HP DecisionCenter

for the AIX, Windows®, and Itanium® operating systems

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Installation Guide

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Contents

1 Introduction 15
Installation Guide Overview 15
Hardware Requirements 17
Software and Platform Requirements 18
Server Configuration 18
DecisionCenter and Third Party Software 19
DecisionCenter and Other HP Software Products 19
Installation Media 20
Connect-It 20
License Information 21
Before You Begin 22
JDBC Drivers 23

2 DecisionCenter Components 25
IT Performance Analytics 25
ITPA and Business Impact Analytics 25
ITPA, BIA, and Optimization 26
DecisionCenter Data 27

3 Build the Data Warehouse 29
Data Warehouse Checklist 29
Task 1: Prepare the Source Data 32
Step 1: Import ServiceCenter or Service Manager Unload Files 32
Step 1a: Import AssetCenter Script Files 33
Task 2: Create the Tablespace and Users 34
Configuration Scripts 34
Database Connectors 35
Step 1: Run the Oracle Configuration Script File 35
Step 1a: Run the Microsoft SQL Server Configuration Script File 36
Step 2: Capture the Database Server Information 37
Task 3: Install and Configure Connect-It 37
Step 1: Install Connect-It 37
Step 2: Copy the Connect-It Configuration Files 38

Step 3: Configure the Time Zone 39
Task 4: Configure the Database Clients 40
Step 1: Configure the Oracle Database Client 40
Step 1a: Configure the Microsoft SQL Server Database Client 42
Step 2: Collect Installation Information 43
Task 5: Install the Data Warehouse 46
Step 1: Start the ServiceCenter Server 46
Step 2: Start the Service Manager 7.00 Server 46
Step 3: Install the Data Warehouse 48
Step 4: Point to the ServiceCenter 6.2.2 Server 50
Task 6: Create the Database Tables and Views 51
Step 1: Create the ITPA Tables and Views 51
Step 2: Create the BIA Tables and Views 52
Task 7: Import ITPA Service Management Data 52
Task 7a: Import ITPA Asset Management Data 53
Task 8: Verify the Results 55
Refresh the Data 55

4 Install Business Impact Analysis 57
BIA Installation Checklist 57
Task 1: Install the BIA Application 58
Task 2: Point to the ServiceCenter 6.2.2 Server 60
Task 3: Import BIA and Optimization Data 60
Task 4: Verify the Results 61

5 Install BusinessObjects Enterprise XI 63
BusinessObjects XI Installation Checklist 63
Task 1: Obtain the BusinessObjects Critical Hot Fix Files 64
Task 2: Install BusinessObjects Enterprise XI 65
Installation Tips 65
Task 3: Install the Required Critical Hot Fixes 66
Step 1: Install the Primary CHF 66
Step 2: Install the Supplemental CHF 68
Step 3: Restart the Server 68
Task 4: Install PMDT 68

Task 5: Customize BusinessObjects Enterprise XI Files 69
Step 1: Add the Drill Icon 69
Step 2: Change the ODBC Settings for Outer Joins 69
Task 6: Verify the BusinessObjects XI Installation 70
Task 7: Configure BusinessObjects Enterprise XI 70
Step 1: Add the License Key 71
Step 2: Verify System User Information 71
Step 3: Configure the Performance Management Database Connections 72
Step 4: Configure the Repository 74
Step 5: Update Fonts on the BusinessObjects Enterprise XI Server 75
Task 8: Verify the Results 75

6 Security 77
Security Checklist 78
If You Choose LDAP Authentication 78
If You Choose Active Directory Authentication 78
Task 1: Create DecisionCenter Users and Groups 79
LDAP Security 79
Task 2: Configure LDAP 80
Step 1: Configure the LDAP Host in BusinessObjects Enterprise XI 80
Step 2: Configure the LDAP Mapping Options 81
Step 3: Map LDAP Groups 81
Active Directory 81
Task 2: Configure Active Directory for Business Objects 82
Step 1: Enable Active Directory 82
Step 2: Configure Administration Credentials 82
Step 3: Add Member Groups 83
Step 4: Choose Kerberos Authentication Options 83
Step 5. Choose Active Directory Authentication Options 84
Task 3: Configure the JAVA Authentication Module 85
Step 1: Create a krb5.ini File 85
Step 2: Create a bscLogin.conf File 85

7 Install the DecisionCenter Analytics 87
Analytics Installation Checklist 87
Before You Begin 88

Task 1: Prepare for Installation 89
Define the Calendars 89
Task 2: Gather the Database Connection Information 90
Task 3: Install ITPA 90
Step 1: Install the ITPA Analytics 90
Step 2: Update the ITPA Database Connections and Universes 90
Step 3: Add and Update the ITPA Metric Universes 92
Step 4: Run the PMDT 93
Step 5: Set the Database ID at 6000 94
Task 4: Install BIA 95
Step 1: Install the BIA Analytics 95
Step 2: Update the BIA Database Connection and Universes 96
Step 3: Add and Update the Business Impact Metric Universes 96
Step 4: Run the PMDT 97
Task 5: Install Optimization 98
Step 1: Install the Optimization Analytics 98
Step 2: Update the Optimization Database Connection and Universe 99
Task 6: Verify the Results 99
ServiceCenter 5.1 Workarounds 100
Recurrent Outages 101
SLA Response Time Successes 102
Refresh the Data 103

8 Configure the Application Server 105
Before You Begin 105
Tomcat (Windows) Installation Checklist 107
Task 1: Install the Web Component Adapter 108
Task 2: Modify the webcompadapterwar.xml File 108
Task 3: Install the JDBC Drivers 109
Task 4: Deploy the WAR File 109
Task 5: Configure Tomcat 110
Edit Authentication Parameters 110
Task 6: Configure the JNDI Interface 111
Task 7: Copy and Modify BusinessObjects Files 113
Task 8: Start Tomcat 114
Task 9: Copy the Required Library 114

Task 10: Configure Performance Manager 115
Task 11: Configure Tomcat Java Options 115
Task 12: Configure the BusinessObjects Files 116
Task 13: Customize the Installation 117
Task 14: Configure Time Zones 120
Task 15: Configure Properties Files. 120
hibernate.properties 120
jmx.properties 121
Task 16: Update the jaas.config File 121
LDAP Users 122
Active Directory Users 122
Task 17: Start the Server 123
Tomcat (HP-UX) Installation Checklist 124
Task 1: Configure the HP-UX Environment 125
Task 2: Create the Directory Structure 125
Task 3: Create the BusinessObjects XI Environment Setup File 125
Task 4: Configure the Tomcat Installation 126
Task 5: Install the Web Component Adapter 127
Task 6: Modify the webcompadapterwar.xml File. 127
Task 7: Install the JDBC Drivers. 128
Task 8: Deploy the DecisionCenter WAR File 128
Task 9: Configure the JNDI Interface 129
Task 10: Copy and Modify BusinessObjects Files 131
Task 11: Start Tomcat. 132
Task 12: Copy the Required Library File 132
Task 13: Configure the BusinessObjects Files 132
Task 14: Customize the Installation 134
Task 15: Configure Time Zones 136
Task 16: Configure Properties Files. 137
hibernate.properties 137
jmx.properties 138
Task 17: Update the jaas.config File 138
LDAP Users 138
Active Directory Users 139
Task 18: Start the Server 140
WebSphere Installation Checklist. 141

Before You Begin . . . 142
Task 1: Create the Directory Structure . . . 142
Task 2: Create the Environment Variables . . . 143
Step 1: Identify the RDBMS . . . 143
Step 2: Define the Library Path . . . 143
Task 3: Copy the Property Files . . . 144
Task 4: Define the JDBC Connection . . . 144
Step 1: Identify Your RDBMS . . . 144
Step 2: Identify the Database Connection . . . 145
Step 3: Define the Database Server . . . 146
Step 4: Define the Port Number . . . 146
Step 5: Specify the URL . . . 146
Task 5: Copy the Required Library . . . 147
Task 6: Define the Path to the Configuration Directory . . . 148
Task 7: Configure Performance Manager . . . 148
Task 8: Deploy the DecisionCenter WAR File . . . 149
Task 9: Customize the DecisionCenter Configuration . . . 151
Task 10: Customize Business Objects . . . 151
Task 11: Configure JAAS . . . 153
Task 12: Configure Time Zones . . . 155
Task 14: Start the Server . . . 156

9 Configure DecisionCenter . . . 157
DecisionCenter Installation Checklist . . . 157
Task 1: Stop the Application Server . . . 158
Task 2: Configure Time Zones . . . 158
Task 3: Start the Application Server . . . 159
Task 4: Verify the Results . . . 160

10 Install the Optimization Engine . . . 161
Optimization Installation Checklist . . . 161
Task 1: Stop the Application Server . . . 162
Task 2: Install the Optimization Engine . . . 162
Task 3: Configure the Memory Allocation . . . 164
Task 4: Configure Time Zones . . . 164
Task 5: Move the Optimization Engine (Optional) . . . 165

Windows Server 165
Unix Server 165
Task 6: Configure Concurrent Simulations 166
Task 7: Restart the Application Server 166

11 Data Mining 169
Data Analysis 169
Business Services and Value Centers 169
Business Services 170
Value Centers 170
Business Services and Value Centers 171
Data Analysis Checklist 171
Data Mining Checklist 172
Getting Started 174
Task 1: Customize Business Service Data 175
Task 2: Prepare the Data 175
Step 1: Identify the Target Range for Your Data 175
Step 2: Create the Problem PREP View 176
Step 3: Populate the Assignment Group PREP Table 177
Validate Assignment Groups 177
Step 4: Populate the Operator PREP Table 178
Validate Operators 179
Identify Automated Process Operators 180
Is an Operator an Individual or a Group? 180
Identify Operators with Multiple Operator Names 180
Step 5: Populate the Assignment Shift PREP Table 181
Add Assignment Group Shifts 182
Assign Multiple Shifts 182
Associate a Valid Schedule 183
Set the Time Zone 184
Step 6: Populate the Business Service CI PREP Table 186
Step 7: Populate the Business Service Incident PREP Table 186
Step 8: Add Assignment Transitions 187
Configure the Process Properties File 187
Populate the Table 188
Step 9: Populate the Incident Exclusion PREP Table 189

Step 10: Add Full Time Equivalent (FTE) Employee Values 189
Task 3: Customize the Data Mapping 190
Step 1: Customize the Organization Table Mapping 190
Step 2: Customize Value Center Mappings 191
Step 3: Customize the Labor Cost 192
Step 4: Customize Incident Mapping 192
Step 5: Customize SLO Mapping 193
Priority 193
SLOs in DecisionCenter 193
SLO Mapping 194
Task 4: Load the DecisionCenter Tables 194
Step 1: Load Data into the DecisionCenter Tables 194
Step 2: Run the Data Cleanup Script File 195
Step 3: Point the Scenario to the ServiceCenter 6.2.2 Server 195
Step 4: Load Change Data into the DecisionCenter Tables 196
Task 5: Start the Optimization Engine 196
Verify the Result 197
Task 6: Compute Time to Next Incident 197
TTNI Commands and Parameters 199
TTNI Notes 199
Types of Output 200
Customizing TTNI 200
Tuning the incident rate 200
Task 7: Verify the Results 202
Refresh the Data 202

A Troubleshooting 203
BusinessObjects Critical Hot Fix 203
Error Messages 203
Heap Size 204
Installation Error Messages 204
Socket Error 205
Log Files 206
Session Timeout Value 207
Changing web.xml Default Parameters 208

JDBC Connection Pool Errors 209
Broken Database Server Connections 209

1 Introduction

HP DecisionCenter is a business intelligence application that enhances your ability to make decisions about your IT infrastructure. Out-of-box analytics show performance metrics for Service Strategies, Service Design, Service Transition, and Service Operation based on your historical data. DecisionCenter can display analytics in a dashboard for quick access and supports an integrated BusinessObjects Enterprise XI suite of analytic tools.

DecisionCenter has three levels:

- IT Performance Analytics (ITPA)
- Business Intelligence Analytics (BIA)
- Optimization

Each component installs separately with separate licensing requirements.

Installation Guide Overview

Although you can install the complete product on one workstation, the typical scenario is a distributed installation where there are several servers hosting different components. The DecisionCenter installer guides you through all the activities on one server before you move to the next server.

The installation instructions follow this same path. There is a separate chapter with installation steps and activities for each server. The chapters are in the suggested order of installation. HP recommends that you complete all the steps and activities in one chapter before you begin the next chapter.

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Table 1 Document Map

Chapter	Describes
Chapter 1, Introduction	DecisionCenter overview
Chapter 2, DecisionCenter Components	DecisionCenter components
Chapter 3, Build the Data Warehouse	Steps to build the data warehouse, import the ServiceCenter or Service Manager unload files, create the data warehouse views, and install ITPA
Chapter 4, Install Business Impact Analysis	Steps to install and configure the Business Impact Analysis component of DecisionCenter
Chapter 5, Install BusinessObjects Enterprise XI	Steps to install Business Objects
Chapter 6, Security	Configure LDAP or Active Directory authentication
Chapter 7, Install the DecisionCenter Analytics	Steps to install the out-of-box analytics for ITPA, BIA, and Optimization
Chapter 8, Configure the Application Server	Steps to configure the Tomcat or IBM Websphere application server
Chapter 9, Configure DecisionCenter	Steps to configure and deploy the DecisionCenter application
Chapter 10, Install the Optimization Engine	Steps to install the Optimization engine
Chapter 11, Data Mining	Configure incident and change data for the History Builder and simulation scenarios
Appendix A, Troubleshooting	Tips for solving problems during installation

Hardware Requirements

The following table describes the minimum hardware requirements for DecisionCenter. For more information, see the DecisionCenter Support Matrix on the **HP Software Support** web site (**http://support.openview.hp.com/sc/support_matrices.jsp**).

Table 2 Hardware Requirements

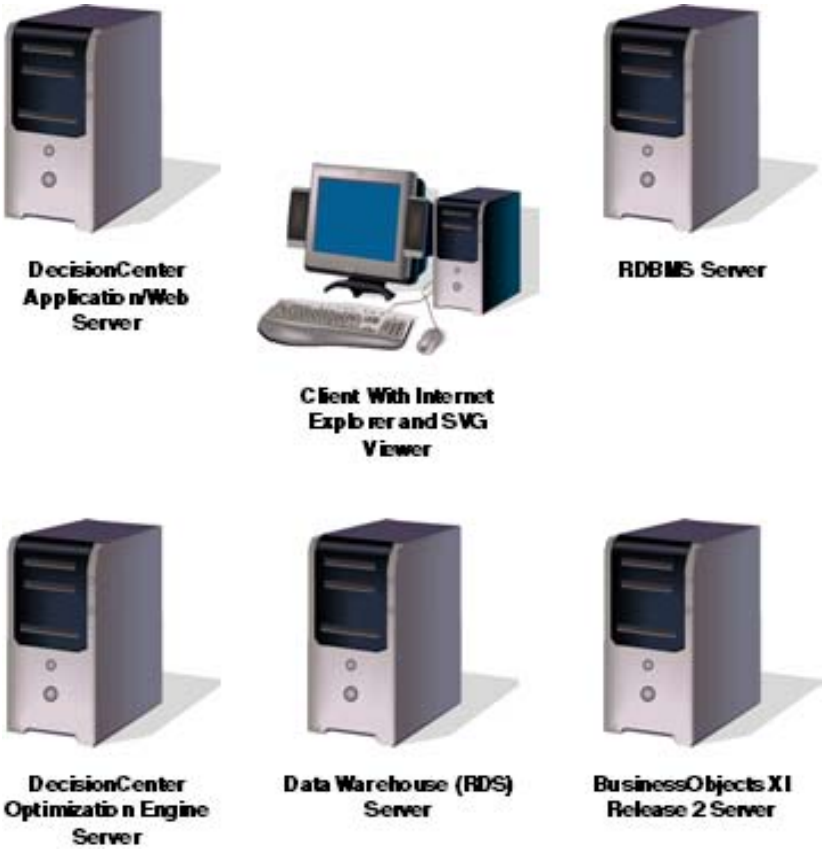
Item	Minimum Requirement
RAM	**ITPA only:** The minimum recommended RAM is 2 GB for the Tomcat server and 4 GB for the BusinessObjects server. **BIA and Optimization:** The minimum recommended RAM is 2 GB for the Optimization engine server, 2 GB for the Tomcat server, and 4 GB for the BusinessObjects server. The minimum recommended RAM is 4 GB if the Optimization engine and Tomcat are on the same server. Multiple instances of the application server, or very large databases may require more than the minimum amount of memory.
Disk Space	5 GB for BusinessObjects Enterprise XI R2 1.5 GB for BusinessObjects Enterprise XI Performance Manager Deployment Tool (PMDT) 5 GB for any database server **Windows**: 200 MB for the DecisionCenter application **Unix**: 600 MB minimum for the DecisionCenter application
Heap Size	The heap size setting on the Web server that hosts the DecisionCenter application must be at least 512 MB. The recommended setting is 1024 MB.

Software and Platform Requirements

For complete information about required software that must be installed and configured before you install DecisionCenter, see the DecisionCenter Support Matrix on the **HP Software Support** web site (**http://support.openview.hp.com/sc/support_matrices.jsp**).

Server Configuration

DecisionCenter can run in a single or multi-server environment. In a single server configuration, all software resides on the same server. The most common configuration for an enterprise organization is a multi-server environment with five different servers.



The Optimization engine can reside on the data warehouse server, or you might want it to install it on a separate server with more resources.

DecisionCenter and Third Party Software

Before you begin the DecisionCenter installation process, make sure that:

- You have all required licenses for third-party database products that interact with DecisionCenter.
- You have the BusinessObjects Enterprise XI installation media and installation instructions available. If you have an existing BusinessObjects Enterprise XI installation, you must have these three BusinessObjects components installed to support DecisionCenter:
  - BI Platform
  - Dashboard Manager
  - Performance Manger

  For more information, contact your Business Objects sales representative.
- Users who will log on to the BusinessObjects Enterprise XI server have appropriate rights.

DecisionCenter and Other HP Software Products

There are additional considerations as you continue the DecisionCenter installation process:

- The HP ServiceCenter, Service Manager, and AssetCenter applications should reside on servers that are separate from installed DecisionCenter components.
- The ServiceCenter, Service Manager, or AssetCenter data warehouse usually resides on a server that is separate from the server hosting those applications.
- Install HP Connect-It on the same server where you install the ServiceCenter, Service Manager, or AssetCenter data warehouse.

For more information, see Server Configuration on page 18.

Installation Media

The DecisionCenter installation media consists of applications on separate CD-ROM media. They contain the following information.

Table 3 Installation Media

CD-ROM	Number of Disks	Contents	Required?
DecisionCenter 2.00	1	Application ServiceCenter or Service Manager data warehouse AssetCenter data warehouse Business Impact Analytic (BIA) tools, Connect-It scenarios, and related Analytics Optimization engine	Yes
BusinessObjects XI R2 SP1	3	BusinessObjects Enterprise XI application	Yes
BusinessObjects XI R2 Supplement	1	File to repair the command line import tool (bexir2_60080.zip) Performance Management Deployment Tool (PMDT)	Yes

Connect-It

Connect-It 3.80 is required; however, you must obtain the correct version directly from HP Support. You can obtain Connect-It 3.80 (build 7236) by contacting your HP sales representative or visiting the **HP software support (www.hp.com/go/hpsoftwaresupport)** web site.

License Information

DecisionCenter packaging includes licenses for BusinessObjects Enterprise XI R2 and Connect-It 3.80. Other applications require separate licenses. You can obtain DecisionCenter licenses by contacting your HP sales representative or visiting the **HP software support (www.hp.com/go/hpsoftwaresupport)** web site. The following table describes all of the licenses and passwords that you should have available when you begin the installation.

Table 4 Required Licenses

Application	Included?	Notes
DecisionCenter IT Performance Analytics (ITPA)	Yes	
DecisionCenter Business Impact Analytics (BIA))	Yes	BIA authorization code required during installation.
DecisionCenter Optimization	Yes	Optimization authorization code required during installation.
BusinessObjects Enterprise XI	Yes	License keys required. HP Service Agreement ID required to download BusinessObjects Critical Hot Fix
Connect-It	Yes	License key included with DecisionCenter
AssetCenter	No	Separately licensed application
ServiceCenter or Service Manager	No	Separately licensed application

Table 4 Required Licenses

Application	Included?	Notes
One of the following: • **Oracle 10g** • **Microsoft SQL Server 2000** • **Microsoft SQL Server 2005**	No	Separately licensed application
One of the following: • **Tomcat** • **IBM WebSphere**		Tomcat is available in the Business Objects installation. IBM WebSphere is a separately licensed application.
JDBC drivers	No	Separately licensed applications

If you choose Microsoft SQL Server, you must purchase two sets of licenses.

Microsoft SQL Server connections require that you purchase four or more licenses from Microsoft.

Before You Begin

Consider the following information before you begin:

- There are several tasks required to create a complete DecisionCenter installation where you can access and customize Analytics, perform Business Impact analysis, view historical IT performance, and run Optimization scenarios and simulations. The tasks involve setting up a database, populating it with relevant data, and installing the DecisionCenter software components. The number of tasks depends on the number of DecisionCenter components that you choose to install.
- Plan to complete the tasks in each chapter in sequential order and the steps within each task in sequential order.
- You must have an existing installation of a supported database product.

- Because DecisionCenter relies on the Sun Java Runtime Environment (JRE) for Daylight savings time support, the Optimization engine requires Sun j2re 1.4.2_11 or a later version of 1.2.4. You can access the latest version on the **Sun** (**http://www.java.com/en/download/manual.jsp#win**) web site.

  Make sure that this version is available on the Optimization engine server, the data warehouse server, and on the application server.

Review the DecisionCenter Support Matrix before you begin to ensure that you have the required environment. For more information, see the DecisionCenter Support Matrix on the **HP Software Support** web site (**http://support.openview.hp.com/sc/support_matrices.jsp**).

JDBC Drivers

You need JDBC drivers on the data warehouse and DecisionCenter application servers for the ITPA and BIA installations. You also need JDBC drivers on the server that hosts the DecisionCenter Optimization engine. Oracle JDBC drivers are embedded in the client software installation. You can download the JDBC drivers for SQL Server from the Microsoft web site.

If you already have the correct drivers, you do not have to install and configure the drivers again, but you should verify that the drivers are in the appropriate locations.

Whether you use existing drivers, or install new ones, make sure that the required JDBC drivers are available before you begin the DecisionCenter installation and that you are familiar with the path to the drivers. DecisionCenter will ask for the path during the installation process.

Table 5 JDBC Driver Paths

Database Driver Type	Driver Name
Oracle JDBC	ojdbc14.jar
Microsoft SQL Server 2000 JDBC	msbase.jar, mssqlserver.jar, msutil.jar
Microsoft SQL Server 2005 JDBC	sqljdbc.jar

Check your database vendor licensing policies if you copy the drivers from a licensed installation.

2 DecisionCenter Components

DecisionCenter has three product components to support user needs. The components are:

- IT Performance Analytics (ITPA)
- ITPA and Business Impact Analytics (BIA)
- ITPA, BIA, and Optimization

IT Performance Analytics

ITPA includes:

- Dashboards
- Out-of-box analytics that support the ITIL version 3 view of service strategies, service operations, and service transitions
- The BusinessObjects Enterprise XI suite of tools
- Data warehouse schema support for ServiceCenter 5.1 and later releases, Service Manager 7.00, and AssetCenter 4.3, 4.4, and 5.0

ITPA and Business Impact Analytics

BIA adds more functionality and analytics to ITPA:

- Dashboards
- Out-of-box analytics that support the ITIL version 3 view of service strategies, service operations, and service transitions
- The BusinessObjects Enterprise XI suite of tools
- Data warehouse schema support for ServiceCenter 5.1 and later releases, Service Manager 7.00, and AssetCenter 4.3, 4.4, and 5.0

- Business Intelligence Analytics and views
- Business and Environment models
- Impact definition
- Change impact calculator
- Incident impact calculator
- Data mining tools
- History Builder
- Scenario Manager

ITPA, BIA, and Optimization

Optimization includes ITPA and BIA components:

- Dashboards
- Out-of-box analytics that support the ITIL version 3 view of service strategies, service operations, and service transitions
- The BusinessObjects Enterprise XI suite of tools
- Data warehouse schema support for ServiceCenter 5.1 and later releases, Service Manager 7.00, and AssetCenter 4.3, 4.4, and 5.0
- Business Intelligence Analytics and views
- Business and Environment models
- Impact definition
- Change impact calculator
- Incident impact calculator
- Data mining tools
- History Builder
- Scenario Manager
- The Optimization engine

DecisionCenter Data

DecisionCenter depends on data that is extracted from HP ServiceCenter, HP Service Manager, or HP AssetCenter. The software that manages the ETL process is HP Connect-It 3.80. DecisionCenter supplies different out-of-box scenarios to extract source data at different times. Each has a specific purpose to extract new data or to update existing data.

Table 6 Connect-It Scenarios

Scenario Name	Purpose
rds_sc.scn	Initially imports ServiceCenter or Service Manager data for ITPA. This scenario is automatically configured for the version of ServiceCenter or Service Manager that you specify during installation. May be re-run to capture new data, or changes to existing data, that populates ITPA analytics.
rds_ac.scn	Initially imports AssetCenter data for ITPA.
dco_sc.scn	Imports additional data into the DecisionCenter data warehouse to populate BIA and Optimization analytics. May be re-run regularly to capture new data or changes to existing data. This scenario does not import change request data.
dco_rds.scn	Converts imported data in the DecisionCenter data warehouse. Adds required columns for BIA and Optimization. May be re-run regularly to update new data used by BIA and Optimization.
dco_change.scn	Imports only change data from Service Manager. May be re-run regularly to gather new change data or update existing change data.

3 Build the Data Warehouse

The chapter includes the information that you need to build and configure the data warehouse for ServiceCenter, Service Manager, or Asset Center data. For more information, see the DecisionCenter Support Matrix on the **HP Software Support** web site (**http://www.hp.com/go/hpsoftwaresupport**).

Data Warehouse Checklist

Print this checklist to use during the installation process. As you complete each task, mark it finished. Complete these tasks on the RDBMS, DecisionCenter data warehouse, and ServiceCenter, Service Manager, or AssetCenter servers. For more information, see the distributed server configuration diagram on page 18.

If you have an existing DecisionCenter data warehouse, back it up before you begin. The installer can detect an existing data warehouse and will attempt to upgrade it to meet the requirements of DecisionCenter 2.00. After you complete the installation, follow the instructions in the *DecisionCenter Migration Guide* to complete the upgrade.

Complete Task 1 on the ServiceCenter, Service Manager, or AssetCenter server. There are two instances of Step 1. Choose the one that matches your data source.

- ☐ Task 1: Prepare the Source Data on page 32.
  - — Step 1: Import ServiceCenter or Service Manager Unload Files on page 32.

    Or
  - — Step 1a: Import AssetCenter Script Files on page 33.

Complete Task 2 on the RDBMS server. There are two instances of Step 1. Choose the one that matches your RDBMS, then complete Step 2.

- ☐ Task 2: Create the Tablespace and Users on page 34.
  - — Step 1: Run the Oracle Configuration Script File on page 35.

    Or
  - — Step 1a: Run the Microsoft SQL Server Configuration Script File on page 36.
  - — Step 2: Capture the Database Server Information on page 37.

Complete Task 3, 4, and 5 on the data warehouse server. For Task 4, there are two instances of Step 1. Choose the one that matches your RDBMS.

- ☐ Task 3: Install and Configure Connect-It on page 37.
  - — Step 1: Install Connect-It on page 37.
  - — Step 2: Copy the Connect-It Configuration Files on page 38.
  - — Step 3: Configure the Time Zone on page 39.
- ☐ Task 4: Configure the Database Clients on page 40.
  - — Step 1: Configure the Oracle Database Client on page 40.

    Or
  - — Step 1a: Configure the Microsoft SQL Server Database Client on page 42.
  - — Step 2: Collect Installation Information on page 43.

- ☐ Task 5: Install the Data Warehouse on page 46.
  - — Step 1: Start the ServiceCenter Server on page 46.
  - — Step 2: Start the Service Manager 7.00 Server on page 46.
  - — Step 3: Install the Data Warehouse on page 48.
  - — Step 4: Point to the ServiceCenter 6.2.2 Server on page 50.

Complete Task 6 on the RDBMS server.

- ☐ Task 6: Create the Database Tables and Views on page 51.
  - — Step 1: Create the ITPA Tables and Views on page 51.
  - — Step 2: Create the BIA Tables and Views on page 52.

Complete Task 7 on the DecisionCenter data warehouse server.

- ☐ Task 7: Import ITPA Service Management Data on page 52.
- ☐ Task 7a: Import ITPA Asset Management Data on page 53.
- ☐ Task 8: Verify the Results on page 55.

Task 1: Prepare the Source Data

The following instructions are for supported versions of ServiceCenter, Service Manager, or AssetCenter.

Step 1: Import ServiceCenter or Service Manager Unload Files

Unload files contain records that you need to use ServiceCenter or Service Manager with DecisionCenter. The DecisionCenter installation media contains one required unload file. Your ServiceCenter or Service Manager user profile must have system administration rights to complete this procedure.

If you have a DecisionCenter 1.0 installation, it is important to apply the newest unload to meet the requirements of DecisionCenter 2.00. Do not skip this step.

1. Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.
2. Select the **Data Warehouse** tab and click **ITPA for SM**.
3. Click **Import Service Manager or ServiceCenter Unload Files**.
4. Copy `DCA20.unl` to your local hard drive if your data originates with ServiceCenter 6.2.x or Service Manager 7.00. Copy `DCA20_PreSC62.unl` to your local hard drive if your data originates with ServiceCenter 5.1.x or 6.0.x.
5. Start the ServiceCenter or Service Manager client that connects to the ServiceCenter or Service Manager server. Make sure the associated service is running.
6. From the ServiceCenter or Service Manager navigation pane, select one of the following:

   Toolkit > Database Manager (ServiceCenter)

   Tailoring > **Tailoring Tools** > **Database Manager** (Service Manager)
7. Right-click anywhere on the screen to open the pop-up menu.
8. Select **Import/Load**.
9. Click the **File Name** folder icon to locate the unload file that you copied to your local hard drive.

10 Select `DCA20.unl` or `DCA20_PreSC62.unl`. Click **Open**.

11 Click **Load FG** on the toolbar. ServiceCenter or Service Manager displays a confirmation message when the unload is complete.

12 Close the ServiceCenter or Service Manager client.

Step 1a: Import AssetCenter Script Files

Script files contain records that you need to use for AssetCenter with DecisionCenter. Your user profile in AssetCenter must have system administration rights to complete this procedure. If you have a DecisionCenter 1.0 installation, it is important to import the newest scripts to meet the requirements of DecisionCenter 2.00. Do not skip this step.

1 Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.

2 Select the **Data Warehouse** tab and click **ITPA for AM**.

3 Click **Run AssetCenter Import Scripts**.

4 Copy the contents of this folder to your local hard drive:

```
\\ITPA\ITPA-AM\SupportFiles\import
```

5 Start the AssetCenter client that connects to the AssetCenter server.

6 Click **File** > **Import**.

7 Click **Execute a Script**.

8 Click **Browse** to locate the folder you copied to your local hard drive.

9 Change the **Files of Type** drop-down to **All Files** (*.*).

10 Select the `dca.lst` file.

11 Click **Import**.

12 Close the AssetCenter client.

Task 2: Create the Tablespace and Users

DecisionCenter supports Oracle, Microsoft SQL Server 2000, or Microsoft SQL Server 2005. These instructions assume that you have a licensed database server installed before you begin the DecisionCenter installation.

Always consult your database administrator before installing and configuring the database.

HP strongly recommends that your data warehouse be case-sensitive. Make sure that the TCP/IP service for your RDBMS is running and that the ports for this service are set to 1433.

If you have an existing DecisionCenter installation, you should not re-configure the database server and create new connectors. Skip this task and proceed to Task 3: Install and Configure Connect-It on page 37.

Configuration Scripts

You can use DecisionCenter scripts to configure the database. There are three types of users and three tablespaces:

- A data warehouse user and a data warehouse tablespace for DecisionCenter (rdsdb)
- A Central Management Console user and a CMS tablespace for BusinessObjects Enterprise XI (cmsdb)
- A Performance Management user and a PM tablespace (pmsdb)

The DecisionCenter scripts create tablespaces and users that match the default values specified in this chapter. If you want different tablespace and user names, edit the scripts, or configure the data warehouse manually.

Database Connectors

With most databases, you can access the database server from different clients with different names. Because DecisionCenter has multiple components and servers, you must reference the database server with the same name. The following table lists the database and the terminology for client configuration.

Table 7 Client Configuration

Database Type	Client Configuration
Oracle	TNS Alias
SQL Server	ODBC System DSN

To simplify the names, the client configuration in this document is called the *database connector*.

Step 1: Run the Oracle Configuration Script File

You can change the default values for the database user name, password, and database name. If you change the default values, do not exceed the limitation of 20 characters each for the user name, password and database name. Use any text editor to change these values in the script file that configures the SQL Server database server.

1. Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.
2. Select the **Data Warehouse** tab and click **ITPA for SM** or **ITPA for AM**.
3. Click **Create Database Tablespace and Users**.
4. Copy the contents of this folder to your local hard drive:

   `\\ITPA-SM\...\SupportFiles\DatabaseFiles`
5. Open this file with a text editor:

   `\\..DatabaseFiles\crtusers_oracle.sql`
6. Verify that the settings are appropriate for your installation.
7. If necessary, change the settings.

8 Save the file locally.

9 Run the script.

Step 1a: Run the Microsoft SQL Server Configuration Script File

You can change the default values for the database user name, password, and database name. If you change the default values, do not exceed the limitation of 20 characters each for the user name, password and database name. Use any text editor to change these values in the script file that configures the SQL Server database server.

1 Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.

2 Select the **Data Warehouse** tab and click **ITPA for SM (**or **ITPA for AM)**.

3 Click **Create Database Tablespace and Users**.

4 Copy the contents of this folder to your local hard drive:

```
\\ITPA-SM\...\SupportFiles\DatabaseFiles
```

5 Open this file with a text editor:

```
\\..\DatabaseFiles\crtusers_sqlsrvr.sql
```

6 Verify that the settings are appropriate for your installation.

7 If necessary, change the settings.

8 Save the file locally.

9 Open the file with Microsoft SQL Server.

10 Click **Execute** to run the query that builds the databases and users.

Step 2: Capture the Database Server Information

Record your Oracle or Microsoft SQL Server connection information in the following table for later reference.

Table 8 RDBMS Server Values

Server	Default Value	Your Value
Server name	*server_name*	
Port	1433	
Data warehouse name	rdsdb	
CMS database name	cmsdb	
PM database name	pmdb	

Task 3: Install and Configure Connect-It

Connect-It is a software product that integrates HP Software applications, such as DecisionCenter, with other HP Software applications, such as ServiceCenter, Service Manager, or AssetCenter. You must install Connect-It 3.80 on the same dedicated server where you plan to install the ServiceCenter, Service Manager, or AssetCenter data warehouse.

If you have an earlier version of Connect-It, it is important to install the newest supported version to meet the requirements of DecisionCenter 2.00 and complete the configuration steps. Do not skip this task.

Step 1: Install Connect-It

1. Insert the Connect-It 3.80 installation CD into the CD-ROM. If the Connect-It installer does not start automatically, click **setup.exe** to start the installer. If you obtain an electronic version of Connect-It 3.80 from HP Support, unzip the archive and click **setup.exe** to start the installer.
2. At the Welcome screen, click **Next**.
3. Accept the License Agreement and click **Next**.

4 Provide your customer information and click **Next**.

5 Choose the **Typical** option in the Connect-It setup screen and click **Next**.

6 Click **Next** to install to the default location, or click **Change** to install to a different directory.

7 Click **Install**.

8 Click **Finish** to complete the installation.

9 Copy the `license.txt` file to the Connect-It installation directory.

HP Support provides a text file that contains an authorization code for Connect-It when you purchase DecisionCenter. If you receive an out-of-date license message, copy the contents of your new **license.txt** file and paste it in the **Authorization Certificate** dialog box.

10

Step 2: Copy the Connect-It Configuration Files

1 Copy all the `.cfg` files in one of these DecisionCenter installation media directories, depending on your source data:

```
\\ITPA\ITPA-SM\SupportFiles\CIT\*.cfg
```

```
\\ITPA\ITPA-AM\SupportFiles\CIT\*.cfg
```

To this Connect-It directory:

```
\\..\HP OpenView\Connect-It 3.80 en\config\sc\config
```

2 Copy this file from the DecisionCenter installation media:

```
\\ITPA\ITPA-SM\SupportFiles\cit\gbbase.xml
```

To this Connect-It directory:

```
\\..\HP OpenView\Connect-It 3.80 en\dbb
```

If the \dbb folder does not exist, create the folder and then paste the gbbase.xml file in it.

3 Copy one of these files from the DecisionCenter installation media. Choose the appropriate directory, depending on your source data:

```
\\ITPA\ITPA-SM\SupportFiles\CIT\rds.bas
```

```
\\ITPA\ITPA-AM\SupportFiles\CIT\rds.bas
```

To this Connect-It directory:

```
\\..\HP OpenView\Connect-It 3.80 en\config\rds\bas
```

Step 3: Configure the Time Zone

DecisionCenter depends on precise time of day information to apply rules and calculate impact. Connect-It and AssetCenter store data in GMT and convert to local time for display purposes. DecisionCenter stores data in local time. You must configure Connect-It to use the local time of the BusinessObjects server.

1. Open Connect-It Help and search for information about the **PifDateToTimezone** setting. The **PifDateToTimezone** documentation contains list of valid time zones. Locate the syntax for the time zone where the BusinessObjects server resides.
2. Make a backup copy of this file:

   ```
   \\..\HP OpenView\ConnectIt 3.80 en\config\rds\bas\rds.bas
   ```

   If you store the backup copy in the same directory as the original, do not use `.bas` as the file extension. Connect-It will attempt to load both files and generate errors.
3. Open `rds.bas` with a text editor.
4. Search for the function named **UTCToLocalDate**. You should find three uncommented lines containing this function:
   - retAgeTmp=DateDiff(now,UTCToLocalDate(startDate))
   - retAgeTmp=DateDiff(UTCToLocalDate(endDate), UTCToLocalDate(startDate))
   - RetDate=UTCToLocalDate(scDate)
5. For each instance of **UTCToLocalDate(*variable*)**, replace it with:

   PifDateToTimezone(<variable>,"UTC", 0,<BusObjServer_time_zone>,0)

   For example:

   RetDate=UTCToLocalDate(scDate)

   Becomes

RetDate=PifDateToTimezone(scDate,"UTC", 0,"Pacific Standard Time", 0)

Save and close the file.

Task 4: Configure the Database Clients

The following table shows where the database client must be installed. If any installations are missing, correct the omissions.

Table 9 Database Servers

Database Client	Data Warehouse Server	BusinessObjects Enterprise XI server
Oracle	Required	Required
SQL Server	Required	Required

Step 1: Configure the Oracle Database Client

To configure the Oracle client, create a net service (TNS) name for the Oracle database server where DecisionCenter components reside. When prompted, select settings that correspond with your database type. You can disregard any value that does not apply to your database environment. Record your settings for future reference.

Table 10 Oracle Values

Oracle	Default Value	Your Value
Hostname	*physical_device_name*	
Port	1521	
Database service name	orcl	
JDBC URL	jdbc:oracle:thin:@*server_name*:1521:orcl	
Data warehouse tablespace name	rdsts	

1. Click **Start** > **Programs** > **Oracle OraHome**<*version*> > **Configuration and Migration Tools** > **Net Configuration Assistant**.
2. Select **Local Net Service Name** configuration.
3. Click **Next**.
4. Select **Add** and click **Next**.
5. Type the **Service Name** and click **Next**. You can find the Oracle Service name in your Windows services.
6. Select **TCP** and click **Next**.
7. Type the **Host name** of the Oracle service, confirm the **Port number**, and click **Next**.
8. Select **Yes, perform a test** and click **Next**.
9. Do one of the following:
   - If the Test successful message appears, click **Next**.
   - If you receive an error message, click **Change Login**. Type the new log-on information, click **OK**, and click **Next**. If you continue to receive an error message, contact your database administrator.

10 Type a **TNS name**. Record the TNS information that you specify for the Oracle client. Click **Next**.

Table 11 TNS Information

Oracle	Default Value	Your Value
Data warehouse db	rdsdb	
CMS db	cmsdb	
PM db	pmdb	

11 Click **Next**.

12 Click **Next** again.

13 Click **Finish**.

Make sure that you configure the `tnsnames.ora` file correctly. The file is in this directory:

```
\\Oracle\product\version_#\server_directory\network\admin
```

For example:

```
rdsdb =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP)(HOST = dbsrv)(PORT = 1521))
    )
    (CONNECT_DATA =
      (SID = orcl)
    )
  )
```

Step 1a: Configure the Microsoft SQL Server Database Client

Configuring the SQL Server database client means creating a DSN ODBC connection for each database on each server that hosts a SQL Server client.

1 Click **Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Data Sources**.

2 Click the **System DSN** tab in the ODBC Data Source Administrator dialog.

3 Click **Add**.

4 Select **SQL Server**.

5 Click **Finish**.

6 In the **Name** field, type the database name specified in the configuration script file that you ran in Step 1a: Run the Microsoft SQL Server Configuration Script File on page 36. For example, type **rdsdb**.

7 Type an optional **Description**.

8 From the **Server** drop-down menu, select the SQL Server you are using.

9 Click **Next**.

10 Select **With SQL Server authentication using a login ID and password entered by the user**.

11 In the **Login ID** field, type the database administrator's name specified in the configuration script file. For example, type **rds_dba**.

12 In the **Password** field, type the password provided in the script (or by your database administrator). For example, type **passw0rd.**

13 Click **Next**.

14 Make sure that the **Change Default Database to** check box is clear and that the DSN name appears in the background of the text box. Do not change the other check boxes.

15 Click **Next**.

16 Do not change any check boxes. Click **Finish.**

17 Click **Test Data Source** to test the connection.

18 If the connection is valid, a confirmation message appears. Click **OK**.

19 Click **OK** again to see the new entry in the **System Data Source** list.

20 Repeat Step 3 on page 42 through Step 19 to create a DSN ODBC connection for the cmsdb and pmdb databases.

21 Click **OK** to exit the ODBC Data Source Administrator.

Step 2: Collect Installation Information

You need to collect various pieces of information to complete the installation of the data warehouse, as well as the installation of the BusinessObjects Central Management Server (CMS) and Performance Management (PM), and the

analytic content. Record your user information in the following tables for later reference. You will use the information in Table 12 to complete the steps in this chapter.

Table 12 Required Installation Information for the Data Warehouse

Required Information	Default Value MS SQL	Default Value Oracle	Your Value
RDBMS server name	None		*server_name*
RDBMS server port number	1433	1521	
Data warehouse name	rdsdb	rdsdb	
DSN (or TNS) Alias	rdsdb	rdsdb	
Data warehouse user name	rds_dba	rds_dba	
Data warehouse password	passw0rd	passw0rd	
Host name of the ServiceCenter or Service Manager server	None		*server_name*
ServiceCenter or Service Manager server port number	12670 (SC) 12690 (SM)		
ServiceCenter or Service Manager connector user name	bi_connector (specified in the `.unl` file)		bi_connector
ServiceCenter or Service Manager connector password	None (user-defined)		

You will use the information in Table 13 to complete the steps in Chapter 5, Install BusinessObjects Enterprise XI.

Table 13 BusinessObjects XI R2 Installation Information

Required Information	Default Value MS SQL	Oracle	Your Value
CMS database name	cmsdb	cmsts	
CMS user name	cms_dba	cms_dba	
CMS password	passw0rd	passw0rd	
PM database name	pmdb	pmts	
PM user name	pm_dba	pm_dba	
PM password	passw0rd	passw0rd	

You will use the information in Table 14 to complete the steps in Chapter 7, Install the DecisionCenter Analytics.

Table 14 Analytic Installation Information

Required Information	Default Value MS SQL	Oracle	Your Value
CMS server name	None		*server_name*
CMS server port number	6400		
CMS server administrator name	Administrator		
CMS server administrator password	None		

Task 5: Install the Data Warehouse

Before you begin, ensure that Connect-It and the ServiceCenter, Service Manager, or AssetCenter data warehouse are on the same server. If you have a DecisionCenter 1.0 installation, you must upgrade your existing data warehouse. Do not skip this task.

Step 1: Start the ServiceCenter Server

If you have ServiceCenter 5.1, 6.0, or 6.2, make sure that the ServiceCenter server is running before you begin installing the data warehouse. If you have Service Manager 7.00, you must also complete the next step before you proceed with the DecisionCenter installation.

Step 2: Start the Service Manager 7.00 Server

If you do not have Service Manager 7.00 data, skip this step and proceed to Step 3: Install the Data Warehouse on page 48.

1. Ensure that you complete the unload process Task 1: Prepare the Source Data on page 32.
2. Service Manager 7.00 installs a folder that contains useful legacy application files for ServiceCenter 6.2.2. Open this ServiceCenter 6.2.2 file with a text editor:

   ```
   \\..\HP\Service Manager 7.00\Server\LegacyIntegration\RUN
   \sc.ini
   ```

3. Open this Service Manager 7.00 file with a text editor:

   ```
   \\..\HP\Service Manager 7.00\Server\RUN\sm.ini file
   ```

4. Copy the database parameter section from `sm.ini` into `sc.ini`. For example, if you use SQL Server 2005, replace the following lines with the same lines copied from `sm.ini`:

   ```
   sqldictionary:sqlserver
   [sqlserver]
   sqldb:database_name
   sqllogin:login/password
   ```

5 If your database is case sensitive, uncomment these three parameters:

```
sqldicttable:DBDICTM1
sqldictkey:NAME
sqldictrecord:DESCRIPTOR
```

6 Choose a port number for the ServiceCenter 6.2.2 server that is not the same as the port number specified for the Service Manager server. Change the port number parameter if you do not want to use the default ServiceCenter 6.2.2 port number, which is 12690.

```
system:12690
```

For example, if you choose port number 12345, change the system parameter to that value:

```
system:12345
```

7 Save and close both files.

8 Click **Start** > **Control Panel** > **Administrative Tools** > **Services** to start the HP Service Manager 7.00 Server.

9 Open a command window.

10 Change directories to point to the ServiceCenter 6.2.2 server directory. For example:

```
\\..\HP\Service Manager 7.00\Server\LegacyIntegration\RUN
```

11 Type this command and parameters. Substitute the port number specified in Step 6 on page 47 and a user-defined log file name if you do not want to use the default log file (sc_readonly.log) name.

```
scenter -listener:12690 -RPCReadOnly -log:sc_readonly.log
```

12 Verify that the ServiceCenter 6.2.2 server is running in your log file:

```
\\..\HP\Service Manager 7.00\Server\LegacyIntegration\RUN
\sc_readonly.log
```

Look for messages that confirm there is a connection. For example:

```
Connection established to database rdsdb

Connected to Data source 'rdsdb' SQL server 'server-name'
version: 9.0.1399 Using database 'rdsdb' as user 'rds_dba'

Neither dblanguage nor language parameter are specified.
```

```
MS SQL Server collation 'SQL_Latin1_General_CP1_CS_AS',
varchar codepage 1252, comparison 196608: case sensitive,
accent sensitive

Now using 327680 bytes for SQL buffersb
```

Step 3: Install the Data Warehouse

If you have an existing data warehouse, the installation performs an upgrade instead of a new installation. You should back up your existing data warehouse before you begin. Make sure that you complete all the preceding tasks and steps in this chapter before you begin to install the data warehouse.

1. Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.
2. Select the **Data Warehouse** tab and click **ITPA for SM (**or **ITPA for AM)**.
3. Click **Install Data Warehouse for Service Management** (or **Install Data Warehouse for Asset Management**).
4. From the Welcome screen, click **Next**.
5. Accept the End User License Agreement and click **Next**.
6. DecisionCenter has a default installation directory. Do one of the following:
   - Accept the default installation directory and click **Next.**
   - Click **Change** to choose another directory. then click **OK**, and click **Next**.
7. Select the ServiceCenter or Service Manager version that will transfer data into DecisionCenter.
8. DecisionCenter requires JRE 1.4.2_11 or a later version of 1.4.2. If you do not have this version, cancel this installation and install the correct version before you restart the DecisionCenter installation.

For more information, see Before You Begin on page 22.

If you have incident data from the calendar year 2007 or later, or you want to run impact calculations or simulations for 2007 or later, you must obtain JRE 1.4.2_13 or a later version of 1.4.2 to support the changes to Daylight Savings Time in the United States. If your data is older, or you are not affected by time zones in the United States, you can use JRE 1.4.2_11.

9 DecisionCenter locates the first Java installation directory that it finds. Do one of the following:

- Accept the default destination directory and click **Next.**
- Click **Change** to choose the directory with the required JRE. then click **OK**, and click **Next**.

10 Choose the correct RDBMS and click **Next**. If you select **Microsoft SQL Server**, choose the version and click **Next**.

11 If you selected Microsoft SQL Server, click **Change** to navigate to the location of the `.jar` JDBC driver files. For more information about JDBC drivers, see JDBC Drivers on page 23.

12 Click **Next**.

13 Use the information that you recorded in Table 12 on page 44 to specify your RDBMS settings.

14 Click **Next**.

15 The installer displays the database configuration settings. Click **Next** or **Back** to correct errors.

16 The installer displays the JDBC URL, click **Next** or **Back** to correct errors.

17 Accept or change the date parameters for your data warehouse server. These include the start year and stop year that the data warehouse uses for populating tables with data, and the month in which the fiscal year begins.

18 Click **Next.**

19 Specify values for the following parameters:

— The **Host name of the ServiceCenter** (or Service Manager) **server** and its **port number**. For example: *server_name* and 12670.

If you are connecting to Service Manager, specify the port number of the ServiceCenter 6.2.2 server. For example: 12690

— The ServiceCenter or Service Manager connection user name is always **bi-connector**.

The DecisionCenter unload file adds bi-connector to the operator table to enable Connect-It to synchronize data between ServiceCenter or Service Manager and the data warehouse.

— Type the existing connection password if you created a password. (The out-of-box database connection has no password.)

20 The installer displays the ServiceCenter or Service Manager configuration information. Click **Next,** or **Back** to correct errors.

21 Click **Install** to begin the installation process. Click **Back** to correct errors. The installation process can take several minutes. The installer displays its progress and opens a command window to run various scripts.

If errors occur, review the recommended error log in this directory:

```
\\...\HP\DecisionCenter 2.00\ITPA-SM\logs
```

Correct the errors, and rerun any recommended scripts listed in the error message. All logs in this folder should have no error messages.

22 Click **Finish**.

Step 4: Point to the ServiceCenter 6.2.2 Server

If you are using ServiceCenter 6.2 or an earlier version, skip this step and proceed to Task 6: Create the Database Tables and Views on page 51. Complete this step only if you have Service Manager 7.00.

1 From the Windows **Start** menu, click **Programs** > **HP OpenView** > **Connect-it 3.80 en** > **Scenario Builder**.

2 Click **File** > **Open** and browse to open this file:

```
\\...\HP\DecisionCenter 2.00\ITPA-SM\cit\rds_sc.scn
```

3 If the Connect-It Toolbox is not enabled, click **Display** > **Toolbox**.

4 From the Connect-It Toolbox, expand **Hewlett-Packard** > **OpenView Service Management connectors** > **OpenView ServiceCenter connectors**.

5 Double-click **OpenView ServiceCenter** to start the Connector Wizard.

6 Click **Next**.

7 Make sure that the **Server name**, **Login**, and **Password** are correct to connect to the ServiceCenter 6.2.2 server, and that the port number is the one assigned to the ServiceCenter 6.2.2 server, not the port number associated with Service Manager 7.00.

8 Click **Test** to start a connection test between Connect-It and the ServiceCenter 6.2.2 server. Ensure the connection test is successful.

9 Click **Finish**.

10 Save the scenario and close Connect-It.

Task 6: Create the Database Tables and Views

Identify a local directory where you can copy the import files. For example, DecisionCenter_files. If you have an existing DecisionCenter installation, it is important to create database views for DecisionCenter 2.00. Do not skip this task.

Step 1: Create the ITPA Tables and Views

1 Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.

2 Select the **Data Warehouse** tab and click **ITPA for SM**.

3 Click **Create Database Views**.

4 From the DecisionCenter installation media, copy

```
\\ITPA\ITPA-SM\SupportFiles\DatabaseFiles
\itpa_dcviews_oracle.sql
```

Or

```
\\ITPA\ITPA-SM\SupportFiles\DatabaseFiles
\itpa_dcviews_sqlsrvr.sql
```

to a temporary folder on your local hard drive.

5 Open the file with Microsoft SQL Server.

6 Click **Execute** to run the query that builds the tables and views.

Step 2: Create the BIA Tables and Views

You can skip this step if you do not want to install the BIA component. Otherwise, follow these steps to create BIA tables and views on the Microsoft SQL Server data warehouse server:

1 Click the **BIA** tab.

2 Click **Create Database Tables and Views.**

3 From the DecisionCenter installation media, copy

```
\\BIA\SupportFiles\DatabaseFiles\rds_bia_mssql.sql
```

Or

```
\\BIA\SupportFiles\DatabaseFiles\rds_bia_oracle.sql
```

to a folder on your hard drive.

4 Open the file with Microsoft SQL Server.

5 Click **Execute** to run the query that builds the tables and views.

Task 7: Import ITPA Service Management Data

You can skip this task if you do not plan to import Service Management data. The rds_sc.scn scenario collects ServiceCenter or Service Manager data and synchronizes it with the data warehouse. It can take several hours to execute when there is a large quantity of data. It is important that you do not change the connector names defined in data warehouse Connect-It scenarios.

1 From the Windows **Start** menu, click **Programs** > **HP OpenView** > **Connect-it 3.80 en** > **Service Console**.

2 The Service Console should be pointing to this scenario file:

```
\\..\HP\DecisionCenter 2.00\ITPA-SM\cit\rds_sc.scn
```

3 Select the **rds_sc** scenario.

4 Click **Configure**.

5 From the List of connectors, select **RDS (rdsdb)**.

6 Click **Configure connector**.

7 Click **Next** until you reach the **Advanced Configuration** interface.

8 Click **Execute an initial import**.

9 Click **Finish**.

10 Click **Validate** to save the changes and close the window.

11 From the Service Console window, click **Start** to begin the initial data import.

12 Immediately after the initial data synchronization completes, you should back up your database. This can be crucial when the synchronization takes a long time, and you need to restore the data.

13 Repeat Step 3 through Step 7 again.

14 Clear the **Execute an initial import**. checkbox to ensure that future update synchronization operations run successfully.

15 Click **Finish**.

16 Click **Validate**.

Task 7a: Import ITPA Asset Management Data

You can skip this task if you do not plan to import Asset Management data. The rds_ac scenario collects AssetCenter data and synchronizes it with the data warehouse. It can take several hours to execute when there is a large quantity of data. It is important that you do not change the connector names defined in data warehouse Connect-It scenarios.

1 On the AssetCenter server, copy this dynamic library file (.dll):

`\\..\aamapixx.dll`

where *xx* refers to the AssetCenter version number.

2 Paste it in a location on the data warehouse server that is accessible to the installed Connect-It application.

3 From the Windows **Start** menu (on the data warehouse server), click **Programs** > **HP OpenView** > **Connect-it 3.80 en** > **Service Console**.

4 The Service Console should be pointing to this scenario file:

```
\\..\HP\DecisionCenter 2.00\ITPA-SAM\cit\rds_ac.scn
```

5 Select the **rds_ac** scenario.

6 Click **Configure**.

7 From the List of connectors, select **Asset Management**.

8 Click **Configure connector**.

9 Click **Next** until you reach the **Advanced Configuration** interface.

10 Point **Dynamic library to use** to the location of this file:

```
\\..\aamapixx.dll
```

11 Click **Finish**.

12 From the List of connectors, select **rds (rdsdb)**.

13 Click **Configure connector**.

14 Click **Next** until you reach the **Advanced Configuration** interface.

15 Click **Execute an initial import**.

16 Click **Finish**.

17 Click **Validate** to save the changes and close the Connector configuration window.

18 From the Service Console window, click **Start** to begin the initial data import.

19 Immediately after the initial data synchronization completes, you should back up your database. This can be crucial when the synchronization takes a long time, and you need to restore the data.

20 Select the **rds_ac** scenario.

21 Click **Configure**.

22 Repeat Step 12 through Step 14 again.

23 Clear the **Execute an initial import**. checkbox to ensure that future update synchronization operations run successfully.

24 Click **Finish**.

25 Click **Validate**.

Task 8: Verify the Results

1 Log on to the data warehouse as the rds_dba user.

2 Perform the following queries on the rdsdb database:

- Select * from PROBSUMM_D
- Select * from OPERATOR_D
- Select * from ASSIGNMENT

Each query should return rows of information. If any query does not return rows, the rds_sc.scn Connect-It scenario did not run successfully. Check the Connect-It log for errors and re-run the query until you can complete this verification successfully. If there are database connection issues, repeat the tasks in this chapter and verify that the database connections are successful.

Refresh the Data

Connect-It automatically schedules the data synchronization scenario to run daily on a 24-hour schedule. The amount of time required to synchronize the data depends on the volume of data to be processed and the capacity of your server. Make sure that you schedule the synchronization to occur during off-peak hours when the server has no other demands.

4 Install Business Impact Analysis

The chapter describes the software installation and configuration tasks to support the Business Impact Analysis (BIA) component of DecisionCenter.

BIA Installation Checklist

Print this checklist to use during the installation process. As you complete each task, mark it finished. Complete these tasks on the DecisionCenter data warehouse server. For more information, see the distributed server configuration diagram on page 18.

If you have an existing DecisionCenter data warehouse, back it up before you begin. The installer can detect an existing data warehouse and attempts to upgrade it to meet the requirements of DecisionCenter 2.00. After you complete the installation, follow the instructions in the *DecisionCenter Migration Guide* to complete the upgrade.

Complete Task 1 – 4 on the DecisionCenter data warehouse server.

- ☐ Task 1: Install the BIA Application on page 58.
- ☐ Task 2: Point to the ServiceCenter 6.2.2 Server on page 60.
- ☐ Task 3: Import BIA and Optimization Data on page 60.
- ☐ Task 4: Verify the Results on page 61.

Task 1: Install the BIA Application

Make sure that you complete all the steps in Chapter 3, Build the Data Warehouse before you start this task.

1. Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.
2. Select the Data Warehouse tab and click the **BIA** tab.
3. Click **Install BIA Component Files**.
4. From the Welcome screen, click **Next**.
5. Type your DecisionCenter BIA Authorization Code.
6. Click **Next**.
7. Accept the end user license agreement.
8. Click **Next**.
9. DecisionCenter has a default installation directory. Do one of the following:
   - Accept the default installation directory and click **Next.**
   - Click **Change** to choose another directory, then click **OK**, and click **Next**.
10. Select the version of ServiceCenter or Service Manager that generates the data to be used by DecisionCenter.
11. Click **Next**.
12. Verify that the JAVA_HOME Environment Variable points to the supported JDK version. Do one of the following:
    - Accept the default installation directory and click **Next.**
    - Click **Change** to choose another directory.
13. Click **Next**.
14. Choose the correct RDBMS and click **Next**. If you select **Microsoft SQL Server**, choose the version and click **Next**.
15. If you selected Microsoft SQL Server, click **Change** to navigate to the location of the JDBC `.jar` driver files. For more information about JDBC drivers, see JDBC Drivers on page 23.

16 Click **Next**.

17 Use the information that you recorded in Table 12 on page 44 to specify your RDBMS settings.

18 Click **Next**.

19 The installer displays the database configuration settings. Click **Next** or **Back** to correct errors.

20 Specify values for the following parameters:

— The **Host name** of the ServiceCenter or Service Manager server and its **Port number**. For example, localhost or *server_name*.

If you are connecting to Service Manager, specify the port number of the ServiceCenter 6.2.2 server.

— The ServiceCenter or Service Manager connection user name is **bi-connector**.

The DecisionCenter unload file adds bi-connector to the operator table to enable Connect-It to synchronize data between ServiceCenter or Service Manager and the data warehouse.

— Type the existing connection **Password** if you created a password. (The out-of-box database connection has no password.)

21 Click **Next.**

22 The installer displays the ServiceCenter or Service Manager configuration information. Click **Next**, or **Back** to correct errors.

23 Click **Install** to begin the installation process. Click **Back** to correct errors. The installation process can take several minutes. The installer displays its progress and opens a command window to run various scripts.

If errors occur, review the recommended error logs in this directory:

```
\\..\HP\DecisionCenter 2.00\BIA\logs
```

All logs in this folder should have no error messages. If they occur, correct the errors, and rerun any recommended command files in the `\\..\BIA\CIT` directory that are listed in the error message.

24 Click **Finish**.

Task 2: Point to the ServiceCenter 6.2.2 Server

If you are using ServiceCenter 6.2 or an earlier version, skip this step and proceed to Task 3: Import BIA and Optimization Data on page 60. Complete this step only if you have Service Manager 7.00 data.

1. From the Windows **Start** menu, click **Programs** > **HP OpenView** > **Connect-it 3.80 en** > **Scenario Builder**.
2. Click **File** > **Open** and browse to open this file:

   `\\...\HP\DecisionCenter 2.00\BIA\cit\dco_sc.scn`
3. If the Connect-It Toolbox is not enabled, click **Display** > **Toolbox**.
4. From the Connect-It Toolbox, expand **Hewlett-Packard** > **OpenView Service Management connectors** > **OpenView ServiceCenter connectors**.
5. Double-click **OpenView ServiceCenter** to start the Connector Wizard.
6. Click **Next**.
7. Make sure that the **Server name**, **Login**, and **Password** are correct to connect to the ServiceCenter 6.2.2 server, and that the port number is the one assigned to the ServiceCenter 6.2.2 server, not the port number associated with Service Manager 7.00.
8. Click **Test** to start a connection test between Connect-It and the ServiceCenter 6.2.2 server. Ensure the connection test is successful.
9. Click **Finish**.
10. Save the scenario and close Connect-It.

Task 3: Import BIA and Optimization Data

The dco_sc.scn scenario collects the data that you need to populate BIA and Optimization analytics and use in simulations. Follow these steps to run the scenario:

1. From the Windows **Start** menu, click **Programs** > **HP OpenView** > **Connect-it 3.80 en** > **Service Console**.

2 Point the Service Console to this scenario file:

```
\\..\HP\DecisionCenter 2.00\BIA\cit\dco_sc.scn
```

3 Click **Start**.

Immediately after the initial data synchronization completes, you should back up your database.

Task 4: Verify the Results

1 Log in to the data warehouse as the rds_dba user.

2 Run this query:

Select * from PROBLEM

This query should return rows of information. If the query does not return any data, the `dco_sc.scn` Connect-It scenario did not run successfully. Check the Connect-It log for errors and re-run the query until you can complete this verification successfully.

5 Install BusinessObjects Enterprise XI

BusinessObjects Enterprise XI is a third-party product that integrates with DecisionCenter to produce Analytics. BusinessObjects Enterprise XI requires a separate BusinessObjects Enterprise XI license and it has its own installation instructions that accompany the DecisionCenter installation media.

When you install BusinessObjects Enterprise, you are adding a business intelligence platform and toolkit that supports reporting, ad-hoc queries and analysis of your IT performance data.

BusinessObjects XI Installation Checklist

Print this checklist to use during the installation process. As you complete each task, mark it finished. Complete these tasks on the Business Objects server. For more information, see the distributed server configuration diagram on page 18.

- ☐ Task 1: Obtain the BusinessObjects Critical Hot Fix Files on page 64.
- ☐ Task 2: Install BusinessObjects Enterprise XI on page 65.
- ☐ Task 3: Install the Required Critical Hot Fixes on page 66.
  - — Step 1: Install the Primary CHF on page 66.
  - — Step 2: Install the Supplemental CHF on page 68.
  - — Step 3: Restart the Server on page 68.
- ☐ Task 4: Install PMDT on page 68.
- ☐ Task 5: Customize BusinessObjects Enterprise XI Files on page 69.
  - — Step 1: Add the Drill Icon on page 69.
  - — Step 2: Change the ODBC Settings for Outer Joins on page 69.
- ☐ Task 6: Verify the BusinessObjects XI Installation on page 70.

- ☐ Task 7: Configure BusinessObjects Enterprise XI on page 70.
  - — Step 1: Add the License Key on page 71.
  - — Step 2: Verify System User Information on page 71.
  - — Step 3: Configure the Performance Management Database Connections on page 72.
  - — Step 4: Configure the Repository on page 74.
  - — Step 5: Update Fonts on the BusinessObjects Enterprise XI Server on page 75.
- ☐ Task 8: Verify the Results on page 75.

Task 1: Obtain the BusinessObjects Critical Hot Fix Files

BusinessObjects Enterprise XI produces patch releases, called Critical Hot Fixes (CHFs), at regular intervals. DecisionCenter requires you install only those Critical Hot Fixes that are recommended by HP to ensure that BusinessObjects Enterprise XI integrates seamlessly with DecisionCenter. These recommended CHFs are required for full functionality.

Before you begin the ITPA installation, you must download the required BusinessObjects XI Release 2 CHF and have it available on the BusinessObjects server when you are directed to install this CHF.

1. Start a Windows Internet Explorer browser session and point to this URL:

   `http://support.openview.hp.com/patches`

2. If you do not already have an HP Passport, click **New user registration**.
3. Follow the instructions to register with HP.
4. Select **DecisionCenter** from the drop-down product list.
5. Click the **Search** icon.
6. Click **Product** patches in the **HP-Peregrine links** section.
7. Click **DecisionCenter** and look for the **BusinessObjects XI Release 2 July 5th Critical Hot Fix**.
8. Download `boXIr2win_chf.zip` and unzip it to a temporary directory.

Task 2: Install BusinessObjects Enterprise XI

HP recommends that you follow the “Full Java Installation” scenario described in the *BusinessObjects Enterprise XI Installation Guide*. This scenario guides you through these critical steps:

- Creating a Tomcat application server. If you already have a Tomcat instance, or you want Tomcat to reside on a different server, see Chapter 8, Configure the Application Server before you proceed.
- Choosing which components to install.
- Deploying InfoView.

Installation Tips

Make sure that you log in to the server as an administrator before you begin the BusinessObjects Enterprise XI R2 installation. You must make choices during the installation that will affect your DecisionCenter configuration later. Refer to Table 14 on page 45 for configuration information. The following table lists the critical decisions you must make during the installation and the recommended choices.

Table 15 BusinessObjects Enterprise XI Installation Tips

On This Dialog	Use These Values
Select Client or Server Installation	Perform Server Installation
User Information	Install Performance Management Use the same HP-supplied Product Keycode for Performance Management
Install Type	Use an existing database server
Windows Logon Information	Leave it blank

Table 15 BusinessObjects Enterprise XI Installation Tips

On This Dialog	Use These Values
CMS Database Information	Clear the Auditing Database check box after you specify the CMS Database information
SQL Server Login (for your CMS database)	Use the cmsdb name that you defined when you created the database
Choose Web Component Adapter Type	Java application server

Task 3: Install the Required Critical Hot Fixes

Follow these steps to install the required HP-supplied CHFs to a full BusinessObjects Enterprise XI R2 SP1 installation. For more information about downloading the first CHF, see Task 1: Obtain the BusinessObjects Critical Hot Fix Files on page 64. For more information about installing the first CHF, see the Business Objects `readme.txt` file in the zip file.

Step 1: Install the Primary CHF

1. From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** and stop these services:
   - Microsoft SQL Server or Oracle RDBMS services
   - Antivirus services
2. Delete all the cached files in this directory:

   ```
   \\..\BusinessObjects\Tomcat\work
   ```
3. Create a backup directory. For example:

   ```
   \\BOXML_backup
   ```

4 Move all files except `webcompadapterwar.xml` from this directory:

`\\..\BusinessObjects\Tomcat\conf\Catalina\localhost`

to the backup directory that you created in Step 3 on page 66.

5 Move this file:

`\\..\BusinessObjects Enterprise 11.5\Web Services\en\dswsbobje.war`

to the backup directory that you created in Step 3.

6 Navigate to the directory where you stored the downloaded CHF zip file.

7 Unzip the archive to a local temporary directory.

8 Run **setup.exe**.

9 When you are prompted to restart the services, click **No**.

10 Delete the following folders in this directory:

`\\Program Files\BusinessObjects\Tomcat\webapps:`

- `analysishelp`
- `businessobjects`
- `dswsbobje`
- `jsfadmin`
- `styles`

11 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** and start the Tomcat service. Ensure that it creates this directory:

`\\..\BusinessObjects\Tomcat\webapps\businessobjects\WEB-INF`

12 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** and stop the Tomcat service.

13 Restore the `.xml` files that you backed up in Step 4 on page 67 to:

`\\..\BusinessObjects\Tomcat\conf\Catalina\localhost`

14 Restore the `dswsbobje.war` file that you backed up in Step 5 on page 67 to:

`\\..\BusinessObjects Enterprise 11.5\Web Services\en`

Step 2: Install the Supplemental CHF

1. Rename this file:

   `\\..\Business Objects\Common\3.5\java\lib\cexsd.jar`

   To

   `\\..\Business Objects\Common\3.5\java\lib\cexsd.bak`

2. Insert the BusinessObjects XI R2 Supplement media into your CD-ROM drive.
3. Copy `bexir2_600804.zip` to a local temporary directory, unzip the files, and copy `cexsd.jar` to:

   `\\..\Business Objects\Common\3.5\java\lib`

Step 3: Restart the Server

1. Restart the server.
2. Ensure that these Windows services restarted:
   - RDBMS services
   - Antivirus services
   - Tomcat service
   - Other related BusinessObjects Enterprise XI services

Task 4: Install PMDT

When you deploy the analytics for DecisionCenter in Chapter 7, Install the DecisionCenter Analytics, you must use the Performance Management Deployment Tool (PMDT). Follow these steps to install PMDT.

1. Insert the BusinessObjects XI R2 Supplement media into your CD-ROM drive.

2 Copy `pmdt.zip` to a local temporary directory and unzip the files into a permanent directory. For example:

```
\\Program Files\Business Objects\PMDT
```

3 Verify that the server has a supported JDK (jdk1.4.2_11 or a later version of 1.4.2).

4 Verify that the JAVA_HOME Environment Variable points to the supported JDK version. If the CLASSPATH or the PATH environment variables reference an earlier version, you must remove that reference to run the batch files correctly.

5 If necessary, you can change the default heap size to the recommended values by modifying the `run_DeploymentTool.bat` file. For more information about recommended heap size, see Table 2 on page 17.

Task 5: Customize BusinessObjects Enterprise XI Files

BusinessObjects Enterprise XI R2 requires a moderate amount of customization to integrate successfully with DecisionCenter.

Step 1: Add the Drill Icon

1 Copy this file from the DecisionCenter installation media:

```
\\ITPA\ITPA-SM\BOCustomization\images\drill.gif file
```

2 To this BusinessObjects directory:

```
\\..\Business Objects\BusinessObjects Enterprise 11.5\Images
```

Step 2: Change the ODBC Settings for Outer Joins

1 Back up this file before you complete the next step:

```
\\..\Business Objects\BusinessObjects Enterprise 11.5
\win32_x86\dataAccess\connectionServer\odbc\sqlsrv.prm
```

2 Open `sqlsrv.prm` with a text editor.

3 Locate this parameter:

```
<Parameter Name="OUTERJOINS_GENERATION">
```

4 Replace **USUAL** with **FULL_ODBC**.

5 Add a new parameter:

```
<Parameter Name="OUTERJOINS_COMPLEX">Y</Parameter>
```

6 Save and close the file.

Task 6: Verify the BusinessObjects XI Installation

Verify that you can log in to Central Configuration Management and Performance Manager.

1 From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **Central Configuration Manager**.

2 Log in as **Administrator** with no password.

3 From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java InfoView**.

4 Log in as **Administrator** with no password.

5 Close each application.

Task 7: Configure BusinessObjects Enterprise XI

Complete these configuration steps to ensure that BusinessObjects Enterprise XI R2 integrates correctly with DecisionCenter.

Step 1: Add the License Key

The normal BusinessObjects installation installs two license keys. You must manually add a third license key for Dashboard Manager.

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java Administration Launchpad**.
2. Click **Central Management Console**.
3. Log in as **Administrator** with no password.
4. In the **Manage** section, click **License Keys**.
5. Type the HP-supplied Dashboard Manager license key in the **Add Key** text box and click **Add**.

Step 2: Verify System User Information

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java InfoView.**
2. Log in as **Administrator** with no password.
3. Click **Go to Performance Management**.
4. Click **Setup** on the Toolbar.
5. Click the **System Setup** tab.
6. Click **System User**.
7. Verify that the **User Name** in the **System User** and **Initialization User** sections is **Administrator**. If necessary, type **Administrator** into each **User Name** text box and click **Apply** in each section.
8. When InfoView returns a verification message, click **OK**.
9. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > Central Configuration Manager.
10. Select the **Central Management Server** service.
11. Click **Restart**.

Step 3: Configure the Performance Management Database Connections

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **Designer**.
2. Log in as **Administrator** with no password.
3. Click **Tools** > **Connections**. BusinessObjects Enterprise XI displays a list of connections.
4. Click **Add**.
5. The New Connection Wizard appears. Click **Next**.
6. Do one of the following:

   For MS SQL Server, expand the database middleware node for **Microsoft** and click **MS SQL Server 2000** > **ODBC Drivers**.

   For MS SQL Server, expand the database middleware node for **Microsoft** and click **MS SQL Server 2005** > **ODBC Drivers**.

   For Oracle, expand the database middleware node for **Oracle** and click **Oracle 10** > **Oracle Client**.
7. Click **Next**.
8. Select or type the following values:

   Table 16 Connection Wizard Settings

Parameter	MS SQL Server 200*x*	Oracle 10
Type	Secured	Secured
Name	pmdb	pmdb
User name	pm_dba	pm_dba
Password	passw0rd	passw0rd
Data source name	pmdb	pmts

   Make sure the credentials boxes are not checked.
9. Click **Next**.

10 Click **Test Connection** to ensure the server is responding. If the connection fails, click **Back** to verify that you specified the correct values. Make sure the associated service is running, and that your ODBC connections are defined correctly. To review the steps to define ODBC connections, see Task 4: Configure the Database Clients on page 40.

11 If the connection works, click **Next**.

12 Accept the advanced parameter default values, or change them to support your environment. Click **Next**.

13 Add any optional custom parameters to suit your environment. Click **Finish.**

14 To repeat the process for the rdsdb, click **Add**.

15 The New Connection Wizard appears. Click **Next**.

16 Do one of the following:

For MS SQL Server, expand the database middleware node for **Microsoft** and click **MS SQL Server 2000** > **ODBC Drivers**.

For MS SQL Server, expand the database middleware node for **Microsoft** and click **MS SQL Server 2005** > **ODBC Drivers**.

For Oracle, expand the database middleware node for **Oracle** and click **Oracle 10** > **Oracle Client**.

17 Click **Next**.

18 Select or type the following values.

Table 17 Connection Wizard Settings

Parameter	MS SQL Server 200*x*	Oracle 10
Type	Secured	Secured
Name	rdsdb	rdsdb
User name	rds_dba	rds_dba
Password	passw0rd	passw0rd
Data source name	rdsdb	rdssts

Make sure the credentials boxes are not checked.

19 Click **Next**.

20 Click **Test Connection** to ensure the server is responding. If the connection fails, click **Back** to verify that you specified the correct values. If the connection works, click **Next**.

21 Accept the advanced parameter default values, or change them to suit your environment. Click **Next**.

22 Add any optional custom parameters to suit your environment. Click **Finish.**

For more information about configuring connections, click **Help** > **Designer Help** in the BusinessObjects Enterprise XI Designer application.

Step 4: Configure the Repository

1 From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java InfoView.**

2 Log in as **Administrator** with no password.

3 Click **Go to Performance Management**.

4 Click **Setup** on the Toolbar.

5 Click the **System Setup** tab.

6 On the **Repository** tab, click **Change** in the **Repository Information** section.

7 If necessary, select **pmdb** from the drop-down list in the **Choose repository connection** dialog box. Click **OK**.

8 In the **Repository Information** section, click **Check**.

9 When the verification message appears, click **OK**.

10 Click **Set Up Repository**.

11 Accept the defaults and click **Next**.

12 Click **Execute**, then click **OK**.

13 When the Execution Successful message appears, click **OK**.

14 Close Performance Management.

Step 5: Update Fonts on the BusinessObjects Enterprise XI Server

Decision Center uses the Verdana and Lucida Console fonts. You must change the configuration file to add these fonts to the report editor.

1. Back up the `fontalias.xml` file. The default path is:

   ```
   \\..\Business Objects\BusinessObjects Enterprise 11.5
   \win32_x86\fonts
   ```

2. Open `fontalias.xml` with a text editor.
3. Locate `<FONT NAME="default">`.
4. Open this file on the DecisionCenter installation media with a text editor:

   ```
   \\ITPA\ITPA-SM\BOCustomization\xml\fonts.xml
   ```

5. Copy the contents of `fonts.xml` and paste them above this line in `fontalias.xml`:

   ```
   <FONT NAME="default">
   ```

6. Save and close `fontalias.xml`.

Task 8: Verify the Results

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java Administration Launchpad**.
2. Click **Central Management Console**.
3. Log in as **Administrator** with no password.
4. Click **Servers** in the **Organize** section.
5. If necessary, click the group box by **Server Name** to select all the servers.
6. Click **Enable**.
7. Click **OK**. BusinessObjects displays a progress bar while it enables the servers. When there is a green arrow on each server icon, the servers are running.
8. Click **Logoff** and close the application.

6 Security

DecisionCenter security models use predefined access levels and security roles. Administrators must grant access rights to the groups and security roles using the BusinessObjects Enterprise XI Central Management Console (CMC).

DecisionCenter supports Lightweight Directory Access Protocol (LDAP) or Windows Active Directory authentication. Administrators can configure the Common Web Client (CWC) to enable LDAP. The BI Authentication Processing filter validates users and groups.

After you set up an LDAP or Active Directory server, you must:

- Create DecisionCenter users and groups on the LDAP or Active Directory server.
- Configure LDAP or Active Directory authentication on the BusinessObjects Enterprise XI server.

For more information about configuring LDAP or Active Directory authentication, see your BusinessObjects Enterprise XI documentation.

Security Checklist

Print this checklist to use during the installation process. As you complete each task, mark it finished. Complete these tasks on the LDAP or Active Directory server.

- ☐ Task 1: Create DecisionCenter Users and Groups on page 79.

If You Choose LDAP Authentication

- ☐ Task 2: Configure LDAP on page 80.
  - — Step 1: Configure the LDAP Host in BusinessObjects Enterprise XI on page 80.
  - — Step 2: Configure the LDAP Mapping Options on page 81.
  - — Step 3: Map LDAP Groups on page 81.

If You Choose Active Directory Authentication

- ☐ Task 2: Configure Active Directory for Business Objects on page 82.
  - — Step 1: Enable Active Directory on page 82.
  - — Step 2: Configure Administration Credentials on page 82.
  - — Step 3: Add Member Groups on page 83.
  - — Step 4: Choose Kerberos Authentication Options on page 83.
  - — Step 5. Choose Active Directory Authentication Options on page 84.
- ☐ Task 3: Configure the JAVA Authentication Module on page 85.
  - — Step 1: Create a krb5.ini File on page 85.
  - — Step 2: Create a bscLogin.conf File on page 85.
- ☐ Task 4: Configure Tomcat on page 110. (You must finish the installation and deployment tasks before you can finalize the authentication.)

Task 1: Create DecisionCenter Users and Groups

You must configure the LDAP or Active Directory host before you make configuration changes to BusinessObjects Enterprise XI. This includes adding DecisionCenter out-of-box groups and your own groups to the LDAP or Active Directory server. Changes to group names require changes to both the `web.xml` file and the LDAP or Active Directory) server.

DecisionCenter recognizes the following out-of-box groups.

Table 18 DecisionCenter Out-Of-Box Groups

Analytic Type	General Manager Role	Advanced Analysis Role	Administration Role
Performance Analytics	ITPA_GM	ITPA_AA	ITPA_Admin
Business Impact Analytics	BIA_GM	BIA_AA	BIA_Admin
Performance Optimization	ITPO_GM	ITPO_AA	ITPO_Admin

If you create these nine groups and assign the user name **dcuser** to each one on the LDAP or Active Directory server, you will be able to log in to the DecisionCenter application. Make sure that you also assign the appropriate access rights within BusinessObjects for these users; otherwise, users will not be able to refresh reports. For more information, see the BusinessObjects Enterprise XI documentation.

LDAP Security

Lightweight Directory Access Protocol (LDAP) is the default authentication tool for DecisionCenter. Complete the following tasks to configure LDAP. Before you define and enable LDAP authentication, create an LDAP server and ensure that your LDAP directory is valid. For more information, see your LDAP documentation.

Task 2: Configure LDAP

Complete the following steps to configure the host, Secure Socket Layer authentication, LDAP mapping options, and LDAP groups.

Step 1: Configure the LDAP Host in BusinessObjects Enterprise XI

1. Click **Start > Programs > BusinessObjects XI Release 2 > BusinessObjects Enterprise > BusinessObjects Enterprise Java Administration Launchpad**.
2. Select the **Central Management Console**.
3. Log in with your user name and password.
4. Click **Authentication**, then click the **LDAP** tab.
5. Click **Start LDAP Configuration Wizard**.
6. In the **Add LDAP Host (hostname: port)** field, type your host and port information.
7. Click **Add**.
8. Click **Next**.
9. In the **LDAP Server Type** drop-down list, select your server, and click **Next**.
10. In the **Base LDAP Distinguished Name** field, type the distinguished name and click **Next**.
11. Type the LDAP host credentials:
    - In **LDAP Server Administration Credentials**, type the distinguished name and password for a user account that has rights to administer your LDAP server.
    - In **LDAP Referral Credentials,** type the same distinguished name and password you entered for LDAP Server Administration Credentials.
12. In the **Maximum Referral Hops** field, type the number of referral hops. If you set this field to zero, no referrals are followed.
13. Click **Next**.
14. From the **Type of SSL authentication** drop-down list, select **Basic (no SSL)** and click **Next**.
15. From the Authentication drop-down list, select **Basic (no SSO)** and click **Next**.

Step 2: Configure the LDAP Mapping Options

1. Select the following LDAP mapping options:
   - **Create a new account for every added LDAP alias**
   - **No new aliases will be added and new users will not be created**
   - **New users are created as named users**
2. Click **Next**.
3. Click **Finish**.

Step 3: Map LDAP Groups

1. Click **Start > Programs > BusinessObjects XI Release 2 > BusinessObjects Enterprise > BusinessObjects Enterprise Java Administration Launchpad**.
2. Select the **Central Management Console**.
3. Log in with your user name and password.
4. Click **Authentication**, then click the **LDAP** tab.
5. In **Mapped LDAP Member Groups**, add the nine DecisionCenter out-of-box groups listed in Table 18 on page 79 in the **Add LDAP group (by cn or dn)** field.
6. Click **Add**.
7. Repeat Step 5 and Step 6 to add another group.
8. To remove a group, select the group and click **Delete**.
9. Click **Update**.

For more information, see the *BusinessObjects XI R2* documentation.

Active Directory

Windows Active Directory is an optional method of authentication. Before you set up and enable Active Directory authentication, make sure that you have the correct domain and group information and that you have a user account on the Business Objects server that enables you to authenticate administrative users and groups.

Task 2: Configure Active Directory for Business Objects

Complete the following steps to configure the host, Secure Socket Layer authentication, LDAP mapping options, and LDAP groups.

Step 1: Enable Active Directory

1. On the Business Objects server, ensure that the Central Management Server is running.
2. Click **Start** > **Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java Administration Launchpad**.
3. Click **Central Management Console**.
4. Type your **User Name**, **Password**, and click **Log On**.
5. In the **Manage** section, click **Authentication**.
6. Click the **Windows AD** tab.
7. If necessary, select **Windows Active Directory Authentication is enabled**.

Step 2: Configure Administration Credentials

Administration credentials enable a Business Objects user to use Active Directory authentication, map groups, check rights, and perform other tasks.

1. Click the value for the **AD Administration Name** to change it.
2. Type the **Name** and **Password** of the domain user account configured on your Active Directory server. Business Objects Enterprise will use this name and password to authenticate Active Directory users and groups. Use one of these formats:
   - NT name (DomainName\UserName). For example:

     `server.domain.com\dc_administrator`
   - User Principal Name (UPN) (user@DNS_domain_name). For example:

     `dc_administrator@DNS_domain.com`

3 Type the **Default AD Domain** value. You must specify a default domain to enable Active Directory authentication and to map groups. For example:

`server.domain.com`

If you specify the Default AD Domain name, users do not have to specify the Active Directory domain name when they log in to Business Objects Enterprise with Active Directory authentication.

4 Click **Update**.

Step 3: Add Member Groups

1 Type the group name in the **Add AD Group (Domain\Group)** field in this format:

*DomainName**GroupName*

For example:

server.domain\ITPA_AA

2 Click **Add**.

3 Repeat the following steps for each DecisionCenter out-of-box group name described in Table 18 on page 79.

4 When you finish adding all groups, click **Update**.

Step 4: Choose Kerberos Authentication Options

1 Select **Use Kerberos authentication**

2 Select **Cache security context (required for SSO to database)**.

3 Type the **Service principal name**. This should be the administrator user that you created in Step 2: Configure Administration Credentials on page 82. For example:

`dc_administrator@DNS_domain.com`

Step 5. Choose Active Directory Authentication Options

1 Choose these options.

Table 19 Authentication Options

Option	Description
Assign each added AD alias to an account with the same name	Use this option when you know users have an existing enterprise account with the same name. Active Directory aliases are assigned to existing users if auto alias creation is active. Users who do not have an existing enterprise account, or who do not have the same name in their enterprise and Active Directory account, are added as new Active Directory users.
New aliases will be added and new users will be created	Choose this option to automatically create a new alias for every Active Directory user mapped to Business Objects Enterprise.
New users are created as named users or **New users are created as concurrent users**	Choose this option for Named User licenses. or Choose this option for Processor licenses.

New Active Directory accounts are added for users without Business Objects Enterprise accounts or for all users if you selected the **Create a new account for every added AD alias** option.

2 Click **Update**. A message appears stating that it will take several seconds to update the member groups.

3 Click **OK**.

Task 3: Configure the JAVA Authentication Module

BusinessObjects Enterprise XI Release 2 uses a Java authentication module called Krb5AuthLoginModule. This log-in module requires some additional configuration information. There are two configuration files, `krb5.ini` and `bscLogin.conf`.

By default, the Java SDK automatically looks for these configuration files in C:\winnt folder even if this folder does not exist. You can create the files in the C:\winnt folder, or in any other folder.

Step 1: Create a krb5.ini File

This file gives Java information about your domain and location of the Kerberos Key Distribution Center. This file can be simple or complex depending on the size and implementation of your Active Directory domain. For example:

```
[libdefaults]
default_realm = DOMAIN.COM
dns_lookup_kdc = true
dns_lookup_realm = true
[realms]
DOMAIN.COM = {
kdc = ADSERVER.DOMAIN.COM
default_domain = DOMAIN.COM
}
```

Step 2: Create a bscLogin.conf File

The bscLogin.conf file is the JAAS log-in configuration file. It contains an entry that specifies the authentication technology to be used. When you use the SUN Java SDK, the entry looks like:

```
com.businessobjects.security.jgss.initiate {
com.sun.security.auth.module.Krb5LoginModule required;
};
```

4

7 Install the DecisionCenter Analytics

DecisionCenter out-of-box analytics enable you to evaluate your service strategies, service operations, and service transitions performance. Before you begin, ensure that you complete the tasks in the preceding chapters.

Analytics Installation Checklist

Print this checklist to use during the installation process. As you complete each task, mark it finished. Complete these tasks on the Business Objects server. For more information, see the distributed server configuration diagram on page 18.

- ☐ Task 1: Prepare for Installation on page 89.
  - — Define the Calendars on page 89.
- ☐ Task 2: Gather the Database Connection Information on page 90.
- ☐ Task 3: Install ITPA on page 90.
  - — Step 1: Install the ITPA Analytics on page 90.
  - — Step 2: Update the ITPA Database Connections and Universes on page 90.
  - — Step 3: Add and Update the ITPA Metric Universes on page 92.
  - — Step 4: Run the PMDT on page 93.
  - — Step 5: Set the Database ID at 6000 on page 94.
- ☐ Task 4: Install BIA on page 95.
  - — Step 1: Install the BIA Analytics on page 95.
  - — Step 2: Update the BIA Database Connection and Universes on page 96.
  - — Step 3: Add and Update the Business Impact Metric Universes on page 96.
  - — Step 4: Run the PMDT on page 97.

- ☐ Task 5: Install Optimization on page 98.
  - — Step 1: Install the Optimization Analytics on page 98.
  - — Step 2: Update the Optimization Database Connection and Universe on page 99.
- ☐ Task 6: Verify the Results on page 99.

Before You Begin

If you have existing reports or universes from an earlier release of DecisionCenter that you modified, Business Objects does not allow you to import them again to replace these existing versions. For more information, see the *DecisionCenter Migration Guide*.

Task 1: Prepare for Installation

This section describes the preparation and installation of IT Performance Analysis (ITPA) universes and analytics.

Define the Calendars

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java InfoView.**
2. Log in as **Administrator** with no password.
3. Click **Go to Performance Management > Setup > Time Config > Calendar.**
4. Click **Add** to create new calendars called Monthly Calendar, Scenario Daily Calendar, and Quarterly Calendar.

Table 20 New Calendars

Calendar Name	Interval	Duration Display Show Format	Calendar Span
Monthly Calendar	Monthly	First Day of Period Sep-06	*User-defined*
Scenario Daily Calendar	Daily	First Day of Period 9/21/04	*User-defined*
Quarterly Calendar	Quarterly	First Day of Period Q3-04	*User-defined*

The calendar start date and end date in the Calendar Span dialog box must reflect the time periods for which you have data.

5. Log off InfoView.

Task 2: Gather the Database Connection Information

During the installation, you must provide information about the data warehouse that you built in Chapter 3, Build the Data Warehouse. Use the information collected in Table 13 on page 45 to complete the tasks in this chapter.

Task 3: Install ITPA

Installing ITPA content creates baseline analytics that you can populate with historical data. Before you begin, ensure that you have a valid authorization code. If necessary, contact **HP Software Support (www.hp.com/go/hpsoftwaresupport).**

Step 1: Install the ITPA Analytics

1. Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.
2. Click the **Analytic Content** tab.
3. Click **ITPA Content**.
4. Click **Import Business Objects Universes and Analytics**.
5. Follow the installation prompts and type the authorization code when requested.
6. Use Table 14 on page 45 to provide required CMS server information.

Step 2: Update the ITPA Database Connections and Universes

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **Designer**.
2. Log in as **Administrator** with no password.

3 If necessary, repeat the steps in Task 4: Configure the Database Clients on page 40 to create a valid connection to your data warehouse.

4 Click **File** > **Import**.

5 Click the **Universes** folder from the **Folder** drop-down list.

6 Click **Browse** and select the universes to import.

For AssetCenter, select:

— ITPA Asset Management

For Change Management, select:

— ITPM Change Analysis

— ITPM Change Metrics

For Help Desk, select:

— ITPM Helpdesk Analysis

— ITPM Helpdesk Metrics

For Incident, select:

— ITPM Incident Analysis

— ITPM Incident Metrics

For Request Management, select:

— ITPM Request Analysis

— ITPM Request Metrics

For Service Level Management, select:

— Alignment Analysis

— Alignment Metrics

For ServiceCenter or Service Manager

— ITPA Service Management

7 Click **OK**.

8 For each universe, do the following:

a Click **File** > **Parameters**.

b On the **Definition** tab, select your database connection from the drop-down **Connection** list. For example, select **rdsdb**.

c Click **OK**.

9 Click **File** > **Export**.

10 Click **OK**.

Step 3: Add and Update the ITPA Metric Universes

1 From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java InfoView.**

2 Log in as **Administrator** with no password.

3 Click **Go to Performance Management**.

4 Click **Setup** on the Toolbar.

5 Click the **System Setup** tab.

6 Click **Universes**.

7 Click **Add Universe**.

8 From the drop-down **Measure Universe** list, select each metric universe and click **OK**.

- Alignment Metrics
- ITPM Change Metrics
- ITPM Helpdesk Metrics
- ITPM Incident Metrics
- ITPM Request Metrics

Each metric universe should appear in the Universe Definition window.

9 For each new metric universe, click the universe name and select the **Update Metrics and Control Charts Definitions** check box.

10 Click **Update**. You should see a list of **Available Objects** in the lower left corner.

If you do not see a connection name listed next to your universe:

a From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **Designer**.

b Log in as **Administrator** with no password.

c Verify that the universe has the correct connection parameters.

d Export the universe.

Step 4: Run the PMDT

This step extracts the metrics file to the target machine.

1 From the Windows **Start** menu, click **Run,** and type **CMD** to open a command window.

2 Navigate to the directory where you stored the PMDT files Task 4: Install PMDT on page 68.

3 Run this application:

```
\\..\PMDT\run_DeploymentTool_PSO.bat
```

4 Double-click this batch file to run it.

5 When the Performance Management Deployment Tool appears, click **Next**.

6 Click **Source File**.

7 Click **Browse**.

8 Navigate to the ITPA metrics file:

```
\\..\HP\DecisionCenter 2.00\Analytical Content\ITPA
\itpa_sm_metrics.xml
```

9 Click **Next**

10 For each analytic package that you purchased, select the appropriate metrics. Do not select metrics for uninstalled packages.

For Change Management, select:

Check UNIVERSE: Change Metrics

For Help Desk, select:

Check UNIVERSE: ITPM Helpdesk Metrics

For Incident, select:

Check UNIVERSE: ITPM Incident Metrics

For Request Management, select:

Check UNIVERSE: Request Metrics

For Service Level Management, select:

Check UNIVERSE: Alignment Metrics

11 Click **Next**.

12 On the Export screen, click **Target Repository** and for CMS, specify the **hostname** where the Target CMS repository resides, the **username**, and **password**.

13 Click **Export**. The Check Screen returns success messages for the assets that added to the target repository.

14 Click **Close**.

15 Return to the command window. Follow the instructions to complete the session and close the window.

Step 5: Set the Database ID at 6000

This is an important step, but you can do it only once. Omit this task in the future if you run PMDT again to extract the metrics. If you have DecisionCenter 1.0 installed, do not repeat this task.

It is important to reserve the 5000 series IDs tagged for each metric. This step sets the cursor ID in your database at 6000.

1 From the Windows **Start** menu, click **Run,** and type **CMD** to open a command window.

2 Navigate to the directory where you stored the PMDT files Task 4: Install PMDT on page 68.

3 Run this application:

```
\\..\PMDT\run_DeploymentTool_PSO.bat
```

4 When the Performance Management Deployment Tool appears, click **Next**.

5 Type your **host_name:6400** in the **CMS** text box.

6 Click **ID Reservation**.

7 Select **Increment Manually.**

8 Change the value for each of these cursors to begin at **6000**:

- **New Metric Cursor**
- **New Probe Dimension Cursor**
- **New Goal Cursor**
- **New Goal Type Cursor**
- **New Metric Tree Cursor**

9 Click **Apply.**

10 Close PMDT.

Task 4: Install BIA

The BIA installation provides the files to create Connect-It services for BIA scenarios, and configure the scenario connections. It also installs the Data Mining tool and the History Builder. Before you begin, ensure that you have a valid authorization code. If necessary, contact **HP Software Support (www.hp.com/go/hpsoftwaresupport)**.

Step 1: Install the BIA Analytics

1 Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.

2 Click the **Analytic Content** tab.

3 Click the **BIA Content** tab.

4 Click **Import Business Objects Universes and Analytics**.

5 Follow the installation prompts and type the authorization code when requested.

6 Use Table 14 on page 45 to provide required CMS server information.

Step 2: Update the BIA Database Connection and Universes

1 From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **Designer**.

2 Log in as **Administrator** with no password.

3 Create a new connection, as necessary, to your data warehouse.

4 Click **File** > **Import**.

5 Click the **Universes** folder from the **Folder** drop-down list.

6 Click **Browse** and select the universes to import. For Business Impact, select

- **Business Impact Analysis**
- **Business Impact Metrics**

7 Click **OK**.

8 When a success message appears, click **OK**. If a connection error message appears, click **OK**.

9 Click **File** > **Parameters**.

10 On the **Definition** tab, select your database connection from the drop-down **Connection** list. For example, select **rdsdb**.

11 Click **OK**.

12 Click **File** > **Export**.

13 Click **OK**.

Step 3: Add and Update the Business Impact Metric Universes

1 From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java InfoView.**

2 Log in as **Administrator** with no password.

3 Click **Go to Performance Management**.

4 Click **Setup** on the Toolbar.

5 Click the **System Setup** tab.

6 Click **Universes**.

7 Click **Add Universe**.

8 From the drop-down **Measure Universe** list, select the **Business Impact Metrics** universe and click **OK**. The Business Impact Metrics universe should appear in the Universe Definition window.

9 Click **Business Impact Metrics** and select the **Update Metrics and Control Charts Definitions** check box.

10 Click **Update**. You should see a list of **Available Objects** in the lower left corner.

If you do not see a connection name listed next to your universe:

a From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **Designer**.

b Log in as **Administrator** with no password.

c Verify that the universe has the correct connection parameters.

d Export the universe.

Step 4: Run the PMDT

This step extracts the XML source file of metrics to the target machine.

1 From the Windows **Start** menu, click **Run,** and type **CMD** to open a command window.

2 Navigate to the directory where you stored the PMDT files Task 4: Install PMDT on page 68.

3 Run this application:

```
\\..\PMDT\run_DeploymentTool_PSO.bat
```

4 When PMDT appears, click **Next**.

5 Click **Source File**.

6 Click **Browse**.

7 Navigate to the BIA metrics file:

```
\\...\HP\DecisionCenter\BIA\business_impact_metrics.xml
```

8 On the Export screen, click **Target Repository** and for CMS, specify the **hostname** where the Target CMS repository resides, the **username**, and **password**.

9 Click **Export**. The Check Screen returns success messages for the assets that added to the target repository.

10 Click **Close**.

11 Return to the command window. Follow the instructions to complete the session and close the window.

Task 5: Install Optimization

Before you begin, make sure that you have a valid authorization code. If necessary, contact **HP Software Support (www.hp.com/go/hpsoftwaresupport)**.

Step 1: Install the Optimization Analytics

1 Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.

2 Click the **Analytic Content** tab.

3 Click the **Optimization Content** tab.

4 Click **Import Business Objects Universes and Analytics**.

5 Follow the installation prompts and type the authorization code when requested.

6 Use Table 14 on page 45 to provide required CMS server information.

Step 2: Update the Optimization Database Connection and Universe

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **Designer**.
2. Log in as **Administrator** with no password.
3. Create a new connection, as necessary, to your data warehouse.
4. Click **File** > **Import**.
5. Click the **Universes** folder from the **Folder** drop-down list.
6. Click **Browse** and select the universes to import. For Optimization, select **Simulation Optimization Analysis.**
7. Click **OK**.
8. When a success message appears, click **OK**.
9. If a connection error message appears, click **OK**.
10. Click **File** > **Parameters**.
11. On the **Definition** tab, select your database connection from the drop-down **Connection** list. For example, select **rdsdb**.
12. Click **OK**.
13. Click **File** > **Export**.
14. Click **OK**.

Task 6: Verify the Results

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java InfoView.**
2. Log in as **Administrator** with no password.
3. In the left navigation pane, expand **Public Folders**. You should see a list of the DecisionCenter folders, such as ITPO Simulation and Optimization, SOPR Incident Management, SSTR Business Impact, or STRN Change Management.

4 Expand each folder to see a list of available analytics. For example:

   — If you select SOPR Incident Management, you should see an Incident Aging analytic.

   — If you select SSTR Business Impact, you should see an Impact Analysis analytic.

   — If you select STRN Change Management, you should see a Cost of Change Variance analytic.

5 From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java Administration Launchpad**.

6 Click **Central Management Console**.

7 Log in as **Administrator** with no password.

8 Click **Central Management Console**.

9 Log in as **Administrator** with no password.

10 In the Organize section, click **Universes**.

11 Click the **Universes** tab to view the data warehouse and ITPM universes.

ServiceCenter 5.1 Workarounds

Some DecisionCenter out-of-box analytics display no results when you use ServiceCenter 5.1 data. When your Connect-It scenario finishes running, you should review and refresh all analytics. The following analytics will return no data:

- Alignment analytics
  - Variable Service Costs by SLA and CI
  - Variable Service Costs by SLA, CI, and Cost Category
- ITPA Service Management
  - Configuration Items by Age
  - Economic Impact of SLA Failure
  - Recurrent Outages

— SLA Availability Successes

— SLA Response Time Successes

Recurrent Outages

Recurrent Outages and SLA Response Time Success analytics can produce results if you implement the following workaround.The links between the outage and outagedetail tables changed in ServiceCenter 6.*x*.

1 Edit the analytic using BusinessObjects InfoView.

2 Select the **Edit Query** tab.

3 Click **View SQL**.

4 Select **Use Custom SQL**.

5 Edit the following SQL statements to remove the strikethrough text.

```
SELECT
  DEVICE_D.LOGICAL_NAME,
  DEVICE_D.TYPEPRGN,
  DEVICE_D.MODEL,
  DEVICE_D.SUBTYPE,
  DEVICE_D.VENDOR,
  DEVICE_D.ASSET_TAG,
  DEVICE_D.MANUFACTURER,
  RDS_TIMEDIM_D.MONTH,
  RDS_TIMEDIM_D.WEEK,
  count(distinct(OUTAGE_F.Z_RDSOUTAGE_DID)),
  OUTAGE_D.OUTAGE_START
FROM
  DEVICE_D,
  RDS_TIMEDIM_D,
  OUTAGE_F,
 ~~(~~
~~  Select OUTAGEDETAIL.* , SLOAVAIL_D.SLO_ID AS SLO_ID2 from~~
~~OUTAGEDETAIL,SLOAVAIL_DWhere OUTAGEDETAIL.SLO_ID =~~
~~SLOAVAIL_D.SLO_ID~~
~~  )  OUTAGEDETAIL_DR,~~
  OUTAGE_D,
  DEVICE_F
WHERE
  ( DEVICE_F.Z_RDSDEVICE_DID=DEVICE_D.Z_RDSDEVICE_DID  )
~~    AND  ( OUTAGEDETAIL_DR.OUTAGE_ID=OUTAGE_D.OUTAGE_ID  )~~
```

```
  AND  ( OUTAGE_D.Z_RDSOUTAGE_DID=OUTAGE_F.Z_RDSOUTAGE_DID  )
  AND  ( DEVICE_F.INSTALL_DATEID=RDS_TIMEDIM_D.RDS_TIMEDIM_DID  )
  AND  ( OUTAGE_F.Z_RDSDEVICE_DID=DEVICE_D.Z_RDSDEVICE_DID  )
  AND  ( OUTAGE_F.Z_RDSOBSOLETEIND  =  'N' AND
OUTAGEDETAIL_DR.LOGICAL_NAME = DEVICE_D.LOGICAL_NAME  )
GROUP BY
  DEVICE_D.LOGICAL_NAME,
  DEVICE_D.TYPEPRGN,
  DEVICE_D.MODEL,
  DEVICE_D.SUBTYPE,
  DEVICE_D.VENDOR,
  DEVICE_D.ASSET_TAG,
  DEVICE_D.MANUFACTURER,
  RDS_TIMEDIM_D.MONTH,
  RDS_TIMEDIM_D.WEEK,
  OUTAGE_D.OUTAGE_START
```

6 Save the analytic.

SLA Response Time Successes

The response time average is a decimal value in ServiceCenter 5.*x* data. Therefore, the chart values are 1/100th of the correct value. Follow these workaround steps.

1 Edit the analytic using BusinessObjects InfoView.

2 Edit the properties of the chart.

3 Edit the property **Y-Axis** > **Values** > **Format**.

4 Select type **Number** and use the percentage format.

5 Edit the property **Y-Axis** > **Scale** > **Max Value**.

6 Set the value to 1.

7 Save the analytic.

Refresh the Data

Performance Management can synchronize the data after you complete the installation steps. The amount of time required to synchronize the data depends on the volume of data to be processed and the capacity of your server. Schedule the synchronization to occur during off-peak hours when the server has no other demands.

1. From the Windows **Start** menu, click **All Programs** > **BusinessObjects XI Release 2** > **BusinessObjects Enterprise** > **BusinessObjects Enterprise Java InfoView.**
2. Log in as **Administrator** with no password.
3. Click **Go to Performance Management.**
4. Click **Setup** on the toolbar.
5. Click the **System Setup** tab.
6. Click **Dimensions**.
7. Select an existing Dimension in the upper text box and click **Edit Dimension.**
8. Click **Next**.
9. Click **Refresh**.
10. Click **Next**.
11. Click **END**.
12. Repeat Step 7 – Step 11 for all dimensions.
13. Click the **Home** icon to return to the Home page.
14. Click **Go To Performance Management**.
15. Click the **Dashboard Manager** tab.
16. Click the **Metrics** tab.
17. Click the **Refresh** icon next to the Available Metrics to refresh the list of metrics.
18. Select **Call Metrics and Dimensions** from the **Available Metrics** drop-down list.
19. For each category listed, select the metric.
20. Click the **Purge** icon, then the **Refresh** icon.

21 When this warning appears, “This operation can be very long. Do you want to continue,” click **OK**.

22 Repeat Step 18 – Step 21 to refresh other metrics in the list.

Each metric will refresh and when the process is complete, you can see a Last Refresh Date in the Metric History section.

8 Configure the Application Server

The typical DecisionCenter distributed installation has a standalone Tomcat or WebSphere application server. There are three typical web server configurations:

- You can take advantage of the Tomcat installation embedded within BusinessObjects Enterprise XI R2. Because BusinessObjects requires its own web application server, it installs Tomcat within the Business Objects installation folder structure.
- You can use an existing Tomcat application server that is compatible with BusinessObjects Enterprise XI R2 but resident on a separate networked server. This server can have either a Windows or HP-UX operating system. You must copy certain files from the Business Objects web application server to the remote web application server to support the remote connection to BusinessObjects software.
- You can use an existing IBM WebSphere application server that is compatible with BusinessObjects Enterprise XI R2 but resident on a separate networked server.

If you use an existing instance of an application server, make sure that DecisionCenter supports the version that you are running. For more information, see the distributed server configuration diagram on page 18 and see the DecisionCenter Support Matrix on the **HP Software Support** web site (**http://support.openview.hp.com/sc/support_matrices.jsp**).

Before You Begin

Success depends on meeting these prerequisites. Make sure that:

- You have administrative rights to the application server where you plan to deploy the DecisionCenter WAR file.

- There is connectivity between the BusinessObjects XI server and the application server operating system.
- You have knowledge and experience deploying applications in the selected application server environment.
- Either Tomcat or IBM Websphere is installed and running successfully on the application server.
- The correct Java version is installed on the application server.

Tomcat (Windows) Installation Checklist

Print this checklist to use during the installation process. As you complete each task, mark it finished. Complete these tasks on the Tomcat server. For more information, see the distributed server configuration diagram on page 18.

- ☐ Task 1: Install the Web Component Adapter on page 108.
- ☐ Task 2: Modify the webcompadapterwar.xml File on page 108.
- ☐ Task 3: Install the JDBC Drivers on page 109.
- ☐ Task 4: Deploy the WAR File on page 109.
- ☐ Task 5: Configure Tomcat on page 110.
- ☐ Task 6: Configure the JNDI Interface on page 111.
- ☐ Task 7: Copy and Modify BusinessObjects Files on page 113.
- ☐ Task 8: Start Tomcat on page 114.
- ☐ Task 9: Copy the Required Library on page 114.
- ☐ Task 10: Configure Performance Manager on page 115.
- ☐ Task 11: Configure Tomcat Java Options on page 115.
- ☐ Task 12: Configure the BusinessObjects Files on page 116.
- ☐ Task 13: Customize the Installation on page 117.
- ☐ Task 14: Configure Time Zones on page 120.
- ☐ Task 15: Configure Properties Files on page 120.
- ☐ Task 16: Update the jaas.config File on page 121.
- ☐ Task 17: Start the Server on page 123.

Task 1: Install the Web Component Adapter

You can install the BusinessObjects Enterprise XI Web Component Adapter (WCA) from the BusinessObjects installation media. If you upgrade your BusinessObjects server installation, you must repeat the steps that require files to be copied from the BusinessObjects server.

1. Install the BusinessObjects WCA component on the same drive where you installed BusinessObjects on the BusinessObjects server. Follow the instructions in the BusinessObjects Enterprise XI installation documentation to install the WCA.
2. Copy this file from the BusinessObjects server:

   ```
   \\..\BusinessObjects\BusinessObjects Enterprise 11.5\java
   \applications\webcompadapter.war
   ```

   To this application server directory:

   ```
   \\..\Tomcat\webapps
   ```

   Tomcat deploys the WAR file automatically when you start the Tomcat service.

Task 2: Modify the webcompadapterwar.xml File

1. Copy this file from the BusinessObjects server:

   ```
   \\..\BusinessObjects\Tomcat\conf\Catalina\localhost
   \webcompadapterwar.xml
   ```

   To this application server directory:

   ```
   \\..\Tomcat\conf\Catalina\localhost
   ```

2. Open `webcompadapterwar.xml` with a text editor.
3. Edit the docBase parameter to point to the `webcompadapterwar.war` file in the BusinessObjects installation directory. For example:

   ```
   docBase="\\...\Business Objects\BusinessObjects Enterprise
   11.5\java\applications\webcompadapter.war"
   ```

4. Save and close the file.

5 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** to start the Tomcat service. This step deploys the WCA application.

Task 3: Install the JDBC Drivers

1 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** to stop the Tomcat service.

2 Copy one or more supported JDBC driver files from the RDBMS server to this application server directory:

```
\\..\Tomcat 5.x\common\lib
```

For more information about JDBC drivers, see JDBC Drivers on page 23.

3 Clear the DecisionCenter cache by deleting the files in this directory:

```
\\..\Tomcat\work\Catalina\localhost\DecisionCenter
```

4 Clear the businessobjects cache by deleting the files in this directory:

```
\\..\Tomcat\work\Catalina\localhost\businessobjects
```

Task 4: Deploy the WAR File

The DecisionCenter application is a web archive (WAR) file on the DecisionCenter installation media. The installation process prompts you to store the WAR file in the appropriate web server directory. Tomcat deploys the file.

1 Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.

2 Click the **Web Application** tab.

3 Click **DecisionCenter Web Interface**.

4 Copy `decisionCenter.war` and paste it into this web server deployment folder:

```
\\..\Tomcat 5.x\webapps
```

Tomcat deploys the WAR file automatically when you start the Tomcat service.

5 Back up this directory before you proceed to the next task:

```
\\..\Tomcat 5.x\conf\Catalina\localhost
```

Task 5: Configure Tomcat

Tomcat loads Java at startup. Java needs to know the location of `krb5.ini` and `bscLogin.conf`.

1 Stop Tomcat.

2 Click **Start** > **Programs** > **Tomcat** > **Tomcat Configuration**.

3 Click the **Java** tab.

4 Click the mouse at the bottom of the list of options in the **Java Options** text box.

5 Type these values:

```
-Djava.security.auth.login.config=C:\directory\bscLogin.conf
-Djava.security.krb5.conf=C:\directory\Krb5.ini
```

6 Click **OK**.

Edit Authentication Parameters

1 Open this file with a text editor:

```
\\..\Tomcat\webapps\decisionCenter\WEB-INF\web.xml
```

2 For Active Directory only, change this parameter:

```
<init-param>
   <param-name>biAuthType</param-name>
   <param-value>secLDAP</param-value>
</init-param>
```

To

```
<init-param>
   <param-name>biAuthType</param-name>
   <param-value>secWinAD </param-value>
</init-param>
```

3 Open this file with a text editor:

```
\\..\Tomcat\webapps\decisionCenter\WEB-INF\
applicationContext.xml
```

4 Locate this section:

```
<bean id="jaasAuthenticationProvider" class="....">
```

5 Change the value in this section:

```
<property name="loginContextName">
   <value>dpJndi</value>
</property>
```

To

```
<property name="loginContextName">
   <value>QAAD</value>
</property>
```

6 Delete this directory:

```
\\..\Tomcat\work\Catalina\localhost\decisionCenter
```

Restart the Tomcat service.

Task 6: Configure the JNDI Interface

You must configure the Java Naming and Directory Interface (JNDI) before you deploy the DecisionCenter WAR file.

1 Open this file with a text editor:

```
\\..\Tomcat 5.x\conf \tomcat-users.xml
```

2 Verify that Tomcat has an entry to configure admin and manager user roles. If necessary, edit the file to include these lines:

```
<role rolename="manager"/>
<role rolename="admin"/>
<user username="manager" password="manager" roles="manager"/>
<user username="admin" password="admin" roles="admin"/>
```

3 Save and close the file.

4 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** to start the Tomcat service.

5 Start a Microsoft Internet Explorer browser session.

6 Type `http://host-name:port_number` in a browser to display the Tomcat Home page. For example, you might type:

`http://server_name:8080`

7 In the **Administration** section, click **Tomcat Administration**.

8 Type the **User Name** and **Password** for the admin user that you configured in Step 2. Based on the users that you defined in Step 2, type **admin** in the **User Name** text box, and **admin** in the **Password** text box. Make sure that the values you specify match the parameter settings in the tomcat-users.xml file.

9 In the left navigation pane, expand the **Tomcat Server > Service (Catalina) > Host > Context (/decisionCenter) > Resources** nodes.

10 Click **Data Sources** to view the configured JNDI entries for the decisionCenter context.

11 From the drop-down **Available Actions** list, select **Create New Data Source**.

12 Type values for the JNDI parameters. The following table shows examples; however, they must match your local configuration. For exact values, see your database administrator.

Table 21 JNDI Parameters

Parameter	Suggested Value
JNDI Name:	jdbc/dc (This is a required value)
Data Source URL: • SQL Server: (see Table 8 on page 37) • Oracle: (see Table 10 on page 41)	Examples (verify your local URLs): • jdbc:microsoft:sqlserver: //sqlserverHost:1433 • jdbc:oracle:thin:@*server_name*:1521:ORCL
JDBC Driver Class: • SQL Server: • Oracle:	Examples (verify your local URLs): • com.microsoft.jdbc.sqlserver.SQLServerDriver • oracle.jdbc.driver.OracleDriver
User Name: (see Table 12 on page 44)	rds_dba

Table 21 JNDI Parameters

Parameter	Suggested Value
Password: (see Table 12 on page 44)	passw0rd
Max. Active Connections:	50
Max. Idle Connections:	10
Max. Wait for Connection:	10000
Validation Query: (Optional)	

13 Click **Save**.

14 Click **Commit Changes**. Tomcat saves the changes and updates the DecisionCenter application.

15 Click **Log Out**.

16 To verify that the DecisionCenter application deploys correctly, return to the Tomcat Home page (`http://host-name:port_number`) using the same browser session.

17 Click **Tomcat Manager**.

18 Type the **User Name** and **Password** for the manager role that you configured in Step 2 on page 111. Based on the users that you defined in Step 2, type **manager** in the **User Name** text box, and **manager** in the **Password** text box. Make sure that the values you specify match the parameter settings in the tomcat-users.xml file.

19 Verify that the DecisionCenter application listed in Applications has a value of **true** in the **Running** column. If not, click **Start** in the **Command** column.

Task 7: Copy and Modify BusinessObjects Files

1 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** to stop the Tomcat service.

2 Copy the remaining WAR files from this BusinessObjects directory:

```
\\..\BusinessObjects Enterprise 11.5\java\applications
```

To this application server directory:

```
\\..\Tomcat\conf
```

3 Copy the remaining `.xml` files from this BusinessObjects directory:

```
\\..\BusinessObjects\Tomcat\conf\Catalina\localhost
```

To this application server directory:

```
\\..\Tomcat\conf\Catalina\localhost
```

4 Open each `.xml` file with a text editor.

5 Edit the docBase parameter in each file to point to the appropriate WAR file. For example:

```
docBase="C:\Program Files\Business Objects\BusinessObjects
Enterprise 11.5\java\applications\filename.war"
```

Task 8: Start Tomcat

Follow these steps to deploy the WAR file on the remote application server.

1 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** to start the Tomcat service.

2 Verify that no error messages occur except this one:

CANNOT READ INITCONFIG.PROPERTIES af.configdir PROPERTY SETTING.

This message is acceptable.

Task 9: Copy the Required Library

1 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** to stop the Tomcat service.

2 Copy this file from the BusinessObjects server:

```
\\..\BusinessObjects\Tomcat\shared\lib\cewcanative.jar
```

To this application server directory:

```
\\..\Tomcat\shared\lib
```

Task 10: Configure Performance Manager

1. Create a directory on the application server for the BusinessObjects Enterprise XI Performance Management application. For example:

   `\\..\BusinessObjects\`*`your_directory`*

2. Copy all of the .properties files from this BusinessObjects server directory:

   `\\..\Business Objects\Performance Management 11.5`

   To this new application server directory:

   `\\..\Business Objects\`*`your_directory`*

3. Open the `InitConfig.properties` file with a text editor.

4. Ensure that the path to the Central Management Server in the initialization.CMSName parameter points to the BusinessObjects Enterprise XI server.

Task 11: Configure Tomcat Java Options

1. From the Windows **Start** menu, click **Programs** > **Tomcat** > **Tomcat Configuration**.

2. Click the **Java** tab.

3. In the Java Options section, make sure that the following Java options exist and these paths reflect the correct locations on the remote application server. If necessary, modify the paths to these local directories for BusinessObjects Enterprise XI WCA and Performance Manager. For example:

   ```
   -Djava.library.path=WINDIR\system32\;C:\Program Files
   \Business Objects\BusinessObjects Enterprise 11.5\win32_x86\
   ```

   ```
   -Daf.configdir=C:\Program Files\Business Objects
   \your_directory\
   ```

where *your_directory* is the directory that you created in Task 10: Configure Performance Manager on page 115.

If you use Cygwin-based %CATALINA_HOME%\bin*.sh scripts to start and stop your Tomcat server, you should omit spaces in any property settings. JAVA_OPTS errors can occur in a Windows installation when you try to pass multiple properties with spaces. Either omit spaces, or use non-Cygwin %CATALINA_HOME%\bin*.sh scripts to start and stop your Tomcat server. If you use .bat scripts, you can use spaces.

Task 12: Configure the BusinessObjects Files

1. Skip this step if you have a dswsbobje application in the following directory on the application server:

   ```
   \\..\Tomcat\webapps
   ```

   Otherwise, do the following:

   a. Copy this file from the BusinessObjects server:

      ```
      \\..\Business Objects\BusinessObjects Enterprise 11.5
      \Web Services\en\dswsbobje.war
      ```

      To this application server directory:

      ```
      \\..\Tomcat\webapps
      ```

   b. Copy this file from the BusinessObjects server:

      ```
      \\..\Business Objects\\Tomcat\conf\Catalina\localhost
      \dswsbobje.xml
      ```

      To this application server directory:

      ```
      \\..\Business Objects\Tomcat\conf\Catalina\localhost
      ```

   c. From the Windows **Start** menu, click **Control Panel** > **Administrative Tools > Services** to start the Tomcat service.

2. Open this file with a text editor:

   ```
   \\..\Tomcat\webapps\dswsbobje\WEB-INF\classes\dsws.properties
   ```

3 Change the **domain=** parameter to point to your BusinessObjects server. For example:

   `domain=`*`server_name`*

4 Change the **report.server** parameter to point to your remote application server. For example:

   `report.server=`*`remote_server_name`*

5 For each `.wsdl` file in this directory:

   `\\..\Tomcat\webapps\dswsbobje\WEB-INF\classes`

   Do the following:

   a Open the file with a text editor.

   b Search for:

   ```
   soap:address location="http://localhost:8080/dsws
   /services/bicatalog"
   ```

   c Change **localhost:8080** to your application server name and port number.

   d Save and close the file.

6 For each `web.xml` file in these application server directories:

   `\\..\Tomcat\webapps\`*`application`*`\WEB-INF\web.xml`

   Do the following:

   a Open the file with a text editor.

   b Search for any parameter that points to the Central Management Server. The parameter value should point to the BusinessObjects server.

   c Save any changed file.

Task 13: Customize the Installation

The DecisionCenter installation media contains customized BusinessObjects files that the application server needs to run DecisionCenter. Use the installation media for the following steps.

1 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** > **Stop** to stop the Tomcat service.

2 Clear the DecisionCenter cache by deleting the files in this directory:

```
\\..\Tomcat\work\Catalina\localhost\DecisionCenter
```

3 Clear the businessobjects cache by deleting the files in this directory:

```
\\..\Tomcat\work\Catalina\localhost\businessobjects
```

4 Copy this file from the DecisionCenter installation media:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\InfoView\main
\home.jsp
```

To this application server directory:

```
\\..\Tomcat\webapps\businessobjects\enterprise115
\desktoplaunch\InfoView\main
```

5 Click **OK** to confirm the replacement.

6 Copy this file from the DecisionCenter installation media:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\InfoView
\utils\utils.js
```

To this application server directory:

```
\\..\Tomcat\webapps\businessobjects\enterprise115\
desktoplaunch\InfoView\utils
```

7 Click **OK** to confirm the replacement.

8 Navigate to this DecisionCenter installation media directory:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\jsp
```

9 Copy these files:

- `aa-promptcontent.jsp`
- `appsContentFrame.jsp`
- `headerPlusAF.jsp`
- `performanceManagementHome.jsp`
- `workspaceHeaderAF.jsp`

To this application server directory:

```
\\..\Tomcat\webapps\businessobjects\enterprise115
\desktoplaunch\jsp
```

10 Click **OK** to confirm each replacement.

11 Copy this file from the DecisionCenter installation media:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\jsp\ce
\cestartpage.jsp.
```

To this application server directory:

```
\\..\Tomcat\webapps\businessobjects\enterprise115
\desktoplaunch\jsp\ce
```

12 Click **OK** to confirm the replacement.

13 Copy this file from the DecisionCenter installation media:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\scripting
\aa-linkbar.js.
```

To this application server directory:

```
\\..\Tomcat\webapps\businessobjects\enterprise115
\desktoplaunch\scripting
```

14 Click **OK** to confirm the replacement.

15 Navigate to this DecisionCenter installation media directory:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\viewers
\cdz_adv
```

16 Copy these files:

- `viewCDZDocument.jsp`
- `viewReport.jsp`

To this application server directory:

```
\\..\Tomcat\webapps\businessobjects\enterprise115
\desktoplaunch\viewers\cdz_adv
```

17 Click **OK** to confirm each replacement.

18 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** to start the Tomcat service.

19 Start a browser session to test the application.

20 Type the following URL. Modify it to point to the BusinessObjects Enterprise XI web server provider name and the assigned port number:

`http://`*`server.name:port number`*`/dswsbobje/services`

The BusinessObjects Services page should appear.

Task 14: Configure Time Zones

DecisionCenter relies on accurate time information to apply rules and calculate impact. All tools must have the same time zone configuration to ensure this accuracy. You must configure the correct time zone parameter on these three servers:

- The application server
- The data warehouse server
- The Optimization engine server

Follow these steps to configure the application server.

1 Open this file with a text editor:

```
\\..\Tomcat\webapps\decisionCenter\WEB-INF\common.properties
```

2 Change this value:

```
database.timezone=GMT
```

To

```
database.timezone=GMT+/-nn
```

Where *nn* is a numeric value for the number of time zones displaced from Greenwich Mean Time for your local time zone. For example, GMT-5 is the displacement for Eastern Standard Time in North America.

3 Save and close the file.

Task 15: Configure Properties Files

Under certain circumstances, you must change the parameters in two properties files.

hibernate.properties

If your RDBMS is Oracle, follow these steps.

1 Open this file with a text editor:

```
\\..\Tomcat\webapp\decisionCenter\WEB-INF
\hibernate.properties
```

2 Remove the pound sign (#) from this statement:

```
#hibernate.dialect=org.hibernate.dialect.Oracle9Dialect
```

3 Insert a pound sign (#) at the beginning of this statement:

```
hibernate.dialect=org.hibernate.dialect.SQLServerDialect
```

4 Verify that the result looks like this:

```
#hibernate.dialect=org.hibernate.dialect.SQLServerDialect
hibernate.dialect=org.hibernate.dialect.Oracle9Dialect
```

5 Save and close the file.

jmx.properties

If the Optimization engine is not installed on the application server, follow these steps.

1 Open this file with a text editor:

```
\\..\Tomcat\webapps\decisionCenter\WEB-INF\jmx.properties
```

2 Locate this parameter:

```
localhost:9999
```

3 Replace this with the server URL and port number of the Optimization engine server.

4 Save and close the file.

Make sure that the server URL and port number match the server URL and port number specified in the `jmx.properties` file on the Optimization engine server.

Task 16: Update the jaas.config File

The jaas.config file contains the information to connect to BusinessObjects using LDAP or Active Directory authentication. You must edit the parameters to point to the LDAP or Active Directory server and specify the administrative logon and password.

LDAP Users

1. Open this file with a text editor:

   `./../Tomcat/webapps/decisionCenter/WEB-INF/jaas.config`

2. Locate the **dpJndi** section.

3. Edit the **user.provider.url** parameter. Identify the fully qualified name of the LDAP server that you specified in Task 2: Configure LDAP on page 80, and the assigned server port. For example:

   `user.provider.url="ldap://ldap.server:port_number/ou=people,dc=server"`

   You can locate suffix information in the Directory Server Settings of the LDAP configuration procedures.

4. Edit the **uid** value in the **security.principal** parameter. Identify the administrative logon that you specified for the LDAP server. For example:

   `security.principal="uid=admin,ou=administrators,ou=topologymanagement,o=netscaperoot"`

5. Edit the **security.credentials** parameter. Specify the LDAP administration (or designated account) password. For example:

   `security.credentials="password"`

6. Edit the **group.provider.url** parameter. Identify the fully qualified name of the LDAP server that you specified in Task 2: Configure LDAP on page 80, and the assigned server port. For example:

   `group.provider.url="ldap://server_name.xx.yy.com:port_number/OU=Groups,OU=server_name,DC=xx,DC=yy,DC=com"`

   You can locate suffix information in the Directory Server Settings of the LDAP configuration procedures.

7. Save and close the file.

Active Directory Users

1. Open this file with a text editor:

   `./../Tomcat/webapps/decisionCenter/WEB-INF/jaas.config`

2. Locate the `QAAD` section.

3 Edit the **user.provider.url** parameter. Identify the fully qualified name of the Active Directory server that you specified in Task 2: Configure Active Directory for Business Objects on page 82, and the assigned server port. For example:

```
user.provider.url="ldap://server_name.xx.yy.com:port_number
/OU=Users,OU=server_name,DC=xx,DC=yy,DC=com"
```

4 Edit the **security.principal** parameter. Identify the administrative logon that you specified for the Active Directory server. For example:

```
security.principal="CN=admin,ou=Users,OU=server_name,DC=xx,
DC=yy,DC=com"
```

5 Edit the **security.credentials** parameter. Specify the LDAP administration (or designated account) password. For example:

```
security.credentials="password"
```

6 Edit the **group.provider.url** parameter. Identify the fully qualified name of the Active Directory server that you specified in Task 2: Configure Active Directory for Business Objects on page 82, and the assigned server port. For example:

```
group.provider.url="ldap://server_name.xx.yy.com:port_number
/OU=Groups,OU=server_name,DC=xx,DC=yy,DC=com"
```

7 Examine the remaining parameters to make sure they are correct for your environment.

8 Save and close the file.

Task 17: Start the Server

From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** to start the Tomcat service.

Tomcat (HP-UX) Installation Checklist

Print this checklist to use during the installation process. As you finish each task, mark it finished. Complete these tasks on the HP-UX Tomcat web server.

For more information, see the distributed server configuration diagram on page 18.

- ☐ Task 1: Configure the HP-UX Environment on page 125.
- ☐ Task 2: Create the Directory Structure on page 125.
- ☐ Task 3: Create the BusinessObjects XI Environment Setup File on page 125.
- ☐ Task 4: Configure the Tomcat Installation on page 126.
- ☐ Task 5: Install the Web Component Adapter on page 127.
- ☐ Task 6: Modify the webcompadapterwar.xml File on page 127.
- ☐ Task 7: Install the JDBC Drivers on page 128.
- ☐ Task 8: Deploy the DecisionCenter WAR File on page 128.
- ☐ Task 9: Configure the JNDI Interface on page 129.
- ☐ Task 10: Copy and Modify BusinessObjects Files on page 131.
- ☐ Task 11: Start Tomcat on page 132.
- ☐ Task 12: Copy the Required Library File on page 132.
- ☐ Task 13: Configure the BusinessObjects Files on page 132.
- ☐ Task 14: Customize the Installation on page 134.
- ☐ Task 15: Configure Time Zones on page 136.
- ☐ Task 16: Configure Properties Files on page 137.
- ☐ Task 17: Update the jaas.config File on page 138.
- ☐ Task 18: Start the Server on page 140.

Task 1: Configure the HP-UX Environment

1. Define the locale by adding these lines to your user profile.

   `LANG=`*`locale`*

   For example, the locale for the United States would be `en_US.utf8`.

2. Navigate to the JAVA_HOME variable. Define the following value.

   ```
   JAVA_HOME=/opt/javal.4
   export JAVA_HOME
   ```

Task 2: Create the Directory Structure

1. Create a directory for BusinessObjects files. This is the root directory for related sub-directories. For example:

   `./../Tomcat/bobje`

2. Create a subdirectory for BusinessObjects WAR files. For example:

   `./../Tomcat/bobje/enterprise115/java/applications`

3. Create a subdirectory for BusinessObjects configuration files. For example:

   `./../Tomcat/bobje/af_config`

4. Create a subdirectory for BusinessObjects environment setup scripts. For example:

   `./../Tomcat/bobje/setup`

5. Create a subdirectory for the HP-UX BusinessObjects environment. For example:

   `./../Tomcat/bobje/enterprise115/hpux_pa_risc`

Task 3: Create the BusinessObjects XI Environment Setup File

1. Navigate to this directory:

   `./../Tomcat/bobje/setup`

2. Use a text editor to create a file named `env.sh`.

3 Type the following text in the `env.sh` file.

```
LIBPATH=/../Tomcat/bobje/enterprise115/hpux_pa_risc:$LIBPATH
export LIBPATH

PATH=/../Tomcat/bobje/enterprise115/hpux_pa_risc:$PATH
export PATH

LD_LIBRARY_PATH=/../Tomcat/bobje/enterprise115/
hpux_pa_risc:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH
```

4 Save and close the file.

Task 4: Configure the Tomcat Installation

1 Navigate to this directory:

```
. /../Tomcat/bin
```

2 Open the `startup.sh` file with a text editor.

3 Insert the following text at the top of the file:

```
./../Tomcat/bobje/setup/env.sh

export JAVA_OPTS="-Daf.configdir=/../Tomcat/bobje/af_config
-Djava.library.path=/../Tomcat/bobje/enterprise115/java/
applications/webcompadapter.war"

export JAVA_HOME=/../java1.4
```

4 Save and close the file.

5 Open the `shutdown.sh` file with a text editor.

6 Insert the following text at the top of the file:

```
export JAVA_HOME=/../java1.4
```

7 Save and close the file.

Task 5: Install the Web Component Adapter

You can install the BusinessObjects Enterprise XI Web Component Adapter (WCA) from the BusinessObjects installation media. If you upgrade your BusinessObjects server installation, you must repeat the steps that require files to be copied from the BusinessObjects server.

Copy this file from your BusinessObjects server:

```
\\..\BusinessObjects\BusinessObjects Enterprise 11.5\java
\applications\webcompadapter.war
```

To these application server directories:

```
./../Tomcat/webapps
```

```
./../Tomcat/webapps/bobje/enterprise115/java/applications
```

Tomcat deploys the WAR file automatically when you start the Tomcat service.

Task 6: Modify the webcompadapterwar.xml File

1. Copy this file from the BusinessObjects server:

   ```
   \\..\BusinessObjects\Tomcat\conf\Catalina\localhost
   \webcompadapterwar.xml
   ```

   To this application server directory:

   ```
   ./../Tomcat/conf/Catalina/localhost
   ```

2. Open `webcompadapterwar.xml` with a text editor.
3. Edit the docBase parameter to point to the `webcompadapterwar.war` file in the BusinessObjects installation directory. For example:

   ```
   docBase="./../Tomcat/webapps/webcompadapter.war"
   ```

4. Save and close the file.
5. Run this script to start the Tomcat service and deploy the WCA application:

   ```
   ./../Tomcat/bin/startup.sh
   ```

Task 7: Install the JDBC Drivers

1. Run this script to stop the Tomcat service:

   ```
   ./../Tomcat/bin/shutdown.sh
   ```

2. Copy the supported JDBC driver file for your RDBMS from the RDBMS server to the application server and store it in this directory:

   ```
   ./../Tomcat/common/lib
   ```

   For more information about JDBC drivers, see JDBC Drivers on page 23.

3. Run this script to stop the Tomcat service:

   ```
   ./../Tomcat/bin/shutdown.sh
   ```

4. Clear the DecisionCenter cache by deleting the files in this directory:

   ```
   \\..\Tomcat\work\Catalina\localhost\DecisionCenter
   ```

5. Clear the businessobjects cache by deleting the files in this directory:

   ```
   \\..\Tomcat\work\Catalina\localhost\businessobjects
   ```

Task 8: Deploy the DecisionCenter WAR File

The DecisionCenter application is a web archive (WAR) file on the DecisionCenter installation media. The installation process prompts you to store the WAR file in the appropriate web server directory. The web application server deploys the file.

1. Insert the DecisionCenter installation media in your hard drive on a Windows workstation. The installer starts automatically, or you can click **Autorun.exe** to start the installer.
2. Click the **Web Application** tab.
3. Click **DecisionCenter Web Interface**.
4. Copy `decisionCenter.war` and transfer it into this web server deployment folder:

   ```
   ./../Tomcat 5.x/webapps
   ```

   Tomcat deploys the WAR file automatically when you start the application.

5 Back up this directory before you proceed to the next task:

```
./../Tomcat 5.x/conf/Catalina/localhost
```

Task 9: Configure the JNDI Interface

You must configure the Java Naming and Directory Interface (JNDI) before you deploy the DecisionCenter WAR file.

1 Open this file with a text editor:

```
./../Tomcat 5.x/conf/tomcat-users.xml
```

2 Verify that Tomcat has an entry to configure admin and manager user roles. If necessary, edit the file to include these lines:

```
<role rolename="manager"/>
<role rolename="admin"/>
<user username="manager" password="manager" roles="manager"/>
<user username="admin" password="admin" roles="admin"/>
```

3 Save and close the file.

4 Run this script to start the Tomcat service:

```
./../Tomcat/bin/startup.sh
```

5 Start a Microsoft Internet Explorer browser session.

6 Type `http://`*`host-name`*`:`*`port_number`* in the browser address window to display the Tomcat Home page. For example, you might type:

```
http://server.name:8080
```

7 In the **Administration** section, click **Tomcat Administration**.

8 Type the **User Name** and **Password** for the admin user that you configured in Step 2. Based on the users that you defined in Step 2, type **admin** in the **User Name** text box, and **admin** in the **Password** text box. Make sure that the values you specify match the parameter settings in the `tomcat-users.xml` file.

9 In the left navigation pane, expand the **Tomcat Server** > **Service (Catalina)** > **Host** > **Context (/decisionCenter)** > **Resources** nodes.

10 Click **Data Sources** to view the configured JNDI entries for the `decisionCenter` context.

11 From the drop-down **Available Actions** list, select **Create New Data Source**.

12 Type values for the JNDI parameters. The following table shows examples; however, they must match your local configuration. For exact values, see your database administrator.

Table 22 JNDI Parameters

Parameter	Suggested Value
JNDI Name:	jdbc/dc (This is a required value)
Data Source URL: • SQL Server: (see Table 8 on page 37) • Oracle: (see Table 10 on page 41)	Examples (verify your local URLs): • jdbc:microsoft:sqlserver: // sqlserverHost:1433 • jdbc:oracle:thin:@*server_name*:1521:ORCL
JDBC Driver Class: • SQL Server: • Oracle:	Examples (verify your local URLs): • com.microsoft.jdbc.sqlserver.SQLServerDriver • oracle.jdbc.driver.OracleDriver
User Name: (see Table 12 on page 44)	rds_dba
Password: (see Table 12 on page 44)	passw0rd
Max. Active Connections:	50
Max. Idle Connections:	10
Max. Wait for Connection:	10000
Validation Query: (Optional)	

13 Click **Save**.

14 Click **Commit Changes**. The Tomcat server saves the changes and updates the DecisionCenter application.

15 Click **Log Out**.

16 To verify that the DecisionCenter application deploys correctly, return to the Tomcat Home page (`http://host-name:port_number`) using the same browser session.

17 Click **Tomcat Manager**.

18 Type the **User Name** and **Password** for the manager user that you configured in step 2 on page 129. Based on the users that you defined in Step 2, type **manager** in the **User Name** text box, and **manager** in the **Password** text box. Make sure that the values you specify match the parameter settings in the `tomcat-users.xml` file.

19 Verify that the DecisionCenter application listed in Applications has a value of **true** in the **Running** column. If not, click **Start** in the **Command** column.

20 Run this script to stop the Tomcat service:

```
./../Tomcat/bin/shutdown.sh
```

Task 10: Copy and Modify BusinessObjects Files

1 Copy this file from the BusinessObjects server:

```
\\..\BusinessObjects Enterprise 11.5\java\applications
\desktop.war
```

To this application server directory:

```
./../Tomcat/webapps/bobje/enterprise115/java/applications
```

2 Copy this file from the BusinessObjects server:

```
\\..\BusinessObjects\Tomcat\conf\Catalina\localhost\
desktopwar.xml
```

To this application server directory:

```
./../Tomcat/conf/Catalina/localhost
```

3 Open the `desktopwar.xml` file with a text editor.

4 Edit the docBase parameter to point to the `desktop.war` file in the BusinessObjects installation directory. For example:

```
docBase="./../Tomcat/bobje/enterprise115/java/applications/
desktop.war"
```

Task 11: Start Tomcat

1 Run this script to start the Tomcat service:

```
./../Tomcat/bin/startup.sh
```

2 Error messages that are likely to occur include:

— FileNotFoundException (a logging problem)

— WCA startup error message (the Web Computer Adapter is not installed on the HP-UX server)

These messages are acceptable.

Task 12: Copy the Required Library File

1 Run this script to stop the Tomcat service:

```
./../Tomcat/bin/shutdown.sh
```

2 Copy this file from the BusinessObjects server:

```
\\BusinessObjects\Tomcat\shared\lib\cewcanative.jar
```

To this application server directory:

```
./../Tomcat/shared/lib
```

Task 13: Configure the BusinessObjects Files

1 Skip this step if you have a dswsbobje application in the following directory on the application server:

```
./../Tomcat/webapps
```

a. Copy this file from the BusinessObjects server:

   `\\..\Business Objects\BusinessObjects Enterprise 11.5 \Web Services\en\dswsbobje.war`

   To this application server directory:

   `./../Tomcat/webapps`

b. Copy this file from the BusinessObjects server:

   `\\..\Business Objects\Tomcat\conf\Catalina\localhost \dswsbobje.xml`

   To this application server directory:

   `./../Tomcat/conf/Catalina/localhost`

c. Open the `dswsbobje.xml` file with a text editor.

d. Edit the docBase parameter to point to the `dswsbobje.war` file in the BusinessObjects installation directory. For example:

   `docBase="./../Tomcat/webapps/dswsbobje.war"`

e. Run this script to start the Tomcat service:

   `./../Tomcat/bin/startup.sh`

2. Open this file with a text editor:

   `./../Tomcat/webapps/dswsbobje/WEB-INF/classes/dsws.properties`

3. Change the `domain=` parameter to point to your BusinessObjects server. For example:

   `domain=`*`server_name`*

4. Change the `report.server` parameter to point to your remote application server. For example:

   `report.server=`*`remote_server_name`*

5. For each `.wsdl` file in this directory:

   `./../Tomcat/webapps/dswsbobje/WEB-INF/classes`

   Do the following:

   a. Open the file with a text editor.

b Search for:

```
soap:address location="http://localhost:8080/dsws
/services/bicatalog"
```

c Change `localhost:8080` to your application server name and port number.

d Save and close the file.

6 For each `web.xml` file in this directory on the application server:

```
./../Tomcat/webapps/decisionCenter/WEB-INF
```

Do the following:

a Open the file with a text editor.

b Search for any parameter that points to the Central Management Server. The parameter value should point to the BusinessObjects server.

c Save any changed file.

Task 14: Customize the Installation

The DecisionCenter installation media contains customized BusinessObjects files that the application server needs to run DecisionCenter.

1 Run this script to stop the Tomcat service:

```
./../Tomcat/bin/shutdown.sh
```

2 Clear the DecisionCenter cache by deleting the files in this directory:

```
./../Tomcat/work/Catalina/localhost/DecisionCenter
```

3 Clear the businessobjects cache by deleting the files in this directory:

```
./../Tomcat/work/Catalina/localhost/businessobjects
```

4 Insert the DecisionCenter installation media in your hard drive on a Windows workstation.

5 Copy this file from the DecisionCenter installation media:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\InfoView\main
\home.jsp
```

To this application server directory:

```
./../Tomcat/webapps/businessobjects/enterprise115
/desktoplaunch/InfoView/main
```

6 Click **OK** to confirm the replacement.

7 Copy this file from the DecisionCenter installation media:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\InfoView
\utils\utils.js
```

To this application server directory:

```
./../Tomcat/webapps/businessobjects/enterprise115
/desktoplaunch/InfoView/utils
```

8 Click **OK** to confirm the replacement.

9 Navigate to this DecisionCenter installation media directory:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\jsp
```

Copy each file:

- `aa-promptcontent.jsp`
- `appsContentFrame.jsp`
- `headerPlusAF.jsp`
- `performanceManagementHome.jsp`
- `workspaceHeaderAF.jsp`

To this application server directory:

```
./../Tomcat/webapps/businessobjects/enterprise115
/desktoplaunch/jsp
```

10 Click **OK** to confirm each replacement.

11 Copy this file from the DecisionCenter installation media:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\jsp\ce
\cestartpage.jsp
```

To this application server directory:

```
./../Tomcat/webapps/businessobjects/enterprise115
/desktoplaunch/jsp/ce
```

12 Click **OK** to confirm the replacement.

13 Copy this file from the DecisionCenter installation media:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\scripting
\aa-linkbar.js
```

To this application server directory:

```
./../Tomcat/webapps/businessobjects/enterprise115
/desktoplaunch/scripting
```

14 Click **OK** to confirm the replacement.

15 Navigate to this DecisionCenter installation media directory:

```
\\..\ITPA\ITPA-SM\BOCustomization\desktoplaunch\viewers
\cdz_adv
```

Copy each file:

— `viewCDZDocument.jsp`

— `viewReport.jsp`

To this application server directory:

```
./../Tomcat/webapps/businessobjects/enterprise115
/desktoplaunch/viewers/cdz_adv
```

16 Click **OK** to confirm each replacement.

17 Run this script to start the Tomcat service:

```
./../Tomcat/bin/startup.sh
```

18 Start a browser session to test the application.

19 Type the following URL. Modify it to point to the BusinessObjects Enterprise XI web server and the assigned port number:

```
http://BusinessObjects_ application_server:port number
/dswsbobje/services
```

Task 15: Configure Time Zones

DecisionCenter relies on accurate time information to apply rules and calculate impact. All tools must have the same time zone configuration to ensure this accuracy.

You must configure the correct time zone parameter on these three servers:

- The application server
- The data warehouse server
- The Optimization engine server

Follow these steps to configure the application server.

1 Open this file with a text editor:

```
\\..\Tomcat\webapps\decisionCenter\WEB-INF\common.properties
```

2 Change this value:

```
database.timezone=GMT
```

To

```
database.timezone=GMT+/-nn
```

where *nn* is a numeric value for the number of time zones displaced from Greenwich Mean Time for your local time zone. For example, GMT-5 is the displacement for Eastern Standard Time in North America.

3 Save and close the file.

Task 16: Configure Properties Files

Under certain circumstances, you must change the parameters in two properties files.

hibernate.properties

If your RDBMS is Oracle, follow these steps.

1 Run this script to stop the Tomcat service:

```
./../Tomcat/bin/shutdown.sh
```

2 Open this file with a text editor:

```
./../Tomcat/webapps/decisionCenter/WEB-INF/
hibernate.properties
```

3 Remove the pound sign (#) from this statement:

```
#hibernate.dialect=org.hibernate.dialect.Oracle9Dialect
```

4 Insert a pound sign (#) at the beginning of this statement:

```
hibernate.dialect=org.hibernate.dialect.SQLServerDialect
```

5 Verify that the result looks like this:

```
#hibernate.dialect=org.hibernate.dialect.SQLServerDialect
hibernate.dialect=org.hibernate.dialect.Oracle9Dialect
```

6 Save and close the file.

jmx.properties

If the Optimization engine is not installed on the application server, follow these steps.

1 Open this file with a text editor:

```
./../Tomcat/webapps/decisionCenter/WEB-INF/jmx.properties
```

2 Locate this parameter:

```
localhost:9999
```

3 Replace this with the server URL and port number of the Optimization engine server.

4 Save and close the file.

Make sure that the server URL and port number match the server URL and port number specified in the `jmx.properties` file on the Optimization engine server.

Task 17: Update the jaas.config File

The jaas.config file contains the information to connect to BusinessObjects using LDAP or Active Directory authentication. You must edit the parameters to point to the LDAP or Active Directory server and specify the administrative logon and password.

LDAP Users

1 Open this file with a text editor:

```
./../Tomcat/webapps/decisionCenter/WEB-INF/jaas.config
```

2 Locate the `dpJndi` section.

3 Edit the `user.provider.url` parameter. Identify the fully qualified name of the LDAP server that you specified in Task 2: Configure LDAP on page 80, and the assigned server port. For example:

`user.provider.url="ldap://`*`ldap.server:port_number`*`/ou=people,dc=server"`

You can locate suffix information in the Directory Server Settings of the LDAP configuration procedures.

4 Edit the `uid` value in the `security.principal` parameter. Identify the administrative logon that you specified for the LDAP server. For example:

`security.principal="uid=`*`admin`*`,ou=administrators,ou=topologymanagement,o=netscaperoot"`

5 Edit the `security.credentials` parameter. Specify the LDAP administration (or designated account) password. For example:

`security.credentials="`*`password`*`"`

6 Edit the `group.provider.url` parameter. Identify the fully qualified name of the LDAP server that you specified in Task 2: Configure LDAP on page 80, and the assigned server port. For example:

`group.provider.url="ldap://`*`server_name.xx.yy.com:port_number`*`/OU=Groups,OU=`*`server_name`*`,DC=xx,DC=yy,DC=com"`

You can locate suffix information in the Directory Server Settings of the LDAP configuration procedures.

7 Save and close the file.

Active Directory Users

1 Open this file with a text editor:

`./../Tomcat/webapps/decisionCenter/WEB-INF/jaas.config`

2 Locate the `QAAD` section.

3 Edit the `user.provider.url` parameter. Identify the fully qualified name of the Active Directory server that you specified in Task 2: Configure Active Directory for Business Objects on page 82, and the assigned server port. For example:

`user.provider.url="ldap://`*`server_name.xx.yy.com:port_number`*`/OU=Users,OU=`*`server_name`*`,DC=xx,DC=yy,DC=com"`

4 Edit the `security.principal` parameter. Identify the administrative logon that you specified for the Active Directory server. For example:

`security.principal="CN=`*`admin`*`,ou=Users,OU=`*`server_name`*`,DC=xx,DC=yy,DC=com"`

5 Edit the `security.credentials` parameter. Specify the LDAP administration (or designated account) password. For example:

`security.credentials="`*`password`*`"`

6 Edit the `group.provider.url` parameter. Identify the fully qualified name of the Active Directory server that you specified in Task 2: Configure Active Directory for Business Objects on page 82, and the assigned server port. For example:

`group.provider.url="ldap://`*`server_name.xx.yy.com:port_number`*`/OU=Groups,OU=`*`server_name`*`,DC=xx,DC=yy,DC=com"`

7 Examine the remaining parameters to make sure they are correct for your environment.

8 Save and close the file.

Task 18: Start the Server

Run this script to start the Tomcat service:

```
./../Tomcat/bin/startup.sh
```

WebSphere Installation Checklist

Print this checklist to use during the installation process. As you finish each task, mark it finished. Complete these tasks for the IBM WebSphere application server installed on a server with an AIX operating system.

For more information, see the distributed server configuration diagram on page 18. You can also see the BusinessObjects XI R2 documentation for more information about configuring the application server.

- ☐ Task 1: Create the Directory Structure on page 142.
- ☐ Task 2: Create the Environment Variables on page 143.
  - — Step 1: Identify the RDBMS on page 143.
  - — Step 2: Define the Library Path on page 143.
- ☐ Task 3: Copy the Property Files on page 144.
- ☐ Task 4: Define the JDBC Connection on page 144.
  - — Step 1: Identify Your RDBMS on page 144.
  - — Step 2: Identify the Database Connection on page 145.
  - — Step 3: Define the Database Server on page 146.
  - — Step 4: Define the Port Number on page 146.
  - — Step 5: Specify the URL on page 146.
- ☐ Task 5: Copy the Required Library on page 147.
- ☐ Task 6: Define the Path to the Configuration Directory on page 148.
- ☐ Task 7: Configure Performance Manager on page 148.
- ☐ Task 8: Deploy the DecisionCenter WAR File on page 149.
- ☐ Task 9: Customize the DecisionCenter Configuration on page 151
- ☐ Task 10: Customize Business Objects on page 151.
- ☐ Task 11: Configure JAAS on page 153.
- ☐ Task 12: Configure Time Zones on page 155.
- ☐ Task 14: Start the Server on page 156.

Before You Begin

Make sure that you have:

- Administrative rights to WebSphere application and AIX.
- Connectivity between WebSphere and the AIX operating system.
- A good working knowledge of deploying applications in an AIX environment.

Task 1: Create the Directory Structure

1. Create this directory to contain the BusinessObjects Performance Manager configuration files:

   `./../installedApps/node-cell./af_config/`

2. Copy all of the `.properties` files from this BusinessObjects directory:

   `\\..\Business Objects\Performance Management 11.5`

   To this application server directory:

   `./../installedApps/node-cell./af_config`

3. Create this directory to store DecisionCenter WAR files:

   `./../installedApps/node-cell./DecisionCenter_war/`

4. Create this directory to store `.jar` files:

   `./../installedApps/node-cell./shared/lib/`

5. Copy this file from the BusinessObjects server:

   `\\..\Business Objects\BusinessObjects Enterprise 11.5\java \applications\cewcanative.jar`

   To this application server directory:

   `./../installedApps/node-cell./shared/lib`

Task 2: Create the Environment Variables

1. Start a browser session.
2. Type the URL to connect to the WebSphere administration console. For example:

   server.name:admin_port_number/ibm/console
3. Log on with your administrative credentials.
4. From the left navigation pane, click **Environment** > **WebSphere Variables**.

Step 1: Identify the RDBMS

1. Click **New**.
2. Type an identifier in the **Name** field. For example:

   Oracle_JDBC_Driver
3. Type the path to the driver. For example:

   ./../app/oracle/10gClient/jdbc/lib
4. Type an optional **Description**.
5. Click **Apply**.
6. In the Messages box, click **Save** to apply the changes.
7. Click **Save** again.

Step 2: Define the Library Path

1. From the same WebSphere Variables section of the WebSphere administration console, click **New**.
2. Type **LD_LIBRARY_PATH** in the **Name** field.
3. Type this path into the **Value** field:

   ./../installedApps/node-cell./bobje/enterprise115/aix_rs6000
4. Type an optional **Description**.
5. Click **Apply**.

6 In the Messages box, click **Save** to apply changes.

7 Click **Save** again.

Task 3: Copy the Property Files

1 Click **New**.

2 Type **af.configdir** in the **Name** field. The identifier must match the name specified in step 1 on page 142.

3 Type the path where the `.properties files` reside. For example:

```
./../installedApps/node-cell./af_config/
```

4 Type an optional **Description**.

5 Click **Apply**.

6 In the Messages box, click **Save** to apply changes.

7 Click **Save** again.

Task 4: Define the JDBC Connection

From the left navigation pane, click **Resources** > **JDBC Providers**.

Step 1: Identify Your RDBMS

1 Click **New**.

2 Select **Oracle** as the **database type** from the dropdown list.

3 Select **Oracle JDBC Driver** as the **provider type** from the dropdown list.

4 Select the **implementation type**. This is the connection pool data source.

5 Click **Next**. WebSphere populates some of the General Properties fields automatically depending on what you selected in Steps 3 and 4.

6 Type an optional **Description**.

7 The class path automatically matches the RDBMS selection. In this case, it should be:

```
${ORACLE_JDBC_DRIVER_PATH}/ojdbc14.jar
```

If this is not correct, replace it with the correct path. For example:

```
./../apploracle/10gclient/jdbc/lib/ojdbc14.jar
```

The related driver files must be resident on this AIX server for WebSphere to find the correct path.

8 The Implementation class name is also based on the database type that you selected. If you change the automatic selection, the results are unpredictable. In this case, verify that this is the **Implementation class** name:

```
oracle.jdbc.pool.OracleConnectionPoolDataSource
```

9 Click **Apply**.

10 In the Messages box, click **Save** to apply changes.

11 Click **Save** again.

Step 2: Identify the Database Connection

1 Click the JDBC driver name that you just defined.

2 From the Additional Properties section, click **Data sources (Version 4)**.

3 Click **New**.

4 Although the **JNDI name** is specified, you must change it to **jdbc/dc**.

5 Leave **Category** field blank.

6 Type the **Database name**. For example: rds_db.

This should be the same name specified in the installation and when you configure the database connectors.

7 Type the **Default user ID** for the database. For example: rds_dba.

8 Type the **Default password**. If you do not have a password assigned, leave the field blank.

9 Click **Apply**.

10 In the Messages box, click **Save** to apply changes.

11 Click **Save** again.

12 From the JDBC Providers page, select the JDBC connection that you just defined.

13 Click **Test Connection**. If an error message appears, repeat the steps in this section.

Step 3: Define the Database Server

1 Click the name of the JDBC connection.

2 From the Additional Properties section, click **Custom Properties**.

3 Click **New**.

4 Type a **Name** to identify the database server. For example: *dbServer*.

5 Type a **Value** for the server name that is the identifier for the database server. For example: *server.name*.

6 Type an optional **Description**.

7 The **Type** is selected automatically.

8 Click **Apply**.

9 In the Messages box, click **Save** to apply changes.

10 Click **Save** again.

Step 4: Define the Port Number

1 Click **New**.

2 Type an identifier for the port in the **Name** field. For example: *dbPort*.

3 Type the actual database port number in the **Value** field. For example: *12345*.

4 Click **Apply**.

5 In the Messages box, click **Save** to apply changes.

6 Click **Save** again.

Step 5: Specify the URL

1 Click **New**.

2 Type **URL** in the **Name** field.

3 Type the Oracle JDBC URL in the **Value** field. For example:

```
jdbc:oracle:thin:@server_name:1521:ORCL
```

4 Click **Apply**.

5 Click **Save**.

6 Click **Save** again.

Task 5: Copy the Required Library

1 From the WebSphere administration console, click **Servers** > **Application servers**.

2 Click the server name.

3 On the **Configuration** tab, in the **Server Infrastructure** section, expand the **Java Process Management** node.

4 Click **Process Definition**.

5 In the Additional Properties section, click **Java Virtual Machine**.

6 Type the **Classpath** recommended by the Business Objects documentation. For example:

```
./../installedApps/node-cell/shared/lib/cewcanative.jar
```

7 In the **Boot Classpath** field, type the path recommended by the Business Objects documentation. For example:

```
./../installedApps/node-cell/bobje/enterprise115/aix_rs6000
```

8 In the **Debug arguments** field, the debug options are optional. You can accept the default options.

9 In the **Generic JVM arguments**, type the path to the configuration directory. For example:

```
-Djava.library.path=/app/WAS6/profiles/default/installedApps
/qaaix53-0 1Node01Cell/businessobjects.ear
/webcompadapter.war:-Daf.configdir=/app/WAS6/profiles/default
/installedApps/node-cell/af_config
```

10 Click **Apply**.

11 In the Messages box, click **Save** to apply changes.

12 Click **Save** again.

Task 6: Define the Path to the Configuration Directory

1 In the **Additional Properties** section, click **Custom Properties**.

2 Click **New**.

3 Type the **Name** of the configuration directory.

4 Type the path to the configuration in the **Value** field. For example:

```
./../installedApps/node-cell/af_config
```

5 Click **Apply**.

6 In the Messages box, click **Save** to apply changes.

7 Click **Save** again.

Task 7: Configure Performance Manager

1 Navigate to the directory that contains the BusinessObjects Performance Manager configuration files. For example:

```
./../installedApps/node-cell./af_config/
```

2 Open the `InitConfig.properties` file with a text editor.

3 Type the path that points to the BusinessObjects server in the **CMSName** and **CMSClusterName** fields.

Task 8: Deploy the DecisionCenter WAR File

The DecisionCenter application is a web archive (WAR) file on the DecisionCenter installation media. The installation process prompts you to store the WAR file in the appropriate web server directory. The web application server deploys the file.

1. Insert the DecisionCenter installation media in your hard drive on a Windows workstation. The installer starts automatically, or you can click **Autorun.exe** to start the installer.
2. Click the **Web Application** tab.
3. Click **DecisionCenter Web Interface**.
4. Copy `decisionCenter.war` and transfer it into the AIX installation directory that you created in step 3 on page 142. For example:

   `./../installedApps/node-cell./DecisionCenter_war.`
5. Copy these files into the same directory:
   - `\\..\Business Objects\BusinessObjects Enterprise 11.5\java\applications\webcompadapter.war`
   - `\\..\Business Objects\BusinessObjects Enterprise 11.5\Web Services\en\dswsbobje.war`
   - `\\..\Business Objects\BusinessObjects Enterprise 11.5\java\applications\desktop.war`
6. From the WebSphere administration console, click **Application** > **Install New Application**.
7. Click **Remote files system**.
8. Click **Browse** to locate the directory with the WAR files. For example:

   `./../installedApps/node-cell./DecisionCenter_war`
9. Select a WAR file from Table 23. Select one file at a time in the specified order.

10 Specify the **Context root** for the selected file using the information in the following table.

Table 23 Deployment Order

WAR File	Context Root
webcompadapter.war	/businessobjects
dswsbobje.war	/dswsbobje
desktop.war	/businessobjects/enterprise115/desktoplaunch
decisionCenter.war	/decisionCenter

11 Click **Next**.

12 Click **Next** to use the default bindings and mappings.

13 Click **Continue** on the Application Security Warnings screen.

14 Click **Next** to accept the **Select installation options**.

15 To map the application modules to a server, select the server where DecisionCenter will run from the list of servers. For more information, contact your AIX administrator.

16 Click **Apply**.

17 Select the checkbox for the WAR file that you are deploying.

18 Click **Next**.

19 Select the **Virtual Host** for the application module that you are deploying from the drop-down list. Make sure that all deployed WAR files are on the same host. For example: select *default_host*. The admin_host is where the WebSphere administration console resides, and it has a different port number. HP recommends that you do not deploy your DecisionCenter WAR files on the admin host.

20 Select the appropriate check box and click **Next**.

21 You can ignore the warning on the **Summary** screen. Click **Finish**. WebSphere deploys the WAR file and displays a log. Look for a success message.

22 Click the **Save to Master Configuration** message in the log.

23 Click **Save**.

24 If a conflicts log appears, review the log for override messages that need your attention. These messages appear when you re-deploy a new set of files over an existing set of files.

25 Click **Save** to override the existing files.

26 For each WAR file, repeat Step 9 on page 149 – Step 25.

Task 9: Customize the DecisionCenter Configuration

1 Click **Applications** > **Enterprise Applications**.

2 Click **decisionCenter.war**.

3 In the **Related Items** section, click **Web modules**.

4 Click **decisionCenter.war**.

5 From the **Class loader mode** drop-down list, select **Parent Last**.

6 Click **Apply**.

7 In the Messages box, click **Save** to apply changes.

8 Click **Save** again.

Task 10: Customize Business Objects

Complete these tasks on the application server.

1 Use a text editor to open this file:

```
./../installedApps/node-cell/dswsbobje_war.ear/dswsbobje.war
/WEB-INF/classes/dsws.properties
```

2 Change the domain value to point to your target Business Objects server. For example:

```
domain=Business_Objects_server_name_URL
report.server=DecisionCenter_server_name_URL
```

3 Save and close the file.

4 Open each `*.wsdl` file in the same directory. Change the `<soap:address>` parameter in each file in Table 24 to point to the correct server.

Table 24 WSDL Parameters

.wsdl File	Edit This Parameter
publish.wsdl	`<soap:address location= "http://server_name:port_number/dsws/ services/publish" />`
queryservice.wsdl	`<soap:address location= "http://server_name:port_number/dsws/ services/queryservice" />`
reportengine.wsdl	`<soap:address location= "http://server_name:port_number/dsws/ services/reportengine" />`
session.wsdl	`<soap:address location= "http://server_name:port_number/dsws/ services/session" />`

5 Save and close the file.

6 To apply Business Objects InfoView customization for DecisionCenter, replace the existing Business Objects files with files from the DecisionCenter installation media.

Table 25 Customized Business Objects Files

DecisionCenter File	Replace in ./../installedApps/node-cell/ desktop_war.ear/desktop.war
cestartpage.jsp	`/jsp/ce`
aa-linkbar.js	`/scripting`

Table 25 Customized Business Objects Files

DecisionCenter File	Replace in ./../installedApps/node-cell/ desktop_war.ear/desktop.war
home.jsp	`/InfoView/main`
aa-promptcontent.jsp **appsContentFrame.jsp** **headerPlusAF.jsp** **performanceManagement Home.jsp** **workspaceHeaderAF.jsp**	`/jsp`
viewCDZDocument.jsp **viewReport.jsp**	`/Viewers/cdz_adv`

Task 11: Configure JAAS

You must configure the Java Authentication and Authorization Service (JAAS) on the application server to authenticate users and grant log-on permission.

1. Start a browser session.
2. Type the URL to connect to the WebSphere administration console. For example:

   server_name:9999/ibm/console

   Where *9999* is the admin port number.
3. Log on with your administrative credentials.
4. From the left navigation pane, click **Security** > **Global Security**.
5. From the Authentication section of the WebSphere administration console, expand **JAAS Configuration** and click **Application Logins.**
6. Click **New**.
7. Type **dpJndi** in the **Alias** field.
8. In the Addition Properties section, click **JAAS login Modules**.
9. Click **New**.

10 Type the following in the **Module class name** field:

`com.hp.ov.cwc.security.jaas.JndiLoginModule`

11 Select **REQUIRED** in the **Authentication strategy** field.

12 Click **Custom Properties**.

13 Click **New**.

14 Type **group.provider.url** in the **Name** field.

15 Type the URL of the LDAP server in the **Value** field. For example:

`ldap://`*`server_name:99999`*`/ou=xxxxx,dc=server,dc=name,dc=com`

Where

`server_name` is the DNS domain server
`99999` is the port number
`ou=` *organizational_unit*
dc= *domain_name_component*

16 Click **Apply**.

17 Click **New**.

18 Type **group.search.objectClass** in the **Name** field.

19 Type **groupOfUniqueNames** in the **Value** field.

20 Click **Apply**.

21 Click **New**.

22 Type **security.credentials** in the **Name** field.

23 Type the password in **Value** field.

24 Click **Apply**.

25 Click **New**.

26 Type **security.principal** in the **Name** field.

27 Type your security information in the **Value** field. For example:

`uid=`*`admin`*`, ou=`*`group_name`*`, ou=`*`group_name`*`, o=`*`base_domain`*

28 Click **Apply**.

29 Click **New**.

30 Type **user.provider.url** in the **Name** field.

31 Type the URL in the **Value** field. For example:

`ldap://server_name:99999/ou=xxxxx, dc=server, dc=name, dc=com`

32 Click **Apply**.

33 Click **Save**.

34 Click **Save** again.

Task 12: Configure Time Zones

DecisionCenter relies on accurate time information to apply rules and calculate impact. All tools must have the same time zone configuration to ensure this accuracy.

You must configure the correct time zone parameter on these three servers:

- The application server
- The data warehouse server
- The Optimization engine server

Follow these steps to configure the application server.

1 Open this file with a text editor:

`./../installedApps/node-cell/decisionCenter_war.ear /decisionCenter_war/WEB-INF/common.properties`

2 Change this value:

`database.timezone=GMT`

To

`database.timezone=GMT+/-nn`

where *nn* is a numeric value for the number of time zones displaced from Greenwich Mean Time for your local time zone. For example, GMT-5 is the displacement for Eastern Standard Time in North America.

3 Save and close the file.

Task 14: Start the Server

1. From your AIX command line window, navigate to the /bin directory.
2. Run this script to start the server:

```
./startServer.sh server_name
```

9 Configure DecisionCenter

In Chapter 8, Configure the Application Server, you deployed the DecisionCenter WAR file. This file contains JavaServer pages, configuration files, code libraries, and other support files that create a web application.

Before you begin configuring DecisionCenter, ensure that you have a valid authorization code. If necessary, contact **HP Software Support (www.hp.com/go/hpsoftwaresupport)**.

DecisionCenter Installation Checklist

Print this checklist to use during the installation process. As you complete each task, mark it finished. Complete these tasks on the application server.

- ☐ Task 1: Stop the Application Server on page 158.
- ☐ Task 2: Configure Time Zones on page 158.
- ☐ Task 3: Start the Application Server on page 159.
- ☐ Task 4: Verify the Results on page 160.

Task 1: Stop the Application Server

Depending on your application server platform, invoke one of these commands to stop the application server.

Table 26 Stop the server

Operating System	Command
Windows	From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** > **Stop**
HP-UX	Run this script: `./../Tomcat/bin/shutdown.sh`
AIX	Run this script: `./stopServer.sh` *`server_name`*

Task 2: Configure Time Zones

DecisionCenter relies on accurate time information to apply rules and calculate impact. All tools must have the same time zone configuration to ensure this accuracy. You configured a time zone parameter in Chapter 3, Build the Data Warehouse after installing Connect-It. The next step is to configure the time zone for the DecisionCenter application.

1 Open this file with a text editor:

Windows:

```
\\..\Tomcat\webapps\decisionCenter\WEB-INF\common.properties
```

HP-UX:

```
./../Tomcat/webapps/decisionCenter/WEB-INF/common.properties
```

AIX:

```
./../installedApps/node-cell//decisionCenter_war.ear/
decisionCenter.war/WEB-INF/common.properties
```

2 Change this value:

`database.timezone=GMT`

To

`database.timezone=GMT+/-nn`

Where *nn* is a numeric value for the number of time zones displaced from Greenwich Mean Time for your local time zone. For example, GMT-5 is the displacement for Eastern Standard Time in North America.

3 Save and close the file.

Task 3: Start the Application Server

Depending on your application server platform, invoke one of these commands to start the application server.

Table 27 Start the server

Operating System	Command
Windows	From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** > **Start**
HP-UX	Run this script: `./../Tomcat/bin/startup.sh`
AIX	Run this script: `./startServer.sh server_name`

Task 4: Verify the Results

It is important to test the installation and verify if there is communication among the Business Objects Enterprise XI server, the remote application server, and the DecisionCenter application.

1. Type the following URL and modify it to point to the server and the assigned port number:

   `http://application.server:port_number/decisionCenter`

2. Click **Go**.
3. Log on with your user name and password that you defined in Chapter 6, Security. The default user name is **dcuser**.
4. Verify that you can expand the Navigation tree and view both the Analytic and Optimization nodes.
5. Click **Impact and Optimization** > **Impact Definition** > **Calculations**. You should see the Calculation interface where you can define a new impact calculation.

If you cannot connect, review the steps in this chapter and ensure that you restart your application server (Tomcat or Websphere) before you start DecisionCenter.

10 Install the Optimization Engine

The chapter describes the software installation and configuration required to run the DecisionCenter Optimization engine. The installation includes data mining components that must reside on the data warehouse server. You should complete these installation tasks on the data warehouse server. After the initial installation, you can move the Optimization engine to a high-capacity server for production efficiency. For more information, see the distributed server configuration diagram on page 18.

Optimization Installation Checklist

Print this checklist to use during the installation process. As you complete each task, mark it finished.

- ☐ Task 1: Stop the Application Server on page 162
- ☐ Task 2: Install the Optimization Engine on page 162.
- ☐ Task 3: Configure the Memory Allocation on page 164.
- ☐ Task 4: Configure Time Zones on page 164.
- ☐ Task 5: Move the Optimization Engine (Optional) on page 165.
- ☐ Task 6: Configure Concurrent Simulations on page 166.
- ☐ Task 7: Restart the Application Server on page 166.

Task 1: Stop the Application Server

Before you install the Optimization engine, invoke one of these commands to stop the application server.

Table 28 Stop the server

Operating System	Command
Windows	From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** > **Stop**
HP-UX	Run this script: `./../Tomcat/bin/shutdown.sh`
AIX	Run this script: `./stopServer.sh` *`server_name`*

Task 2: Install the Optimization Engine

Before you begin, ensure that you have a valid authorization code. If necessary, visit the **HP Software Support (www.hp.com/go/hpsoftwaresupport)**. To correct any path or setting during the installation, click **Back**.

1. Insert the DecisionCenter installation media in your hard drive. The installer starts automatically, or you can click **Autorun.exe** to start the installer.
2. Click the **Optimization Engine** tab.
3. Click **Optimization** to start the installer.
4. Type the authorization code and click **Next**.
5. Accept the End User License Agreement and click **Next**.

6 DecisionCenter has a default installation directory. Do one of the following:

- Accept the default installation directory and click **Next.**
- Click **Change** to choose another directory. then click **OK**, and click **Next**.

7 DecisionCenter locates your Java installation directory. Do one of the following:

- Accept the default destination directory and click **Next.**
- Click **Change** to choose another directory. then click **OK**, and click **Next**.

8 Select your RDBMS and click **Next**.

9 If you selected Microsoft SQL Server, choose your JDBC driver and click **Next**.

10 DecisionCenter locates your JDBC directory. Do one of the following:

- Accept the default destination directory and click **Next.**
- Click **Change** to choose another directory. then click **OK**, and click **Next**.

11 Use the information that you gathered in Step 2: Collect Installation Information on page 43 to specify your RDBMS settings.

12 Click **Next**.

13 DecisionCenter displays these settings. Click **Next** or **Back** to correct errors.

14 Specify the same server name and port number for the Optimization engine and click **Next**.

15 The installer displays the Optimization settings. Click **Next** or **Back** to correct errors.

16 Click **Install**.

17 Click **Finish** and **Exit Install**.

Task 3: Configure the Memory Allocation

If you process large data sets, you may want to increase the amount of available memory for the Optimization engine.

1 Open this file with a text editor:

```
\\..\HP\DecisionCenter 2.00\Optimization\bin
\run_optimizer.bat
```

2 Change this value:

```
java -Xmx1250m
```

To

```
java -Xmxnnnnm
```

3 Save and close the file.

Task 4: Configure Time Zones

DecisionCenter relies on accurate time information to apply rules and calculate impact. All tools must have the same time zone configuration to ensure this accuracy. You configured a time zone parameter in Chapter 3, Build the Data Warehouse after installing Connect-It, and in Chapter 9, Configure DecisionCenter. The next step is to configure the time zone for the Optimization engine.

1 Open this file with a text editor:

```
\\..\HP\DecisionCenter 2.00\Optimization\config
\common.properties
```

2 Change this value:

```
database.timezone=GMT
```

To

```
database.timezone=GMT+/-nn
```

Where *nn* is a numeric value for the number of time zones displaced from Greenwich Mean Time for your local time zone. For example, GMT-5 is the displacement for Eastern Standard Time in North America.

3 Save and close the file.

Task 5: Move the Optimization Engine (Optional)

You can improve simulation performance by running the Optimization engine on a high capacity Windows or Unix server.

Windows Server

1 Navigate to this directory:

```
\\..\HP\DecisionCenter 2.00\Optimization
```

2 Compress the Optimization folder and all subordinate files and folders into a zip archive.

3 Transfer the `.zip` archive to the destination server.

4 On the destination Windows server, unzip the archive into the location of your choice. For example:

```
\\..\DecisionCenter 2.00
```

Unix Server

Your JAVA_HOME environment variable must point to a compatible Sun JDK or JRE. For more information, see the DecisionCenter Support Matrix on the **HP Software Support** web site (**http://support.openview.hp.com/sc/support_matrices.jsp**).

1 Navigate to this directory on the data warehouse server:

```
\\..\HP\DecisionCenter 2.00\Optimization
```

2 Compress the Optimization folder and all subordinate files and folders into a standard tar file using a third party tar compression tool.

3 Transfer the `.tar` file to the destination server.

4 On the destination Unix server, extract the files from the archive into the location of your choice. For example:

```
./../DecisionCenter 2.00
```

Task 6: Configure Concurrent Simulations

If you install the Optimization engine on a multi-processor server, you can improve simulation performance by increasing the number of concurrent simulations.

1 Open this file with a text editor:

```
\\..\HP\DecisionCenter 2.00\Optimization\config
\optimizer.properties
```

2 Change this value:

```
maximumConcurrentSimulations=1
```

To

```
maximumConcurrentSimulations=nn
```

Where *nn* is a numeric value equal to the number of processors on the server. If you increase the number on a single processor server, results are unpredictable. There may be no effect, or even degraded performance.

3 Save and close the file.

Task 7: Restart the Application Server

1 For Tomcat, clear the cache by deleting the files in this directory:

```
\\..\Tomcat\work\Catalina\localhost\DecisionCenter
```

Websphere clears the cache automatically.

2 Invoke one of these commands to start the application server.

Table 29 Start the server

Operating System	Command
Windows	From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** > **Start**
HP-UX	Run this script: `./../Tomcat/bin/startup.sh`
AIX	Run this script: `./startServer.sh` *`server_name`*

Although you finished installing the Optimization engine, you must wait to start it until you complete Task 4: Load the DecisionCenter Tables on page 194.

11 Data Mining

Before you begin, ensure that you complete the installation tasks in the prior chapters. Data mining tasks assume that you have some ServiceCenter or Service Manager administration knowledge and that you are skilled at running SQL queries. Complete the data mining tasks on the data warehouse server.

Data Analysis

The most time-consuming steps to prepare for DecisionCenter BIA and Optimization are the preparation activities for existing data, and decisions required to populate new tables and fields with new data. For example, DecisionCenter requires that each incident be associated with a business service or value center, directly or indirectly through an associated configuration item. Existing incident data may not have those association built into each incident record. For BIA and Optimization, you must create those associations.

Review the checklist of business and data preparation decisions. You may require the combined expertise of a ServiceCenter or Service Manager Administrator, Database Administrator, and Professional Services personnel to arrive at the decisions and complete the required actions.

Business Services and Value Centers

DecisionCenter BIA and Optimization relies heavily on the concepts of business services and value centers. It is important that you understand how they impact your organization and daily activities.

Business Services

A business service is the combination of one or more business applications plus the supporting configuration items that enable delivery of the business service to the customer. The products that IT offers its customers are internal and external business services. Business services often have one or more associated value centers.

Enterprise resource planning (ERP) is a good example of a business service. ERP is a business management system that integrates all facets of the business, including planning, manufacturing, sales, and marketing. There can be many component business applications such as inventory control, order tracking, customer service, finance, and human resources.

DecisionCenter creates the PREP_BUSINESS_SERVICE_V view of business services when you install BIA components. This view is based on information in the ServiceCenter or Service Manager DEVICE_D table and displays all records where TYPEPRGN='bizservice'.

Value Centers

A value center is that part of your business that provides a product or service to an internal or external customer. It can be an entire business unit, a cost or profit center, or a functional department. It is an entity that adds value directly, or indirectly, to your customer community.

It is easy to see that any revenue producing business unit can be described as a value center. However, cost centers also affect corporate value. For example, a finance department is a value center. It does not sell a product to an external customer, but its forecasts, balance sheets, public statements and other outputs affect the profitability of the enterprise.

IT is another example of a value center. How effectively it meets its Service Level Agreements obligations affects the performance and profitability of the customers that it serves.

DecisionCenter automatically creates value centers from all defined ServiceCenter or Service Manager departments.

Business Services and Value Centers

An enterprise business service can have many associated value centers. A Claims service is an example of a business service; Claims entry, Claims processing, and Claims arbitration are examples of value centers that support the Claims business service.

Data Analysis Checklist

Gathering this information may be the most difficult aspect of preparing for the actual installation. These are business decisions that require a broad range of business expertise at the operational and executive levels. It is advisable to consult these experts before you translate these decisions into physical data.

- ☐ What is the range of data that I want to work with? Should it extend over a month, a quarter, or a year?
- ☐ What is the beginning date of relevant incidents?
- ☐ What are your identifiable business services? This needs to be a specific list, preferably in a database table. You may need to import this information into the DecisionCenter data warehouse.
- ☐ Which configuration items impact each business service when an outage occurs?
- ☐ What are your identifiable value centers? This needs to be a specific list, preferably in a database table. You may need to import this information into the DecisionCenter data warehouse.

The answers to these questions will help you customize the ETL and data analysis processes for your organization.

Data Mining Checklist

Print this checklist to use during the data mining process. As you finish each task, check it as completed. Complete these tasks on the DecisionCenter data warehouse server. For more information, see the distributed server configuration diagram in Server Configuration on page 18.

- ☐ Task 1: Customize Business Service Data on page 175.
- ☐ Task 2: Prepare the Data on page 175.
  - — Step 1: Identify the Target Range for Your Data on page 175.
  - — Step 2: Create the Problem PREP View on page 176.
  - — Step 3: Populate the Assignment Group PREP Table on page 177.
  - — Step 4: Populate the Operator PREP Table on page 178.
  - — Step 5: Populate the Assignment Shift PREP Table on page 181.
  - — Step 6: Populate the Business Service CI PREP Table on page 186.
  - — Step 7: Populate the Business Service Incident PREP Table on page 186.
  - — Step 8: Add Assignment Transitions on page 187.
  - — Step 9: Populate the Incident Exclusion PREP Table on page 189.
  - — Step 10: Add Full Time Equivalent (FTE) Employee Values on page 189.
- ☐ Task 3: Customize the Data Mapping on page 190.
  - — Step 1: Customize the Organization Table Mapping on page 190.
  - — Step 2: Customize Value Center Mappings on page 191.
  - — Step 3: Customize the Labor Cost on page 192.
  - — Step 4: Customize Incident Mapping on page 192.
  - — Step 5: Customize SLO Mapping on page 193.
- ☐ Task 4: Load the DecisionCenter Tables on page 194.
  - — Step 1: Load Data into the DecisionCenter Tables on page 194.
  - — Step 2: Run the Data Cleanup Script File on page 195.

- Step 3: Point the Scenario to the ServiceCenter 6.2.2 Server on page 195.
- Step 4: Load Change Data into the DecisionCenter Tables on page 196.

- ☐ Task 5: Start the Optimization Engine on page 196.
- ☐ Task 6: Compute Time to Next Incident on page 197.
- ☐ Task 7: Verify the Results on page 202.

Getting Started

A business service is the combination of one or more business applications plus the supporting configuration items that enable delivery of the business service to the customer. These can be internal or external business services. Business services often have one or more associated value centers. DecisionCenter uses these tables to add business service information to ServiceCenter or Service Manager incident data.

Table 30 Business Service Customization

Table or View	Populated With Data From	Notes
business_service	PREP_BUSINESS_SERVICE_V	Customize before you begin Task 1: Customize Business Service Data on page 175.
business_service_type	PREP_BS_TYPE_V	
configuration_item	PREP_CONFIG_ITEM_V	
configuration_item_type	PREP_CI_TYPE_V	
businessservice_configitem	PREP_BS_CI	Customize when you populate the PREP_BS_CI table in Step 6: Populate the Business Service CI PREP Table on page 186.
incident_business_service	PREP_BS_INCIDENT	If necessary, customize when you populate the PREP_BS_INCIDENT table in Step 7: Populate the Business Service Incident PREP Table on page 186.
valuecenter_businessservice	DEPT and COMPANY fields in the DEVICE_D table	

Task 1: Customize Business Service Data

PREP_BUSINESS_SERVICE_V is a view of business services defined in the ServiceCenter or Service Manager DEVICE_D table where TYPEPRGN='bizservice'. If you decide to modify the view definition, make sure the view will return the same columns and type of information. Then recreate the view using the new definition.

Task 2: Prepare the Data

There are several steps to follow in this preparation phase that load data into DecisionCenter PREP tables. These are new tables that contain specialized ServiceCenter or Service Manager data. Each of the new tables contains data that is essential to advanced analysis, simulation, and optimization activities. In some cases, you will extract data from a native ServiceCenter or Service Manager field and populate a new field in a PREP table. In other cases, you will collect certain data from diverse ServiceCenter or Service Manager tables into a single new PREP table.

Step 1: Identify the Target Range for Your Data

This is a business decision. Evaluate the calendar interval that you want to see represented in the results. DecisionCenter will use all the ServiceCenter or Service Manager data related to an incident, such as clock time, problem records, service level agreements, and so on during this time period.

For BIA, you must choose a start date for the period of time included in the historical impact analysis. For Optimization, you must choose a start date that encompasses incidents representing your current incident workflow. For example, if you made process or workflow changes that affect the elapsed time until an incident closes, you might want to use only incidents opened after the process or workflow changes occurred.

If the BIA starting date and the Optimization starting dates are different, and you plan to run Optimization simulations, choose the most recent as the single start date.

The resulting incident pool must contain one or more months of meaningful data to produce reliable results. It must also include the following attributes to calculate a meaningful historical impact analysis.

- The PROBSUMM_D table must contain all the incidents:
  - Open *on* or *after* the selected date.
  - Open *before* and closed *on* or *after* the selected date.
- The PROBLEM and CLOCK_EVENTS tables must contain complete information about incidents that represent events that occurred *on* or *after* the selected date.

You will set this date when you create the PREP_PROBSUMM_V view in the next step.

Step 2: Create the Problem PREP View

Follow these steps to create the PREP_PROBSUMM_V view.

1. Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

   For Microsoft SQL Server, open:

   ```
   \\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql
   ```

   For Oracle, open:

   ```
   \\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql
   ```

2. Search for the **General Settings** section.
3. Change the `startSet` variable to the date that you chose in Step 1: Identify the Target Range for Your Data on page 175.

   Microsoft SQL Server example:

   ```
   SET @startSet = 'yyyy-mm-dd';
   ```

   Oracle example:

   ```
   startSet varchar2(60):= 'yyyy-mm-dd';
   ```

4. Run the query statements that begin with **$NAME=CREATE_VIEW**.

Step 3: Populate the Assignment Group PREP Table

Follow these steps to populate the PREP_ASSIGNMENT_GROUP table with valid assignment groups.

1 Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

For Microsoft SQL Server, open:

```
\\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql
```

For Oracle, open:

```
\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql
```

2 Search for the **Updating PREP_ASSIGNMENT_GROUP** section.

3 Run the query statements that begin with **$NAME=AG_ADD**.

Validate Assignment Groups

After you populate the PREP_ASSIGNMENT_GROUP table, make sure that the assignment groups in the table are valid groups that were part of the ServiceCenter or Service Manager assignment table. Records with valid groups will have a value of 1 in the `VALID` field.

Invalid assignment groups can occur when the name was mis-typed by an operator, the group was deleted, the group was renamed, or the group was split into multiple groups.

1 Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

For Microsoft SQL Server, open:

```
\\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql
```

For Oracle, open:

```
\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql
```

2 Search for the **Updating PREP_ASSIGNMENT_GROUP** section.

3 Run the query statements that begin with **$NAME=AG_VALID_NULL**.

4 Examine the resulting record where VALID is 0 or null and do the following:

a If the name was mis-typed and you know what it should be, change VALID to 1 and ALIAS_FOR to the correct group name.

b If the name was mis-typed and you do not know what it should be, do not change the VALID value of 0. If the value is null, change it to 0.

c If the group name was deleted from the current assignment table, but was once valid, change VALID to 1.

Best practice: Update the REASON_DROPPED field with the value **deleted** for future reference.

d If the group name was changed to another name, change VALID to 1 and ALIAS_FOR to the new assignment group name.

Best practice: Update the REASON_DROPPED field with the value **renamed** for future reference.

e If the group was split into multiple sub-groups, change VALID to 1.

Best practice: Update the REASON_DROPPED field with the value **split** for future reference.

f If the group name contains non-assignment group information, do not change the VALID value of 0.

Step 4: Populate the Operator PREP Table

Follow these steps to populate the PREP_OPERATOR table with information about operator incident interaction.

1 Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

For Microsoft SQL Server, open:

```
\\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql
```

For Oracle, open:

```
\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql
```

2 Search for the **Updating PREP_OPERATOR** section.

3 Run the query statements that begin with **$NAME=OP_ADD**.

Optionally, on a data refresh, you might want to refresh the FOUND field to reflect whether the user is still in the operator table or not. In that case, run the query statements that begin with **$NAME=OP_SET_FOUND**.

Validate Operators

After you populate the PREP_OPERATOR table, you must ensure that the operators in the table are valid operators that were part of the ServiceCenter or Service Manager operator table. If the operator name is valid, the VALID field will have a value of 1. If the operator name is invalid, the VALID field will have a value of 0. If the VALID field contains a null value, it is assumed to be 1.

Best Practice: All VALID fields should contain 1 or 0.

Invalid operators can occur when the operator name is mis-typed or part of an automated process. For validation purposes, if the same operator name appears in the SYSMODUSER field in a related table, you can assume it is a valid operator. The following steps check the operator name against the SYSMODUSER field in other tables and reduce the number of VALID fields that contain null values.

1. Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

   For Microsoft SQL Server, open:

   ```
   \\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql
   ```

   For Oracle, open:

   ```
   \\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql
   ```

2. Search for the **Updating PREP_OPERATOR** section.
3. To validate operators found in the SYSMODUSER column of the PROBSUMM_D table, run the query statements that begin with **$NAME=OP_SET_VALID_PROBSUMM**.
4. To validate operators found in the SYSMODUSER column of the PROBLEM table, run the query statements that begin with **$NAME=OP_SET_VALID_PROBLEM**.
5. To validate operators found in the SYSMODUSER column of the CLOCK_D table, run the query statements that begin with **$NAME=OP_SET_VALID_CLOCK**.

6 To verify these operator names from other related tables (such as ACTIVITY), run the query statements that begin with **$NAME=OP_SET_VALID_ACTIVITY**.

7 To find the remaining VALID fields with no value, run the query statements that begin with **$NAME=OP_VALID_NULL**.

8 When the number of remaining records is manageable, you should be able to examine them individually and change the VALID value to 1 or 0.

Identify Automated Process Operators

The AUTOMATIC_PROCESS flag value must be 1 if the operator is part of a ServiceCenter or Service Manager automatic process. It can be an internal process, a background process., or an external process that involves other HP software. Automatic process operators should be omitted from DecisionCenter calculations and simulation activities because these operators do not have incident assignments. If the AUTOMATIC_PROCESS field contains a null value, it is assumed to be 0.

Best Practice: It is important that all AUTOMATIC_PROCESS fields contain 1 or 0. You should run a query to identify any AUTOMATIC_PROCESS fields that contain null values.

Is an Operator an Individual or a Group?

DecisionCenter produces the best results when each operator works independently and ServiceCenter or Service Manager captures the amount of time spent on each incident. You should run a query to identify any INDIVIDUAL fields that contain null values. Valid values are 1 for individual operators or 0 for an operator group.

Best Practice: Create unique operator IDs for each operator in ServiceCenter or Service Manager; do not assign a single operator name to a group of operators.

Identify Operators with Multiple Operator Names

One ServiceCenter or Service Manager user may have multiple operator names because they have multiple user roles. For any user with more than one operator name, you must choose which is to be the primary operator name. In all other records for this user, ensure that the primary name is the value in the ALIAS_FOR field.

Choose one or more of these methods to identify operators with multiple operator names.

1 Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

   For Microsoft SQL Server, open:

   `\\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql`

   For Oracle, open:

   `\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql`

2 To run a query on the FULL_NAME field in the OPERATOR_D table to find individual operators with duplicate FULL_NAMEs:

   a Search for the **FULL_NAME** section.

   b Run the query statements that begin with **$NAME=OP_DUP_FULLNAME**. The query returns the FULL_NAME and the number of times it appears in the OPERATOR_D table.

   c List the operator records that correspond to the list of FULL_NAMEs.

   d For each FULL_NAME, decide whether the FULL_NAME is just an alias for another FULL_NAME. The objective is to identify alias operator names the primary operator name for each individual.

   e Set the ALIAS_FOR field in the PREP_OPERATOR table for the alias entries that reference the primary operator name.

Step 5: Populate the Assignment Shift PREP Table

The PREP_ASSIGNMENT_SHIFT table must contain information about time zones and work schedules. There are several data mining tasks for this table to prepare it for DecisionCenter.

- Add Assignment Group Shifts on page 182.
- Assign Multiple Shifts on page 182.
- Associate a Valid Schedule on page 183.
- Set the Time Zone on page 184.

Add Assignment Group Shifts

Every assignment group in the PREP_ASSIGNMENT_TRANSITION table must have one or more assignment shifts. Follow these steps to populate the PREP_ASSIGNMENT_SHIFT table.

1. Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

   For Microsoft SQL Server, open:

   `\\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql`

   For Oracle, open:

   `\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql`

2. Search for the **Updating PREP_ASSIGNMENT_SHIFT** section.
3. Run the query statements that begin with **$NAME=SHIFT_ADD**.

This script creates default assignment group shift records, one for each assignment group. For each record, the script sets the `TZ_NAME` field to <tbd>, and sets the `SCHEDULE_NAME` field with the corresponding assignment group `CALENDAR_NAME` field, or to <tbd> if the assignment group `CALENDAR_NAME` field is null.

You can add more shifts to the assignment groups as necessary.

Assign Multiple Shifts

It is possible to set up an assignment group with more than one shift. For example, for an assignment group that works 24x7, with significant differences in staffing during different shifts, DecisionCenter can produce more accurate results if you define the different shifts and their Full Time Equivalent (FTE) employees.

You can remove the default assignment shift for the assignment group in the PREP_ASSIGNMENT_SHIFT table and create your own shifts records.

Associate a Valid Schedule

Some assignment shifts have a SCHEDULE_NAME value that does not match a valid schedule name in the CALDUTYHOURS table. You can locate the records by running the query SHIFT_UNKNOWN_SCHEDULES. This query returns a list of unmatched schedule names and the number of assignment shifts that reference each unmatched name.

Identify the Records with Invalid Schedules

Follow these steps to run the SHIFT_UNKNOWN_SCHEDULES query.

1. Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

   For Microsoft SQL Server, open:

   `\\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql`

   For Oracle, open:

   `\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql`

2. Search for the **Updating PREP_ASSIGNMENT_SHIFT** section.
3. Run the query statements that begin with **$NAME=SHIFT_UNKNOWN_SCHEDULES**.

The query inserts a value of <tbd> into the invalid schedule field. You must analyze each record with a <tbd> value in the schedule field. For each record, you can resolve the <tbd> by applying the remedy described in one or more of the following cases.

Case 1: The Correct Schedule Is Not in the CALDUTYHOURS Table

In this case, the required schedule information is not in the CALDUTYHOURS table. Follow these steps to modify the schedules in the CALDUTYHOURS table and then re-create your assignment group records.

1. Use the ServiceCenter or Service Manager client to add, change, or delete schedules in the CALDUTYHOURS table.
2. Use the ServiceCenter or Service Manager client to update the records in the assignment group table with the modified schedule information.
3. Re-run the Connect-It scenario file (`dco_sc.scn`) to refresh the DecisionCenter data warehouse.

4 Repeat Step 1 through Step 3 on page 183 to run the SHIFT_UNKNOWN_SCHEDULES query again to ensure that there are no unmatched schedules. If there are records with <tbd> in the schedule field, repeat this process until there are no invalid fields.

Case 2: Update the <tbd> Records Manually

If the CALDUTYHOURS table is correct, but there are <tbd> values in the schedule field, you can replace the missing schedule information in each affected record with a valid schedule values using a manual editing process.

Case 3: Update the <tbd> Records With a Single Value

1 Identify the records that require manual updating with special schedule information.

2 Apply the steps in Case 1 and Case 2 until you have a set of records that should be populated with the same shift schedule value.

3 Locate the **$NAME=SHIFT_SET_SCHEDULE** section.

4 Edit the default schedule value with a valid schedule name. The valid schedule name will replace the <tbd> value. The default schedule value is:

```
'Mo. - Fr. 08:00 - 17:00'
```

For example, you might substitute a schedule value of

```
'Mo. - Fr. 7:00 - 11:00 12:00 - 4:00'
```

If that is a valid schedule name. Make sure that the value exists in the NAME field of the CALDUTYHOUR table.

5 Run the query.

Set the Time Zone

The dates specified in a ServiceCenter or Service Manager CALDUTYHOUR table are in local time; however, DecisionCenter processes dates within a time zone. When you ran the **$NAME=SHIFT_ADD** script (Add Assignment Group Shifts on page 182), the script inserted a <tbd> value in the `TZ_NAME` field. Now you must populate that field with a valid time zone name.

Obtain a List of Valid Time Zones

You can get a list of all names using the `bia_datamining` utility, or you can get a smaller list of time zone values where the standard time corresponds to a specific offset from Greenwich Mean Time (GMT). Follow these steps to obtain a list of all possible time zone names.

1. From the Windows **Start** menu, click **Run,** and type **CMD** to open a command window.
2. Change directories to:

   ```
   \\..\HP\DecisionCenter 2.00\BIA\bin
   ```

3. Type this command:

   ```
   bia_datamining ListTimeZones
   ```

4. Press **Enter**.

Follow these steps to obtain a list of time zone values expressed as an offset from GMT.

1. From the Windows **Start** menu, click **Run,** and type **CMD** to open a command window.
2. Change directories to:

   ```
   \\..\HP\DecisionCenter 2.00\BIA\bin
   ```

3. Type this command:

   ```
   bia_datamining ListTimeZones GMT<s>NN
   ```

   Where *<s>* is a plus (+) or minus (-) sign, and *NN* is the offset in hours from GMT.

4. Press **Enter**.

Populate TZ_NAME With a Valid Time Zone Value

The `SHIFT_SET_TZ` script replaces <tbd> with one of the valid time zone names that you identified in the last steps.

1. Locate the appropriate SQL template file for your environment on the DecisionCenter installation media.

   For Microsoft SQL Server, open:

   ```
   \\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql
   ```

For Oracle, open:

```
\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql
```

2 Search for the **Updating PREP_ASSIGNMENT_SHIFT** section.

3 Locate the query statements that begin with **$NAME=SHIFT_SET_TZ**.

4 Replace '**Europe/Paris**' with a valid time zone value.

5 Run the query statements that begin with **$NAME=SHIFT_SET_TZ**.

Step 6: Populate the Business Service CI PREP Table

The PREP_BS_CI table creates relationships between the business service and the configuration items that support the business service. ServiceCenter 6.1.*x* and earlier versions do not capture business service relationships; however, DecisionCenter impact calculations and optimization tasks require business service data.

Follow these steps to populate the PREP_BS_CI table.

1 Locate the appropriate SQL template file for your RDBMS on the DecisionCenter installation media.

For Microsoft SQL Server, open:

```
\\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql
```

For Oracle, open:

```
\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql
```

2 Search for the **Updating PREP_BS_CI** section.

3 Run the query statements that begin with **$NAME=BS_CI_REFRESH**.

Step 7: Populate the Business Service Incident PREP Table

ServiceCenter 6.1.*x* and earlier versions do not capture business service relationships; however, DecisionCenter impact calculations and optimization tasks require business service data. The PREP_BS_INCIDENT table creates relationships between a business service and an incident through the device connected to the incident.

By default, DecisionCenter assumes an affected device maps to a business service. Or, you can improve the granularity of business service assignment by manually mapping more sophisticated business service values to the appropriate fields in the PREP_BS_INCIDENT table.

You need to populate the PREP_BS_INCIDENT table if:

- There is no device associated with the incident.
- The device is not associated with a business service in the PREP_BS_CI table.
- The device is associated with a business service, but another business service is affected by the incident.
- The device is associated with more than one business service and not all those business services are affected by the incident.

Follow these steps to populate the PREP_BS_INCIDENT table.

1 Locate the appropriate SQL template file for your RDBMS on the DecisionCenter installation media.

For Microsoft SQL Server, open:

`\\BIA\SupportFiles\DatabaseFiles\mssql-templates.sql`

For Oracle, open:

`\\BIA\SupportFiles\DatabaseFiles\oracle-templates.sql`

2 Search for the **Updating PREP_BS_INCIDENT** section.

3 Run the query statements that begin with **$NAME=BS_INCIDENT_ADD**.

Step 8: Add Assignment Transitions

This step requires you to configure the `process.properties` file, then populate the PREP_ASSIGNMENT_TRANSITION table.

Configure the Process Properties File

1 If you use the default installation path, open this file with a text editor:

`\\..\HP\DecisionCenter 2.00\BIA\config\process.properties`

2 Verify (or change) the following values.

Table 31 Parameters in process.properties

Parameter	Description
rds.database.timezone	Set this parameter to a time zone value that matches the time zone of the date and time fields in the data warehouse. You can express this as *GMT*, *GMT+HH:MM*, or *GMT-HH:MM* where the *HH:MM* value is the offset from *GMT*.
global.defaultUserTimeZone	This value must be a valid Java time zone name. From the command line, you can run the `bia_datamining ListTimeZones` command to obtain a list of valid time zones. It should represent the time zone of the technician's default location, which takes daylight savings into account.

Populate the Table

1 From the Windows **Start** menu, click **Run,** and type **CMD** to open a command window.

2 Change directories to:

```
\\..\HP\DecisionCenter 2.00\BIA\bin\
```

3 Type this command:

```
bia_datamining GenerateIncidentTransitions
```

4 Press **Enter**. The amount of time that the process takes depends on your configuration and the amount of data. It may take from a few seconds to as long as an hour to run.

If you get an out of memory error, you may need to change the default memory limits temporarily. You can change the settings for the `DATA_MINING_OPTS` variable in the `bia_datamining.bat` file to this value:

```
SET DATA_MINING_OPTS=-Xms128m -Xms1024m
```

Step 9: Populate the Incident Exclusion PREP Table

The PREP_PROBSUM_EXT table captures incidents that are not relevant for simulation scenarios. You should identify incidents that were opened against obsolete devices, or incidents reported by a customer who no longer exists, or is not actively reporting incidents. This can be a manual process or a data mining exercise that creates one record for each incident that meets this criteria. Ensure that the incident number is recorded in the `NUMBERPRGN` field and a value of 1 in the `OMIT_FROM_SIMULATION` field.

Step 10: Add Full Time Equivalent (FTE) Employee Values

If you plan to run Optimization scenarios or simulations, you must complete this manual step to estimate the number of Full Time Equivalent (FTE) employees for each shift. This number is an integer greater than or equal to 1.

You can create your own formula, or you can estimate by summing all the time worked on incidents by all employees in a shift for one month. Divide this number by the total work hours of one full time employee during a month. Usually, this number will be lower than the actual number of technicians assigned to a shift, due to tasks unrelated to working the ticket queues.

For example:

- There are five employees who work the 8 – 5 shift each day (an eight-hour work day).
- Each employee works on incidents about six hours a day.
- Their total hours spent on incidents for an entire month is 600 (5 employees x 30 hours per week x 4 weeks in a month).
- Total hours spent on incidents divided by the total work hours of one FTE is 3.75 FTEs (600/160). For fractional results, round up.

Populate the FTE column in the PREP_ASSIGNMENT_SHIFT table with the computed FTE value.

Task 3: Customize the Data Mapping

DecisionCenter requires historical data that contains information about:

- Business services
- The organization
- Value centers
- Labor cost
- Impact
- Service Level Objectives

You completed mapping business services information when you completed Task 1: Customize Business Service Data on page 175.

There are assumptions made in the Connect-It scenarios to map data that adds other required information to ordinary incident data. Because each organization runs differently, you may need to customize the mapping scenario to accurately reflect how your organization operates. You may need to rebuild these views and tables if you make changes. You can use Connect-It to review the mapping relationships.

Step 1: Customize the Organization Table Mapping

The organization table describes the internal organizational structure of the business.

Table name: organization

Populated with data from: DEPT_D

The mapping concatenates the company name and the department name to produce an organization name. You may need to customize the `dco_rds.scn` scenario to accurately reflect how your organization identifies the organizational structure.

Step 2: Customize Value Center Mappings

A value center is that part of your business that provides a product or service to an internal or external customer. It is an entity that adds value directly, or indirectly, to your customer community. An enterprise business service can have multiple associated value centers. There are four tables that support the concept of a value center. You may need to customize the dco_rds.scn scenario to accurately reflect how your organization supports the concept of a value center.

Table 32 Value Center Customization

Table or View	Populated With Data From	Notes
value_center	DEPT_D	There are two mappings that describe how to import value centers. • Mapping 1: `DEPT_DSrc1_1-value_centerDst1` creates value centers and updates their main attributes. • Mapping 4: `DEPT_DSrc4_1-value_centerDst4` connects a value center to its parent.
value_center_type	No ServiceCenter or Service Manager equivalent	Use the DecisionCenter interface to apply value center types to value center records.
valuecenter_businessservice	DEPT and COMPANY field in DEVICE_D	
incident_valuecenter	DEPT and COMPANY field in PROBSUMM_D	

Step 3: Customize the Labor Cost

Maps an average hourly labor cost to close an incident.

Table name: ASSIGNMENT_GROUP

Populated with this data: No ServiceCenter or Service Manager equivalent

The default value is 10; however, you can customize `dco_rds.scn` to use a different value. This value is used in all labor cost calculations. There are no special considerations for currency unit or exchange rates. It is an absolute value used for computations and relative value comparisons.

Step 4: Customize Incident Mapping

Incident mapping adds additional data to ServiceCenter or Service Manager incident records. You can accept the default values used in the `dco_rds.scn` scenario, or you can customize the scenario to use other values.

Table 33 Incident Customization

Table or View	Populated With Data From	Notes
impact_scope_type	incident	The default mapping is `Business_unit`. You may need to customize the scenario to accurately map impact scope type information. Other valid values are `Department`, `Enterprise`, or `Single_user`.
incident_impact_type	incident	The default mapping value is `Outage`, which categorizes each incident as a total loss of operation. You may need to customize the scenario to accurately map incident impact type information. Other valid values are `Capacity`, `Corruption`, `Inquiry`, or `Degradation`.

Step 5: Customize SLO Mapping

Incidents are associated with Service Level Objectives (SLOs) to measure how well an organization meets is response time and availability goals. If IT cannot meet the service levels described in the SLO, an SLO breach occurs that increases Mean Time to Repair (MTTR) metrics. SLOs have a built-in escalation and alert scheme that begins when a user opens an incident to report an outage. DecisionCenter imports response time and availability SLOs, but uses only response time SLOs for Optimization scenarios.

Priority

As an incident approaches the SLO breach point, the priority of the incident escalates in the assignment group queue. DecisionCenter Optimization assumes that an available technician will select on the highest priority incident in the assignment queue.

SLOs in DecisionCenter

For any incident, DecisionCenter first selects the Service Level Agreement (SLA) that is assigned to the department referenced in the incident. Next, DecisionCenter applies the Response Time SLOs that are associated with the selected SLA. Although ServiceCenter or Service Manager supports customization using RAD expressions to further restrict the association between an SLO and an incident, DecisionCenter does not support these customization actions. DecisionCenter works only with severity and user priority selection criteria.

DecisionCenter uses these response time SLO states:

- Open
- Work in progress
- Resolved

When the Connect-It scenario imports SLOs, it converts a Closed state to a Resolved state. Thereafter, DecisionCenter ignores SLOs with any other state.

SLO Mapping

The `dco_rds.scn` scenario imports SLO information with no conditions. Each SLO has a condition field. DecisionCenter selects incidents that have a matching *impact* and *urgency*. Impact and urgency correspond to *severity* and *user priority* in the ServiceCenter or Service Manager probsummary record. You must create a mapping that imports the SLO condition settings into the incident_slo_condition and incident_impact_urg_slo_cond tables.

There are two mapping examples in the dco_rds.scn that show how to import SLO condition information into the incident_slo_condition and incident_impact_urg_slo_cond tables. These are examples only; you must modify them to meet the format of your data.

Task 4: Load the DecisionCenter Tables

You must run a Connect-It scenario to populate the appropriate tables with business service and configuration item information before you load the remaining DecisionCenter tables with prepared data.

Step 1: Load Data into the DecisionCenter Tables

This step uses another Connect-It scenario to extract data from both resources and load it into DecisionCenter tables. To run the `dco_rds.scn` scenario:

1. From the Windows **Start** menu, click **Programs** > **HP OpenView** > **Connect-it 3.80 en** > **Service Console**.
2. The Service Console should point to this scenario file:

   ```
   \\..\HP\DecisionCenter 2.00\BIA\cit\dco_rds.scn
   ```

3. Click **Start**.

It can take several hours to execute if there is a large quantity of data. Immediately after the initial data synchronization finishes, it is recommended that you back up your database. If synchronization takes a long time, you can use the backup to restore the data.

Step 2: Run the Data Cleanup Script File

The imported data may contain invalid characters with underscore and incidents without transitions. Run this script to replace the invalid characters with underscores and flag any incident without transition information.

1 Copy one of these files from the DecisionCenter installation media to a local directory.

For Microsoft SQL Server:

```
\\BIA\SupportFiles\DatabaseFiles\mssql-post_dco_rds_scn.sql
```

For Oracle:

```
\\BIA\SupportFiles\DatabaseFiles\oracle-post_dco_rds_scn.sql
```

2 Run the script.

Step 3: Point the Scenario to the ServiceCenter 6.2.2 Server

If you are using ServiceCenter 6.2 or an earlier version, skip this step and proceed to Step 4: Load Change Data into the DecisionCenter Tables on page 196. Complete this step only if you have Service Manager 7.00.

1 From the Windows **Start** menu, click **Programs** > **HP OpenView** > **Connect-it 3.80 en** > **Scenario Builder**.

2 Click **File** > **Open** and browse to open this file:

```
\\...\HP\DecisionCenter 2.00\BIA\cit\dco_change.scn
```

3 If the Connect-It Toolbox is not enabled, click **Display** > **Toolbox**.

4 From the Connect-It Toolbox, expand **Hewlett-Packard** > **OpenView Service Management connectors** > **OpenView ServiceCenter connectors**.

5 Double-click **OpenView ServiceCenter** to start the Connector Wizard.

6 Click **Next**.

7 Make sure that the **Server name**, **Login**, and **Password** are correct to connect to the ServiceCenter 6.2.2 server, and that the port number is the one assigned to the ServiceCenter 6.2.2 server, not the port number associated with Service Manager 7.00.

8 Click **Test** to start a connection test between Connect-It and the ServiceCenter 6.2.2 server. Make sure the connection test is successful.

9 Click **Finish**.

10 Save the scenario and close Connect-It.

Step 4: Load Change Data into the DecisionCenter Tables

This step uses another Connect-It scenario to extract planned change data from both resources and load it into DecisionCenter tables. To run the `dco_change.scn` scenario:

1 Make sure that ServiceCenter or Service Manager is running.

2 From the Windows **Start** menu, click **Programs** > **HP OpenView** > **Connect-it 3.80 en** > **Service Console**.

3 The Service Console should point to this scenario file:

```
\\..\HP\DecisionCenter 2.00\BIA\cit\dco_change.scn
```

4 Click **Start**.

Immediately after the initial data synchronization finishes, it is recommended that you back up your database. If synchronization takes a long time, you can use the backup to restore the data.

Task 5: Start the Optimization Engine

Run one of the following command files on the server where you installed (or moved) the Optimization engine.

Windows

```
\\..\DecisionCenter 2.00\Optimization\bin\run_optimizer.bat
```

HP-UX or AIX:

```
./../DecisionCenter 2.00/Optimization/bin/runoptimizer.sh
```

Make sure the runoptimizer.sh script is syntactically correct for your HP-UX or AIX operating system, or you can use the ksh shell to run the script directly. Start the Optimization engine by typing this command:

```
source run_optimizer.sh
```

Verify the Result

1. Type the following URL and modify it to point to the server and the assigned port number:

   `http://your application server:port number/decisionCenter`

2. Click **Go**.
3. Log on with your user name and password that you defined in Chapter 6, Security. The default user name is dcuser.
4. Verify that you can expand the Navigation tree.
5. Click **Impact and Optimization** > **Simulation Manager**. If this message appears:

   `Optimizer is down`

   Do the following:

   a. Repeat the tasks in Install the Optimization Engine on page 161 and ensure that you restart your application server (Tomcat or Websphere) before you start DecisionCenter.

   b. Repeat Step 1 through Step 5 on page 197.

Task 6: Compute Time to Next Incident

If you plan to run Optimization scenarios or simulations, you must compute a Time to Next Incident (TTNI) value. Analyzing normal historical and simulated incident data shows that there are usually some discrepancies, gaps, and a general lack of smooth curve statistics for the average amount of time that elapses between timestamps on incident records. This data mining step gathers statistics about seasonal variations by month, day, and hour from existing data, estimates missing data points, and filters data for anomalies to produce a refined TTNI value that is stored in the database and used by the Optimization engine.

The DecisionCenter TTNI command line utility can create this refined value that you need for more precise input to the Optimization engine.

The TTNI utility has embedded documentation that describes the command names and parameters that you can invoke to extract the required data. Follow these steps to configure and run the TTNI utility.

1 Open this file with a text editor.

```
\\..\HP\DecisionCenter 2.00\Optimization\config
\dataminingContext.xml
```

2 Change any of the following parameter values.

monteCarloSampleCount	The default value is 50. This value dictates how many Monte Carlo simulations it takes to produce one data point. As you increase the number of Monte Carlo simulations, the more precise the sampling; however, run time also increases proportionally.
calibrationMinCountFactor	Minimum historical average hourly incident count. The data mining engine computes the average of the minimum and maximum incident counts. The default value is .9.
calibrationMaxCountFactor	Maximum historical average hourly incident count. The data mining engine computes the average of the minimum and maximum incident counts. The default value is 1.1
calibrationSampleCount	The number of simulations to run. The default value is 19; the minimum value is 5.
calibrationFunctionDegree	The degree of the function used to estimate TTNI. The default value is 2.

3 Save and close the file.

4 From the Windows **Start** menu, click **Run,** and type **CMD** to open a command window.

5 Change directories to:

```
\\..\HP\DecisionCenter 2.00\Optimization\bin
```

6 Type this command:

```
opt_datamining parameter
```

You must run this utility before you attempt to start DecisionCenter and run simulation scenarios.

TTNI Commands and Parameters

You can add one or more parameters to modify the basic functionality of the `opt_datamining` command.

Table 34 TTNI Commands

Command	Result
-h	Display help.
ComputeTTNI (or ttni)	Compute an average time to next incident value and save it in the database.
ComputeTTNI -n (or --dontSave)	Do not save the computed TTNI value in the database.
ComputeTTNI -l (or --loadOnly)	Do not compute a new TTNI; load the saved value from the database.
ComputeTTNI -t fileName (or --runTest fileName)	Compute the TTNI value, run a simulation with that value, compare with history, and save the results in *fileName*. Save the TTNI value for a future run.
TestDatabaseConnection (or testdb)	Connect to the database and verify that the OPERATOR_D table exists and contains a field NAME.

You can mix the format using either the long or short form of the command. For example:

```
opt_datamining ttni -n --runtest myResults.txt
```

```
opt_datamining ComputeTTNI --dontSave -t myResults.txt
```

TTNI Notes

You cannot use the -l parameter for the initial run. There must be a saved TTNI value before you use this parameter.

The utility saves only one set of TTNI values. Subsequent runs with save enabled will replace the current value with a new set of TTNI values.

Types of Output

The TTNI utility produces three types of output files that you can view and edit with Microsoft Excel.

- **Time to Next Incident Measurements** are computed by month, day, and hour.
- **Calibration** describes the sampled hourly incident count based on selected calibration points.
- **Simulation Test** generates historic and average incident counts produced by simulation runs that use the TTNI value.

Customizing TTNI

The Time to Next Incident model determines how frequently the incidents occur, taking into account the seasonal variations (month, day of week, and hour of day). The TTNI utility computes these parameters using your data.

If you accept the out-of-box TTNI settings for the incident rate, they will be accurate for a range of -10% to +10% of your historical hourly incident count.

During scenarios defining potential business services, the number of incidents produced in a period can decrease or increase depending on whether you remove business services or add business services. If the rate of incidents described by the scenario is significantly different from the historical rate, it is possible that the variation will be greater than the default value -10% to +10% range. In that case, the precision of the results is unpredictable.

In extreme cases, it is possible that the incident rate is so far from the -10% to +10% range that the Optimization engine (and the simulation) fails. The optimization engine log (dc_optimizer.log) displays this error:

```
java.lang.IllegalArgumentException: Exponential mean must be >=0
```

Tuning the incident rate

The solution is to change the default configuration of the TTNI utility.

1 Open this file with a text editor.

```
\\..\HP\DecisionCenter 2.00\Optimization\config
\dataminingContext.xml
```

2 Locate this parameter:

```
<property name="calibrationMinCountFactor">
   <value>.9</value>
</property>
```

3 Change the .9 value, which corresponds to -10% of the historic rate, to a more reasonable value for your simulation scenarios. For example, if you change this value to .1, this lowers the minimum average hourly incident count to 10% of the historical incident rate:

```
<property name="calibrationMinCountFactor">
   <value>.1</value>
</property>
```

4 Locate this parameter:

```
<property name="calibrationMaxCountFactor">
   <value>1.1</value>
</property>
```

5 Change the 1.1 value, which corresponds to +10% of the historic hourly incident rate, to a more precise value for your simulation scenarios. For example, if you change this value to 1.3, this raises the maximum average hourly incident count to 130% of the historical incident rate:

```
<property name="calibrationMinCountFactor">
   <value>1.3</value>
</property>
```

6 Save the file.

7 Stop the Optimization engine.

8 Re-run the TTNI utility.

9 Re-start the Optimization engine.

Task 7: Verify the Results

1. Log on to the data warehouse as the `rds_dba` user.
2. Run the following queries on the rdsdb database:
   - Select * from incident_transition
   - Select * from business_service
   - Select * from timetonext_incident_factor

Each query should return rows of information. If any query does not return rows, the data mining process was unsuccessful. Repeat the tasks in this chapter for that table and verify the results.

Refresh the Data

Connect-It scenarios run only once. There is no automatic schedule defined. Mapping scenarios run once to synchronize all the data from identified resources. You may need to re-run the scenarios, data mining activities, and the History Builder if you have changes to your original source data.

If you schedule BIA scenarios to run periodically to re-synchronize the data, consult the Connect-It documentation for best practice guidelines.

If you schedule the `dco_rds.scn` scenario to run periodically, create the scheduling grouped by the order of data source connector sequences. For example, sequence data warehouse source 1, data warehouse source 2, data warehouse source 3, and so on.

The amount of time required to synchronize the data depends on the volume of data to be processed and the capacity of your server. You should schedule the synchronization to occur during off-peak hours when the server has no other demands.

A Troubleshooting

Before you attempt to troubleshoot a problem, make sure that your environment complies with the requirements of the Support Matrix. If you do not have the correct platform, version, browser, or other required component, DecisionCenter cannot run successfully. For more information, see the DecisionCenter Support Matrix on the **HP Software Support** web site (**http://support.openview.hp.com/sc/support_matrices.jsp**).

BusinessObjects Critical Hot Fix

If you deploy the report content before you apply the BusinessObjects Enterprise Critical Hot Fix (CHF), you cannot re-deploy the content successfully because the existing reports and universes cannot be overwritten. After you install the CHF, you must delete all the folders and the universes from the repository before you attempt to deploy the report content again.

Best practice: Make sure that you complete the tasks in Chapter 5, Install BusinessObjects Enterprise XI before you begin the tasks in Chapter 7, Install the DecisionCenter Analytics.

Error Messages

Error Message: An unexpected system error occurred. Repeat the procedure and if the error persists, contact your system administrator or HP Software Support.

Explanation: This message may occur because your browser setting does not allow the browser to check for newer versions of stored pages.

Action: Follow these steps to apply the correct setting.

1 Start a browser session.

2 Click **Tools** > **Internet Options** > **General**.

3 Click **Delete Files** and the **Delete all offline content** checkbox to clear the internet files cache.

4 Click **OK**.

5 Click **Settings**.

6 Click **Automatically** under **Check for newer versions of storage pages**.

7 Click **OK**.

8 Click **OK**.

9 Close the browser session.

10 Start a new browser session.

11 Type the URL to start DecisionCenter.

Heap Size

The heap size setting on the Web application server hosting DecisionCenter must be at least 512 MB. The recommended setting is 1024 MB.

Installation Error Messages

The installer may display warning and error messages if you attempt to complete a step out of sequence, or if you repeat a step. Use the information in the message to correct the errors and repeat the step.

When you complete the ITPA-SM portion of the installation, there are a series of scripts that depend on correct completion of earlier steps. Any error generates the following message.

```
One or more installation errors occurred. Review specific error
messages located at:

\\..\DecisionCenter 2.00\ITPA-SM\logs\*.log

\\..\DecisionCenter 2.00\ITPA-SM\logs\rds_etl_init.err
```

If the log indicates that the `rds_init` or `test_rdssc` scripts failed, the failure might be caused by one of the following errors.

- This file has incorrect settings:

  `\\..\HP\DecisionCenter 2.00\ITPA-SM\cit\config_rdssc.txt`

  Open the file with a text editor, correct the errors, and save the file. Run these scripts in this order:

  a `\\..\DecisionCenter 2.00\ITPA-SM\common\bin\upd_rdssc.cmd`

  b `\\..\DecisionCenter 2.00\ITPA-SM\common\bin\test_rdssc.cmd`

- If `test_rdssc` and `rds_init` failed, run these scripts in this order:

  a `\\..\DecisionCenter 2.00\ITPA-SM\common\bin\upd_rdssc.cmd`

  b `\\..\DecisionCenter 2.00\ITPA-SM\common\bin\test_rdssc.cmd`

  c `\\..\DecisionCenter 2.00\ITPA-SM\common\bin\rds_init.bat`

- The ServiceCenter or Service Manager server is not running. Start the server and repeat the ITPA-SM installation steps.
- The database server is not running. Start the server and repeat the ITPA-SM installation steps.
- You did not complete the earlier steps to unload the required files in ServiceCenter or Service Manager. This unload process creates the bi-connector user and operator records, and provides triggers and scripts that support the ETL process. Repeat the unload steps and then the ITPA-SM installation steps.

Socket Error

If the error message in the `rds_etl_init.err` file reports “Error establishing socket,” complete these steps.

- Verify that you imported the ServiceCenter or Service Manager unload files correctly. If not, repeat Task 1: Prepare the Source Data on page 32 throughTask 5: Install the Data Warehouse on page 46.

- Use your RDBMS application to verify that the new tables exist in the database. If not, repeat Task 2: Create the Tablespace and Users on page 34 throughTask 5: Install the Data Warehouse on page 46.

Log Files

DecisionCenter produces log files that you can access to troubleshoot errors:

The main Optimization engine logs are:

```
\\..\HP\DecisionCenter 2.00\Optimization\bin\dc_optimizer.log
```

```
\\..\HP\DecisionCenter 2.00\Optimization\bin
\hibernate_optimizer.log
```

The main application logs are:

```
\\..\Tomcat\bin\dc.log
```

```
\\..\Tomcat\bin\hibernate.log
```

Windows: If you're running Tomcat as a service instead of from a `.bat` file, the application log files are in this directory:

```
\\windows\system32
```

HP-UX: The application log files are in the same folder that contains the `startup.sh` script.

DecisionCenter produces BIA log files that can help you debug errors. Look for them in this directory:

```
\\..\HP\DecisionCenter 2.00\BIA\logs
```

Table 35 BIA Log Files

Log File Name	Purpose
createsvc_dcords.log	Logs actions to install or uninstall the `dco_rds` service
createsvc_dcosc.log	Logs actions to install or uninstall the `dco_sc` service
test_dcords.log	Logs connector information

Table 35 BIA Log Files

Log File Name	Purpose
test_dcosc.log	Logs connector information
upd_dcords.log	Logs connector update information
upd_dcosc.log	Logs connector update information

Session Timeout Value

To adhere to best practices, change the session timeout values of the Business Objects Connection Server and the Web_IntelligenceReportServer. Unless otherwise noted, the default value is in seconds. For more information, refer to the Business Objects documentation.

1. Click **Start > Programs > Business Objects XI Release 2 > BusinessObjects Enterprise > BusinessObjects Enterprise Java Administration Launchpad**.
2. Click **Central Management Console**.
3. Log on as Administrator.
4. Click **Servers**.
5. Click ***server_name*** > **Connection Server**.
6. From the Properties tab **Connection Pooling** section, select **No Timeout**.
7. In the **Connection Server Job** section, change the **Timeout for Inactive Jobs** to **120**.
8. Click **Update**.
9. Click ***server_name*** > **Web_IntelligenceReportServer**.
10. From the Properties tab **Connection Time Out** field, change the value to **60** minutes.
11. Click **Update**.

If you click **Apply** instead of **Update**, you must restart the server for the changes to be effective.

Changing web.xml Default Parameters

You can change the default values in the web.xml file if necessary. Follow these instructions.

1. From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** and stop the Tomcat service.
2. Open this file with a text editor:

   ```
   \\..\Tomcat\webapps\...\WEB-INF\web.xml
   ```

3. Modify one or more parameters. Use the information in Table 36 as a reference.
4. Save and close the file.
5. From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** and start the Tomcat service.

Table 36 Default web.xml Parameters

Name	Description	Default Values
folderPrefix	Display folders in Business Objects with the specified prefix in DecisionCenter navigation menu	ITPA, BIA, ITPO
boProgPath	Business Objects InfoView application installation path	/businessobjects/enterprise115 /desktoplaunch
ITPA	Groups defined for the ITPA tier	ITPA_GM, ITPA_AA, ITPA_Admin
BIA	Groups defined for the BIA tier	BIA_GM, BIA_AA, BIA_Admin
ITPO	Groups defined for the Optimization tier	ITPO_GM, ITPO_AA, ITPO_Admin

JDBC Connection Pool Errors

The maxActive property in the JNDI data source configuration defines the maximum number of active connections in the pool. You must evaluate the factors that drive how large your connection pool should be. If users close their browser sessions without logging out, the connections they use remain open until:

- The connection expires after being unused for the amount of time specified in the JNDI configuration. Some connections can become available automatically as the specified timeout occurs.
- The user session expires after the amount of time specified in the `web.xml` file.

For optimum results, this value can be as low as 10 or as high as 100, depending on the number of concurrent users and abandoned browser sessions. If you see JDBC connection pool errors, increase the number of connections to a value that works in your environment.

Broken Database Server Connections

When a database server reboots, or a network failure occurs that breaks your database server connection, you must restart the application server to re-establish the connection. You can configure Tomcat to re-create a broken connection automatically by editing the `decisioncenterContext.xml` file and adding the `validationQuery` parameter.

1. From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** and stop the Tomcat service.
2. Open this file with a text editor:

   ```
   \\..\Tomcat\conf\Catalina\localhost\decisionCenter.xml
   ```

3. For Microsoft SQL Server, add the following parameter to the file.

   ```
   <parameter>
      <name>validationQuery</name>
      <value>select 1</value>
   </parameter>
   ```

4 For Oracle, add the following parameter to the file.

```
<parameter>
   <name>validationQuery</name>
   <value>select 1 from dual</value>
</parameter>
```

5 Save and close the file.

6 From the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services** and start the Tomcat service.