Oracle® Tuxedo System and Applications Monitor Plus

Console Users Guide

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Contents

Oracle TSAM Plus Console Users Guide

Oracle TSAM Plus Console Users Guide

This chapter contains the following topics:

Overview

The Oracle TSAM Plus monitoring console allows you to specify the Oracle Tuxedo components you want to monitor, as well as track events and alerts. The console has six major sections:

- User Accessibility
- Top Menu Bar
- Component Tree
- Search Panel
- Unread Alerts Panel
- Work Area

Note: To get the best experience and full functionality of Oracle TSAM Plus Console, Oracle recommends you use the following Web browsers:

- Internet Explorer 7 and later versions.
- Firefox 4, 5, 7, 8, and later versions.

User Accessibility

User accessibility settings can be adjusted from the log-in screen and the console page.

- Log-in Screen

  In the upper left-hand corner of the log-in screen, click the **Settings** drop-down menu. You can select the following three options; the settings take effect immediately:

- I use a screen reader

  Accessibility-specific constructs are added to improve screen reader behavior.

- I use high contrast colors

  Application display uses high-contrast instead of the default contrast.

- I use large fonts

  Application display uses large fonts instead of the default size fonts.

- Console Page

  In the upper right-hand corner of the Oracle TSAM Plus Console page, click **Accessibility**; the **Accessibility Preferences** page appears. It has the same three user accessibility options as the log-in screen.

  When you have selected your options, click **OK**; the settings take effect immediately.

Top Menu Bar

The top menu bar contains the following Oracle TSAM Plus monitoring console functionality:

Policy: Define and manage system policies.

Tuxedo Metrics: Query Oracle Tuxedo monitoring metrics.

Tuxedo Application Runtime Metrics: Query Oracle Tuxedo Application Runtime monitoring metrics.

Management: Define user management, data management and global parameter settings.

Alert: Define and query alerts.

Help: On-line help page.

Component Tree

The component tree view displays Oracle Tuxedo, Oracle Tuxedo Application Runtime for CICS and JES hierarchy information.

By clicking the **Type** drop-down button in the upper right corner of the Oracle Tuxedo component tree panel, the tree panel can switch between three trees.

Each component tree gives you a different view of the back-end Oracle Tuxedo system.

- Tuxedo Component Tree displays the Tuxedo Domain -> Machine -> Group -> Server -> Service hierarchy information.

- Tuxedo Application Runtime for CICS Component Tree displays the CICS Region -> CICS Transaction/CICS Terminals hierarchy information.

  Besides hierarchy information, other information is displayed (such as Oracle Tuxedo version, Domain model, server status, etc.). Certain tasks (for example, Create Policy) can be performed directly on the tree nodes.

- JES Component Tree displays the JES application -> JES nodes -> Tuxedo JES servers hierarchy information.

  Note: Similar to the `artjesadmin changeconcurrent` command, the maximum concurrent job number can also be changed in TSAM Plus console. Right click **ARTJESINITIATOR** in the JES component tree, there is an menu item named **Change Concurrent Jobs.** If the server is active, the menu item is available. On this option is selected, a popup window appears with the current max concurrent job number displayed. Input a number between 1 and 32767, the concurrent job number is modified.

Search Panel

Search component tree elements.

Unread Alerts Panel

Displays severity-level unread alert count.

Work Area

Enter detailed monitoring information. For example, policy definition, metrics view and management etc.

Using Oracle TSAM Plus

This section contains the following topics:

- Monitoring Policy
- Tuxedo Metrics Monitoring
- Tuxedo Application Runtime Metrics Monitoring
- User/Data Management

- Alert Monitoring

Monitoring Policy

Oracle TSAM Plus provides comprehensive monitoring control of Oracle Tuxedo infrastructure behavior. Policy Management allows you to do the following:

- Organize monitoring requirements into significant and useful monitoring policy solutions.
- Manage monitoring policy (including import, export and usage tracking).
- Define monitoring policy entries for Oracle Tuxedo components and dynamic conditions.
- Selectively enable and disable real-time communication with monitored Oracle Tuxedo back-end components.

This section contains the following topics:

- Tuxedo Monitoring Policy
- Tuxedo Application Runtime Monitoring Policy

Tuxedo Monitoring Policy

On the menu bar, click **Policy** and select **Tuxedo Monitoring Policy** from the drop-down menu; the **Monitoring Policy List** page appears. It displays the existing defined policies and allows you to view, add, edit, or delete policies. This section contains the following topics:

- Monitoring Policy List Page
- Create/Edit Policy Page

Monitoring Policy List Page

The Monitoring Policy List page allows you to create and manage the Oracle Tuxedo component monitoring policies.

Button Bar

Table 1 lists the **Monitoring Policy List** button bar functions.

Table 1 Monitoring Policy List Button Bar

Button	Description
View	From the drop-down menu, select the following: • Columns: Select the columns displayed in the table. • Detach: Displays the table in a separate window. • Reorder Columns: Change how the column order is displayed.
Add	Creates a new monitor policy. The maximum policy name character length is `255`. **Note:** You can also add a new policy by right-clicking a Domain listed in the Oracle Tuxedo Components panel.
Delete	Deletes selected monitoring policies.
Enable	Enables selected monitoring policies.
Disable	Disables selected monitoring policies.
Edit	Edits selected monitoring policies.
Clone	Clones a new policy from a selected policy.
Import	Imports previously exported policies from a user-specified location.
Export	Exports selected policies in an `.xml` file to a user-specified location.
Refresh	Updates the policies displayed in the Policy List table.
Detach	Displays the table in a separate window.

Policy List Table

The Policy List table displays the following columns:

- **Select:** Allows you to select all or individual policies.
- **Name:** Displays the current policy names.
- **Status:** Displays the policy status.
  - **enabled**: The corresponding request is sent to Oracle Tuxedo.
  - **disabled**: The corresponding request is not sent to Oracle Tuxedo.

Note: Policy monitoring does not take effect until the impacted Oracle Tuxedo processes have started.

- **Domain ID:** Displays the domain identifier attached to the policy as follows: `DOMAINID:Master:IPCKEY`.
- **Tuxedo Components:** String that represents policy impact scope of Tuxedo resources in selected domain. It is FML32 boolean expression compliant. For example: (`TA_PMID%%'.*BOXBANK*'`) indicates using an FML32 boolean expression for machine selection.

Create/Edit Policy Page

The Create/Edit Policy page contains the following sections:

- Tuxedo Component Panel
- Monitoring Policy Panel

Tuxedo Component Panel

The Tuxedo Component panel contains the following selections:

- **Domain**: Required.
- **Machine**: Optional.
- **Group**: Optional.
- **Server**: Optional.

Machine, Group, and Server can also accept FML32 boolean expressions. Click the radio button to select an input method (from the drop-down list or manually enter an FML32 boolean expression). The value of each level is determined by its parent level (except for Domain).One monitoring policy must be specified for one domain.

Monitoring Policy Panel

The Monitoring Panel contains the following tabs:

Call Path Tab

Service Tab

XA Transaction Tab

Domain Gateway Tab

BRIDGE Tab

GWWS Tab

To use the listed tab options, click the **Enable** check box. If enable is not selected, all tab options are disabled. One monitoring policy can contain multiple monitoring categories.

Call Path Tab

Table 2 lists the **Call Path** tab options.

Table 2 Call Path Tab Options

Options	Description
Basic Policy Options	
Enable	Enables/disables call path monitoring.
Ratio/Interval	Selects Ratio or Interval policy. If multiple policies cover one initiator process and the ratio or interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well. • Ratio: Accepts a value range of `1-65535`. It indicates that monitoring starts for a certain number of requests. The default value is "`1`" (indicating each request is monitored). • Interval: Accepts a value range of `1-65535`. It indicates a period of time (in seconds) that monitoring can be started. It is exclusive of ratio settings. The default value is "`1`". The ratio/interval control only applies to the call path initiator.
Alert Only	Specifies alert evaluation only. No metrics are sent to manager.
Bridge Decode	Allows all BRIDGEs in the call path to decode messages. By default, BRIDGEs do not decode messages and the call path representation does not show BRIDGE points. **Note:** Use this option carefully. Decode/encode impacts application performance.
Enable Extended Monitoring	Specifies extended monitoring data reported by `tsambegin()` and `tsamend()`. APIs will be collected by call path. ART CICS runtime will invoke these functions automatically if a CICS command or EXEC SQL is invoked.

Table 2 Call Path Tab Options

Options	Description
Define Alert	Displays the alert definition page. For more information, see Tuxedo Alert Definition.
Dynamic Filter Panel	Dynamic filter conditions are independent of each other. If multiple conditions are configured, the evaluation is `true` for all conditions and the monitoring can be initiated. For single condition items by default, if one of the item evaluations is `true`, then the condition is true. This applies to other monitoring policy definitions unless there is a special comment.
Initiator Type List	Allows you to choose the following Initiator types: • Native Client • Workstation Client • Jolt Client • Domain Gateway • Application Server • Web Service Client • TMQFORWARD **Note:** "Domain Gateway" acts as a call path initiator for local service requests. For imported services, the initiator type is set to the original caller process. The "Web Service Client" initiator point is established from the Web service gateway process (GWWS). The WTC module is not supported for call path monitoring.
Service List	Specifies the initiator location monitored call path services. Select a service from the drop-down list. If Machine, Group, or Server is selected using an FML32 boolean expression, you must edit/input manually.
IP Address List	Applies to workstation client and Jolt client initiator types. Specifies the IP address that initiates call path monitoring. The value can be an IPV4 or IPV6 address, or an FML32 boolean expression.
Client Name List	Lists the native client, workstation client, and Jolt client initiator type client names.
User Name List	Lists the initiator type user names.

Service Tab

Table 3 lists the **Service** tab options.

Table 3 Service Tab Options

Options	Description
Basic Policy Options	
Enable	Enables/disables service monitoring.
Ratio/Interval	Selects Ratio or Interval policy. If multiple policies cover a single process and the ratio or interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well. • Ratio: Accepts a value range of `1-65535`. It indicates that monitoring is started among how many requests. The default value is "`1`" (indicating each request is monitored). • Interval: Accepts a value range of `1-65535`. It indicates a period of time (in seconds) that monitoring can be started and is exclusive of ratio settings. The default value is "`1`".
Alert Only	Specifies alert monitoring only. No metrics are sent to manager.
Enable Service Contract Discovery.	Enables service contract discovery. Selecting this option indicates that monitored services contract information is collected. Service contract discovery is an Oracle SALT feature that collects runtime service contract information and stores it in the metadata repository.
Define Alert	Displays the alert definition page. For more information, see Tuxedo Alert Definition.
Dynamic Filter Options	
Service List	Specifies the monitored services. Select a service from the drop-down list. If Machine, Group, or Server is selected using an FML32 boolean expression, you must edit/input manually. **Note:** Oracle TSAM Plus can also monitor CORBA interfaces. For CORBA, the interface name is the same as Oracle Tuxedo ATMI services; however, "Enable Service Contract Discovery" does not apply the CORBA interface.

XA Transaction Tab

Table 4 lists the **XA Transaction** tab options.

Table 4 XA Transaction Tab Options

Options	Description
Basic Policy Options	
Enable	Enables/disables XA Transaction monitoring.
Ratio	Selects Ratio policy. If multiple policies covering a single initiator process and the ratio policy are different, the smaller value is used. Applies to other monitoring policy definitions as well. It accepts a value range of `1-65535`. It indicates that monitoring is started among how many requests. The default value is "`1`" (indicating each request is monitored). If transaction policy is applied to the transaction initiator process, then (similar to call path monitoring), the ratio is enforced during the initiator process. If it applies to a non-initiator transaction participator, the ratio impacts the monitored XA routines. **Note:** Monitoring from the transaction initiator is recommended.
Define Alert	Displays the alert definition page. For more information, see Tuxedo Alert Definition.

Table 4 XA Transaction Tab Options

Options	Description
Dynamic Filter Options	
Initiator Type List	Allows you to choose the following Initiator types: • Native Client • Workstation Client • Jolt Client • Domain Gateway • Application Server Transaction path monitoring from an initiator is currently supported. If monitoring is implemented during the initiator process, all XA Transaction points are monitored during the transaction propagation.

Domain Gateway Tab

Table 5 lists the **Domain Gateway** tab options.

Table 5 Domain Gateway Tab Options

Options	Description
Enable	Enables/disables Domain Gateway (GWTDOMAIN) monitoring.
Interval	Selects Interval policy. If multiple policies cover a single GWTDOMAIN process and the interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well. It indicates a period of time (in seconds) that monitoring can be started. It accepts a value range of `1-65535`. The default value is `300`.
Define Alert	Displays the alert definition page. For more information, see Tuxedo Alert Definition.

BRIDGE Tab

Table 6 lists the **Bridge** tab options.

Table 6 Sub Controls of BRIDGE Panel

Options	Description
Enable	Enables/disables Bridge monitoring.
Interval	Selects Interval policy. If multiple policies cover a single BRIDGE process and the interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well. It indicates a period of time (in seconds) that monitoring can be started. It accepts a value range of `1-65535`. The default value is "`300`".
Define Alert	Displays the alert definition page. For more information, see Tuxedo Alert Definition.

GWWS Tab

Table 7 lists the **GWWS** tab options.

Table 7 GWWS Panel Tab Options

Options	Description
Enable	Enables/disables GWWS monitoring.
Interval	Selects Interval policy. If multiple policies cover a single GWWS process and the interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well. It indicates a period of time (in seconds) that monitoring can be started. It accepts a value range of `1-65535`. The default value is "`300`".
Define Alert	Displays the alert definition page. For more information, see Tuxedo Alert Definition.

Notes: A policy must belong to a single domain. Oracle TSAM Plus does not support cross-domain policies. When an invalid Oracle Tuxedo domain is removed, the policies are also removed.

All polices are global configurations that are visible for all users and editable for users with policy management administrator privileges.

It possible for a policy to be to modified *simultaneously* by multiple users. The *final changes* may not be seen by other users depending on the console refresh interval.

Tuxedo Application Runtime Monitoring Policy

Oracle TSAM Plus provides comprehensive monitoring control of Oracle Tuxedo Application Runtime infrastructure behavior.

This section contains the following topics:

Monitoring Policy List Page

On the menu bar, click **Policy** and select **Tuxedo Application Runtime Monitoring Policy** from the drop-down menu. The **Monitoring Policy List** page appears. It displays existing defined Tuxedo Application Runtime monitoring policies and allows you to view, add, edit, or delete policies.

Button Bar

Table 8 list the button bar functions.

Table 8 Button Bar

Button	Description
View	From the drop-down menu, you can select the following: • Columns: Select the columns to shown in the table. • Detach: Displays the table in a separate window. • Reorder Columns: Change how the column order is displayed.
Add	Create a new monitor policy. The maximum policy name character length is `255`. You can also add a new policy by right-clicking a Domain listed in the Oracle Tuxedo Components panel.
Delete	Selected monitoring policies are deleted.
Enable	Selected monitoring policies are applied.
Disable	Selected monitoring policies are cancelled.
Edit	Edit selected monitoring policy.
Clone	Clone a new policy from a selected policy.
Import	Imports previously exported policies from a user-specified location.
Export	Exports selected policies in an `.xml` file to a user-specified location.
Refresh	Updates the policies shown in the Policy List Table.

Policy List Table

The Policy List table displays the following columns:

- **Select:** Allows you to select all or individual policies.
- **Name:** Displays the current policy names.
- **Status:** Displays the policy status.
  - **enabled**: The corresponding request is sent to Oracle Tuxedo.
  - **disabled**: The corresponding request is not sent to Oracle Tuxedo.

Note: Policy monitoring does not take effect until the impacted Oracle Tuxedo processes have started.

- **CICS Region ID:** Displays the CICS region identifier (CICS region name) attached to the policy.

Create/Edit Policy Page

The Create/Edit Policy page contains the following sections:

- Policy Property Panel
- Tuxedo Application Runtime Monitoring Policy Panel

Policy Property Panel

The Tuxedo Application Runtime Policy panel contains the following:

- **Name**: Policy name input text box. Required.
- **CICS Region**: Selection of region that the current policy attaches to. Required.

Tuxedo Application Runtime Monitoring Policy Panel

The Tuxedo Application Runtime Monitoring Panel contains the following tabs:

CICS Transaction Tab

CICS Terminals Tab

To use the options listed in each tab, click the **Enable** check box. If enable is not selected, all options in the tab are disabled.

CICS Transaction Tab

Table 9 lists the **CICS Transaction** tab options.

Table 9 CICS Transaction Tab Options

Options	Description
Enable	Enables/disables CICS Transaction monitoring.
Ratio/Interval	Selects Ratio or Interval policy. If multiple policies cover a single process and the ratio or interval policy are different, the smaller value is used. Applies to other monitoring policy definitions as well. • Ratio: Accepts a value range of `1-65535`. It indicates that monitoring is started among how many requests. The default value is "`1`" (indicating each request is monitored). • It indicates a period of time (in seconds) that monitoring can be started and is exclusive of ratio settings. Interval: Accepts a value range of `1-65535`. The default value is "`1`".
Alert Only	Specifies alert monitoring only. No metrics are sent to manager.
Define Alert	Displays the alert definition page. For more information, see Tuxedo Alert Definition.
Transaction List	Select monitored CICS Transaction(s) from the drop-down list or input the FML boolean expression manually.

CICS Terminals Tab

Table 4 lists the CICS Terminal tab options.

Table 10 CICS Terminals Tab Options

Options	Description
Enable	Enables/disables CICS Terminal monitoring.
Interval	Indicates a period of time (in seconds) that monitoring can be started. It accepts a value range of `1-65535`. The default value is `300`.
Define Alert	Displays the alert definition page. For more information, see Tuxedo Application Runtime CICS Alert Definition.

Notes: A policy must belong to a single CICS region. Oracle TSAM Plus does not support cross-region policies. When an invalid CICS region is removed, the policies are also removed.

All polices are global configurations that are visible for all users and editable for users with policy management administrator privileges.

It possible for a policy to be modified *simultaneously* by multiple users. The *final changes* may not be seen by other users depending on the console refresh interval.

Tuxedo Metrics Monitoring

Oracle Tuxedo Metrics collection is driven by policy monitoring. Once metrics are collected, you can view them on the related metric pages. Click **Tuxedo Metrics** on the menu bar; the **Tuxedo Metrics** page appears. From the drop-down menu you can select the following:

- Call Path
- Call Pattern
- Service
- XA Transaction
- Domain Gateway
- BRIDGE
- GWWS

Call Path

Call Path metrics monitoring provides a quick way for you to view the latest call path information. For long-running call path situations, Oracle TSAM Plus allows you to view runtime executions dynamically in real time.

The Call Path Metric window contains the following panels:

- Call Path Query by Filter Panel
- Call Path Results Panel

Call Path Query by Filter Panel

Table 11 lists the **Call Path Query by Filte**r panel options. Results are displayed in the **Call Path Results List** panel.

Table 11 Call Path Query By Filter Options

Options	Descriptions
Initiator	Specifies the call path initiator type to limit the scope. You can select the following values: • Type: – All – Workstation Client – Jolt Client – Native Client – Domain Gateway – Web Service Client – Application Server – TMQFORWARD The default value is "All". **Note:** The "Initiator Type" supports multiple selections for specific initiator types. • Domain: Lists all Domains. The default value is “Any”. • Machine: Lists all machines for the selected domain. The default value is “Any”. • Server: Lists all servers for the selected machine. The default value is “Any”. • Initial Called Service: The first service of the call path. • Client Process Name: The initiator process name. • User Name: The Tuxedo user name is provided to call initial called service.
Status	Checks the call path status. You can select the following values: • Any • Success • Running • Application Failure • System Failure • Any Failure The default value is "Any". **Note:** "Application Failure" indicates `tperrno` is `TPESVCFAIL`. Other errors situations belong to `"System Failure"`

Table 11 Call Path Query By Filter Options

Options	Descriptions
Time	Specifies a specific time period. • Any. • Recent: Specified in minutes. • Time Period: Specifies a particular time span.
Min. Elapsed	Displays call paths with minimum microseconds spent (0 means all).
Max Record	Specifies the call path max number. If the query results are larger than this number, the latest max records are retrieved.
Correlation ID (Optional)	The call path Correlation ID. If input, Oracle TSAM Plus uses it to filter. The default value is empty (which indicates a Correlation ID is not used in the query). **Note:** "Correlation ID" query is exclusive with "Filtering Parameters". The Correlation ID consists of the following field values separated by a space: • Tuxedo domain ID: `<DOMAINID>:<master machine name>:<IPCKEY>` in the UBBCONFIG `*RESOURCE` section. • Logical Machine ID: `LMID` in the UBBCONFIG `*MACHINES` section. • Process Name: – "client": Used for native clients. – "JSH": Used for Jolt clients. – "WSH": Used for /WS clients. – <server name>: Used for the server name. • Process ID (pid) • Thread ID • A counter in range of `1..99999999` (starting from 1) • Timestamp **Correlation ID Example:** `TUXEDO:lcsol18:200401 SITE1 client 18505 1 1 1259031468`

Call Path Results Panel

This Call Path Results panel displays server-side call path queries.

There are two sub-panels:

- Call Path Results List Panel
- Call Path Details Panel

Call Path Results List Panel

Table 12 lists the **Call Path Results List** panel options.

Table 12 Call Path Results List Panel

Results	Description
View	From the drop-down menu, you can select the following: • Columns: Select the columns displayed in the table. • Detach: Displays the table in a separate window. • Reorder Columns: Change how the column order is displayed.
Refresh	Updates the user information list.
Detach	Displays the table in a separate window.

Table 12 Call Path Results List Panel

Results	Description
Call Path Data Grid	The data grid holds the entire call path information server-side query. One call path occupies one row. The columns are listed as follows: • Correlation ID. Click to display single call path details. • Root Service The first ATMI service made in the call path. • Start Time The time stamp for the start of the call path query in the following format: `mmmdd,yyyy,hh:mm:ss:ms` GMT • Status – Succeeded – Failed • Return Code – `TPOK/0` – `TPEXXX/tperrno` `TPEXXX` is the error code string format and tperrno is the corresponding numeric value, for example, `TPESVCFAIL/11`. • Elapsed Time (microsecond) The amount of time passed during the call path query. The unit is seconds with granularity to millisecond. If a call path is completed, the value is the total elapsed time used. • CPU Time (microsecond) The total CPU time used on the call path. The CPU time is the service execution CPU time summary (CPU time for multi-threaded servers cannot be accurately calculated). • User CPU Time (microsecond) The total User CPU time used on the call path. The User CPU time is the service execution User CPU time summary (User CPU time for multi-threaded servers cannot be accurately calculated). • System CPU Time (microsecond) The total System CPU time used on the call path. The System CPU time is the service execution System CPU time summary (System CPU time for multi-threaded servers cannot be accurately calculated).

Table 12 Call Path Results List Panel

Results	Description
	• User return code • GTRID The XA Transaction identifier if the call path is involved in an XA Transaction. It provides the XA Transaction query results if XA Transaction monitoring is enabled. • Client Address Client IP Address (if available). • User Name The Tuxedo user name is provided to call initial called service.
Status Bar Summary	The summary lists the following information: • Export to Excel button places the table contents into an MS Excel compatible file. • Total call path in this collection. • Running call path in this collection. • Successfully done call path number. • Application failed call path number. • System failed call path number.

Call Path Details Panel

Table 13 lists the **Call Path Details** panel options.

Table 13 Call Path Details Panel Options

Results	Description
Call Path Details Data Grid	The data grid holds the entire call path server-side queries. One call path occupies one row. The columns are as follows: • Message Flow: Message Flow format: ICON Server (`tpcall/tpacall/tpforward` Root Service) Where: – ICON: • Send request • Get request • Send reply • Get reply – Server: Server name **Note:** If an Oracle Tuxedo server has invoked `tpcall/tpacall/tpforward`, the content is displayed in parentheses. For example, `BROKER (tpcall DEPOSIT)`. • Domain: Domain call path step located. • Machine: Machine call path step located. • Group: Group call path step located. • Server: Server call path step located. • Timestamp: The logging point timestamp. • Duration (microsecond): Time span `T(n) - T(n-1)` (in seconds) • Elapsed time (microsecond): The total service elapsed time (in seconds). The default value is "`hidden`". • Execution time (microsecond): The service execution time (in seconds).

Table 13 Call Path Details Panel Options

Results	Description
	• Wait time (microsecond): The IPC queue wait time (in seconds). • Call Flag: The `tpcall/tpacall` call flags. • Message Size (bytes): The buffer size in bytes. • Message Queued: Number of messages in queue. • IPC queue ID: Identifies the service request queue. The default value is `hidden`. • Return Code • User Return Code • Extended Monitoring Type: specified by `tsambegin()`. • Extended Subsidiary Monitoring Type: specified by `tsambegin ()`. • Others: LDOM, RDOM, Local GTRID and MSGCVTTIME. Where MSGCVTTIME is Message Web service conversion time. • Web service conversion time)
Status Bar	Displays the current selected call path Correlation ID. The **Export to Excel** button allows you to place the table contents into an MS Excel compatible file. **Note:** When exporting to Excel, if the callpath/callpattern tree is collapsed, only the nodes that are not collapsed are exported to excel file. If you want to export the full callpath/callpattern tree, you must fully expand it and then click **Export to Excel**.

Notes: If multiple async calls are made in one process (for example, in a service two `tpacalls` are made), the order is based on the service invocation sequence for the reply instead of the timestamp. This allows you to easily correlate requests and reply in an "ordered" manner.

For GWWTDOMAIN, both local domain and remote domain are displayed. LDOM/RDOM information is displayed in the domain gateway cell.

For BRIDGE, the message full stages are supported (same as GWTDOMAIN).

Call Pattern

Call Pattern monitoring provides a quick way for you to view the Call Pattern information. The Call Pattern Metric window contains the following panels:

- Call Pattern Query by Filter
- Call Pattern Results Panel

Call Pattern Query by Filter

Table 14 lists the **Call Pattern Query by Filter** panel options.

Table 14 Call Pattern Filter Panel

Options	Description
Initiator	• Domain: Lists all Domains. The default value is "Any". • Machine; Lists all machines for the selected domain. The default value is "Any". • Server: Lists all servers for the selected machine. The default value is "Any". • Initial Called Service: The first service of the call path. • Client Process Name: The initiator process name. • User Name: The Tuxedo user name is provided to call initial called service.
From/To	Time Span
Minimum Request Number	The minimum number of requests that form a pattern. Usually a call pattern contains a large number of calls. This threshold prevents listing a pattern with a small number of calls.
Service Pattern	Checked: Displays only service call path pattern Unchecked: Displays service call path pattern including detailed location and GWTDOMAIN information

Click the **Query** button; the **Call Pattern Result List** panel appears.

Call Pattern Results Panel

The Call Pattern Results panel displays server-side Call Pattern queries. There are two sub-panels:

- Call Pattern Results List Panel
- Call Pattern Details Panel

Call Pattern Results List Panel

Table 15 lists the **Call Pattern Results List** panel options.

Table 15 Call Pattern Results List Panel Options

Options	Description
View	From the drop-down menu, you can select the following: • Columns: Select the columns displayed in the table. • Detach: Displays the table in a separate window. • Reorder Columns: Change how the column order is displayed.
Refresh	Updates the user information list.
Detach	Displays the table in a separate window.
Call Pattern Data Grid	The data grid holds the entire call path server-side queries. One call path occupies one row. The columns are as follows: • Description: Brief information for this call pattern. Clicking it displays call pattern details as follows. • Total Number: Total number of call paths in a call pattern. • Success Number: Successful number of call paths in a call pattern. • Application Failure Number: Application failure number of call paths in a call pattern. • System Failure Number: System failure number of call paths in a call pattern. • Average Elapsed Time (microsecond): Average call pathelapsed time in a call pattern.
Status Bar Summary	• Total call pattern in this collection. The **Export to Excel** button allows you to place the table contents into an MS Excel compatible file. **Note:** When exporting to Excel, if the callpath/callpattern tree is collapsed, only the nodes that are not collapsed are exported to excel file. If you want to export the full callpath/callpattern tree, you must fully expand it and then click **Export to Excel**.

Call Pattern Details Panel

Click any row in the **Call Pattern** list, the selected **Call Pattern** details are displayed. Table 16 lists the **Call Pattern Details** panel options.

Table 16 Call Pattern Details Panel

Options	Description
Call Pattern Details Data Grid	The tree table data grid holds the entire call path details queried from server side. The columns are as follows: • Message Flow: Message Flow format: – ICON Service Where: – ICON: • Send request Root Service: Initial service at Call Pattern For example, `BR_ACNT_SUM` • Domain: Domain call pattern step located. Displayed when Service Pattern is unchecked. • Machine: Machine call pattern step located. Displayed when Service Pattern is unchecked. • Group: Group call pattern step located. Displayed when Service Pattern is unchecked. • Server: Server call pattern step located. Displayed when Service Pattern is unchecked.
Status Bar	Status Bar displays the current selected call pattern index in the Call Pattern List panel. The **Export to Excel** button allows you to place the table contents into an MS Excel compatible file.

Service

Service Monitoring allows you to monitor Oracle Tuxedo services. Click **Tuxedo Metrics** and select **Service** from the drop-down menu; the **Service** page appears.

The filtering options panel allows you to specify supply information to the services you want monitored. On the left, there are drop-down lists of Domain, Machine, Group and Server. There

are two modes for the service selection, select the most active services or particular services on the right. Table 17 lists the **Service Selection** options.

Table 17 Service Selection Options

Options	Description
Services Selection	• Domain: Lists all Domains. The default value is “Any”. • Machine: Lists all machines for the selected domain. The default value is “Any”. • Group: Lists all server groups for the selected machine. The default value is “Any”. • Server: Lists all servers for the selected machine. The default value is “Any”. • User Name: TheTuxedo user name is provided to call initial called service.

Table 17 Service Selection Options

Options	Description
Monitoring Mode	Four monitoring modes are supported: • Most Active (Live): Allows you to query the most active services in the latest refresh-time window • Most Active (Historical): Allows you to query the most active service over a long time interval and displays the service metrics distribution during that time span. • Selected Services (Live): Allows you to monitor service dynamic execution status in the latest refresh-time window. When selected, the Available Services/Selected Services panel appears. – Available Services/Selected Services: Selects the services to be monitored. – Show services with same name as one service: If checked, specifies the query only uses the service name as the query key. If unchecked, the services are queried using the service location for same name service. – Aggregation Time: Applies to alive related queries. The algorithm is time span. – Refresh Interval: Specifies the refresh aggregation interval for service metrics computing. It only applies to live monitoring related query. • Selected Services (Historical): Allows you to query services execution status during a long time span. A time window is needed for aggregation purpose. When selected, the Available Services/Selected Services panel appears. – Available Services/Selected Services: Selects the services to be monitored. – Show services with same name as one service: If checked, specifies the query only uses the service name as the query key. If unchecked, the services are queried using the service location for same name service. – From, To: Time period. For historical query. – Time Window: Specifies the time increment (in seconds). The default value is `3600`.

Click **Query**; the query results are displayed in the **Service Monitoring Results** panel. Table 18 lists the **Service Monitoring Results** panel options.

Table 18 Service Monitoring Results Panel Options

Options	Description
Metrics	From the drop-down list you can select the following service monitoring metrics: • Average Execution time (microsecond) • Success Number • Failure Number • Max Message Size (bytes) • Min message size (bytes) • Average CPU time (microsecond) • Average System CPU time (microsecond) • Average User CPU time (microsecond) • Average Message Queue Length • Average Message Wait Time in Queue (millisecond) For "CPU time", only single threaded servers are calculated (CPU time for multi-threaded servers cannot be accurately calculated). The **Pause/Resume** button allows you to stop the data refresh temporarily. The default is **Pause** (which indicates that a current refresh is in progress). Clicking it will **Resume** and refresh stops. Clicking it again restores the status.
Chart/Table	Displays results in either a chart or table. The default view is Chart (either line or bar chart). One service is one series. The horizontal axis represents the time series; the vertical axis represents the selected metrics. In table view, the **Export to Excel** button allows you to place the table contents into an MS Excel compatible file.

XA Transaction

There are two ways to initiate XA Transaction queries: you can specify an XA Transaction identifier, or you can query using filtering parameters. These two ways are exclusive. Table 19 lists the **XA Transaction Query by Scope** filtering options.

Table 19 "XA Transaction Query by Scope Panel Options

Options	Description
Initiator Type	There XA Transaction monitoring scenarios: 1. If the monitoring policy is applied to an XA Transaction initiator, monitoring initiated with the XA Transaction path propagation (similar to Call Path). 2. If monitoring is initiated for particular processes only (such as TMS without initiator involved), propagation does not take place and only the monitored XA Transaction calls are reported. The "Initiator Type" applies to the first situation, so that a specific XA Transaction can be retrieved. It has the following values: – All – Native Client – Workstation Client – Jolt Client – Domain Gateway – Application Server The default value is "`All`" and the second monitoring scenario must use the default setting.
Status	Allows you to select the following values: • Any • Succeeded • Failed
Query for latest	Query under latest time (in seconds).
Query during	Query XA transactions during a specific time period.
Query by GTRID	Query an XA transaction by using an XA transaction identifier. For example `x0 x46524a28 x1`. For more information, see How the System Tracks Distributed Transaction Processing in the Oracle Tuxedo User Documentation. The **Exact Match** checkbox is under the text field. If checked, the whole identifier string must be matched, otherwise all the XA transaction IDs that contain the specified string are listed.

Click **Submit**; the XA Transaction results appears in the **XA Transaction Result List** panel.

Table 20 lists the **XA Transaction Results List** panel options.

Table 20 XA Transaction Results List Panel Options

Options	Description
GTRID	Global Transaction ID.
Initiator	The initiated process where the transaction starts.
Status	Successful transactions indicated by Failed transactions indicated by
Start Time	Time when the XA Transaction started.
Duration (microsecond)	Total transaction time span.
Execution Time (microsecond)	Total transaction time per Oracle Tuxedo service.
Parent GTRID	Displays the GTRID of the previous domain if the transaction was propagated from another Oracle Tuxedo domain.

When you click on a transaction item in the list, the transaction path, related call path ID and transaction details are displayed in the XA Transaction Path, Corresponding Call Path Correlation ID and XA Transaction Detail panels respectively.

The XA Transaction Path shows the XA Transaction network in a tree structure similar to the Component Tree. In the XA Transaction Path tree, each node represents one domain XA Transaction. If multiple /T domains are involved in the XA Transaction, the XA transaction spread path can be easily observed.

In the Corresponding Call Path Correlation ID panel, the call path(s) related to the XA transaction are listed. You can include multiple call path correlation IDs in an XA Transaction. To do so, you must define an XA Transaction policy element and a call boundary call path policy element. If the two elements are applied to one process, one XA Transaction monitoring process includes multiple call paths. Clicking on the call path ID displays the call path detail in the Call Path Metric.

Table 21 lists the **XA Transaction Detail** panel options.

Table 21 XA Transaction Detail Panel Options

Options	Description
XA Routine	The transaction routine names are as follows: • `tpbegin` • `tpcommit` • `tprollback` • `tpabort` • `xa_commit` • `xa_start` • `xa_prepare` • `xa_rollback` • `xa_end` • `tms_msg_xxx` (for GWTDOMAIN XA Transaction activities) • `xa_msg_xxx` (for GWTDOMAIN XA Transaction activities)
Return Code	The XA Routine return code.
Machine/Group/Process	The XA Routine process information. The process can be an Oracle Tuxedo server or a client.
Start Time	The time when the XA Routine started.
Execution Time (microsecond)	The elapse time used for the XA Routine.

Domain Gateway

A monitoring project may contain multiple domain gateways; however, one monitoring chart can only monitor one local domain gateway (due to data source consistency). Click **Tuxedo Metrics** and select **Domain Gateway** from the drop-down menu; the **Domain Gateway Metrics** page appears. The Domain Gateway page contains two panels:

- Domain Gateway Selection
- Domain Gateway Monitoring

Domain Gateway Selection

Table 22 lists the **Domain Gateway Selection** panel options.

Note: Domain Gateway only supports GWTDOMAIN.

Table 22 Domain Gateway Selection Panel Options

Options	Description
Domain	Lists all Domains. Required.
Local Access Point	This drop-down list contains the local domain gateway configured in "Gateway" monitoring. The format is as follows: `domain id/group/server id`. **Note:** One group can only have one gateway instance.
Available Remote Access Point/Selected Remote Access Point	The remote domain gateway link connected with the selected local domain gateway. They are the RDOM in DMCONFIG.Multiple remote domains can be selected.
Monitoring Mode	• Live – Aggregation Time: Applies to alive related query. The algorithm is time span (in seconds). – Refresh Interval. Specifies the refresh interval for live monitoring (in seconds). • Historical – From/To: time period for historical query. – Time Window. Specifies the aggregation window for historical query (in seconds).

Domain Gateway Monitoring

Table 23 lists the **Domain Gateway Monitoring** panel options.

Table 23 Domain Gateway Monitoring Panel Options

Options	Description
Metrics	From the drop-down list you can select the following metrics: • Network Message Number • Network Message Bytes • Network Pending Number • Network Pending Bytes • Network Outstanding Requests
Chart/Table	Displays results in either a chart or table. The default view is Chart (either line or bar chart). One service is one series. The horizontal axis represents the time series; the vertical axis represents the selected metrics. In table view, the **Export to Excel** button allows you to place the table contents into an MS Excel compatible file.

BRIDGE

Similar to Domain Gateway.

Note: There is no "Network Outstanding Requests" metric.

GWWS

Click **Tuxedo Metric**s and select **GWWS** from the drop-down menu; the **GWWS Metric** page appears. The GWWS Metric page contains two panels:

- GWWS Query by Filter
- GWWS Live/History Monitoring

GWWS Query by Filter

Table 23 lists the **GWWS Query by Filter** options.

Table 24 GWWS Query by Filter Panel Options

Options	Description
Domain	Lists all Domains. Required.
GWWS	GWWS server list. The default is "`All`".
Monitoring Mode	• Live – Aggregation Time: Applies to alive related query. The algorithm is time span (in seconds). – Refresh Interval. Specifies the refresh interval for live monitoring (in seconds). • Historical – From/To: time period for historical query. – Time Window. Specifies the aggregation window for historical query (in seconds).

GWWS Live/History Monitoring

Table 25 lists the **GWWS Live/History Monitoring** options:

Table 25 GWWS Live/History Monitoring Panel Options

Options	Descriptions
Metrics	From the drop-down list you can select the following metrics: • Active Thread Numbers • Average Inbound Process Time (microsecond) • Average Outbound Process Time (microsecond) • Inbound One-Way Failure Number • Inbound One-Way Success Number • Inbound RPC Failure Number • Inbound RPC Success Number • Outbound One-Way Failure Number • Outbound One-Way Success Number • Outbound RPC Failure Number • Outbound RPC Success Number • Inbound Pending Request • Outbound Pending Request

Tuxedo Application Runtime Metrics Monitoring

Metrics collection is driven by policy monitoring. Once metrics are collected, you can view them on the related metric pages.The Tuxedo Application Runtime Metrics page includes four panels:

To access the Tuxedo Application Runtime Metrics page, click **Tuxedo Application Runtime Metrics** on the menu bar. From the drop-down menu you can select the following:

- CICS Resources
- CICS Transaction
- CICS Terminals
- JES Job Submit
- JES Jobs
- JES Metrics

CICS Resources

Oracle TSAM Plus allows you to query and edit CICS resource configuration files on the Oracle Tuxedo master node

Note: To enable this function, you must make sure the ARTADM server runs on each node and the `KIXCONFIG` environment variable is set to the CICS resource files directory.

Querying CICS Resources

You can query CICS resources by region. All of the CICS Resource configuration files are listed after you select a CICS region and click the **Query** button.You can also the click **Refresh** button to refresh the CICS Resource list for the selected CICS region.

Editing/Viewing CICS Resources

You can edit or view the CICS resource depending on the authority configured in User Management.

To edit the CICS Resource configuration file, you must do the following steps:

1. Select one CICS region from region dropbox, then click the **Query** button. All of the CICS configuration files belonging to the selected region are listed.
2. Select a configuration file then click the **Edit** button.

   Note: The **Edit** button is enabled when the number of selected configuration file is 1.
3. Click the **Update** button to save the modification. You can also click the **Back** button to return to the list of CICS Resources without modifying the file.

   Note: If there are any format errors in the listed files, an error message is displayed.

For more information, see Oracle Tuxedo Application Runtime for CICS and Batch documentation.

CICS Transaction

CICS Transaction monitoring provides a quick way for viewing the latest CICS Transaction information.

The CICS Transaction page contains the following panels:

- CICS Transaction Query by Filter Panel
- CICS Transaction Live/History Monitoring Panel

CICS Transaction Query by Filter Panel

Table 26 lists the **CICS Transaction Query by Filter** options.

Table 26 CICS Transaction Query By Filter Options

Options	Description
CICS Region	Lists all CICS regions. The default value is "`All`".
Transaction Class	Lists all Transaction classes. The default value is "`All`".
Transaction	Lists all Transactions. The default value is "`All`".
Monitoring Mode	• Live – Aggregation Time: Applies to alive related query. The algorithm is time span (in seconds). – Refresh Interval. Specifies the refresh interval for live monitoring (in seconds). • Historical – From/To: time period for historical query. – Time Window. Specifies the aggregation window for historical query (in seconds).

CICS Transaction Live/History Monitoring Panel

Table 27 lists the **CICS Transaction Live/History Monitoring Graph** tab metrics.

Table 27 CICS Transaction Live/History Monitoring Options

Options	Description
Chart Control	From the drop-down list you can select the following metrics: • Number of Transaction Calls • Average Execution Time (microsecond) • Average CPU Time (microsecond) • Average System CPU Time (microsecond) • Average user CPU Time (microsecond)
Chart/Table	Displays results in either a chart or table. The default view is Chart (either line or bar chart). One service is one series. The horizontal axis represents the time series; the vertical axis represents the selected metrics. In table view, the **Export to Excel** button allows you to place the table contents into an MS Excel compatible file.

CICS Terminals

CICS Terminals metrics provides a quick way for you to view the latest CICS Terminals information.

The CICS Terminals window contains the following panels:

- CICS Terminals Query by Filter Panel
- CICS Terminals Live/History Monitoring Panel

CICS Terminals Query by Filter Panel

Table 28 lists the **CICS Terminals Query by Filter** options.

Table 28 CICS Terminals Query By Filter Options

Options	Description
CICS Region	Lists all CICS regions. The default value is "`All`".
Monitoring Mode	• Live – Minimum Policy Interval: Applies to alive related query. It is the minimum value among all Tuxedo Application Runtime monitoring policies defined (in seconds). – Refresh Interval. Specifies the refresh interval for live monitoring (in seconds). • Historical – From/To: time period for historical query. – Time Window: Specifies the aggregation window for historical query (in seconds). – Since CICS Region Start Checkbox: If checked, From/To is replaced by Start Time/Shutdown Time. – Start Time/Shutdown Time: CICS region start/shutdown time.

CICS Terminals Live/History Monitoring Panel

Table 29 lists the `CICS Terminals Live/History Monitoring` panel options.

Table 29 CICS Terminals Live/History Monitoring Graph Options

Options	Description
Chart Control	From the drop-down list you can select the following metrics: • Successful Transaction Number • Failed Transaction Number • Session Number
Chart/Table	Displays results in either a chart or table. The default view is Chart (either line or bar chart). One service is one series. The horizontal axis represents the time series; the vertical axis represents the selected metrics. In table view, the **Export to Excel** button allows you to place the table contents into an MS Excel compatible file.

JES Job Submit

JES Job submit provides a quick way for you to submit a job through the TSAM Plus console. For more information, see Oracle ART Runtime documentation.

Notes: To enable JES job submit and monitoring, you must set the `JESMONITOR` environment variable to yes before you start the LMS server and set the "`JOBREPOSITORY`" value in the JES configuration file to specify the path of the job repository.

If the "`JOBREPOSITORY`" value is not in the JES configuration file, the list panel lists the JOB in the `APPDIR`.

The JES job submit window contains the following panels:

- JES Application Selection Panel
- Job File Information List Panel

JES Application Selection Panel

Click **List Available Jobs**, all available job script files are listed in the Job File Information List Panel" if the selected JES application is alive.

Job File Information List Panel

Table 30 lists the JES Job File Information List Panel options.

Table 30 Job File Information List Panel Options

Options	Description
Script Name	Job script file name.
Name	Job name.
Priority	Job priority.
Class	Job class. Value may be [A-Z], [0-9]
Restart Option	The name of the step to use to restart the job
Type run	Indicates what should be done with the job. Choose one of the following: COPY - Copy the job directly in an output stream to sysout. HOLD - The system should hold the job. JCLHOLD - JES should hold the job. SCAN - Scan JCL for syntax errors only.
Version	The EJR runtime engine version.
Start label	The label of the first phase to be started
EJR Option	Enter the EJR Option you want to start the job with.
Shell Option	Enter the Shell Option you want to start the job with.

Select an item, and click **Submit**. If the job is submitted successfully, the display message appears as follows:

"Submit of Job xxxx was successful", where "xxxx" is the job id. Click **View Job** to see a detailed message. If it fails, an error message is displayed.

JES Jobs

JES Jobs metrics provides a quick way for you to view the latest JES jobs information.

The JES jobs window contains the following panels:

- JES Jobs Query by Filter Panel
- Jobs Query Results List Panel

- Job Detail Information Panel

JES Jobs Query by Filter Panel

Table 31 lists the **JES Jobs Query by Filter** options.

Table 31 JES Jobs Query By Filter Options

Elements	Description
JES application	Specifies which JES system the Job is executed,. The single choice dropdown list contains only live/active ones, mandatory. Same as the JES tree node name.
Job classes	Specifies one or more classes
Job name	Specifies a search a string contained in the job name.
Job priority	Specifies one or more priorities
Job owners	Specifies one or more owners separated by a semi-colon (;) or a coma (,).
Job status	Specifies one or more of the following status categories: • EXECUTING • CONVING • WAITING • DONE • FAIL • HOLD_WAITING • HOLD_CONVING • INDOUBT • DISCARD
Submitted in latest _ seconds	Query the most recent Jobs submitted in latest a few seconds
Submit during	Query JES Jobs submitted during a specific time period.

You can also query the exact job ID by using 'Query by Job ID' subform. Fill in 'Job ID' and click **Query**; if found, the corresponding job is listed in the result.

Jobs Query Results List Panel

Table 32 lists the **JES Jobs Query Results List** table columns.

Table 32 'Jobs Query Results List Table Columns

Sort Options	Description
Name	Job name.
ID	Job ID
Node	Machine name
Owner	The person that submitted the job
Priority	Job priority.
Current Queue	The current queue where the job is placed.
Class	Job class. Value may be [A-Z], [0-9]
Submit Time	Time when the job was submitted.
End Time	Time when job completes.
Status	Job status.

Certain actions can be made to the queried out job list entries. Besides the **Refresh** button, **Cancel**, **Purge**, **Hold**, and **Release** actions can be used on selected jobs. The job cancel and purge behavior is the same same as the `artjesadmin` command. The command return status is displayed in a popup window.

Notes: A job can be held only when the status is `CONVING` or `WAITING`.

A job can be released only when the job status is `HOLD_WAITING`.

A job can be purged only when the job is not in the `PURGE` queue.

Two additional actions/buttons (**Job Logs** and **Job Sysout**s) are located on the button bar that provide job log and job sysout information.

Notes: If job logs or job sysouts exceed 10, 000 bytes, the file is truncated (that is, only the last 10,000 bytes are retained).

Purged jobs do not have Job Logs and Sysouts to view

All records in the job list table can be exported to a `.xls` file by clicking the **Export to Excel** button below the list table.

Note: If you are using Internet Explorer, and IE security is set above medium, a warning message pops up when you click the **Export to Excel** button. Click the export button again to ignore the warning.

Choosing Monitoring Mode

You can change monitoring to auto refresh mode by specifying the Refresh Interval in the query result list panel toolbar; auto refresh is disabled by default. The refresh rate can be set as follows:

- 1 minute
- 5 minutes
- 10 minutes
- 30 minutes
- 60 minutes
- 120 minutes

Job Detail Information Panel

When you select a Job in the Job Query Results List table, detailed information for the selected job is displayed in the Job Detail Information panel. The job detailed information is self-explanatory and includes the following:

- Running step
- Running time
- Current queue
- Status
- Type Run
- Initiator
- End Time
- User CPU usage
- System CPU usage

Note: Job detail information is retrieved along with the Job Query List; the content may not reflect the latest information. To view the latest job details, click the refresh button.

JES Metrics

JES Metrics allows you to monitor the running status of the JES system. It contains two panels: Query by filter and Monitor view.

JES Metrics Query by Filter Panel

The filtering condition panel let user supply information to specify the jobs to be observed in the JES system. On the left, there are dropdown lists for JES application name, Job classes, Job priorities and Job owners, and one edit box for Job name.

There are two modes for the JES metrics monitoring, live monitoring and history monitoring.

Table 33 lists the UI components and their relationships.

Table 33 JES Metrics Query by Filter Panel

Elements	Description
JES application name	Specifies which JES system the Job is executed. The single choice dropdown list contains only live/active ones, mandatory. Same as the JES tree node name.
Job classes	Specifies one or more classes
Job name	Specifies a search a string contained in the job name.
Job priorities	Specifies one or more priorities
Job owners	Specifies one or more owners
Monitoring Mode	Two monitoring modes are supported: Live and Historical • Live Monitoring. It allows user to monitor the JES system execution status in a latest refresh window. • History Monitoring. It allows user to query JES system execution status during a long time span. A time window is needed for aggregation purpose.
Aggregation Time	Applies to history monitoring mode. The algorithm is time span
Refresh Interval	Specifies the refresh aggregation interval for JES system metrics computing. It only applies to live monitoring.

When the conditions filing is complete, click **Submit**; the monitoring results page appears on the right.

JES Monitor View

Table 34 JES Monitor View

Elements	Description
Chart Control	The "Metrics" drop down list let user select the metric aspect interested in the chart, • Successful job number in the Aggregation Time Window Failed job number int the Aggregation Time Window • Waiting job number in different queues and the sum of all queues • Average CPU Time: – Average user CPU time for successful jobs in milliseconds int the Aggregation Time Window – Average system CPU time for successful jobs in milliseconds int the Aggregation Time Window **Note:** Failed jobs do not have "Average CPU Time" Button "Pause/Resume" allows you to temporarily stop the data refresh . The default is "Pause" which means the current refresh is in progress. Clicking it again will "Resume" and the refresh stops. Clicking it again restores the status.
Chart/Table	Chart/Table will show results in style either chart or table. The chart is can be line style or bar chart. One kind of job class is one series. The horizontal axis is time series and the vertical axis is for the metrics selected.

The **Export** button allows you to save the table contents to an EXCEL compatible file.

User/Data Management

Click **Management** and select the following from the drop-down list:

- User Management
- Data Management
- Global Parameters

User Management

The User List page allows you to add, edit and delete users and groups. An Oracle TSAM Plus group is a set of privileges. The default groups are "administrator" and "viewer". They cannot be deleted.

An Oracle TSAM Plus user may belong to one or more groups. When Oracle TSAM Plus is installed, the default user is “admin” (configured during installation), and cannot be deleted.

You can enter the **Group List** menu bar by clicking the **Group List** button, and return to the **User List** menu bar by clicking the **User List** button. Table 35 lists the **User List Menu Bar** options.

Table 35 User List Menu Bar

Elements	Description
View	From the drop-down menu, you can select the following: • Columns: Select the columns displayed in the table. • Detach: Displays the table in a separate window. • Reorder Columns: Change how the column order is displayed.
Change Properties	Allows you to change user properties (if proper permission is set) after login to the system. You can change all user properties from the User Management window if you have User Management administrator privileges. Select the user you want to edit and click the **Change Properties** button. If you are the selected user, you can change your own properties. The current property settings are shown in the corresponding text fields. Type new values for the following properties: • Full Name • Description • Group

Table 35 User List Menu Bar

Elements	Description
Change Password	Allows you to change user password (if proper permission is set) after login to the system.Enter your old password, then enter the your new password. The password should be limited to 6~16 characters, and can contain the following characters: alphanumeric characters, underscores. You can change all user passwords from the User Management window if you have User Management administrator privileges. Select the user whose password you want to change and click the **Change Password** button. If you are the selected user, you can change your own password. Click **Change Password** to change the password. Click **Back** to cancel the operation and return to the User Management window. **Note:** The TSAM Plus user password is valid for 180 days. You need to change your user password before it is expired. If the password has expired, you can find related information recorded in the `tsam.log` file.
Create User	Allows you to add a new user. You must enter the following: **Note:** The **Create User** button is enabled only when the current logged-in user has User Management administrator privileges. • `Name(*)` The user login name. User name should be limited to 5~16 characters, and can contain the following characters: "[a-z], [A-Z], [0-9], _". The initial character must be [a-z] or [A-Z]. • Full Name The user full name. User full name should be limited to 128 characters, and can contain the following characters: alphanumeric characters, underscore, space, or period. • Password(*) User password. You need to provide password and confirm password. The password should be limited to 6~16 characters, and can contain the following characters: alphanumeric characters, underscores. • Description The users description. The description is limited to 255 characters, and can contain the following characters: alphanumeric characters, underscore, space, or period. • Group(*) A drop-down list. A created user can belong to on or more groups.

Table 35 User List Menu Bar

Elements	Description
Delete User	Deletes the selected user.
Online User	The information of all online users is displayed in **Online Users** window. The available information of users includes Name, IP Address, Login Time and Session ID.
Refresh	Updates the user information list.
Detach	Displays the table in a separate window.

Table 36 lists the **Group List** button bar options.

Table 36 Group List Button Bar

Elements	Description
View	From the drop-down menu, you can select the following: • Columns: Select the columns displayed in the table. • Detach: Displays the table in a separate window. • Reorder Columns: Change how the column order is displayed.
Modify	Allows you to change group properties The "**Modify**" button is enabled when the current login user has the administrator privilege of group management. Select the group you want to edit and click the **Modify** button. The current property settings are shown in the corresponding text fields of the window. Type new values for the following properties: • Description • Privileges

Table 36 Group List Button Bar

Elements	Description
Create Group	Allows you to add a new group. You must enter the following: **Note:** The Create Group button is enabled when the current logged-in user has User Management administrator privileges. The privileges you need to set are displayed below the input bar and listed in • Name(*) The group name. Group name should be limited to 5~16 characters, and can contain the following characters: "[a-z], [A-Z], [0-9], _". The initial character must be [a-z] or [A-Z]. • Id The group Id. It should be an integer and not less than 0. **Note:** If LDAP authentication is used, the Group id must be the same as the TUX_GID description of the corresponding users in the LDAP server. • Description The group description. The description is limited to 255 characters. It can contain the following characters: alphanumeric characters, underscore, space, or period. • Privileges(*) A table. Allows you to set group privileges.
Delete Group	Deletes the selected group. A group cannot be deleted if there are any users who belongs to it.
Refresh	Updates the group information list.
Detach	Displays the table in a separate window.

Oracle TSAM Plus Group/User Privileges

Table 37 lists the Oracle TSAM Plus Group/User privilege options.

Table 37 Oracle TSAM Plus Group/User Privileges

Category	Privilege(s)
User Management	view, administrate
Group Management	view, administrate.
Data Management	administrate
Tuxedo Component Tree	view, administrate
ART region Tree	view, administrate
JES Component Tree	view, administrate
Global Parameter Setting	view, administrate
Tuxedo Policy Definition	view, administrate
ART Policy Definition	view, administrate
Tuxedo Alert Definition	view, administrate
ART alert Definition	view, administrate
Tuxedo Alert	view, administrate
ART Alert	view, administrate
Tuxedo Metrics	View Service Metrics, view call path Metrics, view transaction Metrics, view gateway Metrics, view bridge Metrics, view GWWS Metrics
ART Metrics	view Terminal Metrics, view CICS transaction Metrics
JES Metrics Management	View JES Metrics, administrate

Notes: Note the following:

- For lower left **Unread Alert** notification panel:
  - If you have Tuxedo Alert view privilege, but do not have ART alert view privilege, only the numbers of the Tuxedo alerts are shown.
  - If you do not have Tuxedo alert view privilege, but have ART alert view privilege, only the numbers of the ART alerts are shown.

  - If you do not have both Tuxedo and ART alert view privileges, the entire panel is hidden.

- On the alert query page, if you have both Tuxedo alert view and ART alert view privileges, both types of alerts can shown in the query result table. However, without corresponding administrate privilege, administrator tasks (such as **Clear** and **Delete**) are not available.

  For example, you have Tuxedo alert, ART alert and Tuxedo alert administrate privileges. When you select all the queried out alerts (including both Tuxedo alert and ART alert type), the **Clear** and **Delete** button above the query result table is disabled.

- Group privilege is based on the User View privilege. The user cannot enter the group management console without User Management view privileges.

Data Management

Data Management allows you to purge the Oracle TSAM Plus database data (including the monitoring data in the database and the invalid Oracle Tuxedo components in the database).

Purging Monitoring Metrics Data

You can purge all monitoring data including Server/Service data and Call Path/ XA Transaction data. To purge Monitoring data, do the following steps:

1. Select the Types you want purged.
   - All
   - Call Path
   - Bridge
   - GWTDOMAIN
   - Service
   - XA Transaction
   - GWWS
   - Alert
   - Tuxedo CICS Terminals
   - JES

   Note: If you want to purge Tuxedo CICS Transaction data, "Service" type can be selected.

2. Select Time span.

   You can select "Any", "Time Period", "Weeks" or "Months" to enter purge time period.

   Note: The **Purge** button is enabled when the logged-in user has Data Management privileges.

3. Click the **Purge** button to delete monitoring data from the database.

Purging Invalid Tuxedo Components Nodes

Tuxedo components can be changed to "`INValid`" status due to management operations at Tuxedo application side. By default, the "`INValid`" Tuxedo components are not deleted from the database.Customers can purge all "`INValid`" Tuxedo components in the Data management window.

Note: Currently, only the purging all "`INValid`" Tuxedo components on the data management page is supported. Invalid components can be purged in the component tree.

Global Parameters

The Global Parameters page contains four panels:

- TSAM Plus Properties
- Database Storage Properties
- Tuxedo Application Server Properties
- Action

Table 38 lists the **Global Parameter** properties for each panel.

Table 38 Global Parameter Properties

Properties	Description
TSAM Plus Properties	• Default Top N of Services. The number of most active services on Service Monitoring page. The default value is `2`. • Tuxedo Application Runtime Feature Enabled Check Box Indicates if oracle Tuxedo Application Runtime related components/pages are displayed on TSAM Plus console. **Note:** If you check or unchecked **Tuxedo Application Runtime Feature Enabled**, you must restart the Oracle TSAM Plus application for the change to take effect. • Synchronous Query Timeout (seconds) Allows you to set the JES Job query timeout value (in seconds). The default value is `30` seconds. • Authentication Type This value specifies the authentication method used by TSAM Plus manager.The optional values are: LDAPOnly and LocalFirst. LDAPOnly specifies that authentication is performed through LDAP. LocalFirst specifies that TSAM Plus manager tries to do authentication with TSAM Plus database first. The default value is `LocalFirst`.

Table 38 Global Parameter Properties

Properties	Description
Database Storage Properties	• Max Persistence Threads Denotes how Many persistence threads in a persistence thread pool. This number should not be bigger than the CPU number of the host running the Data server of TSAM Plus manager. The default value is `2`. • Data Persistence Queue Size The maximum of the metric entity list in queue. The default value is `5000`. • Busy Threshold The threshold of number of metric entity list in queue which denotes whether the metric entity persistence thread is busy, if this threshold is not crossed, the persistence thread attempts to calculate the call pattern proactively. The default value is `500`. • Queue Full Sleep Interval (milliseconds) Denotes the sleep interval (in milliseconds) in case the `MAX_INQUEUE_RUNNER_NUM` value is crossed. The default value is `500`. • Timeout Shutdown (seconds) Denotes the timeout (in seconds) to give metric entity persistence threads a chance to finish their job after you shutdown the Oracle TSAM Plus manager. The default value is `30`.
Application Server Properties	• Log Level Log level control. The default value is `Info`. (Trace, Debug, Info, Warn, Error). **Note:** Log level modifications take affect immediately; you do not need to reboot the application server.

Table 38 Global Parameter Properties

Properties	Description
Call Pattern Calculation Properties	• Call Pattern Delay(minutes) This value specifies the minimum delay time for call pattern calculation since the initiation node of a call path has been collected. Setting a relatively bigger value will improve the performance of call pattern calculation. The default value is `1`. • Call Pattern Thread Number This value specifies the number of call pattern real-time calculation threads started by TSAM Plus manager automatically. The default value is `2`. Call pattern calculation is a very high CPU-consuming job; therefore, it is recommended that you start more threads in a box of multiple CPUs. • Call Pattern Queue Size This value specifies the maximum call path initiation segments in a queue for call pattern real-time calculation. If the queue is full, the call path initiation segments will be discarded, and consequently, TSAM Plus manager will not do real-time call pattern calculation for these call paths. The default value is `100000`. • Call Pattern Batch Thread Number This value specifies the number of call pattern batch calculation threads started by TSAM Plus manager automatically. Call pattern calculation is a very high CPU-consuming job; therefore, it is recommended that you start more threads in a box of multiple CPUs. The default value is `2`. • Call Pattern Number per Batch Transaction This value specifies the maximum number of call patterns calculated in one database transaction by call pattern batch calculation thread(s). The default value is `100`. • Call Pattern Batch Running Time This value specifies the first time when the call pattern batch thread is automatically launched. The time format is HH-MM-SS, in which HH is from 0 to 23 inclusive and both MM and SS are from 0 to 59 inclusive. The default value is `00-00-00`.

Table 38 Global Parameter Properties

Properties	Description
	• Call Pattern Batch Running Interval (minutes) This value specifies the time, in minutes, of call pattern batch thread running interval. The default value is `1440` (one day).
Action	Submit global parameter modifications.

Alert Monitoring

Click **Alert** and select one of the following:

- Tuxedo Alert Definition
- Tuxedo Application Runtime CICS Alert Definition
- Tuxedo Application Runtime JES Alert Definition
- Alert Query
- Alert Metrics Tables

Tuxedo Alert Definition

Click **Alert** and select **Tuxedo Alert Definition** from the drop-down list; the Tuxedo Alert Definition List Panel appears. This panel lists available alert definitions and allows you to create, edit, and manage alert definitions.

Table 39 and Table 40 list the **Tuxedo Alert Definition Menu Bar** and **Tuxedo Alert Column** options respectively.

Table 39 Tuxedo Alert Definition Menu Bar Options

Options	Description
View	From the drop-down menu, you can select the following: • Columns: Select the columns displayed in the table. • Detach: Displays the table in a separate window. • Reorder Columns: Change how the column order is displayed.
Add	Creates a new alert definition.
Delete	Deletes the alert definition.
Enable	Enables the alert definition.
Disable	Disables the alert definition.
Edit	Modifies the alert definition.
Clone	Creates a new alert with same definition as current alert but the name is left empty.
Alerts	See all alerts generated by this alert definition.
Refresh	Refresh the alert definition list.
Detach	Displays the table in a separate window.

Table 40 Tuxedo Alert Columns

Column	Description
Selection checkbooks	Select a set of alert definitions in current page for processing.
Name	The alert name specified in the alert definition.
Status	Displays alert status. The status could be enabled or disabled. Enable: The alert definition enabling request has been sent to Oracle Tuxedo. Disable: The alert definition disabling request has been sent to Oracle Tuxedo.

Table 40 Tuxedo Alert Columns

Column	Description
Type	The monitoring category and system are consistent with policy definition. The category types are as follows: • Call Path • Service • XA Transaction • BRIDGE • GWTDOMAIN • GWWS
Evaluation Condition	The FML Boolean expression of the alert triggering conditions
Tuxedo Components	The resource FML Boolean expression (similar to Policy definition).

Define New Alert Page

Click the **Add**, **Edit** or **Clone** button on the **Alert Definition List** Menu bar; the **Define New Alert** page appears. It allows you to define a concrete Oracle Tuxedo alert definition.

The Define New Alert page is divided into four sections:

- Alert Properties
- Tuxedo Components
- Metrics Evaluation Expression(s)
- FML Boolean Expression(s)

Alert Properties

Table 41 lists the **Alert Properties** options.

Table 41 Alert Properties Options

Options	Descriptions
Name	The name of the alert. It must be unique among the alerts globally. The name value is limited to 255 characters and must be unique within the project. The initial character must not be a "." .
Type	The type of the alert; it is based on monitoring policy. The drop-down list includes the following items: • Call Path • Service When you select a service alert, the Metrics Independent Checking check box appears. It allows Oracle TSAM Plus to check service timeouts independent of metrics collection. The alert can be generated while the service is running. If checked, "Drop Message" is removed from the "Action" option drop-down menu. • XA Transaction • GWTDOMAIN • BRIDGE • GWWS
Severity	The severity drop-down list contains the following severity levels: • Fatal • Critical • Warn • Information

Table 41 Alert Properties Options

Options	Descriptions
Interval	Accepts an integer value in seconds. The current alert is evaluated only once during this interval. The purpose is to throttle alert volume in similar scenario.
Action	Specifies what kind of action is executed when an alert definition is set to "true". The following actions are supported: • Publish to Tuxedo Event Broker An event is posted to the Oracle Tuxedo event broker. The event name is the alert name by default; you can also specify it manually. The buffer is an FML32 buffer containing the metric snapshot. • Drop Message If this alert evaluation is true, the request message is dropped and the call fails (TPESYSTEM). This only applies to Call Path and Service type alerts. The evaluation points come before the request sent to the IPC queue (call path) and after it is retrieved from the IPC queue (call path, service). This alert can be used to avoid unneeded service processing for stagnant requests. For example, if the request message "Wait Time" in the IPC queue exceeds a particular threshold, the client may have already timed out. In this case, the action can drop the stagnant request and the application server will not process it.

Tuxedo Components

The Component Scope panel contains the following selections:

- Domain: Optional
- Machine: Optional
- Group: Optional
- Server: Optional

Note: Machine, Group, and Server can also accept FML32 boolean expressions.

Click the radio button to select input method (use the drop-down list or manually enter an FML32 boolean expression). The values of each level is determined by its parent level, except for Domain.

Metrics Evaluation Expression(s)

You can select the metric, operator and threshold to compose one expression. The logic for the expression can be "and" or "or".

FML Boolean Expression(s)

You can also input FML Boolean expressions directly. For more information, see Alert Metrics Tables. For call path alerts, if the elapsed time *only* is evaluated in the evaluation expression, the alert is triggered once along the entire call path. Other metrics combined with elapse time do not have this effect.

Note: The TSAM Plus Console cannot guarantee FML Boolean expression syntax correctness.

Tuxedo Application Runtime CICS Alert Definition

Click **Alert** and select **Tuxedo Application Runtime CICS Alert Definition** from the drop-down list; the **Tuxedo Application Runtime Alert Definition List** panel appears. This panel lists available Tuxedo Application Runtime alert definitions and allows you to create, edit, and manage alert definitions.

Tuxedo Application Runtime CICS Alert Definition List Panel

Table 42 and Table 43 list the **Tuxedo Application Runtime CICS Alert Definition List** menu bar options and columns respectively.

Table 42 Tuxedo Application Runtime CICS Alert Definition List Menu Bar

Elements	Description
View	From the drop-down menu, you can select the following: • Columns: Select the columns to shown in the table • Detach: Displays the table in a separate window • Reorder Columns: Change the order how the columns are displayed
Add	Creates a new alert definition.
Delete	Deletes the alert definition.
Enable	Enables the alert definition.
Disable	Disables the alert definition.

Table 42 Tuxedo Application Runtime CICS Alert Definition List Menu Bar

Elements	Description
Edit	Modifies the alert definition.
Clone	Creates a new alert with same definition as current alert but the name is left empty.
Alerts	Identifies all alerts generated by this alert definition.
Refresh	Updates the alert definition list.
Detach	Displays the table in a separate window.

Table 43 Alert Definition List Columns

Column	Description
Selection checkbooks	Select a set of alert definitions in current page for processing.
Name	The alert name which is specified in alert definition
Status	Displays alert status. The status could be enabled or disabled. Enable: The alert definition enabling request has been sent to Tuxedo. Disable: The alert definition disabling request has been sent to Tuxedo.
Type	The monitoring category and system, consistent with policy definition. The category types are as follows: • CICS Transaction • CICS Terminal
Evaluation Condition	The FML Boolean expression of the alert triggering conditions.

Define New Alert Panel

Click **Add** or **Clone** on the menu bar; the **Define New Alert** panel appears. This panel allows you to define concrete Tuxedo Application Runtime alert definitions.

The Define New Alert panel is divided into three sections:

- Alert Properties

- Metrics Evaluation Expression(s)
- FML Boolean Expression(s)

Alert Properties

Table 44 lists the **Alert Properties** options.

Table 44 Alert Properties Options

Name	The name of the alert. It must be unique among the alerts globally. The name value is limited to 255 characters and must be unique within the project. The initial character must not be a "`.`".
CICS Region	Defines the function scope of the defined alert.
Type	The type of the alert; it is based on monitoring policy. The drop-down list includes the following items: • CICS Transaction • CICS Terminals
Severity	The severity drop-down list contains the following: • Fatal • Critical • Warn • Information
Interval	It accepts an integer value (in seconds). The current alert is evaluated only once during this interval. The purpose is to throttle alert volume in a similar scenario.
Action	Specifies what kind of action is executed when an alert definitionset to "true". It supports the following action: • Publish to Tuxedo Event Broker An event is posted to the Oracle Tuxedo event broker. The event name is the alert name by default; you can also specify it manually. The buffer is an FML32 buffer containing the metric snapshot.

Metrics Evaluation Expression(s)

You can select the metric, operator and threshold to compose one expression. The logic for the expression can be "`and`" or "`or`".

FML Boolean Expression(s)

You can also input FML Boolean expressions directly. For more information, see Alert Metrics Tables.

Note: The TSAM Plus Console cannot guarantee FML Boolean expression syntax correctness.

Tuxedo Application Runtime JES Alert Definition

You can view, add, edit and delete JES Alert Definitions through Alert Definition

Click **Alert** and select **Tuxedo Application Runtime JES Alert Definition** from the drop-down list; the **Tuxedo Application Runtime JES Alert Definition List** panel appears. This panel lists available Tuxedo Application Runtime JES alert definitions and allows you to create, edit, and manage alert definitions.

Tuxedo Application Runtime JES Alert Definition List Panel

Table 45 and Table 46 list the **Tuxedo Application Runtime JES Alert Definition List** menu bar options and columns respectively.

Table 45 Tuxedo Application Runtime JES Alert Definition List Menu Bar

Elements	Description
View	From the drop-down menu, you can select the following: • Columns: Select the columns to shown in the table • Detach: Displays the table in a separate window • Reorder Columns: Change the order how the columns are displayed
Add	Creates a new alert definition.
Delete	Deletes the alert definition.
Enable	Enables the alert definition.
Disable	Disables the alert definition.
Edit	Modifies the alert definition.
Clone	Creates a new alert with same definition as current alert but the name is left empty.
Alerts	Identifies all alerts generated by this alert definition.

Table 45 Tuxedo Application Runtime JES Alert Definition List Menu Bar

Elements	Description
Refresh	Updates the alert definition list.
Detach	Displays the table in a separate window.

Click **Add** or **Edit**; the **JES Alert Definition panel** appears.

Table 46 Alert Properties Options

Name	The name of the alert. It must be unique among the alerts globally. The name value is limited to 255 characters and must be unique within the project. The initial character must not be a "." .
Type	The type of the alert; it is based on monitoring policy. The drop-down list includes the following items: • JES Jobs • JES Metrics
Severity	The severity drop-down list contains the following: • Fatal • Critical • Warn • Information
Interval	It accepts an integer value (in seconds). The current alert is evaluated only once during this interval. The purpose is to throttle alert volume in a similar scenario.

JES Alert Definition Filter Conditions

Table 47 lists the **JES Alert Definition Filter Conditions** options.

Table 47 JES Alert By Filter Options

Options	Description
JES Application	Identifies which JES application the Job is executed, single choice dropdown list, required. **Note:** Job information can be only be obtained when the selected JES application is alive. If an inactive JES application is selected when clicking the 'Query' button, a warning message window is displayed.
Job Name	The string contained in the job name, input text box.
Job Owner	One or more owners of the job, input text box.
Job Priority	One or more priorites.
Job Class	The job class, multiple choice dropdown list.

JES Alert Definition Details

If the **Type** is JES Job, the JES metric detail panel provides the information shown in Table 48. Three levels of metric details can be selected and displayed: Job Status, Job Execution Time, and Job.

Table 48 JES Job Type Detailed Information

Elements	Description
Job Status	Job status is changed to the specified status. You can specify one of the following: • EXECUTING • CONVING • WAITING • DONE • FAIL • HOLD_WAITING • HOLD_CONVING • INDOUBT • DISCARD
Job	Job is purged
Job Execution Time	Job execution time >= ? millisecond during the last Interval seconds

If the **Job Type** is JES Metrics, the JES metric detail panel provides the information shown in Table 49

Table 49 JES Metrics Type Detailed Metrics Information

Elements	Description
Jobs average execution time	Job average execution time >= ? millisecond during the last Interval seconds
Jobs fails number	Jobs fails number >= during the last Interval seconds
Jobs waiting number	Jobs waiting number >= during the last Interval seconds

Alert Query

Alert Query view displays the alerts that have transpired. It includes metric alerts and system alerts. Metrics alert are the events generated against the defined metrics alert. System alerts represent system events.

Click **Alerts** and select **Alert Query** from the drop-down menu; the **Alert Query** page appears.The Alert Query page contains two tabs:

- Unread Alerts Tab: Displays all unread alerts.
- Historical Alerts Tab Provides historical alert query information.

Unread Alerts Tab

"Unread" alerts are most important for administrators because they represent events that they may not be aware of. The Unread Alerts tab contains two sections:

- Filtering Condition
- Unread Alert Columns

Table 50 lists the **Alert Query** filtering condition options.

Table 50 Alert Query Filtering Conditions

Options	Description
Contains	Select a set of alerts in current page for processing.
Type	The monitoring category and system are consistent with policy definition. The following category types are as follows: • Any • Call Path • Service • XA Transaction • BRIDGE • GWTDOMAIN • GWWS • CICS Transaction (Tuxedo Application Runtime only) • CICS Terminals (Tuxedo Application Runtime only) • JES Job (Tuxedo Application Runtime only) • JES Metrics (Tuxedo Application Runtime only) • System **Note:** System represents this is a system-level event generated by Oracle TSAM Plus.
Severity	Four severity levels are supported: • Any • Fatal • Critical • Warn • Information

Table 51 lists the Alert Query columns.

Table 51 Alert Query Columns

Column	Description
Selection checkbox	Select a set of alerts in current page for processing.
Name	The alert name which is specified in alert definition.
Type	The monitoring category and system are consistent with policy definition. The following category types are as follows: • Any • Call Path • Service • XA Transaction • BRIDGE • GWTDOMAIN • GWWS • CICS Transaction (Tuxedo Application Runtime only) • CICS Terminals (Tuxedo Application Runtime only) • JES Job (Tuxedo Application Runtime only) • JES Metrics (Tuxedo Application Runtime only) • System **Note:** System represents this is a system-level event generated by Oracle TSAM Plus.
Severity	Four severity levels are supported: • Any • Fatal • Critical • Warn • Information
Cleared	Indicates whether the alert has been marked as read.
Clear Time	Identifies the time an alert is “cleared.”

Table 51 Alert Query Columns

Column	Description
Log Time	The time an Alert occurs.
Description	The reason/cause for the alert. It uses the following format: `"Process [%s:%d] evaluates alert [%s] with true, metrics[key=value,key=value...]"`

Click **Clear** to clear all the selected alerts on current page.

Click **Delete** to delete all the selected events on current page.

Click **Detail**, a popup window with the following detailed Alert information appears:

- All information in the alerts summary data grid.
- The metrics detail and reason string for this alerts.

Once an alert is cleared as "Unread" status and not deleted, it still can be queried in the historical alert page, but not in the active alert page. The following filter conditions can be set:

- Alert Type
- Alert Severity
- A custom "search" text string

The search operation finds matched records from all current filtered "unread" alert results, no limited to the "unread" alerts shown on the current page. Matched record means any alert that is matching the specified alert category condition, alert severity condition and having the given "search" text string within any of the following value fields: "Alert Name", "Alert Reason String (Description)".

Click the **Reset** button to reset filter conditions and list all "unread" alerts.

Historical Alerts Tab

The Historical Alerts Tab allows you to query historical alerts with supplied filtering conditions. It contains two panels:

- Historical Alert Query Conditions
- Alerts Query Results

Table 52 lists the **Historical Alert Query Conditions** panel options.

Table 52 Historical Alerts Query Conditions Options

Options	Description
Alert Name	The Alerts names configured in this project. "Any" is a reserved key word meaning all alerts.
Type	"Any" and the supported monitoring categories. System is in same level with other monitoring categories.
Severity	"Any" and supported severity levels. If **Include Lower Level** is checked, all alerts at this level or below are queried. The sequence is Fatal, Critical, Warn and Info.
Query During	The exact time of the previous day to the exact *same* time of the current day. For example: 7:45 Wednesday-to-7:45 Thursday.

Click **Submit**; the results are displayed in the **Alert Query Result** panel.

System Alerts Supported

Users cannot define System Alerts; they are generated automatically (for example, an invalid alert definition is encountered, or the database purging process is completed).

Table 53 lists the supported system alerts.

Table 53 System Alerts Supported

Alert name	Alert Severity	Alert Reason String
`.INVALIDEXP`	`warning`	`Alert definition [%ALERT_NAME] has invalid evaluation expression`
DB.PURGE	information	Data purging`(sequence:?)` filed at `[%DATE_TIME]` by admin is done.

Alert Metrics Tables

The Alert Metrics tables contain the alert metrics for all alert types. Each metric has the corresponding FML32 field name and applicable operators. Referencing these tables will help you write the alert metric FML boolean expression directly when defining a new alert.

- Call Path Alert Metrics Table
- Service Alert Metrics Table
- GWTDOMAIN/BRIDGE Alert Metrics Table
- GWWS Alert Metrics Table
- XA Transaction Alert Metrics Table
- CICS Transaction Alert Metrics Table
- CICS Terminals Alert Metrics Table

Call Path Alert Metrics Table

Table 54 Call Path Alert Metrics Table

Metric	FML32 Field	Operators
Elapse Time	TA_MONELAPSETIME	>, >=
Execution Status	TA_MONERRNO	==, !=
URcode	TA_MONURCODE	==, !=
Depth	TA_MONDEPTH	>, ==, <
Message Number on Request Queue	TA_MONMSGQUEUED	>, >=

Service Alert Metrics Table

Table 55 Service Alert Metrics Table

Metric	FML32 Field	Operators
Execution Time	TA_MONEXECTIME	>, >=
Execution Status	TA_MONERRNO	==, !=
Request Message Size	TA_MONMSGSIZE	>, >=
Message Number on Request Queue	TA_MONMSGQUEUED	>, >=
URcode	TA_MONURCODE	==, !=
Waiting Time	TA_MONMSGWAITTIME	>, >=
CPU Time	TA_MONCPUTIME	>, >=

GWTDOMAIN/BRIDGE Alert Metrics Table

Table 56 GWTDOMAIN/BRIDGE Alert Metrics Table

Metric	FML32 Field	Operators
Link Status (GWTDOMAIN/BRIDGE)	TA_MONLINKSTATUS	Lost, Reconnect
Outstanding Request (GWTDOMAIN)	TA_MONNUMWAITRPLY	>, >=

GWWS Alert Metrics Table

Table 57 GWWS Alert Metrics Table

Metric	FML32 Field	Operators
Inbound one way failed number	TA_MONINOWFAIL	>, >=
Outbound one way failed number	TA_MONOUTOWFAIL	>, >=

Table 57 GWWS Alert Metrics Table

Metric	FML32 Field	Operators
Inbound RPC failed number	TA_MONINRPCFAIL	>, >=
Outbound RPC failed number	TA_MONOUTRPCFAIL	>, >=
Inbound average processing time	TA_MONINTIME	>, >=
Outbound average processing time	TA_MONOUTTIME	>, >=
Inbound Pending Request	TA_MONINBOUNDPEND	>=
Outbound Pending Request	TA_MONOUTBOUNDPEND	>=

XA Transaction Alert Metrics Table

Table 58 XA Transaction Alert Metrics Table

Metric	FML32 Boolean Expression
Transaction Failed	TA_MONXANAME=='tpabort' || TA_MONXANAME=='xa_rollback'
Heuristically Completed	TA_MONXANAME=='xa_commit' && TA_MONXACODE==8
Heuristically Commit	TA_MONXANAME=='xa_commit' && TA_MONXACODE==7
Resource Manager Failure	TA_MONXANAME%%'xa_.* ' && TA_MONXACODE==-3

CICS Transaction Alert Metrics Table

Table 59 CICS Transaction Alert Metrics Table

Metric	FML32 Field	Operators
Execution Time	TA_MONEXECTIME	>, >=
Message Number on Request Queue	TA_MONMSGQUEUED	>, >=

Table 59 CICS Transaction Alert Metrics Table

Metric	FML32 Field	Operators
Waiting Time	TA_MONMSGWAITTIME	>, >=
CPU Time	TA_MONCPUTIME	>, >=

CICS Terminals Alert Metrics Table

Table 60 CICS Terminals Alert Metrics Table

Metric	FML32 Field	Operators
Average Session Number	TA_MONSESSIONNUM	>, >=
Number of CICS Transactions Failed	TA_MONTRANFAIL	>, >=