Installation Guide for IBM® Analytical Decision Management 7 on Windows

Installing and configuring the product

Before installing IBM® Analytical Decision Management, you must install and configure all prerequisite software, including IBM® SPSS® Collaboration and Deployment Services 4.2.1 or 5, and IBM® SPSS® Modeler Server 15. System requirements, supported application servers, databases, and environments depend on these prerequisites. For details on supported versions and system requirements, see the IBM Technical Support site at *http://www.ibm.com/support* and the installation documentation for the prerequisite software.

For the most up-to-date system requirements information, we recommend using the *Software product compatibility reports* under *Support Resources* on the IBM Technical Support site:

http://publib.boulder.ibm.com/infocenter/prodguid/v1r0/clarity/index.jsp

IBM SPSS Collaboration and Deployment Services 5 and IBM SPSS Modeler Server 15

If using IBM SPSS Collaboration and Deployment Services **5** and SPSS Modeler Server **15**, IBM Analytical Decision Management supports all environments documented in the installation guides for those products, with the following exceptions:

- iSeries is not a supported platform.
- Optimization (the CPLEX node) is not supported on Linux for System z or on HPUX.
- Apple Safari is not a supported web browser.

IBM SPSS Collaboration and Deployment Services 4.2.1 and IBM SPSS Modeler Server 15

If using IBM SPSS Collaboration and Deployment Services **4.2.1** and SPSS Modeler Server **15**, IBM Analytical Decision Management supports all environments documented in the installation guides for those products, with the following exceptions:

- iSeries is not a supported platform.
- Solaris 9 is not a supported platform.
- Optimization (the CPLEX node) is not supported on Linux for System z or on HPUX.
- WebSphere 6.1 is not a supported application server.
- JBoss 5.1 and 4.2.x are not supported application servers.
- Oracle WebLogic 11g (10.3.1) and 10 are not supported application servers.
- Apple Safari is not a supported web browser.

After installing prerequisite software, follow the instructions in this document to install IBM Analytical Decision Management on the same machine as the IBM SPSS Collaboration and Deployment Services server. The user installing the product must have permissions to install software under the operating system, and read and write permissions to the target installation

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directory. After installation, users can access the thin-client product via a web browser on machines connected to your network.

IBM Analytical Decision Management files are added to the IBM SPSS Collaboration and Deployment Services installation directory (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\decision-management*).

Figure 1-1
IBM Analytical Decision Management infrastructure
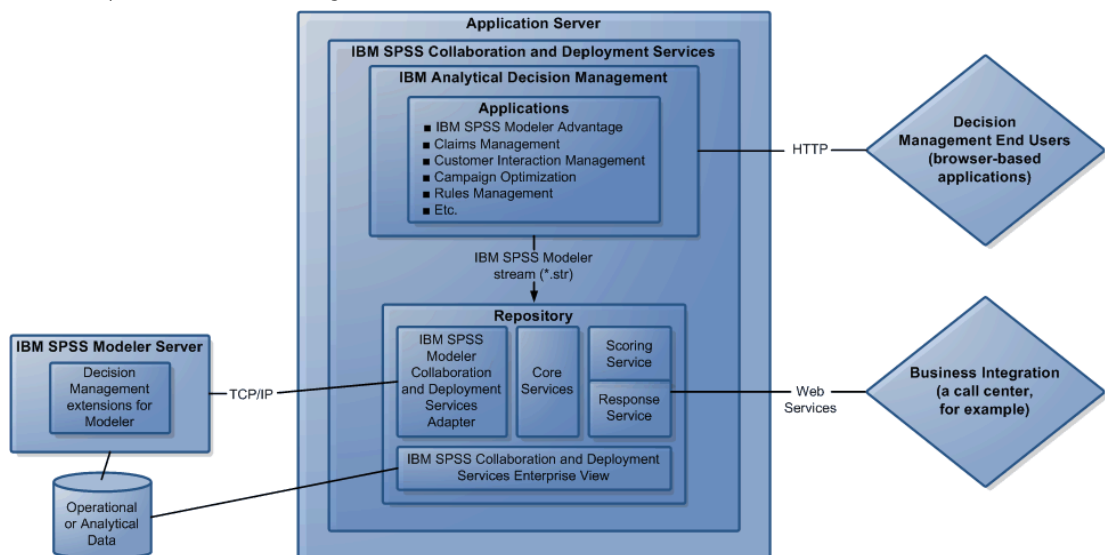
Installing prerequisite software

▶ Install IBM® SPSS® Collaboration and Deployment Services. See the IBM SPSS Collaboration and Deployment Services documentation for installation instructions.

▶ Install IBM® SPSS® Modeler Server. You can install on a different machine or the same machine as IBM SPSS Collaboration and Deployment Services, however SPSS Modeler Server must be running in the same time zone as the application server used by IBM SPSS Collaboration and Deployment Services. See the IBM® SPSS® Modeler documentation for installation instructions.

▶ Install the SPSS Modeler Collaboration and Deployment Services Adapter. This is found on the SPSS Modeler Deployment DVD, and must be installed on the same machine where IBM SPSS Collaboration and Deployment Services is installed. See the SPSS Modeler documentation for installation instructions.

▶ Set up a server definition and credentials for your SPSS Modeler Server in IBM® SPSS® Collaboration and Deployment Services Deployment Manager client.

Installing IBM Analytical Decision Management

If you are migrating from a previous release, the IBM® Analytical Decision Management installation will automatically uninstall the previous version when it installs the new version. If you have any custom application templates, we recommend creating a copy of them as a precaution before installation. For additional details about migrating to a new release, including instructions for updating custom applications, see Chapter 6 of the *Application Designer's Guide*.

IBM Analytical Decision Management must be installed on the same machine where IBM® SPSS® Collaboration and Deployment Services is installed.

► Log on to the machine where the IBM SPSS Collaboration and Deployment Services server is installed.

► Stop the IBM SPSS Collaboration and Deployment Services server. See the IBM SPSS Collaboration and Deployment Services documentation for instructions.

Installing from a downloaded file

► Double-click the downloaded IBM Analytical Decision Management installation file, for example *SPSS_Decision_Mgmt_70_win.exe*.

► Follow the instructions on each installation screen to complete the installation.

Note: When installing on Windows Server 2008 R2, it may be necessary to specify the path to the Java executable as an LAX_VM parameter, for example:

```
SPSS_Decision_Mgmt_70_win.exe LAX_VM "C:\Program
Files\Java\jre1.6.0_05\bin\java.exe"
```

Installing from a DVD

► Insert the IBM Analytical Decision Management installation disc. If the installation menu does not open automatically, browse the disc and double-click *Setup.exe*. An installation menu will open.

► Click Install IBM Analytical Decision Management to begin the installation.

► Follow the instructions on each installation screen to complete the installation.

Installing extensions for IBM SPSS Modeler

Extensions to IBM® SPSS® Modeler must be installed on every machine that hosts one of the following SPSS Modeler products, and that will be used with IBM® Analytical Decision Management or IBM® SPSS® Modeler Advantage.

- IBM® SPSS® Modeler Client
- IBM® SPSS® Modeler Server
- IBM® SPSS® Modeler Batch
- IBM® SPSS® Modeler Solution Publisher

The extensions are required to add support for the rule and optimization nodes used by IBM Analytical Decision Management and IBM SPSS Modeler Advantage, and to install sample data files used in examples.

▶ Stop the IBM® SPSS® Collaboration and Deployment Services server. See the IBM SPSS Collaboration and Deployment Services documentation for instructions.

▶ On each machine where one or more SPSS Modeler products is installed, log on and repeat the following steps:

Installing from a downloaded file

▶ Double-click the downloaded SPSS Modeler extensions file, for example *SPSS_Decision_Mgmt_70_Modeler_Lib_win.exe*.

▶ Follow the instructions on each installation screen to complete the installation.

▶ Start the IBM SPSS Collaboration and Deployment Services server. See the IBM SPSS Collaboration and Deployment Services documentation for instructions.

Installing from a DVD

▶ Insert the IBM Analytical Decision Management installation disc. If the installation menu does not open automatically, browse the disc and run the *Setup.exe* file.

▶ On the installation menu, click Install Extensions for IBM SPSS Modeler.

▶ Follow the instructions on each installation screen to complete the installation.

▶ Start the IBM SPSS Collaboration and Deployment Services server. See the IBM SPSS Collaboration and Deployment Services documentation for instructions.

Repeat this process on every machine that has one of the aforementioned SPSS Modeler products installed and will be used with IBM Analytical Decision Management or IBM SPSS Modeler Advantage.

Along with extensions, sample data is installed under the SPSS Modeler Server *Demos* directory, where it can be accessed for use within IBM Analytical Decision Management applications.

Installing prebuilt IBM Analytical Decision Management applications

A number of prebuilt applications are available for IBM® Analytical Decision Management, including the following:

■ IBM® SPSS® Modeler Advantage

■ IBM Analytical Decision Management Customer Applications (including IBM® Analytical Decision Management for Customer Interactions and IBM® Analytical Decision Management for Campaign Optimization

■ IBM® Analytical Decision Management for Claims

■ IBM® SPSS® Rules Management (included with the customer and claims applications)

Before installing prebuilt applications, ensure that IBM Analytical Decision Management and the extensions for IBM® SPSS® Modeler have been installed as described previously.

▶ Log on to the machine where IBM® SPSS® Collaboration and Deployment Services is installed.

▶ Stop the IBM SPSS Collaboration and Deployment Services server. See the IBM SPSS Collaboration and Deployment Services documentation for instructions.

Installing from a downloaded file

▶ Double-click the downloaded installation file for the application you want to install, for example *SSPSS_Decision_Mgmt_70_Claims_win.exe*.

▶ Follow the instructions on each installation screen to complete the installation.

▶ Repeat for each application you want to install.

Installing from a DVD

▶ Insert the installation disc for the application you want to install. If the installation menu does not open automatically, browse the disc and double-click *Setup.exe*.

▶ Click the link for the application you want to install.

▶ Follow the instructions on each installation screen to complete the installation.

▶ Repeat for each application you want to install.

Sample data and stream files are also available for use with each application. See for details on these components.

Setting IBM SPSS Modeler Server name and credentials

After installing IBM® Analytical Decision Management, you must specify the server name and credentials for the IBM® SPSS® Modeler Server to use. The server name and credentials were defined in the IBM® SPSS® Collaboration and Deployment Services Deployment Manager client software.

▶ Start the IBM® SPSS® Collaboration and Deployment Services server and SPSS Modeler Server.

▶ Open the Deployment Manager client software and log on to your IBM® SPSS® Collaboration and Deployment Services Repository connection.

▶ Under Resource Definitions, expand Credentials and take note of the name used for your SPSS Modeler Server credentials. Then expand Servers and take note of the name used for your SPSS Modeler Server definition.

Note that if the name *modeler* is used for both the server name and credentials, you do not need to perform the steps in this section unless you have multiple SPSS Modeler Server definitions and you would like to specify more than one, as described below.

▶ Open browser-based IBM® SPSS® Collaboration and Deployment Services Deployment Manager, a thin-client interface for performing setup and system management tasks:

http://hostname:port/config

Where *hostname* is the name or IP address of the machine where IBM SPSS Collaboration and Deployment Services is installed, and *port* is your application server port number. Log on using the IBM SPSS Collaboration and Deployment Services administrator account credentials.

▶ Under Configuration, go to the IBM Analytical Decision Management section. Enter the names of your SPSS Modeler Server connection and credentials noted above. The names must exactly match the names defined in Deployment Manager client.

If you have multiple SPSS Modeler Server credentials defined in Deployment Manager, you can also specify more than one here. Then when the IBM Analytical Decision Management user logs on, the server will try the first credential in the list to see if the user has authority, proceeding through the list in order until a credential is found with the proper authority. If the user doesn't have authority to any of the credentials in the ordered list, he or she cannot use IBM Analytical Decision Management.

For example, if you have three different SPSS Modeler Server credentials defined with the names *modeler1*, *modeler2*, and *modeler3*, you could enter the following in browser-based Deployment Manager:

modeler1, modeler2, modeler3

SPSS Modeler Server credentials correspond to the operating system user ID and password, allowing you to use the operating system security features to control file access on the SPSS Modeler Server machine. For example, you may want some users to only have read access to files, while giving others write access.

For security considerations, see Security considerations on p. 11.

▶ Click Set to save and then log out.

Using local ILOG rules

In IBM® SPSS® Collaboration and Deployment Services Deployment Manager, you can use the Add New External Rule dialog box to define references to ILOG rules that can then be used in IBM® Analytical Decision Management. Previously, these rules could only be accessed through a web service. With this release, you can now reference local rules in the ILOG system.

If you plan reference local rules from an ILOG system, some installation and configuration steps are required. For complete details and instructions, see the section *Setting up the Rule Execution Server* in Chapter 5 of the *IBM Analytical Decision Management Application Designer's Guide*, or in the help available from the Add New External Rule dialog box.

IBM WebSphere Operational Decision Management V7.5.0.2 is required for using local ILOG rules with IBM Analytical Decision Management.

Installing and provisioning JAXB for Oracle WebLogic Server

If using Oracle WebLogic Server, IBM® Analytical Decision Management requires that Java Architecture for XML Binding (JAXB) version 2.1 be installed along with the application server.

- You will copy the JAXB jar files from the IBM® SPSS® Collaboration and Deployment Services installation folder (for example, under *C:\Program Files\IBM\SPSS\Deployment\5.0\Server\components\modeler\ext\lib\spss.rules\lib*). The files you copy will depend on which application server version you are using. See the instructions below for details.

- Installation of JAXB should be done after IBM SPSS Collaboration and Deployment Services has been installed, but before running IBM Analytical Decision Management.

- It is critical to ensure that JAXB version 2.1 is used. Earlier versions of JAXB may cause corrupted files to be saved, or lead to other unexpected results in some situations.

- After installing JAXB, restart the IBM SPSS Collaboration and Deployment Services server. See the IBM SPSS Collaboration and Deployment Services documentation for instructions. Depending on the application server version, additional steps are required as detailed below.

Oracle WebLogic Server 11g (10.3.5)

▶ If WebLogic is run with JRockit, the server must be started with -XstrictFP as a parameter to the JVM or switched to a different JVM. This is to prevent JRockit from producing wrong numerical results for expressions including NaN.

Oracle WebLogic Server 10 (10.3.0)

▶ Create a new folder on the local file system (for example, *C:\Oracle\WL10\wlserver_10.0\domain1\jaxb-jars*).

▶ Copy the following three files to the new folder you created in the previous step. Ensure these are the only files in the new folder. Do not copy them to the Oracle WebLogic Server *[domain]/lib*.
- *jaxb-api.jar*
- *jaxb-impl.jar*
- *jsr173_1.0_api.jar*

▶ Add the following java.endorsed.dirsJava system property to the JAVA_OPTIONS section of the *[domain]/bin/setDomainEnv.cmd* script. Set the value to the fully qualified name of the new folder you created containing the three *jar* files.

```
set JAVA_OPTIONS=%JAVA_OPTIONS% -Djava.endorsed.dirs=C:\Oracle\WL10\wlserver_10.0\domain1\jaxb-jars
```

Or on UNIX, edit the *.sh* file instead. Note use of colons (:) instead of semicolons (;). The exact syntax may vary by UNIX shell.

▶ If WebLogic is run with JRockit, the server must be started with -XstrictFP as a parameter to the JVM or switched to a different JVM. This is to prevent JRockit from producing wrong numerical results for expressions including NaN.

Starting the product

▶ Make sure both IBM® SPSS® Collaboration and Deployment Services server and IBM® SPSS® Modeler Server are running. If you need to start them, wait several minutes before launching IBM® Analytical Decision Management in a supported web browser:

http://hostname:port/DM

Where *hostname* is the name or IP address of the machine where IBM SPSS Collaboration and Deployment Services is installed and *port* is your application server port number. Log on using the IBM SPSS Collaboration and Deployment Services administrator account credentials, or other user credentials configured in IBM® SPSS® Collaboration and Deployment Services Deployment Manager.

Notes:

■ You cannot log on until you've installed at least one sample application, or configured your own. See the *Application Designer's Guide* for details about customizing and configuring applications.

■ You cannot log on as an IBM Analytical Decision Management administrator until you've properly configured one or more administrative users or groups in Deployment Manager. For instructions, see the user's guide for the prebuilt application you installed.

Running a silent installation

A silent, unattended installation does not display a graphical interface and does not require any user intervention. To run a silent installation, you must first create an installer properties file.

Note: These instructions describe the steps to configure and run a silent installation for IBM® Analytical Decision Management, as an alternative to the standard installation procedure described previously in the topic *Installing IBM Analytical Decision Management*. For information on running a silent installation of IBM® SPSS® Collaboration and Deployment Services or IBM® SPSS® Modeler Server, see the documentation for those products.

How to create the installer properties file

Create the installer properties file by running the installation executable from the command line with the -r switch. Running the installer with this switch will not install the product. Instead, the installer will create a properties file that "records" your choices.

▶ Copy the installation executable from */DecisionManagement/<OS>* at the root of the DVD to your computer.

► Run the installation executable from the command line with the `-r` switch. Following is an example on Windows:

```
install_file.exe -r
```

Where *install_file.exe* is the name of the file to execute.

On Linux:

```
sudo ./setup_file.bin -r
```

Where *setup_file.bin* is the name of the file to execute.

► Select your choices for the installation. When you finish, the installer will create a properties file called *installer.properties* in the location from which you ran the installer.

Figure 1-2
Sample installer.properties file

```
# Tue May 15 13:21:13 CDT 2012
# Replay feature output
# --------------------
# This file was built by the Replay feature of InstallAnywhere.
# It contains variables that were set by Panels, Consoles or Custom Code.

#Has the license been accepted
#---------------------------
LICENSE_ACCEPTED=TRUE

#Choose Install Folder
#--------------------
USER_INSTALL_DIR=C:\\Program Files\\IBM\\SPSS\\Deployment\\5.0\\Server

#Administrator Account Credentials
#Note password is encrypted -- do not edit by hand
#--------------------------------
VAR_RPM_USER=admin
VARIABLE_RPM_PASSWORD=9C9CD6C2DBE392C2
```

When installing multiple products or applications, a separate *installer.properties* file must be created for each.

How to run the silent installation

► Using a terminal application, run the installation executable with the `-f` switch followed by the location of the installer properties file surrounded by quotation marks. Following is an example on Windows:

```
install_file.exe -f "c:\temp\installer.properties" -i silent
```

Where *install_file.exe* is the name of the file to run.

On Linux:

```
sudo ./setup_file.bin -f "/root/installer.properties" -i silent
```

Where *setup_file.bin* is the name of the file to execute.

When installing multiple products or components, be sure to wait until one completes before starting the next. If a silent installation is launched while another is still running in the background, an error may result.

Sample files

Data and other sample files are included with IBM® Analytical Decision Management that can be used to replicate the examples shown in the user guides.

Data

During installation, a number of sample data files are installed under the IBM® SPSS® Modeler Server *\Demos* directory (for example, *C:\Program Files\IBM\SPSS\ModelerServer\15\Demos*). These files may be used with prebuilt sample applications, and include:

- *insurance_claim_data.txt*
- *insurance_fraud_data.txt*
- *bank_customer_data.txt*
- *bank_response_data.txt*
- *retail_purchase_data.txt*
- *customer_summary_data.txt*
- *customer_contact_history.txt*

Sample application files, models, and rules that use these data files assume the default location indicated above. If data files are installed to a different drive or location, the data source paths will need to be updated accordingly.

Samples

A number of sample application files, models, and rules are provided for use with the prebuilt IBM® Analytical Decision Management applications. The samples are packaged in the *\Demo* directory on the installation disk, or provided in a file available for electronic download. Complete the following steps to import sample files for one or more prebuilt applications into IBM® SPSS® Collaboration and Deployment Services Repository.

▶ **DVD.** Copy the *DecisionManagementExamples.pes* file from the *\Demo* folder on the DVD to a temporary location.

  or

▶ **Downloaded file.** Download the file *SPSS_Decision_Mgmt_70_demo.zip* to a temporary location and extract it.

▶ Open IBM® SPSS® Collaboration and Deployment Services Deployment Manager and log on to your Content Server connection.

▶ Right-click the Content Repository folder and select Import.

▶ In the Import dialog box, click Browse and select the *DecisionManagementExamples.pes* file you copied to a temporary location previously. Click OK.

▶ In the Import Conflicts dialog, click OK. When the import completes, you will see the following new folders containing example projects that can be opened in IBM Analytical Decision Management.

Figure 1-3
Folders for sample artifacts
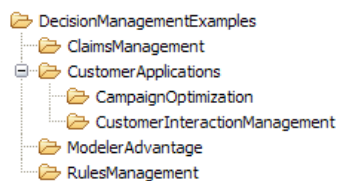
Note that all sample application files, models, and rules assume that data files are installed under the IBM® SPSS® Modeler Server *Demos* directory (for example, *C:\Program Files\IBM\SPSS\ModelerServer\15\Demos*). If data files are installed to a different drive or location, the data source paths will need to be updated for the local configuration.

Security considerations

This section includes security-related information for IBM® Analytical Decision Management installation and configuration.

■ Most web browsers currently support a security feature known as HttpOnly cookies. Using the HttpOnly feature when generating a session cookie mitigates the risk of client side script accessing the protected session cookie. Due to a Java limitation, IBM Analytical Decision Management currently generates session cookies without using the HttpOnly feature. To take advantage of this security feature, the application server must be configured to ensure that session cookies are generated with the HttpOnly feature specified. See your application server documentation.

■ Passwords are not encrypted as they are transported from the web browser to the server in IBM Analytical Decision Management. If this is a concern for your organization, you should use Secure Sockets Layer (SSL). See the IBM® SPSS® Collaboration and Deployment Services documentation for more information about using SSL.

■ If you have more than one set of IBM® SPSS® Modeler Server credentials specified in browser-based IBM® SPSS® Collaboration and Deployment Services Deployment Manager (see Setting IBM SPSS Modeler Server name and credentials on p. 5), the server will try the first credential in the list to see if the user has authority, proceeding through the list in order until a credential is found with the proper authority. Administrators should be aware of the order of the credentials in the list. Credentials that allow the least restrictive access to the data on the SPSS Modeler Server should be listed first. SPSS Modeler Server credentials correspond to the operating system user ID and password, allowing you to use the operating system security features to control file access on the SPSS Modeler Server machine. For

example, you may want some users to only have read access to files, while giving others write access.

■ IBM Analytical Decision Management 7 introduces new file upload functionality. If enabled, in the Data Source Editor, users can upload a local data file to the SPSS Modeler Server. For more information, see the *Managing data sources* section of the help or *User's Guide*.

Administrators can control the maximum file size users can upload, and enable or disable the functionality altogether (it's disabled by default). If you don't want users uploading extremely large files, you should set the maximum file size to an acceptable limit:

Open the browser-based IBM® SPSS® Collaboration and Deployment Services Deployment Manager, and under Configuration, go to IBM Analytical Decision Management. Click Maximum upload size and set the maximum file size, in kilobytes, users are allowed to upload. To disallow users from uploading data files, set the value to 0.

Before enabling the file upload functionality, administrators should be sure the appropriate security measures are in place. Care should be taken so users have appropriate access permissions to the SPSS Modeler Server. For example, you may want to consider excluding access to system files to prevent users from overwriting them with a potential virus.

Accessibility

Accessibility features help sers who have a disability, such as restricted mobility or limited vision, to use information technology products successfully. IBM strives to provide products with usable access for everyone, regardless of age or ability. This product uses standard web browser navigation keys.

Because IBM® Analytical Decision Management is a browser-based application, accessibility options for disabled users, such as those who are visually impaired, are controlled from your web browser settings. For details about user interface actions, including keyboard shortcuts, screen readers, and so on, refer to your web browser's documentation.

Vendor software

IBM Analytical Decision Management may require use of some vendor software that is not covered under the IBM license agreement. IBM makes no representation about the accessibility features of these products. Contact the vendor for the accessibility information about its products.

IBM and accessibility

See the IBM Human Ability and Accessibility Center for more information about the commitment IBM has to accessibility.

Help accessibility

An alternate version of the user help system installed with the product is available to provide additional support for screen readers. To switch to the alternate version you will need to run a batch file to convert the existing help system into a format more efficiently read by a screen reader. In the alternate version the table of contents is on the right and help topics display on the left.

To enable support for screen readers

► Navigate to the root directory of the help on the server (for example, *C:\Program Files\IBM\SPSS\Deployment\5.0\help\en\DecisionManagement\ClaimsManagment\userhelp*).

► To switch to the screen reader-friendly format double-click the batch file *format-for-screen-readers.bat* to run it.

To switch back to the default format run the batch file *restore-default-format.bat*.

Note: The IBM Analytical Decision Management 7 Information Center is accessibility-enabled.