the selected categories and states displayed on the graph. This is shown on the X-axis.
- **Average:** Shows the average for the search population within the defined filters.

Hover Information: Hovering the mouse over a colored section of the bars displays:

- The group, team, or employee whose productivity is represented by the bar where the mouse is hovering.
- The amount of time that the employee uses applications that are mapped to the category represented by the color where the mouse is hovering. Standard colors represent a specific state (IDLE, LOCKED) that the employee's computer is in, or uncategorized applications:
 - Gray: Uncategorized
 - Yellow: IDLE
 - Red: LOCKED

Employee Productivity Report Percentage-Based Bar Graph

This graph displays a comparison of usage percentage by category out of the total time that an employee used the applications selected in the filters. The bar represents 100% of the total time that the employee uses these applications. Each color represents a predefined category and displays the percentage of time spent by the employee in that category. Click the % button on the top right to display this graph.

The graph shows the following:

- **Organizational hierarchy:** The groups, teams, and employees that are selected in the hierarchy filter (see [Step 4: Specifying the Hierarchy Presentation](#) on page 192). These are listed in alphabetical order. This is shown on the Y-axis.
- **Duration in percentage:** The percentage of time the group or employee use applications in any selected category. This is shown on the X-axis.

Hover information: Hovering the mouse over a colored section of the bars displays:

- The group, team, or employee whose productivity is represented by the bar where the mouse is hovering.
- The percentage of time that the employee used applications mapped to the category represented by the color where the mouse is hovering. Standard colors represent a specific state (IDLE, LOCKED) that the employee's computer was in or uncategorized: applications.
 - Gray: Uncategorized
 - Yellow: IDLE
 - Red: LOCKED

Employee Productivity Report Summary Tables

The summary tables present the statistics in table form. A time-based table and a percentage-based table are displayed.

NOTE: If all categories were selected when filtering data for the report, then the total column should always display 24 hours or its equivalent in minutes/seconds.

The two summary tables contain the following information:

- **Time-Based Summary:** Displays the data for the average time that groups, teams, or employees used applications in each category.
- **Percentage-Based Summary:** Displays the percentage of time that groups, teams, or employees used applications in any selected category.

Time-based Summary:

Group	LOCKED	IDLE	UNCATEGORIZED	BUSINESS RELATED	DAVE	DIANA	BEN	JOHN	Total
Finance Group	0.74	360.36	2.26 	2.95 	0.14 	0.41 	0.07 	0.09 	367.01
Average	0.74	360.36	2.26	2.95	0.14	0.41	0.07	0.09	

Percent-based Summary:

Group	LOCKED	IDLE	UNCATEGORIZED	BUSINESS RELATED	DAVE	DIANA	BEN	JOHN
Finance Group	0.20%	98.19%	0.62% 	0.80% 	0.04% 	0.11% 	0.02% 	0.02% 
Average	0.20%	98.19%	0.62%	0.80%	0.04%	0.11%	0.02%	0.02%

The following describes the information that appears in the Employee Productivity summary tables.

Location	Description
Left Column , Top row	<p>The groups, teams, or employees presented in the report. This is determined by the selections in the employee selection (see Step 3: Selecting Groups and Employees on page 191).</p> <p>Clicking a group name in the table is a drill-down action that shows a level deeper for the selected group. If you change the hierarchy presentation, the report results will then show all of the organizational units at this level that are included in the search. If the search population includes employees that are connected directly to hierarchy levels that are less deep, those levels will be summarized as OTHER LEVELS.</p>
All Column Headings- Categories	<p>The categories presented in the report. This is determined by the selections in the category filter. These categories are predefined by the customer and are mapped to the applications used by the employees (see Step 4 in Employee Productivity Report - Defining and Running on page 210).</p> <p>The column head for the actual-time summary table also displays the time unit selected in the configuration filter (see Step 2 in Employee Productivity Report - Defining and Running on page 210).</p>
Left Column, Bottom row Average Total	The average for all of the selected groups, teams, or employees.
	For any report result in the summary tables, click this icon to open the Application Usage report in a new window. See Running the Application Usage Report on the facing page for details.

Running the Application Usage Report

You can run the Application Usage report directly from this report without reverting back to NICE Analyst Workspace. The report filters for the Employee Productivity report are inherited to create the Application Usage report. For example, the same *date range*; the *selected hierarchy level*; and the *selected category*. The new report is opened in a new window in addition to the current report. The default number of top applications displayed in the Application Usage report that is opened here is 100.

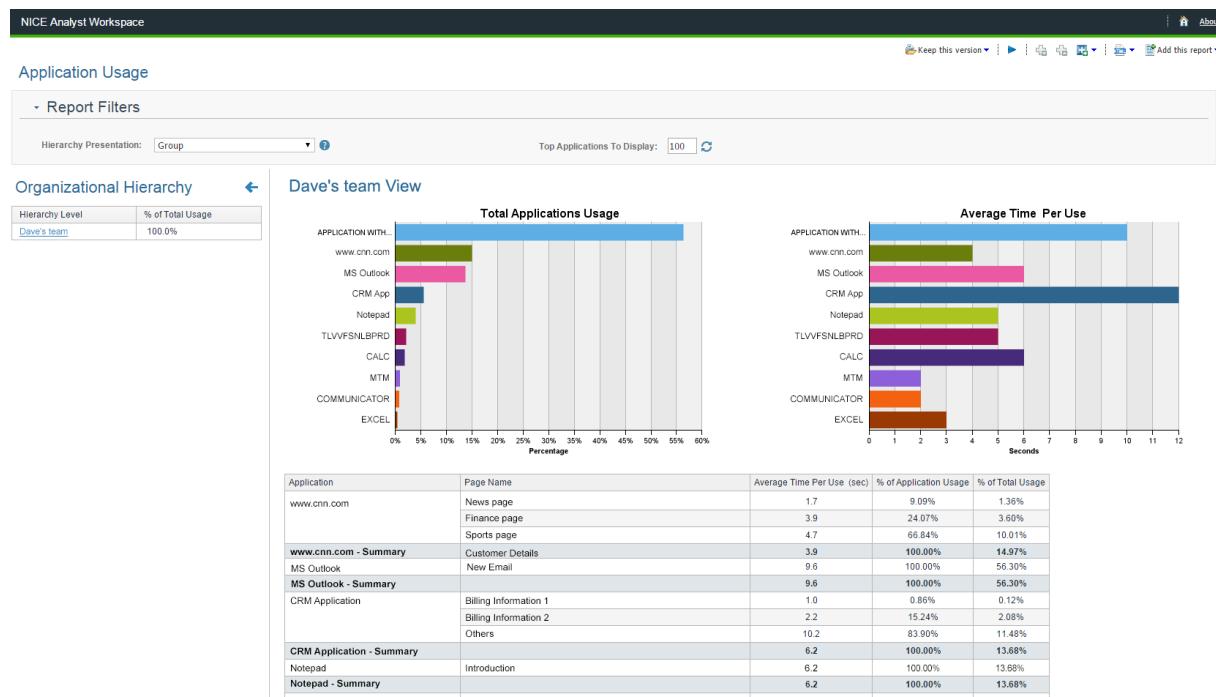
► To open the Application Usage report:

1. In the Employee Productivity Report Summary Table, select the group hierarchy for which you want to run the Application Usage report.

Group	LOCKED	IDLE	UNCATEGORIZED	BUSINESS RELATED	DAVE	DIANA	BEN	JOHN	Total
Finance Group	0.74	360.36	2.26	2.95	0.14	0.41	0.07	0.09	367.01
Average	0.74	360.36	2.26	2.95	0.14	0.41	0.07	0.09	

2. Click the .

The Application Usage report opens.



The screenshot shows the Application Usage report interface. At the top, there are report filters for 'Hierarchy Presentation' (Group) and 'Top Applications To Display' (100). On the left, an 'Organizational Hierarchy' panel shows 'Dave's team View' with a 100.0% usage level. The main area has two charts: 'Total Applications Usage' (bar chart showing www.cnn.com at ~15%, MS Outlook at ~10%, etc.) and 'Average Time Per Use' (bar chart showing MS Outlook at ~6 seconds, CRM App at ~11 seconds, etc.). Below the charts is a table of detailed application usage data.

Application	Page Name	Average Time Per Use (sec)	% of Application Usage	% of Total Usage
www.cnn.com	News page	1.7	9.09%	1.36%
	Finance page	3.9	24.07%	3.60%
	Sports page	4.7	65.84%	10.01%
www.cnn.com - Summary	Customer Details	3.9	100.00%	14.97%
MS Outlook	New Email	9.6	100.00%	56.30%
MS Outlook - Summary		9.6	100.00%	56.30%
CRM Application	Billing Information 1	1.0	0.86%	0.12%
	Billing Information 2	2.2	15.24%	2.08%
	Others	10.2	83.90%	11.48%
CRM Application - Summary		6.2	100.00%	13.68%
Notepad	Introduction	6.2	100.00%	13.68%
Notepad - Summary		6.2	100.00%	13.68%

Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow.

➡ To view the current report filters

1. Click the **Filters** dropdown arrow.

The category you selected in the **Employee Productivity** report appears in the **Category** field.

A screenshot of a software interface titled "Report Filters". The interface displays various filter settings in a grid format:

Date Range:	Month to date	2015-10-01 - 2015-10-13	Group Selection:	Dave's team
Applications Selection:	All		Employees:	All
Category:	UNCATEGORIZED			
Data Hub:	Jacksonville site			

Below the grid, there are two input fields: "Hierarchy Presentation" set to "Group" and "Top Applications To Display" set to "100". There is also a refresh icon next to the top applications field.

For more information about this report, see [Application Usage Report](#) on page 197.

Desktop Process Analytics Reports

This section details the **Desktop Process Analytics Reports**, which include the following:

Application Path Analysis Report	222
Application Path Analysis Report - Business Impact	223
Application Path Analysis Report - Defining and Running	224
Analyzing the Application Path Analysis Report	230
Application Usage In Process Report	235
Application Usage In Process Report - Business Impact	236
Application Usage in Process Report - Defining and Running	237
Analyzing the Application Usage In Process Report	240
Process Duration Analysis Report	248
Process Duration Analysis Report - Business Impact	249
Process Duration Analysis Report - Defining and Running	250
Analyzing the Process Duration Analysis Report	253
Running the Application Usage in Process Report	256
Process Utilization Report	258
Process Utilization Report - Business Impact	259
Process Utilization - Defining and Running	260
Analyzing the Process Utilization Report	263
Total Work Item Handling Duration Report	273
Total Work Item Handling Duration Report - Business Impact	274
Total Work Item Handling Duration Report - Defining and Running	275
Analyzing the Total Work Item Handling Duration Report	280

Application Path Analysis Report

The Application Path Analysis is a measure-based report that shows the optimal order of application usage when performing a process.

In this report, you can:

- View the different application paths employees used to performed a process
- View the commonality and average measure per a given path
- View a list of employees who used a given path

Application Path Analysis Report - Business Impact

When handling work items, call center and back office employees may access many applications and web pages. In order to increase employee productivity, it is important that employees handle work items with maximum efficiency and that IT applications provide support to enable this efficiency.

The Application Path Analysis report enables you to analyze the desktop activity of employees against defined **measure values**. The Application Path Analysis Report provides a means of determining the best application path in order to maximize measure values, identify low performers who may require training, or identify IT applications that may require improvements or enhancements.

Application Path Analysis Report - Defining and Running

To run the Application Path Analysis report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Process Analytics Reports** and then select **Application Path Analysis**.

Application Path Analysis

Time Period

Standard Custom [?](#)

Dates: Yesterday 2015-05-19 [▼](#)

Employee Selection

Select a Filter Option: All Groups / Employees Specific Groups / Employees

Process Selection

Select a Process: --Select-- [▼](#)

Queue Tag Selection

Queue Tag:
Keywords:
Type one or more keywords separated by spaces.

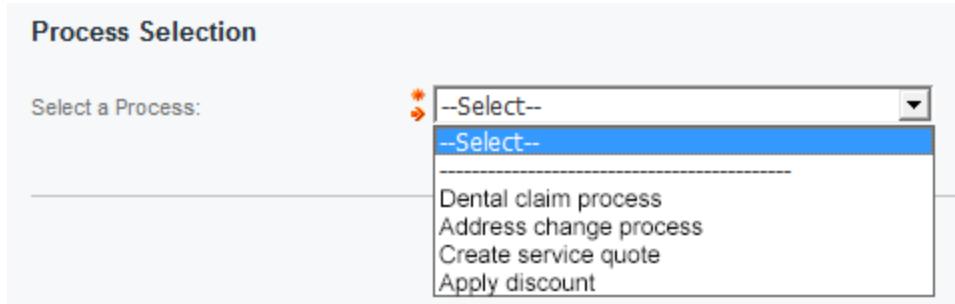
Results: [Search](#)

Selected:

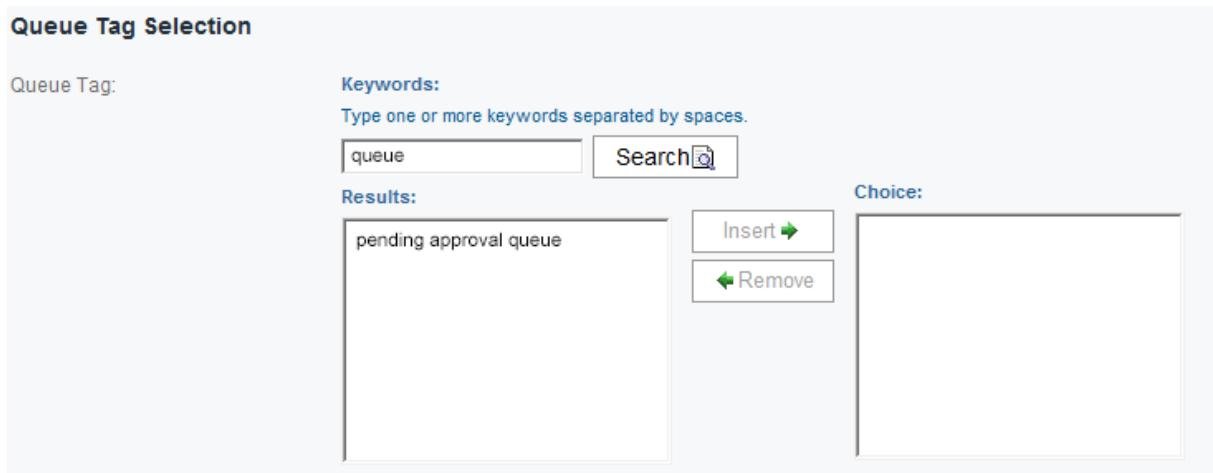
[Insert](#) [Remove](#)

[Select all](#) [Clear all](#)

2. Define the standard (mandatory) filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.
3. Next, in the **Process Selection** field, click the field and from the dropdown list, select which process to run in the report comparison (this step is **mandatory**).

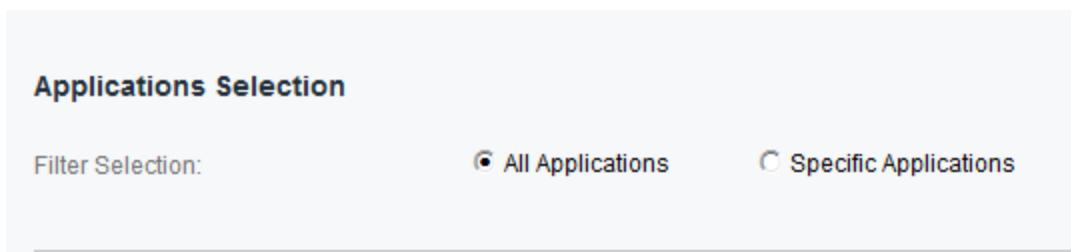


4. Optional: Scroll down to the **Queue Tag Selection** field.

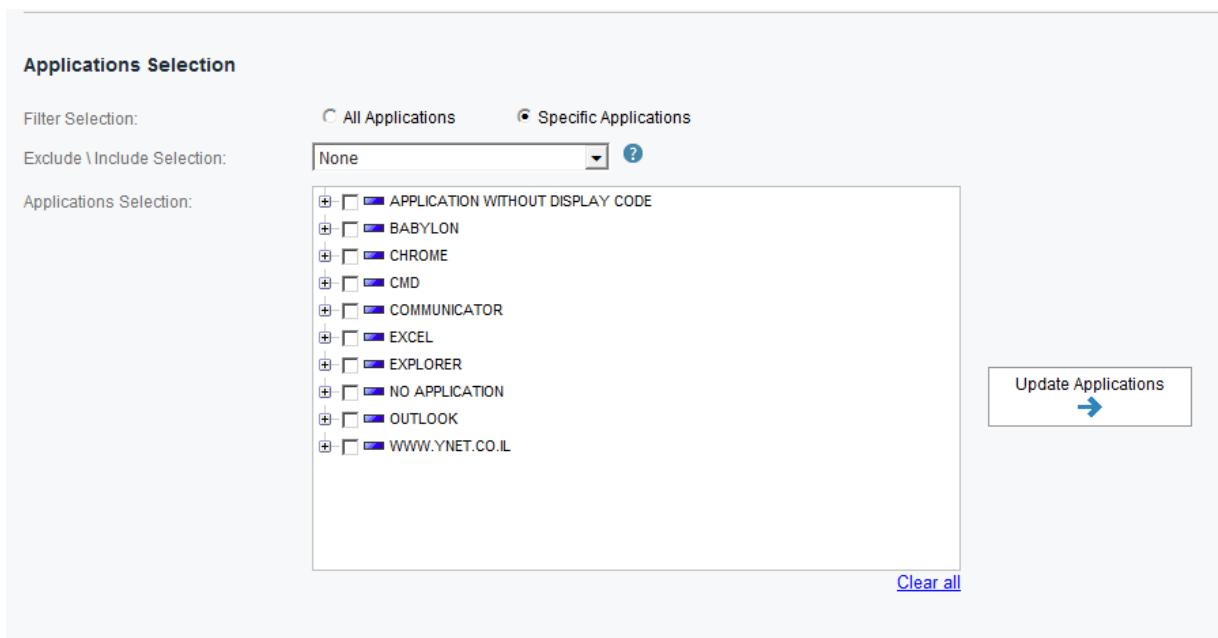


5. Type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard.
6. Click the **Insert** button to transfer the results from the **Results** pane to the **Choice** pane.
 - Use the **Keywords** field and **Search** button to search for specific queue tags.
 - Use **%** as a wildcard in the Queue Tag Selection section to display all results.
7. You may now select the applications to be included in the report.

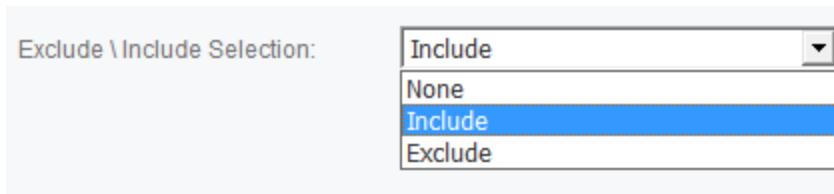
- a. In the **Applications Selection** section, specify whether you want the report to include **All Applications** or **Specific Applications**.



- b. If you select Specific Applications, the Application Selection section expands and displays the **Exclude\Include Selection** dropdown and the **Applications Selection** field.



- c. In the **Exclude\Include Selection** dropdown, select from one of the following options: **Include**, **Exclude** or **None**.



- If you select **None**, the report will not be filtered according to the applications (regardless of the choice you made in the previous step).

- If you select **Include**, the paths that include the applications you select in **Step d** will be **included** in the report.
 - If you select **Exclude**, the paths that include the applications you select in **Step d** will be **excluded** from the report.
- d. In the **Applications Selection** field, select the applications you wish to include or exclude from the report and then click **Update Applications**.

The screenshot shows the 'Applications Selection' section. At the top, there are two radio buttons: 'All Applications' (unchecked) and 'Specific Applications' (checked). Below this is a dropdown menu set to 'Include'. A list of applications is shown on the left, with 'CHROME' checked. On the right, a preview area displays application paths: 'CMD - C:\WINDOWS\SYSTEM32\cmd.exe', 'CHROME - CHROME - NO PAGE', 'CMD - CMD - NO PAGE', 'CMD - NO WINDOW TITLE', 'CHROME - WWW.YNET.CO.IL - GOOGLE CHROME', and 'CHROME - YOUTUBE - GOOGLE CHROME'. Below the preview area is a button labeled 'Update Applications' with a right-pointing arrow icon.

8. In the **Sorting** section, select the sorting method and order.

The screenshot shows the 'Sorting' section. It includes two main sections: 'Sort By:' and 'Sort Order:'. Under 'Sort By:', there is a radio button group with four options: 'Path Number' (unchecked), 'Measure Value' (checked), 'Commonality' (unchecked), and 'Number of Employees' (unchecked). Under 'Sort Order:', there is another radio button group with two options: 'Ascending' (unchecked) and 'Descending' (checked).

- **Path Number:** Sort by the Path ID number
- **Measure Value:** Sort according to the **name of the value** that is being measured. The sorting in this case will be according to the numeric value (and the resulting column heading will indicate what is being measured).
- **Commonality:** Sort according to the percentage of instances for this path. The sort works in the following way:

- If the paths that are included in your report have a usage that is **above** the percentage you set here (the default is 0), then those paths will be included in the report.
- Paths that fall below the stated value will not be included in the report.
- If all the paths are under the stated commonality there will be no results.
- **Number of Employees:** Sort according to the number of employees that are included in the filtered path.

9. In the **Path Selection** section, specify the following filters:

NOTE: The available paths that you specify in this step have already been filtered according to the Applications Selection filter you applied in [Step d](#).

Path Selection

Show:	* <input type="text" value="Top"/>
	<input type="text" value="100"/> %
Top X Application Paths to display:	* <input type="text" value="5"/>
Include Application Paths with Commonality above:	<input type="text" value="0"/>

- e. From the **Show** dropdown list, select **Top**, **Bottom**, or **Range** and then specify the percentage from the dropdown field below it.

NOTE: The **Show** filter lets you set the range of paths that should be included in the report according to the percentage you set in the field. This filter allows you to specify the **Top X%** or **Bottom X%** or a **range of percentages**.

- f. If you select Range, the report setup changes to enable you to specify a range from 100% to 10%:

Show:	* <input type="text" value="Range"/>
From:	<input type="text" value="100"/> %
To:	<input type="text" value="--Sele"/> %

- g. Next, in the **Top X Application Path to display** filter, specify the maximum number of paths to display out of the total number (assuming there are enough paths from which to filter).
- h. Next, specify the **Include Application Paths with Commonality above** filter.

NOTE: This commonality filter is an optional field that is set in percentages. See [Step 8](#) for details.

10. When you have completed the report filters and parameters, click **Run Report**.

Next: Analyzing the report (see [Analyzing the Application Path Analysis Report](#) on the next page).

Analyzing the Application Path Analysis Report

The Application Path Analysis Report results enable you to analyze the desktop activity of employees against defined **measure values** in order to determine the most **efficient application path**. This path will then enable you to determine how to achieve the maximum value for this measure.

NICE Analyst Workspace

CRM App Analysis Results

Dental claim process

Based on: 13 Process instances

Path ID	Commonality	Duration in Seconds (Average)	Number of Employees	Path Data
1	30.77%	52	3	
2	23.08%	25	2	
3	15.38%	44	2	
4	15.38%	42	2	
5	7.69%	76	1	

The report result displays the following information:

- **Path ID:** The ID assigned to this specific path by the Cognos server.
- **Commonality:** The percentage of instances for each path, the commonality works in the following way:
 - If the paths that are included in your report have a usage that is **above** the percentage you set here (the default is 0), then those paths will be included in the report.
 - Paths that fall below the stated value will not be included in the report.
 - If all the paths are under the stated commonality there will be no results.

- **Measure Value:** The second column contains the name of the measure value (as defined by the company) and the relevant measurement for that value. In the example above, the measurement is **Duration in Seconds**.
This information is provided in **percentages** because in very large results, it is easier to compare percentages rather than numbers.
- **Number of Employees:** The number of employees that are included in this path (see [Viewing Specific Employee Information](#) below).
- **Path Data:** The applications that are included in the path.

Viewing Specific Employee Information

➡ To view specific information about an employee:

1. In the **Number of Employees** column, click the employee number link to display specific data on the employees included in the path:

The screenshot shows a dark header bar with the text "Employee List (1)". Below it is a light-colored panel with a dropdown menu labeled "Report Filters".

Selected Path ID: 2

The screenshot shows a table titled "Applications in the selected Path". The table has three columns: "Employee Name", "Duration in Seconds", and "SD for Employee". There is one row with data: "Jack Bell" in the first column, "3,600" in the second column, and an empty cell in the third column.

Employee Name	Duration in Seconds	SD for Employee
Jack Bell	3,600	

The information in this drill-down screen includes the employee name, duration in seconds and Standard Deviation (SD).

NOTE: If there is more than one instance of a specific path, the report will show the **Standard Deviation per Employee (SD)**, otherwise this column will remain empty.

2. To view the applications that are included in this path for the selected employees, click the **Applications in the Selected Path** dropdown:

Employee List (1)

Report Filters

Selected Path ID: 2

Applications in the selected Path

Measure Value (mean): 3,600 Measure Range: 3,600 - 3,600 SD:

Employee Name	Duration in Seconds	SD for Employee
Jack Bell	3,600	

Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

New Process 1

Based on: 13 Process instances				
Path ID	Commonality	Duration in Seconds (Average)	Number of Employees	Path Data
1	30.77%	52	3	→ 32.97 Sec → 10.74 Sec
2	23.08%	25	2	15.74 Sec
3	15.38%	44	2	→ 20.28 Sec → 19.26 Sec
4	15.38%	42	2	39.05 Sec
5	7.69%	76	1	→ →

The filters are displayed according to the selection you made:

- **Date Range:**
 - If you selected **Custom** in the definition stage, the data range will appear as either two dates separated by a hyphen, or one date (if you only specified a single day).
 - If you selected the **Standard** date option, your selection (for example, Yesterday) will appear in the range.
- See [Step 1: Selecting a Time Period](#) on page 190 for details
- **Process Selection:** Displays the process you selected.
- **Queue Tag:** Displays the queue tags you selected.
- **Sort By:** Displays the sorting option you selected.
- **Sort Order:** Displays the sorting order you selected (ascending or descending).
- **Data Hub:** If there are multiple Data Hubs in your system, the Data Hub you selected in the definition stage will appear here (see [Step 2: Selecting a Data Hub](#) on page 190).
- **Group Selection:** Displays the groups you selected in the Employee Selection filter (see [Step 3: Selecting Groups and Employees](#) on page 191).

- **Employees:** Displays the employees you specified in the Employee Selection filter (see [Step 3: Selecting Groups and Employees](#) on page 191).
- **Path Selection Filters:**
 - **Top Selection:** Displays the selection you made regarding path selection range - top, bottom, or range of results.
 - **Top Percentage:** Displays the selection you made in the percentage field.
 - **Include/Exclude:** Displays your selection regarding the path exclusion/inclusion.
 - **Apps to Include/Exclude:** Displays the applications you chose to include or exclude.

Refining the Report

Clicking the **Run Report**  in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

Application Usage In Process Report

The **Application Usage In Process** report analyzes the usage of applications and web pages when working on a given process. Using this report, you can view the total and average time spent by groups or by employees in using selected applications and web pages while working on a process.

NOTE: The report displays specific information for the **most used applications** only. The number of applications reported is defined in the report filters. All other applications are reported as an aggregate amount in a category called **Others**.

The report displays specific information for applications and web pages that are mapped into **display names**. Unmapped applications are aggregated to the **Application Without Display code**.

Next:

- [Application Usage In Process Report - Business Impact](#) on the next page
- [Application Usage in Process Report - Defining and Running](#) on page 237
- [Analyzing the Application Usage In Process Report](#) on page 240

Application Usage In Process Report - Business Impact

The **Application Usage In Process** report is used for analyzing group or employee usage of applications and web sites when working on a given process. The report compares the amount of time spent on the **most used applications**, and then shows the **percentage of time** for all of the groups and employees that were selected in the report filters as well as the **average time per use**.

Percentage of Time

The total time provides insight on the most used applications. Knowing this information enables, on the one hand, to determine the **important applications** and to then focus on and prioritize these applications when considering improvements and enhancements.

On the other hand, knowing which applications have **low usage** also provides important information into potential investigation of these applications, to check whether these applications:

- Are either difficult to use (or not intuitive), and require improvement
- Do not provide value so that future investment in them should be discontinued
- There is a lack of awareness in the organization regarding these applications and their value

Average Time Per Use

The **Average time per use** parameter provides insight on the average time spent on an application or web page **per visit**. A short time may serve as an indication for a very efficient application while a long time may provide an indication of a required investigation or improvement (for example, to check whether the process is too complicated, offers low performance, or provides a poor user experience).

Organizational Hierarchy

The **organizational hierarchy** allows you to further drill down to view **results per group**. The percentage of usage per group is displayed. Click a group to display results for that group. This is located on the left side of the screen and can be hidden or displayed.

Application Usage in Process Report - Defining and Running

► To run the Application Usage in Process report:

1. In the Cognos NICE Analyst Workspace page click Desktop Process Analytics Reports and then select Application Usage in Process.

The screenshot shows the configuration interface for the Application Usage in Process report. It consists of several sections:

- Time Period:** A section with a radio button for "Standard" (selected) and "Custom", a question mark icon, and a date input field showing "Yesterday" and "2015-05-06".
- Employee Selection:** A section with a dropdown menu labeled "--Select--".
- Hierarchy Presentation:** A section with a dropdown menu labeled "Group".
- Process Selection:** A section with a dropdown menu labeled "--Select--", which is highlighted with a red dashed border.

2. Define the standard (mandatory) filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.

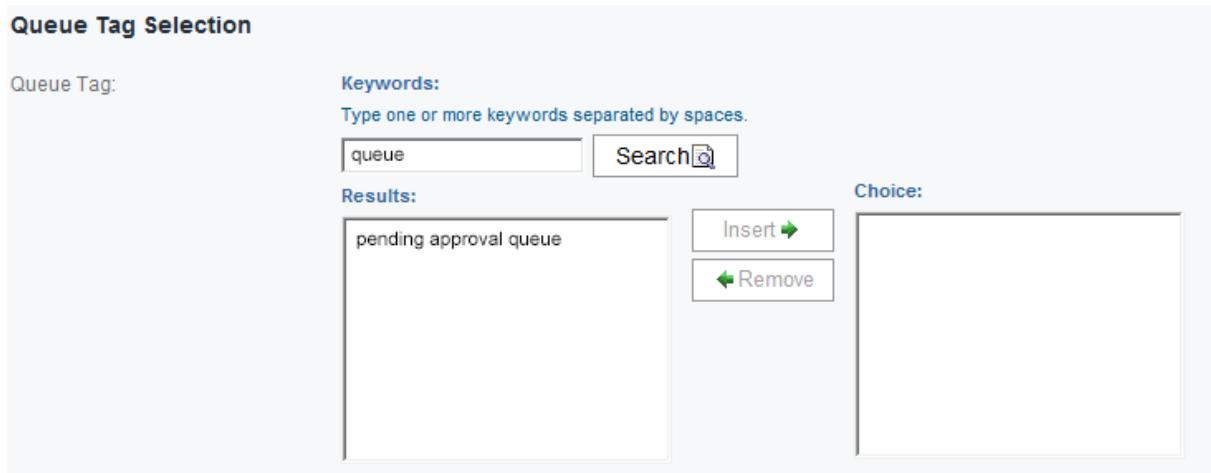
3. Next, in the **Process Selection** field, click the field and from the dropdown list, select which process to run in the report comparison (this step is **mandatory**).
4. **Optional:** Scroll down to the **Queue Tag Selection** field.

Queue Tag Selection

Queue Tag: **Keywords:** Type one or more keywords separated by spaces.

Results: pending approval queue

Choice:



5. Type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard.
6. Click the **Insert** button to transfer the results from **Results** pane to the **Choice** pane.
 - Use the **Keywords** field and **Search** button to search for specific queue tags.
 - Use % as a wildcard in the Queue Tag Selection section to display all results.
7. Next, select in the **Application Selection** section, select which applications should be included in the report.

Application Selection

Select an Application:

The screenshot shows a list of applications for selection. The applications listed are Notepad, MS Outlook, CRM Application, and www.cnn.com. Each application has a small icon and a checkbox next to it. A vertical scroll bar is located on the right side of the list area. At the bottom right of the list area, there is a link labeled "Clear all".

NOTE: If the application you select has been removed from the Real-Time Designer (and is, therefore, out-of-date), the application name will also display the date when it became outdated.



8. In the **Application Display** section, enter the number of top applications to display. The default number of top applications is 5.

Application Display

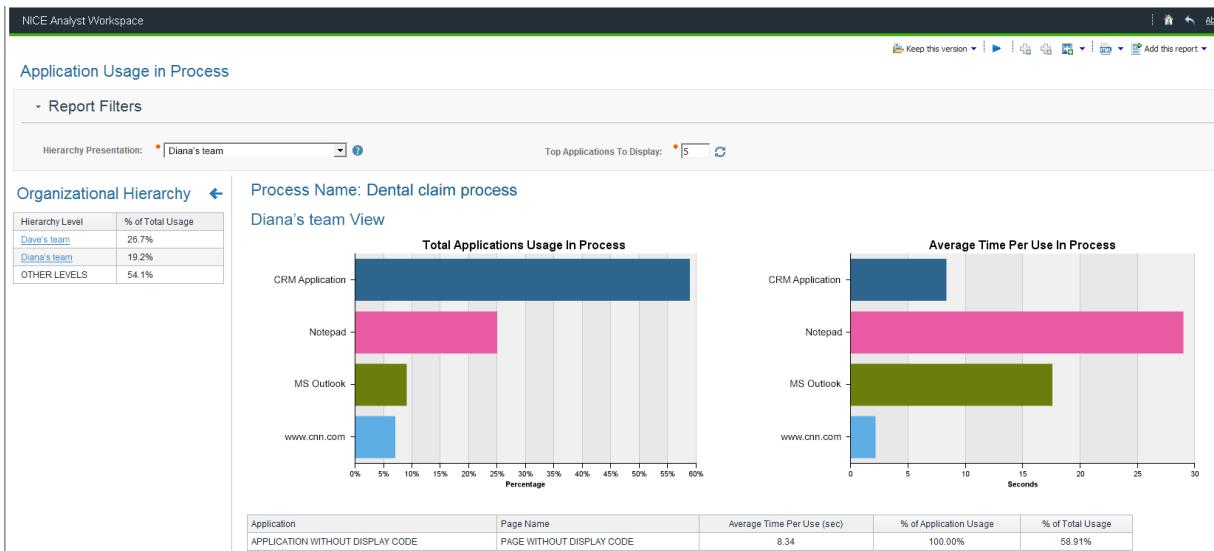
Select the top: * applications to display

Run Report **Cancel**

9. When you have completed the report filters and parameters, click **Run Report**.
10. Continue with analyzing the report. See [Analyzing the Application Usage In Process Report](#) on the next page.

Analyzing the Application Usage In Process Report

The Application Usage In Process report results shows the relative usage of applications and web pages when working on a given process.



NOTE: An application whose mapping is out-of-date will be displayed with a light-gray bar. When defining and running the report, these applications are denoted with the date when they became outdated.



Updating the Hierarchy Presentation

To change the level of the hierarchies displayed in the report result, from the **Hierarchy Presentation** dropdown, select a different level.

The report will be updated according to your selection.

Updating the Top Number of Applications to Display

In the **Top Applications To Display:** [x] field, enter the number of top applications you wish to display in the report and then click the refresh button to update the page results.

Refining the Report

Clicking the **Run Report** in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

The information in the Average Application Usage report is displayed in the following sections:

- [Average Time Per Use in Process Bar Graph](#) on page 244
- [Application Usage In Process Summary Table](#) on page 247
- [Application Usage Report Organizational Hierarchy](#) on page 206

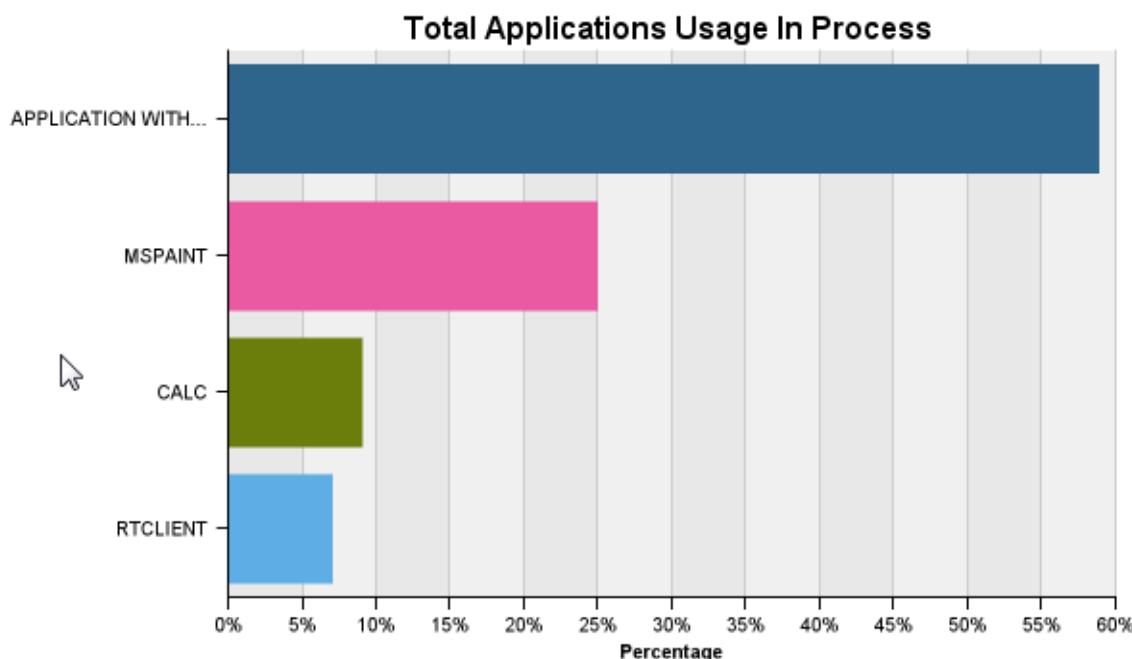
Total Application Usage In Process Bar Graph

This report analyzes the applications employees used the most in each process. The percentage of time for each group, team, or employee spends in each of these states is presented.

This graph is located at the middle of the screen as shown below.

Process Name: New Process 1

TeamLevel2 View



NOTE: An application whose mapping is out-of-date will be displayed with a light-gray bar. When defining and running the report, these applications are denoted with the date when they became outdated.



- **Top x used applications:** The most used applications are each represented by a bar on the graph. Each bar displays the total time that the application was used by all of the groups, teams, or employees selected in the filter.
The applications are listed from top to bottom with the most used application on top. The number of applications displayed is determined during the definition stage (see [Application Usage In Process Report - Defining and Running](#) on page 237).

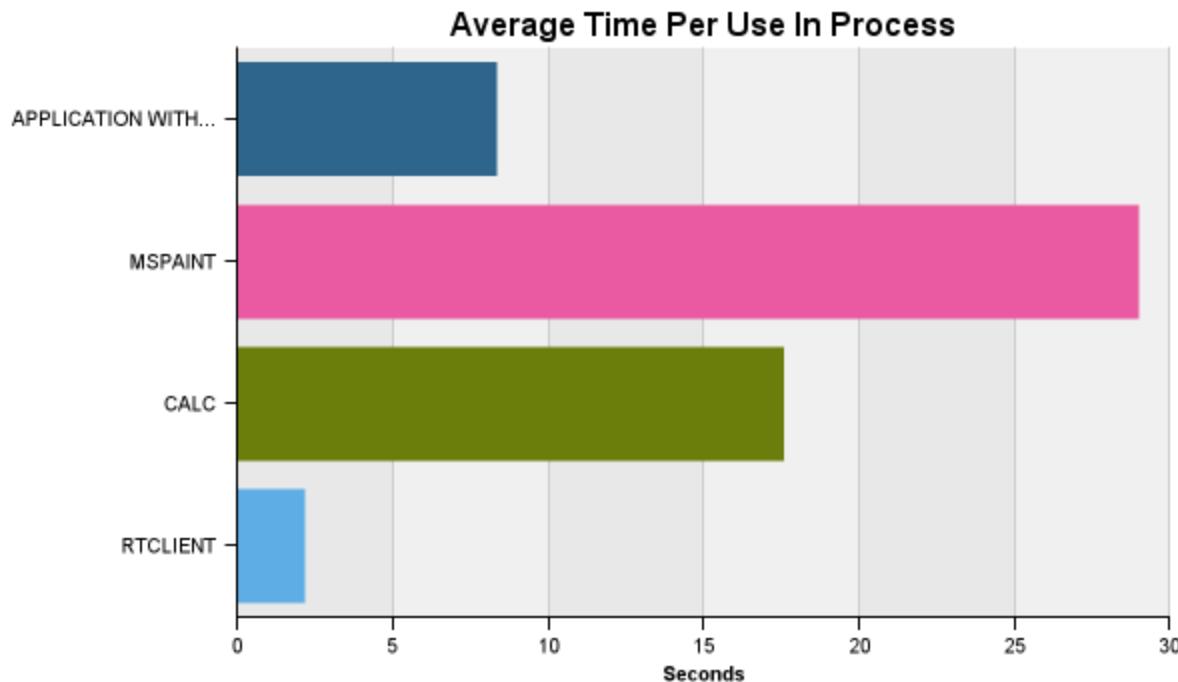
- **Amount of time used:** The percentage of time that the selected groups, teams, or employees use each application. This is displayed along the X-axis at the bottom of the graph.

Hover information: Hovering the mouse over the bars displays:

- The name of the application represented by the bar where the mouse is hovering.
- The percentage of time the application was used by all of the selected groups, teams, or employees.
- The rank of the application according to percentage of time used.

Average Time Per Use in Process Bar Graph

This graph shows the average time applications are used for a single process. The data shows an aggregate average for all of the groups, teams, or employees included in the report. Each report page represents a process.



This graph shows the following:

- **Application.** Each bar on the graph represents an application used by a group or team member.
- **Duration:** The average amount of time (in seconds) that the selected groups, teams, or employees used each application during the process.

NOTE: Average time = Total time in the application divided by the number of instances this application was made active.

The colored sections represent the applications included in the report. This is displayed along the X-Axis at the bottom of the graph.

Hover information: Hovering the mouse over a colored section of the graph displays:

- The name of the application represented by the color where the mouse is hovering.
- The average time the application, represented by the color where the mouse is hovering, was used in the process.

Use the **Top Applications To Display** field at the top of the report to update the number of top applications you wish to display in the report.

Application Usage In Process Organizational Hierarchy

This selection controls the report resolution in terms of hierarchy. Set the table resolution to the selected hierarchy level:

- **Group:** Displays the average data for predefined groups. Groups are the highest level in the hierarchy.
- **Team:** Displays the average data for predefined teams (there can be a number of team levels).The data displayed is the average data for each team.
- **Employee:** Displays the data for each individual employee.

The report results show the percentage of total usage for this application per process for each level.

Organizational Hierarchy

Hierarchy Level	% of Total Usage
Dave's team	100.0%

Application Usage In Process Summary Table

The summary table presents the statistics in table form. This table is located at the bottom of the report as shown below.

Application	Page Name	Average Time Per Use (sec)	% of Application Usage	% of Total Usage
www.cnn.com	News page	1.00	3.96%	0.33%
	Finance page	8.11	96.04%	8.07%
www.cnn.com - Summary		6.34	100.00%	8.41%
MS Outlook	New Email	11.81	85.36%	11.76%
	Others	2.03	14.64%	2.02%
MS Outlook - Summary		6.92	100.00%	13.77%
CRM Application	Customer Details	4.73	35.04%	4.71%
	Billing Information 1	9.12	22.51%	3.03%
	Billing Information 2	5.08	37.61%	5.05%
	Others	0.00	4.04%	0.66%

The following describes the information that appears in the Average Application Usage summary table.

Column	Description
Application	Displays the applications selected for this report.
Page Name	Displays the page name of the application.
Data Columns	<p>Includes the following information:</p> <ul style="list-style-type: none"> ■ Average Time Per Use in seconds for each application ■ Percentage of Application Usage for each application - this is the percentage of the page usage for this application (so the subtotal for the application is always 100%) ■ Percentage of Total Usage for each application - the usage percentage of the application or page out of the total search results

Process Duration Analysis Report

The **Process Duration Analysis** report compares the average time it takes for groups/employees to complete processes. This report analyzes processes handled by groups/employees, shows the average process duration for each process type, and performs comparisons between different groups/employees.

The analysis of process inefficiencies that require further investigation is done using the Process Utilization report (see [Process Utilization Report](#) on page 258).

Next:

- [Process Duration Analysis Report - Business Impact](#) on the facing page
- [Process Duration Analysis Report - Defining and Running](#) on page 250
- [Analyzing the Process Duration Analysis Report](#) on page 253

Process Duration Analysis Report - Business Impact

The Process Duration Analysis report compares the average process duration across multiple groups. This report analyzes process duration by enabling the comparison between groups or employees and for process types.

A process duration comparison between groups/employees enables the comparison of groups/employees against an expected standard and to detect deviations (either positive or negative).

Using this report, it is possible to detect groups/employees who execute processes relatively slowly, and may require additional training to be more efficient in the execution of the process.

The report also enables to detect groups that perform processes **faster**, and this information can then be used as a means of improving the functionality of other groups/employees.

Process Duration Analysis Report - Defining and Running

➡ To run the Process Duration Analysis report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Process Analytics Reports** and then select **Process Duration Analysis**.

Process Duration Analysis

Time Period

* Standard Custom [?](#)

Dates: * [▼](#)

Time Unit: * [▼](#)

Employee Selection

Select a Data Hub: * [▼](#)

Hierarchy Presentation

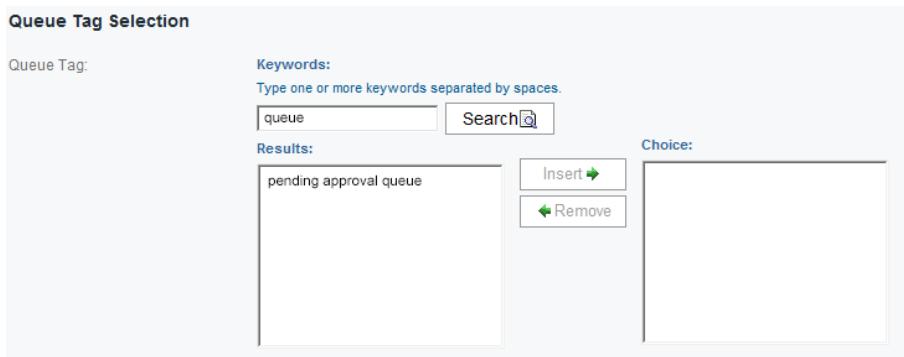
Display report results by: * [▼](#) [?](#)

Process Selection

Select a Process: * [▼](#)

2. Define the standard (mandatory) filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.
3. Define the **Time Unit** in which to display the results: seconds, minutes, or hours.

4. Next, in the **Process Selection** section, select a process for comparison.
5. **Optional:** Scroll down to the **Queue Tag Selection** field
6. Type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard.
7. Click the **Insert** button to transfer the results from **Results** pane to the **Choice** pane.
 - Use the **Keywords** field and **Search** button to search for specific queue tags.
 - Use % as a wildcard in the Queue Tag Selection section to display all results.

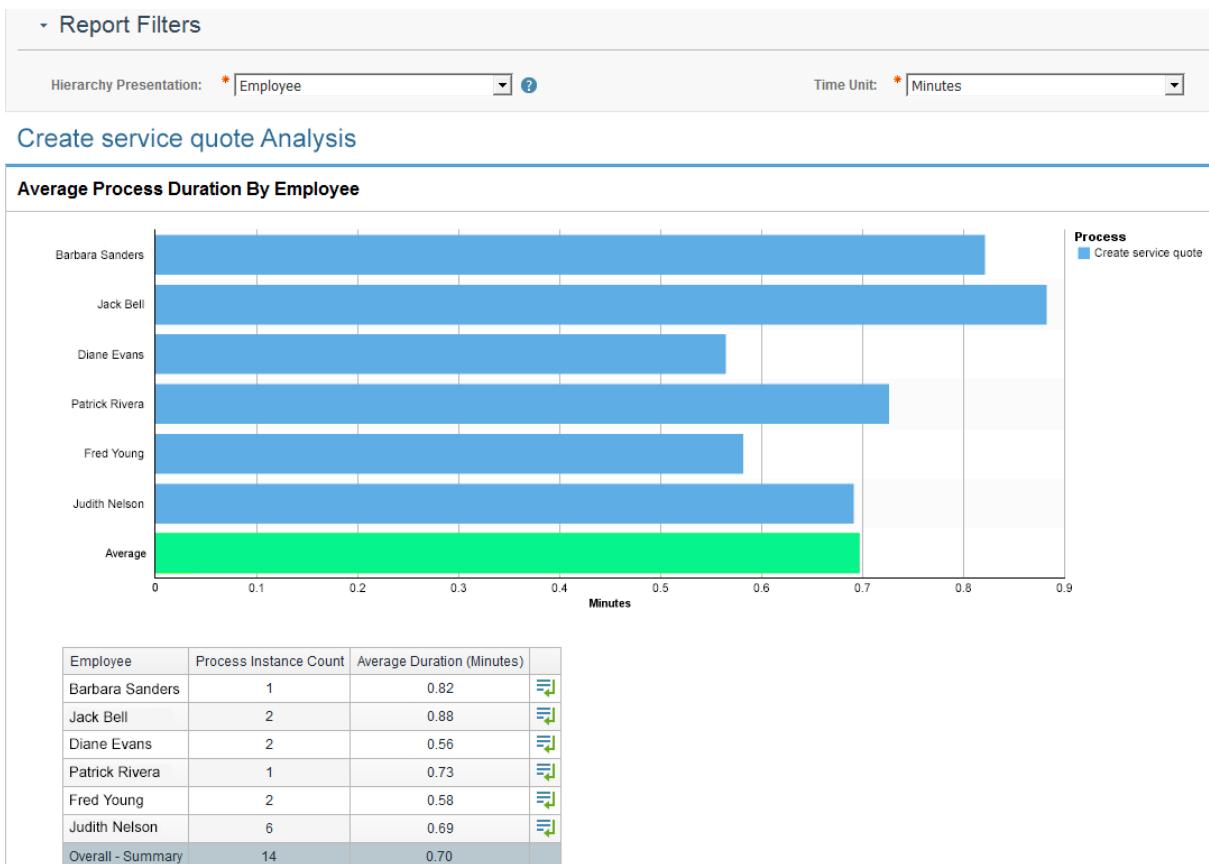


8. When you have completed the report filters and parameters, click **Run Report**.

Next: [Analyzing the Process Duration Analysis Report](#) on the facing page.

Analyzing the Process Duration Analysis Report

The Process Duration Analysis report compares the average process duration across multiple groups. This report analyzes process duration by enabling the comparison between groups or employees and for process types.



Results

The report result displays the **Average Process Duration by Employee (or Group)**. The employees or groups that are being compared appear along the Y-axis and the time duration appears along the X-axis.

In addition, results are displayed in a summary table:

Employee	Process Instance Count	Average Duration (Seconds)	
GL11 E-GLUE	1	49.27	
GL12 E-GLUE	2	52.91	
GL13 E-GLUE	2	33.88	
GL14 E-GLUE	1	43.57	
GL8 E-GLUE	2	34.89	
GL9 E-GLUE	6	41.47	
Overall - Summary	14	41.79	

The process instance and average duration is listed per employee or group

Updating the Hierarchy Presentation

To change the level of the hierarchies displayed in the report result, from the **Hierarchy Presentation** dropdown, select a different level.

The report will be updated according to your selection.

Changing the Report Time Unit

To change the report time unit (seconds, minutes or hours), from the **Time Unit** dropdown, select a different time unit.

The report will be updated according to your selection.

Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

Create service quote Analysis Report

▲ Report Filters

Date Range:	21 May 2013 - 21 May 2015	Group Selection:	All
Time Unit:	Minutes	Employees:	All
Queue Tag:	All	Processes Selection:	Create service quote

The filters are displayed according to the selection you made (see [Step 1: Selecting a Time Period](#) on page 190):

■ **Date Range:**

- If you selected **Custom** in the definition stage, the data range will appear as either two dates separated by a hyphen, or one date (if you only specified a single day).

- If you selected the **Standard** date option, your selection (for example, Yesterday) will appear in the range.
- **Time Unit:** The time unit in which the results are displayed.
- **Queue Tag:** The queue tags you selected will be displayed
- **Group Selection:** The groups you selected in the Employee Selection filter (see [Step 3: Selecting Groups and Employees](#) on page 191).
- **Employees:** The employees you specified in the Employee Selection filter (see [Step 3: Selecting Groups and Employees](#) on page 191).
- **Process Selection:** The process for comparison that you specified in the Process Selection filter (see [Step 4 in Process Duration Analysis Report - Defining and Running](#) on page 250 for details).

Refining the Report

Clicking the **Run Report** ► in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

Running the Application Usage in Process Report

You can run the Application Usage in Process report directly from this report without reverting back to NICE Analyst Workspace. The report filters for the Process Duration Analysis report are inherited to create the Application Usage in Process report. For example, the same date range, specific process, and the selected group hierarchy. The new report is opened in a new window in addition to the current report. The default number of top applications displayed in the Application Usage in Process Report that is opened here is 100.

► To open the Application Usage in Process Report:

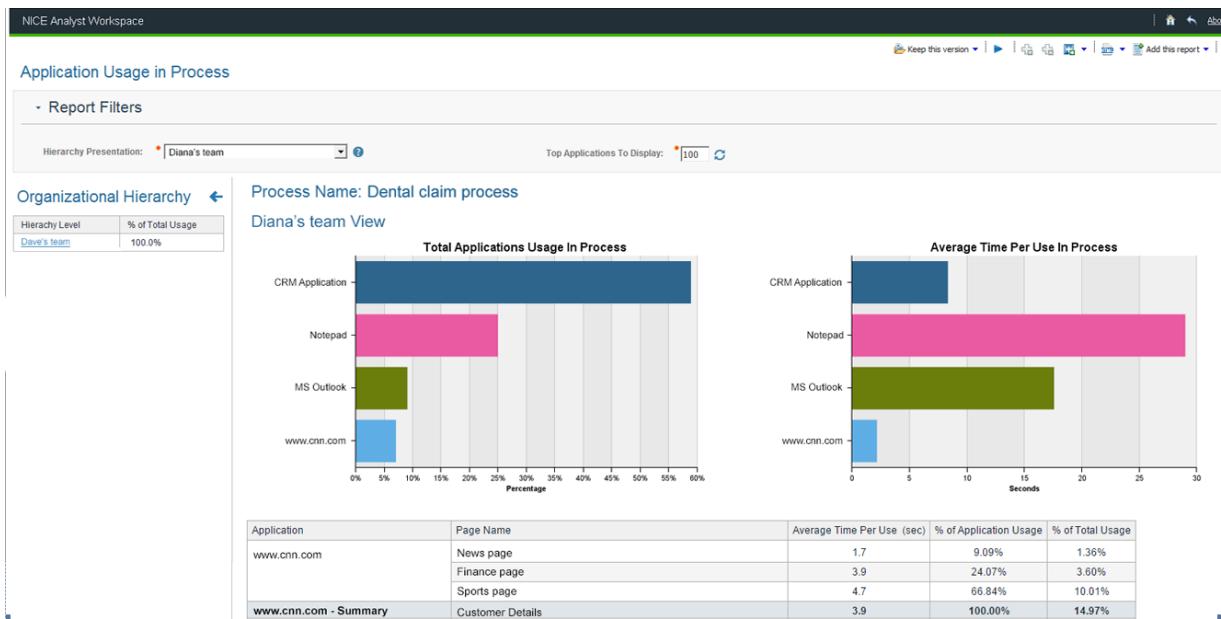
1. In the Process Duration Analysis Report Summary Table, select the group hierarchy for which you want to run the Application Usage in Process Report.

Employee	Process Instance Count	Average Duration (Minutes)	
GL11 E-GLUE	1	0.82	
GL12 E-GLUE	2	0.88	Go to the Application Usage in Process report
GL13 E-GLUE	2	0.56	
GL14 E-GLUE	1	0.73	
GL8 E-GLUE	2	0.58	
GL9 E-GLUE	6	0.69	
Overall - Summary	14	0.70	

2. Click the .

The Application Usage in Process Report opens.

Running the Application Usage in Process Report



Process Utilization Report

The **Process Utilization** report analyzes processes and provides insight into how much time out of the total process time was utilized for actual work. The report enables comparing between processes by presenting for each process the percentage of the process time that was spent on the different process states:

- **Net time:** The actual work on the process
- **Hold time:** The process was on hold while the employee was engaged in another activity
- **Idle time:** The employee was not active while working on the process
- **Lock time:** The employee's desktop was locked while working on the process

Next:

- [Process Utilization Report - Business Impact](#) on the facing page
- [Process Utilization - Defining and Running](#) on page 260
- [Analyzing the Process Utilization Report](#) on page 263

Process Utilization Report - Business Impact

The report is based on a comparison and analysis of processes, which enables the user to understand which processes are more utilized (high net time) and which processes are less utilized (low net time). This report also enables you to compare how different groups utilize a specific process.

The Process Utilization Report enables you to determine two important factors:

- The utilization of a process compared to other processes
- The utilization of a groups using the same process

There are four available states for each process:

- **Net Time:** The net time during which users are using the process
- **Hold Time:** The time during which users place the process on hold, for example, a process may be put on hold in order to allow the user to obtain additional information
- **Idle Time:** This is the time during which the user is not using the process at all
- **Lock Time:** This is the time when the user places their computer on lock

The main objective for each process is to maximize the **net** time and minimize other states, since this means that the employee is actually working on the process, and to ensure that the other statuses - such as Hold and Idle - are minimized to avoid the employee from switching out of the process.

Processes with lower net percentage are indications of processes that should, potentially, be investigated to understand the root cause for why employees are spending time in other states of the process.

Process Utilization - Defining and Running

To run the Process Utilization report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Process Analytics Reports** and then select **Process Utilization**.

The screenshot shows the 'Process Utilization' configuration page. It includes sections for Time Period, Employee Selection, and Process Selection.

Time Period: Standard (radio button selected), Dates: Yesterday (dropdown menu showing 2015-05-19).

Employee Selection: Select a Filter Option: All Groups / Employees (radio button selected).

Process Selection:

- Select a Comparison Option: Multiple Processes (Process Comparison) (radio button selected), Single Process (Groups Comparison) (radio button unselected).
- Select a Process: A list of processes with checkboxes:
 - Dental claim process
 - Address change process
 - Create service quote
 - Apply discount

At the bottom right of the process selection area are links: [Select all](#) and [Clear all](#).

2. Define the standard (mandatory) filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.

3. Next, in the **Process Selection** section, select the type of comparison you wish to create:
 - A comparison between processes (**Multiple Processes**), or
 - A comparison of groups within a single process (**Single Process**)
4. If you select **Multiple Processes**, continue with [Step 5](#) below; otherwise, continue to [Step 6](#).
5. The **Select a Process** field becomes populated with the available processes. In this field, select the checkboxes of two or more processes or click **Select all** to select all available processes.

Process Selection

Select a Comparison * Multiple Processes (Process Comparison) Single Process (Groups Comparison)

Select a Comparison Option:

Select a Process: * Dental claim process Address change process

[Select all](#) [Clear all](#)

If you select Single Process, the **Select a Process** dropdown list becomes enabled.

6. Click the field and select which process to run in the report.

Process Selection

Select a Comparison Option: * Multiple Processes (Process Comparison) Single Process (Groups Comparison)

Select a Process: * --Select--

--Select--

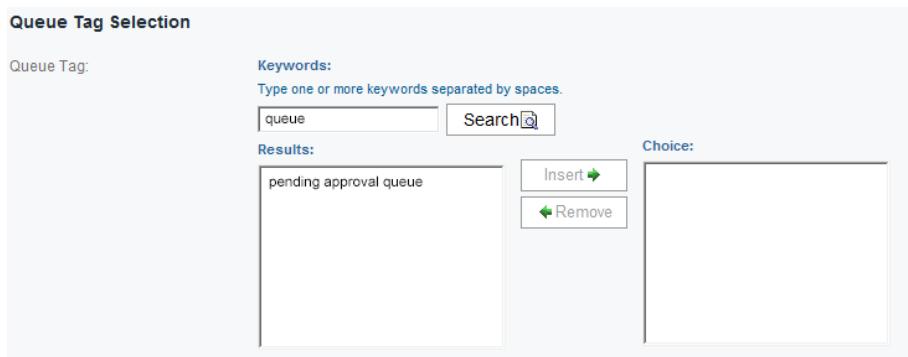
Dental claim process
Address change process

7. Additionally, selecting a single process also displays the **Hierarchy Presentation** field, which you will need to specify for a single process report (see [Step 4: Specifying the Hierarchy Presentation](#) on page 192 for details).

Hierarchy Presentation

Display report results by: * Group

8. **Optional:** Scroll down to the **Queue Tag Selection** field.



9. Type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard.
10. Click the **Insert** button to transfer the results from **Results** pane to the **Choice** pane.
 - Use the **Keywords** field and **Search** button to search for specific queue tags.
 - Use **%** as a wildcard in the Queue Tag Selection section to display all results.
11. When you have completed the report filters and parameters, click **Run Report**.
12. Continue with analyzing the report. See [Analyzing the Process Utilization Report](#) on the facing page

Analyzing the Process Utilization Report

The Process Utilization Report results enable you to compare and see which processes have the maximum efficiency of use - the maximum **net time** during which a process is in use. Similarly, the group or level comparison option is designed to let you see how groups compare in their use of a single process, in order to obtain information about efficiency between groups.

The results in this report depend on the selection you made in the definition stage. This means that the report results display the percentages of the process states by comparing the processes themselves or the group states for a single process.

Therefore, this report creates two reports that enable you to track process utilization:

- [Process Utilization - Analyzing the Multiple Processes Report](#) on page 265
- [Process Utilization - Analyzing the Single Process/Multiple Group Report](#) on page 269

Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

[Apply discount Utilization Report](#)

- Report Filters

Date Range:	Month to date	2015-05-01 - 2015-05-20	Group Selection:	Dave's team
Queue Tag:	All		Employees:	All
			Processes Selection:	Dental claim process, Address chang...

The filters are displayed according to the selection you made:

- **Date Range:**
 - If you selected **Custom** in the definition stage, the data range will appear as either two dates separated by a hyphen, or one date (if you only specified a single day).
 - If you selected the **Standard** date option, your selection (for example, Yesterday) will appear in the range.
- See [Step 1: Selecting a Time Period](#) on page 190 for details.
- **Queue Tag:** Displays the queue tags you selected.
- **Data Hub:** If there are multiple Data Hubs in your system, the Data Hub you selected in the definition stage will appear here (see [Step 2: Selecting a Data Hub](#) on page 190).
- **Group Selection:** Displays the groups you selected in the Employee Selection filter (see [Step 3: Selecting Groups and Employees](#) on page 191).
- **Employees:** Displays the employees you specified in the Employee Selection filter (see [Step 3: Selecting Groups and Employees](#) on page 191).

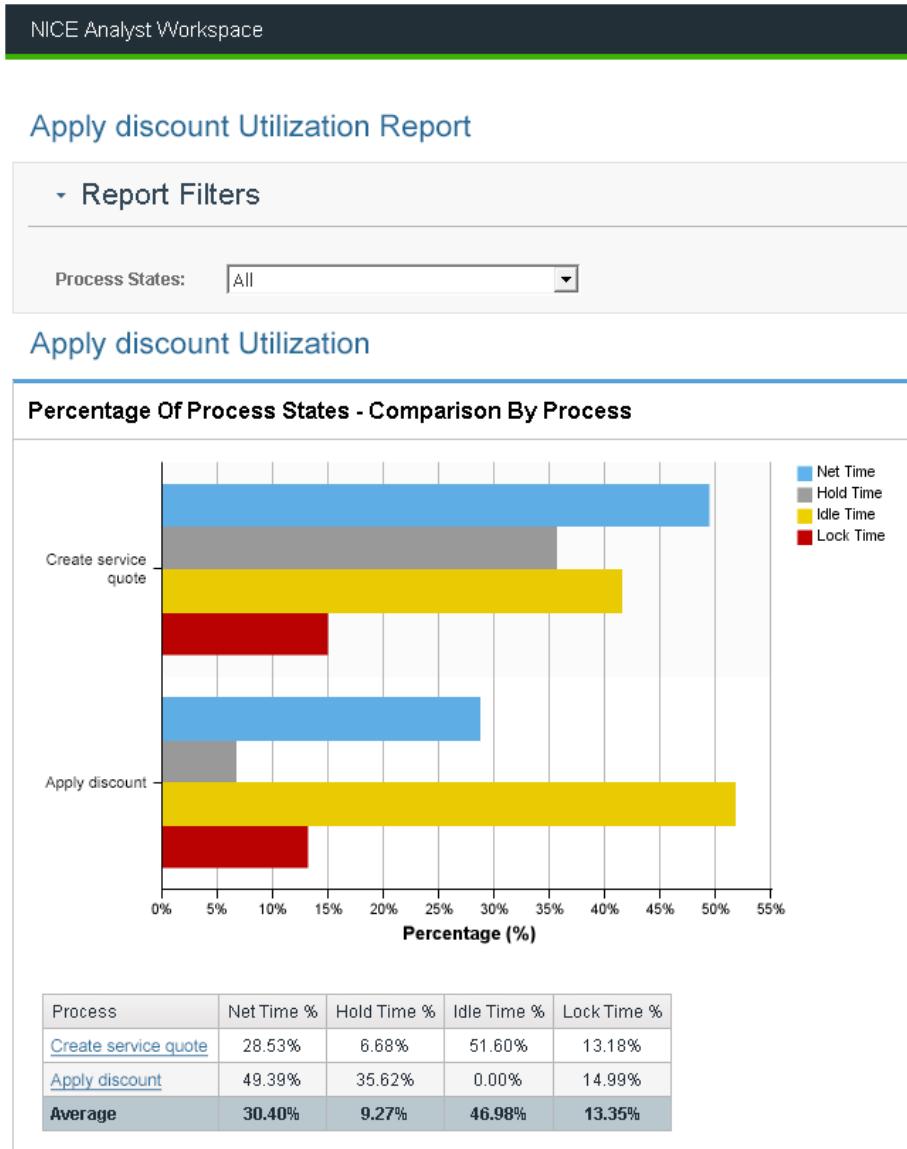
- **Process Selection:** Displays the process you selected in [Step 5 in Process Utilization - Defining and Running](#) on page 260.

Refining the Report

Clicking the **Run Report**  in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

Process Utilization - Analyzing the Multiple Processes Report

If you select **Multiple Processes**, the report result will display the **Percentage of Process States - Comparison by Process** results:



- The report shows the **percentage of each state** (Idle Time, Net Time, Hold Time, and Lock Time).
- The **available states** are displayed in the legend to the **right** of the results.
- At the bottom of the results, you will see a table that shows the percentage for each state for each process.

➡ To change the report and get additional information:

1. To view the results for a **specific state**, from the **Process States** dropdown list at the top of the



The report displays the percentages for the selected state.

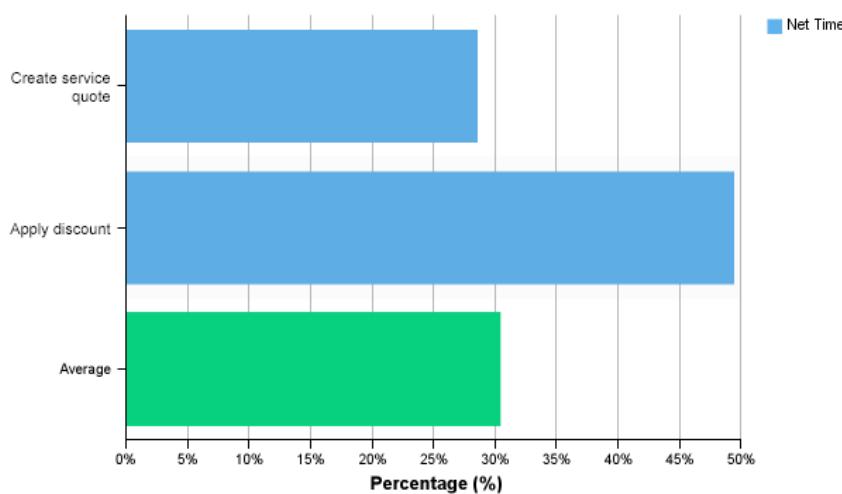
Apply discount Utilization Report

Report Filters

Process States: Net

Apply discount Utilization

Percentage Of Process States - Comparison By Process

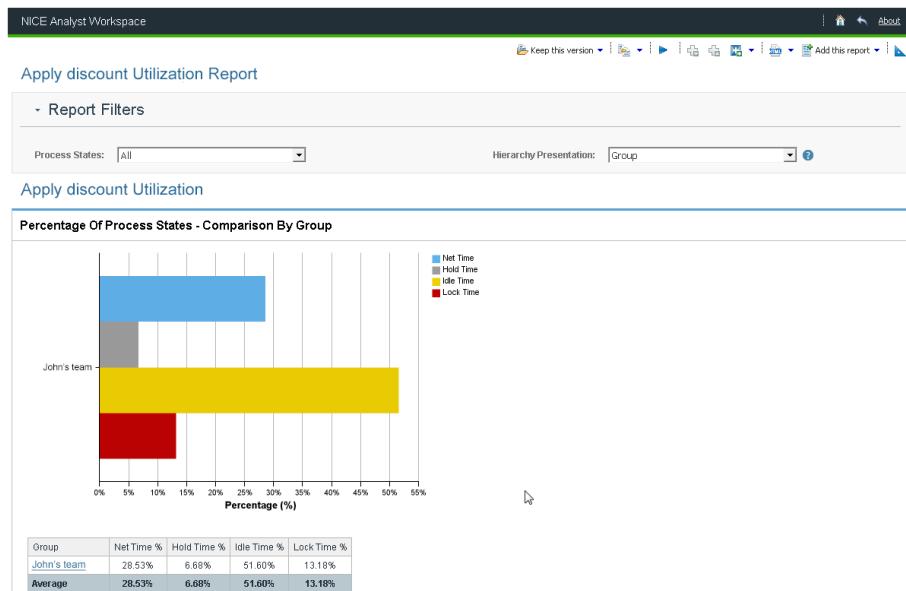


Process	Net Time %
Create service quote	28.53%
Apply discount	49.39%
Average	30.40%

2. To drill down into a **process**, click the process link for the process you wish to display.

Process	Net Time %	Hold Time %	Idle Time %	Lock Time %
Create service...	87.10%	12.90%	0.00%	0.00%
Apply discount	85.29%	14.71%	0.00%	0.00%
Average	86.85%	13.15%	0.00%	0.00%

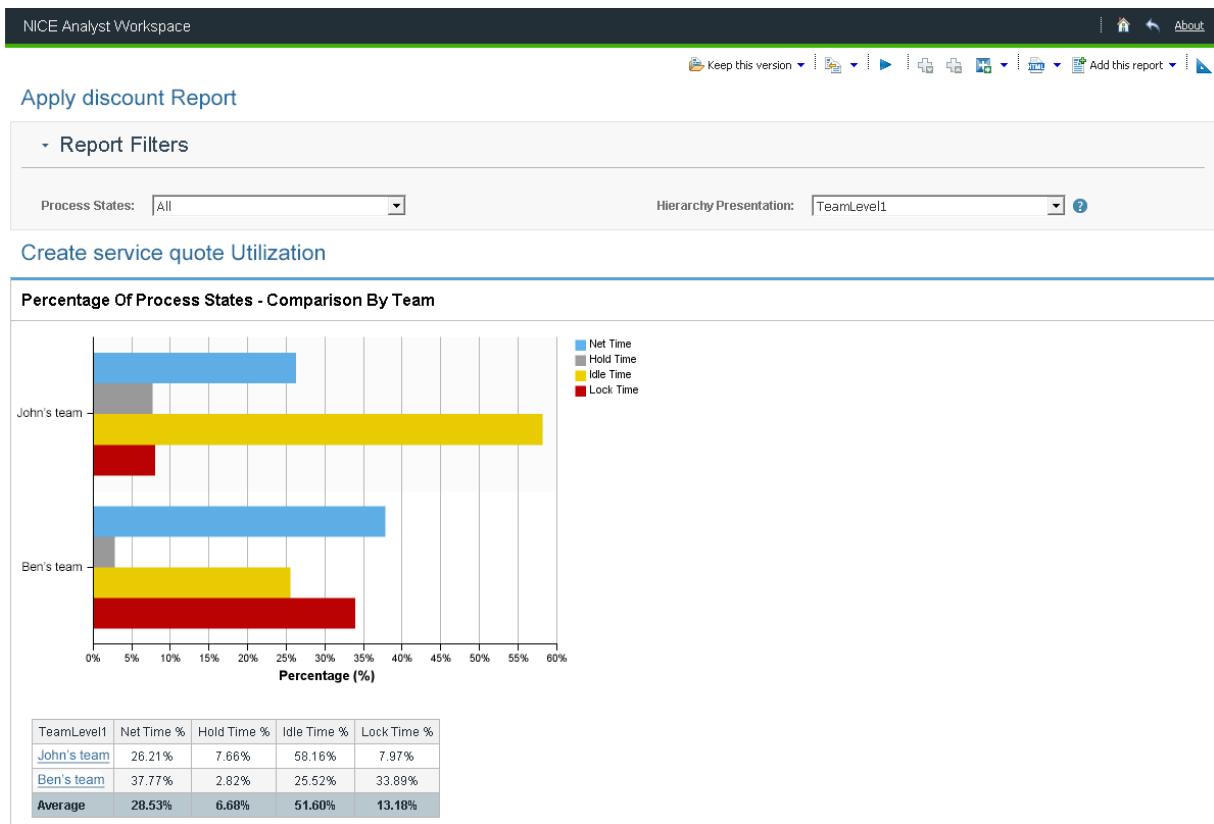
The report displays all available process states, **compared by group**:



Selecting a specific process provides two additional functions to this report, which are part of the **Single Process/Multiple Group Report** (see [Process Utilization - Analyzing the Single Process/Multiple Group Report](#) on page 269):

- Enables an additional filter, the **Hierarchy Presentation** filter.
 - Displays a table that shows the percentage for each group for each state.
3. To change the hierarchy presentation for this report, click the **Hierarchy Presentation** drop-down and select a different hierarchy level.
 4. To change the group, click a different group name in the **Group** table.

Analyzing the Process Utilization Report



Process Utilization - Analyzing the Single Process/Multiple Group Report

If you select a **Single Process**, the report result will display the **Percentage of Process States - Comparison by [Group Name]** results:

Apply discount Utilization Report

Report Filters

Process States: All Hierarchy Presentation: John's team

Create service quote Utilization

Percentage Of Process States - Comparison By John's team

TeamLevel1	Net Time %	Hold Time %	Idle Time %	Lock Time %
John's team	87.10%	12.90%	0.00%	0.00%
Average	87.10%	12.90%	0.00%	0.00%

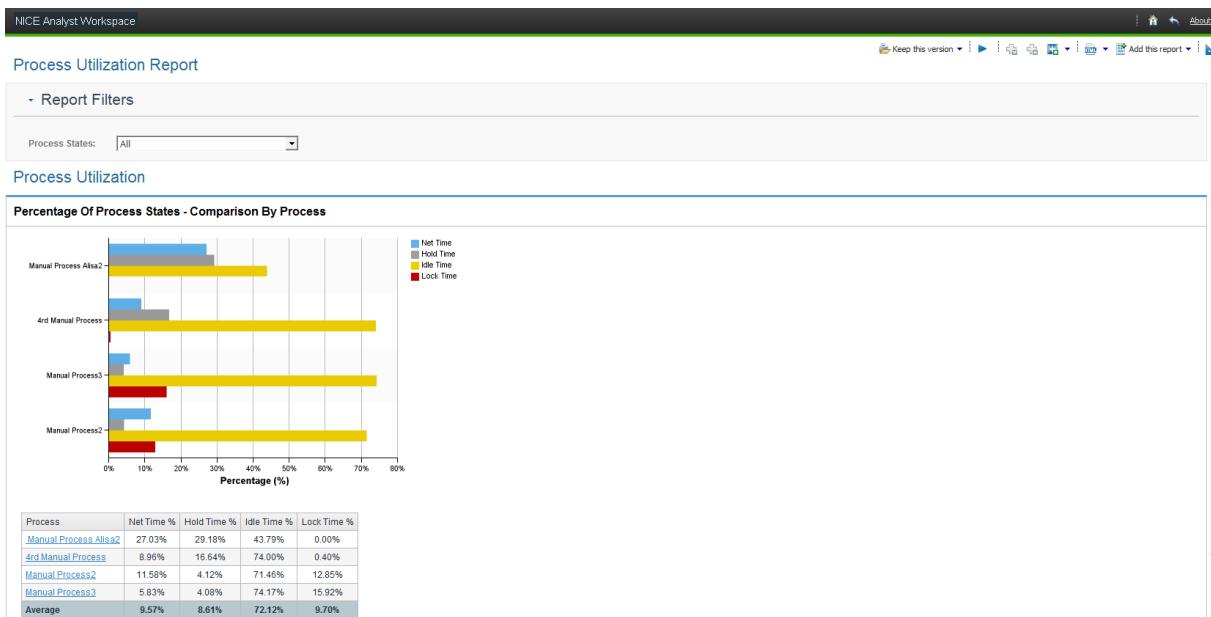
- The report shows the **percentage of each state** (Idle Time, Net Time, Hold Time, and Lock Time) for each group.
- At the bottom of the results you will see a table that shows the **average for each state for each group**.

➡ To change the report and get additional information:

- To view the details for a **specific state**, from the **Process States** dropdown list at the top of the report, select a state.

The report displays the percentages for the selected state.

Analyzing the Process Utilization Report



NOTE: When you select a single state, the report also shows the **average for the search population within the defined filters**. However, this average is not displayed when you select all states.

2. To change the level by which you are comparing the process results, click the **Hierarchy Presentation** drop-down and select a different hierarchy level.
3. To drill down into a **group**, click the group link in the table.

Apply discount Utilization Report

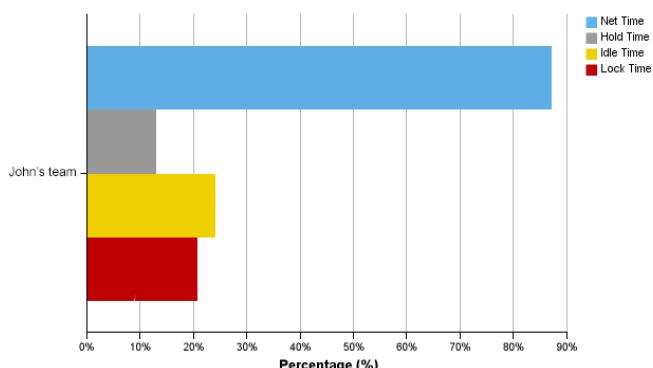
Report Filters

Process States: All

Hierarchy Presentation: John's team

Create service quote Utilization

Percentage Of Process States - Comparison By John's team



The report displays all available process states, **compared by group**.

Drilling down further info a group will also enable you to display the result at the employee level:

Apply discount Utilization Report

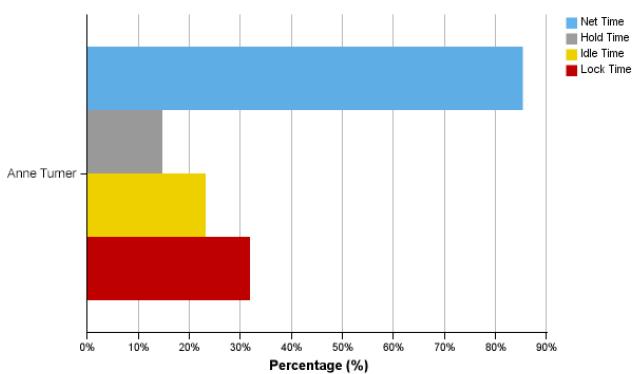
Report Filters

Process States: All

Hierarchy Presentation: Anne Turner

Create service quote Utilization

Percentage Of Process States - Comparison By Anne Turner



Employee	Net Time %	Hold Time %	Idle Time %	Lock Time %
John's team	85.29%	14.71%	0.00%	0.00%
Average	85.29%	14.71%	0.00%	0.00%

Total Work Item Handling Duration Report

Total Work Item Handling Duration Report - Business Impact	274
Total Work Item Handling Duration Report - Defining and Running	275
Analyzing the Total Work Item Handling Duration Report	280

The Total Work Item Handling Duration report analyzes process occurrences that may require additional attention. In this report you can:

- View a list of work items that share the same unique ID.
- View and analyze the statistics for individual work items.
- View a summary of the overall total handling time for handling a given work item.

The base data is **per process instance**.

- If there are no totals selected, grouping is limited to a visual presentation according to the parameter selected (**Process Name** or **Process Unique ID**).
- In cases where totals **are** selected, the report groups the data according to the following:
 - **Process Name, Process Unique ID, and Employee** when **Process Name** is selected
 - **Process Unique ID, Process Name, and Employee** when **Process Unique ID** is selected
- In both cases there is a visual grouping – according to the selection.

Total Work Item Handling Duration Report - Business Impact

The Total Work Item Handling Duration report analyzes the work item handling by employees. The report lets you view information about the following:

- Information related to the **total**, **net**, **hold**, **idle**, and **lock** starting and ending times of the process instance.
- Pinpoint specific process instances during the work day that require special attention.
- Provides information about extreme instance results (for example, high/low net time or total time).

Total Work Item Handling Duration Report - Defining and Running

➡ To run the Total Work Item Handling Duration report:

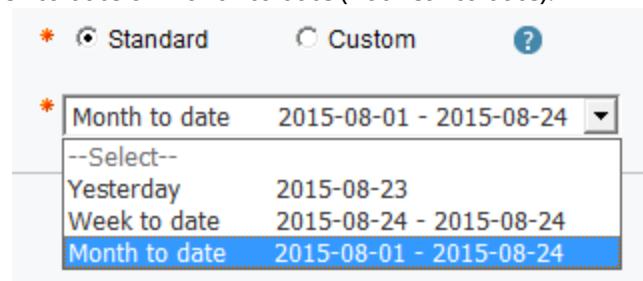
1. In the Cognos NICE Analyst Workspace page click **Desktop Process Analytics Reports** and then select **Total Work Item Handling Duration**.

The screenshot shows the configuration interface for the 'Total Work Item Handling Duration' report. It includes sections for Time Period, Employee Selection, Process Selection, and Process Unique ID.

- Time Period:** Standard (Yesterday, 2015-08-23)
- Employee Selection:** Group selection: Select 1 to 4 groups. Options include Dave's team, Diana's team, Ben's team, and John's team. An 'Update Employees' button is available. A list of employees is provided: Barbara Sanders, Jack Bell, Diane Evans, Patrick Rivera, Fred Young, Judith Nelson, Matthew Walker, Irene Coleman, Evelyn Lopez, Sandra Perry, Andrea Edwards, Marilyn Thompson, Frances Price, Steven Wood, Diana Jackson, Kathryn Bailey, Wanda Clark, and Carlos Russell. Selection buttons for 'Select all' and 'Clear all' are at the bottom.
- Process Selection:** Select Processes: Manual Process, New Process 1, New Process 2, Off Desktop. Buttons for 'Select all' and 'Clear all' are at the bottom.
- Process Unique ID:** Select Process Unique ID: Keywords: Type one or more keywords separated by spaces. A search input field and a 'Search' button are present.

2. Specify the **Time Period** for the report.

NOTE: If you select the **Standard** time period, the options in this case will be Yesterday, Week to date or Month to date (not Year to date).



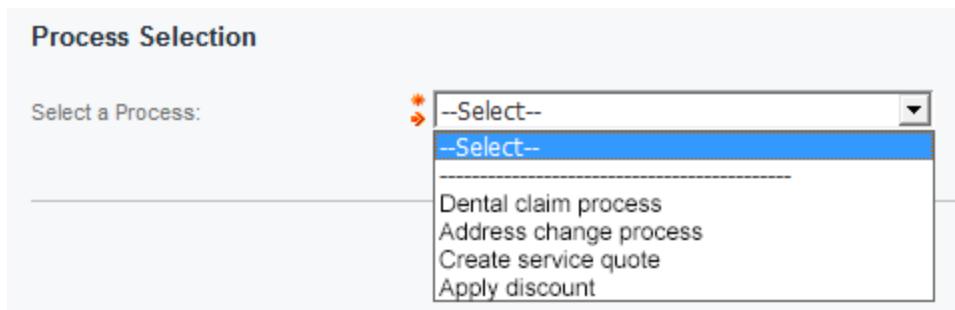
If you use the **Custom** time period, remember to limit the number of days to **31 or less**.

3. In the **Employee Selection > Group Selection** field, select between **1 to 4** groups for the report (you must, however, select **at least** one group).

NOTE: In organizations that have more than one data hub (a hub of centralized data), you will first need to select a data hub from the dropdown list. Selecting a data hub will automatically display the **Group/Employee** selection option. Organizations that **do not** have multiple data hubs will only show the Group/Employee selection option.

Remember to click **Update Employee** to update the employee selection.

4. Next, in the **Process Selection** field, click the field and from the dropdown list, select which process to run in the report comparison (this step is **mandatory**).



5. **Optional:** Scroll down to the **Process Unique ID** field.

Select Process Unique Id:

Keywords:
Type one or more keywords separated by spaces.

Results:

- Dorothy Rodriguez-11023
- Eric Morgan-18461
- Christopher Martin-77311
- Rose Wilson-98436
- Justin Kelly-11636
- Chris Sanchez-3972

Selected:

Insert Remove

6. Type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard.
7. Click the **Insert** button to transfer the results from the **Results** pane to the **Choice** pane.
 - Use the **Keywords** field and **Search** button to search for specific IDs.
 - Use **%** as a wildcard in the Unique ID Selection section to display all results.
8. **Optional:** Scroll down to the **Stop Reason** field.

Stop Reason

Select Stop Reason:

Keywords:
Type one or more keywords separated by spaces.

Results:

- Completed
- Pending customer information
- Canceled
- Pending internal

Choice:

Insert ➔ Remove ➔

9. Type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard.
10. Click the **Insert** button to transfer the results from the **Results** pane to the **Choice** pane.
 - Use the **Keywords** field and **Search** button to search for specific stop reasons.
 - Use **%** as a wildcard in the Stop Reason Selection section to display all results.
11. In the **Report View Settings**, you will need to specify the following:

Report View Settings

Sort Order:

Ascending
 Descending

Group Data By:

Process Name
 Process Unique ID

Display Totals:

Yes
 No

- a. In the **Sort Order** field, specify whether to display the sorting in Ascending or Descending order.

- **Ascending:** Will display the **first** 1,000 results.
 - **Descending:** Will display the **last** 1,000 results.
- b. In the **Group Data By** field, specify whether to group the data according to the **Process Name** or the **Process Unique ID** (see [Total Work Item Handling Duration Report - Defining and Running](#) on page 275 for additional information about this selection).
- c. In the **Display Totals** field, specify whether to display totals in the report or not (the default is Yes).

NOTE: If you select **Yes** in the totals setting, the totals will be calculated and displayed in the report result. However, if you wish to export the report to a .csv file, you will need to select **No** in this field.

Additionally, if you select the totals option, the process of generating the report may take slightly longer.

12. When you have completed the report filters and parameters, click **Run Report**.

How Do the Report View Settings Affect the Resulting Report?

Depending on the selection you make in the settings, the resulting report will be affected as follows:

- **Sort Order:** Will display the **first** or **last** 1,000 results.
- **Group Data By:**
 - If you select **Process Name**, the resulting report will be sorted throughout according to the name of the process, and the totals (see next item) will also reflect the **totals according to the name**. The **Process Unique ID** in this case will only be a parameter within the report.
 - If you select **Process Unique ID**, the resulting report will be sorted throughout according to the IDs, and the totals (see next item) will also reflect **totals according to the IDs**. The **Process Name** in this case will only be a parameter within the report.
- **Display Totals:** If you select **Yes**, the resulting report will include the totals, and your selection in the **Group Data By** field (see previous item) will determine which totals are displayed: **Process Names** or **Process Unique IDs**.

For more information, see [Analyzing the Total Work Item Handling Duration Report](#) on the next page for details.

Analyzing the Total Work Item Handling Duration Report

The information in the Total Work Item Handling Duration report is displayed as a single summary table. Only the last 1,000 rows from the end are shown in descending or ascending order and the remaining rows are truncated.

The screenshot shows the IBM Cognos Viewer interface with the title 'Total Work Item Handling Duration Report'. Below the title is a section titled 'Report Filters' with a dropdown menu. A note at the bottom left states: '* Note: Only the last 1,000 rows from the end are shown in descending order. The remaining rows are truncated.' The main area displays a table of data with columns: Process Unique ID, Employee, Process Start Date, Process End Date, Process Net Duration, Process Hold Duration, Process Idle Duration, Process Lock Duration, Process Total Duration, and Reason Code. The data is grouped by Process Unique ID (e.g., 11636, 18461) and Employee (e.g., Barbara Sanders, Jack Bell, Diane Evans, Patrick Rivera). The table includes several rows of触点 (Touch Count) data and totals for each group.

Process Unique ID	Employee	Process Start Date	Process End Date	Process Net Duration	Process Hold Duration	Process Idle Duration	Process Lock Duration	Process Total Duration	Reason Code	
11636	Barbara Sanders	00:37:29 06/09/2015	00:37:48 06/09/2015	00:00:30	00:00:08	00:00:00	00:00:00	00:00:38	Completed	
	Jack Bell	07:26:56 07/09/2015	07:27:01 07/09/2015	00:00:06	00:00:04	00:00:00	00:00:00	00:00:10	Completed	
	Diane Evans	07:32:31 07/09/2015	07:34:54 07/09/2015	00:00:08	00:00:02	00:04:34	00:00:00	00:04:46	Pending custo...	
		07:32:11 07/09/2015	07:32:30 07/09/2015	00:00:18	00:00:02	00:00:00	00:00:18	00:00:38	Canceled	
	Patrick Rivera	23:47:37 07/09/2015	23:49:12 07/09/2015	00:00:26	00:00:30	00:02:16	00:00:00	00:03:12	Canceled	
		23:47:27 07/09/2015	23:47:30 07/09/2015	00:00:04	00:00:04	00:00:00	00:00:00	00:00:08	Canceled	
		00:15:31 07/09/2015	00:15:47 07/09/2015	00:00:26	00:00:06	00:00:00	00:00:00	00:00:32	Pending internal	
		00:14:26 07/09/2015	00:15:30 07/09/2015	00:02:06	00:00:02	00:00:00	00:00:00	00:02:08	Pending internal	
		Barbara Sanders	Touch Count: 2		00:00:30	00:00:08	00:00:00	00:00:00	00:00:38	
		Jack Bell	Touch Count: 2		00:00:06	00:00:04	00:00:00	00:00:00	00:00:10	
	Diane Evans	Touch Count: 4		00:00:26	00:00:04	00:04:34	00:00:18	00:05:24		
	Patrick Rivera	Touch Count: 8		00:03:02	00:00:42	00:02:16	00:00:00	00:06:00		
11636 Total	Employee Count: 4	Touch Count: 16		00:04:04	00:00:58	00:06:50	00:00:18	00:12:12		
18461	Barbara Sanders	00:37:55 06/09/2015	00:37:59 06/09/2015	00:00:02	00:00:06	00:00:00	00:00:00	00:00:08	Completed	
	Barbara Sanders Total	Touch Count: 2		00:00:02	00:00:06	00:00:00	00:00:00	00:00:08		
18461 Total	Employee Count: 1	Touch Count: 2		00:00:02	00:00:06	00:00:00	00:00:00	00:00:08		

Depending on your selection in [Step 11 of Total Work Item Handling Duration Report - Defining and Running](#) on page 275, there are four possible results to this report:

Report	Description
Sorted by Process Name with Totals	The total results feature the Process Name and the Process Unique ID is a column in the report.
Sorted by Process Name without Totals	Displayed without totals and the Process Unique ID is a column in the report.
Sorted by Process Unique ID with Totals	The total results feature the Process Unique ID and the Process Name is a column in the report.
Sorted by Process Unique ID without Totals	Displayed without totals and the Process Name is a column in the report.

NOTE: The Total Work Item Handling Duration report does not differentiate between process types; therefore, process types that share the same process name will be visually displayed under the same 'process name' group. If you need to differentiate between the process types, in the Real-Time Designer, assign each process a different name per process type in the solutions.

The following table describes the information in this report:

Column	Description
1	<p>Data columns include the following:</p> <ul style="list-style-type: none">■ Process Unique ID: The process unique ID is used to differentiate between multiple instances of the same Process or several users (displayed if the report is sorted by Process Name).■ Process Name: The name or names of the processes (displayed if the report is sorted by Process Unique ID).■ Employee: The name of the employee who participated in the process.■ Process Start Date: The date the process started.■ Process End Date: The date the process ended.■ Process Net Duration: The total time used to complete the process, not including the time that the process was in a HOLD, LOCK, or IDLE state.■ Process Hold Duration: The total HOLD time during the process.■ Process Idle Duration: The total IDLE time during the process.■ Process Lock Duration: The total LOCK time during the process.■ Process Total Duration: The total time used to complete the process. This includes the time that the process was in a NET, HOLD, LOCK or IDLE state.■ Reason Code: Displays the Stop Reason code for the process.

Analyzing the Total Work Item Handling Duration Report

Column	Description																																																																																																																																																																																																																	
2	<p>Total rows:</p> <ul style="list-style-type: none"> ■ Data is displayed for each employee by process. If more than one employee worked on the same process, then each employee is listed in a separate row. ■ A darker row is displayed at the end of each process, which displays the data for the entire process for all employees. ■ An additional total row is displayed for the total number of employees and the last total row displays the process total. <p>The total process row will only be displayed if you selected Yes in Step c of Total Work Item Handling Duration Report - Defining and Running on page 275. If you wish to export the report, you will need to re-run the report without the totals, and the resulting report will look like the example below.</p> <p>Total Work Item Handling Duration Report</p> <p>Report Filters</p> <p>* Note: Only the last 1,000 rows from the end are shown in descending order. The remaining rows are truncated.</p> <table border="1"> <thead> <tr> <th>Process</th> <th>Process Unique ID</th> <th>Employee</th> <th>Process Start Date</th> <th>Process End Date</th> <th>Process Net Duration</th> <th>Process Hold Duration</th> <th>Process Idle Duration</th> <th>Process Lock Duration</th> <th>Process Total Duration</th> <th>Reason Code</th> </tr> </thead> <tbody> <tr> <td>Apply discount</td> <td>11023</td> <td>Fred Young</td> <td>07/29/09 08/09/2015</td> <td>07/29/11 08/09/2015</td> <td>00:00:02</td> <td>00:00:02</td> <td>00:00:00</td> <td>00:00:00</td> <td>00:00:04</td> <td>Completed</td> </tr> <tr> <td></td> <td>18461</td> <td>Jack Bell</td> <td>23:51:29 07/09/2015</td> <td>23:52:47 07/09/2015</td> <td>00:00:08</td> <td>00:00:04</td> <td>00:02:24</td> <td>00:00:00</td> <td>00:02:36</td> <td>Completed</td> </tr> <tr> <td></td> <td>18461</td> <td>Jack Bell</td> <td>23:51:12 07/09/2015</td> <td>23:51:26 07/09/2015</td> <td>00:00:14</td> <td>00:00:06</td> 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Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

Report Filters	
Date Range:	Month to date 2015-10-01 - 2015-10-26
Sort Order:	Descending
Group Date By:	Process Name
Display Totals:	Yes
Stop Reasons:	All
Group Selection:	Dave's team, Diana's team, Ben's team
Employees:	Carlos Russell, Rachel Allen, Craig Patterson, Gloria ...
Process Selection:	Create service quote
Process Unique ID:	All

The filters are displayed according to the selection you made in [Total Work Item Handling Duration Report - Defining and Running](#) on page 275, including the **Group Data By** filter, which shows either **Process Name** or **Process Unique ID**, depending on your selection.

Desktop Work Tracker Reports

This section details the **Desktop Work Tracker Reports**, which include the following:

Application Path Analysis Report	283
Application Usage In Process Report	292
Process Duration Analysis Report	298
Process Utilization Report	304

Application Path Analysis Report

The Application Path Analysis is a measure-based report that shows the optimal order of application usage when performing a process.

In this report, you can:

- View the different application paths employees used to performed a process
- View the commonality and average measure per a given path
- View a list of employees who used a given path

When handling work items, call center and back office employees may access many applications and web pages. In order to increase employee productivity, it is important that employees handle work items with maximum efficiency and that IT applications provide support to enable this efficiency.

The Application Path Analysis report enables you to analyze the desktop activity of employees against defined **measure values**. The Application Path Analysis Report provides a means of determining the best application path in order to maximize measure values, identify low performers who may require training, or identify IT applications that may require improvements or enhancements.

Application Path Analysis Report - Defining and Running

► To run the Application Path Analysis report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Process Analytics Reports** and then select **Application Path Analysis**.

Application Path Analysis

Time Period

* Standard Custom [?](#)

Dates: * [▼](#)

Employee Selection

Select a Filter Option: All Groups / Employees Specific Groups / Employees

Process (Queue Tag) Selection

Process (Queue Tag):

Keywords:
Type one or more keywords separated by spaces.

* Selected:

2. Define the standard filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.
3. In the **Process (Queue Tag) Selection** area, type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard.

- Use the **Keywords** field and **Search** button to search for specific queue tags.
- Use % as a wildcard in the Queue Tag Selection section to display all results.

4. Select the relevant Queue Tag. (This step is mandatory.)

NOTE: You can only select one queue tag.

5. In the Applications Selection area, select the applications to be included in the report.

- a. Specify whether you want the report to include **All Applications** or **Specific Applications**.
- b. If you select **Specific Applications**, the Application Selection section expands and displays the **Exclude\Include Selection** dropdown and the **Applications Selection** field.

The screenshot shows the 'Applications Selection' interface. At the top, there are two radio buttons: 'All Applications' (unchecked) and 'Specific Applications' (checked). Below them is a dropdown menu labeled 'Exclude \ Include Selection' with the value 'None'. To the right of the dropdown is a question mark icon. A large list box contains a hierarchical tree of application names, each preceded by a plus sign and a checkbox. The applications listed are: APPLICATION WITHOUT DISPLAY CODE, BABYLON, CHROME, CMD, COMMUNICATOR, EXCEL, EXPLORER, NO APPLICATION, OUTLOOK, and WWW.YNET.CO.IL. On the far right of the list box is a 'Clear all' link. To the right of the list box is a button labeled 'Update Applications' with a blue arrow icon. The entire interface is contained within a light gray box.

- c. In the **Exclude\Include Selection** dropdown, select from one of the following options: **Include**, **Exclude** or **None**.

The screenshot shows a dropdown menu for 'Exclude \ Include Selection'. The menu has four items: 'Include' (selected), 'None' (disabled), 'Include' (selected again, indicating a duplicate entry), and 'Exclude'. The 'None' item is grayed out. The 'Include' and 'Exclude' items are in blue, with 'Include' being the active choice. The dropdown is part of a larger interface with other fields like 'Exclude \ Include Selection' and 'Update Applications' visible.

- If you select **None**, the report will not be filtered according to the applications (regardless of the choice you made in the previous step).

- If you select **Include**, the paths that include the applications you select in **Step d** will be **included** in the report.
 - If you select **Exclude**, the paths that include the applications you select in **Step d** will be **excluded** from the report.
- d. In the **Applications Selection** field, select the applications you wish to include or exclude from the report and then click **Update Applications**.

The screenshot shows the 'Applications Selection' section. At the top, there are two radio buttons: 'All Applications' (unchecked) and 'Specific Applications' (checked). Below this is a dropdown menu set to 'Include'. A list of applications is shown on the left, with 'CHROME' checked. On the right, a preview area displays application paths: 'CMD - C:\WINDOWS\SYSTEM32\cmd.exe', 'CHROME - CHROME - NO PAGE', 'CMD - CMD - NO PAGE', 'CMD - NO WINDOW TITLE', 'CHROME - WWW.YNET.CO.IL - GOOGLE CHROME', and 'CHROME - YOUTUBE - GOOGLE CHROME'. Below the preview area is a button labeled 'Update Applications' with a right-pointing arrow icon. At the bottom left is a link 'Clear all'.

6. In the **Sorting** section, select the sorting method and order.

The screenshot shows the 'Sorting' section. It includes two main sections: 'Sort By:' and 'Sort Order:'. The 'Sort By:' section contains a radio button group with four options: 'Path Number' (unchecked), 'Measure Value' (checked), 'Commonality' (unchecked), and 'Number of Employees' (unchecked). The 'Sort Order:' section contains a radio button group with two options: 'Ascending' (unchecked) and 'Descending' (checked).

- **Path Number:** Sort by the Path ID number
- **Measure Value:** Sort according to the **name of the value** that is being measured. The sorting in this case will be according to the numeric value (and the resulting column heading will indicate what is being measured).
- **Commonality:** Sort according to the percentage of instances for this path. The sort works in the following way:

- If the paths that are included in your report have a usage that is **above** the percentage you set here (the default is 0), then those paths will be included in the report.
- Paths that fall below the stated value will not be included in the report.
- If all the paths are under the stated commonality there will be no results.
- **Number of Employees:** Sort according to the number of employees that are included in the filtered path.

7. In the **Path Selection** section, specify the following filters:

NOTE: The available paths that you specify in this step have already been filtered according to the Applications Selection filter you applied in [Step d](#).

Path Selection

Show:	* <input type="text" value="Top"/>
	<input type="text" value="100"/> %
Top X Application Paths to display:	* <input type="text" value="5"/>
Include Application Paths with Commonality above:	<input type="text" value="0"/>

- e. From the **Show** dropdown list, select **Top**, **Bottom**, or **Range** and then specify the percentage from the dropdown field below it.

NOTE: The **Show** filter lets you set the range of paths that should be included in the report according to the percentage you set in the field. This filter allows you to specify the **Top X%** or **Bottom X%** or a **range of percentages**.

- f. If you select Range, the report setup changes to enable you to specify a range from 100% to 10%:

Show:	* <input type="text" value="Range"/>
From:	<input type="text" value="100"/> %
To:	<input type="text" value="--Sele"/> %

- g. Next, in the **Top X Application Path to display** filter, specify the maximum number of paths to display out of the total number (assuming there are enough paths from which to filter).
- h. Next, specify the **Include Application Paths with Commonality above** filter.

NOTE: This commonality filter is an optional field that is set in percentages. See [Step 6](#) for details.

- When you have completed the report filters and parameters, click **Run Report**.

Analyzing the Application Path Analysis Report

The Application Path Analysis Report results enable you to analyze the desktop activity of employees against defined **measure values** in order to determine the most **efficient application path**. This path will then enable you to determine how to achieve the maximum value for this measure.

The screenshot shows the NICE Analyst Workspace interface. At the top, a dark header bar reads "NICE Analyst Workspace". Below it, a light-colored header bar says "CRM App Analysis Results". Underneath, there's a section titled "Report Filters" with a dropdown arrow. The main content area is titled "Dental claim process". It starts with a heading "Based on: 13 Process instances". Below this is a table with five rows, each representing a different path instance. The columns are: "Path ID", "Commonality", "Duration in Seconds (Average)", "Number of Employees", and "Path Data".

Path ID	Commonality	Duration in Seconds (Average)	Number of Employees	Path Data
1	30.77%	52	3	
2	23.08%	25	2	
3	15.38%	44	2	
4	15.38%	42	2	
5	7.69%	76	1	

The report result displays the following information:

- Path ID:** The ID assigned to this specific path by the Cognos server.
- Commonality:** The percentage of instances for each path, the commonality works in the following way:

- If the paths that are included in your report have a usage that is **above** the percentage you set here (the default is 0), then those paths will be included in the report.
 - Paths that fall below the stated value will not be included in the report.
 - If all the paths are under the stated commonality there will be no results.
- **Measure Value:** The second column contains the name of the measure value (as defined by the company) and the relevant measurement for that value. In the example above, the measurement is **Duration in Seconds**.
- This information is provided in **percentages** because in very large results, it is easier to compare percentages rather than numbers.
- **Number of Employees:** The number of employees that are included in this path (see [Viewing Specific Employee Information](#) below).
 - **Path Data:** The applications that are included in the path.

Viewing Specific Employee Information

► To view specific information about an employee:

1. In the **Number of Employees** column, click the employee number link to display specific data on the employees included in the path:

The screenshot shows a dark header bar with the text "Employee List (1)". Below it is a light-colored panel with a blue downward arrow icon followed by the text "Report Filters".

Selected Path ID: 2

The screenshot shows a table titled "Applications in the selected Path". The table has three columns: "Employee Name", "Duration in Seconds", and "SD for Employee". There is one row with data: "Jack Bell" in the first column, "3,600" in the second, and an empty cell in the third.

Employee Name	Duration in Seconds	SD for Employee
Jack Bell	3,600	

The information in this drill-down screen includes the employee name, duration in seconds and Standard Deviation (SD).

NOTE: If there is more than one instance of a specific path, the report will show the **Standard Deviation per Employee (SD)**, otherwise this column will remain empty.

2. To view the applications that are included in this path for the selected employees, click the **Applications in the Selected Path** dropdown:

Employee List (1)

Report Filters

Selected Path ID: 2

Applications in the selected Path

Measure Value (mean): 3,600 **Measure Range:** 3,600 - 3,600 **SD:**



Employee Name	Duration in Seconds	SD for Employee
Jack Bell	3,600	

Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

New Process 1

Based on: 13 Process instances				
Path ID	Commonality	Duration in Seconds (Average)	Number of Employees	Path Data
1	30.77%	52	3	
2	23.08%	25	2	
3	15.38%	44	2	
4	15.38%	42	2	
5	7.69%	76	1	

The filters are displayed according to the selection you made:

- **Date Range:**
 - If you selected **Custom** in the definition stage, the data range will appear as either two dates separated by a hyphen, or one date (if you only specified a single day).
 - If you selected the **Standard** date option, your selection (for example, Yesterday) will appear in the range.
- **Queue Tag:** Displays the queue tag you selected.
- **Sort By:** Displays the sorting option you selected.
- **Sort Order:** Displays the sorting order you selected (ascending or descending).
- **Data Hub:** If there are multiple Data Hubs in your system, the Data Hub you selected in the definition stage will appear here.
- **Group Selection:** Displays the groups you selected in the Employee Selection filter.
- **Employees:** Displays the employees you specified in the Employee Selection filter.
- **Path Selection Filters:**
 - **Top Selection:** Displays the selection you made regarding path selection range - top, bottom, or range of results.
 - **Top Percentage:** Displays the selection you made in the percentage field.

- **Include/Exclude:** Displays your selection regarding the path exclusion/inclusion.
- **Apps to Include/Exclude:** Displays the applications you chose to include or exclude.

Refining the Report

Clicking the **Run Report**  in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

Application Usage In Process Report

The **Application Usage In Process** report analyzes the usage of applications and web pages when working on a given process. Using this report, you can view the total and average time spent by groups or by employees in using selected applications and web pages while working on a process.

NOTE: The report displays specific information for the **most used applications** only. The number of applications reported is defined in the report filters. All other applications are reported as an aggregate amount in a category called **Others**.

The report displays specific information for applications and web pages that are mapped into **display names**. Unmapped applications are aggregated to the **Application Without Display code**.

The **Application Usage In Process** report compares the amount of time spent on the **most used applications**, and then shows the **percentage of time** for all of the groups and employees that were selected in the report filters as well as the **average time per use**.

Percentage of Time

The total time provides insight on the most used applications. Knowing this information enables, on the one hand, to determine the **important applications** and to then focus on and prioritize these applications when considering improvements and enhancements.

On the other hand, knowing which applications have **low usage** also provides important information into potential investigation of these applications, to check whether these applications:

- Are either difficult to use (or not intuitive), and require improvement
- Do not provide value so that future investment in them should be discontinued
- There is a lack of awareness in the organization regarding these applications and their value

Average Time Per Use

The **Average time per use** parameter provides insight on the average time spent on an application or web page **per visit**. A short time may serve as an indication for a very efficient application while a long time may provide an indication of a required investigation or improvement (for example, to check whether the process is too complicated, offers low performance, or provides a poor user experience).

Organizational Hierarchy

The **organizational hierarchy** allows you to further drill down to view **results per group**. The percentage of usage per group is displayed. Click a group to display results for that group. This is located on the left side of the screen and can be hidden or displayed.

Application Usage in Process Report - Defining and Running

► To run the Application Usage in Process report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Process Analytics Reports** and then select **Application Usage in Process**.

Application Usage in Process

Time Period

* Standard Custom [?](#)

Dates: * [▼](#)

Employee Selection

Select a Data Hub: * [▼](#)

Hierarchy Presentation

Display report results by: * [▼](#) [?](#)

2. Define the standard filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.
3. In the **Process (Queue Tag) Selection** area, type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard. (This step is mandatory.)

Process (Queue Tag) Selection

Process (Queue Tag):

Keywords:
Type one or more keywords separated by spaces.
 [Search](#)

Results:

Insert	Remove
------------------------	------------------------

* Choice:

Insert	Remove
------------------------	------------------------

4. Click the **Insert** button to transfer the results from **Results** pane to the **Choice** pane.

- Use the **Keywords** field and **Search** button to search for specific queue tags.
- Use % as a wildcard in the Queue Tag Selection section to display all results.

5. In the Applications Selection area, select the applications to be included in the report.

The screenshot shows a "Application Selection" dialog box. On the left, there is a label "Select an Application:" followed by a list of applications with checkboxes:

- [+] Notepad
- [+] MS Outlook
- [+] CRM Application
- [+] www.cnn.com

On the right side of the list, there is a vertical scroll bar. At the bottom right of the list area, there is a blue link labeled "Clear all".

NOTE: If the application you select has been removed from the Real-Time Designer (and is, therefore, out-of-date), the application name will also display the date when it became outdated.



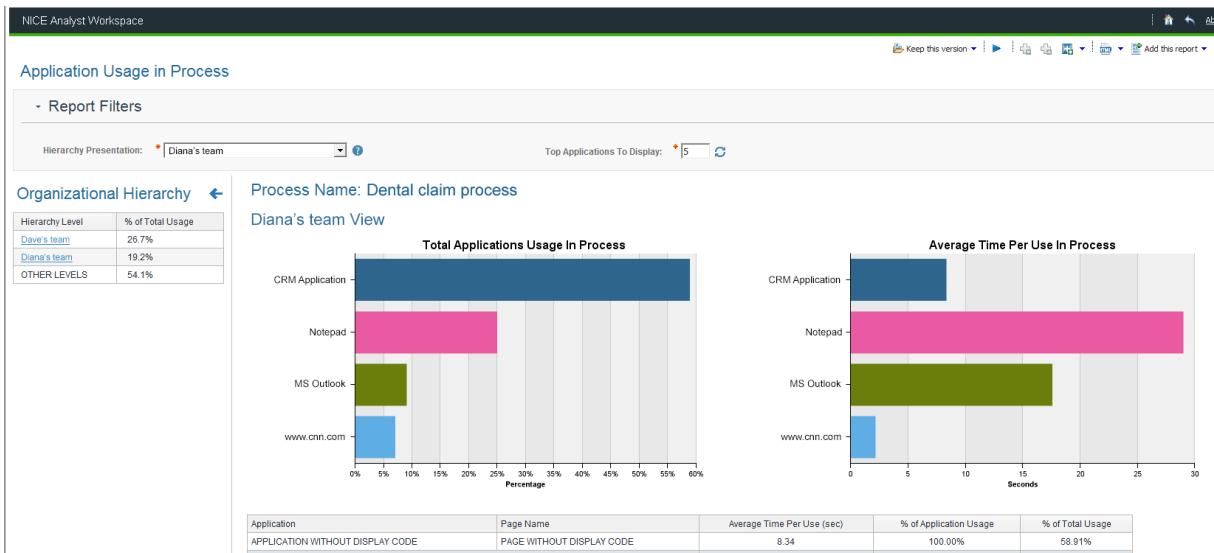
6. In the **Application Display** area, enter the number of top applications to display. The default number of top applications is 5.

The screenshot shows a "Application Display" dialog box. On the left, there is a label "Select the top:" followed by a text input field containing the value "5". To the right of the input field, the text "applications to display" is displayed. At the bottom of the dialog, there are two buttons: a blue "Run Report" button and a white "Cancel" button.

7. When you have completed the report filters and parameters, click **Run Report**.

Analyzing the Application Usage In Process Report

The Application Usage In Process report results shows the relative usage of applications and web pages when working on a given process.



You can perform the following actions in the report window:

- Update the Hierarchy Presentation - from the **Hierarchy Presentation** dropdown list, select a different level to change the level of the hierarchies displayed in the report result. The report will be updated according to your selection.
- Update the Top Number of Applications to Display - in the **Top Applications To Display: [x]** field, enter the number of top applications you wish to display in the report and then click the **Refresh** button to update the page results.
- Refine the Report - click the **Run Report** button in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

The Application Usage In Process Report breaks down into the following areas:

The Total Application Usage In Process Bar Graph

This graph analyzes the applications employees used the most in each process. The percentage of time for each group, team, or employee spends in each of these states is presented.

NOTE: An application whose mapping is out-of-date will be displayed with a light-gray bar. When defining and running the report, these applications are denoted with the date when they became outdated.



- **Top x used applications:** The most used applications are each represented by a bar on the graph. Each bar displays the total time that the application was used by all of the groups, teams, or employees selected in the filter.
The applications are listed from top to bottom with the most used application on top. The number of applications displayed is determined during the definition stage.
- **Amount of time used:** The percentage of time that the selected groups, teams, or employees use each application. This is displayed along the X-axis at the bottom of the graph.

Hover information: Hovering the mouse over the bars displays:

- The name of the application represented by the bar where the mouse is hovering.
- The percentage of time the application was used by all of the selected groups, teams, or employees.
- The rank of the application according to percentage of time used.

Average Time Per Use in Process Bar Graph

This graph shows the average time applications are used for a single process. The data shows an aggregate average for all of the groups, teams, or employees included in the report. Each report page represents a process.

NOTE: Average time = Total time in the application divided by the number of instances this application was made active.

The colored sections represent the applications included in the report. This is displayed along the X-Axis at the bottom of the graph.

Hover information: Hovering the mouse over a colored section of the graph displays:

- The name of the application represented by the color where the mouse is hovering.
- The average time the application, represented by the color where the mouse is hovering, was used in the process.

Use the **Top Applications To Display** field at the top of the report to update the number of top applications you wish to display in the report.

Application Usage In Process Organizational Hierarchy

This selection controls the report resolution in terms of hierarchy. Set the table resolution to the selected hierarchy level:

- **Group:** Displays the average data for predefined groups. Groups are the highest level in the hierarchy.
- **Team:** Displays the average data for predefined teams (there can be a number of team levels). The data displayed is the average data for each team.
- **Employee:** Displays the data for each individual employee.

The report results show the percentage of total usage for this application per process for each level.

Application Usage In Process Summary Table

The summary table presents the statistics in table form.

Application	Page Name	Average Time Per Use (sec)	% of Application Usage	% of Total Usage
www.cnn.com	News page	1.00	3.96%	0.33%
	Finance page	8.11	96.04%	8.07%
		6.34	100.00%	8.41%
MS Outlook - Summary	New Email	11.81	85.36%	11.76%
	Others	2.03	14.64%	2.02%
		6.92	100.00%	13.77%
CRM Application	Customer Details	4.73	35.04%	4.71%
	Billing Information 1	9.12	22.51%	3.03%
	Billing Information 2	5.08	37.61%	5.05%
	Others	0.00	0.00%	0.00%

The following information appears in the Average Application Usage summary table:

Column	Description
Application	Displays the applications selected for this report.
Page Name	Displays the page name of the application.
Data Columns	<p>Includes the following information:</p> <ul style="list-style-type: none"> ■ Average Time Per Use in seconds for each application ■ Percentage of Application Usage for each application - this is the percentage of the page usage for this application (so the subtotal for the application is always 100%) ■ Percentage of Total Usage for each application - the usage percentage of the application or page out of the total search results

Process Duration Analysis Report

The **Process Duration Analysis** report compares the average time it takes for groups/employees to complete processes. This report analyzes processes handled by groups/employees, shows the average process duration for each process type, and performs comparisons between different groups/employees.

The analysis of process inefficiencies that require further investigation is done using the Process Utilization report.

A process duration comparison between groups/employees enables the comparison of groups/employees against an expected standard and to detect deviations (either positive or negative).

Using this report, it is possible to detect groups/employees who execute processes relatively slowly, and may require additional training to be more efficient in the execution of the process.

The report also enables to detect groups that perform processes faster, and this information can then be used as a means of improving the functionality of other groups/employees.

Process Duration Analysis Report - Defining and Running

- To run the Process Duration Analysis report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Process Analytics Reports** and then select **Process Duration Analysis**.

The screenshot shows the configuration interface for the Process Duration Analysis report. It is divided into three main sections: Time Period, Employee Selection, and Hierarchy Presentation.

- Time Period:** A section with two radio buttons: "Standard" (selected) and "Custom". Below are fields for "Dates" (set to "Yesterday" and "2015-05-06") and "Time Unit" (set to "Minutes").
- Employee Selection:** A section where "Select a Data Hub" is set to "--Select--".
- Hierarchy Presentation:** A section where "Display report results by" is set to "Group".

2. Define the standard filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.

3. Define the **Time Unit** in which to display the results: seconds, minutes, or hours.
4. In the **Process (Queue Tag) Selection** area, type keywords in the **Keywords** field, and then click the **Search** button or press **Enter** on your keyboard. (This step is mandatory.)

Process (Queue Tag) Selection

Process (Queue Tag): **Keywords:**
Type one or more keywords separated by spaces.

Results:

*** Selected:**

5. Click the **Insert** button to transfer the results from **Results** pane to the **Selected** pane.
 - Use the **Keywords** field and **Search** button to search for specific queue tags.
 - Use % as a wildcard in the Queue Tag Selection section to display all results.
6. When you have completed the report filters and parameters, click **Run Report**.

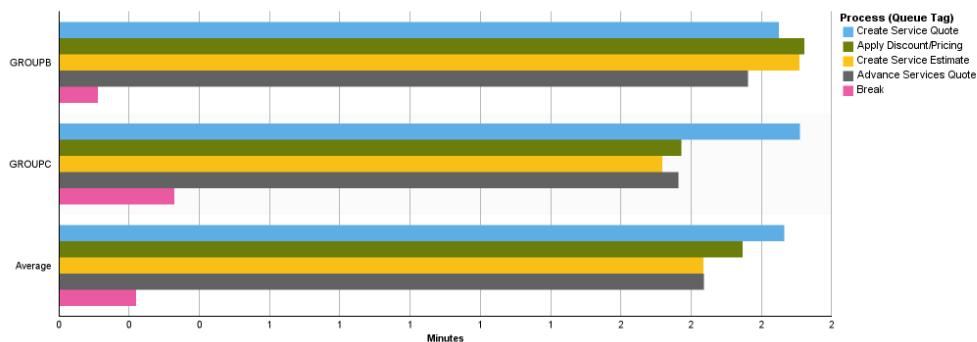
Analyzing the Process Duration Analysis Report

The Process Duration Analysis report compares the average process duration across multiple groups. This report analyzes process duration by enabling the comparison between groups or employees and for process types.

Analyzing the Process Duration Analysis Report

Process (Queue Tag):Advance Services Quote, Apply Discount/Pricing, Break, Create Service Estimate, Create Service Quote Duration Analysis

Average Process Duration By TeamLevel1



TeamLevel1	QTag Name	Process Instance Count	Average Duration (Minutes)
GROUPB	Advance Services Quote	4	1.96
	Apply Discount/Pricing	3	2.12
	Break	3	0.11
	Create Service Estimate	3	2.11
	Create Service Quote	3	2.05
GROUPC	Advance Services Quote	7	1.76
	Apply Discount/Pricing	3	1.77
	Break	3	0.33
	Create Service Estimate	7	1.72
	Create Service Quote	1	2.11
Overall - Summary		37	1.62

Results

The report result displays the **Average Process Duration by Employee (or Group)**. The employees or groups that are being compared appear along the Y-axis and the time duration appears along the X-axis.

In addition, results are displayed in a summary table:

TeamLevel1	QTag Name	Process Instance Count	Average Duration (Minutes)
<u>GROUPB</u>	Advance Services Quote	4	1.96
	Apply Discount/Pricing	3	2.12
	Break	3	0.11
	Create Service Estimate	3	2.11
	Create Service Quote	3	2.05
<u>GROUPC</u>	Advance Services Quote	7	1.76
	Apply Discount/Pricing	3	1.77
	Break	3	0.33
	Create Service Estimate	7	1.72
	Create Service Quote	1	2.11
Overall - Summary		37	1.62

The process instance and average duration is listed per employee or group.

Updating the Hierarchy Presentation

To change the level of the hierarchies displayed in the report result, from the **Hierarchy Presentation** dropdown, select a different level.

The report will be updated according to your selection.

Changing the Report Time Unit

To change the report time unit (seconds, minutes or hours), from the **Time Unit** dropdown, select a different time unit.

The report will be updated according to your selection.

Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

Create service quote Analysis Report

▲ Report Filters

Date Range:	21 May 2013 - 21 May 2015	Group Selection:	All
Time Unit:	Minutes	Employees:	All
Queue Tag:	Create Service Estimate, Edit Service Estimate		

The filters are displayed according to the selection you made:

- **Date Range:**
 - If you selected **Custom** in the definition stage, the data range will appear as either two dates separated by a hyphen, or one date (if you only specified a single day).
 - If you selected the **Standard** date option, your selection (for example, Yesterday) will appear in the range.
- **Time Unit:** The time unit in which the results are displayed.
- **Queue Tag:** The queue tags you selected will be displayed
- **Group Selection:** The groups you selected in the Employee Selection filter.
- **Employees:** The employees you specified in the Employee Selection filter.

Refining the Report

Clicking the Run Report  in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

Running the Application Usage in Process Report

You can run the Application Usage in Process report directly from this report without reverting back to NICE Analyst Workspace. The report filters for the Process Duration Analysis report are inherited to create the Application Usage in Process report. For example, the same date range, specific process, and the selected group hierarchy. The new report is opened in a new window in addition to the current report. The default number of top applications displayed in the Application Usage in Process Report that is opened here is 100.

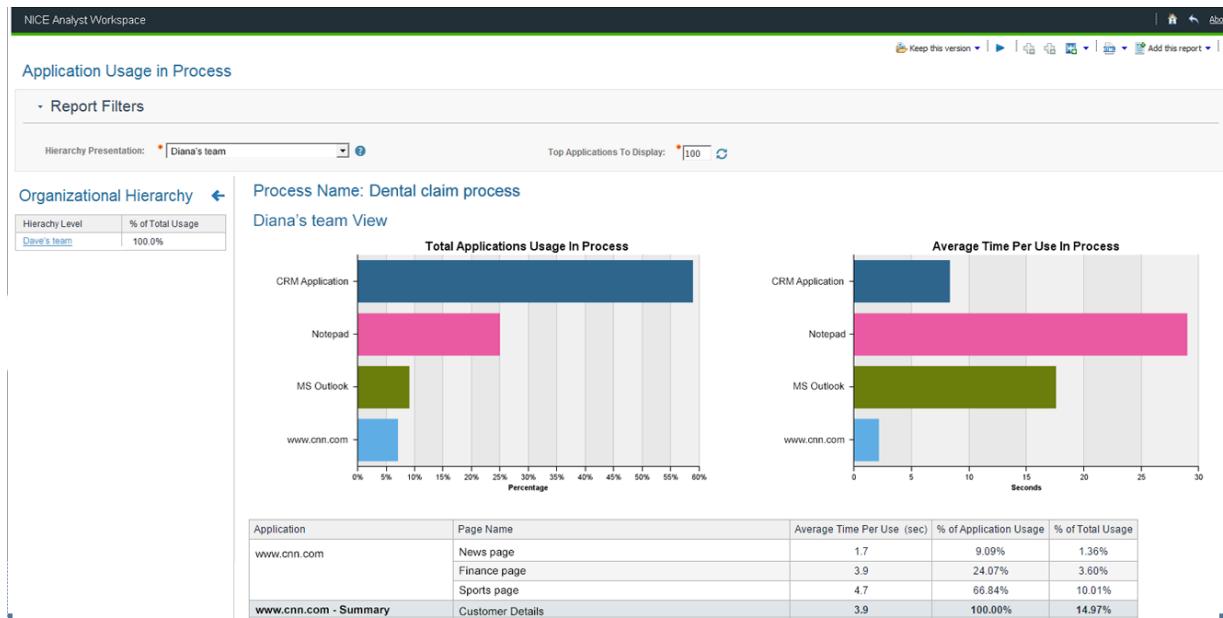
To open the Application Usage in Process Report:

1. In the Process Duration Analysis Report Summary Table, select the group hierarchy for which you want to run the Application Usage in Process Report.

Employee	Process Instance Count	Average Duration (Minutes)	
GL11 E-GLUE	1	0.82	
GL12 E-GLUE	2	0.88	 Go to the Application Usage in Process report
GL13 E-GLUE	2	0.56	
GL14 E-GLUE	1	0.73	
GL8 E-GLUE	2	0.58	
GL9 E-GLUE	6	0.69	
Overall - Summary	14	0.70	

2. Click the .

The Application Usage in Process Report opens.



Process Utilization Report

The **Process Utilization** report analyzes processes and provides insight into how much time out of the total process time was utilized for actual work. The report is based on a comparison and analysis of processes, which enables the user to understand which processes are more utilized (high net time) and which processes are less utilized (low net time). This report also enables you to compare how different groups utilize a specific process.

The Process Utilization Report enables you to determine two important factors:

- The utilization of a process compared to other processes
- The utilization of a groups using the same process

There are four available states for each process:

- **Net Time:** The net time during which users are using the process
- **Hold Time:** The time during which users place the process on hold, for example, a process may be put on hold in order to allow the user to obtain additional information
- **Idle Time:** This is the time during which the user is not using the process at all
- **Lock Time:** This is the time when the user places their computer on lock

The main objective for each process is to maximize the **net** time and minimize other states, since this means that the employee is actually working on the process, and to ensure that the other statuses - such as Hold and Idle - are minimized to avoid the employee from switching out of the process.

Processes with lower net percentage are indications of processes that should, potentially, be investigated to understand the root cause for why employees are spending time in other states of the process.

Process Utilization Report - Defining and Running

► To run the Process Utilization report:

1. In the Cognos NICE Analyst Workspace page click **Desktop Process Analytics Reports** and then select **Process Utilization**.

The screenshot shows the configuration interface for the Process Utilization report. It includes sections for Time Period, Employee Selection, and Process (Queue Tag) Selection.

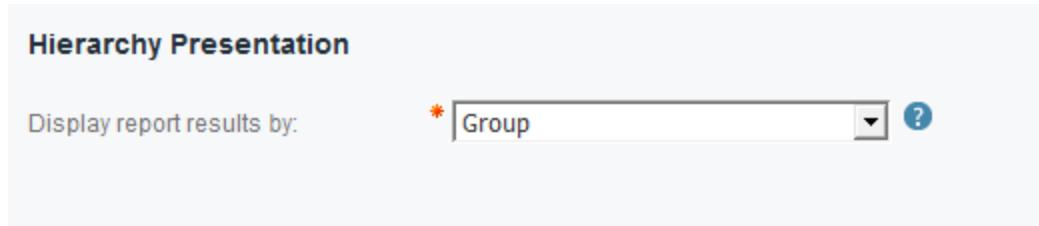
Time Period:
* Standard (radio button selected)
Custom (radio button)
? (help icon)
Dates: * Yesterday (text input) 2016-05-23 (date picker)

Employee Selection:
Select a Filter Option:
* All Groups / Employees (radio button selected)
Specific Groups / Employees (radio button)

Process (Queue Tag) Selection:
Select a Comparison Option:
* Multiple Queue Tags (Queue Tags Comparison) (radio button selected)
All Queue Tags (Groups Comparison) (radio button)

Process (Queue Tag):
Keywords:
Type one or more keywords separated by spaces.
Results:
* Choice:
Insert → (button)
← Remove (button)

2. Define the standard filters for the report; see [Selecting Filter Parameters](#) on page 190 for details.
3. Next, in the **Process (Queue Tag) Selection** area, select one of the following:
 - A comparison between **Multiple Queue Tags** to compare between different queue tags
 - A comparison of groups within **All Queue Tags** to compare by organizational structure and hierarchy
4. **Search** for keywords to locate the specific Queue Tags you want to compare and **Insert** them into the **Choice** pane. (This step is mandatory.)
5. If you select **All Queue Tags**, in the **Hierarchy Presentation** area, select how to display the results, based on hierarchy.



6. When you have completed the report filters and parameters, click **Run Report**.

Analyzing the Process Utilization Report

The Process Utilization Report results enable you to compare and see which processes have the maximum efficiency of use - the maximum **net time** during which a process is in use. Similarly, the group or level comparison option is designed to let you see how groups compare in their use of a single process, in order to obtain information about efficiency between groups.

The results in this report depend on the selection you made in the definition stage. This means that the report results display the percentages of the process states by comparing the processes themselves or the group states for a single process.

Therefore, this report creates two reports that enable you to track process utilization:

- [Process Utilization - Analyzing the Multiple Queue Tags Report](#) on the facing page
- [Process Utilization - Analyzing the Single Process-Multiple Group Report](#) on page 311

Viewing Report Filters

The filters you selected in the definition stage can be viewed by click the Report Filters arrow. To view the current report filters, click the **Filters** dropdown arrow.

Apply discount Utilization Report

- Report Filters

Date Range:	Month to date 2015-05-01 - 2015-05-20	Group Selection:	Dave's team
Queue Tag:	Create Service Estimate, Edit Service Estimate	Employees:	All

The filters are displayed according to the selection you made:

- **Date Range:**
 - If you selected **Custom** in the definition stage, the data range will appear as either two dates separated by a hyphen, or one date (if you only specified a single day).
 - If you selected the **Standard** date option, your selection (for example, Yesterday) will appear in the range.
- See [Step 1: Selecting a Time Period on page 190](#) for details.
- **Queue Tag:** Displays the queue tags you selected.
- **Data Hub:** If there are multiple Data Hubs in your system, the Data Hub you selected in the definition stage will appear here (see [Step 2: Selecting a Data Hub on page 190](#)).
- **Group Selection:** Displays the groups you selected in the Employee Selection filter (see [Step 3: Selecting Groups and Employees on page 191](#)).
- **Employees:** Displays the employees you specified in the Employee Selection filter (see [Step 3: Selecting Groups and Employees on page 191](#)).
- **Process Selection:** Displays the process you selected in [Step 5 in Process Utilization - Defining and Running](#) on page 260.

Refining the Report

Clicking the **Run Report**  in the upper right-hand toolbar will return you to the report definition, where you can redefine the report parameters.

Process Utilization - Analyzing the Multiple Queue Tags Report

If you select **Multiple Queue Tags**, the report result will display the **Percentage of Process States - Comparison by Process (Queue Tag)** results:

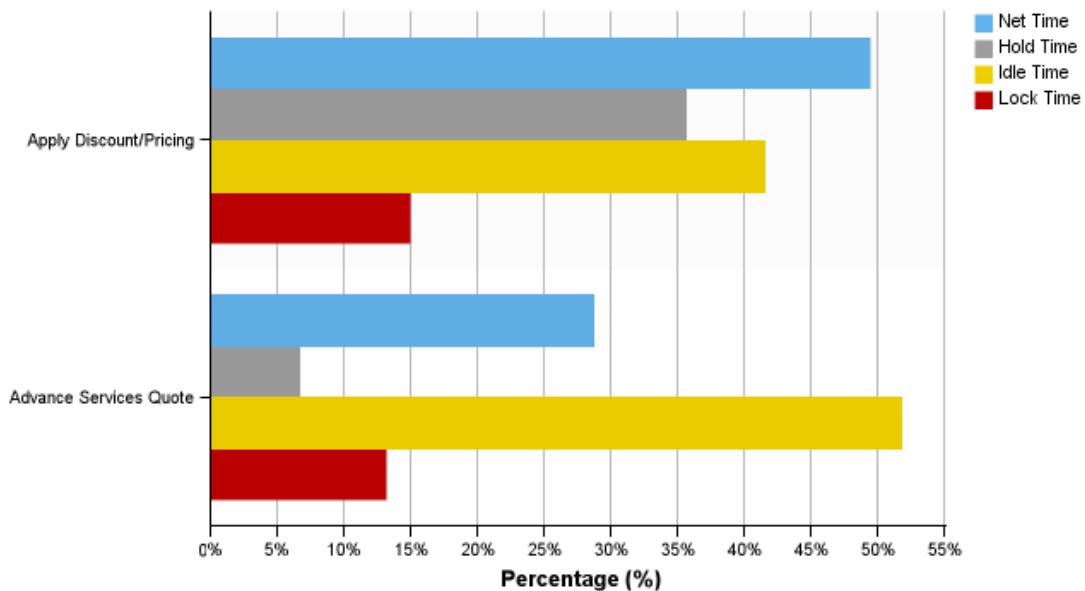
Process Utilization Report

Report Filters

Process States: All

Process (Queue Tag): Advance Services Quote, Apply Discount/Pricing

Percentage Of Process States - Comparison By Process (Queue Tag)



QTag Name	Net Time %	Hold Time %	Idle Time %	Lock Time %
Advance Services Quote	28.53%	6.68%	51.60%	13.18%
Apply Discount/Pricing	49.39%	35.62%	0.00%	14.99%
Average	30.40%	9.27%	46.98%	13.35%

- The report shows the **percentage of each state** (Idle Time, Net Time, Hold Time, and Lock Time).
- The **available states** are displayed in the legend to the **right** of the results.
- At the bottom of the results, you will see a table that shows the percentage for each state for each Queue Tag.

➡ To change the report and get additional information:

1. To view the results for a **specific state**, from the **Process States** dropdown list at the top of the



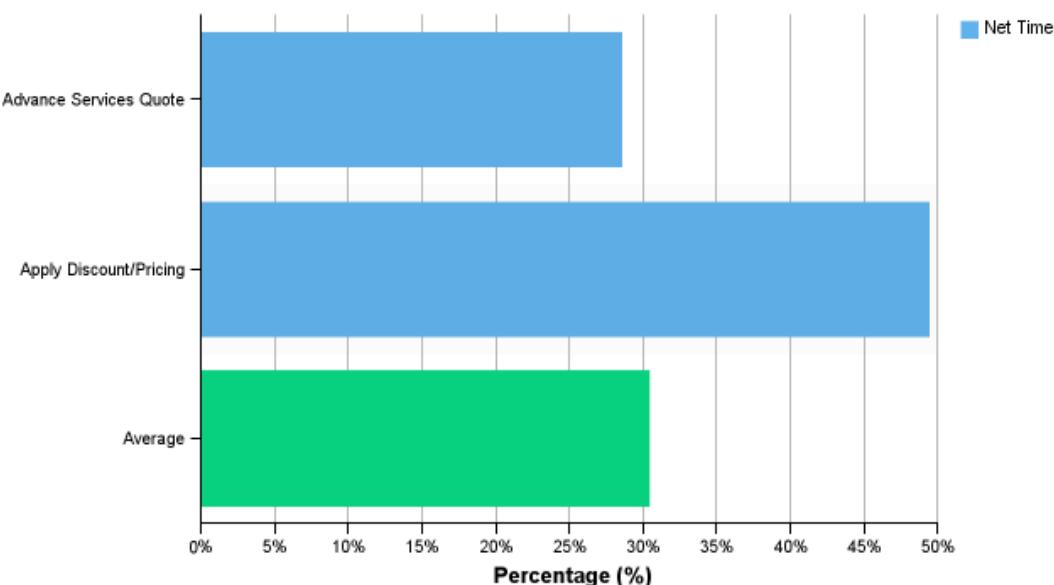
report, select a state.

The report displays the percentages for the selected state.



Process (Queue Tag): Advance Services Quote, Apply Discount/Pricing

Percentage Of Process States - Comparison By Process (Queue Tag)



QTag Name	Net Time %
Advance Services Quote	28.53%
Apply Discount/Pricing	49.39%
Average	30.40%

2. To drill down into a **Queue Tag**, click the link for the queue tag you wish to display.

QTag Name	Net Time %	Hold Time %	Idle Time %	Lock Time %
Advance Services Quote	28.53%	6.68%	51.60%	13.18%
Apply Discount/Pricing	49.39%	35.62%	0.00%	14.99%
Average	30.40%	9.27%	46.98%	13.35%

The report displays all available process states, **compared by group**:

Process Utilization Report

Report Filters

Process States:

All

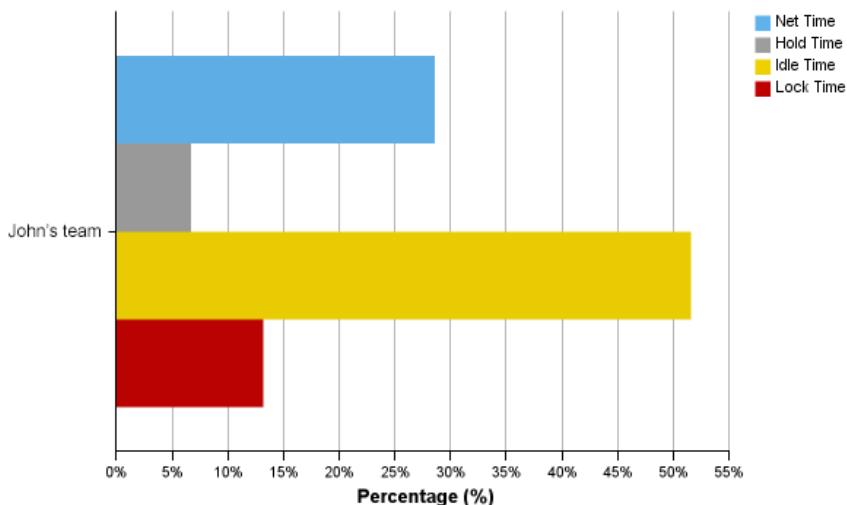
Hierarchy Presentation:

Group



Process (Queue Tag): Advance Services Quote

Percentage Of Process States - Comparison By Group



Group	Net Time %	Hold Time %	Idle Time %	Lock Time %
John's team	28.53%	6.68%	51.60%	13.18%
Average	30.40%	9.27%	46.98%	13.35%

Selecting a specific queue tag provides two additional functions to this report:

- Enables an additional filter, the **Hierarchy Presentation** filter.
- Displays a table that shows the percentage for each group for each state.

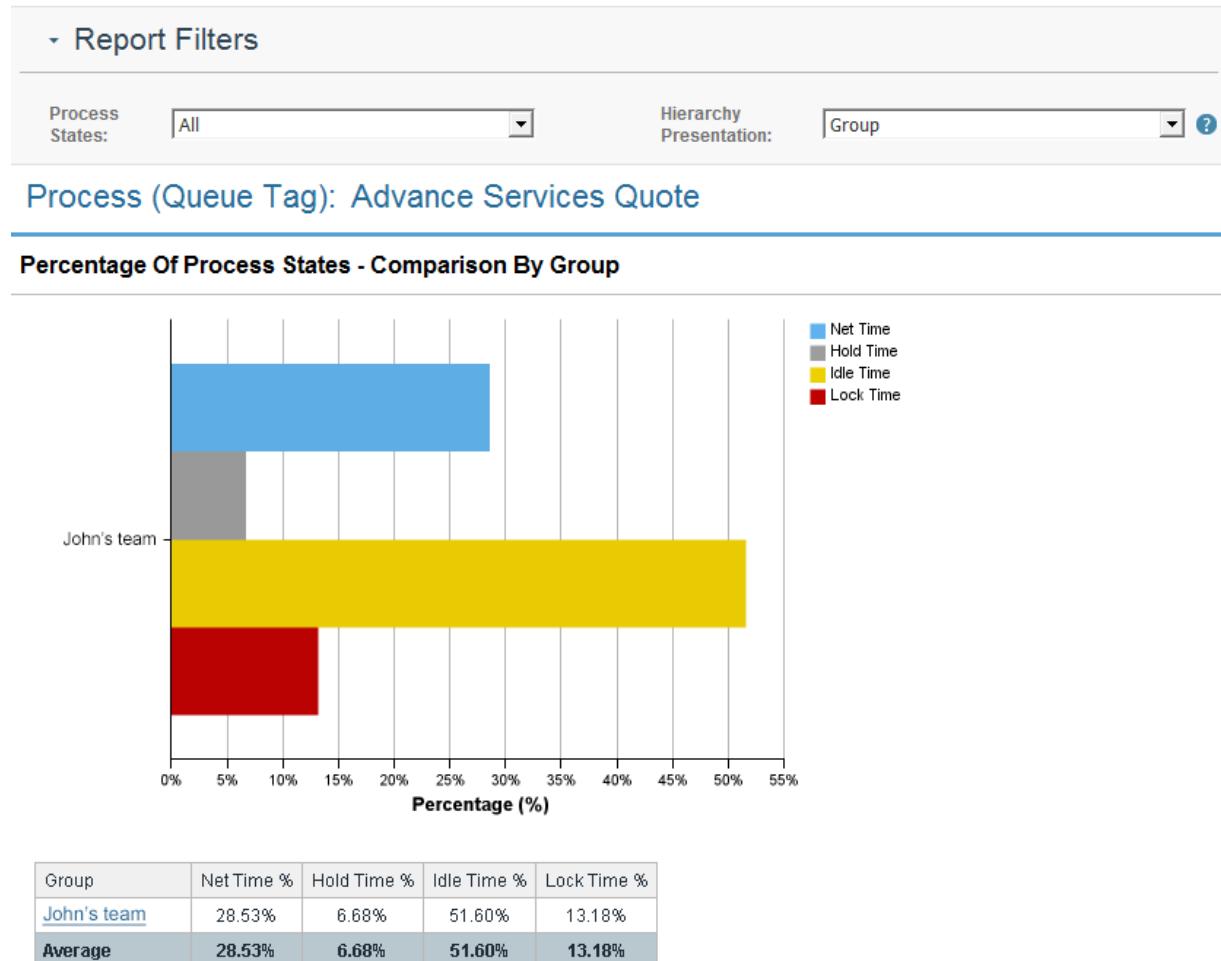
3. To change the hierarchy presentation for this report, click the **Hierarchy Presentation** drop-down and select a different hierarchy level.

4. To change the group, click a different group name in the **Group** table.

Process Utilization - Analyzing the Single Process-Multiple Group Report

If you select a **All Queue Tags**, the report result will display the **Percentage of Process States - Comparison by [Group Name]** results:

Process Utilization Report

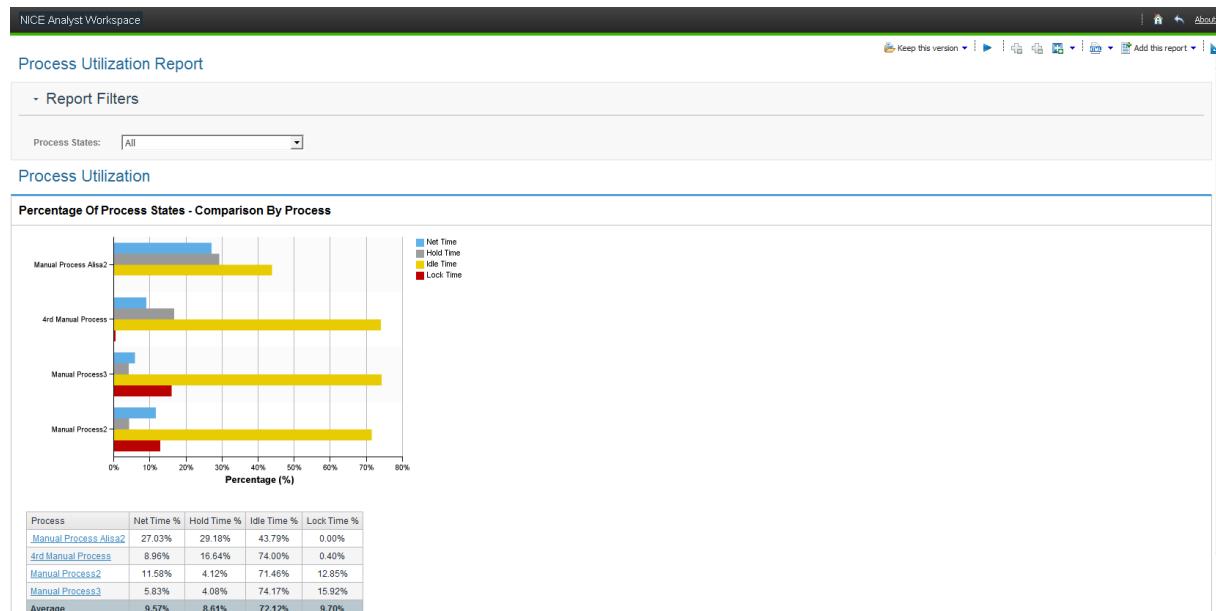


- The report shows the **percentage of each state** (Idle Time, Net Time, Hold Time, and Lock Time) for each group.
- At the bottom of the results you will see a table that shows the **average for each state for each group**.

➡ To change the report and get additional information:

1. To view the details for a **specific state**, from the **Process States** dropdown list at the top of the report, select a state.

The report displays the percentages for the selected state.



NOTE: When you select a single state, the report also shows the **average for the search population within the defined filters**. However, this average is not displayed when you select all states.

2. To change the level by which you are comparing the process results, click the **Hierarchy Presentation** drop-down and select a different hierarchy level.
3. To drill down into a **group**, click the group link in the table.

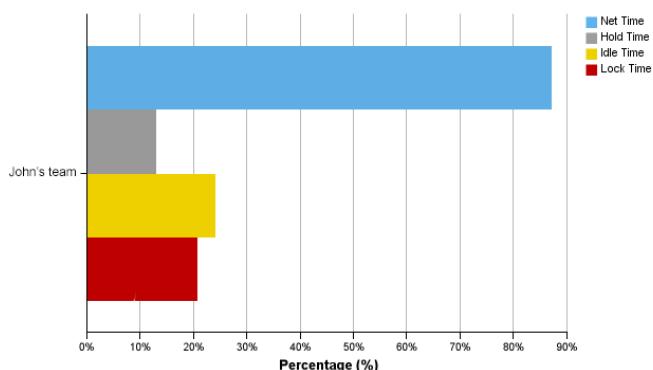
Apply discount Utilization Report

Report Filters

Process States: Hierarchy Presentation: ?

Create service quote Utilization

Percentage Of Process States - Comparison By John's team



The report displays all available process states, **compared by group**.

Drilling down further info a group will also enable you to display the result at the employee level:

Apply discount Utilization Report

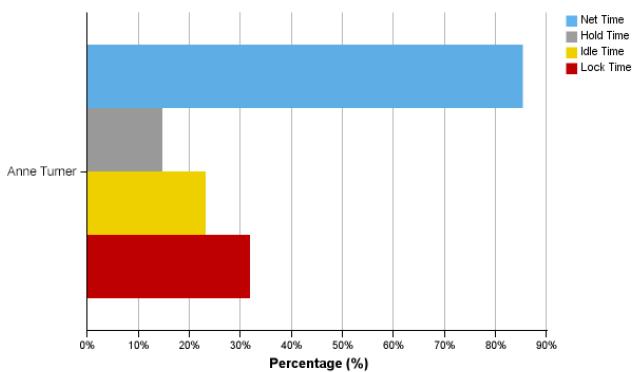
Report Filters

Process States: All

Hierarchy Presentation: Anne Turner

Create service quote Utilization

Percentage Of Process States - Comparison By Anne Turner



Employee	Net Time %	Hold Time %	Idle Time %	Lock Time %
John's team	85.29%	14.71%	0.00%	0.00%
Average	85.29%	14.71%	0.00%	0.00%

Troubleshooting the Desktop Analytics Reports

Use the following topics to troubleshoot your Desktop Analytics environment.

Missing Data in the Reports	316
-----------------------------------	-----

Missing Data in the Reports

Use the following guideline to troubleshoot when your reports do not have enough data, or are missing data, for example, Display Names.

➡ To troubleshoot missing data in reports:

1. Verify that users exist in **DWH_Agents_Dim**.
2. Verify that the **Data Mart Population job** and the **Data Mart Partition job** finished successfully.
3. Verify that all **Display Names** and **Category mappings** exist in **DWH_ApplicationPage_Dim** for **each Data Hub**.
4. If you get the following error when adding a Data Hub to a Data Mart, you must remove the windows patch KB3004375, "Update to improve Windows command-line auditing":

An error occurred during Service Master Key decryption

8

Server Dashboard - Administrative Reports

Contents

Administrative Reports in the Server Dashboard	318
------------------------------------------------------	-----

Administrative Reports in the Server Dashboard

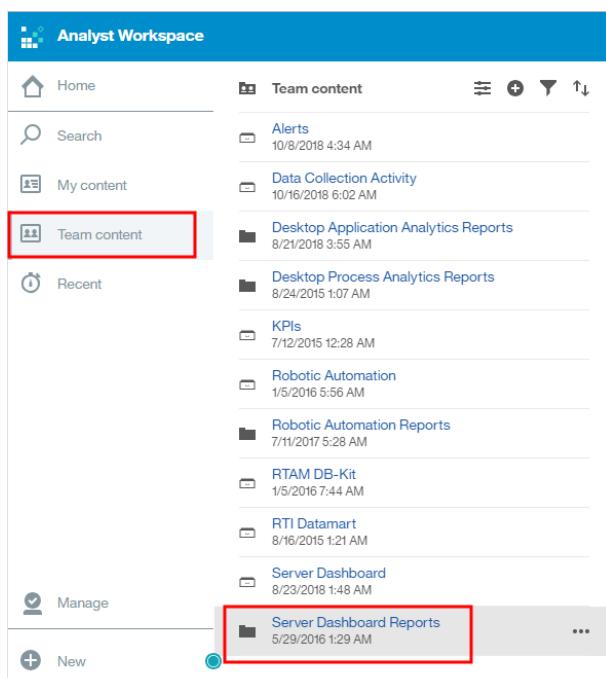
The Server Dashboard consists of reports that provide administrators with information about automatic updates and solution downloads across the entire population of users.

The Server Dashboard relies on the availability of the Advanced Process Automation reports server. If the reports server is not available, the automatic update and solution download auditing data resides in the database, but is not accessible via the Server Dashboard.

Access to the Server Dashboard reports is through the Cognos portal.

► To access the reports:

1. Access the reports portal using the Cognos server desktop shortcut or, on the Cognos machine go to <http://localhost/ibmcognos/bi/?perspective=home>.
Click  for pop-up tips.
2. From the left pane, select **Team content** then select **Server Dashboard Reports**.



The screenshot shows the 'Analyst Workspace' interface. On the left, there's a sidebar with links for Home, Search, My content, and Team content (which is selected and highlighted with a red box). Below these are Recent items and Manage and New buttons. The main area displays a list of reports under 'Team content'. A specific folder named 'Server Dashboard Reports' is highlighted with a red box. The list includes items like Alerts, Data Collection Activity, Desktop Application Analytics Reports, Desktop Process Analytics Reports, KPIs, Robotic Automation, Robotic Automation Reports, RTAM DB-Kit, RTI Datamart, and Server Dashboard.

The list of reports opens.

The screenshot shows the Analyst Workspace interface. The left sidebar has links for Home, Search, My content (which is selected), Team content, and Recent. The main content area is titled "Server D ... Reports" and lists four reports: Automatic Update (10/18/2018 3:12 AM), Callout Display Report (10/8/2018 3:15 AM), Logged-in Users (10/8/2018 3:15 AM), and Solution Download (10/8/2018 3:16 AM). There are navigation icons at the top right.

3. Select a report and continue with one of the following:
 - [Viewing the Auto Update Downloads Report](#) on the next page
 - [Viewing the Solution Downloads Report](#) on page 324
 - [Viewing the Logged-in Users Report](#) on page 328
 - [Viewing the Callout Display Report](#) on page 329

Viewing the Auto Update Downloads Report

Click the **Automatic Update** report link to generate a report about recent automatic update downloads for the users of the current environment:

Automatic Update

Auto Update Directory : <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Options Results: <div style="border: 1px solid #ccc; height: 150px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-around;"> Select all Deselect all </div> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Choice: <div style="border: 1px solid #ccc; height: 150px;"></div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div>	Team : <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Options Results: <div style="border: 1px solid #ccc; height: 150px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-around;"> Select all Deselect all </div> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Choice: <div style="border: 1px solid #ccc; height: 150px;"></div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div>
Revisions :	
Computer Name :	
<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Options Results: <div style="border: 1px solid #ccc; height: 150px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-around;"> Select all Deselect all </div> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Choice: <div style="border: 1px solid #ccc; height: 150px;"></div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Options Results: <div style="border: 1px solid #ccc; height: 150px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-around;"> Select all Deselect all </div> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;"> Choice: <div style="border: 1px solid #ccc; height: 150px;"></div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div>
<div style="background-color: #f0f0f0; border: 1px solid #ccc; padding: 5px; display: flex; justify-content: space-around;"> <input type="button" value="Cancel"/> <input type="button" value="Finish"/> </div>	

The Auto Update Downloads report can be filtered to show automatic update downloads per automatic-update directory per agent per revision number.

Auto Update Directory :	
Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/>	Options ▾
Results: <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>	Choice: <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>	<input type="button" value="Insert"/> <input type="button" value="Remove"/> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/>

You can also filter the Auto Update Downloads report to apply to a specific set of users, teams, computers and/or revisions (a revision is an automatic-update upload set).

Team :	
Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/>	Options ▾
Results: <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>	Choice: <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>
<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>	<input type="button" value="Insert"/> <input type="button" value="Remove"/> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/>

Revisions :	
Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/>	Choice: <input type="button" value="Insert"/> <input type="button" value="Remove"/> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/>
Results: <input type="button" value="Options"/>	
<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>	<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>

Computer Name :	
Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/>	Choice: <input type="button" value="Insert"/> <input type="button" value="Remove"/> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/>
Results: <input type="button" value="Options"/>	
<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>	<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>

Viewing the Auto Update Downloads Report

Cognos Viewer - Automatic Update

Automatic Update

Auto Up Dir :
Revisions :
Company :
Team :

Auto Update Directory	Agent Team	Computer Name	Revision	Update Time
rfq4	GroupC	QA1XP1	30	27 Dec 2010 14:28:17
	GroupC	QA1XP1	33	27 Dec 2010 14:33:44
	GroupC	QA1XP1	35	28 Dec 2010 15:27:53
	GroupC	QA4XP2	37	2 Jan 2011 09:33:01

24 Jan 2011 - 1 - 10:39:34

Viewing the Solution Downloads Report

Click the **Solution Download** report link to generate a report about recent solution downloads for the users of the current environment:

Solution Download

Solution Name : Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> Options Results: <div style="border: 1px solid #ccc; padding: 5px; height: 150px;"></div> <div style="text-align: right; margin-top: -10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/> </div>	Team : Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> Options Results: <div style="border: 1px solid #ccc; padding: 5px; height: 150px;"></div> <div style="text-align: right; margin-top: -10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/> </div>
Versions :	
Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> Options Results: <div style="border: 1px solid #ccc; padding: 5px; height: 150px;"></div> <div style="text-align: right; margin-top: -10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/> </div>	Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> Options Results: <div style="border: 1px solid #ccc; padding: 5px; height: 150px;"></div> <div style="text-align: right; margin-top: -10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/> </div>
Computer Name :	
Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> Options Results: <div style="border: 1px solid #ccc; padding: 5px; height: 150px;"></div> <div style="text-align: right; margin-top: -10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/> </div>	Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/> Options Results: <div style="border: 1px solid #ccc; padding: 5px; height: 150px;"></div> <div style="text-align: right; margin-top: -10px;"> <input type="button" value="Insert"/> <input type="button" value="Remove"/> </div> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Select all"/> <input type="button" value="Deselect all"/> </div>

The Solution Download report can be filtered to show solution downloads per version per agent.

Solution Name :	
Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/>	Choice: <input type="button" value="Insert"/> <input type="button" value="Remove"/>
Results: <input type="button" value="Select all"/> <input type="button" value="Deselect all"/>	<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>

You can also filter the report to apply to a specific set of users, teams, computers, solution names and/or versions.

Team :	
Keywords: Type one or more keywords separated by spaces. <input type="text"/> <input type="button" value="Search"/>	Choice: <input type="button" value="Insert"/> <input type="button" value="Remove"/>
Results: <input type="button" value="Select all"/> <input type="button" value="Deselect all"/>	<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>

Versions :**Keywords:**

Type one or more keywords separated by spaces.

Options ▾

Results:[Select all](#) [Deselect all](#)**Choice:**[Select all](#) [Deselect all](#)**Computer Name :****Keywords:**

Type one or more keywords separated by spaces.

Options ▾

Results:

Add selected items to your choices

[Select all](#) [Deselect all](#)**Choice:**[Select all](#) [Deselect all](#)

Viewing the Solution Downloads Report

The screenshot shows a Cognos Viewer window titled "Interaction Designer - Untitled". The left sidebar has a tree view under "Administration" with nodes like "Solutions Assignment", "System Configuration", "Automatic Update", "Environment Value Mapping", "Server DB Connection Mapping", "Environment Publishing", and "Server DashBoard". The main area is titled "Cognos Viewer - Solution Download" and has a sub-header "Solution Download". It displays a table of solution download data:

Solution Name	Version	Agent Team	Computer Name	Download Time
1234	1000001	GroupC	QA1XP1	27 Dec 2010 14:33:50
	1000001	GroupC	QA1XP1	28 Dec 2010 15:28:03
	1000001	GroupC	QA4XP2	2 Jan 2011 09:33:11
DBServer	1000007	GroupDA	WEBLOAD	28 Nov 2010 12:17:29
	1000009	GroupDA	WEBLOAD	15 Dec 2010 10:13:58
DC	1000014	GroupDA	WEBLOAD	28 Nov 2010 12:17:29
	1000015	GroupDA	RTIWEBLOAD	20 Jan 2011 13:18:33
	1000015	GroupDA	WEBLOAD	13 Jan 2011 12:20:13
DCManyBE	1000002	GroupDA	WEBLOAD	16 Jan 2011 14:28:12
DataLoss	1000000	GroupDA	WEBLOAD	18 Jan 2011 09:53:30
aaa	1000000	GroupC	QA1XP1	28 Dec 2010 15:28:03
	1000000	GroupC	QA4XP2	2 Jan 2011 09:33:11
env	1000000	GroupC	QA1XP1	27 Dec 2010 14:28:25
	1000000	GroupC	QA1XP1	28 Dec 2010 15:28:03
	1000000	GroupC	QA4XP2	2 Jan 2011 09:33:11
rfqS	1000001	GroupC	QA4XP2	2 Jan 2011 09:33:11

At the bottom of the report, there are footer details: "81" (with a dropdown arrow), "24 Jan 2011", "- 1 -", "10:42:13", and a small icon.

Viewing the Logged-in Users Report

Click the **Logged-in Users** report link to display the generate a report about users currently logged in to the current environment:

Logged-in Users

Team :			
Keywords: Type one or more keywords separated by spaces.	<input type="text"/> Search 		
Options 	Choice: <input type="text"/>		
Results: <input type="text"/>	<input type="button" value="Insert"/> <input type="button" value="Remove"/>		
<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>		<input type="button" value="Select all"/> <input type="button" value="Deselect all"/>	
Report Time Frame to Date : Days: <input type="text" value="0"/> Hrs: <input type="text" value="1"/> Mins: <input type="text" value="0"/>			
Information Type : <input checked="" type="radio"/> Unexpected Logouts Only <input type="radio"/> All Entries <input type="button" value="Deselect"/>			
<input type="button" value="Cancel"/> <input type="button" value="Finish"/>			

The Logged-in Users report shows currently running users (detected as online within the designated time frame).

[Keep this version](#)

Logged-in Users

, E-GLUE_GROUP, EHABD_GROUP, GROUPA, GROUPAA, GROUPB

Search Again
 Close Search Section
[Deselect](#)

Sort By	Sort Order			
* Agent	* Descending			
GROUPA	GL2 E-GLUE STAB2CLIENSITE1	Apr 2, 2015 2:19:09 PM	Apr 2, 2015 2:33:08 PM	Yes
GROUPA	GL2 E-GLUE KOBISHI-T430	Apr 8, 2015 12:31:56 PM	Apr 8, 2015 12:33:25 PM	Yes
GROUPA	GL2 E-GLUE KOBISHI-T430	Apr 8, 2015 12:33:25 PM	Apr 8, 2015 12:38:25 PM	Yes
GROUPA	GL2 E-GLUE STAB2CLIENSITE1	Apr 13, 2015 6:37:26 AM	Apr 13, 2015 6:47:08 AM	Yes
GROUPA	GLO QA	Mar 26, 2015 11:14:40 AM	Mar 26, 2015 11:20:17 AM	Yes
GROUPA	GLO QA	Mar 29, 2015 6:29:13 AM	Mar 29, 2015 6:34:41 AM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Mar 31, 2015 10:26:19 AM	Mar 31, 2015 10:31:19 AM	Yes
GROUPA	GLO E-GLUE	Apr 8, 2015 12:52:50 PM	Apr 8, 2015 12:54:41 PM	Yes
GROUPA	GLO E-GLUE KOBISHI-T430	Apr 8, 2015 12:40:51 PM	Apr 8, 2015 1:00:29 PM	Yes
GROUPA	GLO E-GLUE	Apr 8, 2015 12:55:23 PM	Apr 8, 2015 1:00:29 PM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 9, 2015 6:24:59 AM	Apr 9, 2015 6:29:59 AM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 12, 2015 9:15:54 AM	Apr 12, 2015 9:28:59 AM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 12, 2015 1:00:22 PM	Apr 12, 2015 1:05:22 PM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 13, 2015 8:41:50 AM	Apr 13, 2015 8:46:50 AM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 14, 2015 6:52:01 AM	Apr 14, 2015 8:52:12 AM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 14, 2015 8:52:23 AM	Apr 14, 2015 8:57:34 AM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 14, 2015 9:18:02 AM	Apr 14, 2015 8:57:34 AM	Yes
GROUPA	GLO E-GLUE STAB2DESSITE1	Apr 19, 2015 7:09:41 AM	Apr 19, 2015 7:14:40 AM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 21, 2015 6:26:51 AM	Apr 21, 2015 6:43:51 AM	Yes
GROUPA	GLO E-GLUE STAB2CLIENSITE1	Apr 21, 2015 6:43:51 AM	Apr 21, 2015 6:43:52 AM	Yes

You can filter the Logged-in Users report to apply to a specific set of teams or a specified time frame. The **Computer Name** column from which the agent logged-in. You can also choose to show **Unexpected Logouts only** or **All Entries**. If you select **Unexpected Logouts**, the report only lists those logged-in users whose last session was terminated unexpectedly. The **Unexpected Logout?** column indicates if the user was unexpectedly logged out.

Viewing the Callout Display Report

Use the Callout Display report to view the following information regarding callouts:

- Number of callout instances
- How many callouts were closed within 2 seconds
- How many callouts were moved on screen

You can filter the report by Team, Time Period and Callout Name.

Callout Display Report

Team :

Keywords:
Type one or more keywords separated by spaces.

[Options](#) ▾

Results:

[Select all](#) [Deselect all](#)

Choice:

[Select all](#) [Deselect all](#)

Time Period:

* Standard Custom [?](#)

Dates:

Callout Name :

New Callout
New Callout 1
New Callout (2)
Callout replace
Callout 3
select 4

[Select all](#) [Deselect all](#)

Once you have applied the relevant filters, you can run the report.

The report results appear in a table.

Callout Name	Display Count	Closed < 2 Seconds		Moved From Original Location	
		Total	Percentage	Total	Percentage
Callout 3	28	19	67.86%	1	3.57%
Callout replace	33	13	39.39%	6	18.18%
New Callout 1	8	2	25.00%	1	12.50%
select 4	6	2	33.33%	3	50.00%
Overall	75	36	48.00%	11	14.67%

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Data Mart Schema

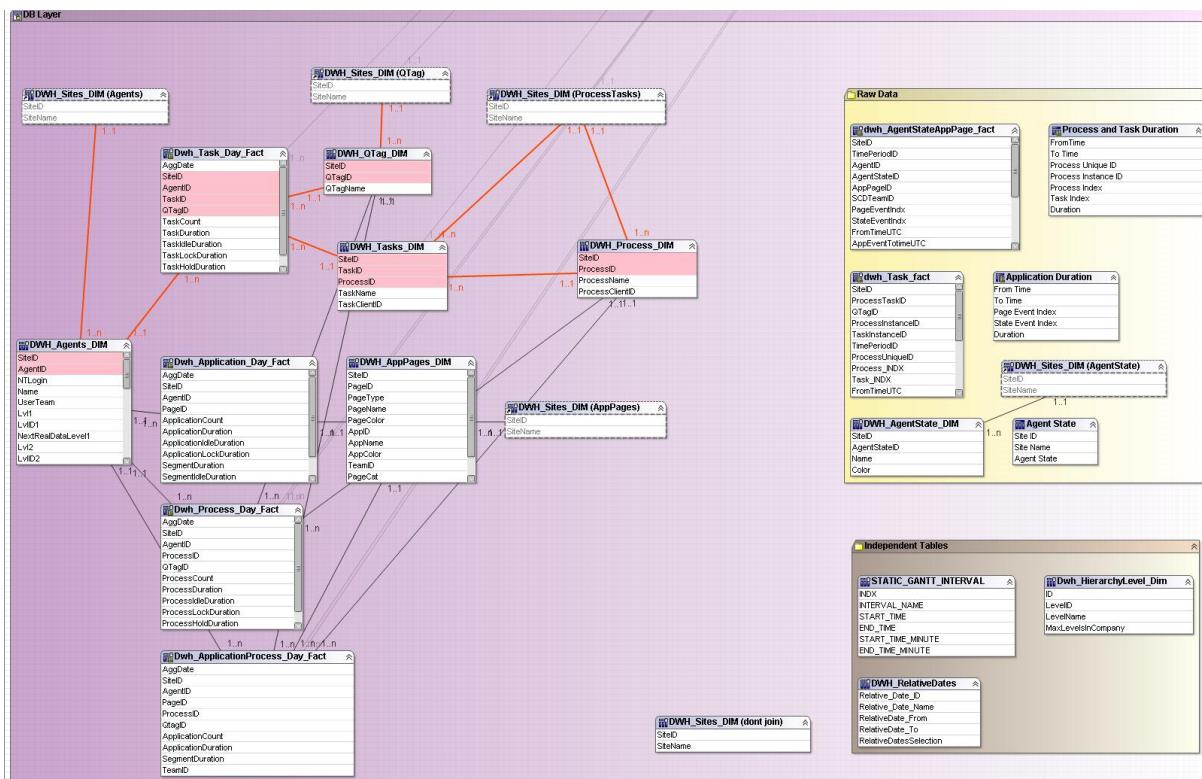
Contents

Data Mart Table Relationships	335
General Data Mart Schema Tables	337
Data Mart Database and Operational Database Jobs	354
Desktop Analytics Data Mart Schema Tables	357
Data Mart Objects	390

The **Data Mart database schema** utilizes a data warehousing methodology that is based on **Fact tables** (or transaction tables). Fact tables consist of the measurements, metrics or facts that are included in a business process.

The Data Mart database schema Fact tables use a **snowflake-like schema**, meaning the Fact table is surrounded by several **dimension tables**, herein referred to as **Dim tables**, which supply the Fact tables with the required data.

The following image illustrates the Data Mart snowflake schema.



About the SiteID Parameter

The SiteID parameter used throughout the Data Mart database tables is a unique identifier for each center of information, which is called a "Site" in the database and a "Data Hub" in the Data Mart reports. The SiteID contains both the source (site, hub, center) and its original ID.

The SiteID parameter provides the following capabilities:

- **When combined with an AgentID,** ensures that the information generated for the AgentID pertains to the correct site or data hub. This ensures that if there are multiple sites at which the AgentID might be assigned to more than one agent, the combination of AgentID and SiteID ensures that the information obtained is on the correct agent.
- **When using multiple data hubs or sites,** the SiteID parameter enables you to filter according to a specific site using the SiteID parameter.

Data Mart Table Relationships

The Data Mart tables share a **logical** relationship rather than a physical one.

NOTE: The Raw Data Fact Tables ([Dwh_AgentStateAppPage_Fact](#) on page 368 and [Dwh_Task_Fact](#) on page 370) do not have built-in relations with the Dim tables in the **current** Cognos schema; however, they can be connected to the DIM tables using SQL queries.

Each Fact table draws information from several Dim tables; the relationship between each Fact table and its Dim tables is shown at the beginning of each Fact table description (for example, see [Dwh_Application_Day_Fact](#) on page 378) and shows the relationship between the various table types.

The diagram below shows the overall relationship between the different tables, while the specific relationships between the tables are detailed per each Fact table in the following sections.

Refer to the following table to view the overall relationships between Fact and Dim tables. To view the specific information that is shared between the tables, refer to the Fact tables.

Fact Table Name	Dim Table Names
Dwh_Application_Day_Fact	DWH_Sites_DIM DWH_Agents_DIM DWH_Application_Pages_DIM
Dwh_Process_Day_Fact	DWH_Sites_DIM DWH_Agents_DIM DWH_QTag_DIM DWH_Process_DIM
Dwh_ApplicationProcess_Day_Fact	DWH_Sites_DIM DWH_Agents_DIM DWH_Application_Pages_DIM DWH_Process_DIM DWH_QTag_DIM
Dwh_Task_Day_Fact	DWH_Sites_DIM DWH_Agents_DIM DWH_QTag_DIM DWH_Task_DIM

A: Data Mart Schema
Data Mart Table Relationships

General Data Mart Schema Tables

The General Data Mart schema includes tables that are used in all Real-Time Solutions and are part of the solution platform. The schema includes the following database tables.

GNR Tables	338
General DIM Tables	339
Dwh_Sites_Dim	340
Dwh_Calendar_Dim	341
Dwh_Agents_Dim	343
Dwh_Team_Dim	344
KPI Tables	345
KPI_META	346
KPI_RESULT	348
KPI_RESULT_AGGREGATION	350
DC_SAMPLE Table	352

GNR Tables

GNR tables are user-defined, dynamic tables in the Data Mart schema. These tables feature a **SiteId** column, which is added to the table in order to support multiple Data Hubs in Data Mart.

General DIM Tables

The following **DIM** tables are included in the Data Mart database schema. These tables are essentially the explanations of the information contained in the **Fact** tables:

- [Dwh_Sites_Dim](#) on the next page
- [Dwh_Calendar_Dim](#) on page 341
- [Dwh_Agents_Dim](#) on page 343

Dwh_Sites_Dim

The following table contains details on the site:

Column Name	Data Type	Nullable	Description
SiteID	int IDENTITY (1,1))	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
SiteName	varchar(250)	NO	The name of the site
SiteDBHostAndName	varchar(50)	YES	<i>For internal use only</i>
SiteLastLoadDate	datetime	YES	
AllLastLoadDate	datetime	YES	
COMBINED_LINKED_SERVER	varchar(200)	YES	
PATH_LAST_UPDATE_TIME	datetime	YES	
PATH_BULK_COPY_HOURS	int	YES	
PATH_EVENT_MIN_DURATION_SECONDS	int	YES	
PATH_EVENT_SYNC_HOURS	int	YES	
bStarted	bit	YES	
dtPopulationUpperLimit	datetime	YES	
is_enabled	bit	YES	

Dwh_Calendar_Dim

The following table contains all of the relevant date information required for the schema::

Column Name	Data Type	Nullable	Description
DATE_ID	int	NO	The code of the date
DATE	datetime	NO	The date (for example: "2014-01-01")
NEXT_DAY_DATE	datetime	NO	The date of the following (next) day
YEAR	smallint	NO	The year
YEAR_QUARTER	int	NO	
YEAR_MONTH	int	NO	
YEAR_DAY_OF_YEAR	int	NO	
QUARTER	tinyint	NO	The quarter (for example, 1)
MONTH	tinyint	NO	The month (for example, 7)
DAY_OF_YEAR	smallint	NO	
DAY_OF_MONTH	smallint	NO	The day of the month (for example, 15, 17)
DAY_OF_WEEK	tinyint	NO	The day of the week (for example, Monday)
YEAR_NAME	varchar(4))	NO	
YEAR_QUARTER_NAME	varchar(7))	NO	The year and the quarter (2015 Q1)
YEAR_MONTH_NAME	varchar(8))	NO	The year and the month (2015 May)
YEAR_MONTH_NAME_LONG	varchar(14))	NO	The year and the full month (2015 March)
QUARTER_NAME	varchar(2))	NO	The name of the quarter (for example, Q2)

Column Name	Data Type	Nullable	Description
MONTH_NAME	varchar(3))	NO	The short name of the month (for example, Mar)
MONTH_NAME_LONG	varchar(9))	NO	The long name of the month (for example, March)
WEEKDAY_NAME	varchar(3))	NO	The short name of the weekday (for example, Tue)
WEEKDAY_NAME_LONG	varchar(9))	NO	The long name of the weekday (for example, Tuesday)
START_OF_YEAR_DATE	datetime	NO	The start of the year date
END_OF_YEAR_DATE	datetime	NO	The end of the year date
START_OF_QUARTER_DATE	datetime	NO	The start of the quarter date
END_OF_QUARTER_DATE	datetime	NO	The end of the quarter date
START_OF_MONTH_DATE	datetime	NO	The start of the month date
END_OF_MONTH_DATE	datetime	NO	The end of the month date
START_OF_WEEK_STARTING_SUN_DATE	datetime	NO	The start day if the week starts on Sunday
END_OF_WEEK_STARTING_SUN_DATE	datetime	NO	The end date if the week starts on Sunday
START_OF_WEEK_STARTING_MON_DATE	datetime	NO	The start day if the week starts on Monday
END_OF_WEEK_STARTING_MON_DATE	datetime	NO	The end date if the week starts on Monday

Dwh_Agents_Dim

The following table details the information provided on the agent:

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3,...)
AgentID	int IDENTITY (1,1))	NO	The code of the agent in Data Mart (for example, 0,1,2,...)
NTLogin	varchar(300)	YES	The code of the agent (from Operational)
Name	varchar(300)	YES	The name of the agent
UserTeamId	int	YES	The code of the team of agents (DWH_Team_DIM)
Lvl1 ... Lvl9	varchar(50)	YES	This is the basis for the Cognos hierarchy of agents

Dwh_Team_Dim

The following table contains

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
TeamID	int IDENTITY (1,1))	NO	The code of the team of agents
TeamName	varchar(40)	YES	The name of the team type
TeamOpID	varchar(400)	YES	The code of the team instances type (string)

KPI Tables

The following are the **KPI** tables in the Data Mart database schema:

- [KPI_META](#) on the next page
- [KPI_RESULT](#) on page 348
- [KPI_RESULT_AGGREGATION](#) on page 350

KPI_META

The following table contains KPI value information such as thresholds and calculations.

Column Name	Data Type	Nullable	Description
INDX	bigint	YES	A unique ID for each KPI entry in the table
SiteID	numeric (12,0)	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
ID	varchar(200)	YES	The unique ID for each KPI entry
CS_INDX	numeric (12,0)	YES	The ID for a set of KPI's for each process
CTRL_UTC_SERVER_TIME	datetime	YES	The time of the server when the entry is created (UTC time)
CTRL_USER_ID	varchar(200)	YES	The User ID
DISPLAY_NAME	varchar(50)	YES	The KPI Name
DESCRIPTION	varchar(400)	YES	The KPI description
CALCULATION_FORMULA_ID	decimal(5,0)	YES	A number that indicates the calculation formula
DISPLAY_MASK_ID	decimal(5,0)	YES	A number that indicates the display mask
THRESHOLD1	decimal (10,5)	YES	KPI Threshold val1
THRESHOLD2	decimal (10,5)	YES	KPI Threshold val2
THRESHOLD3	decimal (10,5)	YES	KPI Threshold val3
THRESHOLD4	decimal (10,5)	YES	KPI Threshold val4

Column Name	Data Type	Nullable	Description
ASCENDING	decimal(1,0)	YES	Number (1 or 0)
CURRENT_TIME_FRAME_ID	decimal(5,0)	YES	Number (1 or 0)
CURRENT_TIME_COUNT	decimal(9,0)	YES	Number (1 or 0)
HISTORY_TIME_FRAME_ID	decimal(5,0)	YES	Number (1 or 0)
HISTORY_TIME_COUNT	decimal(9,0)	YES	Number (1 or 0)
MEASURE_UNIT_ID	decimal(5,0)	YES	Number (1 or 0)
SHOW_TEAM	decimal(1,0)	YES	Number (1 or 0)
SHOW_HISTORY	decimal(1,0)	YES	Number (1 or 0)
VISIBLE_FOR_AGENT	decimal(1,0)	YES	Number (1 or 0)
VISIBLE_FOR_SUPER	decimal(1,0)	YES	Number (1 or 0)
SCALE	numeric (18,0)	YES	The number of digits after the decimal point

KPI_RESULT

The following table contains the KPI values for each process configured with KPIs.

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
INDX	numeric (12,0)	NO	A primary key, unique ID generated for each entry
KPI_META_INDX	numeric (12,0)	YES	A foreign key, unique ID that generates for each KPI
CTRL.UTC_SERVER_TIME	datetime	YES	The UTC time of the server when entry is created
CTRL_USER_ID	varchar(200)	YES	The User ID
VAL	decimal (14,5)	YES	The KPI value
TEAM_ID	varchar(200)	YES	The Team ID
USER_TZ	varchar(20)	YES	The time zone
LOCAL_USER_TIME	datetime	YES	The local time of the server when the entry is created
UTC_USER_TIME	datetime	NO	The UTC time of the client when the entry is created
USER_DISPLAY	varchar(50)	YES	Displays the user name
TEAM_DISPLAY	varchar(50)	YES	Displays the team name
GUID	varchar(200)	YES	A unique identifier for the KPI event
SUPER_TEAM_ID	varchar(200)	YES	Displays the Group ID

Column Name	Data Type	Nullable	Description
SUPER_TEAM_DISPLAY	varchar(50)	YES	Displays the name of the group
SUPER_SUPER_TEAM_ID	varchar(200)	YES	Displays the top hierarchy group ID
SUPER_SUPER_TEAM_DISPLAY	varchar(50)	YES	Displays the top hierarchy group
PROCESS_INSTANCE_ID	varchar(200)	YES	A unique ID for each process instance
AgentID	int	YES	The code of the agent in Data Mart (for example, 0,1,2,...)
PROCESS_TYPE_INDX	int	YES	A foreign key for the related process entry type
PROCESS_INSTANCE_INDX	numeric (12,0)	YES	A foreign key for the related process entry numeric ID
QTagID	int	YES	The code of the Queue Tag (sub type of process in specific context)

KPI_RESULT_AGGREGATION

The following table contains the aggregated KPI values for each process configured with KPIs.

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
INDX	numeric (12,0)	NO	A unique ID for each KPI result entry in the table
KPI_META_ID	varchar(200)	NO	A foreign key to the KPI metadata entry
CTRL_UTC_SERVER_TIME	datetime	NO	The time of the server when the entry is created (UTC time)
CTRL_USER_ID	varchar(200)	NO	The User ID
VAL	decimal (20,5)	NO	The KPI value
TEAM_ID	varchar(200)	NO	The Team ID
SUPER_TEAM_ID	varchar(200)	YES	The Group ID
NUM_OF_COMPONENTS	decimal(12, 0)	NO	The number of components
USER_TZ	varchar(20)	YES	The client time zone
UTC_USER_AGG_TIME	datetime	NO	The user start time (in UTC time) ('2014-01-15 00:00:00.000')
USER_DISPLAY	varchar(50)	NO	Displays the user name
TEAM_DISPLAY	varchar(50)	NO	Displays the name of the team
SUPER_TEAM_DISPLAY	varchar(50)	YES	Displays the name of the group

Column Name	Data Type	Nullable	Description
SUPER_SUPER_TEAM_ID	varchar(200)	YES	Displays the top hierarchy group ID
SUPER_SUPER_TEAM_DISPLAY	varchar(50)	YES	Displays the top hierarchy group
CS_ID	varchar(200)	NO	A foreign key to the KPI's solution metadata entry

DC_SAMPLE Table

The following table contains the Data Collection (DC) Sample value information.

Column Name	Data Type	Nullable	Description
INDX	numeric(12, 0)	NO	A primary key, unique ID generated for each entry
DC_META_INDX	numeric(12, 0)	YES	A foreign key to the metadata entry
TEAM_ID	nvarchar(200)	YES	The generating Team ID
UTC_USER_START_TIME	datetime	NO	The user start time (in UTC time) ('2014-01-15 13:28:42.654')
LOCAL_USER_START_TIME	datetime	YES	The user start time (in local time) ('2014-01-15 13:28:42.654')
UTC_USER_END_TIME	datetime	YES	The user end time (in UTC time) ('2014-01-15 13:28:42.654')
LOCAL_USER_END_TIME	datetime	YES	The user end time (in local time) ('2014-01-15 13:28:42.654')
CTRL.UTC_SERVER_TIME	datetime	YES	The time the record was saved in the Operational database (in UTC time) ('2014-01-15 13:28:42.654')
CTRL_USER_ID	varchar(200)	YES	The generating User ID
USER_DISPLAY	varchar(50)	YES	The generating User Name
TEAM_DISPLAY	varchar(50)	YES	The generating Team Name
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)

Column Name	Data Type	Nullable	Description
GUID	varchar(200)	YES	A unique ID generated for each Data Collection entry
PROCESS_INSTANCE_ID	varchar(200)	YES	A foreign key to the related process entry ID
AgentID	int	YES	The code of the agent in Data Mart (for example, 0,1,2,...)
PROCESS_TYPE_INDX	int	YES	A foreign key to the related process entry type
PROCESS_INSTANCE_INDX	numeric(12, 0)	YES	A foreign key to the related process entry numeric ID
QTagID	int	YES	The use of the process in a specific context
USER_TZ	varchar(20)	YES	The user time zone

Data Mart Database and Operational Database Jobs

The following section details all Data Mart- and Operational-related database jobs.

Data Mart Database Job

Job Name	Description	Required Permissions
Nice RTI DM Differential Backup	Nightly differential (delta) backup of Real-Time Solutions Data Mart database.	RTI DBs ■ db_owner msdb ■ SQLAgentUserRole
Nice RTI DM Full Backup	Weekly full backup of Real-Time Solutions Data Mart database and the system databases: master and msdb.	RTI DBs ■ db_owner master ■ db_backupoperator msdb ■ db_backupoperator ■ SQLAgentUserRole
Nice RTI DM Log Backup	Hourly backup of Real-Time Solutions Data Mart database transactional logs.	RTI DBs ■ db_owner msdb ■ SQLAgentUserRole
Nice RTI DM Partition Management	Prepares the partitions in advance (weekly).	RTI DBs ■ db_owner msdb ■ SQLAgentUserRole

Job Name	Description	Required Permissions
Nice RTI DM ReIndex	Reorganize Data Mart table indexes with high percentage of changes, to improve performance.	RTI DBs <ul style="list-style-type: none"> ■ db_owner msdb <ul style="list-style-type: none"> ■ SQLAgentUserRole
Nice RTI DM Update Statistics	Updates statistics on Data Mart tables, to improve performance.	RTI DBs <ul style="list-style-type: none"> ■ db_owner msdb <ul style="list-style-type: none"> ■ SQLAgentUserRole
Nice RTI DM Population	The population jobs continuously transfer data from the operational database to the Data Mart. In the Data Mart, data undergoes aggregations for report purposes.	RTI DBs <ul style="list-style-type: none"> ■ db_owner msdb <ul style="list-style-type: none"> ■ SQLAgentUserRole

Operational Database Jobs

Job Name	Description	Required Permissions
Nice RTI RA retention	Retention for detailed and summary data in Robotics tables.	RTI DBs <ul style="list-style-type: none"> ■ db_owner msdb <ul style="list-style-type: none"> ■ SQLAgentUserRole
Nice RTI retention non partition	Retention of data collection tables only.	RTI DBs <ul style="list-style-type: none"> ■ db_owner master <ul style="list-style-type: none"> ■ db_backupoperator msdb <ul style="list-style-type: none"> ■ db_backupoperator <ul style="list-style-type: none"> ■ SQLAgentUserRole

Job Name	Description	Required Permissions
Nice Partition Management	Prepares the partitions in advance (weekly).	RTI DBs <ul style="list-style-type: none"> ■ db_owner msdb ■ SQLAgentUserRole
Nice RTI ReIndex	Reorganize indexes with high percentage of changes, to improve performance.	RTI DBs <ul style="list-style-type: none"> ■ db_owner msdb ■ SQLAgentUserRole
Nice RTI Update Statistics	Updates statistics, to improve performance.	RTI DBs <ul style="list-style-type: none"> ■ db_owner msdb ■ SQLAgentUserRole
Nice RTI RA aggregations	Activates the aggregation calculations in the operational database.	
Nice RTI RA Downtime	Activates the downtime calculations in the operational database.	

Desktop Analytics Data Mart Schema Tables

The Desktop Analytics Data Mart schema includes the following database tables.

Desktop Analytics DIM Tables	358
Dwh_Tasks_Dim	359
Dwh_QTag_Dim	360
Dwh_Process_Dim	361
Dwh_ApplicationPage_Dim	362
Dwh_HierarchyLevel_Dim	363
Dwh_AgentState_Dim	364
Dwh_Ref_Process_Stop_Reason_Dim	365
DWH_OFF_DESKTOP_REASON_DIM	365
Raw Data Fact Tables	367
Dwh_AgentStateAppPage_Fact	368
Dwh_Task_Fact	370
Dwh_Path_Fact	372
Dwh_Process_Instance_Fact	374
Dwh_Off_desktop_User_Reportings_Fact	375
Aggregated Data Fact Tables	377
Dwh_Application_Day_Fact	378
Dwh_Process_Day_Fact	381
Dwh_ApplicationProcess_Day_Fact	384
Dwh_Task_Day_Fact	387

Desktop Analytics DIM Tables

The following **DIM** tables are included in the Data Mart database schema. . .

Dwh_Tasks_Dim	359
Dwh_QTag_Dim	360
Dwh_Process_Dim	361
Dwh_ApplicationPage_Dim	362
Dwh_HierarchyLevel_Dim	363
Dwh_AgentState_Dim	364
Dwh_Ref_Process_Stop_Reason_Dim	365
DWH_OFF_DESKTOP_REASON_DIM	365

Dwh_Tasks_Dim

The following table details the information provided on the task instances:

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
TaskID	int	NO	A unique ID for each task instance, defined by the SQL Server (number)
ProcessID	int	NO	A unique ID for each process instance, defined by the SQL Server (number)
TaskName	varchar(50)	YES	The name of the task instances type
TaskClientID	int	YES	The code of the task instances type (number)
TaskOpID	varchar (200)	YES	The code of the task instances type (string)

Dwh_QTag_Dim

The following table contains information on the Queue Tag:

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
QTagID	int IDENTITY (1,1))	NO	A unique ID for each Queue Tag, defined by the SQL Server (number)
QTagName	varchar(40)	YES	The name of the Queue Tag

Dwh_Process_Dim

The following table details the information provided on the process instances:

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
ProcessID	int	NO	A unique ID for each process instance, defined by the SQL Server (number)
ProcessName	varchar(50)	YES	The name of the process instances type
ProcessClientID	int	YES	The code of the process instances type (number)
ProcessOpID	varchar (200)	YES	The code of the process instances type (string)
Measure	varchar(50)	YES	A description of what is being measured in the path fact table

Dwh_ApplicationPage_Dim

The following table details the information provided on applications and pages:

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
PageID	int	NO	The code (index) of the Page Display Name
PageType	tinyint	NO	The code of the type of page
PageName	varcharl (300))	YES	The Page Display Name
PageColor	varcharl(6))	YES	The color that was defined for the page reports
AppID	int	YES	The code (index) of the Application Display Name
AppName	varcharl (300))	YES	The Application Display Name
AppColor	varcharl(6))	YES	The color that was defined for the application reports
PageCat	varcharl (500))	YES	The category of the Page Display Name
AppCat	varcharl (500))	YES	The category of the Application Display Name
ReportCat	varcharl (500))	YES	The category of the Page/Application Display Name used in the report
TeamID	int	YES	The code of the team of agents (for example, 0,1,2,...). This can affect the category of the page, therefore, there is a PageID record per TeamID.

Dwh_HierarchyLevel_Dim

The following table information about the hierarchy of agents (used as the basis for the Cognos hierarchy of agents):

Column Name	Data Type	Nullable	Description
ID	int	YES	The unique code of the level (0,1,2...10)
LevelID	varchar(50))	YES	The code of the level
LevelName	varchar(50))	YES	The name of the level (Site (Data Hub), Agent, Group, Team...)
MaxLevelID	int	YES	The code that shows the maximum level in the hierarchy
UICode	int	YES	An indicator if the row may be edited

Dwh_AgentState_Dim

The following table details the information provided on the state (status) of the agent:

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
AgentStateID	int	NO	The code of the computer work state (1, 2, 3, 4, 5 , 0)
Name	varchar(50)	YES	The name (description) of the computer work state (log in, idle, lock, process active, process on hold, log out)
Color	varchar(50)	YES	The color that was defined for the reports
OriginalID	varchar(50)	YES	The code of the agent state (from Operational)

Dwh_Ref_Process_Stop_Reason_Dim

The following table details the information provided on the process Stop Reason.

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
STOP_REASON_ID	int	NO	The code of the process Stop Reason (1, 2, 3, 4, 5 , 0)
STOP_REASON_GUID	varchar(50)	NO	The unique ID of the Stop Reason
STOP_REASON_DESC	varchar(50)	YES	The name of the Stop Reason
[IS_DEFAULT]	BIT	NO	Specifies whether the Stop Reason has been set as a default reason in the Process Monitor.
DELETED_ON	datetime	YES	Specifies when the Stop Reason was deleted.

DWH_OFF_DESKTOP_REASON_DIM

The following table details the information provided on Off-Desktop reasons.

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
OFF_DESKTOP_REASON_ID	int	NO	The ID of the off desktop reason
OFF_DESKTOP_REASON_GUID	varchar (50)	NO	The unique ID of the off desktop reason
OFF_DESKTOP_REASON_DESC	varchar (200)	YES	The description of the off desktop reason

Column Name	Data Type	Nullable	Description
DELETED_ON	datetime	YES	Specifies when the off desktop reason was deleted

Raw Data Fact Tables

The Data Mart database schema includes two **Raw Data Fact tables** and two detailed fact tables based on the Raw Data Fact Tables:

- Dwh_AgentStateAppPage_Fact
- Dwh_Task_Fact

Dwh_AgentStateAppPage_Fact	368
Dwh_Task_Fact	370
Dwh_Path_Fact	372
Dwh_Process_Instance_Fact	374
Dwh_Off_desktop_User_Reportings_Fact	375

Dwh_AgentStateAppPage_Fact

The Dwh_AgentStateAppPage_Fact table is one of two Raw Data Fact Tables included in the Data Mart database schema. This table contains data on the Agent state and on the Application page.

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
TimePeriodID	decimal(26, 8)	NO	Not currently in use
fromtime	datetime	YES	The segment start time (in local time) ('2014-01-15 13:28:42.654')
totime	datetime	YES	The segment end time (in local time) ('2014-01-15 13:28:42.654')
totimeUTC	datetime	YES	The segment end time (in UTC time) ('2014-01-15 13:28:42.654')
SecondsDuration	decimal(18, 3)	YES	The duration of the segment in seconds (for example, 132.132)
AgentID	int	YES	The code of the agent in Data Mart (for example, 0,1,2,...)
AgentStateID	int	YES	This is the code of the computer work state (see Dwh_AgentState_Dim on page 364).
AppPageID	int	YES	This is the index of the Page Display Name (0,1,2,...)
TeamID	int	YES	The code of the team of agents (for example, 0,1,2,...)
PageEventIdx	bigint	YES	The Indx column of the page (application) event from Operational

Column Name	Data Type	Nullable	Description
StateEventIdx	bigint	YES	The Index column of the state event from Operational
FromTimeUTC	datetime	YES	The segment start time (in UTC time) ('2014-01-15 13:28:42.654')
AppEventTotimeUTC	datetime	YES	The application event end time (in UTC time) ('2014-01-15 13:28:42.654')
AppEventTotime	datetime	YES	The application event end time (in local time) ('2014-01-15 13:28:42.654')
StateEventTotimeUTC	datetime	YES	The state event end time (in UTC time) ('2014-01-15 13:28:42.654')
StateEventTotime	datetime	YES	The state event end time (in local time) ('2014-01-15 13:28:42.654')

Dwh_Task_Fact

The Dwh_Task_Fact table contains raw data on the tasks.

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
ProcessTaskID	int	YES	The code of the Task Type
QTagID	int	YES	The use of the process in a specific context
ProcessInstanceId	varchar (100)	YES	The code of the process instance (string)
TaskInstanceId	varchar (100)	YES	The code of the task instance (string)
TimePeriodID	decimal(26, 8)	NO	Not currently in use
SecondsDuration	decimal(18, 3)	YES	The duration of the segment in seconds (for example, 132.132)
ProcessUniqueId	varchar (100)	YES	The unique code of the process instance
Process_INDX	bigint	YES	A unique ID for each process instance, defined by the SQL Server (number)
Task_INDX	bigint	YES	A unique ID for each task instance, defined by the SQL Server (number)
FromTimeUTC	datetime	YES	The segment start time (in UTC time) ('2014-01-15 13:28:42.654')
FromTime	datetime	YES	The segment start time (in local time) ('2014-01-15 13:28:42.654')

Column Name	Data Type	Nullable	Description
ToTimeUTC	datetime	YES	The segment end time (in UTC time) ('2014-01-15 13:28:42.654')
ToTime	datetime	YES	The segment end time (in local time) ('2014-01-15 13:28:42.654')
TaskEventToTimeUTC	datetime	YES	The task event end time (in UTC time) ('2014-01-15 13:28:42.654')
TaskEventToTime	datetime	YES	The task event end time (in local time) ('2014-01-15 13:28:42.654')
ProcessEventToTimeUTC	datetime	YES	The process event end time (in UTC time) ('2014-01-15 13:28:42.654')
ProcessEventToTime	datetime	YES	The process event end time (in local time) ('2014-01-15 13:28:42.654')
AgentId	int	YES	The code of the agent in Data Mart (for example, 0,1,2,...)
TaskEventINDX	bigint	YES	A unique ID for each task instance event , defined by the SQL Server (number)
TaskEventType	varchar(50)	YES	The type of task instance event
Measure_Val	decimal(18, 3)	YES	The value of the process efficiency - measured according to a definition in the Real-Time Designer
STOP_REASON_ID	int	YES	The ID assigned to the Stop Reason created in the Real-Time Designer Desktop Process Monitor.

Dwh_Path_Fact

The Dwh_Path_Fact table contains raw data on the paths.

Column Name	Data Type	Nullable	Description
INDX	numeric(18)	NO	The operational process instance index
FromTimeUTC	datetime	NO	The segment start time (in UTC time) ('2014-01-15 13:28:42.654')
ToTimeUTC	datetime	YES	The segment to time (in UTC time) ('2014-01-15 13:28:42.654')
PageID	int	YES	The code (index) of the Page Display Name
ApplicationPathIdx	int	YES	A unique ID for each application path defined by the SQL Server
SiteID	int	YES	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
AgentID	int	YES	The code of the agent in Data Mart (for example, 0,1,2,...)
TeamID	int	YES	The code of the team of agents (for example, 0,1,2,...)
QtagID	int	YES	The use of the process in a specific context
PageName	nvarchar (900)	YES	The Page Display Name
AppSerialID	smalint	YES	The ordinal number of the application in the process, where the duration is higher than 5 seconds in the operational database
SecondsDuration	decimal(18, 3)	YES	The duration of the segment in seconds (for example, 132.132)

Column Name	Data Type	Nullable	Description
ProcessTypeID	int	YES	A primary key that points to the wfm_process_type.INDX field
ProcessName	nvarchar(50)	YES	The name of the process instances type
ProcessClientID	int	YES	The code of the process instances type (number)
KPI_Name	nvarchar(50)	YES	
KPI_Value	decimal(14, 5)	YES	
Measure_Val	decimal(18, 3)	YES	The value of the process efficiency - measured according to a definition in the Real-Time Designer

Dwh_Process_Instance_Fact

This table contains details on the Desktop Analytics Process instances.

Column Name	Data Type	Nullable	Description
Process_INDX	bigint	NO	A unique ID for each process instance, defined by the SQL Server (number)
ProcessUniqueId	varchar (250)	YES	The unique code of the process instance
PROCESS_TYPE_INDX	decimal(9)	YES	A foreign key to the related process entry type
ProcessName	varchar(50)	YES	The name assigned to the process
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
AgentId	int	YES	The code of the agent in Data Mart (for example, 0,1,2,...)
ProcessStartDate	datetime	NO	The process start date ('2014-01-15 13:28:42.654')
ProcessEndDate	datetime	YES	The process end date ('2014-01-15 13:28:42.654')
ProcessStartDateUTC	datetime	YES	The process start date in UTC ('2014-01-15 13:28:42.654')
ProcessEndDateUTC	datetime	YES	The process end date in UTC ('2014-01-15 13:28:42.654')
ProcessNetDuration	decimal(18, 3)	YES	The net duration of all process events of the same type for the aggregation day
ProcessHoldDuration	decimal(18, 3)	YES	The duration of all process events of the same type for the aggregation day during a "hold" state

Column Name	Data Type	Nullable	Description
ProcessIdleDuration	decimal(18, 3)	YES	The duration of all process events of the same type for the aggregation day during an "idle" state
ProcessLockDuration	decimal(18, 3)	YES	The duration of all process events of the same type for the aggregation day during a "lock" state
ProcessTotalDuration	decimal(18, 3)	YES	The duration of all process events for the aggregation day

Dwh_Off_desktop_User_Reportin_Fact

This table contains details on the Desktop Analytics user Off-Desktop reasons.

Column Name	Data Type	Nullable	Description
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)
AgentID	int	NO	
OFF_DESKTOP_REASON_ID	int	NO	The ID of the off desktop reason
Start_time	datetime	NO	The off desktop reason start time (in local time)
Stop_time	datetime	NO	The off desktop reason stop time (in local time)
UTC_Start_time	datetime	NO	The off desktop reason start time (in UTC time)
UTC_Stop_time	datetime	NO	The off desktop reason stop time (in UTC time)

Column Name	Data Type	Nullable	Description
Duration	int	NO	The duration of the off desktop reason
dtDMMModifyDate	datetime	YES	The modification date of the off desktop reason

Aggregated Data Fact Tables

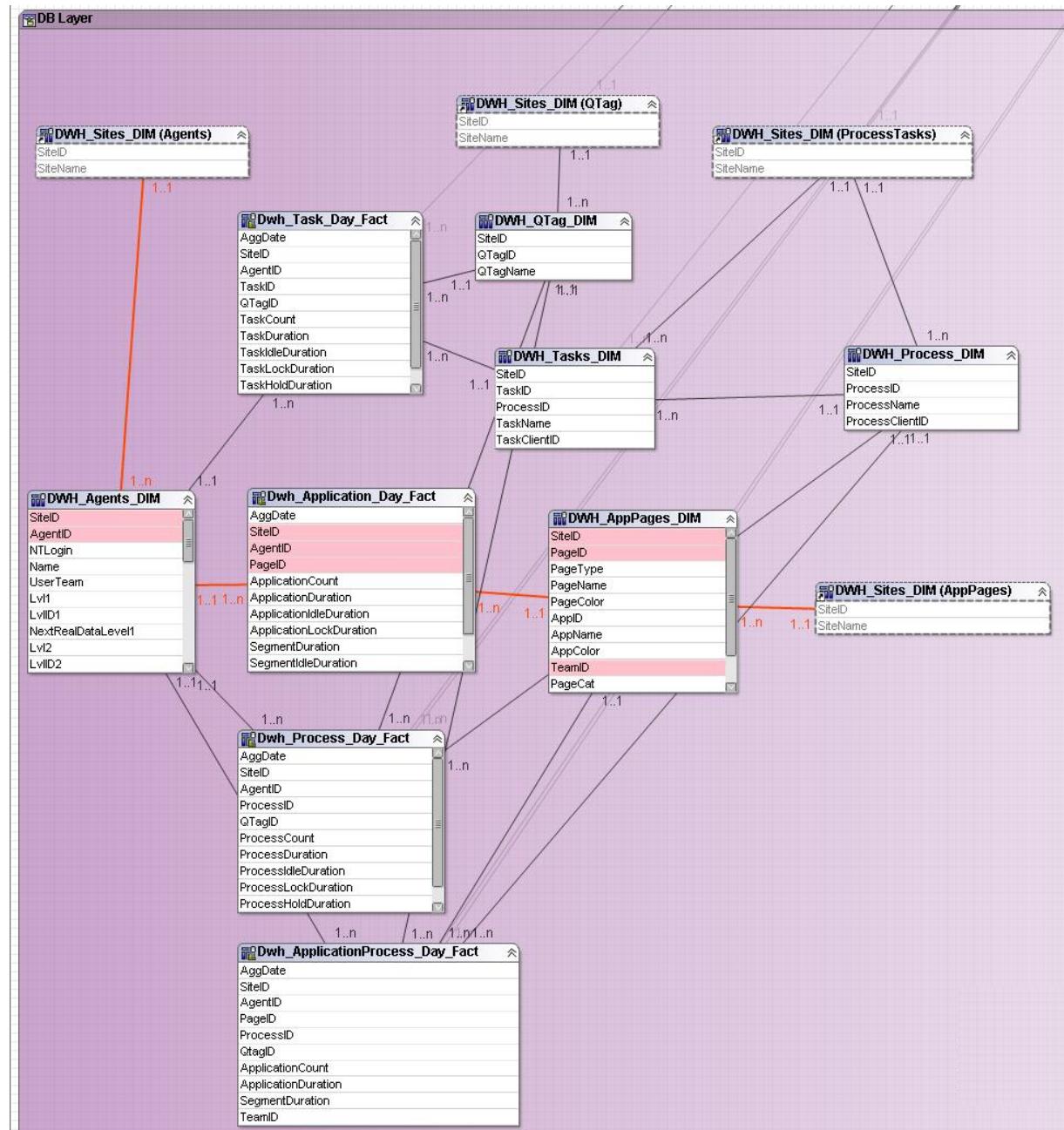
The following section details the Data Mart database **Aggregated Data Fact** tables. Data Mart includes two types of Fact tables:

- Raw Data Fact tables (transactions):
 - Dwh_AgentStateAppPage_Fact
 - Dwh_Task_Fact
- Aggregated Data Fact tables, whereby data from transactions is aggregated and prepared for Cognos reports:
 - Dwh_Application_Day_Fact
 - Dwh_Process_Day_Fact
 - Dwh_ApplicationProcess_Day_Fact
 - Dwh_Task_Day_Fact

Dwh_Application_Day_Fact	378
Dwh_Process_Day_Fact381
Dwh_ApplicationProcess_Day_Fact	384
Dwh_Task_Day_Fact	387

Dwh_Application_Day_Fact

The Dwh_Application_Day_Fact table shows the daily aggregated data of application events.

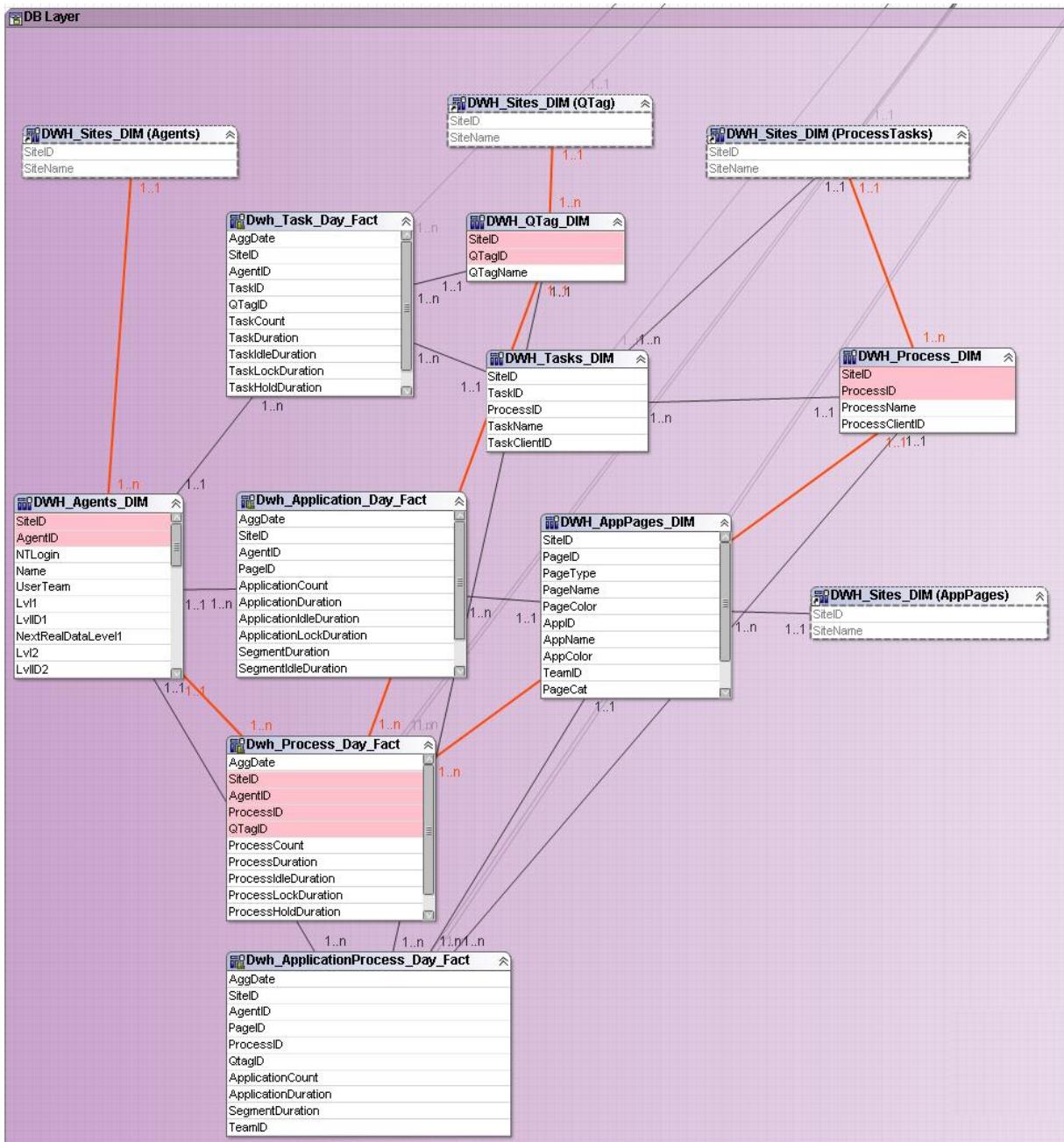


Column Name	Data Type	Nullable	Description	Entity (ID) Source Name
AggDate	datetime	NO	The day (local time) of the data aggregation	
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3,...)	DWH_Agents_DIM DWH_Application_Pages_DIM
AgentID	int	NO	The code of the agent in Data Mart (for example, 0,1,2,...)	DWH_Agents_DIM
TeamID	int	NO	The code of the team of agents (for example, 0,1,2,...)	DWH_Agents_DIM
PageID	int	NO	The code of the Display Name of the page	DWH_Application_Pages_DIM
ApplicationCount	int	NO	The number of page events of the same PageID	
ApplicationDuration	decimal(18, 3))	YES	The duration of all page events of the same type for the aggregation day and agent during a "log in" state	
ApplicationIdleDuration	decimal(18, 3))	YES	The duration of all page events of the same type for the aggregation day and agent during an "idle" state	

Column Name	Data Type	Nullable	Description	Entity (ID) Source Name
ApplicationLockDuration	decimal(18, 3))	YES	The duration of all page events of the same type for the aggregation day and agent during a "lock" state	
SegmentDuration	decimal(18, 3))	YES	The duration of all segments of the same type for the aggregation day and agent during a "log in" state	
SegmentIdleDuration	decimal(18, 3))	YES	The duration of all segments of the same type for the aggregation day and agent during an "idle" state	
SegmentLockDuration	decimal(18, 3))	YES	The duration of all segments of the same type for the aggregation day and agent during a "lock" state	

Dwh_Process_Day_Fact

The Dwh_Process_Day_Fact table shows the daily aggregated data of process events (instances).

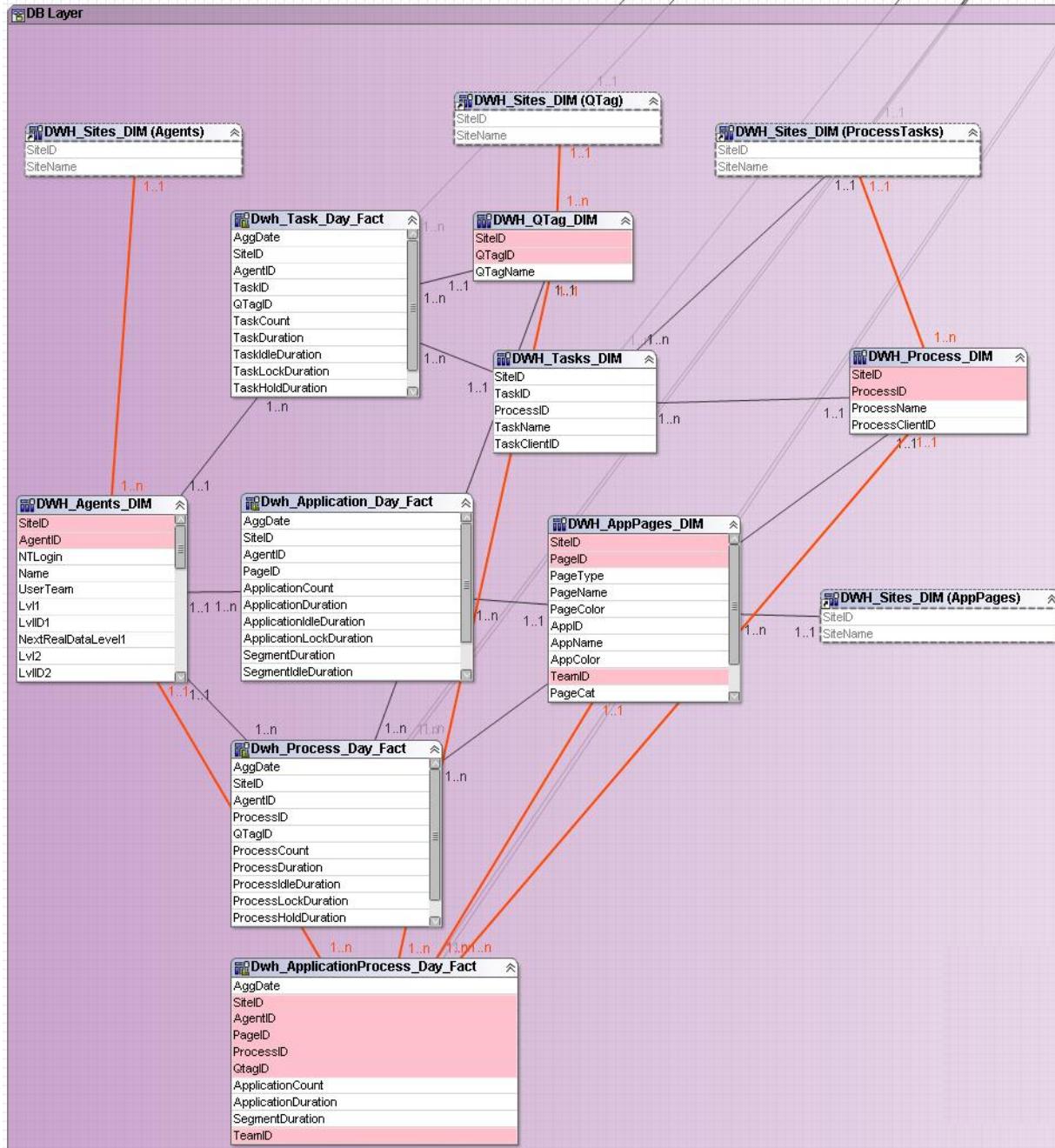


Column Name	Data Type	Nullable	Description	Entity (ID) Source Name
AggDate	datetime	NO	The day (local time) of the data aggregation	
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)	DWH_Sites_DIM
AgentID	int	NO	The code of the agent in Data Mart (for example, 0,1,2,...)	DWH_Agents_DIM
TeamID	int	NO	The code of the team of agents (for example, 0,1,2,...)	DWH_Agents_DIM
ProcessID	int	NO	The code of the Process Type	DWH_Process_DIM
QTagID	int	NO	The use of the process in a specific context	DWH_QTag_DIM
ProcessCount	int	YES	The number of process events (instances) of the same Process ID	
ProcessDuration	decimal(18, 3))	YES	The duration of all process events of the same type for the aggregation day and agent during a "log in" state	

Column Name	Data Type	Nullable	Description	Entity (ID) Source Name
ProcessIdleDuration	decimal(18, 3))	YES	The duration of all process events of the same type for the aggregation day and agent during an "idle" state	
ProcessLockDuration	decimal(18, 3))	YES	The duration of all process events of the same type for the aggregation day and agent during a "lock" state	
ProcessHoldDuration	decimal(18, 3))	YES	The duration of all process events of the same type for the aggregation day and agent during a "hold" state	
ProcessNetDuration	decimal(18, 3))	YES	The net duration of all process events of the same type for the aggregation day and agent.	

Dwh_ApplicationProcess_Day_Fact

The Dwh_ApplicationProcess_Day_Fact table shows the daily aggregated data of application events during any process.

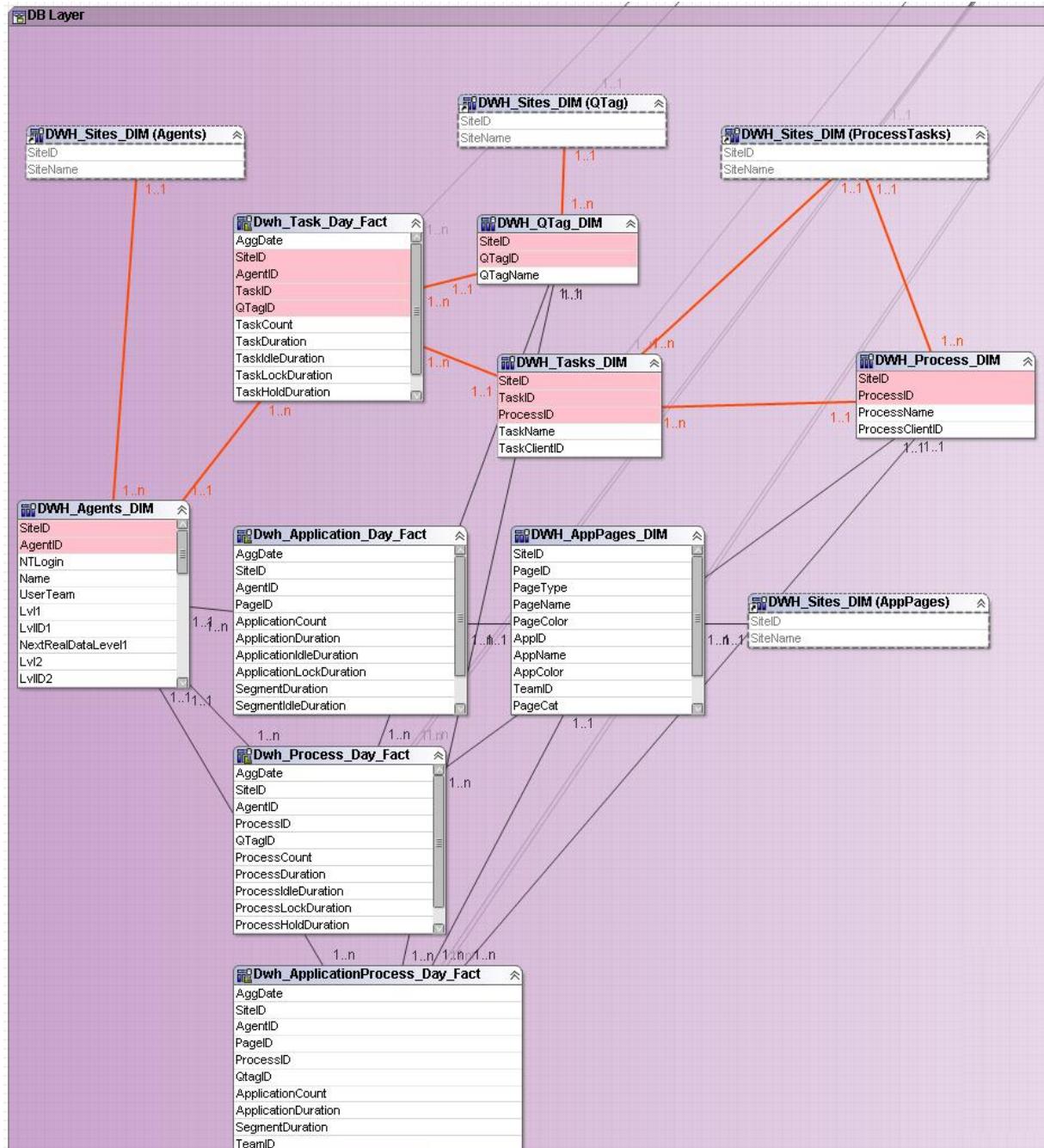


Column Name	Data Type	Nullable	Description	Entity (ID) Source Name
AggDate	datetime	NO	The day (local time) of the data aggregation	
SitID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)	DWH_Sites_DIM
AgentID	int	NO	The code of the agent in Data Mart (for example, 0,1,2,...)	DWH_Agents_DIM
TeamID	int	NO	The code of the team of agents (for example, 0,1,2,...)	DWH_Agents_DIM
PageID	int	NO	The code of the Display Name of the page	DWH_Application_Pages_DIM
ProcessID	int	NO	The code of the Process Type	DWH_Process_DIM
QtagID	int	NO	The use of the process in a specific context	DWH_QTag_DIM
ApplicationCount	int	YES	The number of page events of the same PageID	
ApplicationDuration	decimal(18, 3))	YES	The duration of all application events of the same type for the aggregation day and agent during a "log in" state	

Column Name	Data Type	Nullable	Description	Entity (ID) Source Name
SegmentDuration	decimal(18, 3))	YES	The duration of all segments of the same type for the aggregation day and agent during a "log in" state	

Dwh_Task_Day_Fact

The Dwh_Task_Day_Fact table shows the daily aggregated data of task events (instances).



Column Name	Data Type	Nullable	Description	Entity (ID) Source Name
AggDate	datetime	NO	The day (local time) of the data aggregation	
SiteID	int	NO	The code of the site (referred to in the Data Mart reports as Data Hub) (1,2,3...)	DWH_Sites_DIM
AgentID	int	NO	The code of the agent in Data Mart (for example, 0,1,2,...)	DWH_Agents_DIM
TeamID	int	NO	The code of the team of agents (for example, 0,1,2,...)	DWH_Agents_DIM
TaskID	int	NO	The code of the Task Type	DWH_Tasks_DIM
QTagID	int	NO	The use of the process in a specific context	DWH_Qtag_DIM
TaskCount	int	YES	The number of task events (instances) of the same TaskID	
TaskDuration	decimal(18, 3))	YES	The duration of all tasks of the same type for the aggregation day and agent during a "log in" state	
TaskIdleDuration	decimal(18, 3))	YES	The duration of all tasks of the same type for the aggregation day and agent during an "idle" state	

Column Name	Data Type	Nullable	Description	Entity (ID) Source Name
TaskLockDuration	decimal(18, 3))	YES	The duration of all tasks of the same type for the aggregation day and agent during a "lock" state	
TaskHoldDuration	decimal(18, 3))	YES	The duration of all tasks of the same type for the aggregation day and agent during a "hold" state	
TaskNetDuration	decimal(18, 3))	YES	The net duration of all tasks of the same type for the aggregation day and agent	

Data Mart Objects

Data Mart Entities	391
Data Mart Durations	392
Data Mart Hierarchies	393

To enable Administrators and Database managers to access and manage the **Data Mart Database Schema**, the Data Mart features the **Real-Time Reporting** presentation layer, which is comprised of the following types of objects:

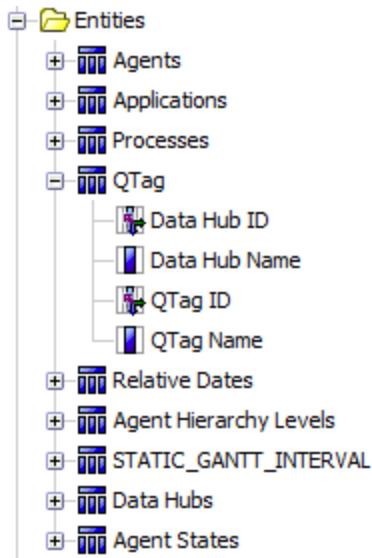
- **Entities:** Agents, Applications, Processes, QTag, Relative Dates, Agent Hierarchy Levels, and Static Gantt Interval
- **Daily Durations:** Daily Process Duration, Daily Task Duration, Daily Application Duration, and Daily Application Duration (via Process)
- **Hierarchies:** Applications, Agents, Processes, and Processes without Tasks

► To view these objects in the IBM Cognos Query Studio

1. Select and insert an item from the tree or drag and drop the item into the Query report.
2. Press the **Ctrl** key on your keyboard and click to select multiple items in the tree or report.
3. Right-click report item headings to access commonly-used actions.

Data Mart Entities

The Data Mart database schema features seven entities that support the reporting functionalities:

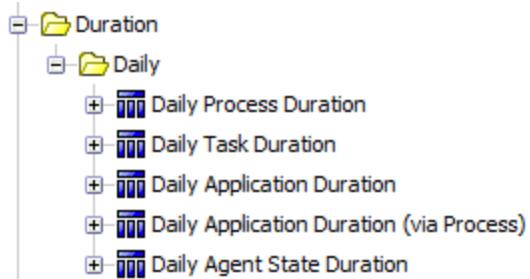


- Agents
- Applications
- Processes
- QTag
- Relative Dates
- Agent Hierarchy Levels
- Static Gantt Interval
- Data Hubs
- Agent States

Each entity is comprised of a series of column that are derived from the database tables. Unlike the hierarchies or durations in this schema, entities are flat, meaning they each components in the entity is a single component. By dragging and dropping multiple components from the tree into the report, the user can create a customized report showing the required entity information.

Data Mart Durations

The Data Mart database schema features a daily duration options with four daily options:



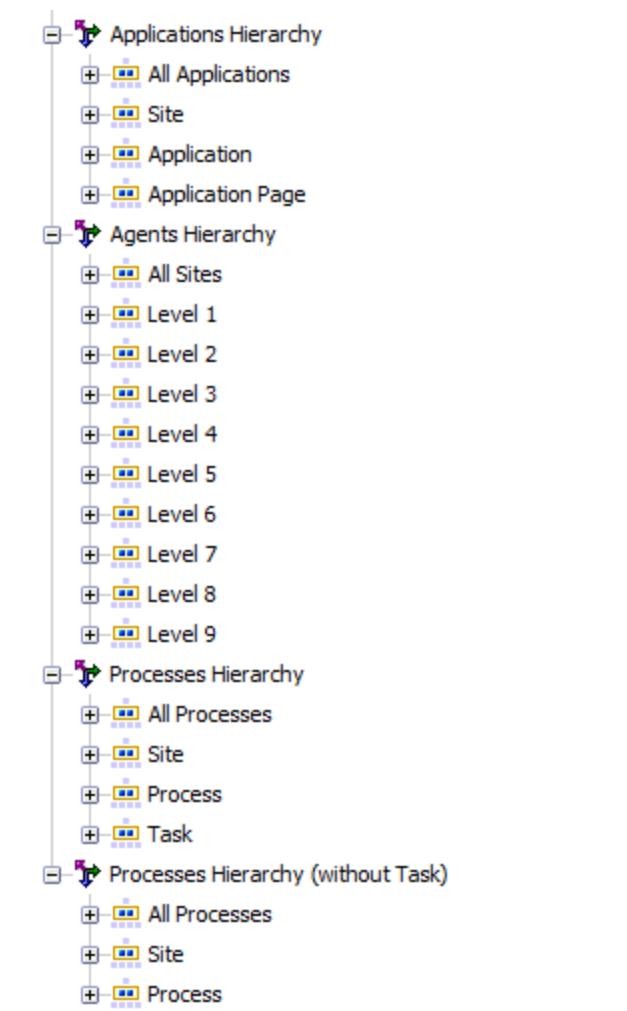
- Daily Process Duration
- Daily Task Duration
- Daily Application Duration
- Daily Application Duration (via Process)

Each duration is comprised of a series of column that are derived from the database tables. By dragging and dropping multiple components from the tree into the report, the user can create a customized report showing the required duration information.

Data Mart Hierarchies

The Data Mart database schema features four hierarchies:

- Applications Hierarchy:
 - All Applications
 - Site (referred to in the Data Mart reports as **Data Hub**)
 - Application
 - Application Page
- Agents Hierarchy:
 - All Sites (**Data Hubs**)
 - Level 1...9
- Processes Hierarchy:
 - All Processes
 - Site (Data Hub)
 - Process
 - Task
- Processes Hierarchy (without Task):
 - All Processes
 - Site (Data Hub)
 - Process



Each hierarchy is comprised of a series of column that are derived from the database tables. By dragging and dropping multiple components from the tree into the report, the user can create a customized report showing the required information.

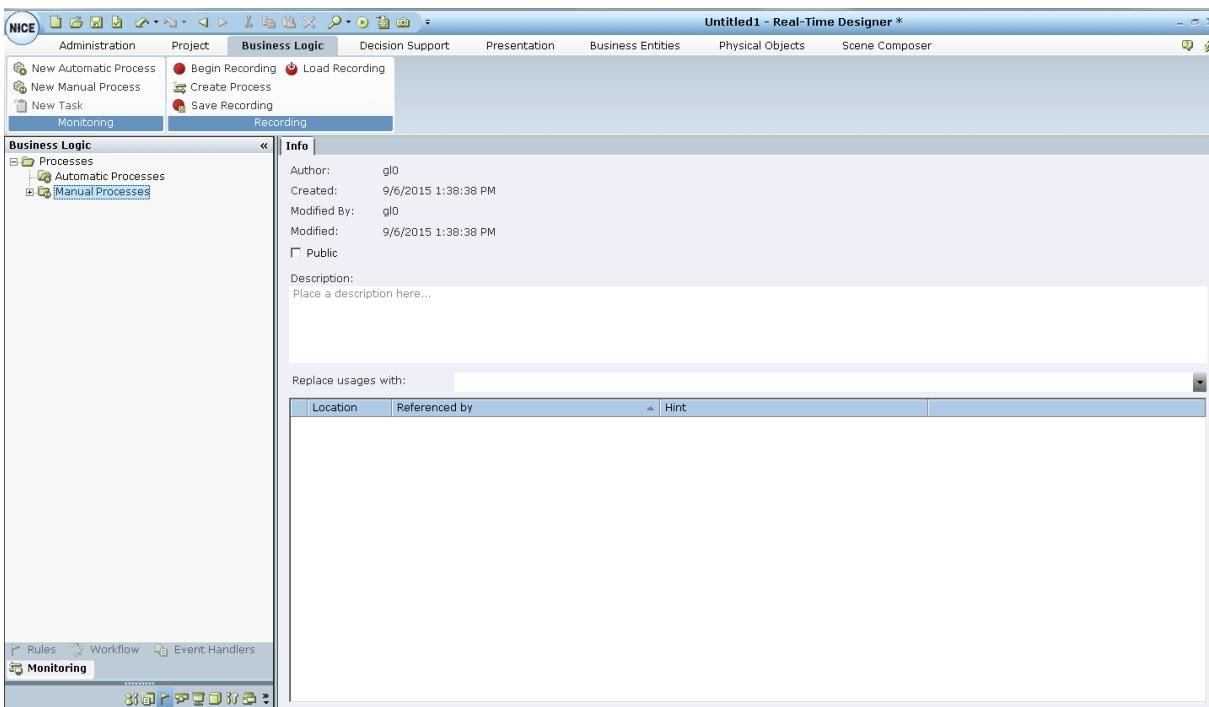
B

Using the Recording Method for Defining Processes and Tasks

Contents

Recording Workflow398
Process Recording Toolbar399
How to Record an Employee Session401
Recording Pane402
Filter Area407
Trigger Tab408
Snapshot Tab410
Creating a Process411

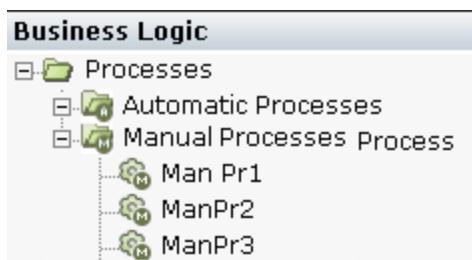
A **recording approach** can be used to define processes and tasks in the **Business Logic** module tab. The recording approach enables you to record an employee's session, and later use the recorded events to automatically generate the process tree in the **Business Logic** tab. This approach provides an additional method for creating processes and tasks in Designer.



Important! After a process and its tasks have been created (using either the standard method or the recording approach), you must complete their configuration by defining their properties. For more details see [Configuring a Process and Its Tasks](#) on page 129 and [Configuring Tasks](#) on page 140.

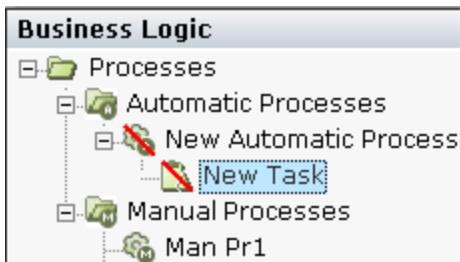
The following describes the items in this window:

- **● Begin Recording :** Begins recording an employee's session. This action displays the Process Recording toolbar, as described in [Process Recording Toolbar](#) on page 399.
- **>New Manual Process :** Creates the manual processes tree in the **Business Logic** tab (see [Configuring a Manual Process \(Desktop Work Tracker\)](#) on page 168 for details).



The system validates the logic before creating the process tree. If there is a problem creating a process, such as when a task is identified without a start condition, an error message is displayed.

- **New Automatic Process :** Creates the automatic processes tree in the **Business Logic** tab.



The system validates the logic before creating the process tree. If there is a problem creating a process, such as when a task is identified without a start condition, an error message is displayed.

- **Save Recording**: Saves a recording as a *.csv file.
- **Load Recording**: Loads a previously saved recording. This action opens a standard file selection window in which you browse to select the required recording.

Recording Workflow

To define a process using the recording method:

First step: Create a recording of the process.

This recording shows each step in a separate row and differentiates between the applications in focus and any screen event.

Second step: Configure and edit each relevant row for both process-related information and screen events linkage.

Recording a process using the recording method enables you to build a skeleton of the process, meaning roughly 80% of the process.

Third step: To complete the process's definition, you must still add the relevant screen elements, business entities and business logic using standard methods.

Process Recording Toolbar

The **Process Recording** toolbar, shown below, is used to control the recording process and to mark events with the applicable trigger type in the **Recording** pane.

The Process Recorder is used to streamline the process creation in the Real-Time Designer. Not only can the user record a process based on application monitoring, but the user can also record a process based on both application monitoring and Screen Connectivity. This enriches the process and allows the user to add complexity and resolution to a process via the simple interface of the Process Recorder.

For further details on the Recording pane, see [Recording Pane](#) on page 402.



The **Process Recording** toolbar contains the following tools:

	Stop Recording	Stops the recording process. This action closes the toolbar and returns to Real-Time Designer.
	Process Start	Enters Process Start in the Trigger Type field for the selected event.
	Task Start	Enters Task Start in the Trigger Type field for the selected event.
	Task Pause	Enters Task Pause in the Trigger Type field for the selected event.
	Task Resume	Enters Task Resume in the Trigger Type field for the selected event.

	Task Stop	Enters Task Stop in the Trigger Type field for the selected event.
	Process Stop	Enters Process Stop in the Trigger Type field for the selected event.
	Screen Element	<p>Enters Screen Element in the Trigger Type field for the selected event.</p> <p>This tool captures a screen element. It marks the element in a third party application and retains its properties.</p> <p>After successful capture, the Screen Element is included as an item in the Physical Objects tab.</p> <p>For further capture details, and for further Screen Element details, see <i>Real-Time Solutions Designer User Guide</i>.</p>

How to Record an Employee Session

► To begin recording the activities of a user:

1. Click  Begin Recording in the module tab bar.
2. Once you start the recording process, all user events are recorded in the Recording pane until you click the **Stop Recording**  button in the Process Recording toolbar.

Recording Pane

Recording Pane Information - Per Column Per Event 403

The top of the **Recording** pane lists events recorded during the session. Each row represents an event.

Recording											
Application	Window Title	Browser URL	Selection	Time	Duration	Object Name	Trigger Type	Operator	Right Argument	Combination	
Notepad	barbara.docx - Microsoft Word		Application	4:29:20 PM	14		Ignored	Equals	WINWORD	And	
MS Outlook	Start Menu		Application	4:29:34 PM	1		Ignored	Equals	explorer	And	
MS Outlook			Application	4:29:35 PM	0		Ignored	Equals	explorer	And	
MS Outlook	Run		Application	4:29:35 PM	4		Ignored	Equals	explorer	And	
MS Outlook			Application	4:29:40 PM	0		Ignored	Equals	explorer	And	
MS Outlook	Program Manager		Application	4:29:40 PM	0		Ignored	Equals	explorer	And	
CRM Application	Calculator		Application	4:29:40 PM	12		Ignored	Equals	calc	And	
MS Outlook			Application	4:29:52 PM	1		Ignored	Equals	explorer	And	
www.cnn.com	Windows Internet...		Application	4:29:53 PM	1		Ignored	Equals	iexplore	And	
www.cnn.com	http://niceweb.ni...		Application	4:29:54 PM	2		Ignored	Equals	iexplore	And	
www.cnn.com	http://niceweb.ni...	http://niceweb.ni...	Browser Url	4:29:56 PM	0		Ignored	Equals	http://niceweb.ni...	And	
www.cnn.com	NICEweb - Home...	http://niceweb.ni...	Browser Url	4:29:56 PM	14		Ignored	Equals	http://niceweb.ni...	And	
www.cnn.com	NICEweb - Home...	http://www.yahoo...	Browser Url	4:30:10 PM	0		Ignored	Equals	http://www.yahoo...	And	
www.cnn.com	http://www.yahoo...	http://www.yahoo...	Browser Url	4:30:10 PM	0		Ignored	Equals	http://www.yahoo...	And	
www.cnn.com	news yahoo.com...	http://www.yahoo...	Browser Url	4:30:11 PM	9		Ignored	Equals	http://www.yahoo...	And	
CRM Application	Calculator		Application	4:30:19 PM	5		Ignored	Equals	calc	And	
CRM Application			Application	4:30:25 PM	0		Ignored	Equals	calc	And	
Notepad	barbara.docx - Mi...		Application	4:30:25 PM	11		Ignored	Equals	WINWORD	And	

- Rows are created automatically each time an event is detected in the active application.
- Whenever you click a tool in the **Process Recording** toolbar, a value is entered into the **Trigger Type** field in the **Recording** pane for that row, and a default name is assigned in the **Object Name** column.

Recording pane example series of events:

The **Recording** pane above shows the following series of events:

- Microsoft Word was the initial application in focus.
- The calculator was opened and became the focus.
- Internet Explorer was started and the www.yahoo.com page was opened.
- The calculator became the application in focus.
- Microsoft Word became the application in focus.

NOTE: Observe that the rows in the sample figure above do not have a value in the **Object Name** column and show **Ignored** in the **Trigger Type** field, as no tools were clicked in the **Process Recording** toolbar while recording the employee session.

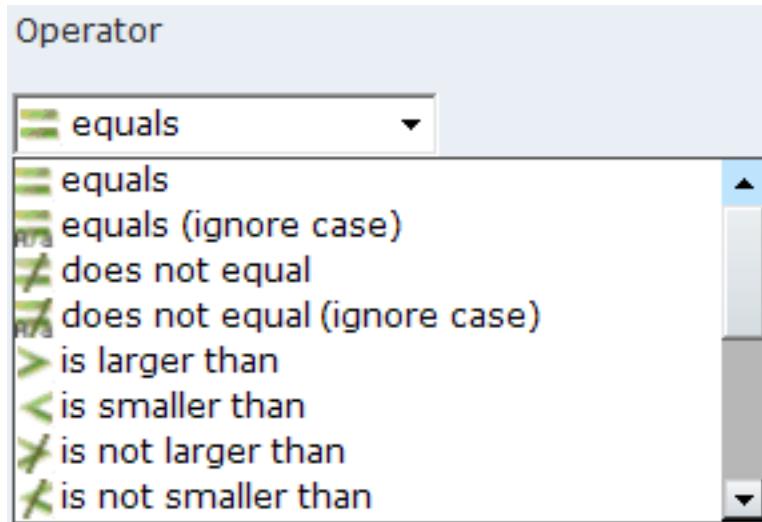
Recording Pane Information - Per Column Per Event

The **Recording** pane contains the following columns of information for each event:

NOTE: The columns can be edited using the Filter pane (see [Filter Area](#) on page 407) and Recorded Event pane (see [Trigger Tab](#) on page 408).

- **Application:** Specifies the name of the application in focus.
- **Window Title:** Specifies the name as shown in the window title bar.
- **Browser URL:** Specifies the URL in the browser when the application is Internet Explorer.
- **Selection:** Indicates whether this event is for an application, a browser URL or window title.
- **Time:** Specifies the time when the event was received by the recorder, meaning the start time for the event.
- **Duration:** Specifies the duration of the event. For example, how long a specific window remained open.
- **Object Name:** Specifies the name of the process. This value will become the name of the process in the process tree that is generated using the  **Create Process** option in the module tab bar.
- **Trigger Type:** Indicates how to classify the event. Examples are Process Start, Process Stop, Task Start, Task Stop and so on. When you click a tool in the **Process Recording** toolbar, the **Trigger Type** field for the selected event is automatically updated to reflect the trigger type designated by that tool. For example, when you click the **Task Start**  tool, the value **Task Start** is entered in the **Trigger Type** field for the event.
- **Operator:** Specifies the logical condition that applies in an expression, such as Equals, Does not Equal, Matches and so on.

NOTE: The Operators listed are dependant on the property type.



- Right Argument:** Specifies the term on the right side in an expression. Wildcards can be used to build expressions.
- Combination:** Combines two values in the **Trigger Type** column with an *and* or an *or* operator. For example, the figure below shows that there are four rows with the object name **task1** – two tasks with the **Task Start Trigger Type** and two tasks with the **Task Stop Trigger Type**.

Recording											
Application	Window Title	Browser URL	Selection	Time	Duration	Object Name	Trigger Type	Operator	Right Argument	Combination	
Notepad	barbara.docx - Mi...		Application	4:29:20 PM	14	My Process	Process St...	Equals	WINWORD	AND And	
MS Outlook	Start Menu		Application	4:29:34 PM	1	task1	Task Start	Equals	explorer	AND And	
MS Outlook			Application	4:29:35 PM	0		Ignored	Equals	explorer	AND And	
MS Outlook	Run		Application	4:29:35 PM	4	task1	Task Stop	Equals	explorer	AND And	
MS Outlook			Application	4:29:40 PM	0	task1	Task Start	Equals	explorer	AND And	
MS Outlook	Program Manager		Application	4:29:40 PM	0		Ignored	Equals	explorer	AND And	
CRM Applicat...	Calculator		Application	4:29:40 PM	12		Ignored	Equals	calc	AND And	
MS Outlook			Application	4:29:52 PM	1	task1	Task Stop	Equals	explorer	OR Or	
www.cnn.com	Windows Internet...		Application	4:29:53 PM	1		Ignored	Equals	iexplore	AND And	
www.cnn.com	http://niceweb.ni...		Application	4:29:54 PM	2		Ignored	Equals	iexplore	AND And	
www.cnn.com	http://niceweb.ni...	http://niceweb.ni...	Browser Url	4:29:56 PM	0	My Process	Process St...	Equals	http://nicew...	AND And	
www.cnn.com	NICEweb - Home...	http://niceweb.ni...	Browser Url	4:29:56 PM	14		Ignored	Equals	http://nicew...	AND And	
www.cnn.com	NICEweb - Home...	http://www.yahoo...	Browser Url	4:30:10 PM	0		Ignored	Equals	http://www....	AND And	
www.cnn.com	http://www.yahoo...	http://www.yahoo...	Browser Url	4:30:10 PM	0		Ignored	Equals	http://www....	AND And	
www.cnn.com	news yahoo.com...	http://www.yahoo...	Browser Url	4:30:11 PM	9		Ignored	Equals	http://www....	AND And	
CRM Applicat...	Calculator		Application	4:30:19 PM	5		Ignored	Equals	calc	AND And	
CRM Applicat...			Application	4:30:25 PM	0		Ignored	Equals	calc	AND And	
Notepad	barbara.docx - Mi...		Application	4:30:25 PM	11		Ignored	Equals	WINWORD	AND And	

You can combine the two Task Starts with an *and* condition between them, and combine the two Task Stops with an *or* condition between them, as shown below:

B: Using the Recording Method for Defining Processes and Tasks

Recording Pane Information - Per Column Per Event

Recording											
Application	Window Title	Browser URL	Selection	Time	Duration	Object Name	Trigger Type	Operator	Right Argument	Combination	
MS Outlook	barbara.docx - Mi...		Application	4:29:20 PM	14		Ignored	Equals	WINWORD	AND And	
www.cnn.com	Start Menu		Application	4:29:34 PM	1	task1	Task Start	Equals	explorer	AND And	
www.cnn.com			Application	4:29:35 PM	0		Ignored	Equals	explorer	AND And	
www.cnn.com	Run		Application	4:29:35 PM	4	task1	Task Stop	Equals	explorer	AND And	
www.cnn.com			Application	4:29:40 PM	0	task1	Task Start	Equals	explorer	AND And	
www.cnn.com	Program Manager		Application	4:29:40 PM	0		Ignored	Equals	explorer	AND And	
MS Outlook	Calculator		Application	4:29:40 PM	12		Ignored	Equals	calc	AND And	
CRM Applicat...			Application	4:29:52 PM	1	task1	Task Stop	Equals	explorer	OR Or	

For such combinations, both trigger types do not need to have an *or* operator to cause OR'd behavior. It is sufficient that the second one or both use an *or* operator. In such cases, the first value in the **Combination** column is ignored.

When working with the recorder, you can either use the tools in the **Process Recording** toolbar while recording the session, or later select rows in the **Recording** pane and edit their information at the bottom of the window in the **Recorded Event** pane.

For example, if the employee processes you are recording are long, you may want to use the tools in the toolbar to fill in the **Trigger Type** column as you move through the process. Using the toolbar while the employee is working is helpful to indicate to yourself what was happening at the time. Typically, you will need to go back and fill in the **Object Name** at the end of the recording session.

B: Using the Recording Method for Defining Processes and Tasks

Recording Pane Information - Per Column Per Event

Recording										
Application	Window Title	Browser URL	Selection	Time	Duration	Object Name	Trigger Type	Operator	Right Argument	
Notepad	barbara.docx - Mi...		Application	4:29:20 PM	14	My Process	Process Start	Equals	WIN	
MS Outlook	Start Menu		Application	4:29:34 PM	1	task1	Task Start	Equals	exp	
MS Outlook			Application	4:29:35 PM	0		Ignored	Equals	exp	
MS Outlook	Run		Application	4:29:35 PM	4	task1	Task Stop	Equals	exp	
MS Outlook			Application	4:29:40 PM	0	task2	Task Start	Equals	exp	
MS Outlook	Program Manager		Application	4:29:40 PM	0		Ignored	Equals	exp	
CRM Application	Calculator		Application	4:29:40 PM	12		Ignored	Equals	calc	
MS Outlook			Application	4:29:52 PM	1	task2	Task Stop	Equals	exp	
www.cnn.com	Windows Internet...		Application	4:29:53 PM	1		Ignored	Equals	iexp	
www.cnn.com	http://niceweb.ni...		Application	4:29:54 PM	2		Ignored	Equals	iexp	
www.cnn.com	http://niceweb.ni...	http://niceweb.ni...	Browser Url	4:29:56 PM	0	My Process	Process Start	Equals	http	
www.cnn.com	NICEweb - Home...	http://niceweb.ni...	Browser Url	4:29:56 PM	14		Ignored	Equals	http	
www.cnn.com	NICEweb - Home...	http://www.yaho...	Browser Url	4:30:10 PM	0		Ignored	Equals	http	
www.cnn.com	http://www.yahoo...	http://www.yahoo...	Browser Url	4:30:10 PM	0		Ignored	Equals	http	
www.cnn.com	news yahoo.com...	http://www.yahoo...	Browser Url	4:30:11 PM	9		Ignored	Equals	http	
CRM Application	Calculator		Application	4:30:19 PM	5		Ignored	Equals	calc	
CRM Application			Application	4:30:25 PM	0		Ignored	Equals	calc	
Notepad	barbara.docx - Mi...		Application	4:30:25 PM	11		Ignored	Equals	WIN	

Filter (Showing 5 of 5 events)

Filter By: None

Trigger

Recorded Event 4 of 5

Trigger Type: Process Start Time/Duration: 2:02:47 PM / 24 sec

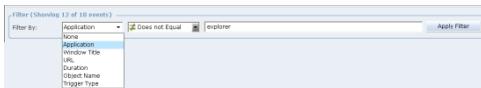
Object Name: Combination: And

Left Argument Operator Right Argument

Application	<input checked="" type="radio"/> calc	<input type="radio"/> equals	calc
Browser Url	<input type="radio"/>		
Window Title	<input type="radio"/>	Calculator	

Filter Area

The **Filter** pane at the bottom of the window enables you to filter the information displayed in the **Recording** pane. Simply enter your filter criteria and then click the **Apply Filter** button to display filtered results in the **Recording** pane.



NOTE: The filter is case sensitive. To ignore case sensitivity, use the *ignore case* argument from the middle argument list.

Trigger Tab

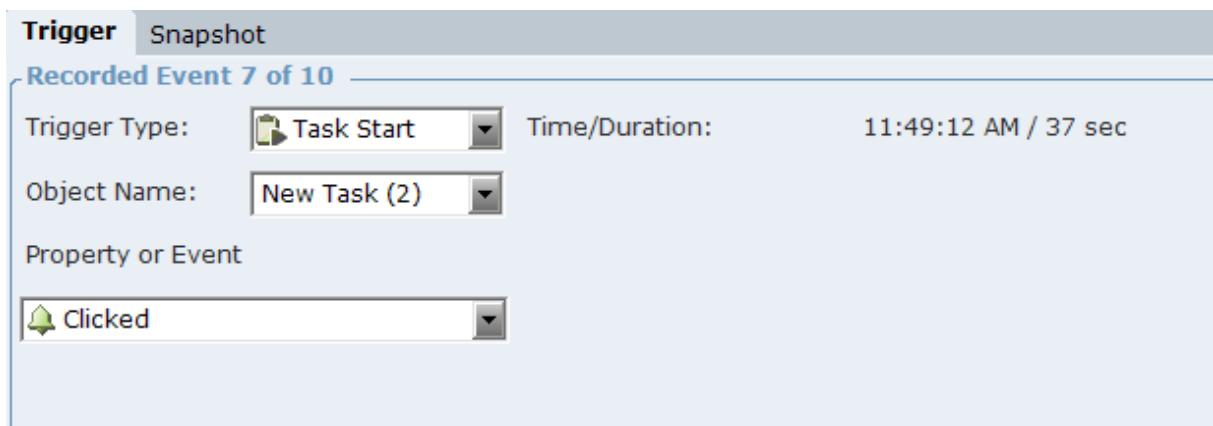
The **Trigger** tab at the bottom of the window displays details for the event selected in the **Recording** pane. It contains the Recorded Event's configured condition parameters.

Use this area to manually edit the parameters for the selected event. Any modifications you make here are reflected in the **Recording** pane.

The screenshot shows the 'Trigger' tab interface for 'Recorded Event 4 of 5'. The 'Trigger Type' is set to 'Process Start'. The 'Time/Duration' is '2:02:47 PM / 24 sec'. The 'Object Name' field is empty. The 'Combination' is set to 'And'. The 'Left Argument' is 'Application calc', the 'Operator' is 'equals', and the 'Right Argument' is 'calc'. The 'Browser Url' and 'Window Title' fields are empty. The 'Trigger' tab has a blue header bar.

For Example: You can select a task in the **Trigger Type** field and then enter a name for it in the **Object Name** field by typing one in or by selecting a name from the drop-down that lists other tasks within the same process.

- When a **Screen Event**, which was created using the **Screen Element Tool**, is selected in the Recording Pane, the following occurs:
 - The **Trigger** tab displays only those details that are relevant to the selected Screen Event.
 - In addition, a **Snapshot** tab becomes available (see [Snapshot Tab](#) on page 410).



- The **Screen Event** properties can be changed. To do this, click the **Property or Event** drop-down list.
 - The drop-down displays only those options relevant to the selected screen element. These options can be one of the following:

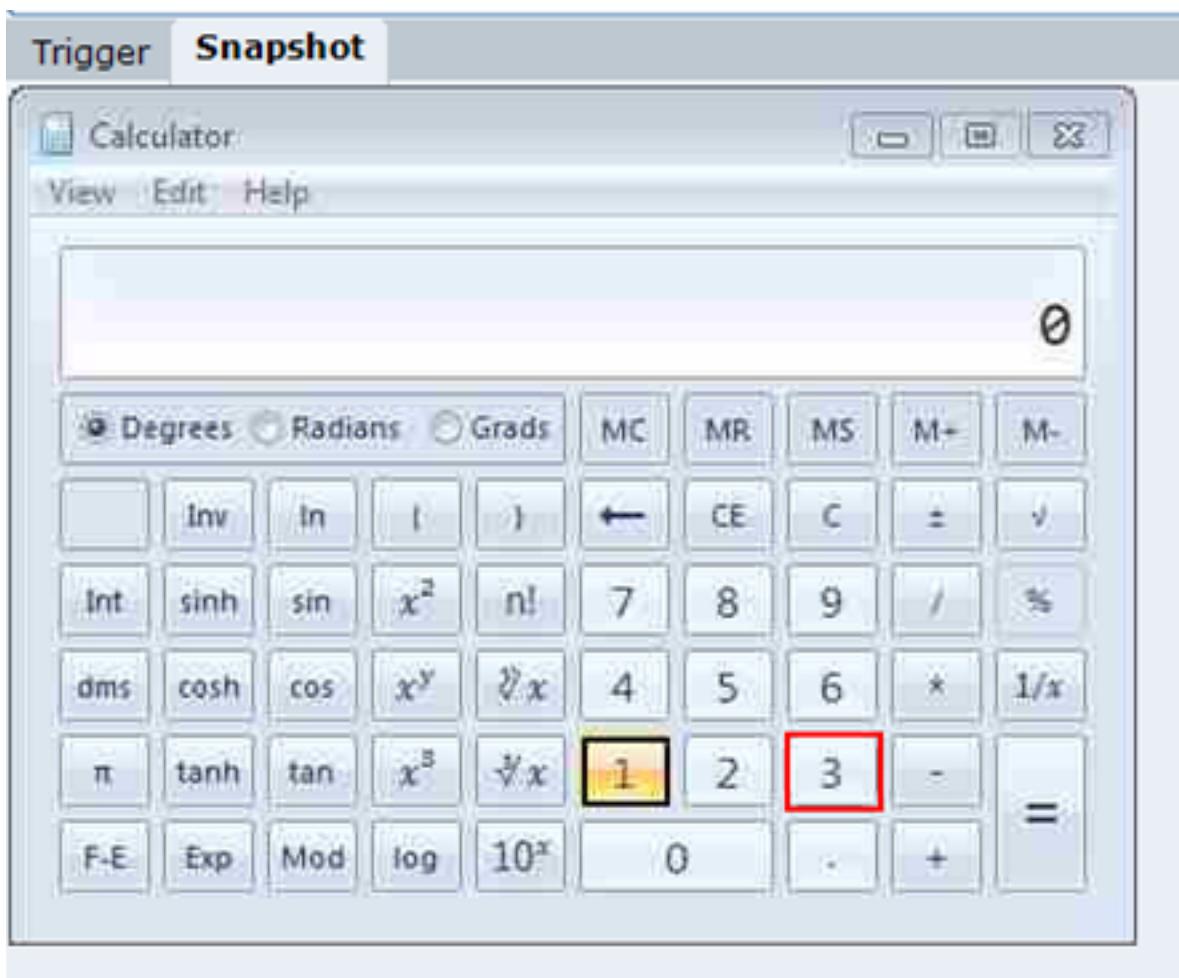
	(Bell)	Event (i.e. something happened)
	Y/N	Boolean (True or False)
	T	Text
	12	Number

Snapshot Tab

The **Snapshot** tab at the bottom of the window displays a snapshot of the captured Screen Element. The snapshot was captured using the **Screen Element** tool (see [Process Recording Toolbar](#) on page 399).

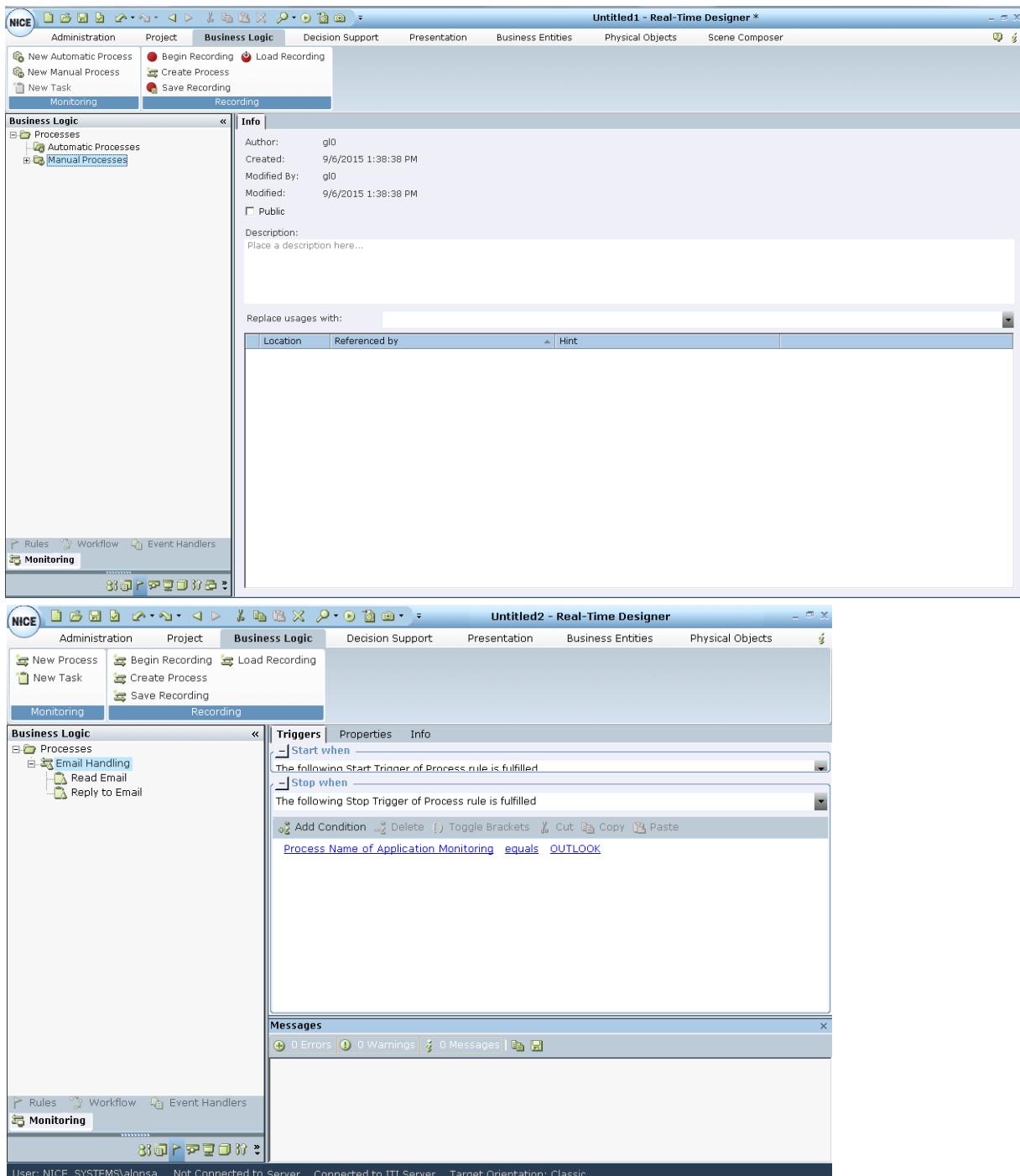
The snapshot displays highlighted areas, which are the selected Screen Event's properties.

For further Screen Element capture details, and for further Screen Element details, see *Designer User Guide*.



Creating a Process

Click **Create Process** to create the process tree in the **Business Logic** tab. A sample of what you see after clicking this button is shown below:



In this example, you can see that the process tree includes a process named *Email Handling*, which has two tasks: *Read Email* and *Reply to Email*. Note that using the process recording method only automates some of the work in defining the process. Logic additions still need to be handled, such as adding screen elements, business entities, business logic, the unique ID and so on for the process.

C

Integration with Third-Party Applications

This section explains how to integrate your third-party or homegrown application with Desktop Analytics.

Contents

Application Monitoring REST API	414
Resolver REST API	419
OpenAM - Best Practice for Token Management	420

Application Monitoring REST API

The Application Monitoring REST API enables integration between a third-party application or your own application and Desktop Analytics to allow sending Desktop Analytics data requests via the API.

Only the classes and functions described in this section are supported.

Contents

User Application REST API

Description

This API returns a list of active applications on an agent desktop for a specified date range. If no applications are open, then the agent state is returned. For example, you can show during playback, alongside agent audio, which applications are open on the desktop.

Prerequisites

To invoke this API the site must have:

- A Data Mart
- Desktop Analytics
- Application Monitoring API service enabled

Post Installation

 **Important!** After completing installation, you must enable and start the **RTServer Application Monitoring Service** Windows service.

Services (Local)					
RTServer Application Monitoring Service	Name	Description	Status	Startup Type	Log On As
Stop the service	Remote Access Auto Connection Manager	Creates a ...	Manual	Local System	
Restart the service	Remote Access Connection Manager	Manages di...	Manual	Local System	
	Remote Desktop Configuration	Remote De...	Started	Manual	Local System
	Remote Desktop Services	Allows user...	Started	Manual	Network S...
	Remote Desktop Services UserMode Port Redirector	Allows the ...	Started	Manual	Local System
	Remote Packet Capture Protocol v.0 (experimental)	Allows to c...	Manual	Local System	
	Remote Procedure Call (RPC)	The RPCSS...	Started	Automatic	Network S...
	Remote Procedure Call (RPC) Locator	In Window...	Manual	Network S...	
	Remote Registry	Enables re...	Started	Automatic	Local Service
	Resultant Set of Policy Provider	Provides a ...	Manual	Local System	
	Routing and Remote Access	Offers rout...	Disabled	Local System	
	RPC Endpoint Mapper	Resolves R...	Started	Automatic	Network S...
	RTServer Apache	Apache/2....	Started	Automatic	Local System
	RTServer Application Monitoring Service	Micro servi...	Started	Automatic	Local System
	RTServer Centralized Credentials Management Service	NICE RTI R...	Started	Automatic	Local System
	RTServer Content Based Authorization Service	This servic...	Started	Automatic	Local System
	RTServer Elastic Search	Elasticsear...	Started	Automatic	Local System
	RTServer RA Sync Invocation Service	NICE RTI R...	Started	Automatic	Local System
	RTServer Single Package Service	Micro servi...	Started	Automatic	Local System
	RTServer Subversion Repository		Started	Automatic	Local System
	RTServer SVN Solution Data Store Service	Micro servi...	Automatic	Local System	
	RTServer Tomcat	Apache To...	Started	Automatic	Local System
	RTServer_ActiveMQ	ActiveMQ ...	Started	Automatic	Local System

Process

When using the Application Monitoring API you must follow the guidelines for token management which are detailed in [OpenAM - Best Practice for Token Management](#) on page 420.

Request method: **POST**

HTTP header:

Content-Type: **application/json**

URI: **https://<server name>:1912/RTServer/ms/am/applications**

Request	
	<ul style="list-style-type: none">■ userId: Mandatory field. The APA user ID for which you want to retrieve application monitoring data.■ requestingUser: The user ID of the user requesting the data. Used for tracking purposes in the log file.■ startTime: Mandatory field. Start time for range of data retrieved in UTC. Format: yyyy-mm-ddThh:mm:ss.SSS■ endTime: Mandatory field. End time for range of data retrieved in UTC. Format: yyyy-mm-ddThh:mm:ss.SSS <p>The time range for data cannot be more than 2 hours.</p>
Response: Contains the following parameters:	
	<ul style="list-style-type: none">■ applications:<ul style="list-style-type: none">■ startTime: Format: yyyy-mm-ddThh:mm:ss.SSS+0000■ endTime: Format: yyyy-mm-ddThh:mm:ss.SSS+0000■ applicationName: Active application■ category: Category of the active application■ agentState: User state <p>NOTE: Response returns either applicationName + category or agentState, not both.</p> <ul style="list-style-type: none">■ userId: User ID from the request.

Example

The following is a sample JSON request and response.

Request body:

```
{  
    "userId": "qa\\gl8",  
    "requestingUser": "",  
    "startTime": "2018-07-05T11:37:00.458",  
    "endTime": "2018-07-05T12:00:00.300"  
}
```

Response body:

```
"applications": [
    {
        "startTime": "2018-07-05T11:37:13.157+0000",
        "endTime": "2018-07-05T11:37:18.490+0000",
        "applicationName": "SSMS",
        "category": "SSMS_DN"
    },
    {
        "startTime": "2018-07-05T11:37:18.490+0000",
        "endTime": "2018-07-05T11:37:19.563+0000",
        "applicationName": "RTCLIENT",
        "category": "RTCLIENT_DN"
    },
    {
        "startTime": "2018-07-05T11:37:19.563+0000",
        "endTime": "2018-07-05T11:53:42.423+0000",
        "agentState": "IDLE"
    },
    {
        "startTime": "2018-07-05T11:53:42.423+0000",
        "endTime": "2018-07-05T11:53:45.433+0000",
        "applicationName": "RTCLIENT",
        "category": "RTCLIENT_DN"
    },
    {
        "startTime": "2018-07-05T11:53:45.433+0000",
        "endTime": "2018-07-05T11:54:04.453+0000",
        "applicationName": "EXPLORER",
        "category": "BUSINESS RELATED"
    }
],
"userId": "qa\\g18",
}
```

Services and Log Files

For Application Monitoring, the microservice **RTServerAMService** is installed on all Real-Time servers.

RTServerAMService	
Service Name	RTServerAMService
Windows Name	RTServer Application Monitoring Service
Description	NICE Application Monitoring API
Log Files	<ul style="list-style-type: none">■ <Install Dir>\logs\RTSMicroServices\RTServerAMService.out.log■ <Install Dir>\logs\RTSMicroServices\RTServerAMService.err.log■ <Install Dir>\logs\RTSMicroServices\RTServerAMService.wrapper.log
Setting Log Level	<ol style="list-style-type: none">1. Edit <Install Dir>\RTSMicroServices\RTServerAMService\RTServerAMService.xml and set --logging.level.com.nice.rti.am=debug2. Restart the microservice.

Resolver REST API

This section explains how to integrate your third-party or homegrown application with Desktop Analytics.

Any class or function other than those described in this section are **not** supported.

Resolver Authorization API

Description

The resolver can check if the server in question belongs to the site. If it does, configuration continues. If the server does not belong to the site, authorization continues to the next server.

Prerequisites

Process

When using the Resolver Authorization API you must follow the guidelines for token management which are detailed in [OpenAM - Best Practice for Token Management](#) on the next page.

Request method: **GET**

HTTP header:

Content-Type: **authorization/json**

URI: **http://<server name>:1925/RTServer/ms/sp/authorization**

URI: **https://<server name>:1926/RTServer/ms/sp/authorization**

Request	
	No parameter required.
Response: Contains the following parameters:	
	<ul style="list-style-type: none">■ Response code■ If an exception occurs, the description is included in the response.

OpenAM - Best Practice for Token Management

When working in a **secured mode**, if you are a 3rd party application and want to manage tokens manually, you will need to follow these Best Practices.

Best Practice for Token Management420

Best Practice for Token Management

The Policy Agent requires you to use a token in order to allow you to access the Real-Time system. Access is provided through HTTP web request, and there are two methods for obtaining a token:

- Using Single Sign-on Login
- Using Manual Login

Once you receive the token using one of these methods, proceed to [Invoking the RTServer WebService](#) on page 422.



Important! When the token expires, you will need to follow the explanation in [Handling Token Expirations](#) on page 422 to obtain a new token.

Obtaining a Token Using Single Sign-on (SSO) Login

The SSO Login method delegates the process of generating the token to the operating system via the Kerberos protocol. The username and password that will be used in this login method are those of the currently logged-in Windows user.

► To acquire the token:

1. Send an HTTP web request in the following way:
 - a. Set the request **PreAuthenticate** to TRUE.
 - b. Set **AllowAutoRedirect** to TRUE.
 - c. Set the request **Accept** to "***/***".
 - d. Set the request **Method** to POST.
 - e. Set the request **ContentType** to "text/xml; charset=UTF-8".

- f. Set the request **URL** to **OpenAM** (for example: `http://apollo-13.e-glue.com:1911/openam/UI/Login?module=WinSSO`).
 - g. Set the request **Credentials** to **CredentialCache.DefaultCredentials**.
2. When you receive the HTTP web response, extract the token from the response by searching in the **CookieContainer** for a cookie with the name: "**iPlanetDirectoryPro**" (the value is the token itself).

NOTE: When using the SSO method, if the HTTP web request is set correctly to the **CredentialCache.DefaultCredentials** in .NET, the Kerberos protocol will use the Windows credentials of the currently logged-in user for authentication purposes.

Obtaining a Token Using Manual Login

Manual login enables you to obtain the token using any approved username and password.

➡ To acquire the token:

1. Send an HTTP web request in the following way:
 - a. Set the request **PreAuthenticate** to **TRUE**.
 - b. Set **AllowAutoRedirect** to **TRUE**.
 - c. Set the request **Accept** to `"*/*"`.
 - d. Set the request **Method** to **POST**.
 - e. Set the request **ContentType** and **MediaType** to `"application/json"`.
- f. Set the request **URL** to **OpenAM** (for example: `http://apollo-13.e-glue.com:1911/openam/json/authenticate`).
- g. Set the request **Headers** in the following way:
 - a. Add the Header key `"X-OpenAM-Username"` and the value **USERNAME - without the domain** (for example: `"gl0"`).
 - b. Add the Header key `"X-OpenAM-Password"` and the value **PASSWORD**.
- h. In the request **body**, enter `"{}"`.

2. When you receive the HTTP web response, extract the token from the response by searching in the response body for a key with name: "**tokenId**" (the value is the token itself).

Invoking the RTServer WebService

- ➡ To add the token to the SOAP request:

1. Add the token you received (through SSO Login or Manual Login) to the **SOAP** request.
2. Add the following to the Header key: "**Cookie**" with the value "**iPlanetDirectoryPro=**" and the acquired token.

Handling Token Expirations

If you receive a web response containing a Header with the key "**Location**" , which redirects you to the OpenAM Login URL, this indicates that you need to acquire an updated token.

- ➡ To obtain an updated token:

1. Log in using SSO or manual login.
2. Obtain the resulting token and add the new token to the SOAP request (see [Invoking the RTServer WebService](#) above).



Desktop Analytics Best Practices

Contents

Create and Define Your Desktop Analytics Solution	424
Desktop Analytics Reports Guidelines	443
Perform Routine Desktop Analytics Activities	444

Use the Desktop Analytics Best Practices to ensure you make the most of your Desktop Analytics reports.

By following these Best Practices for creating your Desktop Analytics Solution, and by carrying out routine Desktop Analytics activities, you will ensure maximum effectiveness of your Real-Time Solution which will result in improved organizational performance.

Create and Define Your Desktop Analytics Solution

Use the following Best Practices to define Desktop Applications Analytics in the most recommended way, at a new site.

Mapping Display Names and Categories

The first step towards managing your site is to map existing and frequently used Applications and Web Pages to Display Names and to Categories.

This procedure is broken down into a few steps, in the following procedure.

Remember to use the TIPS! See [Tips When Mapping Display Names and Categories](#) on page 429.

➡ To map Applications and Web Pages to Display Names and Categories:

1. Create a **list** of your Applications and Web Pages with which your agents work and also interact. Do this by selecting one of the following methods:
 - **Manually**, by creating two (2) lists:
 - Frequently used Applications and Web Pages.
 - Frequently used Websites.
 - **Automated**, by using the Import Display Names option in the Real-Time Designer. See [Importing Selected Application/Page Names into Display Names Table](#) on page 101 for details.

Considerations:

- Using the **manual** method you can prepare the list ahead of time and have a completely clean Database, where all major Applications are defined ahead of time.
- The **automated** option requires 2-3 days of monitoring a small group of agents. Although this method creates unmapped data that will stay unmapped even after Display Name mapping, it will allow future Applications to be mapped in a more automated and Client-activity related manner. Unmapped data is not an issue due to the following:
 - There is a relatively small amount of dirty data, which will diminish with time
 - Raw data will always exist in the Database due the fact that Client activities are not deterministic.

2. Define the **business goal**.

In order to define business Categories, you must define the business goal (business direction) of the Categories.

Make sure this is planned wisely as you should only define **one category per Display Name**.

Example:

Following are examples of business directions:

- To find bottle-necks in productivity.
- To see how agents spend their time at work.

3. Create Categories.

This is an important point in the solution as Categories are meant to reflect the ultimate business goal your company expects to achieve when using the Desktop Analytics solution.

- Categories can be broad or narrow, based on the business needs.
- Category names must be short, as later on they appear in the reports.

Example:

- If you define your business goal as **finding bottle-necks in productivity**, then you might use the following categories:
 - **Productive** (in other words, productive to the business process).
 - **Business Related** (in other words, non-productive, but business related).
 - **Unproductive** (non-productive to the business process).
- If you define your business goal as **seeing how agents spend their time at work**, then you might use the following categories:
 - Business Applications.
 - Administrative Tools.
 - Social Networks.

4. Import and Map the Applications and Web Pages to Display Names.

You can use the Import Display Names option in the Real-Time Designer.

You do this so that the Applications and Web Pages are more indicative and easily recognizable in generated reports.

- Review the mapping TIPS on [Tips When Mapping Display Names and Categories](#) on page 429.

Example:



5. Sort the list of Display Names into the Categories.

IMPORTANT:

You can only use one (1) Category per Display Name.

If you use more than one Category per Display Name, the Display Name will be counted per category in the reports. In other words, if two Categories are used on the same Display Name, the report will count this twice.

Example:



6. If you have Process Monitoring, see [Define Desktop Process Monitoring - Phase 1](#) on page 432.

Tips When Mapping Display Names and Categories

Use the following Tips when you map Display Names and categories.

- [Use Display Names to Control Final Reports](#) below.
- [Review Application/Web Page Mapping](#) on the next page.
- [Changing Display Names](#) on page 431.

Use Display Names to Control Final Reports

By using Display Names wisely, you will greatly increase the reports performance and meaningfulness, and will consequently create a more refined focus of the data displayed in the final reports.

- Use Display Names to **group** Applications and Web Pages.

Example:

- You want to know the amount of time agents spend on Office Applications.

What do you do? You must group similar Applications and Web Pages to the same Display Name.

The screenshot shows a software interface with a light blue header bar containing the title "Group by Display Name". Below the header, there is a main content area with the sub-instruction: "Group similar applications and web pages to the same Display Name". Underneath this, there are two separate entries, each consisting of two rows: "Application/Page Name" and "Display Name".
Entry 1:
Application/Page Name: EXCEL
Display Name: Office Apps|
Entry 2:
Application/Page Name: WINWORD
Display Name: Office Apps|

- Use **wildcards** to reflect the lowest level of information you want to see in your reports.

Example:

- You want to know how agents' time is split between Flights and Hotels research.

What do you do? You must add a wildcard in the Application/Web Page name at the lowest level you are willing to see in the reports.

Use Wildcards

Wildcards should reflect the lowest level of information you are willing to see

Application/Page Name	<code>http://www.traveladvisor.com/hotels*</code>
-----------------------	---------------------------------------------------

Application/Page Name	<code>http://www.traveladvisor.com/flights*</code>
-----------------------	----------------------------------------------------

Review Application/Web Page Mapping

Make sure that you define the same Display Name to Applications and Web Pages that have the same meaning.

Example:

You incorrectly defined `*CNN*` and `*CNN.com*` as different Display Names.

This will result in the system randomly choosing between the Display Names, and as such distorting the data displayed in the reports.

What do you do? Make sure that the same Display Name is used for both these entries.

Application/Page Name	<code>*CNN.com*</code>
-----------------------	------------------------

Display Name	CNN Website
--------------	-------------

Application/Page Name	<code>*CNN.com/news*</code>
-----------------------	-----------------------------

Display Name	News Websites
--------------	---------------

Changing Display Names

- Once an Application or Web Page is mapped to a Display Name, the Display Name text can be changed. This change will be reflected in the reports for **past data** as well. But if the Application or Web Page was not mapped, past data will remain uncategorized.
- When you first map a Display Name or Category, this does not map the Display Name or Category in the data from that time backwards. In other words, the reports will show the newly mapped Display Name or Category only from that point in time when you mapped the Display Name or Category.

Define Desktop Process Monitoring - Phase 1

Defining Which Processes to Monitor433
Configure Start and Stop Triggers for the Processes435
Define Dynamic Process Properties436
General Process Definition Tips437
Review Problematic Process Properties437

In order to produce reports of value to your business, you must define which Processes will be monitored. Later on, these Processes will be created and defined in the Real-Time Designer by the Business Analyst.

The Desktop Process Analytics definition is built in phases and requires continuous iterations. As such, it is recommended to complete it in a few phases. In this way Processes are built up gradually, and more efficiently.

In other words, you use the procedure below to complete the Desktop Application Analytics (DAA) and Desktop Process Analytics (DPA) discovery.

NOTE:Desktop Analytics reports only on completed process instances.

In **Phase 1**, from the list of Processes that you define, you select between **one** and **three** Processes and only define them with Start/Stop Processes (with no tasks).

Defining Which Processes to Monitor

→ To define which processes to monitor:

1. List the Processes that take up **most** of the employees' work **volume**.

Keep in mind that normally, 20% of the Processes take up 80% of employees' work volume.

2. Review and consider the following:

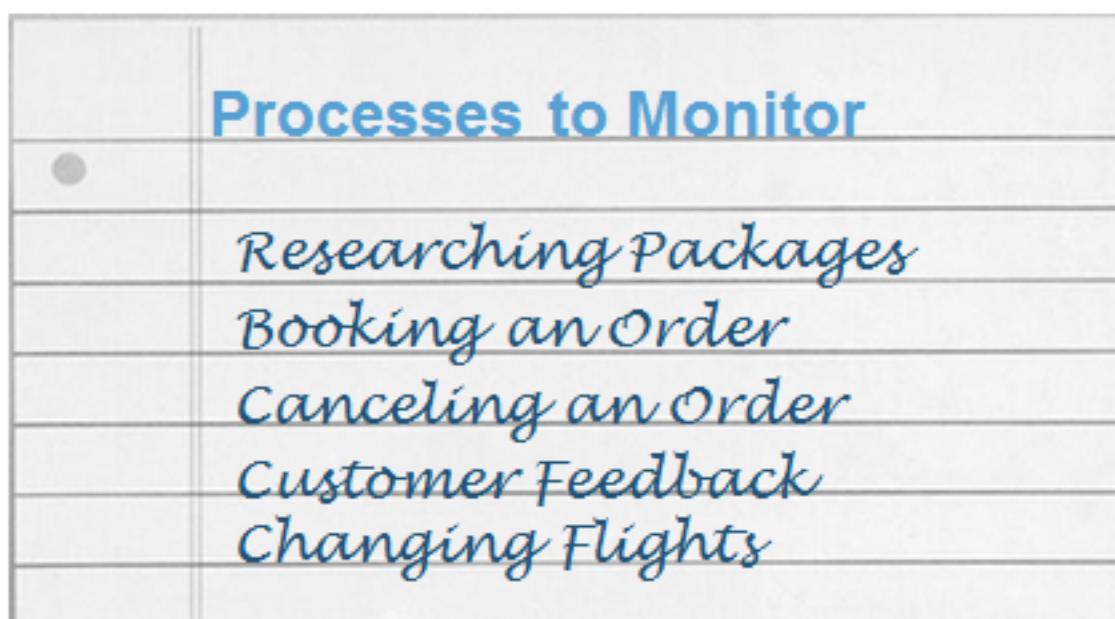
- Which groups and/or teams need Process Analytics the most.
- Which processes do you already recognize as being problematic.

As we advise selecting only a small number of processes in the beginning (1-3) you may not be able to cover the entire organization in this Phase I).

3. Add to the list those processes that are known to be **inefficient**, or that are **bottlenecks**.

4. Add to the list **new** processes.

Example:



5. (Optional) Define organizational **success measurements** and **metadata** that can be linked directly to the Process.
 - a. Using **Success Measurements** and **Data Collection** activities, you can extract the most value from each Process. Keep the following in mind:

- Average handle Time (AHT) is a built in measurement in the sense that this measurement is tracked simply by building a Start and a Stop trigger.
- You can define any measurable (numeric) data as a success measurement. It can arrive from a Screen Object, a web service query, or a database query and be linked to the process.
- Data Collection can be extremely valuable and very worthwhile to use, but remember that increasing the number of Data Collection items will **increase the size of the Database requirements**, so this must be planned carefully.

b. For each process that you listed, ask the following question:

What information can I collect to extract the maximum value out of the Process?

NOTE: Although Data Collection is collected with each Process instance, in order to have Data Collection reports, the customer will require a Cognos expert to build the Data Collection reports.

6. Remember to use the TIPS provided in [General Process Definition Tips](#) on page 437.

Configure Start and Stop Triggers for the Processes

Although Processes can be comprised from many tasks, the main purpose is to make one Process with one task (that equals the process). For discovery this is very efficient as it allows you to spend minimal time for definition on an unknown process structure, with maximum results in which you are able to:

- Review the Process **average duration** (is this what you think you know about this process?)
- Understand the proportion between **net** and **total time** of Process handling.

NOTE: This is only available only if a Pause was defined in the one task that was created.

- Understand which applications are used during the Process handling.
- Understand which groups/team/employee require more training per the Average Handling Time (AHT) of the Process (the Process may be too fast or too slow).

If a success measurement was configured, the success rate can be shown in a scorable manner.

Take into account the following:

- Triggers must cover **multiple ways** to Start or Stop a Process.

Example:

A cancellation request can come from an **Email**, **Ticket**, **Call** or **Walk-in**.

- Queue Tags can be used to identify Processes **separately**, that have the same Start or Stop triggers.

Example:

A cancellation request can come from an **Flight ticket**, **Hotel reservation** or from an **Entire Order**.

See [Configuring a Process and Its Tasks](#) on page 129 for details.

Define Dynamic Process Properties

When you define the Process Properties (Unique ID and Queue Tag), use dynamic BE assignments.

You do this to reflect:

- **Multi Instances:** These are multiple instances of the same process.
 - Differentiate Process instances by **Unique ID**.
- **Work Items:** These are work units for which you need to measure completion.
 - A Work Item is a group of Process instances that share the same **Unique ID**.
- **Example:** Multiple agents who handle the same customer using different Process types.
- **Queue Tag:** For the same Process type use Queue Tags as necessary to describe different types of the same process.

See [Configuring a Process and Its Tasks](#) on page 129 for details.

General Process Definition Tips

Use the following **TIPS** when creating and defining the Desktop Analytics Solution in the Real-Time Designer.

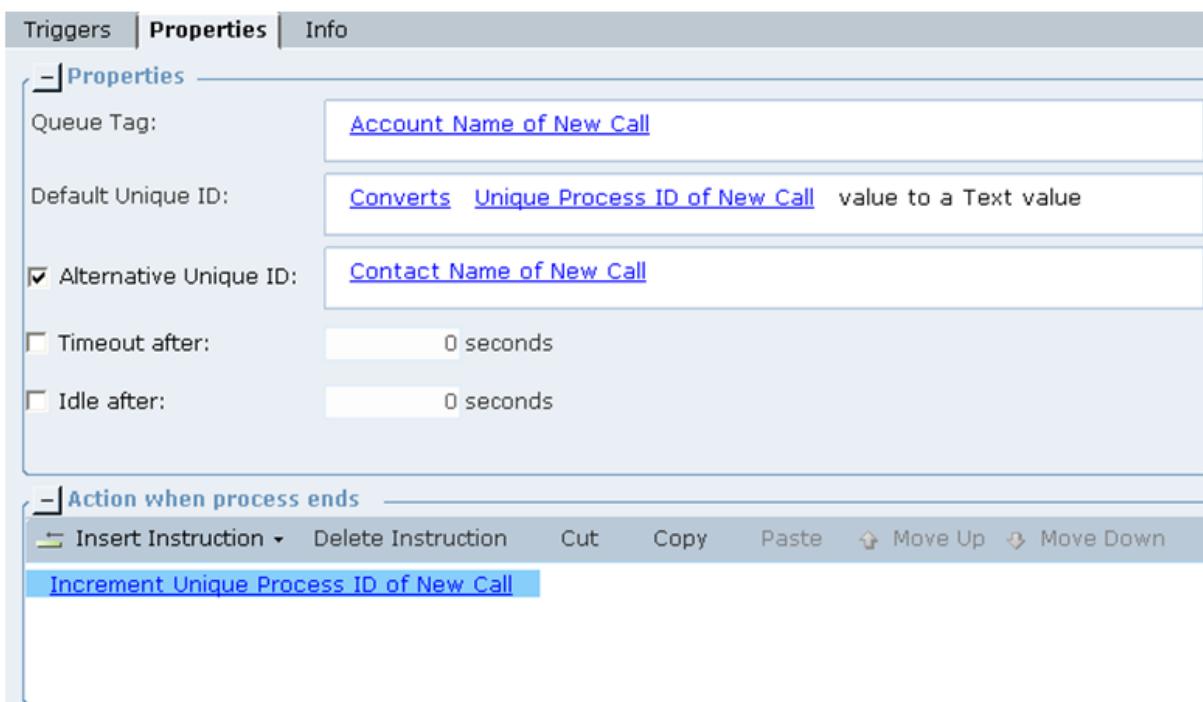
Review Problematic Process Properties

Problem:

The Unique ID is not available when the Process Starts.

Solution - Option 1:

1. Use a **temporary Unique ID**, such as a counter, that is incremented when the Process ends.
2. Assign an **alternate Unique ID**, that is collected when the Process ends.



Solution - Option 2:

1. Create a **generic Process** to collect some monitoring information during the Process' 'blind spots'.
2. Create an **additional Process** that starts when the Unique ID is available.

In this way, information collected for both Processes combined will be used to assess this Process' performance.

Monitor Reports - Phase 1

Once the Processes from Phase 1 are defined, there is a discovery period in which you track the reports and collect information about the Processes.

This is a good time to ensure that the Process definition was successful. In other words, whether you have enough data on the team. Verify that you have included the relevant personnel in the reports distribution.

Use the following steps to ensure that the Process definition was successful:

1. Start by using the **Average Process Duration Report** to collect general information on how the process is managed by the team.
2. Continue with the **Process Utilization Report** to better understand the way Processes are handled by the agents. It will report on the different Process states proportions, assuming a Pause was defined for the Process.
3. Next, use the **Total Application Usage - Process Context Report** to better understand which applications are used during the process. This report will help you to understand the amounts of time that are spent in each application during a process.
4. If you linked a **success measure** to the Process, you can use the **Application Path Analysis Report** to understand in higher resolution how the team process management affects their success measurements. This will enable you to decide for which team/agent personal guidance is required.

Using [Monitor Reports - Phase 1](#) will expose which reports are more useful to your organization, and will allow you to define Processes in the right way for your organization. You may need, for example, to create a higher resolution Process that will only be a portion of the process you defined.

Now What Next...?

- After seeing the results in [Monitor Reports - Phase 1](#), you need to **refine** the Desktop Analytics Solution.
- Use the guidelines in [Refine Your Desktop Analytics Solution](#) on the facing page to fine-tune the output in your reports.

Refine Your Desktop Analytics Solution

After your Desktop Analytics Solution has run for a while, and during which time some data was collected on your Desktop Analytics Solution Processes, you need to review and refine your Desktop Analytics Solution.

Define Desktop Process Monitoring - Phase 2	440
Complete Process Triggers That Were Missed	440
Monitor Reports - Phase 2	441
Define Desktop Process Monitoring - Phase 3	442

Define Desktop Process Monitoring - Phase 2

At this point, you will have at least completed [Define Desktop Process Monitoring - Phase 1](#) in the Process definition phase. In Phase 1 you should have selected two to three Processes with Start/Stop Processes only (with no tasks). See [page 432](#).

It is now time to continue with **Phase 2** of the Process definition phase.

- In this phase, you select up to 80% of the Processes in the list and only define them with Start/Stop Processes (with no tasks).
- Use the insights you gained from the [Monitor Reports - Phase 1](#) on page 438 to fine-tune the way you define your Processes at this stage.
- Ask the question: were your Process Triggers correctly defined? See next section for details.

Complete Process Triggers That Were Missed

Once you have expanded the visibility of the reports, you will know from user's feedback whether your triggers are correctly defined.

Example:

Are the Sales group happy with their reports - were the Sales Triggers correctly defined?

Monitor Reports - Phase 2

Once the [Define Desktop Process Monitoring - Phase 2](#) are defined, there is a discovery period in which you track the reports and collect information about the Processes.

This is a good time to ensure that the Process definition was successful. In other words, whether you have enough data on the team. Verify that you have included the relevant personnel in the reports distribution.

Use the following steps to ensure that the Process definition was successful:

1. Start by using the **Average Process Duration Report** to collect general information on how the process is managed by the team.
2. Continue with the **Process Utilization Report** to better understand the way Processes are handled by the agents. It will report on the different Process states proportions.
3. Next, use the **Total Application Usage - Process Context Report** to better understand which applications are used during the process. This report will help you to understand the amounts of time that are spent in each application during a process, assuming a Pause was defined for the Process.
4. If you linked a KPI to the Process, you can use the **KPI Based Application Path Analysis Report** to understand in higher resolution how the team process management affects their KPIs. It will enable you to decide for which team/agent personal guidance is required.

This reports monitoring phase will expose which reports are more useful to your organization, and will allow you to define Processes in the right way for your organization. You may need, for example, to create a higher resolution Process that will only be a portion of the process you defined.

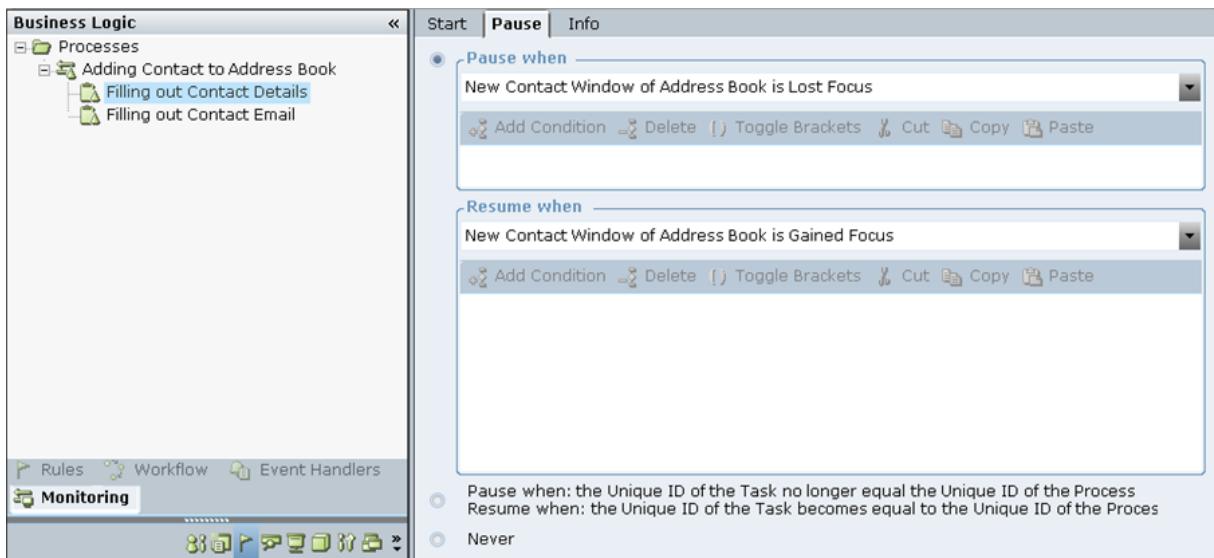
Define Desktop Process Monitoring - Phase 3

Now that the main process skeleton is stable (in other words you have completed [Define Desktop Process Monitoring - Phase 1](#) on page 432 and [Define Desktop Process Monitoring - Phase 2](#) on page 440), and most potential processes are defined, you may need to take the next step and create a high resolution Process for those processes that remain problematic, or for those reports from which you could not extract what the problem/issue was, while only using a Start/Stop Process.

In order to do this you will need to create one or more tasks per process, each with a Start, Stop, and optionally with a Pause trigger as well. When one or more tasks are active (started or resumed), the process with which it is associated will appear as "Active". If all of the tasks are paused or stopped, the process will appear as "On Hold". See [Step d in Configuring an Automatic Process](#) on page 131 for details.

NOTE: Process tasks do not appear in the Cognos reports.

Remember that Pause and Resume Triggers are important so that the Process will pause if the Employee is engaged in an activity that is not related to the Process. This means that even though the process is Paused, the total duration of a process includes the time in which it was Paused. The net time calculation will omit the Pause time.



Desktop Analytics Reports Guidelines

Use the following guidelines to make the most of your Desktop Analytics reports. See [Desktop Analytics Reports](#) on page 185 for details on running and viewing reports.

- Very often, Desktop Client data from employees' **end** of day is cached on their desktop until they come in the next morning. Therefore it is a best practice to pull yesterday reports **after** all employees have logged in for that day, ensuring that cached data has moved to the server for reporting.
- Verify that all unused schedule reports are removed from the list so as to not take up valuable resource time.
- Utilize the concept of drill down analysis on reports.
Example: Pull the Productivity report for a group and if you see behavior that is suspicious or different within that group's activity, use the Application Usage report to see specifics for that person or persons.
- Scheduling vs. on-the-fly reporting:
 - Use on-the-fly for reporting on a specific day.
 - Use scheduling for reporting on routine time ranges (yesterday, week to date, and so on).
 - The longer your time range, it is advisable to use scheduling reporting as this will improve system performance.
- Pick the relevant time range. Keep in mind the following:
 - The longer time range is selected, the more time it will take the report to run. Running reports on the complete Database can lower the system performance.
 - The results are aggregated to the whole time period, so only use the time range required (daily vs. one month if you need to see just one day). The results will be presented per the completed time range.

Example:

If your time range is 1 month, you will receive the results aggregated for the 1 month. In other words, you will not be able to drill down to a time range that is less or higher than the time range that you selected.

- Pick relevant groupings and category filters to meet the requirements of the report.
- You can create customized reports only with a Cognos expert. Note that special consideration should be given to performance aspects during reports development.

Perform Routine Desktop Analytics Activities

Use the Reports to Analyze the Cause for Spikes in Productivity	444
Maintain Display Names and Applications	444
Use the Reports to Analyze Efficiency Vs. Productivity	445
Use Application Monitoring to Handle Compliance Issues	445
Reflect Changes in Target Applications	445
Create a Solid Partnership Between the Customer Business and IT	446
Schedule Maintenance Activities	446

When you are satisfied with your Desktop Analytics Solution results, you must perform routine a number of Desktop Analytics activities. Use the following routine activities after the Desktop Analytics Solution is running successfully.

NOTE: To avoid degradation of the Data Mart's performance, it is recommended that employees log out of the system at the end of their shifts.

Use the Reports to Analyze the Cause for Spikes in Productivity

- Bear in mind that there might be initial spikes in Production. This might be caused by employees improving or modifying their normal behavior due to an awareness of being monitored, but over time, normally after an initial startup period, this should stabilize and should not effect the reports.

Maintain Display Names and Applications

To review the Display Names, you must **import unmapped Applications and run the Desktop Application Analytics (DAA) Reports** to help pinpoint the Applications and Web Pages that were used, and which were not mapped to Display Names.

There is a high probability that some of the unmapped Applications and Web Pages were not initially mapped when you made the list of frequently used Applications and Web Pages.

They must now be defined. Use the following guidelines:

- If an Application or Web Page is **mapped** to a Display Name and to a Category, the Display Name and the Category text can be changed. This change **will be reflected** in the reports for past data as well.
- If an Application was **not mapped** to a Display Name, it will **not appear** in reports on past data.

- If an Application **was mapped** to a Display Name, but **was not mapped** to a Category, and if **at a later stage** you map the Display name to a Category, the Category **will be reflected** in reports on past data.
The reason for this is that Categories are linked to a Display Name and not to the actual Application or Web Page or URL name (raw data).
- Keep in mind that the categorization of Applications and Web Pages should be an on-going effort.
 - Initially, as a **daily activity**, it is strongly recommended to review the **Uncategorized** list, and to categorize them.
 - In time, this will become a **weekly**, and then eventually a **monthly** activity.

To refresh your memory see the following:

- [Create and Define Your Desktop Analytics Solution](#) on page 424.
- [Review Application/Web Page Mapping](#) on page 430.

Use the Reports to Analyze Efficiency Vs. Productivity

- If the group has a high percent of desktop productivity, but a low throughput, there is room for improvement.
- Potential activities that can be derived from insights taken from the reports:
 - Training
 - RT Guidance using RTPO
 - Automation using RTPO

Use Application Monitoring to Handle Compliance Issues

- Use application monitoring over a lengthy period of time to effectively measure and handle compliance issues.

Example:

- **Compliance Policy:** An IT policy requires that employees must **LOCK** their computer (Ctrl+Alt+Delete) when leaving the computer.
- **Policy Enforcement Analysis:** A high **IDLE** time and low **LOCK** time in the Desktop Application Analytics report suggests that an improvement is needed in implementing the Compliance policy.

Reflect Changes in Target Applications

Relevant for Process Monitoring only.

- Communicate with IT for changes in target applications, such as:
 - Software upgrade
 - Change in fields
- Make sure to utilize any new Screen Elements' connectivity or new logic required into the Real-Time Designer Solution.

Create a Solid Partnership Between the Customer Business and IT

- NICE recommends that a solid partnership and processes is created between customer business and customer IT so that each knows how they affect each other.

To facilitate this partnership, do the following:

- Create a document for IT that lists each application that is used in the Process Monitoring solution.
- Mark captured Screen Elements that are used as Process Triggers.
- Verify that IT knows to communicate with the business team regarding planned changes and upgrades to the applications.
- Verify that the business team understands that when they need to modify the Desktop Analytics Solutions, they must do so as necessary, and **fully test them PRIOR** to the actual upgrade on the desktops.

Schedule Maintenance Activities

Schedule the following **maintenance** activities:

- On the **Database** machine, schedule the following jobs:

<ul style="list-style-type: none"> ■ Nice ReIndex job: 	Schedule recurrence: weekly
<ul style="list-style-type: none"> ■ Nice Update Statistics job: 	Schedule recurrence: nightly

- **Backup** the Database:

<ul style="list-style-type: none"> ■ Nice Differential Backup job: 	Schedule backup: daily
<ul style="list-style-type: none"> ■ Nice Full Backup job: 	Schedule backup: once a week

Purge the Database:

- The purpose of Purge Database is to maintain Data retention.
- Purge Database deletes a configurable amount of Data.
- We advise performing Purge Database on a nightly basis.
- Desktop Analytics supports up to 1 year Data retention.
- If there is no need for 1 year retention, it is advisable to Purge more often as it improves the system performance, in terms of report run time, and Database health and size.
- For more information on how to configure the Purge Database job, see *System Administration Guide*. only parameters

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Desktop Analytics - WFM Web Services

Desktop Analytics collects data and sends it in the form of events and alerts via Web services to WFM in real-time. For detailed information, refer to the *Back Office Proficiency Suite Integration Guide*.

This information includes:

- Agent State: idle, lock and logoff. When the idle or lock message is sent, the Desktop Work Tracker activity (reasonCode) is sent with the message.
- Application Analytics Messages:
 - The application name provided by the existing TCP (socket-based) aggregator integration. This requires mapping the display names from the RT Designer project to the event sets in WFM.
 - The application window title and url. This information is received by WFM but does not appear in the WFM 6.5 UI. This will be added in a future version of WFM.
- Process Analytics Messages: manual process information from the Desktop Analytics Desktop Work Tracker to WFM. This information is received by WFM but does not appear in the WFM 6.5 UI. This will be added in a future version of WFM.

You must create a Real-Time Designer project with Desktop Work Tracker in order to track this information. See [Using Desktop Work Tracker](#) on page 158 for more information.

- Alert Messages: alerts and clear alert messages. This information is received by WFM but does not appear in the WFM 6.5 UI. This will be added in a future version of WFM.

You can configure which of the following messages will be sent to WFM:

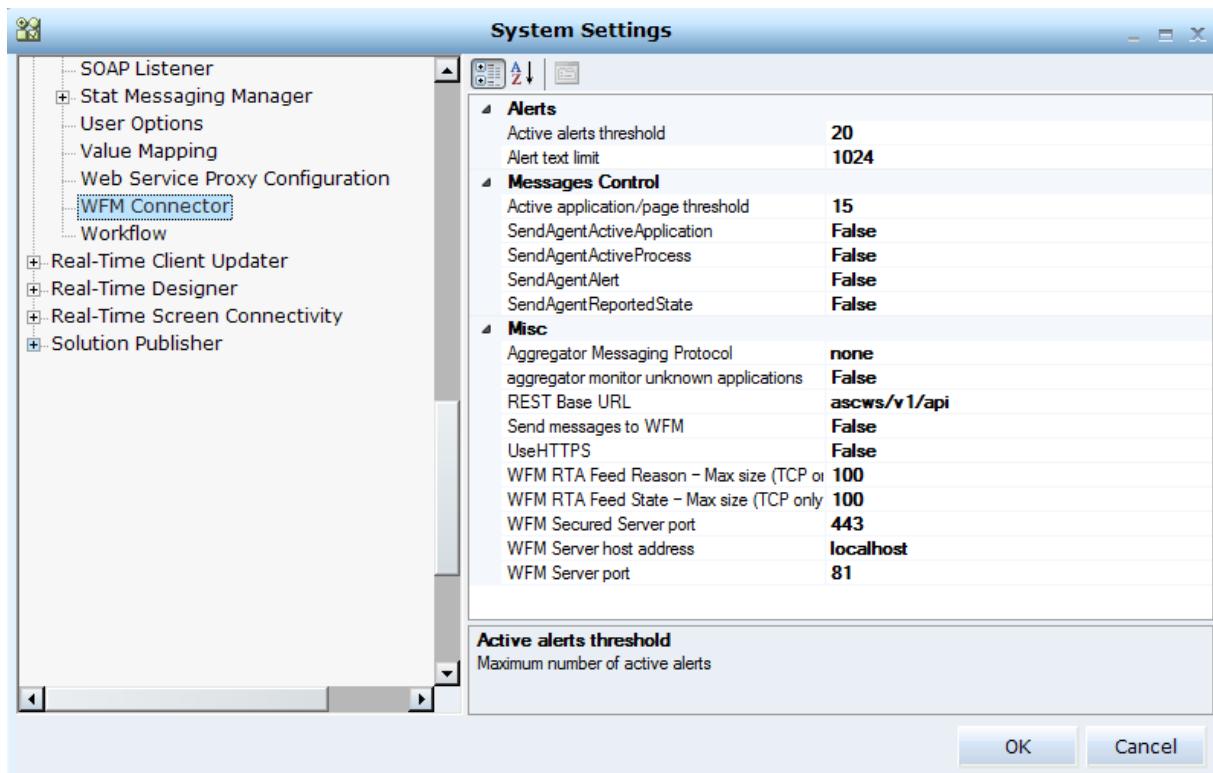
- Agent active application.
- Agent active process.
- Agent alert.
- Agent reported state.

From RTAM version 6.4 and WFM version 6.5 it is recommended to use the Web services integration (REST API) for real-time integration. Process Analytics messages and Alert messages are sent using the REST API.

The REST API is defined during the Desktop Analytics installation. See [Installing the Desktop Analytics Client](#) on page 29 for more information.

The WFM connector parameters can be viewed and updated in the RT Designer.

1. In RT Designer, click the NICE button, **System Settings**.
2. Expand **Real-Time Client > WFM Connector**.
3. Modify the settings as required and click **OK**.



The following table describes the parameters available in the System Settings:

Field (RT Designer System Settings)	Element (config)	Value	Description
-	wfmAcId	1	The WFM agent ACD ID.
Active alerts threshold	active_alerts_threshold	20	The maximum number of concurrent active alerts that can be sent using the Web Services. An alert can be sent and then cleared.

Field (RT Designer System Settings)	Element (config)	Value	Description
Alert text limit	alert_text_limit	1024	The maximum number of characters that can be sent in an alert.
Active application/page threshold	active_application_threshold	15 (default)	<p>The Active application/page threshold is specified in seconds. When the RTAM client starts, the active application/page is immediately sent to WFM, and then the active application/page is sent according to the defined threshold. The active application/page is sent when it is has been active (in focus) for a duration that reaches the threshold setting.</p> <p>For example, if the threshold is set to 15 seconds and the agent moves from Window A for 3 seconds > Window B for 5 seconds > Window C for 15 seconds, only Window C is sent to WFM.</p> <p>If nothing more changes (the agent remains in Window C) during the next 15 seconds, no additional message is sent.</p> <p>NOTE: The Agent state events (Idle/Lock) are sent immediately when they occur and are not affected by this threshold. When the agent returns from Idle/Lock, the active application/page is sent immediately.</p> <p>NOTE: The Real-Time Server (unlike WFM) receives all messages, including all applications/pages that the agent activates.</p>

Field (RT Designer System Settings)	Element (config)	Value	Description
SendAgentActiveApplication	SendAgentActiveApplication	False	Defines whether or not to send the agent active application messages.
SendAgentActiveProcess	SendAgentActiveProcess	False	Defines whether or not to send the agent active process messages.
SendAgentAlert	SendAgentAlert	False	Defines whether or not to send the agent alert messages.
SendAgentReportedState	SendAgentReportedState	False	Defines whether or not to send the agent reported state messages.
Aggregator Messaging Protocol	protocol	rest/tcp	Defines whether to use either the REST API or the TCP socket-based aggregator.
aggregator monitor unknown applications	monitor_unknown_application	true/false	Defines whether or not to monitor and report on unknown applications, that is, applications that are not defined with display names in the RT Designer project.
REST Base URL	base_url		Defines the server url. This is usually fixed and defined as: <code>http://<host>:<port>/ascws/v1/api/<message type></code> This setting can be changed in the config file to override the default server url, for example, for testing purposes.
Send messages to WFM	use_aggregator	true/false	Defines whether or not collect data in real-time (via the aggregator or the REST API).

Field (RT Designer System Settings)	Element (config)	Value	Description
UseHTTPS	use_https	true/false	Defines whether or not to use HTTPS. The authentication/login is always sent using HTTPS.
WFM RTA Feed Reason - Max size (TCP only)	wfm_feed_reason_limit	100 by default	For real-time data sent over TCP (aggregator), this is the maximum length in characters for the reason.
WFM RTA Feed State - Max size (TCP only)	wfm_feed_state_limit	100 by default	For real-time data sent over TCP (aggregator), this is the maximum length in characters for the state.
WFM Secured Server port	https_port	443 by default	The HTTPS port for the REST API.
WFM Server host address	aggregator_address	localhost	The WFM Apache Server IP address. If a load balancer is in use, use the required configured IP address.
WFM Server port	aggregator_port	80 (default)	The WFM Apache Server port. This is for HTTP.

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F

Data Scripts

This section describes various data scripts.

Contents

Data Validation Script	456
Application and Page Display Names Script	458

Data Validation Script

The `spInternalAgentStateAndAppComparisonPerSite` stored procedure on the DataMart is used to compare the data related to agent monitoring (agent state and category duration) in the Operational database to the Data Mart. You may use it if there are any doubts regarding the processing of data from the Operational database to the Data Mart.

To run the script you must provide the start date, finish date and site ID. The script returns the results for each of the agent logins on a daily basis, and includes the following:

- **Day:** The date.
- **ntlogin:** The agent login.
- **Category_OR_State:** The agent category or state, for example, **IDLE**, **LOCK**, **Uncategorized**, **Productive**, **Non-Productive**, and so on.
- **Source_Duration:** The duration in the Operational database.
- **Last_update_time:** The date and time that the data was last updated in the Operational database.
- **Agg_Duration:** The aggregated duration in the Data Mart.
- **Diff:** The difference between the duration in the Operational database and the duration in the Data Mart, if there is any.

➡ To run the data validation script:

1. Run the script using the following syntax: `exec spInternalAgentStateAndAppComparisonPerSite @ReportStartDay ='2008-01-01' , @ReportEndDay ='2008-01-07', @ReportSiteid=1.`

Use the `@ReportSiteid` as it appears in `dwh_sites_dim.siteID`.

SQLQuery20.sql - 1...5_5599_28 (sa (287)) × SQLQuery19.sql - 1...78.master (sa (259)) SQLQuery18.sql - 1...78.msdb (sa (251)) × SQLQuery17.sql - 1...78.master (sa (224))

```
exec spInternalDataValidationReportPerSite @ReportStartDay = '2016-12-01', @ReportEndDay = '2016-12-19', @ReportSiteId=1
```

100 %

Results Messages

2	2016-12-12	QAVGL8	IDLE	0.000	NULL	4593.488	4593.488
3	2016-12-12	QAVGL9	Uncategorized	345.047	2016-12-12 11:51:40.337	345.047	0.000
4	2016-12-12	QAVGL9	IDLE	0.000	NULL	1555.406	-1555.406
Day	nLogin	Category_Or_State	Source_Duration	MAX_Last_Update_Time	Agg_Duration	Diff	
1	2016-12-13	QAVGL8	Uncategorized	286.051	2016-12-13 17:42:51.667	286.051	0.000
2	2016-12-13	QAVGL8	IDLE	0.000	NULL	14408.790	-14408.790
3	2016-12-13	QAVGL9	Uncategorized	208.294	2016-12-13 18:02:12.650	208.294	0.000
4	2016-12-13	QAVGL9	IDLE	0.000	NULL	281.646	-281.646
Day	nLogin	Category_Or_State	Source_Duration	MAX_Last_Update_Time	Agg_Duration	Diff	
1	2016-12-14	QAVGL0	Uncategorized	2245.909	2016-12-14 15:01:49.453	2245.909	0.000
2	2016-12-14	QAVGL0	IDLE	0.000	NULL	1016.302	-1016.302
3	2016-12-14	QAVGL0	LOCK	0.000	NULL	1519.664	-1519.664
4	2016-12-14	QAVGL8	Uncategorized	272.003	2016-12-14 11:33:30.723	272.003	0.000
5	2016-12-14	QAVGL8	IDLE	0.000	NULL	181.810	-181.810
Day	nLogin	Category_Or_State	Source_Duration	MAX_Last_Update_Time	Agg_Duration	Diff	
1	2016-12-15	QAVGL0	Uncategorized	138.367	2016-12-15 13:36:53.673	138.367	0.000
2	2016-12-15	QAVGL0	IDLE	0.000	NULL	98.346	-98.346
3	2016-12-15	QAVGL8	Uncategorized	176.423	2016-12-15 09:14:14.247	176.423	0.000
4	2016-12-15	QAVGL8	IDLE	0.000	NULL	320.877	-320.877
Day	nLogin	Category_Or_State	Source_Duration	MAX_Last_Update_Time	Agg_Duration	Diff	
1	2016-12-18	QAVGL8	Uncategorized	184.552	2016-12-18 17:04:02.317	184.552	0.000
2	2016-12-18	QAVGL8	IDLE	426.896	2016-12-18 17:01:44.807	426.896	0.000
Day	nLogin	Category_Or_State	Source_Duration	MAX_Last_Update_Time	Agg_Duration	Diff	

15

Query executed successfully.

19.29.78 (11.0 SP1) | sa (287) | DM65_5599_28 | 00:00:08 | 19 rows

2. To view the date of the latest population of the Data Mart : **SELECT path_last_update_time** FROM **dwh_sites_dim**.
3. If any row in the output is later than the date in **dwh_sites_dim** it may explain the difference, as this indicates that not all records for this agent on this day and for this category were populated.

Application and Page Display Names Script

The **Nice RTI Retroactive Disp Indx Assignment** stored procedure on the Operational Database is used to retroactively index application and pages that have display names. By default the job is disabled.

To run the script, enable the stored procedure and set the following options:

- **default_first_time_from:** The date and time to start the indexing from.
- **end_time_offset_from_now_min:** The number of minutes to subtract from the current time. By default 30 minutes. The job will stop indexing data from the current time minus this offset, that is, it will not index data from the last x minutes. This is necessary in order to prevent table locks.
- **include_like_key_in_join:** By default 1. If set to 1, includes the LIKE condition between WFW_APP_MONITORING_EVENT application/page raw name and WFM_APP/PAGE_DISP_NAME application/page key.
- **Running_mode:** Set to 1 for historical mode, or 0 to run periodically (by default). If you set this to 1, the stored procedure processes all the data from the **default_first_time_from:** to **end_time_offset_from_now_min:** minutes prior to the current time. If you set this to 0, it runs periodically every **slide-win_bulk_size_hour**.
- **slide-win_bulk_size_hour:** Interval in hours to correct application monitoring table. By default 4.