# CXBanking

## OptiCash/OptiNet 10.0

## Installation Guide

Version 10.0
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# Revision Record

| Date | Page No. | Description of Change |
|---|---|---|
| December 2022 | ALL | 10.0 release<br>Formatting changes |
| | | |
| | | |

# Contents

# Preface

## Document conventions

### Typographical conventions

The following typographical conventions are used:

*Table 1: Typographical conventions*

| Style | Indicating |
|-------|-----------|
| **Bold** | An option that you can select, for example, **Insert > Bookmark** |
| ***BoldItalic*** | Emphasis, for example, "This partition ***must not*** be modified."<br>A physical key, for example, ***Shift+F9*** |
| `Code` | Text displayed on-screen<br>Commands or data entered by the user<br>Code text and examples |
| [Hyperlink](#) | Links to Internet sites<br>Internal cross-references |
| *Italic* | The first reference to a keyword<br>The title of a publication, for example, *Product Overview*<br>A file or folder name, for example, *C:\Program Files\NCR* |

### Admonition conventions

Notes and cautions alert you to important or critical information. Each is displayed in a different way:

> **Note:** Notes contain information that has special importance, to which the reader should pay close attention, or tips with useful advice for the user on tasks or procedures.

> ⚠ **Caution:** Cautions alert you to procedures or conditions that could damage equipment or data.

*Table 2: Admonition conventions*

| Notes and cautions in tables | |
|------------------------------|---|
| **Note:** Notes contain information that has special importance. | **Caution:** Cautions alert you to procedures or conditions that could damage equipment or data. |

# 1 Introduction

The purpose of this document is to provide basic installation instructions for the installation of the OptiCash and OptiNet applications. The particular architecture and environment of the installation may require additional configuration.

Although the installation media provides components for both Windows and UNIX, this document will provide samples and syntax based on the Windows operating system. The main modification for UNIX will be the file path name syntax.

> **Note** The clients who are installing OptiCash only (without OptiNet) can ignore all steps related to OptiNet.

The recommended process for installation is:

1. Oracle Database Configuration (It is the responsibility of the client to ensure the database is installed and running correctly PRIOR to on-site product installation.)

2. Application and Web Server Configuration (It is the responsibility of the client to ensure the application & web servers are running correctly and readily accessible PRIOR to on-site product installation).

3. Creating New User in Oracle

4. Creating New Schema in Oracle (NCR Cash Management provides an Oracle dump and/or data-pump file)

5. Deploy OptiCash WAR file

6. Deploy OptiNet WAR file

7. Batch Process Setup

8. Send license information to NCR Cash Management for License Generation


As of version 9.14.1317, MS SQL Server 2019 may be used instead of Oracle if you are using OptiCash only. OptiNet does not support SQL Server at this time. Examples in this document will primarily refer to the Oracle scenario.

OptiSuite requires JDK version 8.  Most Application Servers already come with the required JDK (e.g. IBM WebSphere, Apache Tomcat).

A clear understanding of Oracle and Application Server technology is required on the part of the user performing the installation.

# 2 Application Distribution

## 2.1 Application Component Checklist

Depending upon the client environment, the Application Server and Database Server could reside on the same physical machine, or on different machines.  The exact nature of this configuration should be agreed upon prior to installation.  It is required that JDBC access is available between the Application Server and Database Server (as defined by the JDBC URL, which typically runs through port 1521).

In a split-server example, the Application Server (e.g. IBM WebSphere or Apache Tomcat) would house the Web Components (e.g. OptiCash WAR file) on one machine, and a different machine will house the database components.

The following are the required components for the installation:

- **Oracle 12.2 or 19c or MS SQL Server 2019 and the latest patches relevant to the applicable O/S:** It is the responsibility of the client to ensure the Oracle database is running correctly and readily accessible PRIOR to the on-site installation.

- **OptiCash Schema:**  NCR Cash Management will provide the Oracle schema dump (with PAR Files) or a data-pump file for installation.

- **OptiCash Schema DDL:**  NCR Cash Management will provide the database structure command SQL file for all required tables, views, and constraints.

- **Java Application server, such as IBM WebSphere or Apache Tomcat:**  It is the responsibility of the client to ensure the Application Server is running correctly and readily accessible PRIOR to the on-site installation.

  **Note:** JDK version 8 is supported and will likely be included with the Application Server.

- **OptiCash WAR File:**  NCR Cash Management will provide the file for deployment.

- **OptiNet WAR File:**  NCR Cash Management will provide the file for deployment.

- **License File:**  NCR Cash Management will provide a license SQL file based on the client's OptiCash.log and OptiNet.log

# 3  Oracle Setup

> **Note:** It is client's responsibility to have the database installed and running correctly and readily accessible PRIOR to the on-site installation performed by NCR Corporation.

Additionally, it is client's responsibility to prepare and agree with NCR Cash Management on the information contained within the Hardware/Software Environment readiness (separate documentation) prior to the on-site installation.  This document, along with the Technical Overview document, shall serve as a basis for architectural consideration.

These instructions primarily refer to the Oracle scenario. If using SQL Server instead, similar advice may apply.

## 3.1 Configuration

1.  Verify the Oracle memory settings are correctly defined and make sure it does not fall below the minimum memory requirements i.e., necessary for running OptiSuite (refer to the Oracle Installation document for more information on minimum memory requirements).  Kindly, co-ordinate with Oracle System Administrator to ensure that memory settings are taken into consideration along with other databases used by the bank in the Oracle environment.

2.  The application's queries use many joins in the SQL statements.  These joins usually exceed the default sort_area_size.  Change the Oracle sort_area_size from 524288 to at least 1524288 on both, the Running and SPFile pages (check on the radio button within the **"Memory"** tab of the Oracle DB Management Console). The sort area size must be changed in both, the Running and SPFile tabs for enough memory to be allocated for some of the larger SQL queries. When it is only changed in the Running tab, it will reset back to the default whenever the database is restarted.

## 3.2 Tablespaces

The following assume steps are being performed in the Oracle DB Management Console. Similar actions may of course be performed with the tool and interface per DBA choice.

It is recommended that the Tables and Indexes/Constraints be separated into different tablespaces.  If you already have your tablespaces available, you may continue on to the next section.

1.  From the Oracle Enterprise Manager Console, click on the Object Menu and select Create.

2.  Select Tablespace and click on the Create button.

3. The next window allows you to specify the table space.  The following table space names are recommended: **OPTICASH_DAT** for data, and **OPTICASH_IDX** for the indexes.

4. Type in the desired tablespace name and data file details.  In the **"Size"** column, enter the anticipated size of your data.  This will depend upon the number of cashpoints, etc., but a minimum of 5GB is recommended for both the data and index table spaces.

**Note:** The OptiCash Schema Definition Script (DDL) will have tables and constraints defined such that:

1. Tables, Foreign Keys, and Views are defined in the Schema User's default tablespace.  (e.g. OPTICASH_DAT).

2. Primary Keys and Indexes are defined in the **OPTICASH_IDX** tablespace.

You may modify the DDL prior to execution of the DDL as needed (e.g. changing the index tablespace, etc.).

# 3.3 Schema User

1. Choose a name similar to the schema you want to create, e.g. OptiCash, your institution name, etc.  Make sure you select the appropriate Default Tablespace for the user.  This would typically be the **OPTICASH_DAT** tablespace.

2. Select **"Connect"** and **"Resource"** from the Role list for the user. The user will need these roles to connect to the database and access database functions.

3. Select **"UNLIMITED_TABLESPACE"** from the System Privileges list for the user.  If you are using this user to execute the DDL, you will also need the **"CREATE VIEW"** privilege.

## 3.3.1 Schema Definition

The following files may be used to create a new schema base on the new user created in the previous step:

● Oracle Schema Data Dump as provided by NCR Cash Management.

   ○ e.g. **&lt;client name&gt;.dmp**

● Minimum of 2 DDL scripts to define tables, indexes, and default data records.

   ○ e.g.: **Master_Schema_Relational_Migration_Script_build&lt;build_number&gt;.sql**

NCR Cash Management will provide these files to the client.  Make sure to save these files in the same directory.

You have two options to create the data schema:

1. Run a data pump import, which will load the contents of the provided data pump into the target tablespaces and schema name.  While this is the fastest way to import data, most clients do not permit this for initial schema load, and instead, choose option 2 below (common DBA practice).

   or:

2. Run the provided DDL SQL files.

3. You will first need to create the schema objects, per the **Master_Schema*.sql script**. This script can be modified as needed to reflect the desired tablespaces, etc.

4. Once completed, verify that there were no errors in the process, and the appropriate objects are created within the user schema for the appropriate Tablespaces.  (You may do this from the Oracle Enterprise Manager Console or your DBA tool of choice.)

***It is strongly recommended to analyze the tables and indexes for the newly imported data immediately after import.***

# 4  SQL Server Setup

## 4.1 Configuration

Verify the SQL Server memory settings are correctly defined and make sure it does not fall below the minimum memory requirements i.e., necessary for running OptiSuite (refer to SQL Server Installation document for more information on minimum memory requirements).  Kindly, co-ordinate with System Administrator to ensure that memory settings are taken into consideration along with other databases used by the bank in the SQL Server environment test

## 4.2 Schema User

1. Choose a name similar to the schema you want to create, e.g. OptiCash, your institution name, etc. and password accordingly in the General tab

2. Select **"public"** and **"dbcreator"** from the Role list for the user. The user will need these roles to connect to the database and access database functions.

3. Select the respective database in the user mapping tab for that particular user. Select Grant permission to connect to the database engine and login enabled in the Status tab.

## 4.3 Schema Definition

The following files may be used to create a new schema base on the new user created in the previous step:

- Minimum of 2 DDL scripts to define tables, indexes, and default data records.
  - e.g.: **sqlserver-schema/data.sql**

**Note**: NCR Cash Management will provide these files to the client.  Make sure to save these files in the same directory.

You have two options to create the data schema:

1. Run the provided DDL SQL files.

   a. You will first need to create the schema objects, per the **sqlserver-schema.sql script.**  This script can be modified as needed to reflect the desired tables etc.

   b. Once completed, verify that there were no errors in the process, and the appropriate objects are created within the user schema followed by running the **sqlserver-data.sql** script to add default data records to the created tables.

**Note**: It is strongly recommended to analyze the tables and indexes for the newly imported data immediately after import.

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# 5  JDK

Most Application Servers (e.g. WebSphere, Tomcat) already come with the JDK required for running the application server.  The OptiCash application requires version 8 JDK.

> **Note:** The Runtime equivalent (JRE) is not sufficient since runtime compiling is required by the web application.

This document does not detail the installation of the JDK for a batch server, database server nor the installation of the Application Server, since these are identified as a client's direct responsibility.

The following provides a brief overview of specific scenarios that might be used:

## 5.1 Deployment Scenarios

### 5.1.1 Single Application / Database Server Scenario

The critical thing in this scenario is simply to ensure an appropriate Application Server & Database have been installed on the machine and are ready for use.

### 5.1.2 Single Application & Batch, Split Database Servers Scenario

In few client installations, the Application Server (e.g. WebSphere) also runs any batch jobs. But the Database Server resides on a different machine.  In this example, WebSphere will house the Web Component (e.g. OptiCash WAR file) and batch scheduling on one machine and another machine would house the database.

### 5.1.3 Split Application / Batch / Database Servers Scenario

In many client installations, the Application Server (e.g. WebSphere), Batch Server, and Database Server reside on different machines.  In this example, WebSphere will house the Web Component (e.g. OptiCash WAR file) on one machine, another machine would house the batch jobs, and another machine would house the database.

The JDK will still need to be installed on the Batch Server.

> **Note**: The entire Application Server need not be installed on the batch machine, only the JDK is required.  This can be important to clients who are seeking to reduce 3rd party Application Server licensing on two servers.

# 5.2 All Scenarios - Setting the JAVA_HOME Environment Variable

Once the JDK is installed, create a WINDOWS ENVIRONMENT VARIABLE for **JAVA_HOME** that corresponds to the location of the JDK.

e.g. Open up the *Control Panel > System, "Advanced" tab.  Choose "Environment Variables". Add a "System Variable"* for:

- Variable Name : **JAVA_HOME**

- Variable Value : **e.v. c:\jdk1.8** (or the appropriate location of the JDK).

This will allow the system execution of the OptiCash Batch job Services, which will be installed later.  If you are running on another Operating System, you will need to follow similar steps, but with the **"setenv"** command instead (assuming UNIX).

# 6 Application Server

## 6.1 General

> **Note:** It is the responsibility of the client to ensure the Application Server is running correctly and readily accessible PRIOR to the on-site installation to be performed by NCR Cash Management.

Additionally, the Application Server should be installed in a directory structure without spaces, e.g. **C:\IBM\WebSphere**.

It is also strongly recommended that the application server be deployed in the root directory (or close to the root directory).

## 6.2 DSN / JDBC JNDI Configuration Within the Application Server

OptiCash and OptiNet support defining the JDBC data source within the Application Server. This permits the user to define JDBC connection information (JDBC URL, schema name, password, etc.) outside of the OptiCash and OptiNet *.properties files.

A simpler, alternative method for connecting to the database is to use the **"JDBC Driver Manager Direct Connection Information"** connection method from the OptiCash / OptiNet maintenance site.  That method entails explicitly typing the JDBC URL, schema username, etc., directly into the OptiCash and OptiNet Setup pages.

> **Note:** This explicit method is required for batch servers and processing since those processes execute outside of the Application Server.

OptiCash / OptiNet need only the thin database client driver.  End configuration of JNDI within the Application Server is the responsibility of the client.

Further training and step-by-step documentation on this topic and IT configuration are available from NCR Cash Management Consulting Services, for additional commercial consideration.

## 6.3 J2EE Security

A default policy file is provided for defining the WebSphere J2EE security settings if that is enabled in your environment.  Further configuration of this file is permissible, but any edits and verification of impact to OptiSuite are the responsibility of the client.

# 6.4 Shared Libraries

OptiSuite supports the use of shared libraries for application read-only access to the configuration property files (**opticash.properties, optinet.properties, quartz.properties, and log4j.properties**).  It is the responsibility of the client to configure this option if it is desired.

Further training and step-by-step documentation on this topic and IT configuration is available from NCR Cash Management Consulting Services, for additional commercial consideration.

# 7 OptiCash Deployment (Application Server)

## 7.1 WAR File Deployment

1. WAR files are readily deployable web-application containers, complete with supporting jars.  Recommendation and forecast engines are also inside the WAR file.

2. The default deployment of OptiCash will typically be to a web application and URL called **"opticash"**.  Many Application Servers (WebSphere, etc.) provide an application assembly tool to allow you to change the default context prior to deployment.  Refer to the specifics of your Application Server for this.

3. The precise deployment technique for the installation WAR file depends on the Application Server chosen, e.g. WebSphere, Tomcat, etc.

4. If you are deploying on WebSphere, it is strongly recommended to enable the option **"Show me all installation options and parameters"** for deployment, unless you are already comfortable using a custom OptiCash deployment script specific to your institution.

5. OptiCash contains security roles within the WAR file (the web.xml file), which permit you to match authenticated users to application access.  These roles are:

   a. NormalRole (conventional cash analyst who logs into OptiCash)

   b. MaintenanceRole (typically an App Server or IT administrator who configures the application with the JDBC access, input/output directories, log directories, etc.).  This user would access the sub maint/ URL and associated pages.

6. You may choose to give any user access to these URLs of the application, and if so simply enable the applicable options in accordance with your application server.

   a. **Example**: In the case of WebSphere, this is handled in the **"Map security roles to users or groups"** step of WAR deployment, where you can Look Up Users or Groups based on your applicable access directory plug-in.  You can also grant these two roles to *"Everyone"*.

7. If applicable, make sure to save the configuration post-deployment.

8. If applicable, make sure you regenerate the plug-in configuration for proper communication between the Web Server and the Application Server.

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# 8 OptiCash System Configuration

After the WAR file is deployed following the instructions in the previous steps, the following will indicate additional configurations that need to be defined.

1. Update the **<application-path>/WEB-INF/classes/log4j.properties** file to point the **opticash.log** to the desired location. **Log4J** is a Java logging utility that logs the usage activity in the application.

   **Note**: This should be the full path to the log file.

   a. There are two provided methods for logging in to the **log4j.properties** file:

   b. Logging to the standard out file known as the **Console Appender** or **CON**, and

   c. Logging to a separate log file known as a **Rolling File Appender** or **ROL**.

   d. Typically, most installations will use the second option (OptiCash logging to a separate log file as opposed to the application server default out log). The first option is the default, which results in a standard **log4j.properties** file that can be run **"out-of-the-box"** by logging into the standard out.  The default is for WARN (warning-level) logging to the standard out of the JVM.  Typically this would be the default application server (e.g. WebSphere) log file.  The second option is for logging into a separate log file.  Please note this file and directory must exist and be accessible for writing from the application.  The default logging level for ROL is DEBUG (warning-level).  You can use either or both options, although it is recommended to use the second option (ROL) in order to have a separate log file for OptiCash not muddied with other Application Server messages.

   e. Merely comment out the appropriate fields as desired with a preceding hash (#) symbol to comment out a line.

   **Note:** The file name and full path to the log file should be used, assuming a ROL log file.

   f. Open the **<application-path>/WEB-INF/Log4j.properties** file and edit logs path to point to an available logs directory.  (by default)
   **log4j.appender.ROL=C:\\Logs\\OptiCash.log**

   **Note**: Each time changes are made to any of the property files you need to restart OptiCash within the Application Server so that the changes are applied. (Reconfigure the plug-in, as well, between your App Server and Web Server, if necessary.)

2. Browse to http://<server_address>:<port>/maint/setup.jsp (assuming the default settings were not changed).  Select the **"System Setup"** link and use the resulting page in the following steps. If the UI page is not available, contact NCR Cash Management Support about how to set the same via other methods.

3. The JNDI Context and Name should be filled in with the applicable JNDI information.  If you are NOT using JNDI, then make sure these fields are empty.

4. The **'Driver Class'** field should be left as it is. Connection URL should indicate the following:
   **jdbc:oracle:thin@<server_name>:1521:<oracle_db_name>**
   **Example**:  jdbc:oracle:thin:@mirage:1521:devmgr

5. Parameter names should indicate **'user'** and **'password'**. Do not add parameters unless you are an expert JDBC configuration user.

6. For the **"VALUES"** text boxes only, indicate the user name and password as in the schema created for the OptiCash database.

7. Choose an appropriate Authentication Method. Clicking the Authentication Method will pre-populate the Authenticator class and parameters fields.

   **Note:** Since OptiCash and OptiNet provide the ability to customize your authentication, these fields can be overridden based on your custom settings. Options:

| Authentication Method | Description |
|---|---|
| **Basic** | This is a simple authentication method where the password is the user name. This method should never be used in production. |
| **Remote User** | This authentication method accepts the **"remote_user"** header variable from the HTTP request.  This is the recommended production method. |
| **Header Variable** | This authentication method accepts a specified header variable, to be defined in the Authentication Parameters field, from the HTTP request. |
| **WebSeal** | This authentication method accepts the **"iv_user"** header variable from the HTTP request. |
| **Legacy Internal** | This authentication method, provided for compatibility with earlier releases, accepts a username and password from an HTML form and verifies them against the database.  **Note** that, if the **"exuser"** column is blank or null for an authenticated user, this class will copy the "username" column into it. Otherwise, it works exactly like the **"Internal"** authentication in the previous versions.  Also, because it uses the OptiCash database and database classes, it is not part of OptiCore.  Instead, it is part of OptiCash itself.  Variations of it must be produced for the other products.<br><br>It is not recommended to use this authentication method in production. |
| **Legacy Custom** | This authentication method is provided for compatibility with earlier releases, expects a legacy CustomAuthenticator subclass as its parameter. Once configured that way, it works exactly like the **"Custom"** authentication in previous versions. Also, because it uses OptiCash classes, it is not part of OptiCore.  Instead, it is part of OptiCash itself.  Variations of it must be produced for the other products.  It is not recommended to use this method for new installations. |
| **Microsoft AD Authentication** | Microsoft ActiveDirectory Authentication. This method requires Authenticator Parameters in the following format: |

| | |
|---|---|
| | FACTORY{LDAPfactory};PROVIDER{myURL};METHOD{value};DOMAIN{myDomain};DN{value} |
| | **Example**: |
| | FACTORY{com.sun.jndi.ldap.LdapCtxFactory};PROVIDER{ldap://server1:389}; METHOD{simple};DOMAIN{home.myinstitution.com};DN{DC=home,DC=myinstitution,DC=com} |
| | This method uses LDAP to authenticate with an existing Microsoft ActiveDirectory installation. It is assumed that that installation will accept credentials in the form **"username@domain"** where the username is supplied by the user, and the domain is the parameter configured here. The other Authenticator Parameters are used to create the context. |
| | **Note:** When using Microsoft AD Authentication, users will likely have to be created with the External Auth. User field in this format: |
| | **//LDAP/username@domain** |
| **File Authorizer** | FileAuthorizer is a simple external authentication method where the "external" part is a file. Sample file can be found in **<OptiCash directory>\WEB-INF\lib\auth<version>.jar** archive. This can be used for demo or test environments, or as an example for those developing a customized external authentication method, but is not suitable for production environments. |
| **Database Table Authentication** | This authentication references a database to authenticate users. Often this is its own database, but can be a separate authentication database if desired. If choosing the Database Table Authentication option, you will also need to configure additional parameters in **<OptiCash directory>\WEB-INF\DBAuthorizer-OC.properties** file as follows. |
| | **Note:** You will see some options in the file not listed here (query definition, etc). Those should not be changed from default. |
| | **dbAuthorizer.database.dsn**: JNDI database connection name. Similar to section 3 above, this is connection to database. If desiring to use JDBC connection instead, then this field should be empty. |
| | **dbAuthorizer.database.url**: URL to authorization database, **example**: jdbc:oracle:thin:@server:1521:serverdb |
| | **dbAuthorizer.database.username**, **dbAuthorizer.database.password**: Schema username and password if using JDBC connection. Can be blank if using JNDI connection. |
| | **dbAuthorizer.digest.length**: Length of password after encryption. Longer is more secure, but cannot exceed the maximum size of your target database's password field. |
| | **dbAuthorizer.digest.algorithm**: Algorithm to be used when encrypting password. |
| | **dbAuthorizer.digest.seed**: Character string used to seed the encryption algorithm. It is recommended to change this away from the default. |

| | |
|---|---|
| | **dbAuthorizer.option.quiet**: "true" or "false". Quiet mode allows a password that was unencrypted to be encrypted without the user having to change that password. If false, then users are forced to change password in that situation. This can be relevant when migrating from another auth method or in a case where the administrator previously reset a user's password. |
| | **Note**: If you plan to use Database Table Authentication, also known as DBAuthorizer, from multiple OptiSuite applications and point to the same single database for user management, then the digest **"length", "algorithm",** and **"seed"** settings above must be the same between all applications. |

8. Select your desired User Interface Language, e.g. "English".

   **Note:** NCR only provides up-to-date translations of the UI in English.  You can customize this, as well as choose your own language, but maintaining those files is the client's responsibility.

9. Leave **"Calendar length"** as provided by default.   Do not change this field unless directed by NCR Cash Management.

10. The Import Path typically reflects the existing **<application-path>/import** directory as it exists under the deployment on the Application Server.  However, this could be a location outside of the deployed application path. OptiCash load processes that use an input file will assume that file is found in this location.

⚠  **Caution**:  The import directory is used to copy files that are being loaded to OptiCash (daily load files, order files, etc). When loading such files via interface it is recommended that the original path of the load files is other than the import directory. This is to avoid potential issues when the loaded files are replaced by the previously copied files in the import directory. Also, there may be issues associated with loading files of bigger size when the load files are reduced in size while executing the load process via the interface directly from the import directory.

11. The Output Path typically reflects the existing **<application-path>/output** directory as it exists under the deployment on the Application Server.  However, this could be a location outside of the deployed application path. OptiCash processes that produce an output file will put it in this location.

12. The Logs Path typically reflects the existing **<application-path>/logs** directory as it exists under the deployment on the Application Server.  However, this could be a location outside of the deployed application path.

   **Note:** It is recommended for this path to be the same path as that defined in log4j.properties for easy locating of the various job and application logs. Log

> files produced by OptiCash during normal operation will be put into this location.

13. Configure the mail settings. These determine how OptiCash will send email; for example, email status notifications for daily load processes.

| Setting | Description |
| --- | --- |
| **Mail Enabled** | Yes/No. This enables or disables outgoing mail from OptiCash entirely. |
| **Mail Host** | Mail server accessible by OptiCash which will be used to send outgoing mail. |
| **Mail Port Number** | The port number on which the Mail Host is running. |
| **Java Mail Provider Name** | **"smtp"** or **"smtps"**. SMTPS refers to sending mail with SSL security, and SMTP without. |
| **TLS Enabled** | Yes/No. Indicates whether or not Transport Layer Security (TLS) will be used. If yes, should be '**smtp'** in the prior field. |
| **Authentication Enabled** | Yes/No. Indicates whether or not the mail send will require authentication (username/password) |
| **Authentication Username** | If Authentication is Enabled, supply the username for sending mail. |
| **Authentication Password** | If Authentication is Enabled, supply the password for sending mail. |
| **Encrypt Authentication Credentials** | Yes/No. If yes, the username/password sent to mail host will be encrypted. Otherwise, not encrypted. |
| **From Address** | Email address which recipients will see in the "From" field. |
| **Default Content Type** | Plain Text or HTML. Content type of the outgoing mail. |

14. Click Update to save the changes.  At the bottom of the screen in the **"Connection Status"** table, you should see the message indicating that connection to Oracle is established.  A red or Green icon will determine if any schema definition changes are needed.

15. After the OptiCash setup is completed, it may be necessary to update your local java security to grant permissions, which will allow OptiCash to directly execute various OptiCash Java classes. If so, the following line should be added to the java.policy file:
grant **{**

> **permission java.security.AllPermission;**
> **};**

16. When finished, click on the home icon to bring you back to the maintenance URL (/maint/index.jsp)

17. Select the **"OptiCash Settings"** link, which takes you to **http://<server_address>:<port>/opticash/maint/applicationSettings.jsp**

18. The vast majority of these settings should be maintained by the appropriate business analyst, in consultation with NCR Cash Management.  This is because these settings define how OptiCash runs for the appropriate business scenario.  Default settings are provided for everything.

| Setting | Description |
| --- | --- |
| Default Duration of History Report | Enter the number of days that will be used for default Start and End dates of the historical data when generating History Reports. |
| Default Duration of Horizon Report | Enter the number of days that will be used for default Start and End dates when generating Horizon Reports. |
| Default Duration of Recommendation Report | Enter the number of days that will be used for default Start and End dates of the historical data when generating Recommendation Reports. |
| Default Duration of Order Report | Enter the number of days that will be used for default Start and End dates of the historical data when generating Order Reports. |
| Default Duration of Variance Report | Enter the number of days that will be used for default Start and End dates of the historical data when generating Variance Reports. |
| Default Duration of Cost Report | Enter the number of days that will be used for default Start and End dates of the historical data when generating Cost Reports. |
| The number of days in a year over which the average costs (Holding costs, insurance costs) are computed in the Cost Report. | Enter the number of days in a year over which average costs will be computed in the Cost Report. Depending on the accounting practices, most institutions use 365 or 360. |
| The value of Forecast Health Indicator (%) above which forecast health is considered good | Enter the percentage of the Forecast Health Indicator above which forecast health is considered good. The number entered here will be the threshold percentage used for 'good' forecast health indicator shown as a green legend in the application. |

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| The value of Forecast Health Indicator (%) above which forecast health is considered acceptable | Enter the percentage of the Forecast Health Indicator above which forecast health is considered acceptable. The number entered here will be the threshold percentage used for 'acceptable' forecast health indicator depicted by yellow legend in the application. Values below this percentage will be considered unacceptable and will be shown as a red legend. |
| The number of days of history data and corresponding data errors and warnings used to compute the data health indicator | Enter the number of days that will be used in the computation of the data health indicator. For instance, if there are some data errors that have a negative impact on the overall data health indicator, those errors will be disregarded after they pass the number of days indicated here. |
| The rolling average percentage above which the general health of the history data is considered good | Enter the percentage above which general data health is considered good. The number entered will be the threshold percentage used for 'good' data health indicator shown as a green legend in the application. |
| The rolling average percentage above which the general health of the history data is considered acceptable | Enter the percentage above which general data health is considered acceptable. The number entered will be the threshold percentage used for 'acceptable' data health indicator shown as a yellow legend in the application. Values below this percentage will be considered unacceptable and will be depicted by a red legend. |
| The number of remaining days of forecast determines if the forecast is expired. | Enter the number of days below which the forecast is considered expired. Expired forecasts are indicated by the red legend in the application. When forecasts expire, users need to generate a new forecast to enable the system to re-build a new horizon. |
| The number of days of historical order data or withdrawal data used to calculate the denomination splits. | Enter the number of days of historical order or withdrawal data used to calculate the denomination splits. |
| The number of days in history from today during which the user is alerted on the Today->Snapshot-> To Do List of data errors for the data loaded in this duration. | Enter the number of days in history from today during which the user is alerted on the Today->Snapshot-> To Do List of data errors for the data loaded in this duration. |
| The number of days in the past checked for balance data. The user is alerted on the Cashpoint Details -> Main -> Cashpoint Status if no data has been loaded in this duration. | Enter the number of days in the past checked for balance data. The user is alerted on the Cashpoint Details -> Main -> Cashpoint Status if no data has been loaded in this duration. |

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| The days before the system date that the forecast view is designed to start. | Enter the number of days (from today's date) that will be used for a default Start date when displaying a forecast graph at the cashpoint level (Forecast ? View Forecast). |
| The days after the system date that the forecast view is designed to end. | Enter the number of days (after today's date) that will be used for a default End date when displaying a forecast graph at the cashpoint level (Forecast ? View Forecast). |
| Default Duration of Utilization Report. | Enter the number of days that will be used for default Start and End dates of the historical data when generating Utilization Reports. |
| Send a message to the users after the order has been updated. | For clients using OptiNet: If True is chosen, a message will be sent to the branch user in OptiNet when the committed order has been deleted or edited (central override) by the analyst. Note that only those branch users that are assigned to the respective cashpoint will receive this message. The purpose is to alert the branch users when the analyst decides that the committed branch order should be changed. |
| Include Emergency Recommendations in Today -> Snapshot -> Ordering Status graph. | If True is chosen, the emergency recommendations will be included in the Today > Snapshot > Ordering Status graph. |
| The default code to use for override reason while loading orders. If this property is not set, it uses the code with the lowest sort order. | A default code can be identified for override reasons when loading orders. Future versions of OptiCash will facilitate loading orders into the system, until then leave this field blank. |
| The number of days to analyze for the safety stock calculation. | Enter the total number of days analyzed for calculating safety stock. It will analyze a period of time in the history and horizon to recommend a minimum balance / Safety Stock. For example, if you reset Safety Stocks every quarter, set the duration to 90 days. Once a month – set it to 30. The default is 45 days. |
| Include/Exclude missing days in history. | Usually, institutions might want to exclude only missing business days so that those days are not used when generating forecasts.  Other choices include: exclude all missing days and include all missing days. Include/Exclude missing days in history is applied when loading daily files. |
| Output Job Scheduler's email sender address | The e-mail address from which Job Scheduler's output files will be sent to specific receivers. |

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|---|---|
| Weather Image Path and File Name | Used with OptiCash/Weather product predicting weather impact on consumer cash demand. For more information, please contact NCR Cash Management Representative. |
| Default Duration of Rec To Date from Rec Date when Recommending Using Current Date | This setting works in conjunction with the Default the Recommendation From Date to the current date and the To Date into the future based upon system settings? checkbox in the Recommendation Settings screen (Processing > Recommendations > Settings). <br><br>When this option is checked, the recommendation process will execute with the 'Recommendation From' date as the current date, and the 'Recommendation To' date as today (current date) + X days into the future, where X is defined in this field. |
| Default Duration of Orders-Output-To Date from Orders-Output-From Date when Orders Output Using Current Date | This setting works in conjunction with the Default the Orders Output From Date to the current date and the To Date into the future based upon system settings? checkbox in the Orders Output Settings screen (Processing > Orders Output > Settings). <br><br>When this option is checked, the orders output process will execute with the 'Create Output From' date as the current date, and the 'Create Output To' date as today (current date) + X days into the future, where X is defined in this field. |
| Restrict privileges User and Group functions to user/group rights ONLY. Not even the SystemAdmin right will be allowed access. | If enabled (True), this setting restricts user creation and rights assignment functions to users who are specifically granted that right (not just general admin rights). <br><br>This setting is typically used when it is desired to keep the "administrator" and "business user" types separate. Administrator-type (User & Group rights) may create and grant privileges to business user accounts, view logs, and view audit records, but cannot view or modify any business info. Business user (rights other than User & Group) may use the system functions as granted, but can never be granted access to change user privileges. |
| Logout Administrator after any user edit. | If enabled (True), this setting will force an administrative user to re-authenticate after submitting any change to user privileges. |
| Maximum number of failed logins before a user is locked out | If a user fails authentication more than the number of times defined here, that user will be unable to log in until the account is unlocked by an administrator. |

| Suppress exceptions in the UI (not recommended). | If enabled (True), this setting will cause only minimal messages to be displayed to the end user in the case of a system error. |
|---|---|
| CarrierWeb Service URL | URL for OptiCash to connect to OptiVLM-CarrierWeb for certain functions that pass data between the applications. Example: Order manifests. |
| Map Services Key | Authorization key to $3^{rd}$ party mapping services provider to be used with the optional OptiTransport (Route Travel Plan Optimization) functions. |
| Map Services ID | ID for $3^{rd}$ party mapping services provider to be used with the optional OptiTransport (Route Travel Plan Optimization) functions. |
| Map Services URL | URL to connect with $3^{rd}$ party mapping services provider to be used with the optional OptiTransport (Route Travel Plan Optimization) functions. |
| Map Services Provider | Choose from supported $3^{rd}$ party mapping services providers to be used with the optional OptiTransport (Route Travel Plan Optimization) functions. |
| Map Services Optimize Waypoints | Yes/No. The optional OptiTransport functions include route sequencing and directions. If "Yes" here, the $3^{rd}$ party service will use real-time traffic data to create a new sequence of stops when you ask for route directions. If **"No"** is here, then an existing sequence of stops will be preserved (including possible user edits). |

19. Click the Save button to save your changes.

20. Go back to the home page of the maintenance site, and choose OptiCash/OptiNet Settings.  These settings allow enabling/disabling features that are shared between OptiCash and OptiNet.

| Setting | Description |
|---|---|
| Use Bag Reference | Select True, if the bag reference number will be used for a branch return. When this feature is turned on, the OptiCash user can enter bag reference number (up to 40 characters) for a branch return when accepting, overriding a recommendation, creating a new branch return or editing an existing branch return order. |

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| | If False is selected, this feature will be turned off, and the fields allotted for entry of the bag reference number will not appear in the application. |
| Special Order | Special orders are orders placed in OptiNet that do not affect the horizon and optimization of the cashpoint. For example, an order for a commercial client will not be used in the horizon and will not be accounted in the recommendation process, because this order was placed not to meet any forecasted demand, but a single client request under certain circumstances. |
| | Select True, to turn on this feature. |
| | If selected False, this feature will be turned off, and special order information will not appear in the Today ? Snapshot ? Network Ordering table and Special Report under the Report tab. |
| | Important: Note that special orders should not be used in conjunction with linked orders. If the **'Linked Order Screen'** feature is turned on, **'Special Order'** should be turned off and vice versa. |
| Order Messages | Order messages can be sent via OptiNet to OptiCash users. If selected True, the OptiCash user can enter a message regarding a particular order in a free-text field (up to 80 characters) for each currency. Order messages can be used when accepting, overriding a recommendation, creating a new order or special order. |
| | If selected False, this feature will be turned off, and the fields allotted for the order message will not appear in the application. |
| ATM Horizon Days | The number of days generated in the horizon after the recommendation process is run. Minimum recommended number of days for ATMs is 45. |
| Branch Horizon Days | The number of days generated in the horizon after recommendation process is run. Minimum recommended number of days for branches is 60. |
| Mixed Cassette Capacity Check | This feature will enable the mixed cassette capacity check for recycler ATMs. |
| | If selected True, OptiCash and OptiNet will use the mixed cassette capacity settings (under Basic ? Parameters) in order to generate alerts if the balances for mix cassette exceed the maximum capacity threshold percentage. |

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| | With this option, also the Recycler Maximum Capacity report will be available in the Reports section. |
| Linked Order Screen | This feature will enable the linked ATM orders to be aggregated to the branch combined order in a **'branches with on-site ATM'** scenario when the vault linkage is set to **'Linked Orders'**. |
| | If selected True, branch users in OptiNet will be able to place linked orders for the on-site ATMs and OptiCash will output combined orders during the order output process. In addition, the Linked Orders Report in OptiCash will display branch orders and the sum of total linked ATM orders. |
| | Important: Note that linked orders should not be used in conjunction with special orders. If the **'Linked Order Screen'** feature is turned on, **'Special Order'** should be turned off and vice versa. |
| Model Create/Delete Re-Index | This is a system flag to allow the user to permit dropping and creating of Model Table indexes during a model create and/or delete action. When 'True' is selected, this feature will greatly improve performance. The option not to drop/recreate indexes exists for those clients who do not wish for OptiCash to drop / create database objects. |
| Audit Orders | This should be set to False. The order audit noted here is a legacy audit which has been replaced by the enhanced auditing function noted later in this installation guide. This setting is deprecated and will be removed in a future build. |
| Include Denomination Description in Orders Output File | This flag, if set to True, causes an extra column for the Denomination Description field to be included in the orders output file. |
| Enable Order Tracking ID and Bag Count Generation | Setting for enabling the cross-order Tracking ID and Bag Count functionality. |
| Length of history to use in monthly seasonality calculation | Setting used in forecast calculations. Should be changed at the direction of NCR Cash Management support personnel, depending on trends in historical data. |
| Length of history to use in event adjustment calculation | Setting used in forecast calculations. Should be changed at the direction of NCR Cash Management support personnel, depending on trends in historical data. |

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| Length of history to use in weekly seasonality calculation | Setting used in forecast calculations. Should be changed at the direction of NCR Cash Management support personnel, depending on trends in historical data. |
| Denomination ID Load File Value to reflect Mixed-Denomination | Define here the text that will appear in the denomination ID field of load file to indicate that a record represents mixed denominations. |
| Include Quality ID in Enhanced Order I/O formats | True/False. Indicates whether or not the "Enhanced" format order input & outputs will include the Quality ID field. |
| Display Order Notes/Bills Details on Order Screens | True/False. When the setting is set to 'True' the user will create Orders by entering the quantity of Notes/Coins to be used for each Denomination instead of the total value. |
| Cashpoint Overview History Display Length | The number of history days that will be displayed on the Cashpoint Overview page. |
| Cashpoint Overview Horizon Display Length | The number of horizon days that will be displayed on the Cashpoint Overview page. |
| Report Export Default Format | Choose the format which will be enabled by default when the application user goes to a Report. HTML, PDF, CSV or None. The 'None' option results in the application user needing to act specifically to choose the format. Please note that while most reports offer HTML, PDF, and CSV options, some do not offer a particular format and if your choice here is unavailable then another format will become the default for that specific Report. |
| Advanced Device View Default Dispense Only | Default view option for Advanced Device ATMs having Dispense components only. Choose Pieces or Values. Example: Horizon and History views |
| Advanced Device View Default Deposit Only | Default view option for Advanced Device ATMs having Deposit components only. Choose Pieces or Values. |
| Advanced Device View Default Recycler Only | Default view option for Advanced Device ATMs having Recycler components only. Choose Pieces or Values. |
| Advanced Device View Default Dispense and Deposit | Default view option for Advanced Device ATMs having Dispense and Deposit components. Choose Pieces or Values. |

| | |
|---|---|
| Advanced Device View Default Dispense and Recycler | Default view option for Advanced Device ATMs having Dispense and Recycler components. Choose Pieces or Values. |
| Advanced Device View Default Deposit and Recycler | Default view option for Advanced Device ATMs having Deposit and Recycler components. Choose Pieces or Values. |
| Advanced Device View Default Dispense, Deposit, and Recycler | Default view option for Advanced Device ATMs having Dispense, Deposit and Recycler components. Choose Pieces or Values. |
| Display Barcode With Order Reference Numbers | True/False. If enabled, OptiCash Orders reports and individual order detail screens will include a barcode display of the order reference number. |

21. Click the Save button to save your changes.

22. For Brazilian users, you may wish to turn on the CDI interest calculations (for holding cost). This is an alternative method to calculate compound interest rather than simple interest and no interest on Saturdays, Sundays, or Holidays. Please note that this applies only during Recommendations generation and will be inconsistent with other features (like Cost reports). To turn this on, find file <application-path>/WEB-INF/opticash.properties and modify the values of the following parameters:

> **cdi_interest_calculation=on**
> **cdi_interest_calculation_calendar_id=CDI_CALENDAR**

> **CDI_CALENDAR** here may be replaced with a different calendar ID if desired. A Calendar with the same ID must be created within OptiCash and Events associated with that calendar that represent the holidays during which interest will not accrue.

# 9 OptiCash Licensing

1. To receive an OptiCash license, you will need to provide the **OptiCash.log** file to NCR Cash Management after an attempted login, which captures the needed information to generate a license.  We have defined the location of the OptiCash.log file earlier in your **<application-path>/WEB-INF/Log4j.properties** file.

2. NCR Cash Management will create a license SQL script and relay that back to you.

3. To apply the SQL script, use an SQL editor tool of your choice, or go to **http://<hostname>/opticash/maint/testsql.jsp**

4. Copy and paste the new license script to the SQL editor and apply/commit.

5. You should now be able to login to OptiCash successfully.

> ⚠️ **Warning**: License application should only be carried out by a system administrator or database administrator as incorrect use of the SQL editor could cause corruption of the data.

# 10 OptiCash Customization

## 10.1 Making Changes to the Language File

Language files allow translation between different world languages, as well as modification of text elements to suit a client's specific preference.

OptiCash language files come in two categories: The base language file provided with an installable WAR file, and **"custom"** language files meant to include client defined text elements. The first is located in **<application-path>/WEB-INF/lib/opticash-xxxxxxx.jar** archive, and the second is in **<application-path>/WEB-INF/classes directory**. Any given text element will be displayed from the **"custom"** language file if possible, and if not in **"custom"** then the base language file is used.

For instance, if you want to change the word **"recommendation"** to the word **"suggestion"** in English, open the following file with a text editor: **"transoft_opticash_LanguageSet_English.properties"**. Search for the specific desired occurrence, or all occurrences, and replace with **"suggestion"**. Then copy the changed element(s) to file **<application-path>/WEB-INF/classes/ transoft_opticash_LanguageSet_English_custom.properties** . Save that file, then restart the OptiCash application.

> Customized language files are the client's responsibility to maintain. In the future, with each OptiCash upgrade, the customized version will need to be saved PRIOR to installing a new WAR file. Once the new WAR file has been deployed, then restore the edited version.

It is the client's responsibility to maintain non-English language files.

OptiCash original WAR distribution includes a number of supported languages as shown in **<application-path>/WEB-INF/lib/opticash-xxxxxxx.jar**. Additional languages can be added as follows:

1. Create a new language file. Name that file **"transoft_opticash_LanguageSet_<your language>.properties"** where **<your language>** is replaced by the name of your language. English, French, Spanish, Croatian, etc. This file should contain all elements found in the base English language file, with the desired translations to your language. Place this file in **<application-path>/WEB-INF/classes** directory.

2. If your system is going to support more than 1 language, then go to the custom language file of the other language(s) and using a text editor add 1 line as follows. For example, if I was adding Swahili, and I wanted English users to see "Swahili" text, then I would add this to **"transoft_opticash_LanguageSet_English_custom.properties"** file:

*language.Swahili=Swahili*

3. Restart the OptiCash application.

ⓘ NCR continue to make every effort to make the translation of the application into a new language as easy and robust as possible. When a new local language file is added to OptiCash, this introduces a new element into the application; Typically, this will work without issue, however, it is not unheard of to encounter application errors triggered by the new language file. These are typically caused by characters, date or calendar formats, and monetary number formats which are unlike those used by OptiCash's originally supported languages. Typically, these can be escaped or corrected within the language file to resolve the issue, however, it is possible that certain characters will not work and may need to be substituted with a similar character.

## 10.2 Audit Settings

The Auditing feature creates and stores a record of users' actions.  Auditing is off by default. To turn it on and control it, use the following configuration:

1. Open the audit properties file **<application-path>WEB-INF\classes\ transoft_opticash_audit.properties**. Before editing, save a copy of the original English file to **transoft_opticash_audit_orig.properties**.

2. Set Function IDs to **'None', 'Partial',** or **'Full'** audit logging.

    a. **None**: No logging occurs when the function is used.

    b. **Partial**: Basic record is saved (statement parameters omitted).

    c. **Full**: All available info is recorded.

3. See the table later in this section for a list of available Function IDs.

4. Each time changes are made to the audit properties file, restart the Application Server that the WAR file was deployed under.

5. Access to view audit records is available only to users having the **'Administer System'** right. Like other access rights, it can be assigned or unassigned by logging into the OptiCash application and selecting **System > Privileges > Groups**.

6. Since Audit records are created automatically and continually as users go about their day-to-day business, they can consume a large amount of database space over time. Therefore, it may become necessary at some point to remove audit records. For security purposes, this can only be accomplished manually by a user with direct database access. That user should delete from the **FUNCAUDT** table (after backing up the database). If desired to delete only prior to a specific date/time, then reference the **STMT_TIMESTAMP** column of the **FUNCAUDT** table.

7. The following table identifies the available audits.

> **Note:** This list may not represent all available audit functions because each new build typically contains additional audit items.  For the most up-to-date list, you may review your property files.

| Function ID | Description |
|---|---|
| 0 | Unknown |
| | **Note**: The Unknown category catches many secondary records (things that take place invisibly when the action noted in the main record occurs). It is the most common record type. It may be advantageous to set Unknown to 'partial' logging to keep the total amount of data logged by auditing within a reasonable size. |
| 1001 | Successful Login |
| 1002 | Modified Center |
| 1003 | Deleted User Account |
| 1004 | Failed Login |
| 1005 | Updated Institution Parameters |
| 1006 | Edit User Account |
| 1007 | Created User Account |
| 1008 | Added User/privilege to Access Control Group |
| 1009 | Removed User/privilege to Access Control Group |
| 1010 | Updated Currency ID |
| 1011 | Updated Interest Rate |
| 1012 | Created Currency ID |
| 1013 | Deleted Currency ID Prototype |
| 1014 | Deleted Currency ID |
| 1015 | Inserted Denomination |
| 1016 | Updated Denomination |
| 1017 | Deleted Denomination |
| 1018 | Inserted Foreign Denomination |
| 1019 | Updated Foreign Denomination |
| 1020 | Deleted Foreign Denomination |
| 1021 | Inserted Non-Cash Media |
| 1022 | Assigned Non-Cash Media to Cashpoints |

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| Function ID | Description |
|---|---|
| 1023 | Unassigned Non-Cash Media to Cashpoints |
| 1024 | Deleted Non-Cash Media |
| 1025 | Updated Exchange Rate |
| 1026 | Inserted Exchange Rate |
| 1027 | Deleted Exchange Rate |
| 1028 | Inserted Wallet Type |
| 1029 | Updated Wallet Type |
| 1030 | Deleted Wallet Type |
| 1031 | Deleted Cashpoint Data |
| 1032 | Updated Cashpoint Status |
| 1033 | Purge Cashpoint Data alert |
| 1034 | Purge Cashpoint History |
| 1035 | Purge Cashpoint Forecast |
| 1036 | Purge Forecast Queue |
| 1037 | Deleted Recommendations for ATM |
| 1038 | Data Health Indicator Calculation Started |
| 1039 | Deleted Recommendations for BRN |
| 1040 | Deleted Recommendations for ATM - part1 |
| 1041 | Purge ATM Recommendations |
| 1042 | Deleted Recommendations for BRN - part1 |
| 1043 | Purge BRN Recommendations |
| 1044 | Purged Orders |
| 1045 | Purged Messages |
| 1046 | Mass Include/Exclude History |
| 1047 | Cleaned Tables |
| 1048 | Cluster Aggregation |
| 1049 | Updated Pre-Withdrawal in History |
| 1050 | Exported Cashpoint data |
| 1051 | Deleted Access Control Group |
| 1052 | Deleted Currency |

| Function ID | Description |
|---|---|
| 1053 | Updated Non-Cash Media |
| 1054 | Purged Orders Audit |
| 1055 | Purged Currency Assignment |
| 1056 | Purge Service Exceptions |
| 1057 | Purge Forecast Adjustments |
| 1058 | Purged Depository Items |
| 1059 | Applied 2-Sigma Data Exclusion |
| 1060 | Associated Cashpoints with Calendar |
| 1061 | Dissociated Cashpoints with Calendar |
| 1062 | Applied Islamic Calendar |
| 1063 | Updated Custom Field Definition |
| 1064 | Updated Custom Field Order Linkage |
| 1065 | Added Workflow State |
| 1066 | Updated Workflow State |
| 1067 | Deleted Workflow State |
| 1068 | Deleted SLA Profile |
| 1069 | Updated SLA Profile |
| 1070 | Inserted SLA Profile |
| 1113 | Run Load CP Locations – ATM/Branch |
| 1114 | Run Load CP Locations – Depot |
| 1115 | Run Load CP Locations – Commercial Client |
| 1116 | Run Load Route Definitions |
| 1117 | Run Load Cashpoint Route Assignments |
| 1118 | Create Route Definition |
| 1119 | Edit Route Definition |
| 1120 | Add Route to OptiTransport Run Group |
| 1121 | Remove Route from OptiTransport Run Group |
| 1122 | Run OptiTransport optimization process |
| 1123 | Delete Route Definition |
| 2001 | Created Model |

| Function ID | Description |
|---|---|
| 2002 | Updated BRN Parameters |
| 2003 | (Not Used) |
| 2004 | Updated Model Cost |
| 2005 | Updated ATM Defaults by Currency |
| 2006 | Updated Model |
| 2007 | Inserted New Service Shift Day |
| 2008 | Inserted Service Costs |
| 2009 | Assigned BRN Parameters |
| 2010 | Assigned ATM Parameters |
| 2011 | Updated Model Interest Rate |
| 2012 | Inserted Model Exchange Rate |
| 2013 | Updated Model Exchange Rate |
| 2014 | Deleted Model Exchange Rate |
| 2015 | Deleted Model |
| 2016 | Started Simulation |
| 3001 | Modified VA Settings |
| 3002 | Saved Forecasting Settings |
| 4001 | Calendar Created |
| 4002 | Associated Event with Calendar |
| 4003 | Dissociated Event with Calendar |
| 4004 | Created Calendar |
| 4005 | Updated Calendar |
| 4006 | Deleted Calendar |
| 4007 | Created Event Definition |
| 4008 | Deleted Event date |
| 4009 | Updated Event Definition |
| 4010 | Inserted Event List |
| 4011 | Added Event Items |
| 4012 | Removed Event Items |
| 4013 | Deleted Event List |

| Function ID | Description |
|---|---|
| 5001 | Manual Balance Entry |
| 5002 | Validating Balance Load |
| 5003 | Manual Balance Entry |
| 5004 | Updated Cashpoint Definition |
| 5005 | Updated Cashpoint Basic Parameters |
| 5006 | Updated ATM Service Type |
| 5007 | Updated ATM Service Days |
| 5008 | Updated Service Exception |
| 5009 | Removed Service Exception |
| 5010 | Updated Denominations for a Cashpoint |
| 5011 | Deleted Cashpoint Denominations |
| 5012 | (Not Used) |
| 5013 | Added Cashpoint Denominations |
| 5014 | Update Non-Cash Media |
| 5015 | Created Cashpoint Linkage |
| 5016 | Updated Cashpoint Linkage |
| 5017 | Removed Cashpoint Linkage |
| 5018 | Updated Cashpoint Costs |
| 5019 | Added Cashpoint Adv. Parameters |
| 5020 | Updated Cashpoint Adv. Parameters |
| 5021 | Removed Cashpoint Adv. Parameters |
| 5022 | Recommendation Declined |
| 5023 | Order Deleted |
| 5024 | Excluded History |
| 5025 | (Not Used) |
| 5026 | Deleted Forecast Job Message |
| 5027 | Updated Branch Service Days |
| 5028 | Order Created |
| 5029 | Adjusted Forecast Adjustment |
| 5030 | Deleted Forecast Adjustment |

| Function ID | Description |
| --- | --- |
| 5031 | Created Forecast Adjustment |
| 5032 | Forecast Definition Created |
| 5033 | Renamed Cashpoint |
| 5034 | Copied Cashpoint |
| 5035 | Copied History between Cashpoints |
| 5036 | Imported New Cashpoint |
| 5037 | Imported Existing Cashpoint |
| 5038 | Foreign Order Deleted |
| 5039 | Foreign Order Inserted |
| 5040 | Update Order Blog |
| 5041 | Update Order State |
| 5042 | Update Order Master Honor/Ignore Status |
| 5043 | Update Recycler Component |
| 5044 | Add Recycler Component |
| 5045 | Delete Recycler Component |
| 5046 | Update Recycler Forecast Adjustment |
| 5047 | Delete Recycler Forecast Adjustment By Denom |
| 5048 | Delete Recycler Forecast Adjustment By Mixed Note |
| 5049 | Add Linked Account Component |
| 5050 | Update Linked Account Component |
| 5051 | Delete Linked Account Component |
| 5056 | Update Linked Account Definition |
| 5057 | Insert Linked Account Definition |
| 5058 | Delete Linked Account Definition |
| 5059 | Update Safety Stock in Recycler Component |
| 6001 | (Not Used) |
| 6002 | Update ATM Requirements |
| 6003 | New/Updated Recommendation Settings |
| 6004 | Deleted/Cleared Recommendation Setting |
| 6005 | Modified Recommendation Institution Settings |

| Function ID | Description |
|---|---|
| 6006 | Existing Forecast Definition Modified |
| 6007 | Updated Forecast Batch Parameters |
| 6008 | Forecast Definition Deleted |
| 6009 | Delete Output Orders Settings |
| 6010 | Inserted Horizon for Projected Costs |
| 6011 | Updated Cost Options |
| 6012 | Run Process-Load Balances |
| 6013 | Run Process-Load Orders |
| 6014 | Run Process-Start Forecast Generation |
| 6015 | Run Process-Start Recommendation |
| 6016 | (Not Used) |
| 6017 | Run Process-Recommendation Output |
| 6018 | Run Process-Start Generating Orders Output |
| 6019 | New/Updated Output Order Setting |
| 6020 | Run Actual Costs |
| 6021 | Updated Cashpoint Downtime |
| 6022 | Inserted Cashpoint Downtime |
| 7001 | Created Cashpoint |
| 7002 | Updated ATM Defaults |
| 7003 | Updated Default Denominations |
| 7004 | Inserted ATM Default Requirement |
| 7005 | Mass Assign Adv. Parameters to ATM |
| 7006 | Deleted Default Requirements for Currency |
| 7007 | Added New Default Service Exception |
| 7008 | Deleted Event |
| 7009 | Updated Default Forecast Adjustment |
| 7010 | Added Forecast Adjustment |
| 7011 | Deleted Forecast Adjustment |
| 7012 | Inserted Default Denominations for Currency |
| 7013 | Updated Branch Defaults |

| Function ID | Description |
|---|---|
| 7014 | Inserted Branch Default Requirement |
| 7015 | Assign BRN Advanced Parameters for Currency |
| 7016 | Delete Forecast Adjustments - No Type |
| 7017 | Updated Depot Definition |
| 7018 | Updated Cashpoint Service Holiday |
| 7019 | Mass Assign Cashpoints to Depot |
| 7020 | Assigned Cashpoint to Secondary Depot |
| 7021 | Deleted Depot |
| 7022 | Saved Servicer |
| 7023 | Inserted Servicer |
| 7024 | Deleted Servicer |
| 7025 | Inserted Center |
| 7026 | Deleted Center |
| 7027 | Updated Region |
| 7028 | Associate Region to Cashpoint |
| 7029 | Inserted Region |
| 7030 | Deleted Region |
| 7031 | Inserted Group |
| 7032 | Removed Cashpoint from Group |
| 7033 | Deleted Group |
| 7034 | Edited Group |
| 7035 | Saved Group |
| 7036 | Created Cashpoint |
| 7037 | Mass Assign Parameters to Cashpoints |
| 7038 | Mass Assign Costs to ATMs |
| 7039 | Mass Assign Denominations to Cashpoints |
| 7040 | Mass Assign Forecast Adj. to Cashpoints |
| 7041 | Mass Assign Costs to Branch |
| 7042 | Created Depot |
| 7043 | Deleted Corporate |

| Function ID | Description |
|---|---|
| 7044 | Deleted Commercial Client |
| 7045 | Assigned Commercial Clients to Branch |
| 7046 | Created Commercial Client |
| 7047 | Edited Commercial Client |
| 7048 | Created Corporate |
| 7049 | Edited Corporate |
| 7050 | Updated Network Monitoring Rule Filter |
| 7051 | Inserted Network Monitoring New Rule |
| 7052 | Deleted Network Monitoring Filter |
| 7053 | Updated Network Monitoring Rule |
| 7054 | Inserted Network Monitoring New Rule Filter |
| 7055 | Inserted Network Monitoring Filter Values |
| 7056 | Deleted Network Monitoring Rule |
| 7057 | Executed Network Monitoring Exclusion |
| 7058 | Update Commercial Group Definition |
| 7059 | Add Commercial Cashpoints to a Group |
| 7060 | Create a new Commercial Group |
| 7061 | Remove Commercial Cashpoint from Group |
| 7062 | Delete a Commercial Cashpoint Group |
| 7063 | Update Commercial Parameters |
| 7064 | (Not Used) |
| 7065 | (Not Used) |
| 7066 | (Not Used) |
| 7067 | (Not Used) |
| 7068 | (Not Used) |
| 7069 | Add Interest Rate with New Effective Date |
| 7070 | Update Interest Rate |
| 7071 | Delete Interest Rate for Specific Effective Date |
| 7072 | Update Model Interest Rate |
| 7073 | Add Model Interest Rate with New Effective Date |

| Function ID | Description |
|---|---|
| 7074 | Delete Model Interest Rate for Specific Effective Date |
| 7075 | Delete Cashpoint Cluster Definition |
| 7076 | Create Cashpoint Cluster Definition |
| 7077 | (Not Used) |
| 7078 | (Not Used) |
| 7079 | Update Cashpoint Cluster Definition |
| 7080 | (Not Used) |
| 7081 | (Not Used) |
| 7082 | Mass Adjust Advanced Device ATM Forecast for Specific Dates |
| 7083 | Mass Adjust Advanced Device ATM Forecast for All Days |

## 10.3 Making Changes to the Styles and Logos

All images are stored in the **<application-path>/WEB-INF/images** directory.

1. The main OptiCash style sheet is found at **<application-path>/styles/main.css**

Customized styles and logos are the client's responsibility to maintain. Before editing, save the original style sheet and image files.  In the future, with each OptiCash upgrade, the edited version will need to be saved PRIOR to installing a new WAR file. Once the WAR file has been deployed, then restore the edited version.

## 10.4 Setting Custom Order Fields

OptiCash allows the addition of up to 10 customizable fields to the ordering interface. These fields are configured in OptiCash under **System > Order Settings > Custom Field** Definitions and will be visible throughout OptiCash and OptiNet.

The option called **"SQL Query"** allows to add a menu to ordering screens with a dynamic list of options. If you intend to use this type of field, then the queries must be predefined during setup.

1. In the **<application-path>/WEB-INF/classes** directory, find the file **"transoft_opticash_custom_QueryString.properties"**. If it does not already exist, create it as a blank text file. This will be known as the "custom query file".

2. Open the custom query file with a text editor. Enter the queries on separate rows in the following format: **<reference>=<SQL query>** where **'reference'** is what the user will

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type on **System > Order Settings > Custom Field Definitions** page and **'SQL query'** determines what options will be displayed when placing an order.

**Example**: CustomField.Depot_id=?select dept1_id from cashpnt where cashp_id \= '\:cashp_id\:';

3.  Notice the segment **'\:cashp_id\:'** in the above example. This is a dynamic parameter being passed into the query at the time of opening an order creation screen. You may use the following parameters:

| | |
|---|---|
| **CASHP_ID** | The cashpoint for which this order is being placed. |
| **CPTYP_ID** | The cashpoint type of the cashpoint for which this order is being placed. Possible values are BRANCH, ATM |
| **ACTN_ID** | The type of order being placed. <br> ATM: 01=Add Cash, 02=Replace Cash, 03=Recycler Return <br> BRANCH: 01=Delivery, 02=Return |
| **SCHED_ID** | Indicates if this order is an emergency (unplanned) or not. <br> 01=Normal, 02=Unplanned |
| **ORD_DATE** | The date on which the order is being placed (current date usually). |

Customized query files are the client's responsibility to maintain. Typically this means saving an outside copy of the existing custom query file prior to an OptiCash upgrade and then replacing that copy in the **<application-path>/WEB-INF/classes** directory after the upgrade is complete. Additionally, writing queries requires some knowledge of SQL (Structured Query Language) and the OptiCash database structure. NCR Cash Management support personnel are available to help with specific inquiries regarding this.

## 10.5 Setup OptiTransport

If your institution has elected to use the OptiTransport functionality with OptiVLM CarrierWeb (Network Level Inventory Optimization and Route Plans Optimization), then you will need to grant OptiCash access to the CarrierWeb database schema.

1.  In the **<application-path>/WEB-INF** directory, find the file **"opticash.properties"**. Open this file with a text editor and place your CarrierWeb schema name in the following line (replacing **DEMO_CW**):

    **OptiTransport.CWSchemaName=DEMO_CW**

2.  Using an SQL editor connected to the CarrierWeb schema, grant access for OptiCash to use certain tables. Replace **{OC_SCHEMA}** with your OptiCash database schema name.

    **GRANT SELECT ON global_jpa_seq TO {OC_SCHEMA};**

**GRANT SELECT, UPDATE, DELETE, INSERT ON ROUTEPLAN TO {OC_SCHEMA};**

**GRANT SELECT, UPDATE, DELETE, INSERT ON ROUTEPLAN_ORDERIDS TO {OC_SCHEMA};**

**GRANT SELECT, UPDATE, DELETE, INSERT ON ROUTEPLAN_ORDERSOURCES TO {OC_SCHEMA};**

# 11 OptiNet Deployment (Application Server)

## 11.1 WAR File Deployment

1. WAR files are readily deployable web-application containers, complete with supporting jars. Recommendation and forecast engines are also inside the WAR file.

2. The default deployment of OptiNet will be to a web application and URL called **"optinet"**. Many Application Servers (WebSphere, etc.) provide an application assembly tool to allow you to change the default context prior to deployment. Refer to the specifics of your Application Server for this.

3. The precise deployment technique for the installation WAR file depends on the Application Server chosen, e.g. IBM WebSphere or Apache Tomcat.

    a. If you are deploying on WebSphere, it is strongly recommended to enable the option **"Show me all installation options and parameters"** for deployment, unless you are already comfortable using a custom OptiNet deployment script specific to your institution.

4. OptiCash contains security roles within the WAR file (the web.xml file), which permit you to match authenticated users to application access. These roles are:

    a. NormalRole (common user who logs into OptiNet)

    b. MaintenanceRole (typically an App Server or IT administrator who configures the application with the JDBC access, input/output directories, log directories, etc.). This user would access the sub maint/ URL and associated pages.

5. You may choose to give any user access to these URLs of the application, and if so simply enable the applicable options in accordance with your application server.

    a. **Example**: In the case of WebSphere, this is handled in the **"Map security roles to users or groups"** step of WAR deployment, where you can Look Up Users or Groups based on your applicable access directory plug-in. You can also grant these two roles to **"Everyone"**.

6. If applicable, make sure to save the configuration post-deployment.

7. If applicable, make sure you regenerate the plug-in configuration for proper communication between the Web Server and the Application Server.

# 12 OptiNet System Configuration

After the WAR file is deployed following instructions in the previous steps, the following will indicate additional

configurations that need to be defined.

1. Update the **<application-path>/WEB-INF/classes/log4j.properties** file to point the opticash.log to the desired location. Log4J is a Java logging utility that logs the usage activity in the application.

   **Note:** This should be the full path to the log file.

   a. There are two provided methods for logging in to the **log4j.properties** file:

   b. logging to the standard out file known as the **Console Appender** or **CON**, and

   c. logging to a separate log file known as a **Rolling File Appender** or **ROL**.

   d. Typically, most installations will use the second option (OptiNet logging to a separate log file as opposed to the application server default out log). The first option is the default, which results in a standard **log4j.properties** file that can be run **"out-of-the-box"** by logging into the standard out. The default is for WARN (warning-level) logging to the standard out of the JVM. Typically this would be the default application server (e.g. WebSphere) log file. The second option is for logging into a separate log file. Please note this file and directory must exist and be accessible for writing from the application. The default logging level for ROL is DEBUG (warning-level). You can use either or both options, although it is recommended to use the second option (ROL) in order to have a separate log file for OptiCash not muddied with other Application Server messages.

   e. Merely comment out the appropriate fields as desired with a preceding hash (#) symbol to comment out a line.

   **Note:** The file name and full path to the log file should be used, assuming a ROL log file.

   f. Edit the appropriate setting to point to an available logs directory and file. (by default) **log4j.appender.ROL=C:\\Logs\\OptiNet.log**

   **Note** that each time changes are made to any of the property files you need to restart OptiNet within the Application Server so that the changes are applied. (Reconfigure the plug-in, as well, between your App Server and Web Server, if necessary.)

2. Browse to **http://<server_address>:<port>/optinet/maint/index.jsp** (assuming the default application context of **"optinet"** was not changed). Select the **"System Setup"** link, which takes you to **http://<server_address>:<port>/optinet/maint/setup.jsp**

3. The JNDI Context and Name should be filled in with the applicable JNDI information. If you are NOT using JNDI, then make sure these fields are empty.

4. The **'Driver Class'** field should be left as it is. Connection URL should indicate the following:
   **jdbc:oracle:thin@<server_name>:1521:<oracle_db_name>**
   **Example** above is: jdbc:oracle:thin:@mirage:1521:devmgr

5. Parameter names should indicate **'user'** and **'password'**. Do not add parameters unless you are an expert JDBC configuration user.

6. For the **"VALUES"** text boxes only, indicate the user name and password as in the schema created for the OptiCash database. In the example above – it is 'mybank_oc and '*****'.

7. It is recommended to use Remote User authentication to utilize the inherent authentication method of the Web server. Clicking the appropriate Authentication Method will pre-populate the Authenticator class and parameters fields.

> **Note:** Since OptiCash and OptiNet provide the ability to customize your authentication, these fields can be overridden based on your custom settings.

| Authentication Method | Description |
|---|---|
| **Basic** | This is a simple authentication method where the password is the user name. This method should never be used in production. |
| **Remote User** | This authentication method accepts the **"remote_user"** header variable from the HTTP request.  This works identically to the **"External"** authentication method in the previous  OptiSuite versions and is the preferred production method. |
| **Header Variable** | This authentication method accepts a specified header variable, to be defined in the Authentication Parameters field, from the HTTP request. |
| **WebSeal** | This authentication method accepts the **"iv_user"** header variable from the HTTP request. |
| **Legacy Internal** | This authentication method, provided for compatibility with earlier releases, accepts a username and password from an HTML form and verifies them against the database.  **Note** that, if the **"exuser"** column is blank or null for an authenticated user, this class will copy the **"username"** column into it. Otherwise, it works exactly like the **"Internal"** authentication in the previous OV versions.  Also, because it uses the OptiCash database and database classes, it is not part of OptiCore.  Instead, it is part of OptiCash itself.  Variations of it must be produced for the other products.  It is not recommended to use this authentication method in production. |
| **Legacy Custom** | This authentication method is provided for compatibility with earlier releases, expects a legacy CustomAuthenticator subclass as its parameter. Once configured that way, it works exactly like the **"Custom"** authentication in previous versions. Also, because it uses OptiCash classes, it is not part of |

| | |
|---|---|
| | OptiCore.  Instead, it is part of OptiCash itself.  Variations of it must be produced for the other products.  It is not recommended to use this method for new installations. |
| **Microsoft AD Authentication** | Microsoft ActiveDirectory Authentication. This method requires Authenticator Parameters in the following format:<br><br>**FACTORY{LDAPfactory};PROVIDER{myURL};METHOD{value};DOMAIN{myDomain};DN{value}**<br><br>**Example**:<br><br>FACTORY{com.sun.jndi.ldap.LdapCtxFactory};PROVIDER{ldap://server1:389};METHOD{simple};DOMAIN{home.myinstitution.com};DN{DC=home,DC=myinstitution,DC=com}<br><br>This method uses LDAP to authenticate with an existing Microsoft ActiveDirectory installation. It is assumed that that installation will accept credentials in the form "username@domain" where the username is supplied by the user, and the domain is the parameter configured here. The other Authenticator Parameters are used to create the context.<br><br>**Note:**  When using Microsoft AD Authentication, users will likely have to be created with the External Auth. User field in this format:<br><br>**//LDAP/username@domain** |
| **File Authorizer** | FileAuthorizer is a simple external authentication method where the **"external"** part is a file. Sample file can be found in **<OptiCash directory>\WEB-INF\lib\auth<version>.jar** archive. This can be used for demo or test environments, or as an example for those developing a customized external authentication method, but is not suitable for production environments. |
| **DB Table Authentication** | This authentication references a database to authenticate users. Often this is its own database, but can be a separate authentication database if desired. If choosing Database Table Authentication option, you will also need to configure additional parameters in **<OptiNet directory>\WEB-INF\DBAuthorizer-OC.properties** file as follows.<br><br>**Note**: You will see some options in the file not listed here (query definition, etc). Those should not be changed from default.<br><br>**dbAuthorizer.database.dsn**: JNDI database connection name. Similar to section 3 above, this is connection to database. If desiring to use JDBC connection instead, then this field should be empty.<br><br>**dbAuthorizer.database.url**: URL to authorization database, example: jdbc:oracle:thin:@server:1521:serverdb<br><br>**dbAuthorizer.database.username**, **dbAuthorizer.database.password**: Schema username and password if using JDBC connection. Can be blank if using JNDI connection. |

|  | **dbAuthorizer.digest.length**: Length of password after encryption. Longer is more secure, but cannot exceed the maximum size of your target database's password field. |
|  | **dbAuthorizer.digest.algorithm**: Algorithm to be used when encrypting password. |
|  | **dbAuthorizer.digest.seed**: Character string used to seed the encryption algorithm. It is recommended to change this away from the default. |
|  | **dbAuthorizer.option.quiet**: "true" or "false". Quiet mode allows a password that was unencrypted to be encrypted without the user having to change that password. If false, then users are forced to change password in that situation. This can be relevant when migrating from another auth method or in a case where the administrator previously reset a user's password. |
|  | **Note**: If you plan to use Database Table Authentication, also known as DBAuthorizer, from multiple OptiSuite applications and point to the same single database for user management, then the digest **"length", "algorithm",** and **"seed"** settings above must be the same between all applications. |

1. Select your desired User Interface Language, e.g. "English".

   **Note**: NCR only provides up-to-date translations of the UI in English. You are able to customize this, as well as choose your own language, but maintaining those files is the client's responsibility.

2. Click Update to save the changes. At the bottom of the screen in the **"Connection Status"** table, you should see the message indicating that connection to Oracle is established.

# 13 OptiNet Licensing

OptiNet licensing is combined with OptiCash licensing. When that is completed as described earlier in this document, then OptiNet will also be able to log in.

# 14 OptiNet Customization

The most common customization you will perform is to the look of the user interface or language file edits.

## 14.1 Making Changes to the Language File

Language files allow translation between different world languages, as well as modification of text elements to suit a client's specific preference.

OptiNet language files come in two categories: The base language file provided with an installable WAR file, and **"custom"** language files meant to include client-defined text elements. These files are located in **<application-path>/WEB-INF/classes** directory. Any given text element will be displayed from the "custom" language file if possible, and if not in **"custom"** then the base language file is used.

For instance, if you want to change the word **"recommendation"** to the word **"suggestion"** in English, open the following file with a text editor: **"transoft_optinet_LanguageSet_English.properties"**. Search for the specific desired occurrence, or all occurrences, and replace with **"suggestion"**. Then copy the changed element(s) to file **<application-path>/WEB-INF/classes/ transoft_optinet_LanguageSet_English_custom.properties** . Save that file, then restart the OptiNet application.

> (i) Customized language files are the client's responsibility to maintain. In the future, with each OptiNet upgrade, the customized version will need to be saved PRIOR to installing a new WAR file. Once the new WAR file has been deployed, then restore the edited version. It is the client's responsibility to maintain non-English language files.

OptiNet original WAR distribution includes a number of supported languages as shown in **<application-path>/WEB-INF/lib/opticash-xxxxxxx.jar**. Additional languages can be added as follows:

1.  Create a new language file. Name that file **"transoft_optinet_LanguageSet_<your language>.properties"** where **<your language>** is replaced by the name of your language. English, French, Spanish, Croatian, etc. This file should contain all elements found in the base English language file, with the desired translations to your language. Place this file in **<application-path>/WEB-INF/classes directory**.

2.  If your system is going to support more than 1 language, then go to the custom language file of the other language(s) and using a text editor add 1 line as follows. For example, if I was adding Swahili, and I wanted English users to see "Swahili" text, then I would add this to **"transoft_optinet_LanguageSet_English_custom.properties"** file:

*language.Swahili=Swahili*

3. Restart the OptiNet application.

> NCR continue to make every effort to make the translation of the application into a new language as easy and robust as possible. When a new local language file is added to OptiNet, this introduces a new element into the application; Typically, this will work without issue, however, it is not uncommon to encounter application errors triggered by the new language file. These are typically caused by characters, date or calendar formats, and monetary number formats which are unlike those used by OptiNet's originally supported languages. Typically, these can be escaped or corrected within the language file to resolve the issue, however, it is possible that certain characters may need to be substituted with a similar character (but this is not expected).

## 14.2 Images

To modify images, replace the current with your image. Your image must have an identical name, and identical metrics (height, width) are suggested. The Images directory contains the following images:

| Image Name | Usage |
|---|---|
| **ball_*.gif** | These are very small pictures used as markers in charts and graphs. |
| **calculator.gif** | This is the button used to bring up calculation functions if available for specific fields. |
| **close_icon.gif** | This is the button used to close small popup boxes throughout the application. |
| **datebutton.gif** | This is the date button used to bring up a calendar for ease of date selection. |
| **green.gif** | This is the green sphere icon used to indicate a "good" or "finished" state. |
| **helpbutton.gif** | This is the help button that appears throughout the system. There is a specific subdirectory for each UI language setting, and the respective version of this button will be used for each language. |
| **icon_audit.gif** | This is the container audit button used to see history details about a specific container in the Pre-Notification feature. |
| **icon_holiday** | This is the purple sphere image used to indicate a holiday. |
| **leftbg.gif** | This is the background image for bottom of the left side menu |
| **mainbg.jpg** | This is the background image for the main content area. |

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| | |
|---|---|
| **printbutton.gif** | This is the print button that appears throughout the system. There is a specific subdirectory for each UI language setting, and the respective version of this button will be used for each language. |
| **opticashlogo.gif** | This is the OptiCa$h logo image and should not be modified. |
| **question.gif** | This is the button used for contextual help functionality. |
| **red.gif** | This is the red sphere image used to indicate "bad" or "incomplete" state. |
| **topbg.jpg** | This is the background image used for the top banner area. |
| **transoftlogo.gif** | This is the logo image and should not be modified. |
| **transoftlogosmall.gif** | This is the logo image and should not be modified. |
| **toplogo.gif** | This is the custom logo image.  Replace this with your own logo.  The metrics are somewhat flexible, so you can experiment to get the look you want.  To hide it entirely, just replace it with a completely clear gif image. |

## 14.3 Style Sheet

The style sheet is called **optinet.css** and is located in the styles directory.  The following styles are defined and may be customized:

| Style Class | Usage |
|---|---|
| **.topMatter** | <body> tag of top frame. |
| **.topMatterPrompt** | The "Please select a cashpoint…" prompt in the top frame. |
| **a.topMatterLink** | All hyperlinks in the top frame. |
| **a.topMatterLink:Hover** | All hyperlinks in the top frame when the cursor is over them. |
| **.leftMatter** | <body> tag of left frame. |
| **.leftMatterHeading** | Heading text in left frame. |
| **.leftMatterText** | Regular text in left frame. |
| **a.leftMatterMenu** | Menu hyperlinks in left frame. |
| **a.leftMatterMenu:Hover** | Menu hyperlinks in left frame when the cursor is over them. |
| **.mainMatter** | <body> tag in main frame. |
| **.mainMatterTableHead** | Table heading text in main frame. |
| **.mainMatterTableFieldName** | Table field name cell in main frame. |
| **.mainMatterTableField** | Table field in main frame. |
| **.mainMatterHead** | Heading text in main frame. |

| .login | <body> tag on login screen. |
|---|---|
| .loginTable | <table> tag in login screen. |
| .loginTableField | Table field in login screen. |
| .loginTableFieldName | Table field name in login screen. |

## 14.4 Audit Settings

The Auditing feature creates and stores record of users' actions. Auditing is off by default. Other configuration is accomplished as follows:

1. Open the audit properties file **<application-path>WEB-INF\classes\** transoft_optinet_audit.properties. Before editing, save a copy of the original English file to transoft_optinet_audit_orig.properties.

2. Set Function IDs to **'None', 'Partial',** or **'Full'** audit logging.

   a. **None**: No logging occurs when the function is used.

   b. **Partial**: Basic record is saved (statement parameters omitted).

   c. **Full**: All available info is recorded.

3. See the table later in this section for a list of available Function Ids.

4. Each time changes are made to the audit properties file, restart the Application Server that the WAR file was deployed under.

5. Access to view audit records is available only to users having the **'Administer System'** right. Like other access rights, it can be assigned or unassigned by logging into the OptiCash application and selecting **System > Privileges > Groups**.

6. Since Audit records are created automatically and continually as users go about their day-to-day business, they can consume a large amount of database space over time. Therefore, it may become necessary at some point to remove audit records. For security purposes, this can only be accomplished manually by a user with direct database access. That user should delete from the **FUNCAUDT** table (after backing up the database to a file). If desired to delete only prior to a specific date/time, then reference the **STMT_TIMESTAMP** column of the **FUNCAUDT** table.

7. The following table identifies the available audits. Please note that this list may not represent all available audit functions because each new build typically contains additional audit items. For the most up-to-date list, you may review your property files.

| Function | Description |
|---|---|
| 0 | Unknown |
|  | **Note**: The Unknown category catches many secondary records (things that take place invisibly when the action noted in main record occurs). It is the most common record type. |

| | It may be advantageous to set Unknown to 'partial' logging to keep the total amount of data logged by auditing within a reasonable size. |
|---|---|
| 1501 | OptiNet Login Successful |
| 1502 | OptiNet Login Failed |
| 1503 | OptiNet Created User Account |
| 1504 | OptiNet Updated User Account |
| 1505 | OptiNet User Granted Rights to Cashpoint |
| 1506 | OptiNet User Lost Rights to Cashpoint |
| 1507 | OptiNet Deleted User Account |
| 1508 | OptiNet Updated Transaction Cut-off Times |
| 1509 | OptiNet Save Order Confirmation Screen Config |
| 1510 | Created Message |
| 1511 | OptiNet Update Depot CSV Format Setting |
| 1512 | OptiNet Created/Updated Order |
| 1513 | OptiNet Deleted Order |
| 1514 | OptiNet Declined Recommendation |
| 1515 | OptiNet Update ATM Parameters |
| 1516 | OptiNet Update ATM Holiday Indicator |
| 1517 | OptiNet Added Denomination to Cashpoint |
| 1518 | OptiNet Deleted Denomination from Cashpoint |
| 1519 | OptiNet Update ATM Service Days |
| 1520 | OptiNet Enter Balance |
| 1521 | Optinet Reset User Password |
| 1522 | OptiNet Save Return Increment Settings |
| 1523 | OptiNet Set Branch Reserve Cash |
| 1524 | Inserted Foreign Order |
| 1525 | Deleted Foreign Order |
| 1526 | Inserted Outer Bag |
| 1527 | Deleted Outer Bag |
| 1528 | Inserted New Wallet |
| 1529 | Updated Wallet |
| 1530 | Deleted Wallet |
| 1531 | OptiNet Updated Denomination for Cashpoint |

| 1532 | OptiNet Analyst Replied to Message |
|------|-----------------------------------|
| 1533 | OptiNet Depot Release |
| 1534 | OptiNet Deleted Commercial Order |
| 1535 | OptiNet Created/Updated Commercial Order |

# 14.5 Decimal Display in OptiNet

OptiNet can display decimal values for monetary amounts, if so chosen by the client. The current architecture of OptiNet does not allow us to put this as an option on UI, but we can use language files to specify the digits. Therefore, the number of digits will be specified through a language file element.

All the Language files will be located under the deployment directory of the OptiCash Web Application in the 'classes' directory.

**Example**:
C:\IBM\WebSphere\AppServer\profiles\default\installedApps\MIRAGENode01Cell\OptiCash.ear\OptiCash.war\WEB-INF\classes

The language file element name is **"locale.decimalDigits"**. By default, the value will be 0.

**Example**:

locale.decimalDigits=2   displays 2 decimal digits in the screens. The number of digits should not exceed 2.

> **Note**: NCR Cash Management has introduced this feature to mainly affect the Branch Returns in OptiNet where coin returns is a possible scenario. If the decimal digits are set to the default value, the amounts will be rounded off to the nearest possible integer.

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# 15 Batch Processes

The purpose of batch process execution is to provide more time efficient execution of regular OptiCash processes. The jobs can be scheduled to run overnight by putting the associated commands into a tool like Windows Task Scheduler or Cron job.

All the batch process files will be located under the deployment directory of the OptiCash Web Application in the **'batch'** directory. The batch files will be available after the OptiCash WAR File is deployed.

**Example**:
C:\IBM\WebSphere\AppServer\profiles\default\installedApps\MIRAGENode01Cell\OptiCash.ear\OptiCash.war\Batch

Inside the **'batch'** directory are subfolders as follows: **'ant_execution'** is your primary path to running the batch processes as detailed in this document. Also available are **'custom_load'** and a **'Sample'** directory for custom export. The custom load and export are intended to be used in coordination with NCR Cash Management staff in cases where certain extended functionality is desired.

| | |
|---|---|
| (i) | **Note**: Each time a WAR file is deployed or upgraded to a newer version, batch files will need to be backed up to save the environment settings. For that reason, the batch directory should be moved to a different location during installation, from where the processes will be run on an ongoing basis. |

The batch files:

1. Are intended to be used by the customer to implement their own production quality batch processing schedule.

2. Can be executed in their current form to carry out the basic processing steps, however, the expectation is that the customer will either modify/wrap or rewrite the scripts to meet their institution's internal batch standards and to closely integrate with the bank environment, considering issues such as file transfers, on call alerts, standard scheduling packages and/or programming languages etc.

NCR Cash Management recommends the customer to first run the process in its basic form using the batch process and then, as necessary, make the changes to meet the local institution requirements.

| | |
|---|---|
| (i) | **Note**: NCR Cash Management does not provide on-going support for the batch files due to integration requirements to existing customer systems, specific customer procedures in relation to data file interfaces, variety of scheduling capabilities and security concerns. <br><br> Therefore, it is the responsibility of the client to review, understand and support these batch files. |

# 15.1 Ant Based Execution of Batch

NCR Cash Management recommends executing OptiCash batch processes via ANT. While it is possible to execute the processes without ANT, that is not documented here. The java standard apache ANT package is used to execute, and it is available for free for any operating system.  ANT is available at **http://ant.apache.org**.  The custom export requires ANT version 1.7 at minimum.

Ant will need to be downloaded onto the computer which is running batch processes. Since Ant is java-based, you may simply unzip the Ant directory structure, and add the underlying **"bin"** directory to the system path so that calls to execute **"ant"** are found.  If Ant is not added to the system path, simply call the fully-loaded path to the ant executable instead.

Since Ant is a java-based utility, **%JAVA_HOME%** must also be defined, but this should have been done earlier in the OptiCash installation process.

There are three files of importance for executing the batch process:

- **build.properties** – This file contains the properties associated with each batch process.
- **build.xml** – This file contains the configuration and calls to each underlying batch process, using the parameters defined in the build.properties file.
- **ant_execution_samples** – this file contains sample calls to execute each process via ant

## 15.1.1    General Parameters

These parameters may be set in the build.properties file

- opticash.dir=The directory path of the OptiCash war file.  e.g. C:/IBM/WebSphere/AppServer/profiles/AppSrv01/installedApps/ironhideNode01Cell/OptiCash.ear/OptiCash.war/
- opticash.lib.dir=The directory path to the application jar files
- opticash.db.dir=The directory and name of the jdbc jar file relevant to your database (e.g. /lib/ojdbc8.jar)
- opticash.user=A valid user in OptiCash who has rights to the given batch functions and cashpoints.

**Note**: When supplying parameters at runtime (instead of build.properties) and the intended value is blank or empty, you may need to quote the empty string. For example: –
`DLoad_Orders.iformat=""`

## 15.2 Calculate Data Health Indicator

The Data Health Indicator calculation can be performed in batch by the batch file **Calculate_DHI.cmd** provided by NCR Cash Management. The data health indicator is a rolling average denoting the general health of the daily balance loads.

### 15.2.1　　Properties

- Calculate_DHI.sdate=Beginning date to run the data health indicator, Format: yyyy-mm-dd

- Calculate_DHI.edate=End date to run the data health indicator, Format: yyyy-mm-dd

### 15.2.2　　Syntax

ant -f build.xml Calculate_DHI

## 15.3 Cost Calculation

The Cost Calculation process can be performed in batch by the batch file run_ant_cost_calculation.cmd provided by NCR Cash Management. Computes the costs incurred in the selected duration and cashpoints. The costs can be viewed by generating a cost report.

### 15.3.1　　Properties

- Cost_Calculation.cashpGroup_id=Cashpoint Group holding cashpoint IDs to run cost calculation process with

- Cost_Calculation.model_id=Model id to run cost calculation process when calculating model cost

- Cost_Calculation.startDate=Beginning date to run cost calculation process with, Format: yyyy-mm-dd

- Cost_Calculation. endDate=End date to run cost calculation process with, Format: yyyy-mm-dd

- Cost_Calculation.calcType=Type defining what cost calculation to run (ACTUAL, PROJECTED, MODEL)

### 15.3.2　　Syntax

ant -f build.xml Cost_Calculation

## 15.4 Load ACL

The **Load_ACL.cmd** batch file will load OptiCash Daily ACL (Access Control List), which is used to provide the automated creation, updating, deactivating, and deletion of users from the application database. Refer to the document OptiCash Input/Output Formats for more information about this load format.

### 15.4.1 Properties

- **Load_ACL.fileName**:Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Only Supply the Basic Filename - No path.

- **Load_ACL.AuthType** : Valid Authentication Types: (e.g. //WAAS/) This will be the prefix for each External Auth. Username.

- **Load_ACL.delim** : Supported separators - comma, tab

- **Load_ACL.mailaddr**: Email addresses, where the log file is sent once the process is completed

### 15.4.2 Syntax

Ant –f build.xml Load_ACL

> **Note**
>
> If it is desired to use the **"CUSTOM"** ACL load for OptiNet users, customization of the LoadDailyACLJob.insertCpCustom query will be required. If you are unfamiliar with customizing a query, contact your NCR Cash Management Support representative. The default query is below and may be used for reference:
>
> LoadDailyACLJob.insertCpCustom=?insert into user_cp(username,cashp_id) select '\:username\:', cashp_id from cp_link where owner_id\='\:location\:' and cashp_id not in (select cashp_id from user_cp where username\='\:username\:');
>
> **Note:** userame: and :location: variables. These reference the USERNAME and U_LOCATION columns in the import file, respectively, and may be used in your customized query.

## 15.5 Load Balance ATMs

The **Load_Balance_ATM** batch will load the daily load file, i.e. the file(s) that supply the activity and balance figures for the ATMs. Refer to the document OptiCash Input/Output Formats for more information about this load format.

### 15.5.1 Properties

- Load_Balance_ATM.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_Balance_ATM.delim=Supported separators - comma, tab, semicolon, none. **'Comma'** or **'Tab'** or **'Semicolon'** is used with Standard format and does not require input format specified in the syntax.  **'None'** is used for 422-format input and has to be defined in conjunction with the input formats **'0'** or **'1'** available below.

- Load_Balance_ATM.cptype= **"ATM"** for standard ATM load, **"DATM"** for enhanced format

- Load_Balance_ATM.mailaddr=Email addresses, where the log file is sent once the process is completed

- Load_Balance_ATM.source= **"file"**

- Load_Balance_ATM.calcost=This parameter is used in order to calculate actual costs for the dates being loaded based on cost definitions in the system. Enter **"yes"** or **"no"** as necessary.

- Load_Balance_ATM.iformat=Leave empty if OC6 file format or set to **'Comma'** or **'Tab'**. Enter '0' or '1' if 4.2.2 format.

### 15.5.2 Syntax

ant -f build.xml Load_Balance_ATM


## 15.6 Load ATM Residuals

The **Load_ATM_Residuals** batch will load the ATM residuals typically counted back at a cash center or depot, i.e. the file(s) that supply the residual from a Replace/Swap cash delivery(ies) the ATMs. Refer to the document OptiCash Input/Output Formats for more information about this load format.

### 15.6.1 Properties

- Load_ATM_Residuals.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_ATM_Residuals.delim=Supported separators - comma, tab

- Load_ATM_Residuals.mailaddr=Email addresses, where the log file is sent once the process is completed

- Load_ATM_Residuals.overwrite= Overwrite record if already exists (on/off)

- Load_ATM_Residuals.invalidRecs= Write invalid records to a file - yes, no. When order file records cannot be loaded, they will be rejected by the system.  If the checkbox is checked, invalid records will be written to a file so that they can be reviewed, corrected and successfully loaded later.

## 15.6.2    Syntax

ant -f build.xml Load_ATM_Residuals

# 15.7 Load Balance Branches

The **Load_Balance_BRANCH** batch will load the daily load file, i.e. the file(s) that supply the activity and balance figures for the Branches. Refer to the document OptiCash Input/Output Formats for more information about this load format.

## 15.7.1    Properties

- Load_Balance_BRANCH.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_Balance_BRANCH delim=Supported separators - comma, tab, semicolon, none. **'Comma'** or **'Tab'** or **'Semicolon'** is used with standard format and does not require input format specified in the syntax.  **'None'** is used for 422-format input and has to be defined in conjunction with the input formats **'0'** or **'1'** available below.

- Load_Balance_BRANCH.cptype= **"BRANCH"** for standard branch format. **"DBRANCH"** for branch format with Branch Linked Account balances. **"EBRANCH"** for Branch Intraday data load.

- Load_Balance_BRANCH.mailaddr=Email addresses, where the log file is sent once the process is completed

- Load_Balance_BRANCH.source=Whether the source of the data comes from a load file or ETL table.  Values are **"file"** if it is a file-load or **"ETL"** if it's an ETL table load.

- Load_Balance_BRANCH.calcost=This parameter is used in order to calculate actual costs for the dates being loaded based on cost definitions in the system. Enter **"yes"** or **"no"** as necessary.

- Load_Balance_BRANCH.iformat=Leave empty if OC6 file format or set to **'Comma'** or **'Tab'**. Enter '0' or '1' if 4.2.2 format.

## 1.1.1 Syntax

ant -f build.xml Load_Balance_ BRANCH

## 15.8 Load Branch Withdrawals & Deposits

The **Load_Balance_WD** batch will load daily load file for Branch Deposits & Withdrawals only, i.e. the file(s) that supply Refer to the document OptiCash Input/Output Formats for more information about this load format.

### 15.8.1 Properties

- Load_Branch_WD.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_Branch_WD.delim=Supported separators - comma, tab

- Load_Branch_WD.mailaddr=Email addresses, where the log file is sent once the process is completed

### 15.8.2 Syntax

ant -f build.xml Load_Branch_WD

## 15.9 APTRA Vision Hourly ATM data feed

The **Load_CPTrans** batch will find ATM data files in a specified location and load that data into OptiCash. It is intended for use with the output from APTRA Vision software.

### 15.9.1 Properties

- Load_CPTRANS.folder=Folder in which the load files will be found

- Load_CPTRANS.delim=Supported separators - comma, tab

- Load_CPTRANS.mailaddr=Email addresses, where the log file is sent once the process is completed

- Load_CPTRANS.authType= HTTPServletRequest Authentication Type (e.g. //WAAS/)

- Load_CPTRANS.fileext=Files to be loaded will have this filename extension (suffix)

- Load_CPTRANS.processing=During processing load files will be renamed with this filename extension

- Load_CPTRANS.processed=After successful load files will be renamed with this file extension

- Load_CPTRANS.failed=If error occurs during an attempt to load a file, it will be renamed with this file extension

- Load_CPTRANS.filterClass=An optional pre-processor class. If NCR Cash Management Support has provided you with a filterClass, put the name here. Otherwise, leave it empty.

### 15.9.2     Syntax

ant -f build.xml Load_CPTRANS

# 15.10     Load Downtime

The **Load_Downtime.cmd** batch file will load the ATM downtime file, i.e. the file that supplies information on when ATMs were offline or operating at a reduced level.

### 15.10.1     Properties

- Load_Downtime.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_Downtime.authType=HTTPServletRequest Authentication Type (e.g. //WAAS/)

- Load_Downtime.delim=Supported separators - comma, tab

- Load_Downtime.mailaddr=Email addresses, where the log file is sent once the process is completed

- Load_Downtime.overwrite=Overwrite record if already exists (on/off)

- Load_Downtime.executeRule=Execute data exclusion based on existing user-defined exclusion rules (on/off)

### 15.10.2     Syntax

ant -f build.xml Load_Downtime

# 15.11     Load Orders

The **Load_Orders** batch will load actual cashpoint orders into OptiCash. Refer to the document OptiCash Input/Output Formats for more information about this load format.

### 15.11.1     Properties

- Load_Orders.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_Orders.delim=Supported separators - comma, tab

- Load_Orders.mailaddr=Email addresses, where the log file is sent once the process is completed

- Load_Orders.overwrite=Overwrite record if already exists (on/off)

- Load_Orders.optld=Write invalid records to a file - yes, no. When order file records cannot be loaded, they will be rejected by the system.  If the checkbox is checked, invalid records will be written to a file so that they can be reviewed, corrected and successfully loaded later.

- Load_Orders.datchk=Validate order & due date - yes, no. If 'Yes' is defined, the order load process will validate the order date and due date based on the cashpoint lead time defined in the system. Incorrect records will be rejected and written to the log file.

- Load_Orders.iformat='ENHANCED' or 'STANDARD'. Indicates the format of the load file.

- Load_Orders.ignoreSameState= yes, no. If ENHANCED format and ignoreSameState is 'yes', then records having the same order state in the input file as already recorded in OptiCash will be ignored. Not operational with the STANDARD format since that format does not include the order state. This effectively filters out input data that was already loaded previously.

### 15.11.2    Syntax

ant -f build.xml Load_Orders


## 15.12    Load Cashpoints (Enhanced)

The **Load_CASHPNT_Enh**  batch file will load the cashpoint definition file, i.e. the file that supplies definition information for cashpoints.

### 15.12.1    Properties

- Load_CASHPNT_Enh.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_CASHPNT_Enh.delim=Supported separators - comma, tab

- Load_CASHPNT_Enh.deactivate=deactivate cashpoints in the OptiCash database that are not in the load file. (Y/N)

- Load_CASHPNT_Enh.mailaddr=Email addresses, where the log file is sent once the process is completed

### 15.12.2    Syntax

ant -f build.xml Load_CASHPNT_Enh

# 15.13    Load Commercial Cashpoints Definition

The **Load_COMCPDef** batch file will load the commercial cashpoint definition file, i.e. the file that supplies definition information for commercial cashpoints.

## 15.13.1    Properties

- Load_COMCPDef.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_COMCPDef.delim=Supported separators - comma, tab

- Load_COMCPDef.deactivate=deactivate commercial cashpoints in the OptiCash database that are not in the load file. (Y/N)

- Load_COMCPDef.mailaddr=Email addresses, where the log file is sent once the process is completed

## 15.13.2    Syntax

ant -f build.xml Load_COMCPDef


# 15.14    Load Commercial Orders

The **Load_ComOrders** batch file will load the commercial orders, i.e. the file that supplies order details for commercial cashpoints.

## 15.14.1    Properties

- Load_ComOrders.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_ComOrders.delim=Supported separators - comma, tab

- Load_ComOrders.mailaddr=Email addresses, where the log file is sent once the process is completed

- Load_ComOrders.overwrite=Overwrite record if already exists (on/off)

- Load_ComOrders.optld=Write invalid records to a file - yes, no. When order file records cannot be loaded, they will be rejected by the system.  If the checkbox is checked, invalid records will be written to a file so that they can be reviewed, corrected and successfully loaded later.

## 15.14.2    Syntax

ant -f build.xml Load_ComOrders

## 15.15 Load Currencies

The **Load_CRNCYDEF** batch file will load the currencies definition file, i.e. the file that supplies definition information for currencies.

### 15.15.1 Properties

- Load_CRNCYDEF.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_CRNCYDEF.delim=Supported separators – comma, tab

- Load_CRNCYDEF.mailaddr=Email addresses, where the log file is sent once the process is completed

### 15.15.2 Syntax

ant -f build.xml Load_CRNCYDEF

## 15.16 Load Denominations

The **Load_DENOMDEF** batch file will load the denominations definition file, i.e. the file that supplies definition information for denominations.

### 15.16.1 Properties

- Load_DENOMDEF.loadfile=Name of the file to be loaded. The file must be in the import directory (e.g. C:\JRun\servers\default\opticash\import).  Supply only the Basic Filename - No path is necessary

- Load_DENOMDEF.delim=Supported separators – comma, tab

- Load_DENOMDEF.mailaddr=Email addresses, where the log file is sent once the process is completed

### 15.16.2 Syntax

ant -f build.xml Load_DENOMDEF

## 15.17 Extend Event Dates

The process to extend event dates into future based on pre-existing Event rules.

### 15.17.1    Properties

- ExtendEventDates.startDate='default' generates future event dates, 'all' generates past and future event dates, 'ddmmyyyy' specific date given in this format generates event dates beginning at that date.

- ExtendEventDates.mailaddr=Email address to which the log file should be sent.

- ExtendEventDates.overwrite= 'yes' removes event date entries and generates new entries. 'no' preserves existing event dates and only adds new event dates.

### 15.17.2    Syntax

ant -f build.xml ExtendEventDates

## 15.18    Load Event Definitions

The process to input Event and Event Date definitions from a file.

### 15.18.1    Properties

- Load_Event_Definitions.loadfile=Input file name.

- Load_Event_Definitions.delim= Supported separators - 'comma', 'tab', 'semicolon'

- Load_Event_Definitions.mailaddr=Email address to which the log file should be sent.

### 15.18.2    Syntax

ant -f build.xml Load_Event_Definitions

## 15.19    Load Calendar Definitions

The process to input Calendar definitions from a file.

### 15.19.1    Properties

- Load_Calendar_Definitions.loadfile=Input file name.

- Load_Calendar_Definitions.delim= Supported separators - 'comma', 'tab', 'semicolon'

- Load_Calendar_Definitions.mailaddr=Email address to which the log file should be sent.

### 15.19.2    Syntax

ant -f build.xml Load_Calendar_Definitions

# 15.20 Output Cashpoint Definitions

The **CpDef_Output** batch process will output the cashpoints definition file.

## 15.20.1 Properties

- CpDef_Output.groupid=Name of an OptiCash Group which contains the ATMs and Branches to be included in this output file.

- CpDef_Output.delim=Supported separators - comma, tab

- CpDef_Output.filename=File name for output file that will be created. Extension is not needed: it will be added based on your choice of delim above.

- CpDef_Output.mailaddr=Email addresses, where the log file is sent once the process is completed

## 15.20.2 Syntax

ant -f build.xml CpDef_Output

# 15.21 Output Orders

The **Orders_Output** batch process will output the orders output file that can be used to provide the host system with daily order information. Refer to the document OptiCash Input/Output Formats for more information about this output format.

## 15.21.1 Properties

- Orders_Output.delim=Supported separators - comma, tab, none.   'Comma' or 'Tab' is used with regular (OptiCash Format 5), Enhanced, DEL2 and DEL3 formats. 'None' is only used for DEL1, RTR1, or DEL4 formats.

- Orders_Output.setid=Processing Set Id

- Orders_Output.mailaddr=Email addresses, where the log file is sent once the process is completed

- Orders_Output.transmit=Transmit Task (WFTRANSMIT1, WFTRANSMIT2, or WFTRANSMIT3)

- Orders_Output.oformat=Output Format (blank, ENHANCED, DEL2, DEL3, DEL1, RTR1, or DEL4)

## 15.21.2 Syntax

ant -f build.xml Orders_Output

## 15.22       Pre-emptive Alerts

The Pre-emptive Alerts process can be performed in batch by the batch file **run_ant_preemtive_alerts.cmd** provided by NCR Cash Management. Determines if cashpoint has pre-emptive alerts.

### 15.22.1     Properties

● Preemptive_Alerts.cashpGroup_id=Cashpoint Group holding cashpoint IDs to run pre-emptive alerts process with

### 15.22.2     Syntax

ant -f build.xml Preemptive_Alerts

## 15.23       Recommendations Output

The **Recommendation_Output** batch file will output the recommendation output file that can be used to provide the client's host system with daily recommendation information. Refer to the document OptiCash Input/Output Formats for more information about this output format.

### 15.23.1     Properties

● Recommendation_Output.delim=Supported separators - comma, tab, none.  'Comma' or 'Tab' is used with regular formats. 'None' is used for 422-format output and has to be defined in conjunction with the input formats 'ATM0', 'ATM1', 'BRANCH0' or 'BRANCH1' available below.

● Recommendation_Output.ofile=File name for output file that will be created

● Recommendation_Output.setid=Processing Set Id

● Recommendation_Output.mailaddr=Email addresses, where the log file is sent once the process is completed

● Recommendation_Output.oformat=Output format. Leave blank for standard format. Or choose 'ATM0', 'ATM1', 'BRANCH0', or 'BRANCH1'. Details of these formats can be found in the document OptiCash Input/Output Formats.

● Recommendation_Output.zrec=Zero Recommendations. If left blank, no records will be created for cashpoints without recommendations. If desiring outputs to include an explicit zero record for cashpoints without recommendations, then put 'zerorecommendations' here. Note: the 'zerorecommendations' option should not be used with the standard output format.

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### 15.23.2　Syntax

ant -f build.xml Recommendation_Output

## 15.24　Run Recommendations

The **Run_Recommendations** batch file will generate recommendations for the specified recommendation Settings ID.  format.

### 15.24.1　Properties

- Run_Recommendations.ocgroup=Valid user Group in OptiCash

- Run_Recommendations.ocsetid=Valid Recommendation Settings ID (as defined in OptiCash Processing > Recommendations > Settings)

### 15.24.2　Syntax

ant -f build.xml Run_Recommendations

## 15.25　Run Recommendations OptiTransport

This process creates recommendations using OptiTransport route definitions and constraints.

### 15.25.1　Properties

- Run_Recommendations_OptiTransport.routesGroup = ID of an existing OptiTransport Run Group.

- Run_Recommendations_OptiTransport.crncy_id = Three letter currency ID for which this process will run.

### 15.25.2　Syntax

ant -f build.xml Run_Recommendations_OptiTransport

## 15.26　Run Forecast

The **Regular_Forecast** process will generate forecast using the standard method.

### 15.26.1　Properties

- Regular_Forecast.octype=REGNOVA

- Regular_Forecast.ocsetid=Valid Forecast Settings ID

- Regular_Forecast.ocuseexist=YES to use the existing forecast definition already associated with the cashpoint(s). NO to always use the forecast settings specified as **"ocsetid"** above.

- Regular_Forecast.filtertp=Filter type. Method of selecting cashpoints. I = institution (all cashpoints). G = group. R = region. D = depot. C = cashpoint.

- Regular_Forecast.filter=Filter value. The ID of whatever was selected for "filtertp" above. Example: if filtertp=G, then filter is the Group ID for which the forecast process should run.

- Regular_Forecast.mailaddr=Email addresses, where the log file is sent once the process is completed

## 15.26.2 Syntax

ant -f build.xml Regular_Forecast

# 15.27 Run Virtual Analyst Forecast

The purpose of the **Virtual_Analyst** batch is to generate a Forecast using Virtual Analyst for the specified Forecast Definition ID.

## 15.27.1 Properties

- Virtual_Analyst.octype=REGVA

- Virtual_Analyst.ocsetid=Valid Forecast Settings ID

- Virtual_Analyst.ocuseexist= YES to use the existing forecast definition already associated with the cashpoint(s). NO to always use the forecast settings specified as "ocsetid" above.

- Virtual_Analyst.filtertp=Filter type. Method of selecting cashpoints. I = institution (all cashpoints). G = group. R = region. D = depot. C = cashpoint.

- Virtual_Analyst.filter=Filter value. The ID of whatever was selected for "filtertp" above. Example: if filtertp=G, then filter is the Group ID for which the forecast process should run.

- Virtual_Analyst.vaoption=The exclusion method that is going to be used to automatically exclude or ignore the outlier data from forecasting. Available options:

  - NONE = No auto history selection or data exclusion

  - SEL = Auto history selection only

  - 2SIGMA = Auto data exclusion with 2-Sigma only

  - SEL+2SIGMA = Auto history selection and auto data exclusion with 2-Sigma

- ○ MAD = Auto data exclusion with MAD only (Median Absolute Deviation)
- ○ SEL+MAD = Auto history selection and auto data exclusion with MAD
- Virtual_Analyst.varuntime=Runtime limit (in minutes). To run without a limit, type NA
- Virtual_Analyst.mailaddr=Email addresses, where the log file is sent once the process is completed. Type "NA" if no email should be sent.

### 15.27.2    Syntax

ant -f build.xml Virtual_Analyst

# 15.28    Run Dynamic Forecast

The purpose of **Dynamic_Forecast** is to generate forecasts in an ongoing, time-controlled fashion. It is expected to be scheduled daily. If no processing is appropriate on a particular day, then the process ends immediately. Please note that the Virtual Analyst auto-history selection feature will be always enabled when running Dynamic Forecast.

### 15.28.1    Properties

- Dynamic_Forecast.octype=DYNAMIC
- Dynamic_Forecast.filter=The group name for which dynamic forecast is going to run. To run it for all network type ALL_NETWORK
- Dynamic_Forecast.frequency=How many times Dynamic Forecast will run in a month. Available options are 1 or 2. If 1, it will run after the 7th business day of each month. If 2, it will run after the 7th business day and again on the 7th-to-last business day of each month.
- Dynamic_Forecast.minhistory=Minimum history used as the basis for forecast. Available options are 12 or 24 (months).
- Dynamic_Forecast.runtime= The run time in terms of minutes for forecasting. If the time limit is exceeded, the cashpoints that has not been forecasted yet are going to be placed in a queue to be processed the next day. Type NA to run without a time limit.
- Dynamic_Forecast.exclusion=The exclusion method that is going to be used to automatically exclude or ignore the outlier data from forecasting. Available options are TWOSIGMA, and MAD. If you do not wish to use any Virtual Analyst exclusion, then put NA for this option.
- Dynamic_Forecast.mailaddr=Email addresses, where the log file is sent once the process is completed. Type NA if the logs are not going to be emailed.

### 15.28.2    Syntax

ant -f build.xml Dynamic_Forecast

## 15.29      ATM Horizon Output

The **ATMFREC_Output** provides an export of the horizon from today forward for all active ATMs.

### 15.29.1      Properties

- ATMFREC_Output.delim=Character to use for output file delimiter. Comma (,), semicolon (;), etc.

- ATMFREC_Output.quote=Character to use for quote marks around output fields. Quotation marks ("), apostrophe ('), etc. May be empty.

### 15.29.2      Syntax

ant -f build.xml ATMFREC_Output


## 15.30      Branch Horizon Output

The **BRNFREC_Output** provides an export of the horizon from today forward for all active Branches.

### 15.30.1      Properties

- BRNFREC_Output.delim=Character to use for output file delimiter. Comma (,), semicolon (;), etc.

- BRNFREC_Output.quote=Export parameters file for this custom export.  Located in the classes directory.

### 15.30.2      Syntax

ant -f build.xml BRNFREC_Output


## 15.31      Projected Costs Output

The **PROJCOST_Output** provides an export of all projected costs from today forward.

### 15.31.1      Properties

- PROJCOST_Output.delim=Character to use for output file delimiter. Comma (,), semicolon (;), etc.

- PROJCOST_Output.quote=Character to use for quote marks around output fields. Quotation marks ("), apostrophe ('), etc. May be empty.

### 15.31.2    Syntax

ant -f build.xml PROJCOST_Output

## 15.32    Target Balance Creation

The **Target_Balance** records the current OptiCash horizon balances as target balances. This data will be used in reports.

### 15.32.1    Properties

- Target_Balance.cp_group=Group of cashpoints for which target balances will be recorded. Or put DEFAULT to run for all cashpoints.

- Target_Balance.start_date=Date where target balances should start recording. Format: YYYY-MM-DD. Example: 2011-12-31. Or put DEFAULT to begin on today's date.

- Target_Balance.end_date=Date where target balances should stop recording. Format: YYYY-MM-DD. Example: 2011-12-31. Or put DEFAULT to end X days after today where X is your horizon length system setting.

- Target_Balance.mailaddr=Email address to which the log file should be sent.

### 15.32.2    Syntax

ant -f build.xml Target_Balance

## 15.33    Depot Release

The **Depot_Release** process marks orders as released. In OptiNet, this makes orders available for Depot users to view and prevents Branch users from making further modifications.

### 15.33.1    Properties

- Depot_Release.depot_list=List of depots to which orders will be released. Comma-separated list. Example: Depot1,Depot3,Depot5 Or put DEFAULT to run for all depots.

- Depot_Release.order_types=Comma separated list of order types to be released. Valid values are as follows:
  - ATM0101 = ATM Add Cash
  - ATM0102 = Emergency ATM Add Cash
  - ATM0201 = ATM Replace Cash
  - ATM0202 = Emergency ATM Replace Cash

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- ○ ATM0301 = Recycler ATM Return

- ○ BRANCH0101 = Branch Delivery

- ○ BRANCH0102 = Emergency Branch Delivery

- ○ BRANCH0201 = Branch Return

- ○ BRANCH0202 = Emergency Branch Return

- ○ BRANCH0401 = Commercial Delivery

- ○ BRANCH0501 = Commercial Return

- ○ DEFAULT = All order types

- Depot_Release.mailaddr=Email address to which the log file should be sent

### 15.33.2    Syntax

ant -f build.xml Depot_Release

## 15.34    Service Day Generator

This job populates the service day diary based on current settings. The same thing is often done by the recommendations process, but occasionally situations may arise where doing it separately is preferred. For example: Turn off 'Generate Service Days' for the recommendations process and schedule this batch instead at an earlier time with a lighter processing load. Or: Run this process for cashpoints which will never have recommendations created (service days diary is needed for manual ordering for those cashpoints).

### 15.34.1    Properties

- Service_Day_Generator.setting=Valid Recommendation Settings ID (as defined in OptiCash Processing > Recommendations > Settings)

- Service_Day_Generator.mailaddr= Email address to which the log file should be sent.

### 15.34.2    Syntax

ant -f build.xml Service_Day_Generator

## 15.35    Intraday Data Purge

This job purges intra-day data.  Intra-day data records can quickly bloat the size of the database, and hence regular purging of these records is recommended.

### 15.35.1 Properties

- IntraDayRecordPurge.mailaddr= Email address to which the log file should be sent.

- IntraDayRecordPurge.group_id=The cashpoint group name identifying which cashpoints should be purged. If you wish to run for all cashpoints, leave it as "ALL".

- IntraDayRecordPurge.numdays=The number of days prior to today that you want to keep. E.g. today-30 means delete all records with a date < today-30days.

### 15.35.2 Syntax

ant -f build.xml IntraDayRecordPurge

## 15.36 Rename/Copy Cashpoints

This job runs the Rename ID or Copy Cashpoint maintenance options for a given list of cashpoints.

### 15.36.1 Properties

- RenameCashpoints.loadfile= Input file including the To and From lists of Cashpoint IDs

- RenameCashpoints.delim= Delimiter used by input file - comma, tab

- RenameCashpoints.custom= If desired to keep a record of the old cashpoint ID, then enter which custom field should be used: CUST1,CUST2,CUST3,CUST4,CUST5,CUST6 or NONE

- RenameCashpoints.copy= If "yes", then the process will copy cashpoint instead of Rename – yes, no.

- RenameCashpoints.mailaddr= Email address to which the log file should be sent.

- RenameCashpoints.deactivate= Change status of the cashpoints – yes, no. "no" will leave cashpoint status unchanged. If "yes", Rename also deactivates the cashpoint and Copy deactivates both cashpoints. Note: Copy function always deactivates the "to" cashpoint separately.

### 15.36.2 Syntax

ant -f build.xml RenameCashpointsJob

## 15.37 Exclude History

This job excludes history for forecast purposes according to a given input file.

### 15.37.1     Properties

- ExcludeHistory.loadfile= File name of the input.

- ExcludeHistory.delim= Delimiter used by input file - comma, tab

- ExcludeHistory.mailaddr= Email address to which the log file should be sent.

### 15.37.2     Syntax

ant -f build.xml ExcludeHistoryJob


## 15.38     Virtual Analyst Exclusion

This job runs the Virtual Analyst history data exclusion process in order to exclude anomalous history data from forecast usage.

### 15.38.1     Properties

- VA_Exclusion_Job.group_id = Existing group of cashpoints for which history may be excluded.

- VA_Exclusion_Job.startDate = Format: 2014-05-25. The process will exclude anomaly data in history in a range beginning at this date.

  **Note**: start and end date can be left blank. If blank, the process runs for 1 year ending on the current date.

- VA_Exclusion_Job.endDate = Format: 2014-05-25. The process will exclude anomaly data in history in a range ending at this date.

- VA_Exclusion_Job.algorithm = "MAD" or "TWOSIGMA"

### 15.38.2     Syntax

ant -f build.xml VA_Exclusion_Job


## 15.39     Purge Downtime Data

This job rids the system of old cashpoint downtime information.

### 15.39.1     Properties

- Purge_Downtime_Data.daysInPast = Data older than this number of days will be deleted.

- Purge_Downtime_Data.mailaddr = Email address to which the log file should be sent.

### 15.39.2 Syntax

ant -f build.xml Purge_Downtime_Data

## 15.40 Purge Application File Data

This job rids the system of old temporary files (graph images, reports, etc).

### 15.40.1 Properties

- Purge_ApplicationFile_Data.daysInPast = Data older than this number of days will be deleted.

- Purge_ApplicationFile_Data.mailaddr = Email address to which the log file should be sent.

### 15.40.2 Syntax

ant -f build.xml Purge_ApplicationFile_Data

## 15.41 Purge Depot Release

This job rids the system of old records of orders being released to depot users.

### 15.41.1 Properties

- Purge_Depot_Release.daysInPast = Data older than this number of days will be deleted.

- Purge_Depot_Release.mailaddr = Email address to which the log file should be sent.

### 15.41.2 Syntax

ant -f build.xml Purge_Depot_Release

## 15.42 Purge Messages

This job rids the system of old messages between users.

### 15.42.1 Properties

- Purge_Messages.daysInPast = Data older than this number of days will be deleted.

- Purge_Messages.mailaddr = Email address to which the log file should be sent.

### 15.42.2 Syntax

ant -f build.xml Purge_Messages

## 15.43      Purge Audit Records

This job rids the system of old user activity records.

### 15.43.1      Properties

- Purge_Audit.daysInPast = Data older than this number of days will be deleted.
- Purge_Audit.mailaddr = Email address to which the log file should be sent.

### 15.43.2      Syntax

ant -f build.xml Purge_Audit


## 15.44      Purge Cashpoint Costs

This job rids the system of old calculated cost records.

### 15.44.1      Properties

- Purge_Cashpoint_Cost.monthsInPast = Data older than this number of days will be deleted.
- Purge_Cashpoint_Cost.mailaddr = Email address to which the log file should be sent.

### 15.44.2      Syntax

ant -f build.xml Purge_Cashpoint_Cost


## 15.45      Purge Calendar Events

This job rids the system of old calendar event day records (holidays, etc).

### 15.45.1      Properties

- Purge_Event.monthsInPast = Data older than this number of days will be deleted.
- Purge_Event.mailaddr = Email address to which the log file should be sent.

### 15.45.2      Syntax

ant -f build.xml Purge_Event


## 15.46      Purge Service Exceptions

This job rids the system of old records for exception to cashpoints' normal service schedule.

### 15.46.1     Properties

- Purge_Service_Exceptions.monthsInPast = Data older than this number of days will be deleted.
- Purge_Service_Exceptions.mailaddr = Email address to which the log file should be sent.

### 15.46.2     Syntax

ant -f build.xml Purge_Service_Exceptions

# 15.47     Purge Forecast Adjustment

This job rids the system of forecast adjustment records in past time frame.

### 15.47.1     Properties

- Purge_Forecast_Adjustment.monthsInPast = Data older than this number of days will be deleted.
- Purge_Forecast_Adjustment.mailaddr = Email address to which the log file should be sent.

### 15.47.2     Syntax

ant -f build.xml Purge_Forecast_Adjustment

# 15.48     Purge Recommendations

This job rids the system of old recommendation records.

### 15.48.1     Properties

- Purge_Recommendations.daysInPast = Data older than this number of days will be deleted.
- Purge_Recommendations.mailaddr = Email address to which the log file should be sent.

### 15.48.2     Syntax

ant -f build.xml Purge_Recommendations

# 15.49     Purge Alerts

This job rids the system of outdated Alert records.

### 15.49.1 Properties

- Purge_Alerts.daysInPast = Data older than this number of days will be deleted.
- Purge_Alerts.mailaddr = Email address to which the log file should be sent.

### 15.49.2 Syntax

ant -f build.xml Purge_Alerts

## 15.50 Purge History

This job rids the system of old history records.

### 15.50.1 Properties

- Purge_History.monthsInPast = Data older than this number of months will be deleted.
- Purge_History.mailaddr = Email address to which the log file should be sent.

### 15.50.2 Syntax

ant -f build.xml Purge_History

## 15.51 Purge Commercial Orders

This job rids the system of old commercial ordering records.

### 15.51.1 Properties

- Purge_Commercial_Order.daysInPast = Data older than this number of days will be deleted.
- Purge_Commercial_Order.mailaddr = Email address to which the log file should be sent.

### 15.51.2 Syntax

ant -f build.xml Purge_Commercial_Order

## 15.52 Purge Orders

This job rids the system of old ATM and Branch ordering records.

### 15.52.1 Properties

- Purge_Orders.daysInPast = Data older than this number of days will be deleted.
- Purge_Orders.mailaddr = Email address to which the log file should be sent.

### 15.52.2    Syntax

ant -f build.xml Purge_Orders

## 15.53    Load Cashpoint Locations

This job updates the latitude and longitude (physical location) fields for various cashpoints. Intended to be part 1 of 3 of initial setup of OptiTransport functionality. The processes Load Route Definitions and Load Cashpoint Route Assignments should be run after this and prior to using the OptiTransport optimization.

### 15.53.1    Properties

- Load_CPLocation.loadfile = Name of the input file.

- Load_CPLocation.delim = "comma" or "tab"

- Load_CPLocation.mailaddr = email address to which the log file will be sent.

### 15.53.2    Syntax

ant -f build.xml Load_CPLocation

## 15.54    Load Route Definitions

This job creates the route definitions. Intended to be part 2 of 3 of initial setup of OptiTransport functionality. The process Load Cashpoint Locations should be run before this and Load Cashpoint Route Assignments should be run after this and prior to using the OptiTransport optimization.

### 15.54.1    Properties

- Load_Route_Definitions.loadfile = Name of the input file.

- Load_Route_Definitions.delim = "comma" or "tab"

- Load_Route_Definitions.mailaddr = email address to which the log file will be sent.

### 15.54.2    Syntax

ant -f build.xml Load_Route_Definitions

## 15.55    Load Cashpoint Route Assignments

This job assigns cashpoints to route definitions. Intended to be part 3 of initial setup of OptiTransport functionality. The processes Load Cashpoint Locations and Load Route Definitions should be run before this and prior to using the OptiTransport optimization.

### 15.55.1　　Properties

- Load_CP_Route_Defs_Node_Distances.loadfile = Name of the input file.

- Load_CP_Route_Defs_Node_Distances.delim = "comma" or "tab"

- Load_CP_Route_Defs_Node_Distances.mailaddr = email address to which the log file will be sent.

### 15.55.2　　Syntax

ant -f build.xml Load_CP_Route_Defs_Node_Distances

## 15.56　　Custom Output

OptiCash supports a custom export utility, allowing NCR Cash Management analysts and/or clients to produce tailored data exports in their desired format.  An ANT-based Java API is provided to execute these processes.  While the most common usage of such an output is to dump data select results into a delimited flat-file, the OptiSuite base classes are extendible which would allow someone to produce a wide spectrum of output formats.  This document does not go into such extension but instead focuses on the canned custom output examples provided by default in OptiCash.

### 15.56.1　　Ant

The java standard apache ANT package is used to execute the custom export framework, and it is available for free for any operating system.  ANT is available at **http://ant.apache.org**.  The custom export requires ANT version 1.7 at minimum.

Ant will need to be downloaded onto the computer which is running the custom output. Since Ant is java-based, you may simply unzip the Ant directory structure, and add the underlying **"bin"** directory to the system path so that calls to execute **"ant"** are found.  If Ant is not added to the system path, simply call the fully-loaded path to the ant executable instead.

Since Ant is a java-based utility, **%JAVA_HOME%** must also be defined, but this should have been done earlier in the installation process.

### 15.56.2　　General Custom Output Organization

The custom output is organized using the following structure:

1. A **"build.properties"** file containing parameters for the batch execution such as the location of the OptiCash deployed instance, the OptiCash user to run the batch command, etc.

2. A **"build.xml"** file detailing the detailed steps and functions which will be performed by ANT

3. A **"classes"** directory containing at least:

   a. An SQL data select query file containing some form of an SQL SELECT… query.

   b. Export properties file defining the output classes, delimiter, etc.

   c. A parameters properties file defining parameters to the underlying output code and build script

   d. A **log4j.properties** file providing easy-definition of logging.

   e. A readme.txt file with any additional information relevant to the given output process.

4. An **"src"** directory containing the Java source code driving the output.

5. A sample command file providing a sample call to ant including any relevant parameters

6. A **"readme.txt"** file containing specific information and details for the given output. This file in particular provides everything you need to know about the parameters and execution of the given custom output.

## 15.56.3　"Sample" Custom Output

A sample custom output is provided under the **"Sample"** directory.  This custom batch performs a simple select on orders for the current system date for the given cashpoint type (which is provided as a parameter – i.e. ATM or BRANCH).

Additional detail in terms of the parameters used, settings, and format are provided in detail in the Sample/readme.txt file.

# 15.57　Custom Input

OptiCash supports a custom import utility, allowing NCR Cash Management analysts and/or clients to use tailored data imports in their desired format.  An ANT-based Java API is provided to execute these processes. See above for further information about ANT.

Using a Custom Input first requires defining what format the input file will use. This is done via an XML config file. See .. **\Batch\custom_load** directory for examples: *config_Cashpoint_Load.xml, config_Depot_Load.xml, config_Servicer_Load.xml*. **CSV** input files of the same name go along with these examples.

> **Note**: Unlike most batch processes, Custom Input provides no business logic to validate input data. This means there is a danger of putting in the wrong data, into the wrong place, or in the wrong format and as a result, causing errors inside OptiCash. Always use the pre-packaged

| | OptiCash processes instead, if applicable, and consult NCR Cash Management prior to beginning with a Custom Input. |
|---|---|
| | |

### 15.57.1   Properties

- Custom_Load_Job.loadfile = Name of the input file.

- Custom_Load_Job.delim = "comma" or "tab" or "semicolon"

- Custom_Load_Job.configFile = Name of XML config file which defines the expected format of the input file

- Custom_Load_Job.configPath = Location of the XML config file

- Custom_Load_Job.hasHeaders = "true" or "false". If true, column headers will be expected in the 1$^{st}$ row of the input file

- Custom_Load_Job.mailaddr = email address to which the log file will be sent.

### 15.57.2   Syntax

call ant -f build.xml Custom_Load_Job

## 15.58     Executing Custom Batch from the OptiCash User Interface

You may have a custom batch output coordinated between your institution and NCR Cash Management.  Typically, these files will be delivered to you as a separate batch, expecting to be executed in batch via the **"ant"** process noted above.

However, there is the option to configure OptiCash to execute your custom batch output, and it must be configured as part of the installation.

There is an existing directory **"jobdefs"** under the deployed application, which you must use to house the desired jobs property definitions. (e.g. **C:\WebSphere\AppServer\profiles\AppSrv01\installedApps\OptiCash.ear\OptiCash.war\jobdefs\**)

A sample file, myjob.properties, exists as an example.  Each job properties file will have four properties inside:

- **Name**:  This is the name that will appear in the job list.

- **Description**: The description that will appear in the job list.

- **Command**: The program to run. by using the cmd executable with the **/c option**, we can use any command you could enter on a command line, including intrinsics,

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executables, and command scripts.  You can typically copy the ant command right out of your custom output command file

- **Directory**: The directory to execute the command from.

If on Windows, note that slashes **"/"** are recommended rather than double backslashes **"\\"** in the directory variable. Java is equally happy with either, and the slash is more consistent across operating systems.

You may create as many properties files as needed to reflect however many custom outputs you have.

# 16 File Maintenance

The following directories should regularly be purged in the deployed instance of OptiCash:

- dynimages\ - (Kavachart images (pie charts, forecast graphs, etc.) as generated by the UI)

- dynreports\ - (old CSV and PDF reports)

Customers should purge these directories weekly. Deleting files from these directories should have no negative impact on the application.

Process logs (i.e. Recommendation logs, Forecast logs, Orders Output logs, etc.) should be purged occasionally, as well. The directory location for these log files will be the logs directory of the deployed instance. The interval for purging these logs will vary upon how much the client decides to keep archived, but NCR Cash Management does not recommend keeping these files any more than a month, at most, unless there are compelling reasons.

The Import directory where the daily balance load files are copied should also be purged on a daily basis. The daily balance load process will rename the balance load file with an appropriate *.txt or *.csv extension, depending upon the file type (tab-delimited vs. comma-delimited). Be aware that if a filename ALREADY exists in the directory with that name, OptiCash will NOT replace the old version with the new one, resulting in a load of the older file. Hence, it is critical that the old file be removed at the end of the nightly batch process, or prior to beginning a new one.

# 17 Redeploying the Database Schema

It is recommended to have nightly backups of the OptiCash database.

You may backup the data using replication, a simple Oracle EXP or EXPDP command, or other tools of choice for the DBA.

You would re-load that data following the schema user create and import methods outlined earlier in this document.

# 18 Preventing Access to System Maintenance

System maintenance functions are stored in the **'maint'** sub-directory in the **OptiCash.war/** directory.

These functions pose a serious security risk if unguarded. You may either:

1. Limit access to the URL using the provided security roles which can be mapped to plug-in Users and/or Groups.

2. Limit access to the URL at the web tier.

3. Move the directory to another location outside of the deployed instance once OptiCash is setup properly. You can always modify the opticash.properties file manually if needed.

4. Delete the directory once OptiCash is setup properly. You can always modify the opticash.properties file manually if needed.

# 19 Tomcat Configuration Recommendations for OptiCash

OptiCash uses large headers for some requests, but Apache Tomcat limits those to **4096** by default. Add the **maxHttpHeaderSize** attribute to the **Connector** tag in your Tomcat **settings.xml** to override this. We recommend starting with **65536**, then increase if necessary to avoid **HTTP 400/HTTP 414** errors from Tomcat. Your tag should look something like this:

```
<Connector port="8080" maxHttpHeaderSize="65536" protocol="HTTP/1.1" ... />
```

## 19.1 Additional Dependencies for OptiCash/OptiNet in Tomcat

For clients deploying OptiCash/OptiNet applications on Apache Tomcat, you will need to configure the CSRF security properties to use the random number generator included with your app server (default refers to one for IBM WebSphere). Find file **{root directory}\WEB-INF\classes\Owasp.CsrfGuard.properties** and modify the following two properties:

*org.owasp.csrfguard.PRNG=SHA1PRNG*
*org.owasp.csrfguard.PRNG.Provider=SUN*

This example shows a typical Apache Tomcat setup. Similar lines referring to the IBM generator will need to be removed or commented out.

Also, you will need to deploy additional dependencies (jar files) under Tomcat **"lib"** directory as listed below (IBM WebSphere typically comes with these already included). For example, if Tomcat is installed under

**C:\apache-tomcat-7.0.35**

then the jar files mentioned in this document should be put in

**C:\apache-tomcat-7.0.35\lib**

> **Note:** The version of each depends on the version of Tomcat installed.

These files should be downloaded from a trusted internet source, such as Maven central repository.

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## 19.1.1 Tomcat 7

Following are dependencies that are required by OptiCash/OptiNet in Tomcat 7

| File name |
| --- |
| el-api-2.2.jar |
| el-impl-2.2.1-b05.jar |
| geronimo-jpa_2.0_spec-1.1.jar |
| javax.servlet.jsp-api-2.2.1.jar |
| javax.servlet-api-3.0.1.jar |
| jstl-1.2.jar |
| jstl-api-1.2.jar |
| jstl-impl-1.2.jar |
| jta-1.1.jar |
| validation-api-1.0.0.GA.jar |
| mail-1.4.6.jar |

## 19.1.2 Tomcat 8

Following are dependencies that are required by OptiCash/OptiNet in Tomcat 8

| File name |
| --- |
| javax.el-api-3.0.0.jar |
| geronimo-jpa_2.0_spec-1.1.jar |
| javax.servlet.jsp-api-2.3.1.jar |
| javax.servlet-api-3.1.0.jar |
| jstl-1.2.jar |
| jstl-api-1.2.jar |

| |
| --- |
| jstl-impl-1.2.jar |
| jta-1.1.jar |
| validation-api-1.0.0.GA.jar |
| mail-1.4.6.jar |

## 19.1.3    Tomcat 9

Following are dependencies that are required by OptiCash/OptiNet in Tomcat 9

| File name |
| --- |
| geronimo-jpa_2.0_spec-1.1.jar |
| javax.servlet.jsp-api-2.3.3.jar |
| javax.servlet-api-4.0.1.jar |
| taglibs-standard-impl-1.2.5.jar |
| taglibs-standard-spec-1.2.5.jar |
| jta-1.1.jar |
| validation-api-1.0.0.GA.jar |

# 20 IMPORTANT NOTE

To upgrade the application version to 9.15 with SQL Server, below are the steps.

1. Customers having older versions (<9.15) must be upgraded to 9.15 without changing the DB server (Oracle).

   a) This step is taken care by the application if 9.15 war with oracle properties is deployed into the webserver.

   b) After deployment, the user is prompted to upgrade DB Schema. This is also specific to OC and OV. For VLM, products the upgrade is taken care by Liquibase.

2. Create Database and schema in SQL Server as mentioned in installation.

3. Migrate data from Oracle to SQLServer(taken care by NCR Team).

3. Update Oracle DB properties with SQLServer Details in 9.15 war and deploy.

NCR Cash Management 10.0 December 2022

NCR welcomes your feedback on this document. Your comments can be of great value in helping us improve our information products. Please contact us using the following address: