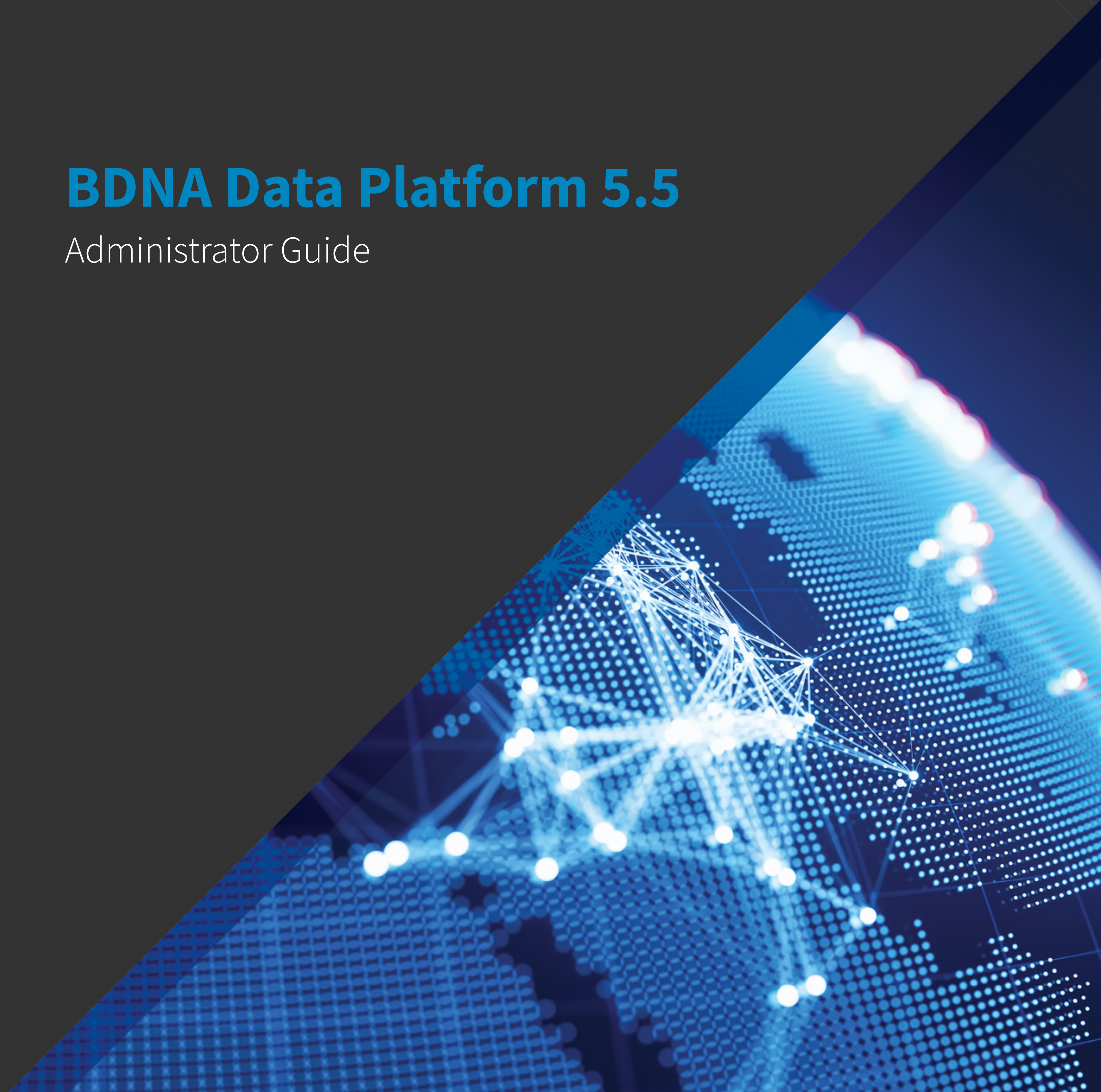
BDNA Data Platform 5.5

Administrator Guide



Legal Information

Book Name:	BDNA Data Platform 5.5
Part Number:	BDNA-AG_550
Product Release Date:	02 August 2016

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1

Getting Started

About this Document

Welcome to the *BDNA Data Platform Administrator Guide*. The BDNA Data Platform™ is a browser-based application that provides you with a convenient, centralized administrative interface, the Administration Console. You can use the Administration Console to configure Technopedia Catalog™ settings, and to schedule, configure, and execute Normalize™ processes. You can also use the Administration Console to integrate normalized data into your existing workflow and business processes.

Depending on your licensing, the BDNA Data Platform includes the following components:

- BDNA Normalize
- BDNA Technopedia Catalog
- BDNA Technopedia API™

Included with all instances of BDNA Data Platform:

- BDNA Data Platform Administration Console

Document Audience

This document is intended for people who are responsible for:

- Managing and/or monitoring BDNA Normalize processes, including creating new processes, scheduling the running of processes, and viewing normalization results.
- Managing user access to BDNA Normalize.
- Managing and maintaining Technopedia Catalog settings.

Note *• Information about the BDNA Technopedia API can be found in the BDNA Technopedia API Reference Guide.*

Recommended Preparation

- Installation and configuration of the BDNA Data Platform
- Installation and configuration of your licensed components
- Setup of a BDNA Normalize user account

Accessing the BDNA Data Platform Console

The BDNA Data Platform Console supports the following browsers:

- Windows Internet Explorer™ v11 or later
- Google Chrome™ v44 or later
- Mozilla Firefox™ v37 or later

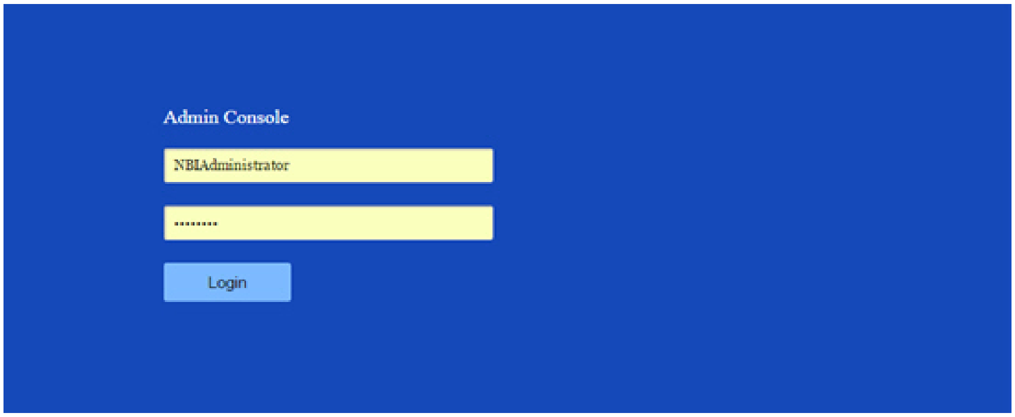
Task ***To access the BDNA Data Platform Console:***

1. Click the BDNA Data Platform icon. This action opens a web browser to:
    - If using IIS: http://*ipaddress*/bdna-admin/Admin.aspx
    - If using IIS Express: http://*ipaddress:port*/Admin.aspx

   where *ipaddress* is the IP address or host name of the BDNA Data Platform Administration Console server, and port is the port number you specify during configuration.

2. Enter the **login username** and **password** you specified during installation. The Administration Console splash screen opens.

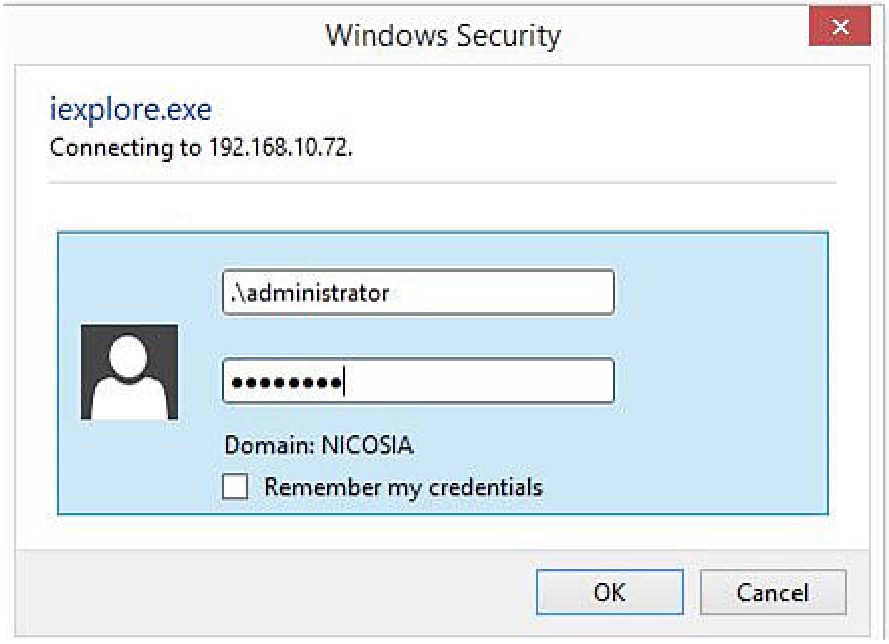
   Figure 1-1: Admin Console login screen (LDAP/AD user)



NBIAdministrator

....

Figure 1-2: Admin Console login screen (local user)


Windows Security
OK
Cancel

iexplore.exe

Connecting to 192.168.10.72.

.\administrator

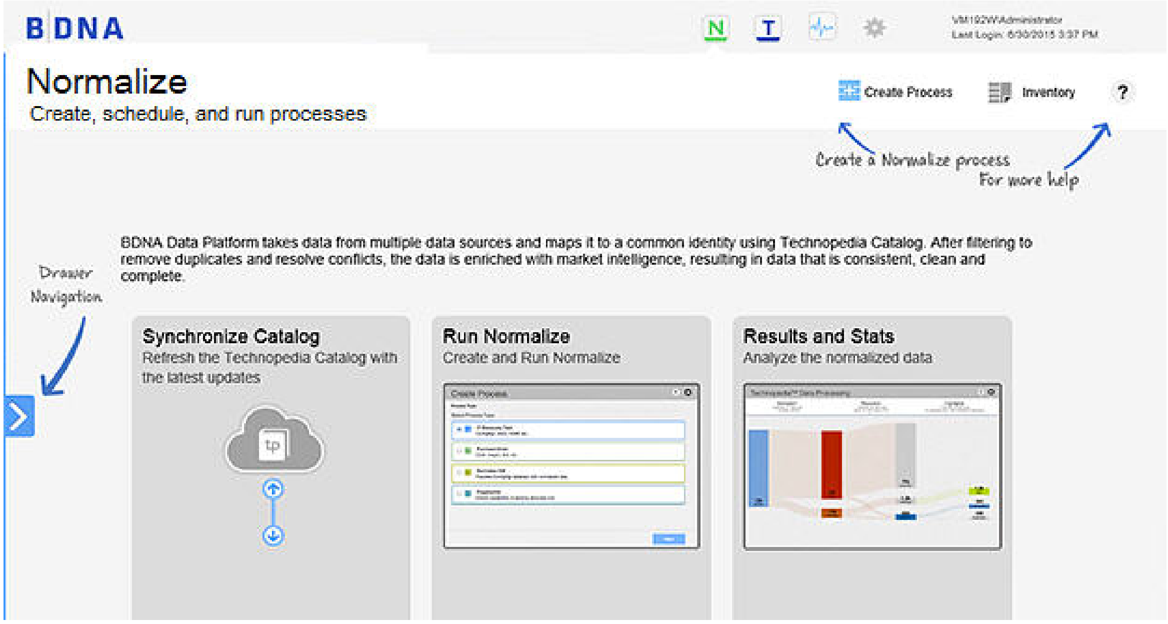
••••••••

Domain: NICOSIA

☐ Remember my credentials

Note • *By default, only the user who installed BDNA Data Platform can initially login to the Administration Console.*

Figure 1-3: Administration Console Splash Screen before a Normalize process is created


BDNA
N
T
VM192W\Administrator
Last Login: 6/30/2015 3:37 PM
Create Process
Inventory
?
Create a Normalize process
For more help
Drawer Navigation

Normalize

Create, schedule, and run processes

BDNA Data Platform takes data from multiple data sources and maps it to a common identity using Technopedia Catalog. After filtering to remove duplicates and resolve conflicts, the data is enriched with market intelligence, resulting in data that is consistent, clean and complete.

Synchronize Catalog

Refresh the Technopedia Catalog with the latest updates

Run Normalize

Create and Run Normalize

Results and Stats

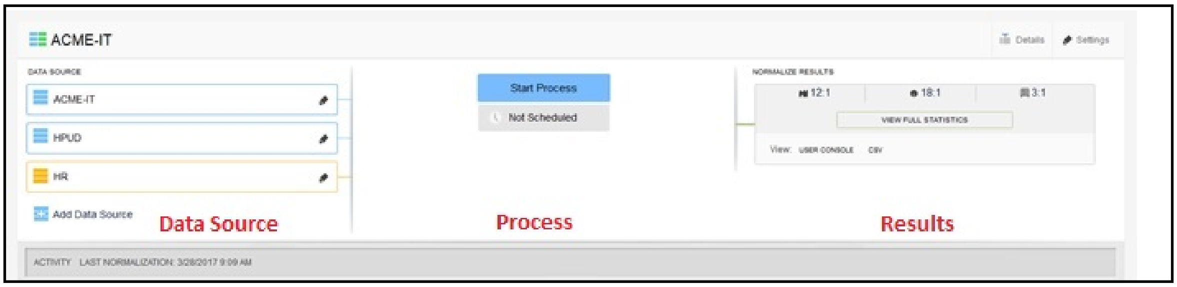
Analyze the normalized data

Using the Administration Console

Once you add a process to BDNA Normalize, the Administration Console splash screen is replaced by the BDNA Normalize main screen, an example of which is shown in BDNA Normalize Console Panels. This screen is divided into the following panels:

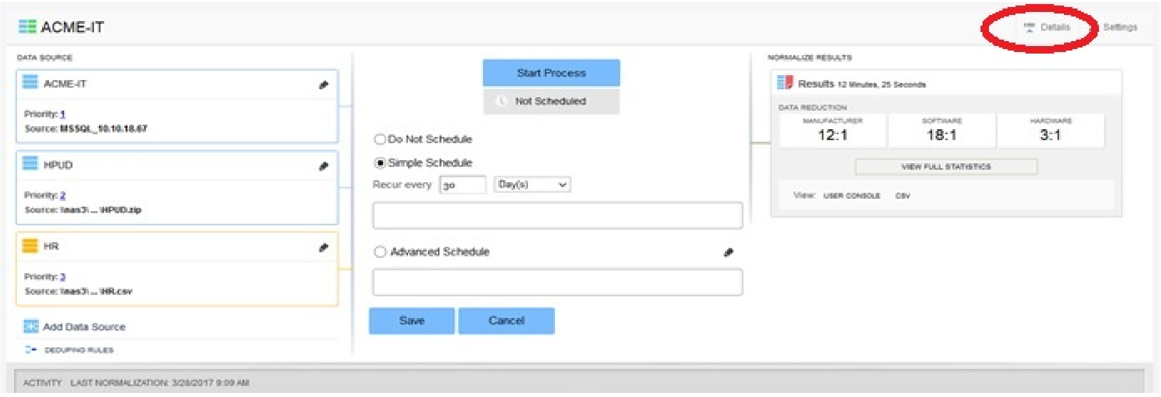
- **Data source:** Use this panel to add a data source to a process. Added data sources will display in this panel, as well as groupings of combined data sources that share schedules and other settings.
- **Process:** Use this panel to either run a BDNA Normalize process on demand or to schedule the process to run at a later time.
- **Results:** Use this panel to view statistics and access results of your most recent normalization.

Figure 1-4: BDNA Normalize Console Panels


ACME-IT
Details
Settings
DATA SOURCE
ACME-IT
HPUD
HR
Add Data Source
Data Source
Start Process
Not Scheduled
Process
NORMALIZE RESULTS
12:1
18:1
3:1
VIEW FULL STATISTICS
View: USER CONSOLE CSV
Results
ACTIVITY LAST NORMALIZATION: 3/28/2017 9:09 AM

You can view additional information about Data Source, Process, and Results by clicking the Details icon above the Results panel, as shown in the following image:

Figure 1-5: Details Information


ACME-IT
Details
Settings
DATA SOURCE
ACME-IT
Priority: 1
Source: MSSQL_10.10.18.67
HPUD
Priority: 2
Source: \\nas3\...\HPUD.zip
HR
Priority: 3
Source: \\nas3\...\HR.csv
Add Data Source
DEDUPING RULES
Start Process
Not Scheduled
Do Not Schedule
Simple Schedule
Recur every 30 Day(s)
Advanced Schedule
Save
Cancel
NORMALIZE RESULTS
Results 12 Minutes, 25 Seconds
DATA REDUCTION
MANUFACTURER
12:1
SOFTWARE
18:1
HARDWARE
3:1
VIEW FULL STATISTICS
View: USER CONSOLE CSV
ACTIVITY LAST NORMALIZATION: 3/28/2017 9:09 AM

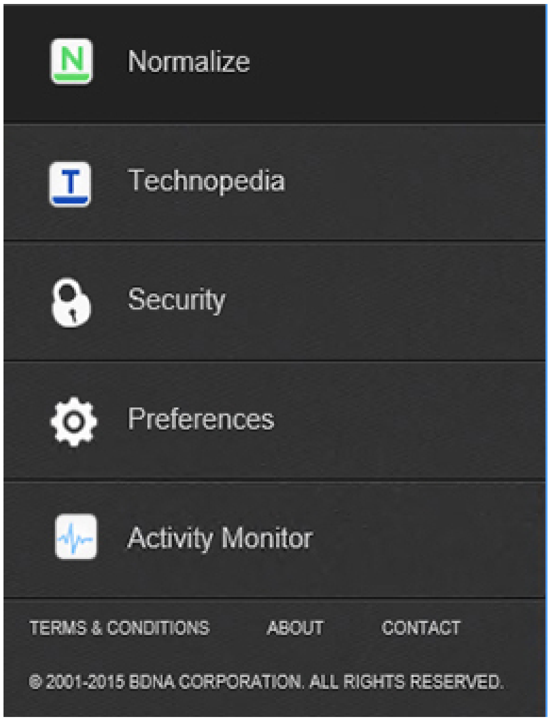
Note • *Platform UI detects the configuration file (Norm.Configuration.config) to see if Tier 1 & 2 software statistics are turned on or off. By default, it is set to 'false.' Hence, users do not see Normalize statistics on Admin Console page. Customers can still turn this functionality on by editing Norm.Configuration.config and setting values for "StatsKeywordExec" and "StatsKeywordAddremove" to 'true' if they want to see Tier 1 & 2 software statistics on both the Normalize Results section of the Admin Console page and the Full Statistics pop-up window.*

Using Drawer Navigation

The Drawer Navigation, which is accessed by clicking the blue arrow located on the left-side of the Administration Console screen, provides a menu of the following BDNA Normalize features and functions:

- **Normalize:** Access the main screen of BDNA Normalize.
- **Technopedia:** Access the Technopedia Catalog screen.
- **Security:** Add, modify, or delete a security role assignment.
- **Preferences:** Register your BDNA Data Platform key, enable access to an installed instance of BDNA Analyze, and/or enable LAN proxy settings.
- **Activity Monitor:** View information about BDNA Normalize processes and Technopedia Catalog synchronizations. For more information.
- **Terms and Conditions:** View licensing terms and conditions.
- **About:** View Catalog, application version numbers, and copyright information.
- **Contact:** View BDNA contact information.

Figure 1-6: Drawer Navigation Menu


Normalize
Technopedia
Security
Preferences
Activity Monitor
TERMS & CONDITIONS
ABOUT
CONTACT
© 2001-2015 BDNA CORPORATION. ALL RIGHTS RESERVED.

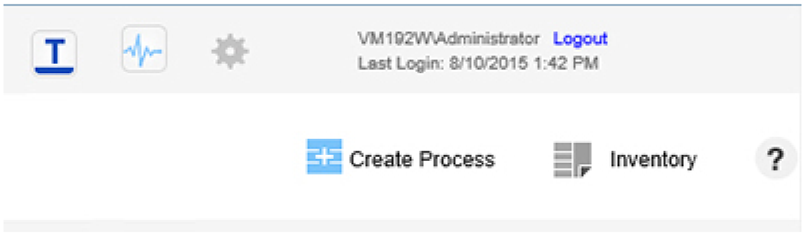
Creating a Process—General Overview

A process consists of one or more data sources that are configured to work with BDNA Normalize. You can add multiple processes to BDNA Normalize. When you add a process, you proceed through a series of configuration screens that pertain to the process type and data source.

To create a process:

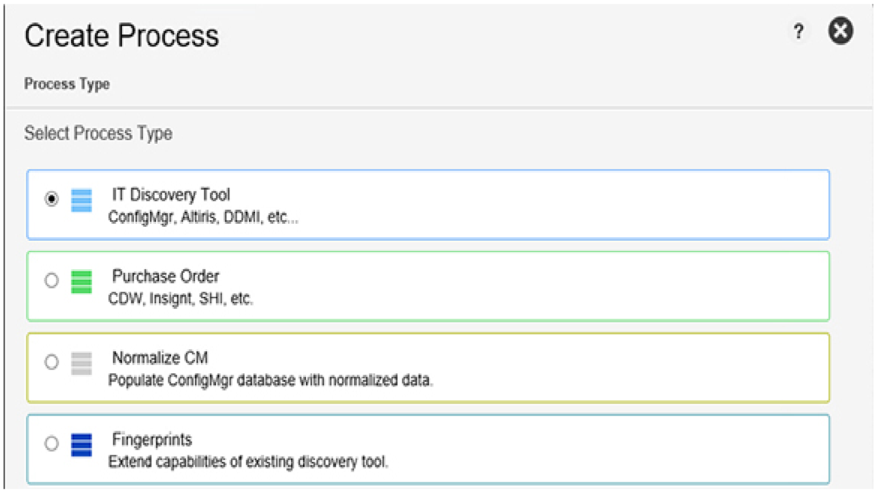
1. Click Create Process in the upper-right of the screen, as shown in Fig 1-7: Create Process.

Figure 1-7: Create Process


VM192W\Administrator Logout
Last Login: 8/10/2015 1:42 PM
Create Process
Inventory
?

The Process Type screen opens, as shown in the following image:

Figure 1-8: Process Type


Create Process
?
Process Type

Select Process Type

- ● IT Discovery Tool
  ConfigMgr, Altiris, DDMI, etc...
- ○ Purchase Order
  CDW, Insignt, SHI, etc.
- ○ Normalize CM
  Populate ConfigMgr database with normalized data.
- ○ Fingerprints
  Extend capabilities of existing discovery tool.

***Note** • BDNA Data Platform Normalize CM process is no longer available.*

2

Setting Preferences

The Preferences screen, which is accessible through the console screen, lets you set preferences for:

- Registering an Activation Key
- Enabling Access to the BDNA User Console
- Enabling LAN Proxy Settings
- Enabling LAN Proxy Settings

Task ***To access the Preferences screen:***

1. Click the blue “gear” icon located on the upper-right of the console screen.
2. The Preferences screen (Fig 2-9: Preferences—Registration) opens to show current status and information about your registration.

Registering an Activation Key

Follow these instructions if you purchased any of the components of the BDNA Data Platform and need to update your current activation key.

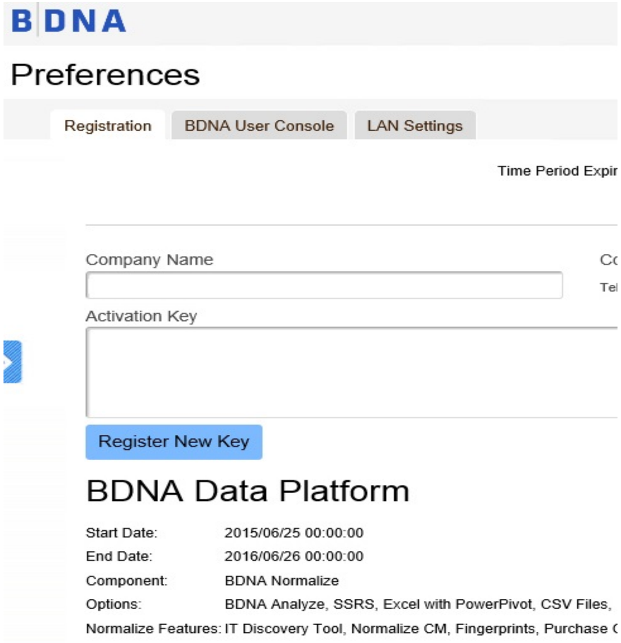
Task ***To register or update an Activation Key:***

1. Open the Preferences screen. By default, it opens to the Registration tab.
2. Click Register New Key.
3. Enter your company name in the Company Name entry field.

***Note** • Enter your company name **exactly** as it is appears in the license key section of your Welcome Email in the Company Name entry field.*

4. Copy the activation key that you received from BDNA and paste it into the Activation Key entry field.
5. Click Register.

Figure 2-9: Preferences—Registration



BDNA Data Platform

Start Date: 2015/06/25 00:00:00
End Date: 2016/06/26 00:00:00
Component: BDNA Normalize
Options: BDNA Analyze, SSRS, Excel with PowerPivot, CSV Files,
Normalize Features: IT Discovery Tool, Normalize CM, Fingerprints, Purchase

Enabling Access to the BDNA User Console

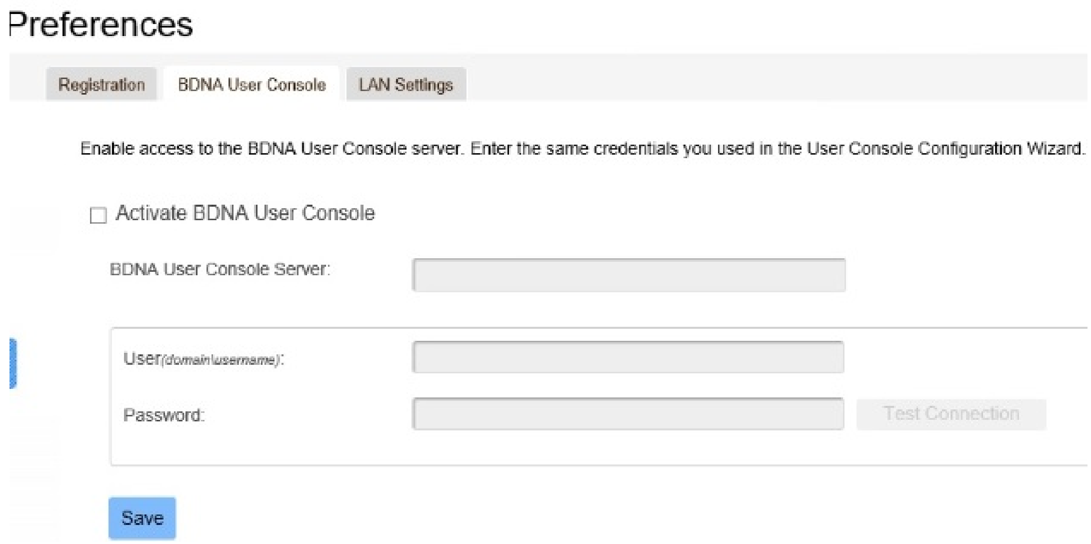
Use this page to activate and enable access to an installed and configured BDNA User Console. Enable access to the BDNA User Console server by entering the credentials (Local Users or LDAP/AD) you used in the BDNA Data Platform Configuration Wizard.

Task ***To enable access to BDNA User Console:***

1. Open the Preferences screen.
2. Click the BDNA User Console tab.
3. Provide the following settings for BDNA User Console:
    - **Activate BDNA User Console**—Check the box to activate your installed and configured BDNA Analyze.
    - **BDNA User Console Server**—Enter the server name or IP address of your BDNA User Console server.
    - **User (domain\username)**—Enter the domain and username for the BDNA User Console server.
    - **Password**—Enter the password for the BDNA User Console user.

4. Click Test Connection to verify your connection parameters.
5. Click Save.

Figure 2-10: Preferences—BDNA User Console



Preferences
Registration
BDNA User Console
LAN Settings

Enable access to the BDNA User Console server. Enter the same credentials you used in the User Console Configuration Wizard.

☐ Activate BDNA User Console

BDNA User Console Server:
User(domain\username):
Password:
Test Connection
Save

Enabling LAN Proxy Settings

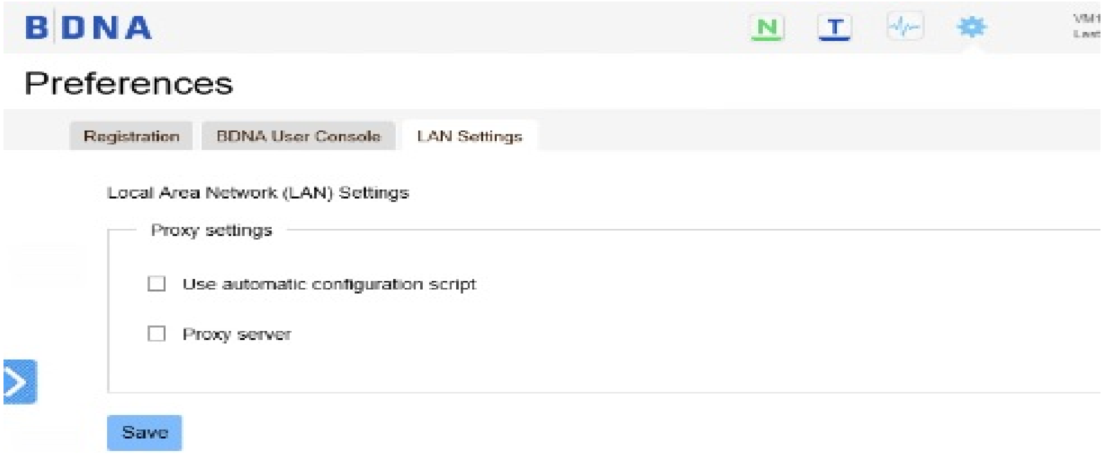
If required, you can configure your LAN proxy server information. All communications outside the company network will pass through the specified proxy server.

Task ***To enable proxy settings:***

1. Open the Preferences screen.
2. Click the LAN Settings tab.
3. Place a check next to Use automatic configuration script to use a script that contains pre-defined proxy settings.
4. Enter the location of the configuration file in the Address text box.
5. Place a check next to Proxy Server to manually enter the location and port number of the proxy server you want to use.
6. If necessary, enter the credentials required to access the proxy server.

7. Click Save.

Figure 2-11: Proxy settings


BDNA
N
T
Preferences
Registration
BDNA User Console
LAN Settings
Save

Local Area Network (LAN) Settings

Proxy settings

☐ Use automatic configuration script

☐ Proxy server

3

Managing Security Settings

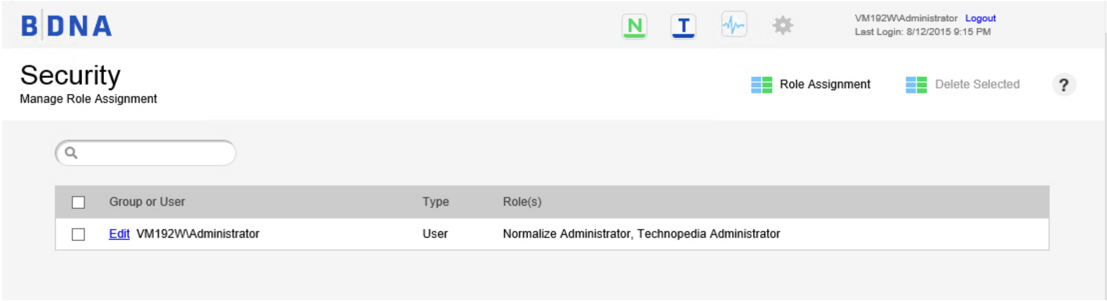
By default, only the person who installed and configured BDNA Data Platform can access the Administration Console. That person can then add or delete additional Windows groups and users who can access the Console, by using the Console's Security screen.

Accessing the Security Screen

Task ***To access the security screen, do the following steps:***

1. Click the blue arrow located on the left-side of the main Administration Console. The Drawer Navigation menu opens.
2. Click Security. The Security screen opens to show current status and information about your registration.The example (Fig 3-12: Security) shows the User (domain\administrator) and the BDNA Data Platform Administrator role assigned to the user.

Figure 3-12: Security



VM192W\Administrator
Last Login: 8/12/2015 9:15 PM

Security
Manage Role Assignment

☐	Group or User	Type	Role(s)
☐	Edit VM192W\Administrator	User	Normalize Administrator, Technopedia Administrator

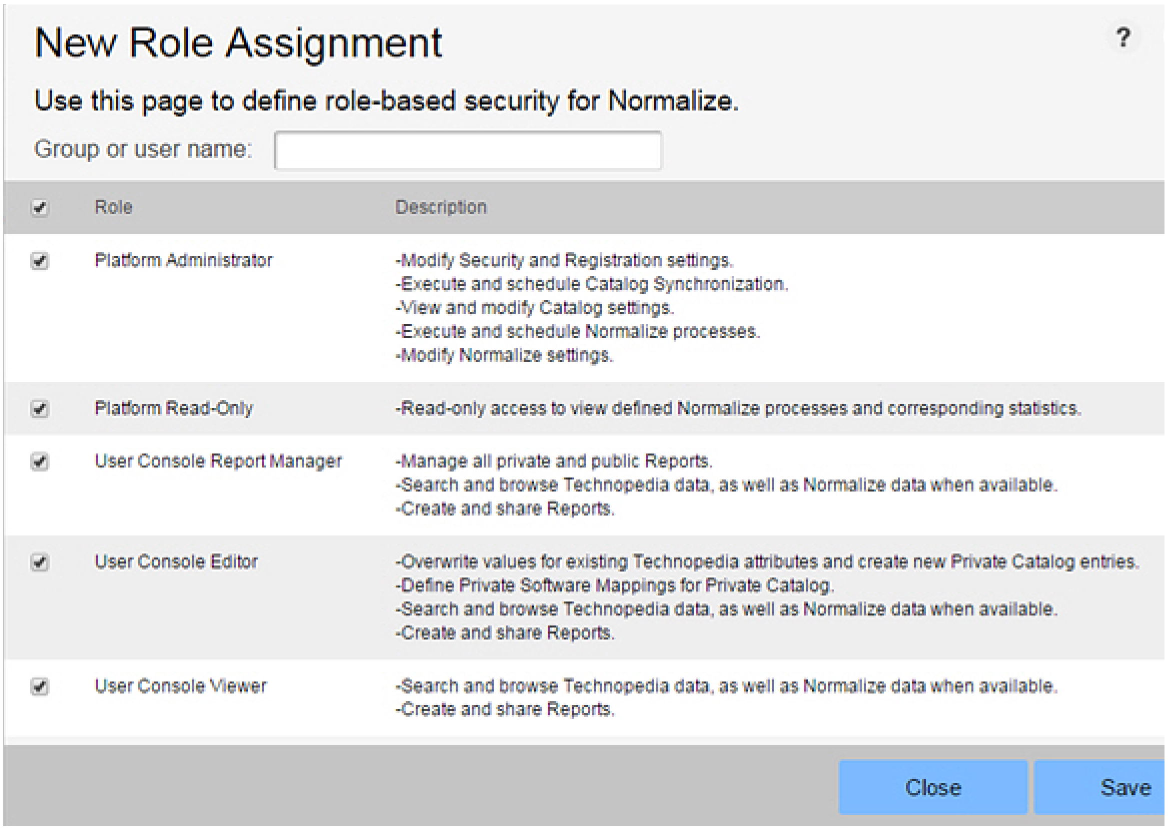
Adding a New Role Assignment

Task ***To add a new role assignment do the following steps:***

1. Open the Security screen.
2. Click Role Assignment. The New Role Assignment dialog opens as shown in New Role Assignment.
3. Provide the following information:
    - **Group or user name**—Type a new group or user name.
    - **Role:** Select a role to assign to the group or user, from the following options:
    - **Platform Administrator:**
        - Modify Security and Registration settings.
        - Execute and schedule Catalog Synchronization.
        - View and modify Catalog settings.
        - Execute and schedule Normalize processes.
        - Modify Normalize settings.
    - **Platform Read Only:**
        - Read-only access to view defined Normalize processes and corresponding statistics.
    - **User Console Report Manager:**
        - Manage all private and public reports.
        - Search and browse Technopedia data, as well as Normalize data when available.
        - Create and share reports.
    - **User Console Editor:**
        - Overwrite values for existing Technopedia attributes and create new Private Catalog entries.
        - Define Private Software mappings for Private Catalog.
        - Search and browse Technopedia data, as well as Normalize data when available.
        - Create and share reports.
    - **User Console Viewer:**
        - Search and browse Technopedia data, as well as Normalize data when available
        - Create and share reports

4. Click Save.

Figure 3-13: New Role Assignment



New Role Assignment

Use this page to define role-based security for Normalize.

Group or user name:

☑	Role	Description
☑	Platform Administrator	-Modify Security and Registration settings. -Execute and schedule Catalog Synchronization. -View and modify Catalog settings. -Execute and schedule Normalize processes. -Modify Normalize settings.
☑	Platform Read-Only	-Read-only access to view defined Normalize processes and corresponding statistics.
☑	User Console Report Manager	-Manage all private and public Reports. -Search and browse Technopedia data, as well as Normalize data when available. -Create and share Reports.
☑	User Console Editor	-Overwrite values for existing Technopedia attributes and create new Private Catalog entries. -Define Private Software Mappings for Private Catalog. -Search and browse Technopedia data, as well as Normalize data when available. -Create and share Reports.
☑	User Console Viewer	-Search and browse Technopedia data, as well as Normalize data when available. -Create and share Reports.

Deleting a Role Assignment

Task ***To delete a role assignment do the following steps:***

1. Access the Security screen.
2. Click the checkbox next to the Group or User that you want to delete.
3. Click Delete Selected, located in the upper right of the Security screen. A Confirmation dialog opens.
4. Click OK to confirm your request to delete the role assignment.

4

Configuring Technopedia Catalog Synchronization

About Technopedia Catalog Synchronization

BDNA Normalize uses Technopedia Catalog to clean and enrich your data. The Technopedia Catalog is the world's largest categorized repository of information about enterprise software and hardware.

Since Technopedia Catalog is updated on a daily basis, it is important to synchronize your Technopedia Catalog with the latest iteration of Technopedia Catalog to ensure the best results when normalizing your raw data. There are two options for synchronizing the Technopedia Catalog:

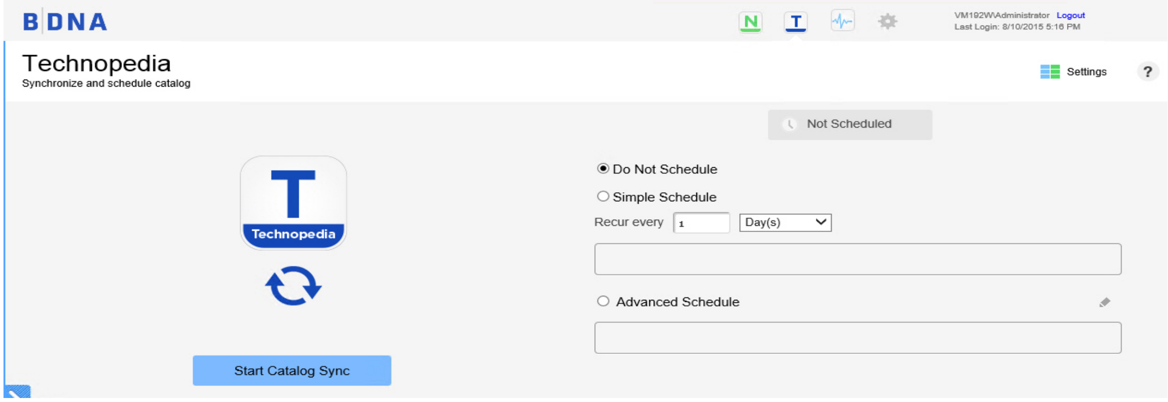
- Synchronizing Online
- Synchronizing Offline

Accessing the Technopedia Catalog Synchronization Settings

Task ***To access the Technopedia Catalog Synchronization Settings, do the following steps:***

1. Click the Technopedia Catalog icon on the BDNA Data Platform main page. The Technopedia Synchronize and Schedule Catalog page opens (Technopedia Catalog Synchronize and Schedule).
2. Click Settings, located in the upper-right corner of the page. The Technopedia Catalog Settings page opens (Catalog Settings — Online Synchronization).

Figure 4-14: Technopedia Catalog Synchronize and Schedule


BDNA
N
T
VM192W\Administrator Logout
Last Login: 8/10/2015 5:16 PM
Technopedia
Synchronize and schedule catalog
Settings
?
Not Scheduled
T
Technopedia
Start Catalog Sync

● Do Not Schedule
○ Simple Schedule
Recur every 1 Day(s)
○ Advanced Schedule

Synchronizing Online

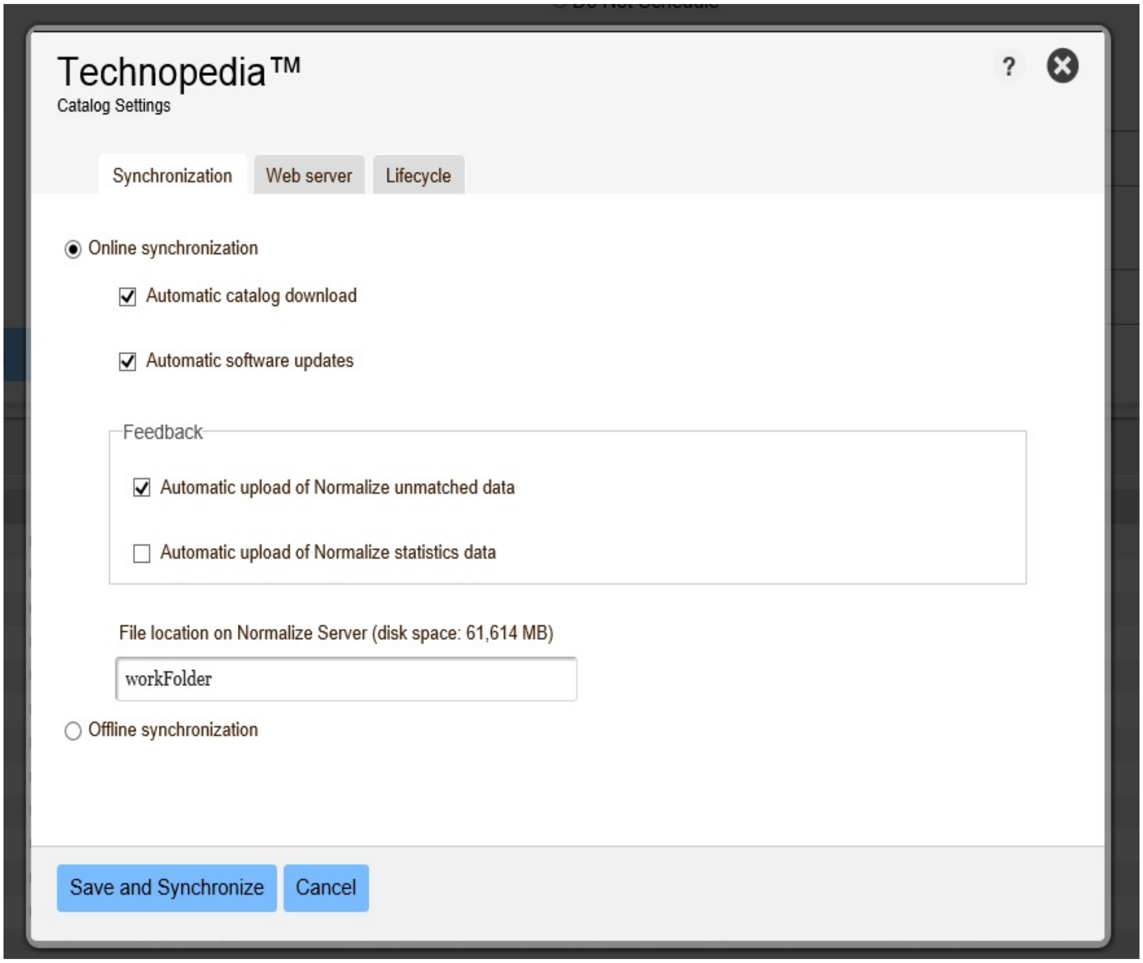
If the BDNA Data Platform Server is connected to the Internet, you can enable online, automatic synchronization of the Technopedia Catalog.

Task ***To enable online synchronization:***

1. Open the Technopedia Catalog Synchronization page.
2. Click Settings, located in the upper-right of the page.

3. Click the Online Synchronization radio button (Catalog Settings — Online Synchronization).

Figure 4-15: Catalog Settings — Online Synchronization



● Online synchronization

☑ Automatic catalog download

☑ Automatic software updates

Feedback

☑ Automatic upload of Normalize unmatched data

☐ Automatic upload of Normalize statistics data

File location on Normalize Server (disk space: 61,614 MB)

workFolder

○ Offline synchronization

4. Click one or more of the following checkboxes, as appropriate to your situation:

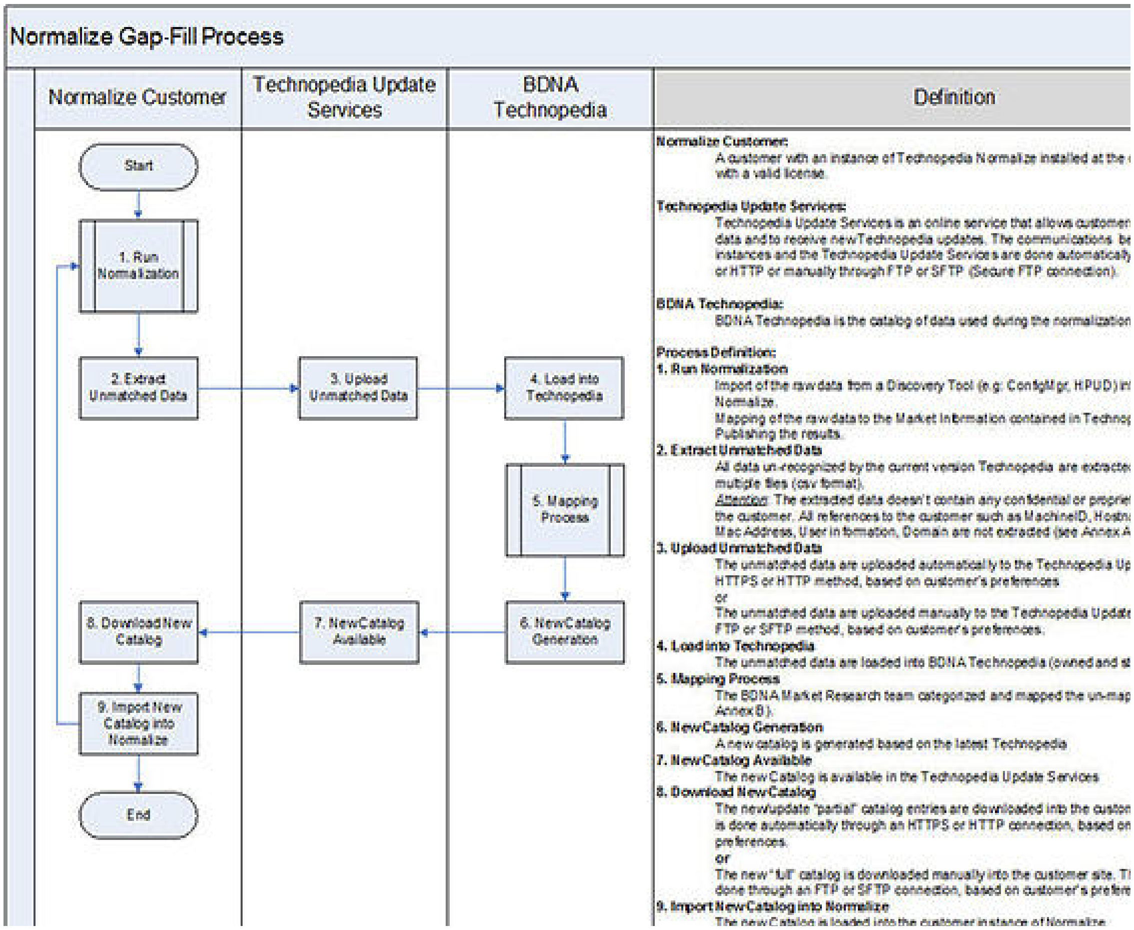
a. Automatic catalog download — Enables automatic download of any Catalog updates. If this is a first-time download, then the entire Catalog will be downloaded.

b. Automatic software updates — Enables automatic download of software updates to Technopedia Catalog. If a new update is available, a banner will display on the main screen of the Administration Console.

c. Automatic upload of unmatched data — Enables automatic sending of unmatched normalized records to BDNA, as part of the synchronization process. If you select this option, you will need to either accept the default File Location path and folder or enter information for a new path and folder. Any unmatched data will be generated in the specified folder, uploaded to BDNA during synchronization, and then added to the Catalog using the BDNA “gap-fill” process. See (Fig 4-16 BDNA Gap-Fill Process) for more detailed information.

d. Community Normalize Statistics Sharing - Customers can now share anonymized normalize statistics within the BDNA community. An optional checkbox has been added on the Technopedia Catalog Settings that enables customers to upload statistical unmatched data. All data is secure and encrypted. This data allows BDNA to optimize Technopedia content refreshes by better understanding inventory data used across our customer base at an aggregate level.

Figure 4-16: BDNA Gap-Fill Process



Normalize Customer:
A customer with an instance of Technopedia Normalize installed at the
with a valid license.

Technopedia Update Services:
Technopedia Update Services is an online service that allows customer
data and to receive new Technopedia updates. The communications be
instances and the Technopedia Update Services are done automatically
or HTTP or manually through FTP or SFTP (Secure FTP connection).

BDNA Technopedia:
BDNA Technopedia is the catalog of data used during the normalization

Process Definition:
1. Run Normalization
Import of the raw data from a Discovery Tool (e.g: ConfigMgr, HPUD) in
Normalize.
Mapping of the raw data to the Market Information contained in Techno
Publishing the results.
2. Extract Unmatched Data
All data un-recognized by the current version Technopedia are extracte
multiple files (csv format).
Attention: The extracted data doesn't contain any confidential or proprie
the customer. All references to the customer such as MachineID, Hostn
Mac Address, User information, Domain are not extracted (see Annex A
3. Upload Unmatched Data
The unmatched data are uploaded automatically to the Technopedia Up
HTTPS or HTTP method, based on customer's preferences
or
The unmatched data are uploaded manually to the Technopedia Update
FTP or SFTP method, based on customer's preferences.
4. Load into Technopedia
The unmatched data are loaded into BDNA Technopedia (owned and s
5. Mapping Process
The BDNA Market Research team categorized and mapped the un-map
Annex B).
6. NewCatalog Generation
A new catalog is generated based on the latest Technopedia
7. NewCatalog Available
The new Catalog is available in the Technopedia Update Services
8. Download NewCatalog
The new/update "partial" catalog entries are downloaded into the custo
is done automatically through an HTTPS or HTTP connection, based on
preferences.
or
The new "full" catalog is downloaded manually into the customer site. T
done through an FTP or SFTP connection, based on customer's prefer
9. Import NewCatalog into Normalize
The new Catalog is loaded into the customer instance of Normalize

5. Click Save and Synchronize to save your settings and begin synchronization.

***Note** • If you enable Online Synchronization, you can also specify when to run the synchronization.*

Synchronizing Offline

If your BDNA Data Platform Server does not have an Internet connection, you can update the Technopedia Catalog by downloading the latest iteration of the Technopedia Catalog to an Internet-connected machine, copying the downloaded files to the BDNA Data Platform Server, and then uploading those files to the BDNA Data Platform.

Synchronization behavior is slightly different when the Data Platform server has TLS 1.2 enabled. On the Synchronization page of the Admin Console, after the user clicks Start Synchronization, a download dialog window pops up, which will automatically dismiss itself.

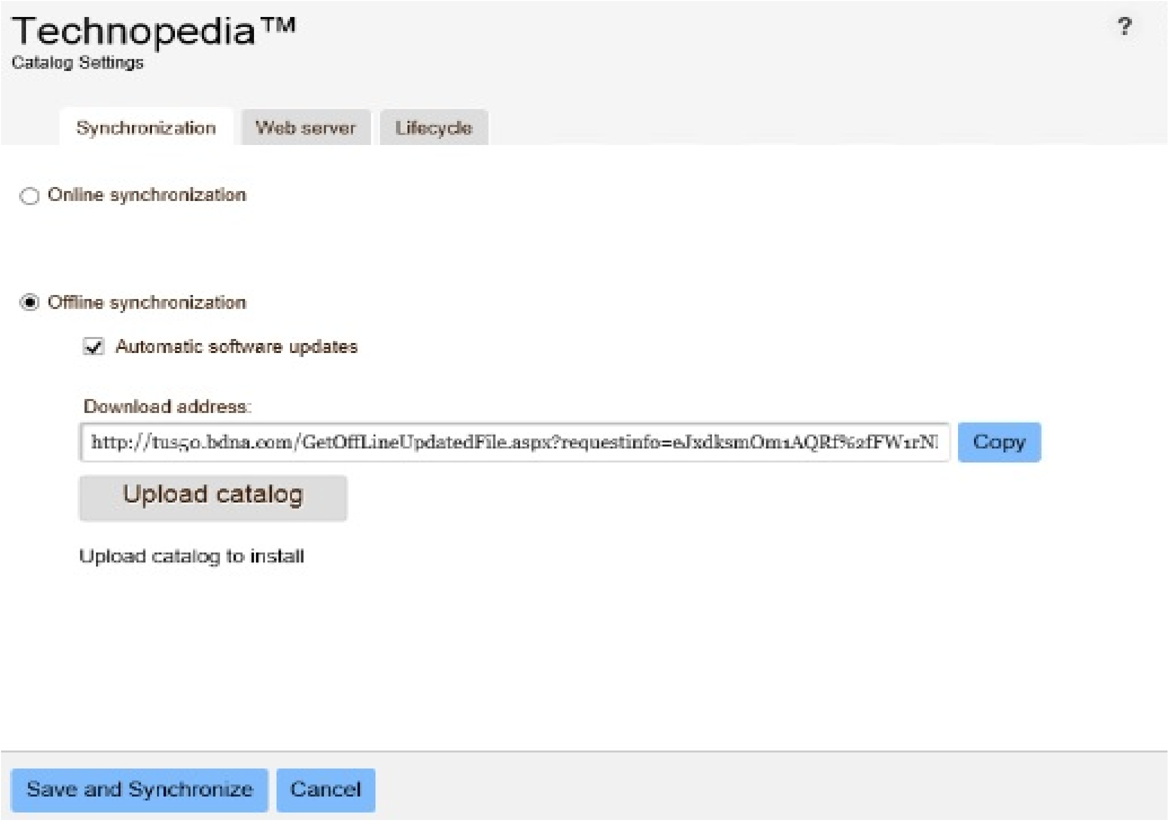
Also in the BDNA.log, the following exception will be logged: "INFO System.Net.WebException: The underlying connection was closed: An unexpected error occurred on a receive. ---> System.ComponentModel.Win32Exception: The client and server cannot communicate, because they do not possess a common algorithm".

These are known limitations that do not affect functionality, and will be addressed in the future releases.

Task ***To synchronize the Catalog offline:***

1. Open the Technopedia Catalog Synchronization page.
2. Click Settings, located in the upper-right of the page. The Technopedia Catalog Settings page opens.
3. Click the Offline Synchronization radio button (Technopedia Catalog Settings — Offline Catalog Synchronization).

Figure 4-17: Technopedia Catalog Settings — Offline Catalog Synchronization



○ Online synchronization

● Offline synchronization

☑ Automatic software updates

Download address:

http://tus50.bdna.com/GetOffLineUpdatedFile.aspx?requestinfo=eJxdksmOm1AQRf%2fFW1rN

Upload catalog to install

4. Copy and paste the information in the Download Address field into the address field of an Internet-connected browser. This will enable you to manually download the Technopedia Catalog to the BDNA Data Platform server.
5. Copy the downloaded files to the BDNA Data Platform server.
6. Click the Upload Technopedia Catalog button and specify the path to where you copied the Technopedia Catalog files.
7. (Optional) Click the checkbox for Automatic updates. This enables the automatic download of software updates. If a new update is available, then a banner will display on the main screen of the Administration Console.
8. Click the Save and Synchronize button.

Configuring Additional Technopedia Catalog Settings

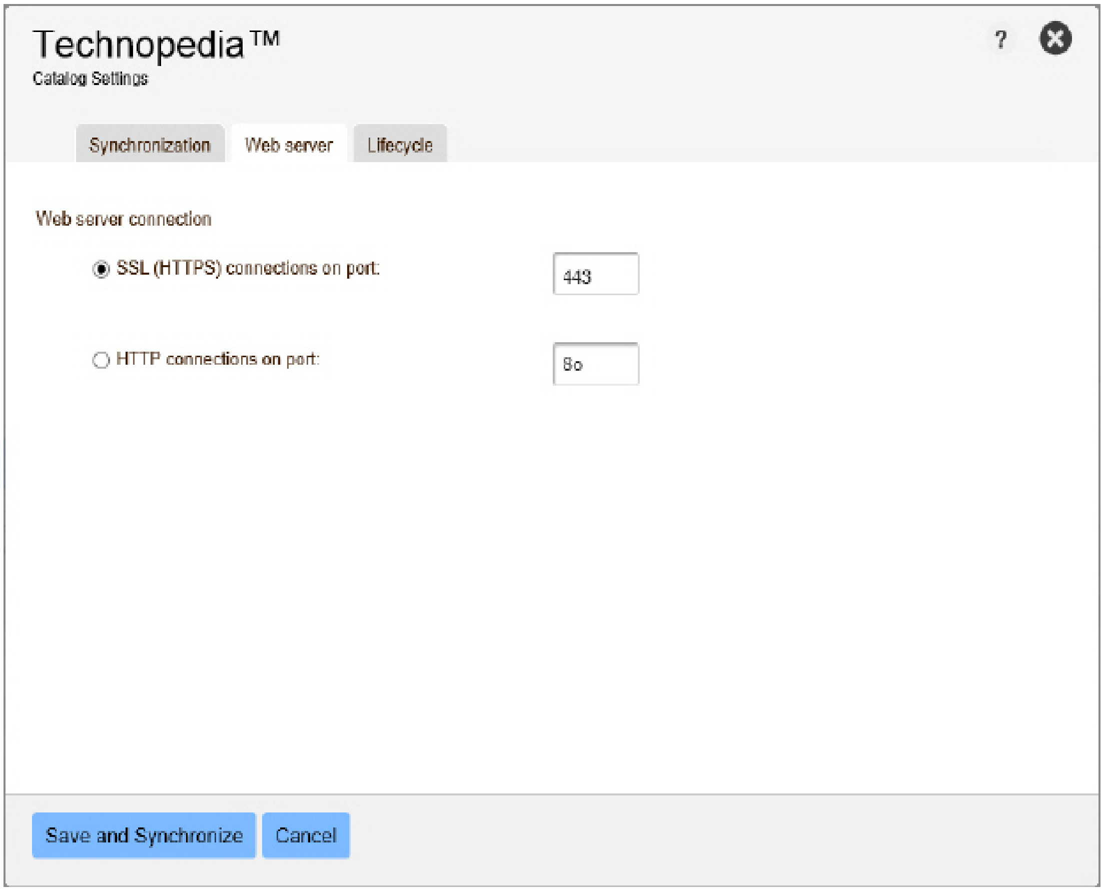
There are additional settings for configuring the Technopedia Catalog. These include settings for the type of web server access, and settings for flagging hardware and software products for End-of life (EOL) status.

Web Server Settings

On the Web Server tab, you can specify the type of Web Server connection to Technopedia, by completing one of the following steps.

- To enable an SSL (HTTPS) connection, click the Enable SSL(HTTPS) radio button and specify the port, (port 443 is the default).
- To enable an HTTP connection, click the Enable HTTP radio button and specify the port, (port 80 is the default).

Figure 4-18: Web server settings



Web server connection

● SSL (HTTPS) connections on port: 443

○ HTTP connections on port: 80

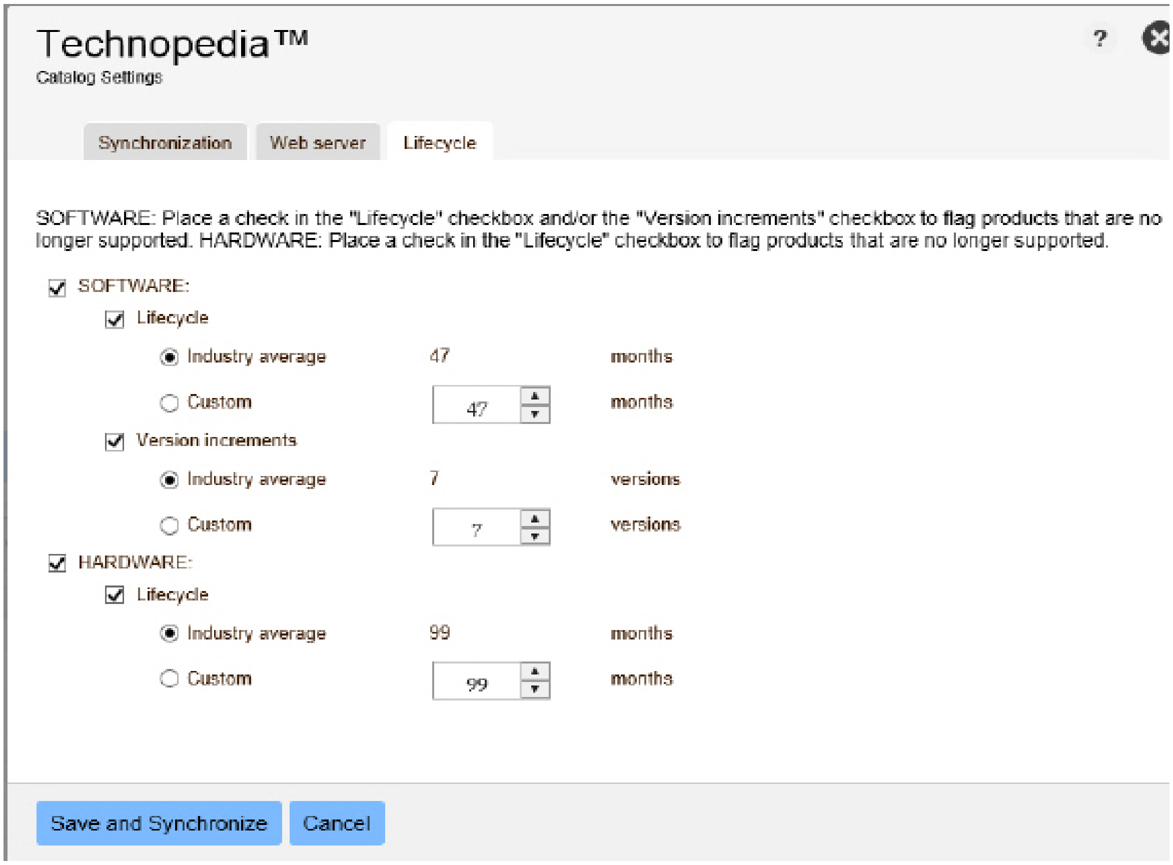
Lifecycle Settings

BDNA Normalize flags End-of-life data whenever it is available from the manufacturer. However, when End-of-life data is not available, Normalize uses industry-wide averages obtained from Technopedia to infer whether support is still available for a product.

On the Lifecycle tab, you can enable flagging of software and hardware products that have reached their End-of-life dates.

- If the Software or Hardware product lifecycle has exceeded the industry-wide average number of months provided for support, it is assumed to be no longer supported. Place a check in the “Lifecycle” checkbox to flag these products.
- Additionally, if the Software product's number of version increments exceeds the industry-wide average for number of version increments maintained under support, it is assumed to be no longer supported. Place a check in the “Version increments” checkbox to flag these products.You can accept the default values BDNA provides in this dialog, or you can specify custom values for lifecycle duration and number of version increments.

Figure 4-19: Lifecycle tab



SOFTWARE: Place a check in the "Lifecycle" checkbox and/or the "Version increments" checkbox to flag products that are no longer supported. HARDWARE: Place a check in the "Lifecycle" checkbox to flag products that are no longer supported.

☑ SOFTWARE:
  ☑ Lifecycle
    ● Industry average 47 months
    ○ Custom 47 months
  ☑ Version increments
    ● Industry average 7 versions
    ○ Custom 7 versions
☑ HARDWARE:
  ☑ Lifecycle
    ● Industry average 99 months
    ○ Custom 99 months

5

Synchronizing the Technopedia Catalog

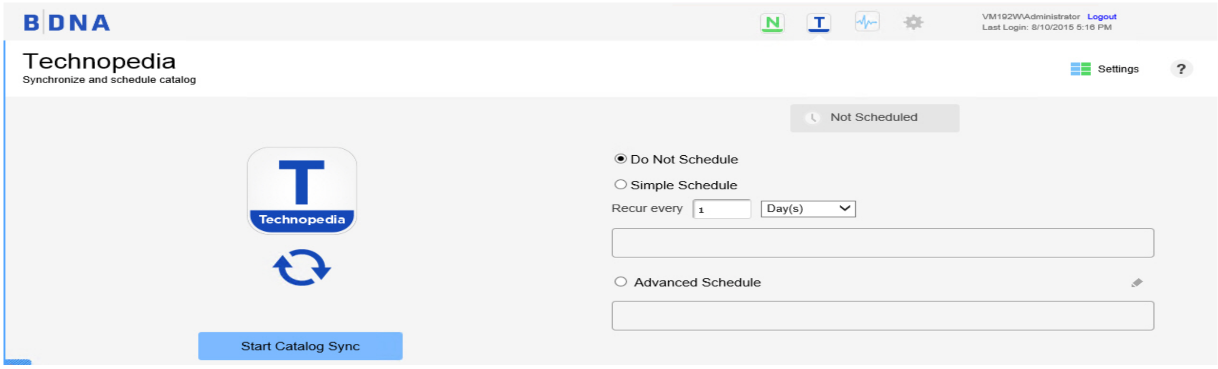
If you configured the Technopedia Catalog for online synchronization, you can specify when to run the synchronization. You can choose from the following options to synchronize the Technopedia Catalog:

- Synchronizing On Demand
- Scheduling a Simple Synchronization
- Scheduling a Weekly Synchronization
- Scheduling a Monthly Synchronization

Accessing the Technopedia Catalog Scheduling Screen

Click the Technopedia Catalog icon, located in the upper-right corner of the Administration Console. The Technopedia Synchronize and Schedule Catalog page opens and shows the time of the last catalog synchronization (see Technopedia Synchronize and Schedule Catalog page).

Figure 5-20: Technopedia Synchronize and Schedule Catalog page



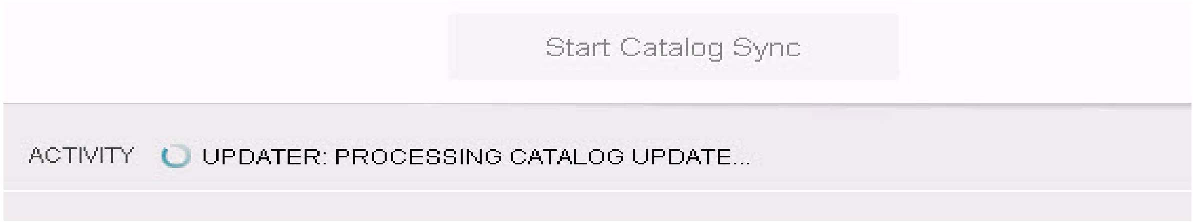
VM192W\Administrator Logout
Last Login: 8/10/2015 5:16 PM

Not Scheduled

● Do Not Schedule
○ Simple Schedule
Recur every 1 Day(s)
○ Advanced Schedule

During synchronization, a progress bar is displayed below the Start Catalog Sync button (see Fig 5-2: Synchronization Progress). For more details about the synchronization status, open the Activity Monitor screen.

Figure 5-21: Synchronization Progress



ACTIVITY UPDATER: PROCESSING CATALOG UPDATE...

Synchronizing On Demand

Task ***To synchronize on demand, do the following steps:***

1. Open the Technopedia Synchronization and Schedule Catalog page.
2. Click the “Start Catalog Sync” button to begin the synchronization process.

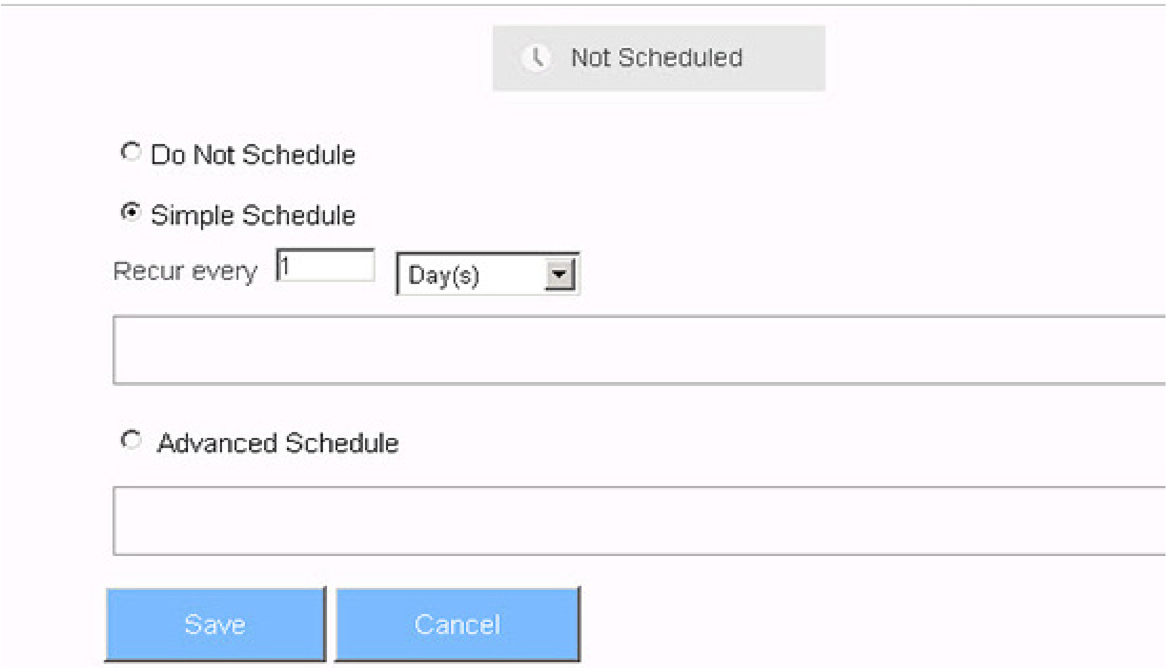
Scheduling a Simple Synchronization

Use a simple schedule to synchronize the catalog at recurring intervals that correspond to days, weeks, or months.

Task ***To set up a simple schedule:***

1. Open the Technopedia Synchronization and Schedule Catalog page.
2. Select the Simple Schedule radio button.

Figure 5-22: Simple Synchronization Schedule


Not Scheduled
○ Do Not Schedule
● Simple Schedule
Recur every 1 Day(s)
○ Advanced Schedule
Save
Cancel

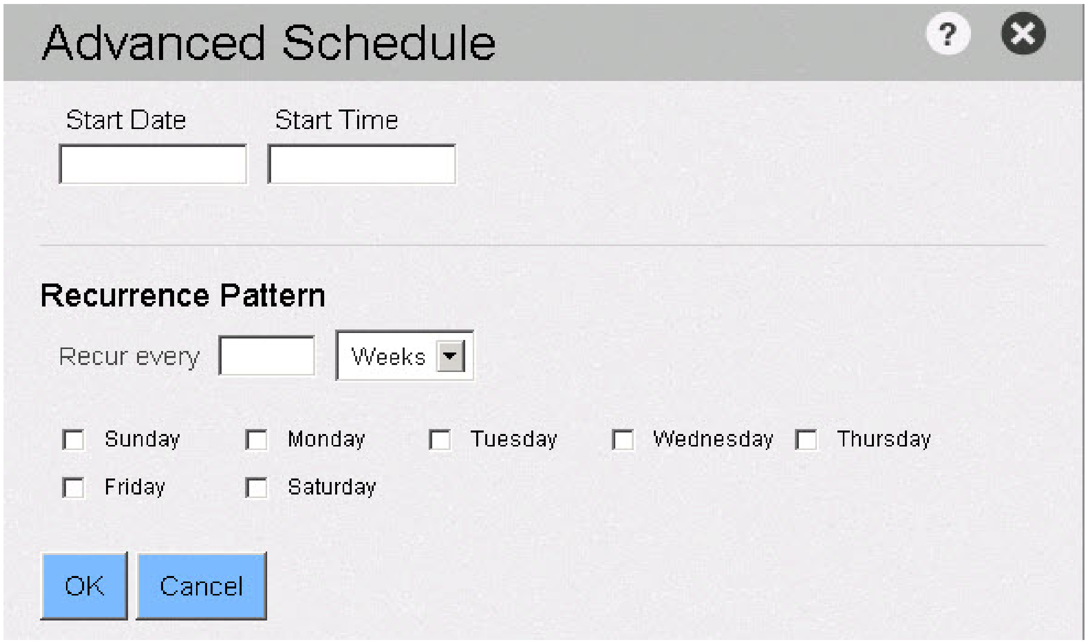
3. Choose one of the following options from the dropdown list:
    - Days
    - Weeks
    - Months
4. Enter an appropriate value in the entry field:
    - Days 1-31
    - Weeks: 1-4
    - Months: 1-12
5. Click Save.

Scheduling a Weekly Synchronization

Task ***To schedule a weekly synchronization, do the following steps:***

1. Open the Technopedia Synchronization and Schedule Catalog page.
2. Select the Advanced Schedule radio button. The Advanced Schedule dialog opens.

Figure 5-23: Weekly Schedule

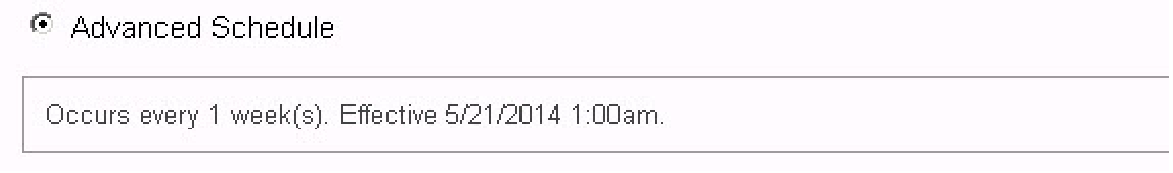

Advanced Schedule
?
Start Date
Start Time
Recurrence Pattern
Recur every
Weeks
☐ Sunday
☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☐ Saturday
OK
Cancel

3. Click the Start Date entry field to choose a date from the selection calendar.
4. Click the Start Time entry field to choose a time from the time list.
5. Enter a number in the Recur Every entry field. The Values are 1-4.
6. Select Weeks from the dropdown list.
7. Select checkboxes for each day in the week that you want to synchronize Technopedia Catalog.
8. Select checkboxes for all days in the week that you want to synchronize the catalog.

   For example, to synchronize the catalog every Monday and Thursday, enter 1 in the Recur every entry field and place checks in the Monday and Thursday checkboxes.

9. Click OK.

   Figure 5-24: Custom Schedule Information


● Advanced Schedule

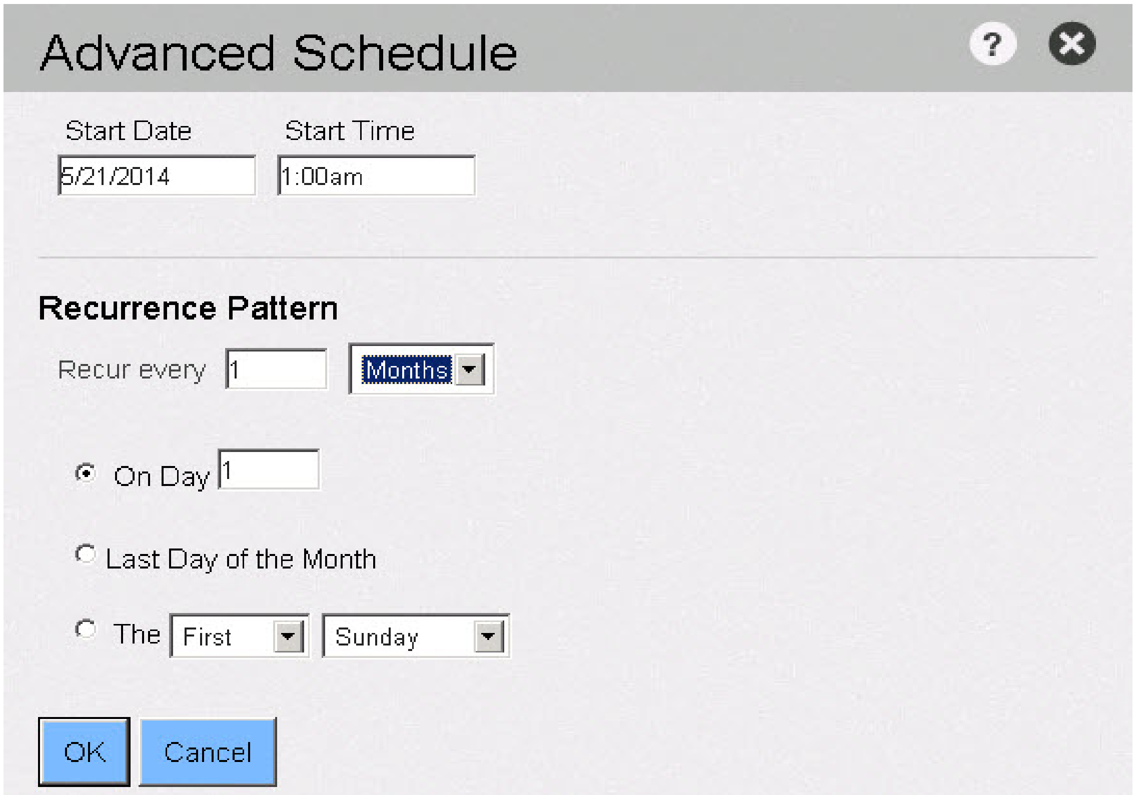
Occurs every 1 week(s). Effective 5/21/2014 1:00am.

Scheduling a Monthly Synchronization

Task ***To schedule a monthly synchronization, do the following steps:***

1. Open the Technopedia Synchronization and Schedule Catalog page.
2. Select the Advanced Schedule radio button. The Advanced Schedule dialog opens.

Figure 5-25: Monthly Schedule



Advanced Schedule

Start Date: 5/21/2014
Start Time: 1:00am

Recurrence Pattern

Recur every: 1 Months

● On Day 1

○ Last Day of the Month

○ The First Sunday

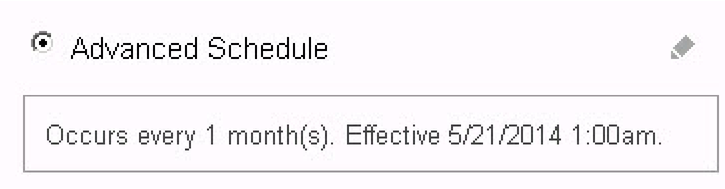
3. Click the Start Date field to choose a date from the selection calendar.
4. Click the Start Time field to choose a time from the time list.
5. Enter a number in the Recur Every entry field. The values are 1-12.
6. Select Months from the dropdown list.
7. Complete the steps for one of the following options.
    a. **To synchronize the Catalog on a specific day of the month**: Click the On Day radio button and enter a value in the Day field. Values can be any whole number between 1 and 31.
    b. **To synchronize the Catalog on the last day of the month:** Click the Last Day of the Month radio button to schedule Normalize to run on the last day of the month.
    c. **To synchronize the Catalog on a specific day according to its location on the calendar**, complete the following steps.

1. Click the bottom radio button.
2. Select a a value from the Frequency drop-down list. The values are First, Second, Third, Fourth, Last.
3. Select a value from the Day drop-down list. The values are Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday.

   For example, to synchronize the Catalog on the third Saturday of every month, choose Third and Saturday.

8. Click Save. The Advanced schedule status is displayed in the Details panel.

Figure 5-26: Monthly Advanced Schedule Status



Occurs every 1 month(s). Effective 5/21/2014 1:00am.

6

Creating an IT Discovery Tool Process

Use this process to normalize data from an IT Discovery Tool. Creating a BDNA Normalize process on the Administration Console is a multi-step configuration process that may vary slightly depending on the type of IT discovery tool you are adding.

There are two main steps for creating an IT Discovery Tool process:

- Configuring IT Discovery Tool Data Source Settings
- Configuring IT Discovery Tool Process Settings

Configuring IT Discovery Tool Data Source Settings

There are three types of data sources that you can use to create an IT Discovery Tool process: database, ServiceNow, or BDNA Normalize zip file. Instructions for configuring the process with each type of data source can be found at:

- Using a Database Connection as a Data Source
- Using ServiceNow as a Data Source
- Using a Normalize Zip File as a Data Source

Using a Database Connection as a Data Source

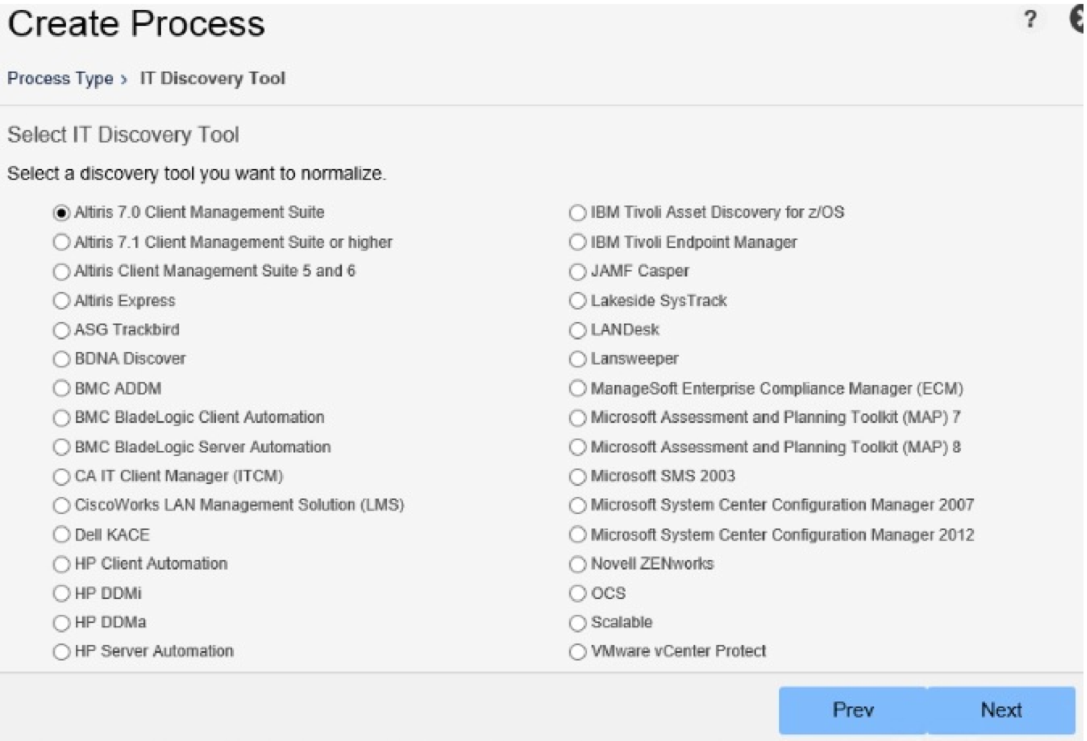
Task ***To configure a database connection:***

1. Click Create Process, located in the upper-right section of the Administration Console. Click the IT Discovery Tool radio button.
2. Click Next.
3. Select the IT Discovery tool that you want to normalize. The discovery tools are listed in alphabetical order and may require scrolling the window to see the entire list.

Note • *BDNA highly recommends that the database user account used to extract data from a data source is a read-only account.*

Note • *These instructions do* ***not*** *apply to either the ServiceNow or Other: Normalize Zip file data sources. Instructions for those data source options are provided in Using ServiceNow as a Data Source and Using a Normalize Zip File as a Data Source*

Figure 6-27: Selecting an IT Discovery Tool—Database Connection



Create Process

Process Type › IT Discovery Tool

Select IT Discovery Tool

Select a discovery tool you want to normalize.

- ● Altiris 7.0 Client Management Suite
- ○ Altiris 7.1 Client Management Suite or higher
- ○ Altiris Client Management Suite 5 and 6
- ○ Altiris Express
- ○ ASG Trackbird
- ○ BDNA Discover
- ○ BMC ADDM
- ○ BMC BladeLogic Client Automation
- ○ BMC BladeLogic Server Automation
- ○ CA IT Client Manager (ITCM)
- ○ CiscoWorks LAN Management Solution (LMS)
- ○ Dell KACE
- ○ HP Client Automation
- ○ HP DDMi
- ○ HP DDMa
- ○ HP Server Automation
- ○ IBM Tivoli Asset Discovery for z/OS
- ○ IBM Tivoli Endpoint Manager
- ○ JAMF Casper
- ○ Lakeside SysTrack
- ○ LANDesk
- ○ Lansweeper
- ○ ManageSoft Enterprise Compliance Manager (ECM)
- ○ Microsoft Assessment and Planning Toolkit (MAP) 7
- ○ Microsoft Assessment and Planning Toolkit (MAP) 8
- ○ Microsoft SMS 2003
- ○ Microsoft System Center Configuration Manager 2007
- ○ Microsoft System Center Configuration Manager 2012
- ○ Novell ZENworks
- ○ OCS
- ○ Scalable
- ○ VMware vCenter Protect

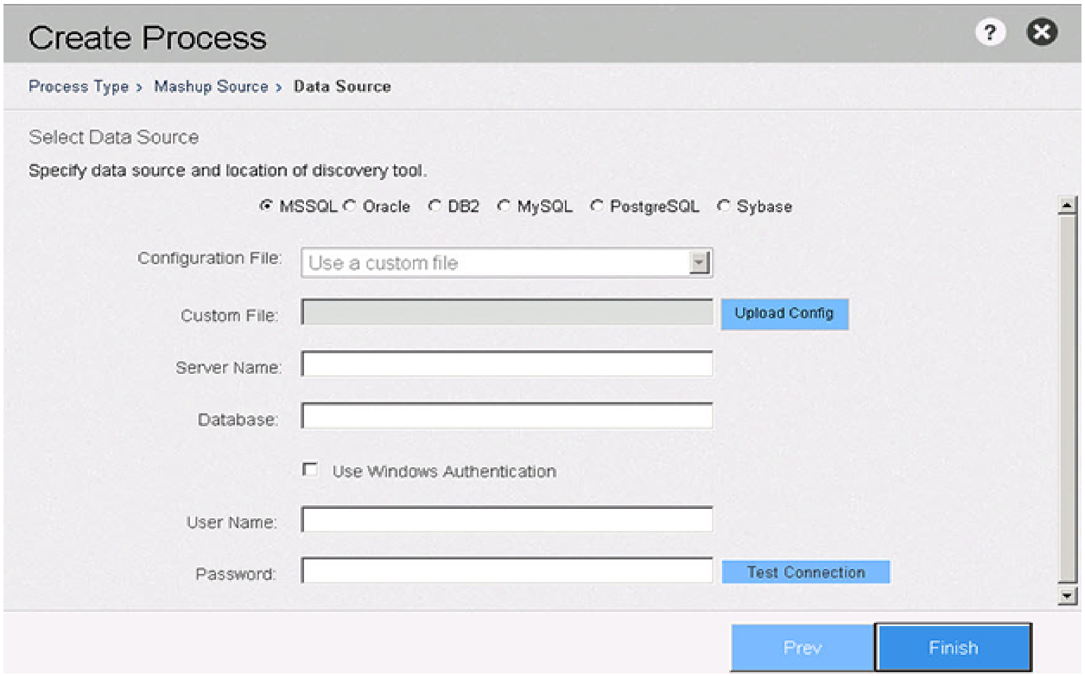
4. Click Next. The Select Data Source screen opens.
5. Click the database connection radio button that is applicable to your situation. Options are determined by the IT Discovery Tool selected in Select the IT Discovery tool that you want to normalize. The discovery tools are listed in alphabetical order and may require scrolling the window to see the entire list. and type of database used by BDNA Normalize.
6. Select a configuration file (or use a customized configuration file), for the discovery tool you are adding.
7. If you are using a Normalize 4.x customized configuration extractor file, you must convert the file to BDNA Data Platform format.
8. Enter configuration values for the discovery tool's data source and location.

Note • *The specific fields that display on the screen will vary, depending on the database connection previously selected. See IT Discovery Tool Data Source—MSSQL* (MSSQL), *IT Discovery Tool Data Source—Oracle* (Oracle), *IT Discovery Tool Data*

Source—DB2 (DB2), IT Discovery Tool Data Source—MySQL (MySQL), IT Discovery Tool Data Source—PostgreSQL (PostgreSQL), or IT Discovery Tool Data Source—Sybase (Sybase) for details about each of the database configuration fields.

9. Click Test Connection to verify the connection.
10. Complete one of the following options:
    - **To configure the Process Settings now:** Click Next and go to Configuring IT Discovery Tool Process Settings for detailed instructions.
    - **To configure the Process Settings later:** Click Finish to add the process to the Administration Console. You can complete the additional process settings at a later time.

Figure 6-28: IT Discovery Tool Data Source—MSSQL



Specify data source and location of discovery tool.

● MSSQL ○ Oracle ○ DB2 ○ MySQL ○ PostgreSQL ○ Sybase

Configuration File: Use a custom file

Custom File:

Server Name:

Database:

☐ Use Windows Authentication

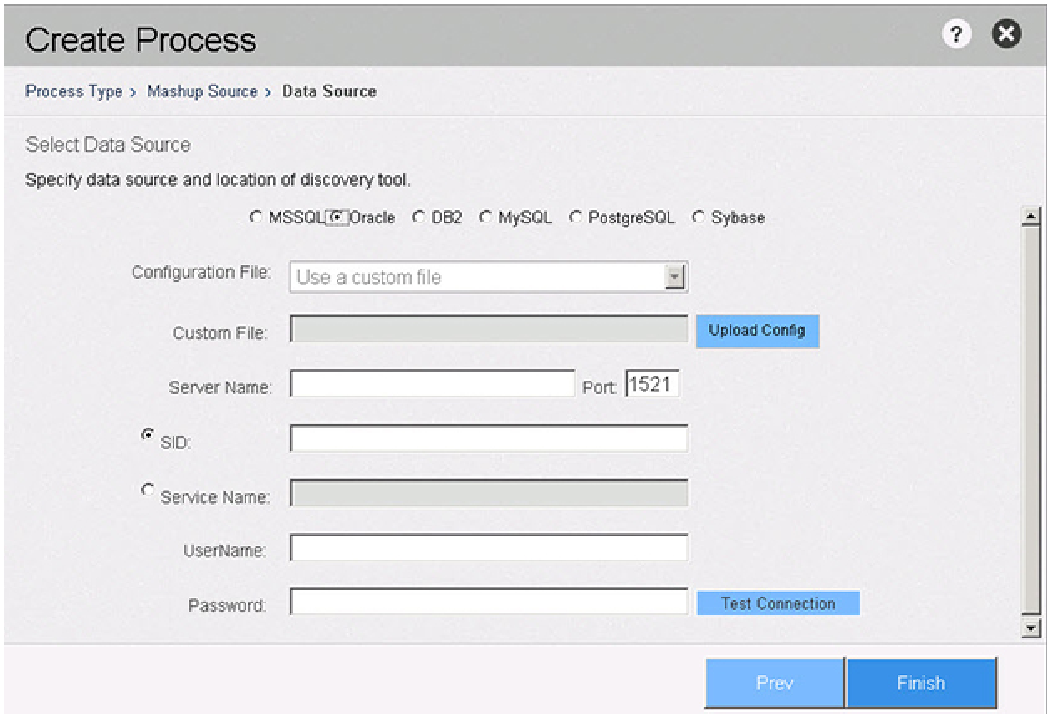
User Name:

Password:

- **Server Name**—Enter the name of the database server.
- **Database**—Enter the name of the database.
- **Use Windows Authentication**—Click the checkbox to enable Windows authentication.
- **User Name**—Enter the authentication domain/username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 6-29: IT Discovery Tool Data Source—Oracle



Create Process

Process Type › Mashup Source › Data Source

Select Data Source

Specify data source and location of discovery tool.

○ MSSQL ● Oracle ○ DB2 ○ MySQL ○ PostgreSQL ○ Sybase

Configuration File: Use a custom file

Custom File:

Server Name: Port: 1521

● SID:

○ Service Name:

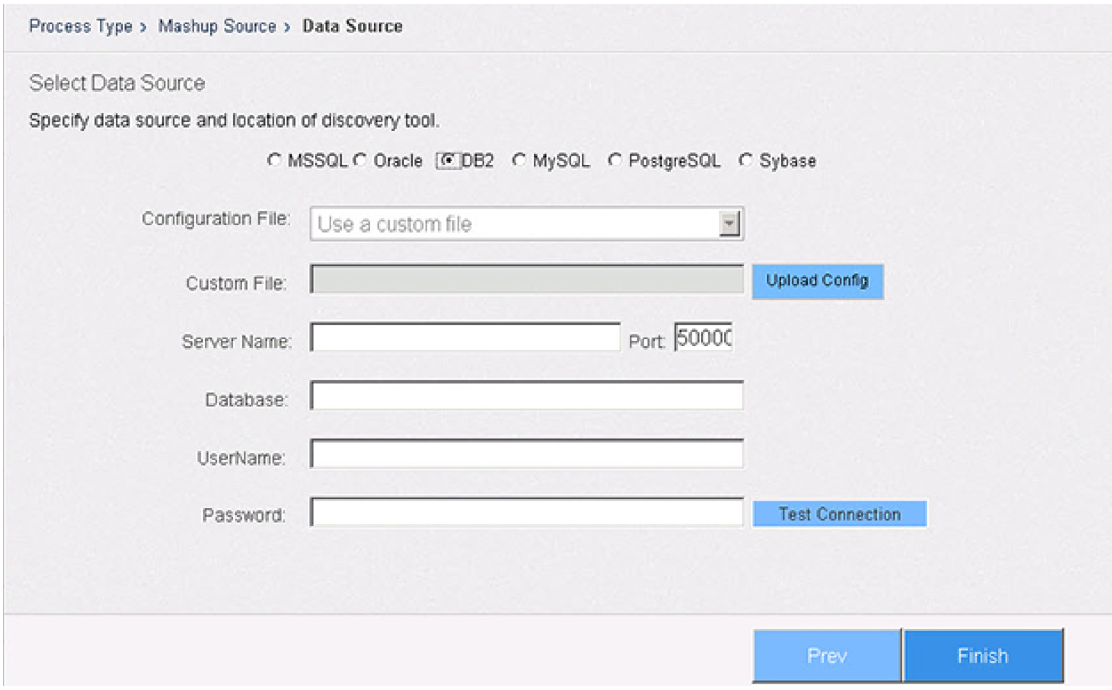
UserName:

Password:

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **SID**—Click this radio button to enable use of the System Identifier (SID) that identifies the database instance, and then enter the system identifier (database name + instance number; e.g. `database3`).
- **Service Name**—Click this radio button to enable use of a 'connector' to one or more instances of the database, and then enter the Service Name (e.g., `sales.us.example.com`).
- **User Name**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 6-30: IT Discovery Tool Data Source—DB2



Process Type > Mashup Source > **Data Source**

Select Data Source

Specify data source and location of discovery tool.

○ MSSQL ○ Oracle ● DB2 ○ MySQL ○ PostgreSQL ○ Sybase

Configuration File: Use a custom file

Custom File: [Upload Config]

Server Name: Port: 50000

Database:

UserName:

Password: [Test Connection]

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.
- **Password**—Enter the password that enables access to the database.

Modifying Configuration to Extract and Process DB2 Data

This section provides step-by-step instructions for enabling the BDNA Data Platform DB2 extractor to extract data from a DB2 database using the IBM Native Provider rather then the default MS OLEDB Provider.

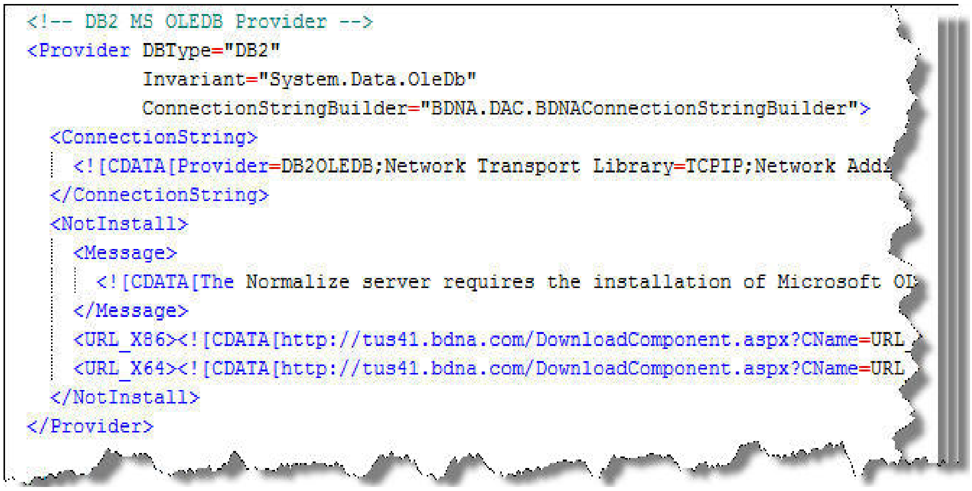
The process described here requires modification to the Normalize `DatabaseProvider.config` file, located in `<Installpath>\BDNA\Normalize\Conf`, using a text editor such as Notepad.

Task ***To extract data from a DB2 database:***

1. Open the `DatabaseProvider.config` file in a text editor.
2. By default, the standard Normalize 4,3 extractor uses the MS OLEDB Provider for DB2, as shown in DatabaseProvider.config with DB2 MS OLEDB Provider activated You must edit the `DatabaseProvider.config` file so that it uses the IBM Native Provider for DB2 instead.

***Note** • Both the MS OLEDB and the IBM Native Provider are included in the* `DatabaseProvider.config` *file. Only the MS OLEDB provider is activated by default.*

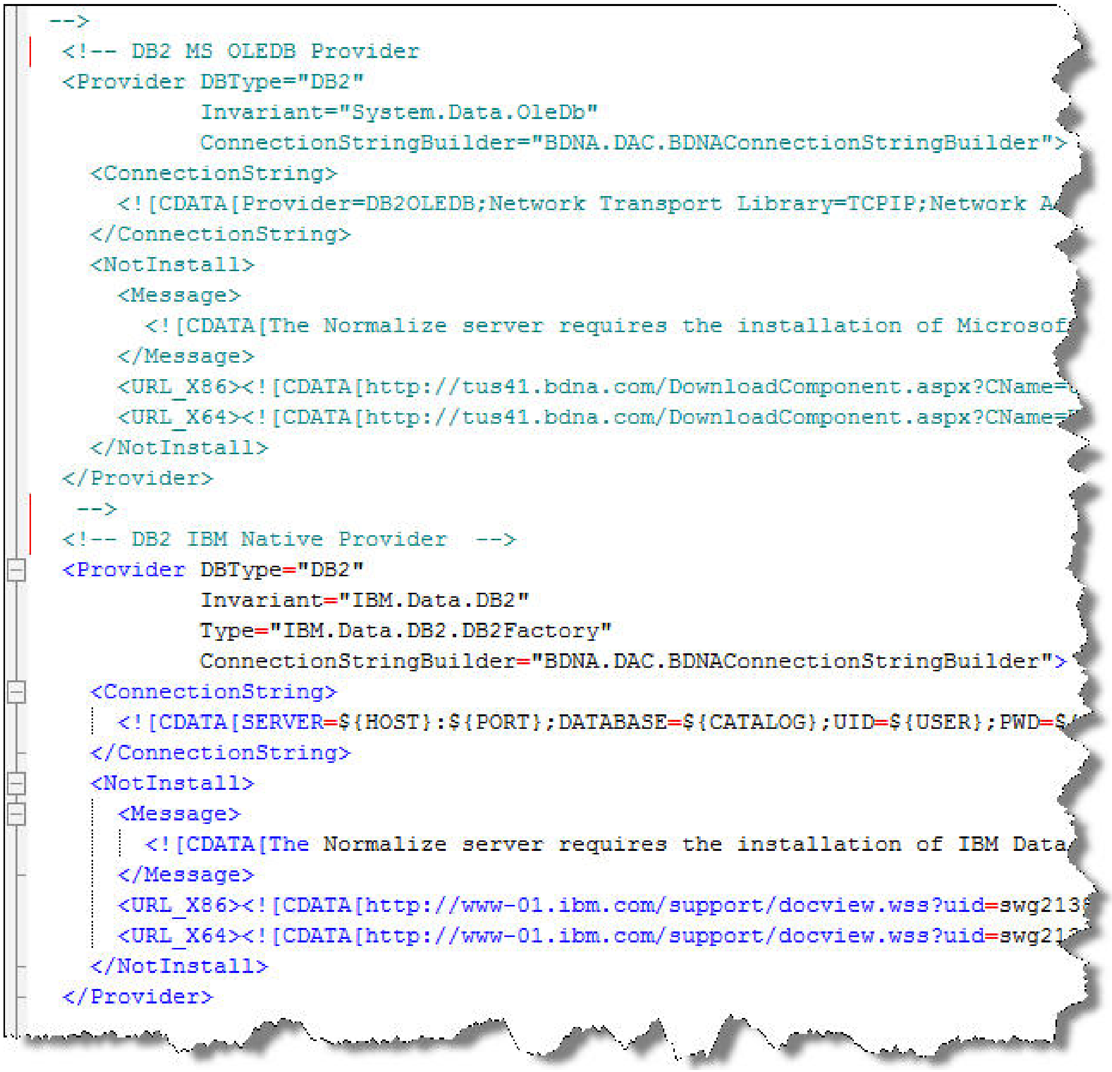
Figure 6-31: `DatabaseProvider.config` with DB2 MS OLEDB Provider activated



```
<!-- DB2 MS OLEDB Provider -->
<Provider DBType="DB2"
          Invariant="System.Data.OleDb"
          ConnectionStringBuilder="BDNA.DAC.BDNAConnectionStringBuilder">
  <ConnectionString>
    <![CDATA[Provider=DB2OLEDB;Network Transport Library=TCPIP;Network Add
  </ConnectionString>
  <NotInstall>
    <Message>
      <![CDATA[The Normalize server requires the installation of Microsoft O
    </Message>
    <URL_X86><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=URL_
    <URL_X64><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=URL
  </NotInstall>
</Provider>
```

3. You can make the modification to `DatabaseProvider.config` simply by commenting out the DB2 MS OLEDB Provider section and un-commenting the DB2 IBM Native Provider section as shown in DatabaseProvider.config with DB2 IBM Native Provider activated.

Figure 6-32: `DatabaseProvider.config` with DB2 IBM Native Provider activated



```
   -->
  <!-- DB2 MS OLEDB Provider
  <Provider DBType="DB2"
            Invariant="System.Data.OleDb"
            ConnectionStringBuilder="BDNA.DAC.BDNAConnectionStringBuilder">
    <ConnectionString>
      <![CDATA[Provider=DB2OLEDB;Network Transport Library=TCPIP;Network A
    </ConnectionString>
    <NotInstall>
      <Message>
        <![CDATA[The Normalize server requires the installation of Microsof
      </Message>
      <URL_X86><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=
      <URL_X64><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=
    </NotInstall>
  </Provider>
   -->
  <!-- DB2 IBM Native Provider  -->
  <Provider DBType="DB2"
            Invariant="IBM.Data.DB2"
            Type="IBM.Data.DB2.DB2Factory"
            ConnectionStringBuilder="BDNA.DAC.BDNAConnectionStringBuilder">
    <ConnectionString>
      <![CDATA[SERVER=${HOST}:${PORT};DATABASE=${CATALOG};UID=${USER};PWD=$
    </ConnectionString>
    <NotInstall>
      <Message>
        <![CDATA[The Normalize server requires the installation of IBM Data
      </Message>
      <URL_X86><![CDATA[http://www-01.ibm.com/support/docview.wss?uid=swg213
      <URL_X64><![CDATA[http://www-01.ibm.com/support/docview.wss?uid=swg21
    </NotInstall>
  </Provider>
```

4. Save the modified `DatabasaeProvider.config` file.

5. Restart the Normalize service.

6. Test the connection to DB2.

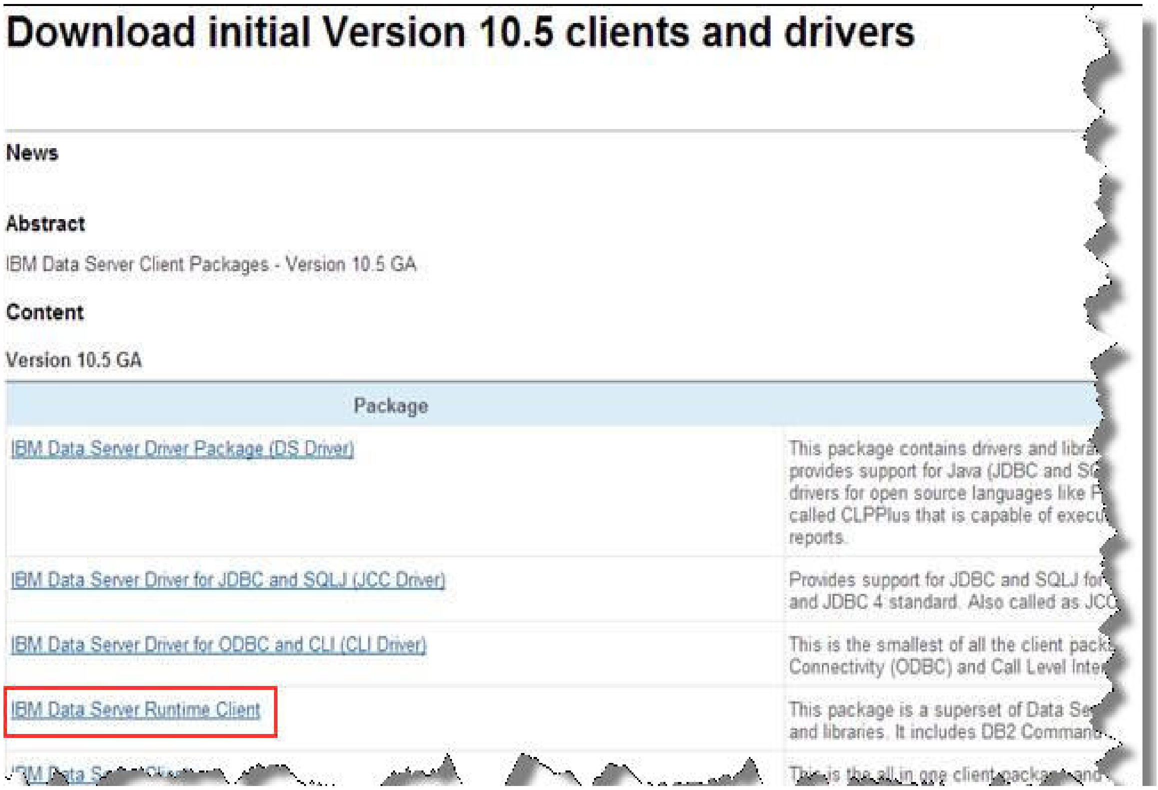
   a. If you see an error status about a required client at the bottom of the page, proceed to If you are using a Normalize 4.x customized configuration extractor file, you must convert the file to BDNA Data Platform format.

   b. If you are able to connect successfully, the modification process is finished. Proceed to Enter configuration values for the discovery tool's data source and location..

7. If you need to install the IBM Data Server Runtime Client, use the link provided here: http://www-01.ibm.com/support/docview.wss?uid=swg21385217. Clicking the link opens the IBM Data Server Client Packages page.

8. On the IBM Data Server Client Packages page, click the IBM Data Server Runtime Client link.

Figure 6-33: Link to IBM Data Server Runtime Client



Download initial Version 10.5 clients and drivers

News

Abstract

IBM Data Server Client Packages - Version 10.5 GA

Content

Version 10.5 GA

Package	
IBM Data Server Driver Package (DS Driver)	This package contains drivers and libra provides support for Java (JDBC and SQ drivers for open source languages like P called CLPPlus that is capable of execu reports.
IBM Data Server Driver for JDBC and SQLJ (JCC Driver)	Provides support for JDBC and SQLJ for and JDBC 4 standard. Also called as JCC
IBM Data Server Driver for ODBC and CLI (CLI Driver)	This is the smallest of all the client pack Connectivity (ODBC) and Call Level Inte
IBM Data Server Runtime Client	This package is a superset of Data Se and libraries. It includes DB2 Comman
IBM Data S	This is the all in one client package and

Note • *You are required to have an IBM ID to download the Data Server Runtime Client.*

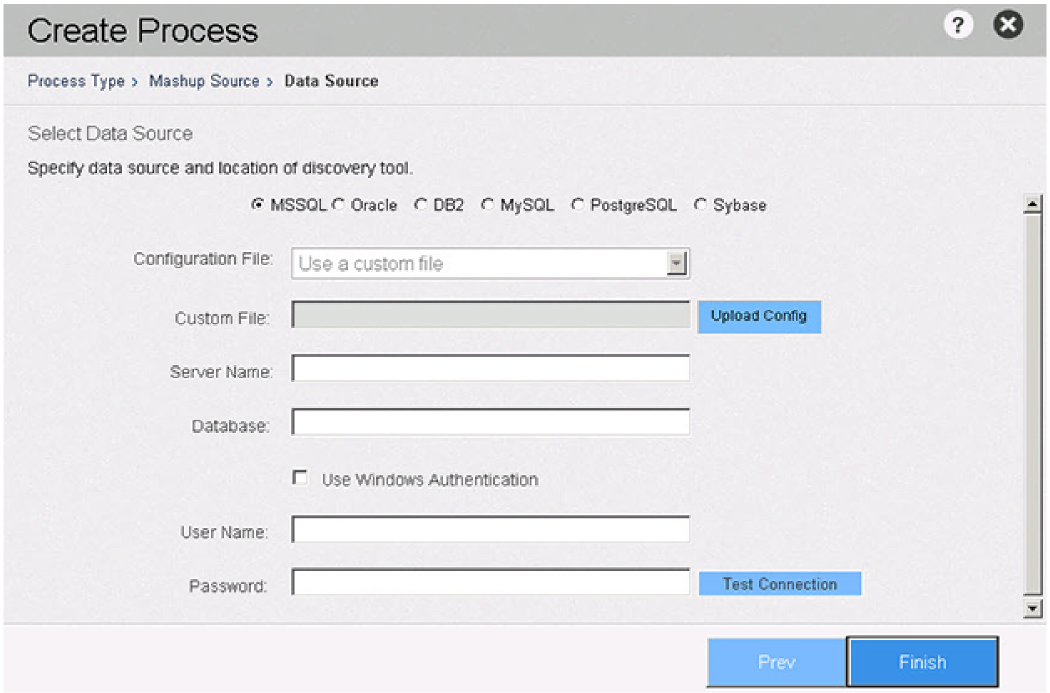
a. Select the appropriate download for your Normalize installation:

- Select the IBM 32-bit Data Server Runtime Client if you are running Normalize in 32-bit mode
- Select the IBM 64-bit Data Server Runtime Client if you are running Normalize in 64-bit mode

b. Download and install the IBM Data Server Runtime Client you selected.

9. You have completed the modifications necessary to extract and process data from your DB2 database. Reboot your system if necessary, and re-launch Normalize.

Figure 6-34: IT Discovery Tool Data Source—MySQL


Create Process
?
Process Type > Mashup Source > Data Source
Select Data Source
Custom File:
Upload Config
Server Name:
Database:
User Name:
Password:
Test Connection
Prev
Finish

Specify data source and location of discovery tool.

● MSSQL ○ Oracle ○ DB2 ○ MySQL ○ PostgreSQL ○ Sybase

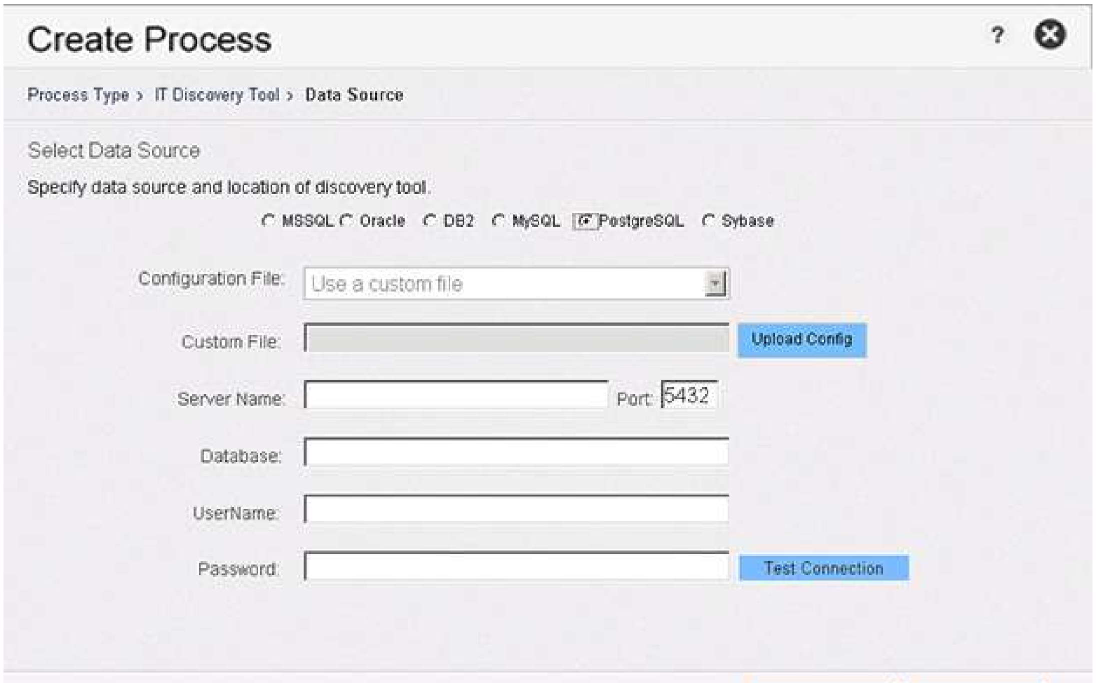
Configuration File: Use a custom file

☐ Use Windows Authentication

- **Server Name**—Enter the name of the database server.
- Database—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.

- Password—Enter the password that enables access to the database.

Figure 6-35: IT Discovery Tool Data Source—PostgreSQL



Create Process

Process Type › IT Discovery Tool › Data Source

Select Data Source

Specify data source and location of discovery tool.

○ MSSQL ○ Oracle ○ DB2 ○ MySQL ● PostgreSQL ○ Sybase

Configuration File: Use a custom file

Custom File:

Server Name:

Port: 5432

Database:

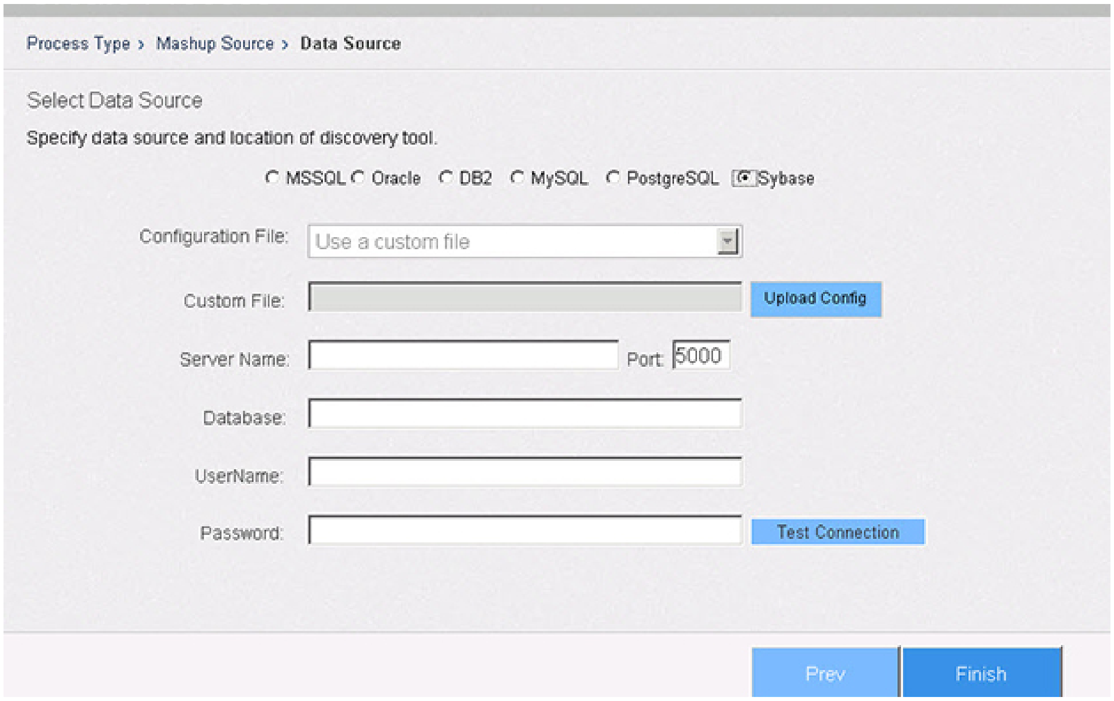
UserName:

Password:

- **Custom File**—Click Upload Config and select the custom file to be used for this process. (This option may be grayed-out and not available, depending on the database settings.)
- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 6-36: IT Discovery Tool Data Source—Sybase



Process Type › Mashup Source › **Data Source**

Select Data Source

Specify data source and location of discovery tool.

○ MSSQL ○ Oracle ○ DB2 ○ MySQL ○ PostgreSQL ● Sybase

Configuration File: Use a custom file

Custom File:

Server Name: Port: 5000

Database:

UserName:

Password:

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.
- **Password**—Enter the password that enables access to the database.

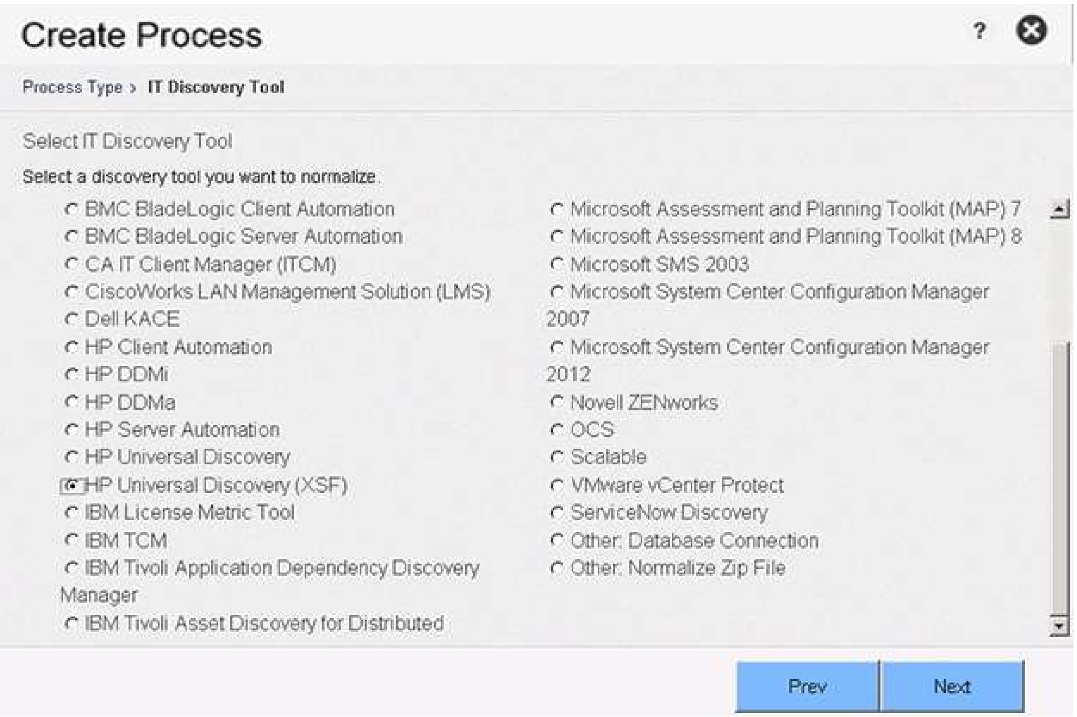
Using HP Universal Discovery (XSF) as a Data Source

Task ***To configure XSF as a data source:***

1. Click Create Process, located in the upper-right section of the Administration Console.
2. Click the IT Discovery Tool radio button.
3. Click Next.

4. Select HP Client Automation. The discovery tools are listed in alphabetical order and may require scrolling the window to see the entire list.

Figure 6-37: IT Discovery Tool—HP Universal Discovery (XSF)



Create Process

Process Type > **IT Discovery Tool**

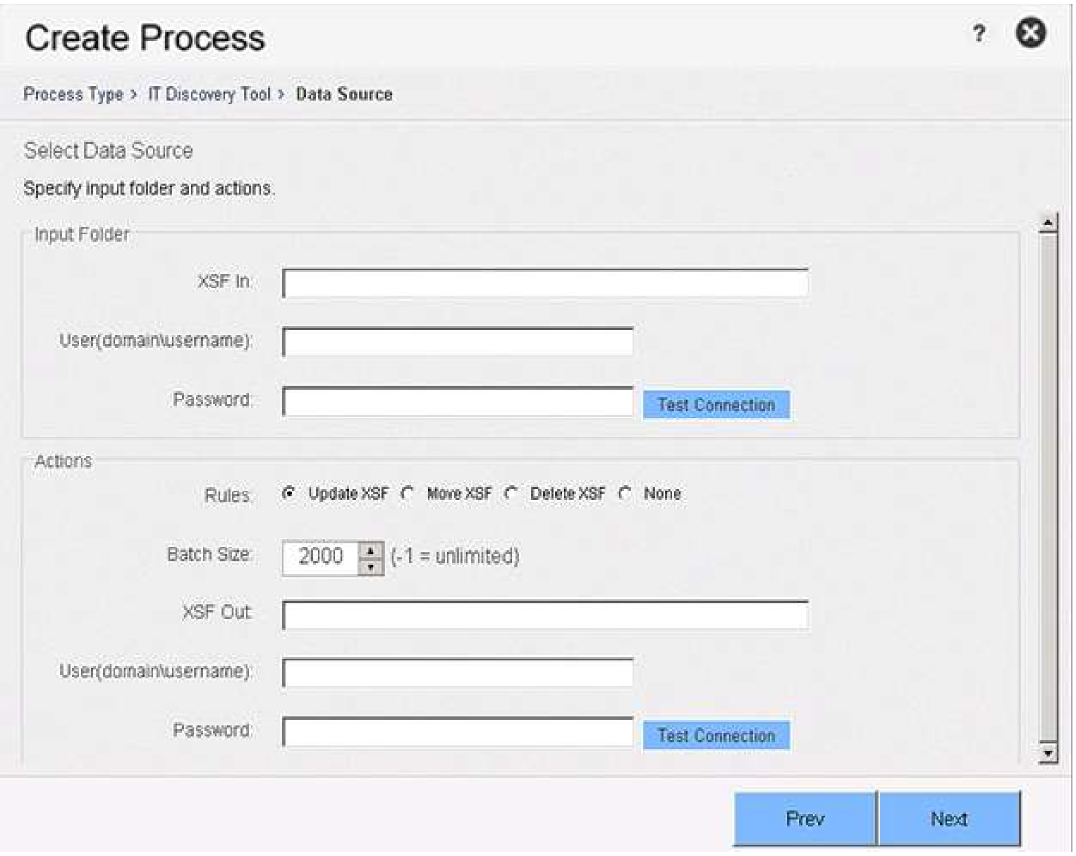
Select IT Discovery Tool

Select a discovery tool you want to normalize.

- ○ BMC BladeLogic Client Automation
- ○ BMC BladeLogic Server Automation
- ○ CA IT Client Manager (ITCM)
- ○ CiscoWorks LAN Management Solution (LMS)
- ○ Dell KACE
- ○ HP Client Automation
- ○ HP DDMi
- ○ HP DDMa
- ○ HP Server Automation
- ○ HP Universal Discovery
- ● HP Universal Discovery (XSF)
- ○ IBM License Metric Tool
- ○ IBM TCM
- ○ IBM Tivoli Application Dependency Discovery Manager
- ○ IBM Tivoli Asset Discovery for Distributed
- ○ Microsoft Assessment and Planning Toolkit (MAP) 7
- ○ Microsoft Assessment and Planning Toolkit (MAP) 8
- ○ Microsoft SMS 2003
- ○ Microsoft System Center Configuration Manager 2007
- ○ Microsoft System Center Configuration Manager 2012
- ○ Novell ZENworks
- ○ OCS
- ○ Scalable
- ○ VMware vCenter Protect
- ○ ServiceNow Discovery
- ○ Other: Database Connection
- ○ Other: Normalize Zip File

5. Click Next. The Select Data Source screen opens.

Figure 6-38: IT Discovery Tool Data Source—HP Universal Discovery (XSF)


Create Process
?
Process Type > IT Discovery Tool > Data Source
Select Data Source
Specify input folder and actions.
Input Folder
XSF In:
User(domain\username):
Password:
Test Connection
Actions
XSF Out:
User(domain\username):
Password:
Test Connection
Prev
Next

Rules: ● Update XSF ○ Move XSF ○ Delete XSF ○ None

Batch Size: 2000 (-1 = unlimited)

- Input Folder:
  - **XSF In**—Enter a path to the folder that contains the XSF files you want to Normalize.
  - **User (domain/username)**—Enter the domain and username that enables access to the “XSF in” folder.
  - **Password**—.Enter the password that enables access to the “XSF in” folder.
- Actions:
  - Rules—
    - **Update XSF:** Select “Update XSF” to move the XSF files from the “XSF In” folder to the “XSF Out” folder. The XSF files in the “XSF Out” folder will contain updated normalized data.
    - **Move XSF:** Select “Move XSF” to move the XSF files from the “XSF In” folder to the “XSF Out” folder.
    - **Delete XSF:** Select “Delete XSF” to remove the XSF files from the “XSF In” folder. No entry fields for an “XSF Out” folder path or for authentication credentials are available for this option. Once normalized, the XSF files are deleted.
    - **None:** Select “None” to keep the XSF files in the “XSF In” folder. No entry fields for an “XSF Out” folder path or for authentication credentials are available for this option. Once normalized, the XSF files remain available in the “XSF In” folder. If you rerun Normalize, the same XSF files will be re-normalized.
  - **Batch Size**—Specify the maximum number of XSF files to be processed by each normalization.

- **XSF Out**—Enter a path to the output folder that will contain the normalized XSF files.
- **User (domain/username)**—Enter the domain and username that enables access to the “XSF out” folder.
- **Password**—Enter the password that enables access to the “XSF in” folder.

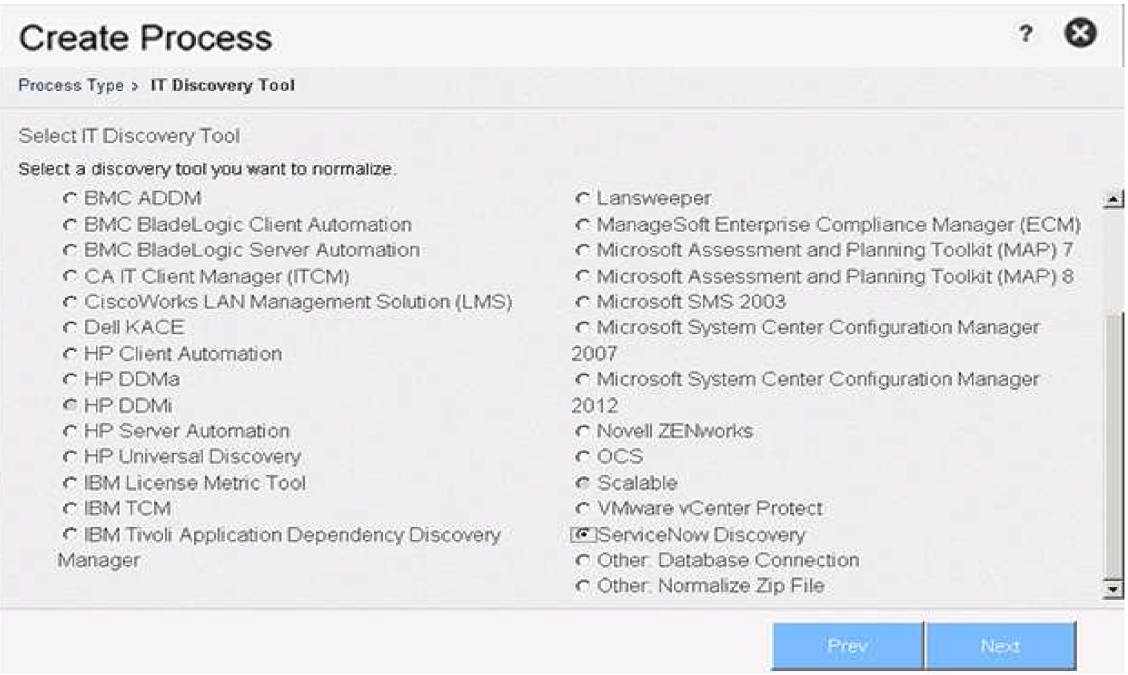
6. Click Test Connection to verify the connection.
7. Complete one of the following options:
   - **To configure the Process Settings now:** Click Next and go to Configuring IT Discovery Tool Process Settings for detailed instructions.
   - **To configure the Process Settings later:** Click Finish to add the process to the BDNA Normalize Console.

Using ServiceNow as a Data Source

Task ***Configure ServiceNow as a data source:***

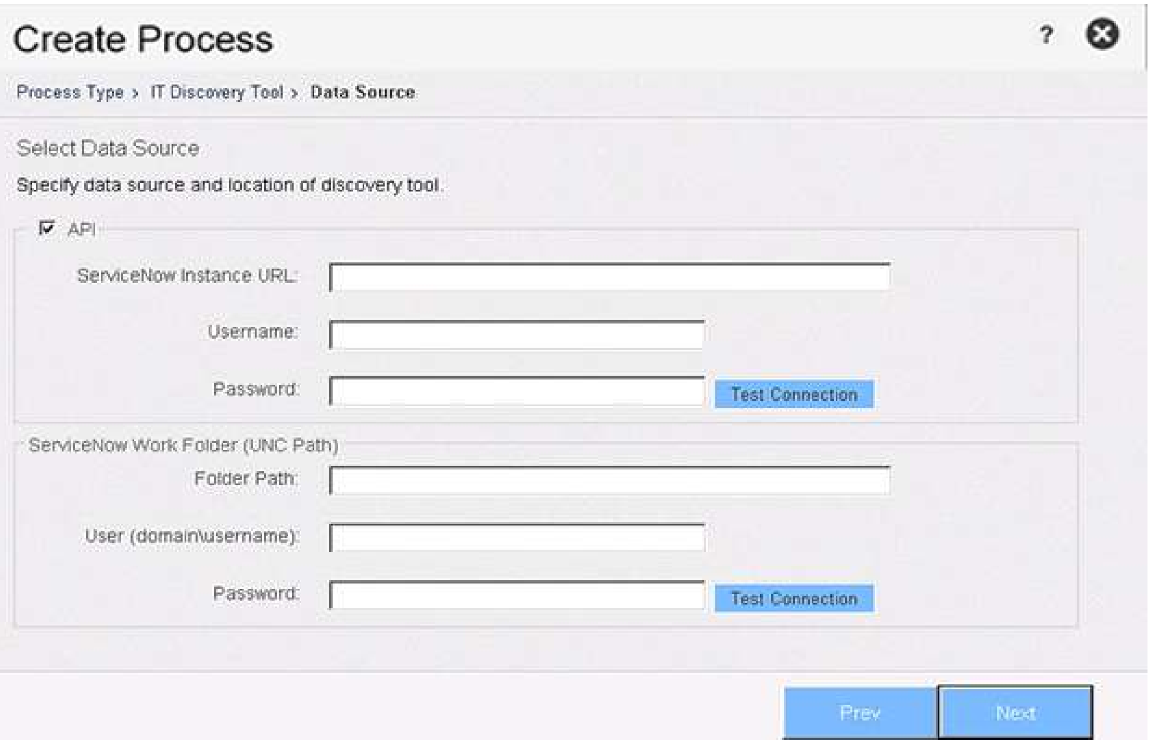
1. Click Create Process, located in the upper-right section of the Administration Console.
2. Click the IT Discovery Tool radio button.
3. Click Next.
4. Select ServiceNow. The discovery tools are listed in alphabetical order and may require scrolling the window to see the entire list.

Figure 6-39: IT Discovery Tool—ServiceNow


Create Process
?
Process Type > IT Discovery Tool
Select IT Discovery Tool
Select a discovery tool you want to normalize.
○ BMC ADDM
○ BMC BladeLogic Client Automation
○ BMC BladeLogic Server Automation
○ CA IT Client Manager (ITCM)
○ CiscoWorks LAN Management Solution (LMS)
○ Dell KACE
○ HP Client Automation
○ HP DDMa
○ HP DDMi
○ HP Server Automation
○ HP Universal Discovery
○ IBM License Metric Tool
○ IBM TCM
○ IBM Tivoli Application Dependency Discovery Manager
○ Lansweeper
○ ManageSoft Enterprise Compliance Manager (ECM)
○ Microsoft Assessment and Planning Toolkit (MAP) 7
○ Microsoft Assessment and Planning Toolkit (MAP) 8
○ Microsoft SMS 2003
○ Microsoft System Center Configuration Manager 2007
○ Microsoft System Center Configuration Manager 2012
○ Novell ZENworks
○ OCS
○ Scalable
○ VMware vCenter Protect
● ServiceNow Discovery
○ Other: Database Connection
○ Other: Normalize Zip File
Prev
Next

5. Click Next. The Select Data Source screen opens.

Figure 6-40: IT Discovery Tool Data Source—ServiceNow



Select Data Source

Specify data source and location of discovery tool.

☑ API

Create Process
?
Process Type > IT Discovery Tool > Data Source
ServiceNow Instance URL:
Username:
Password:
Test Connection
ServiceNow Work Folder (UNC Path)
Folder Path:
User (domain\username):
Password:
Test Connection
Prev
Next

6. Place a check in the API checkbox.

Note • *If you want to manually trigger a normalization from ServiceNow, you can disable the API calls from the Normalize server by un-checking the API checkbox.*

7. Provide the ServiceNow Instance URL.

8. Provide the Username and Password for your ServiceNow Instance.

9. Provide the ServiceNow work folder location in UNC format (for example, `\\server-name\shared-resource-pathname`)

Note • *This folder is configured in the ServiceNow update set settings. ServiceNow will extract the data from the CMDB and copy the data locally on that folder (mid-server).*

10. Provide the Username and Password for access to the ServiceNow work folder.

11. Click Test Connection to verify the connection.

12. Complete one of the following options:

    - **To configure the Process Settings now**: Click Next and go to Configuring IT Discovery Tool Process Settings for detailed instructions.

- **To configure the Process Settings later**: Click Finish to add the process to the BDNA Normalize Console.

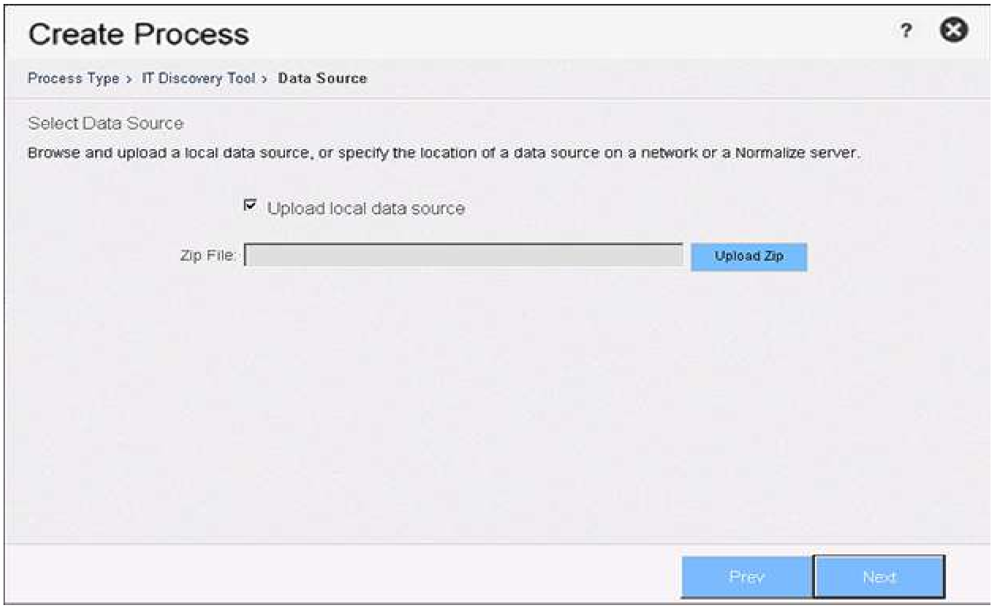
Using a Normalize Zip File as a Data Source

Task ***Configure a zip file as a data source:***

1. Click Create Process, located in the upper-right section of the Administration Console. The Process Type screen opens
2. Click the IT Discovery Tool radio button.
3. Click Next.
4. Select Other: Normalize Zip File. You may need to scroll to the bottom of the list.
5. Click Next. The Select Data Source screen opens.
6. Complete the steps for one of the following options.
   - **If the Zip file is on a local server:** (see IT Discovery Tool Data Source— Zip File on Local Server)
     - Click the checkbox: Upload local data source.
     - Click Upload ZIP and select the file to upload.
   - **If the Zip file is on a network or BDNA Data Platform server:** (see IT Discovery Tool Data Source— Zip File on Network Server)
     - Uncheck the Upload local data source checkbox.
     - Enter a local path and authentication for the file located on either a network or Normalize server.
     - Click Test Connection to confirm that BDNA Normalize can connect to the data source.

   Note • *You must see the status message "Connected Successfully" to activate the Next button and proceed with the configuration.*
7. Complete one of the following options.
   - **To configure the Process Settings now:** Click Next and go to Configuring IT Discovery Tool Process Settings for detailed instructions.
   - **To configure the Process Settings later:** Click Finish to add the process to the Administration Console.

Figure 6-41: IT Discovery Tool Data Source— Zip File on Local Server


Create Process

Process Type > IT Discovery Tool > Data Source

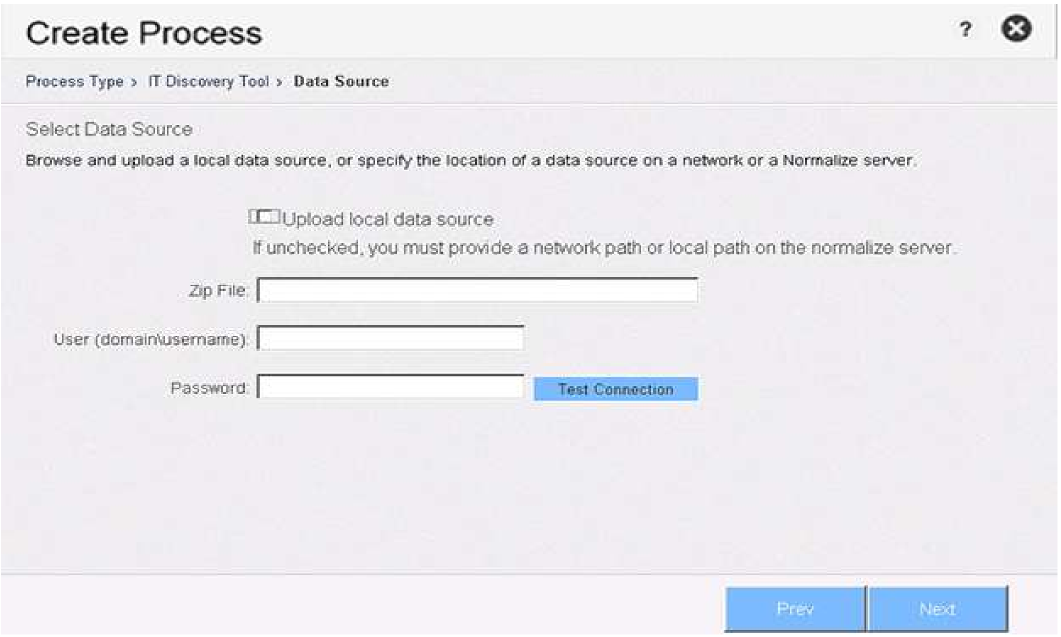
Select Data Source

Browse and upload a local data source, or specify the location of a data source on a network or a Normalize server.

☑ Upload local data source

Zip File:

Figure 6-42: IT Discovery Tool Data Source— Zip File on Network Server


Create Process

Process Type > IT Discovery Tool > Data Source

Select Data Source

Browse and upload a local data source, or specify the location of a data source on a network or a Normalize server.

☐ Upload local data source

If unchecked, you must provide a network path or local path on the normalize server.

Zip File:

User (domain\username):

Password:

Configuring IT Discovery Tool Process Settings

If you clicked Next after configuring Data Source settings, you can specify History Mode, Metering Rules, and Output Formats for the discovery process—while configuring the process.

Setting History Mode for IT Discovery Tool Process

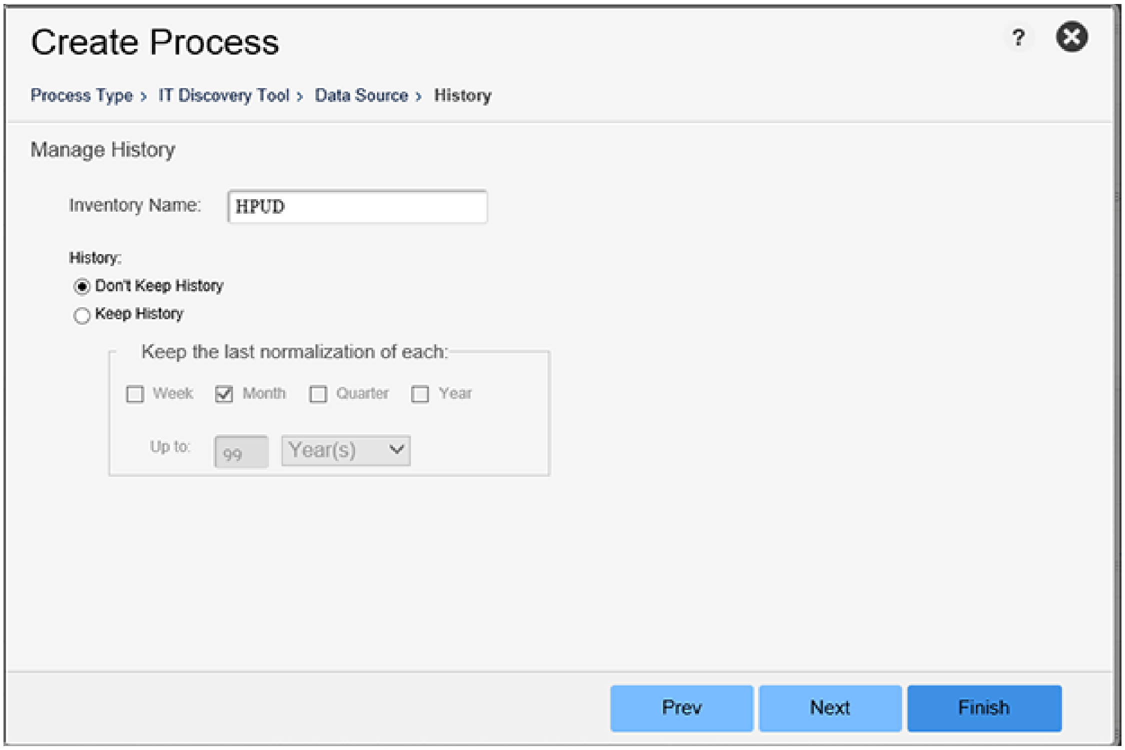
When you are creating a process, use this screen to accept or modify the default inventory name, and set a history mode and schedule.

- **Inventory Name**—Accept the pre-populated name or enter a new inventory name.
- **History Mode**—Click the radio button next to the setting you want to activate.
    - **Don’t Keep History**—Always overwrite the most recent Normalization
    - **Keep History**—Activate history for Analyze and/or Normalize
        - **In Analyze**—Activate Analyze history
        - **In Normalize**—Activate Normalization history
- Keep the last normalization of each—Place a check next to the schedule you want to activate.
    - Store the last Normalization of each Week
    - Store the last Normalization of each Month
    - Store the last Normalization of each Quarter
    - Store the last Normalization of each Year
    - Up to: 1-99 Weeks, Months, Quarters, or Years

Caution • *Selecting “Keep History” saves all inventory data to Analyze and/or Normalize. Depending on the number of assets, saved inventories can grow very large and severely impact Data Platform application performance, especially reporting and analysis. BDNA advises caution when setting “Keep History” values, and recommends monitoring saved inventory sizes frequently.*

***Note** • Click Next to proceed to the Metering settings screen*

Figure 6-43: Setting History Model



Create Process

Process Type › IT Discovery Tool › Data Source › History

Manage History

Inventory Name: HPUD

History:
● Don't Keep History
○ Keep History

Keep the last normalization of each:
☐ Week ☑ Month ☐ Quarter ☐ Year

Up to: 99 Year(s)

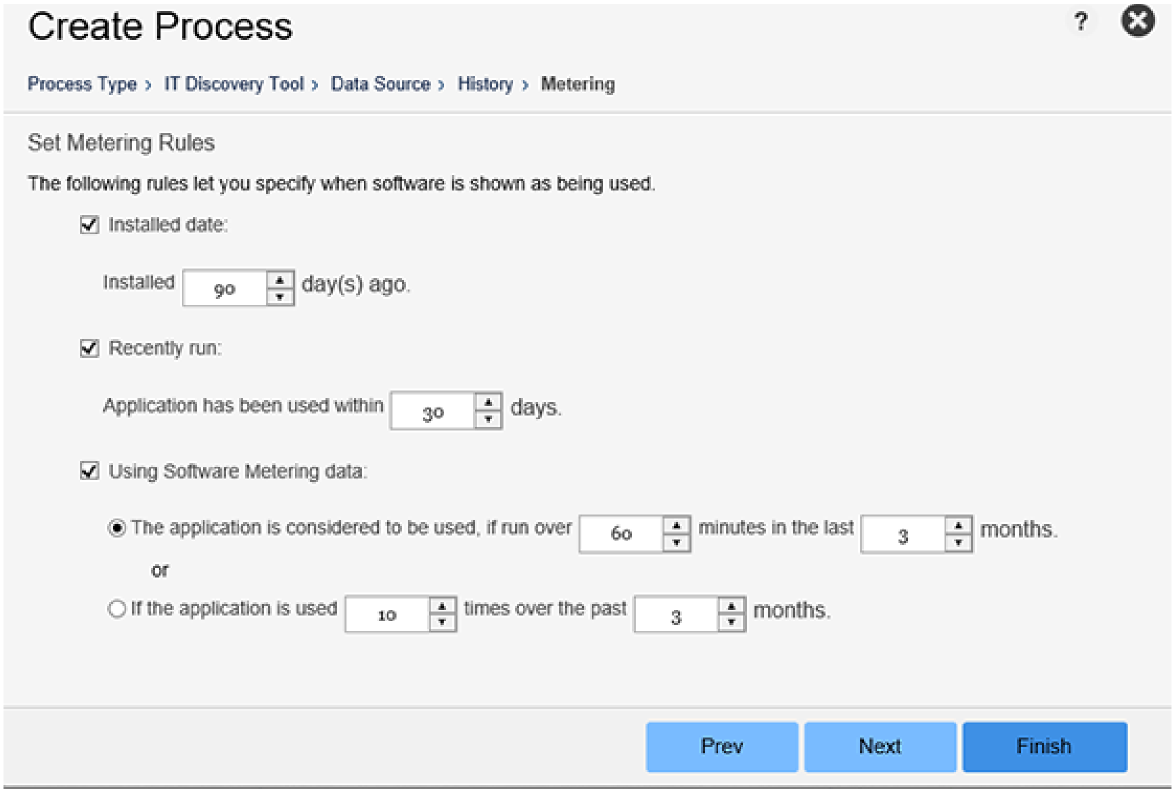
Setting Metering Rules

Use this screen to view and edit when software is shown as being used. Metering options are dependent on the IT Discovery Tool. If an IT Discovery tool does not provide metering information, the option will still be visible in the UI, but will not be available for use.

- **Installed date**—Place a check here if you want to calculate the usage based on the installed date.
- **Recently run**—Place a check here if you want to calculate the usage based on the last run date.
- **Using software metering data**—Place a check here to specify the rules that define what determines the “use” of software. Click either radio button to specify the following:
  - The application is considered to be used if run over a specified number of minutes in the last specified number of months.
  - The application is used a specified number of times in the last specified number of months.

***Note** • Click Next to proceed to the Output Format settings screen.*

Figure 6-44: Setting Metering Rules



Create Process

Process Type › IT Discovery Tool › Data Source › History › Metering

Set Metering Rules

The following rules let you specify when software is shown as being used.

☑ Installed date:

Installed 90 day(s) ago.

☑ Recently run:

Application has been used within 30 days.

☑ Using Software Metering data:

● The application is considered to be used, if run over 60 minutes in the last 3 months.

or

○ If the application is used 10 times over the past 3 months.

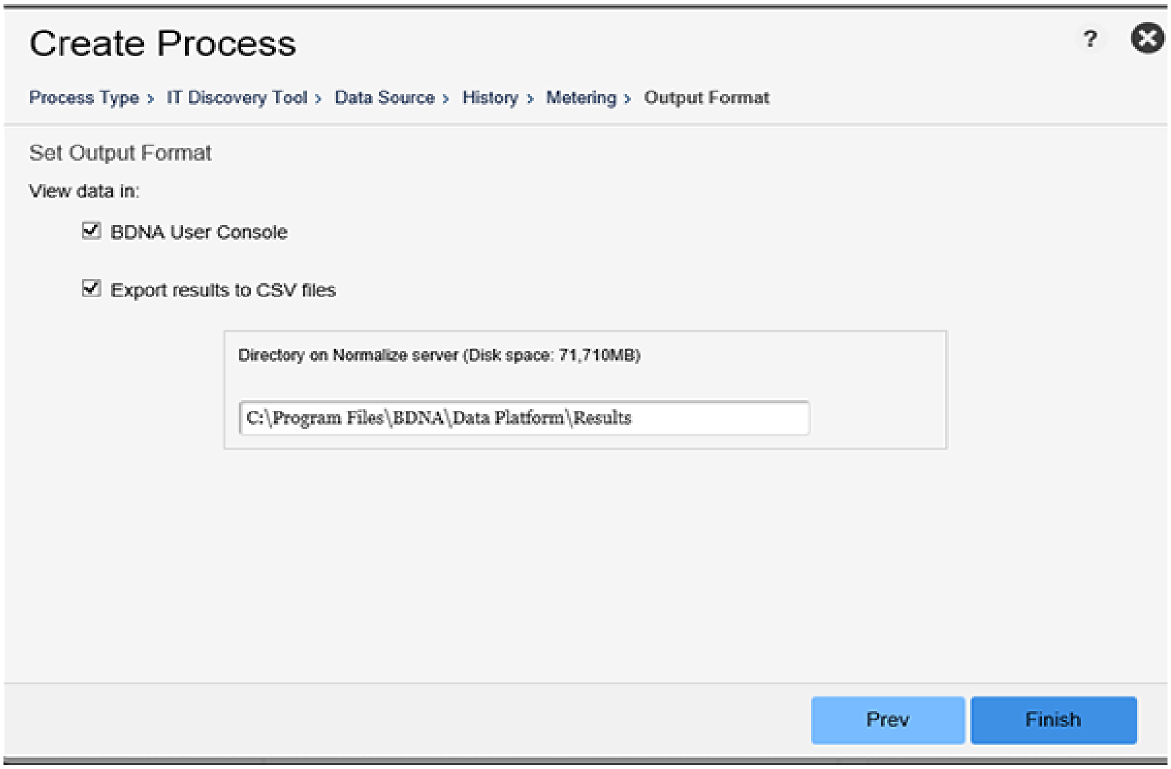
Setting Output Format

When you are creating a process, use this screen to set the following output formats:

- **BDNA Analyze**—Check this option to enable output to BDNA Analyze.
- **Export results to CSV files**—Check this option to enable this type of output format.

- **Directory on Normalize server (Disk space: XX MB)**—Shows results file location and available disk space.

Figure 6-45: Setting Output Format


Create Process
?
Process Type › IT Discovery Tool › Data Source › History › Metering › Output Format
Prev
Finish

Set Output Format

View data in:

☑ BDNA User Console

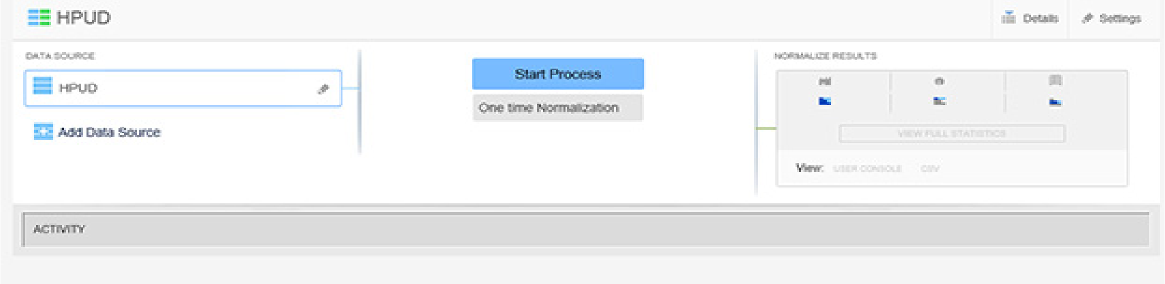
☑ Export results to CSV files

Directory on Normalize server (Disk space: 71,710MB)

C:\Program Files\BDNA\Data Platform\Results

Note • *Click Finish to add the configured process to the Administration Console.*

Figure 6-46: IT Discovery Tool (HPUD) Process Added to Administration Console


HPUD
Details
Settings
DATA SOURCE
HPUD
Add Data Source
Start Process
One time Normalization
NORMALIZE RESULTS
VIEW FULL STATISTICS
View: USER CONSOLE CSV
ACTIVITY

7

Creating a Purchase Order Process

Normalize for Purchase Orders takes BDNA Normalize beyond the IT sector by aligning and enriching the information contained in your procurement system. Purchase Order data can be obtained from a database connection, CSV or TXT file, or Normalize Zip file. The normalized data can be viewed and analyzed in BDNA Analyze or a CSV file.

There are two main steps for creating a Purchase Order process:

- Configuring Purchase Order Data Source Settings
- Configuring Purchase Order Process Settings

Note • *If you are using a CSV file, you must configure that file before creating the Purchase Order process. For more information, see Creating a Purchase Order CSV File*

Note • *If you are using a database connection or a BDNA Normalize zip file, you must first create an extractor configuration file.*

Configuring Purchase Order Data Source Settings

There are three types of data sources that you can use to create a Purchase Order process: database, CSV or TXT file, or BDNA Normalize zip file. Instructions for configuring the process with each type of data source can be found at:

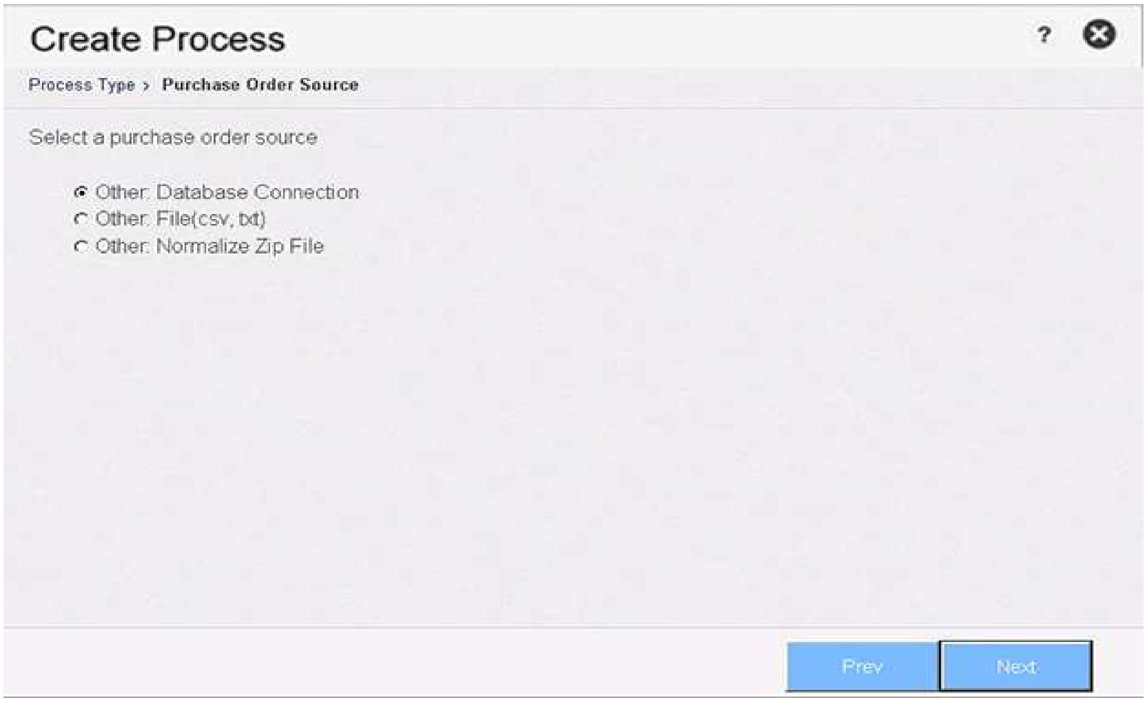
- Using a Database Connection as a Data Source
- Using a CSV File as a Data Source
- Using a BDNA Normalize Zip File as a Data Source

Using a Database Connection as a Data Source

Task ***To use a database connection as a data source, do the following tasks:***

1. Click Create Process, located in the upper section of the Administration Console. The Process Type screen opens.
2. Click the Purchase Order radio button.
3. Click Next. The Purchase Order Source screen opens.

Figure 7-47: Purchase Order Source



Create Process

Process Type > Purchase Order Source

Select a purchase order source

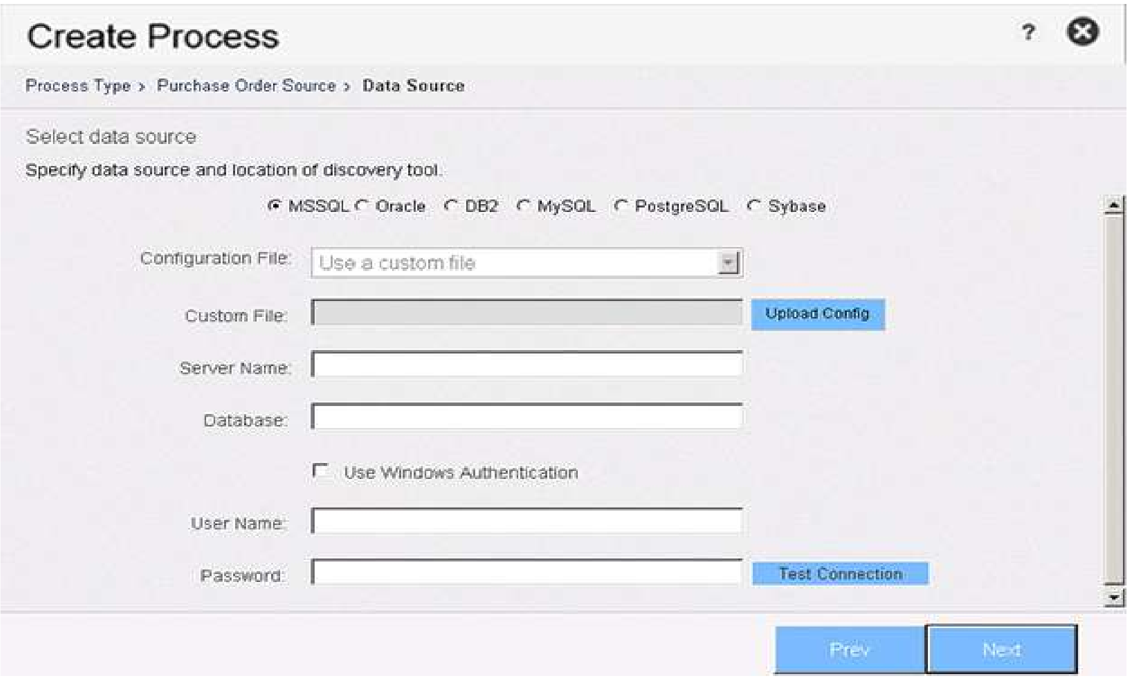
● Other: Database Connection
○ Other: File(csv, txt)
○ Other: Normalize Zip File

4. **Click the radio button**—Other: Database Connection.
5. Click the database connection radio button that is applicable to your situation. Options are determined by the database used by BDNA Normalize.
6. Select a configuration file (or use a customized configuration file), for the discovery tool you are adding. (For more information about customizing configuration files, see Creating a Purchase Order Configuration File)
7. Enter configuration values for the discovery tool’s data source and location.

Note • *The specific fields that display on the screen will vary, depending on the database connection previously selected.*

8. Complete one of the following options:
   - **To configure the Process Settings now:** Go to Configuring Purchase Order Process Settings for detailed instructions.
   - **To configure Process Settings later:** Click Finish to add the process to the Administration Console.

Figure 7-48: Specifying Purchase Order Data Source Values—MSSQL

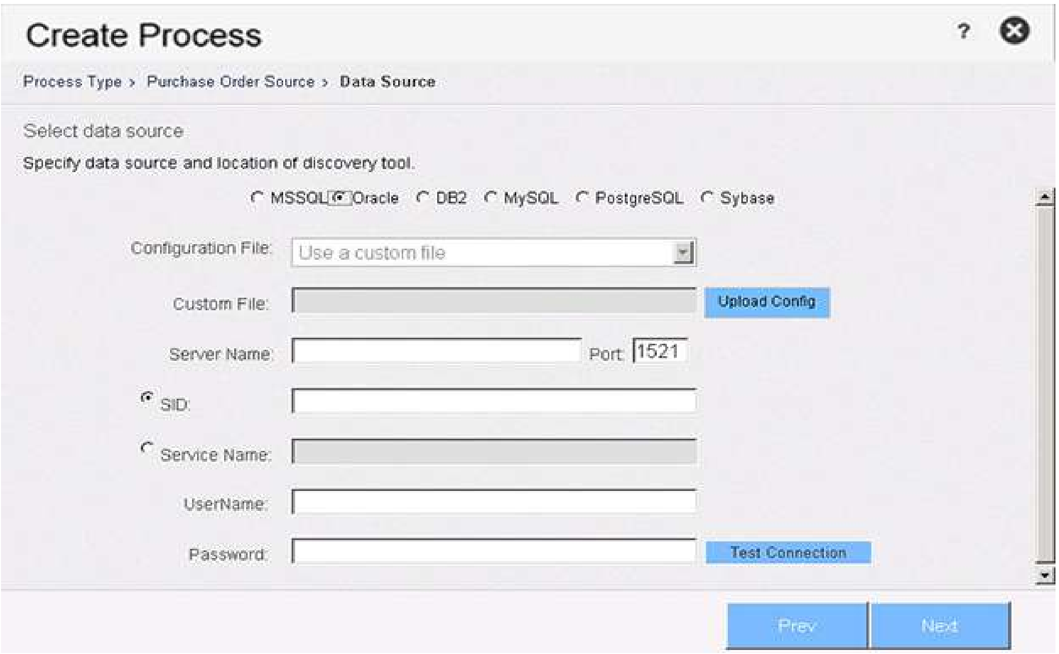

Create Process
?
Process Type > Purchase Order Source > Data Source
Select data source
Specify data source and location of discovery tool.
● MSSQL ○ Oracle ○ DB2 ○ MySQL ○ PostgreSQL ○ Sybase
Configuration File: Use a custom file
Custom File:
Upload Config
Server Name:
Database:
☐ Use Windows Authentication
User Name:
Password:
Test Connection
Prev
Next

When MSSQL is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Database**—Enter the name of the database.
- **Use Windows Authentication**—Click the checkbox to enable Windows authentication.
- User Name—Enter the authentication domain/username that enables access to the database.

- Password—Enter the password that enables access to the database.

Figure 7-49: Specifying Purchase Order Data Source Values—Oracle



Create Process

Process Type › Purchase Order Source › **Data Source**

Select data source

Specify data source and location of discovery tool.

○ MSSQL ● Oracle ○ DB2 ○ MySQL ○ PostgreSQL ○ Sybase

Configuration File: Use a custom file

Custom File:

Server Name: Port: 1521

● SID:

○ Service Name:

UserName:

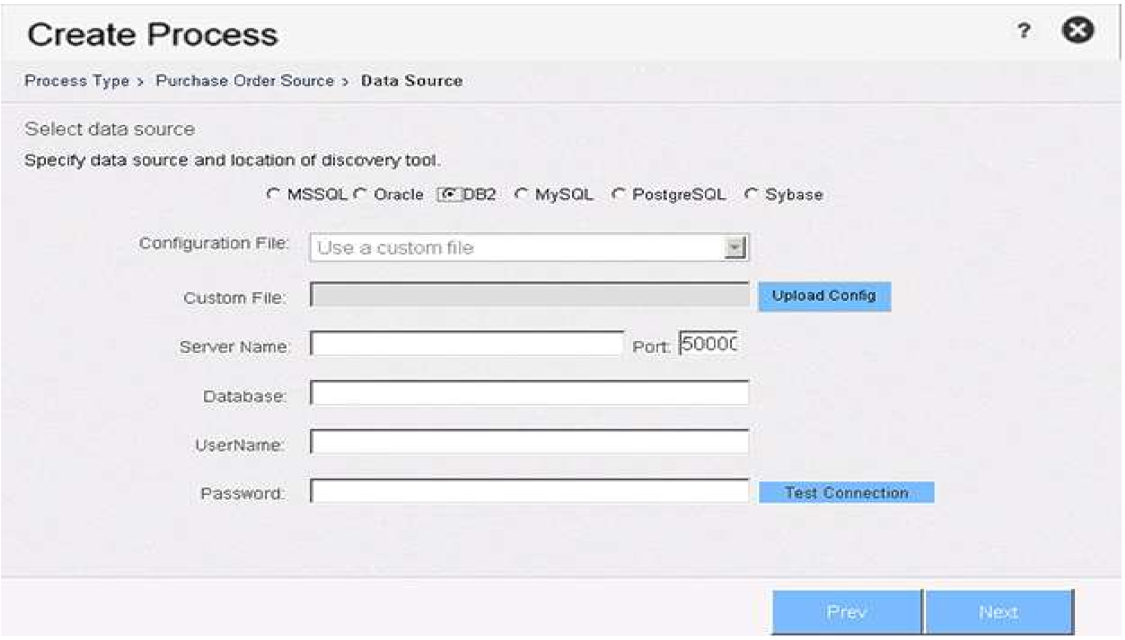
Password:

When Oracle is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to f the database.
- **SID**—Click this radio button to enable use of the System Identifier (SID) that identifies the database instance, and then enter the system identifier (database name + instance number; e.g. `database3`).
- **Service Name**—Click this radio button to enable use of a ‘connector’ to one or more instances of the database, and then enter the Service Name (e.g., s`ales.us.example.com`).
- **User Name**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 7-50: Specifying Purchase Order Data Source Values—DB2



Create Process

Process Type > Purchase Order Source > **Data Source**

Select data source

Specify data source and location of discovery tool.

○ MSSQL ○ Oracle ● DB2 ○ MySQL ○ PostgreSQL ○ Sybase

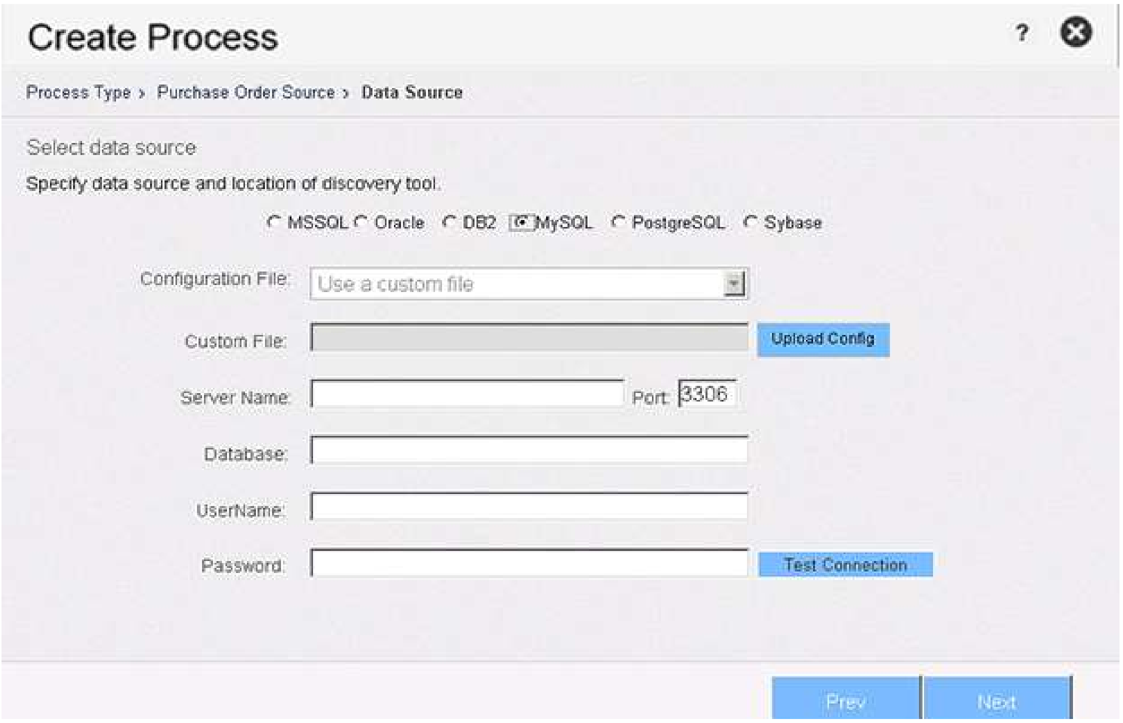
Configuration File: Use a custom file
Custom File:
Server Name:
Port: 50000
Database:
UserName:
Password:

When DB2 is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **UserName**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 7-51: Specifying Purchase Order Data Source Values—MySQL

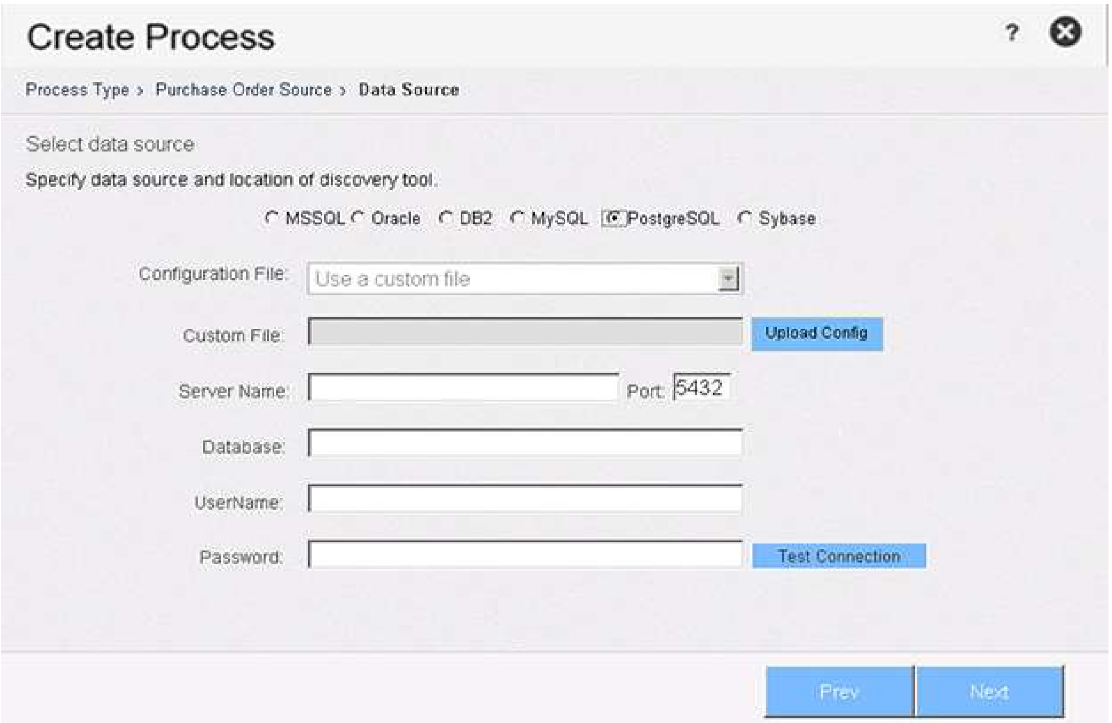

Create Process
?
Process Type › Purchase Order Source › Data Source
Select data source
Specify data source and location of discovery tool.
○ MSSQL ○ Oracle ○ DB2 ● MySQL ○ PostgreSQL ○ Sybase
Configuration File: Use a custom file
Custom File:
Upload Config
Server Name:
Port: 3306
Database:
UserName:
Password:
Test Connection
Prev
Next

When MySQL is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Database**—Enter the name of the database.
- **UserName—**Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 7-52: Specifying Purchase Order Data Source Values—PostgreSQL



Create Process

Process Type > Purchase Order Source > **Data Source**

Select data source

Specify data source and location of discovery tool.

○ MSSQL ○ Oracle ○ DB2 ○ MySQL ● PostgreSQL ○ Sybase

Configuration File: Use a custom file

Custom File:

Server Name:

Port: 5432

Database:

UserName:

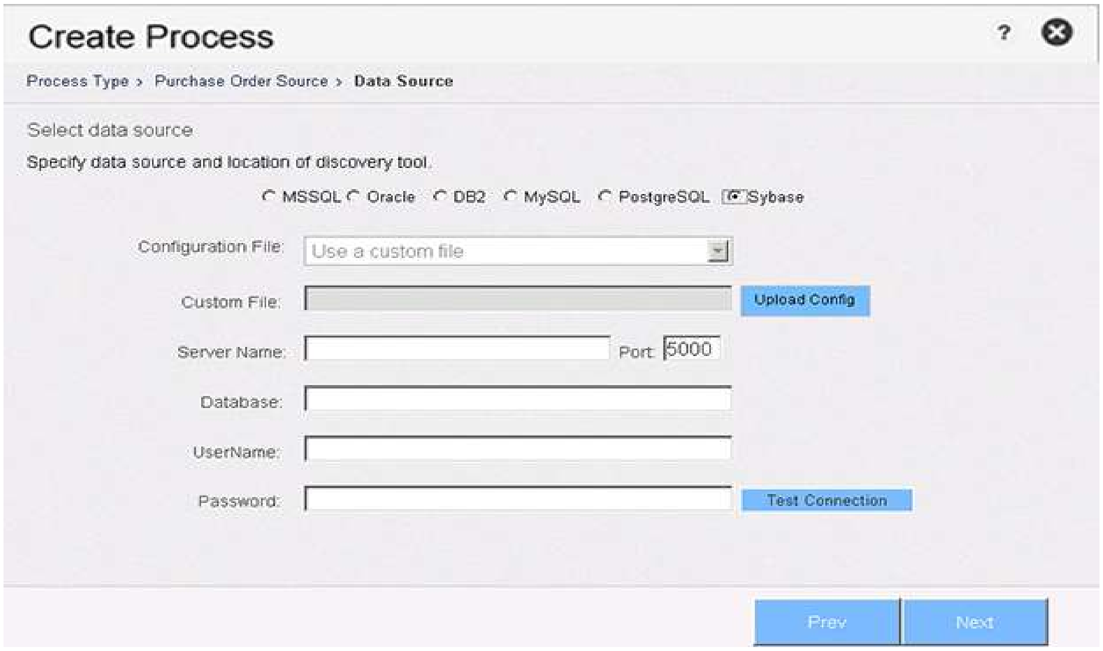
Password:

When PostgresSQL is selected as the data source, the Create Process dialog box includes the following properties:

- **Custom File**—Click Upload Config and select the custom file to be used for this process. (This option may be greyed-out and not available, depending on the database settings.)
- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 7-53: Specifying Purchase Order Data Source Values—Sybase


Create Process
?
Process Type > Purchase Order Source > Data Source
Select data source
Specify data source and location of discovery tool.
○ MSSQL ○ Oracle ○ DB2 ○ MySQL ○ PostgreSQL ● Sybase
Configuration File: Use a custom file
Custom File:
Upload Config
Server Name:
Port: 5000
Database:
UserName:
Password:
Test Connection
Prev
Next

When Sybase is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **UserName**—Enter the username that enables access to the database.
- **Password**—Enter the password that enables access to the database.

Using a CSV File as a Data Source

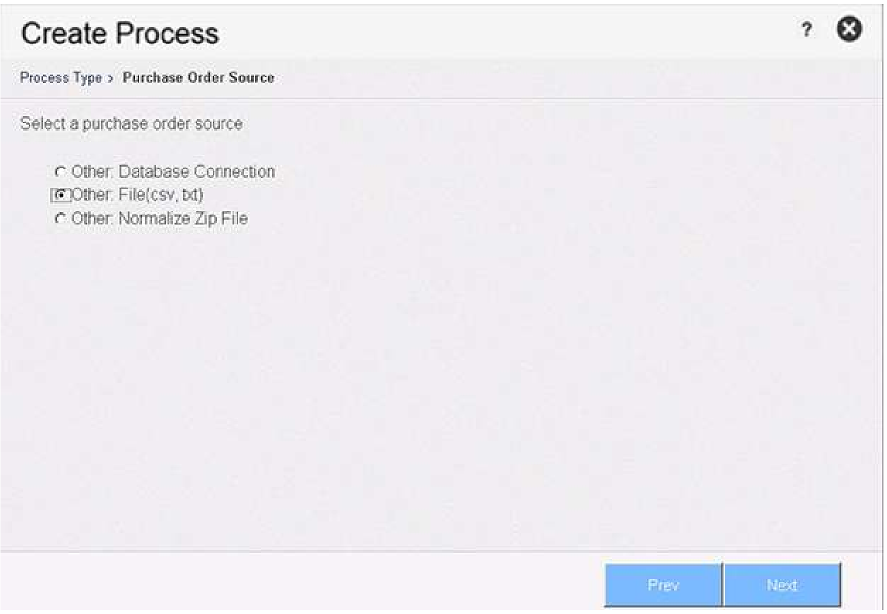
***Note** • You must create and customize the CSV, before adding it as a data source for a Purchase Order process. For more information, see Creating a Purchase Order CSV File.*

Task ***To configure a csv file as a data source:***

1. Click Create Process, located in the upper section of the Administration Console. The Process Type screen opens.
2. Click the Purchase Order radio button.

3. Click Next. The Purchase Order Source screen opens.

Figure 7-54: Purchase Order Source



Create Process

Process Type > **Purchase Order Source**

Select a purchase order source

○ Other: Database Connection
● Other: File(csv, txt)
○ Other: Normalize Zip File

4. **Click the radio button**—Other: File (csv, txt).

5. Click Next. The Purchase Order Data Source screen opens.

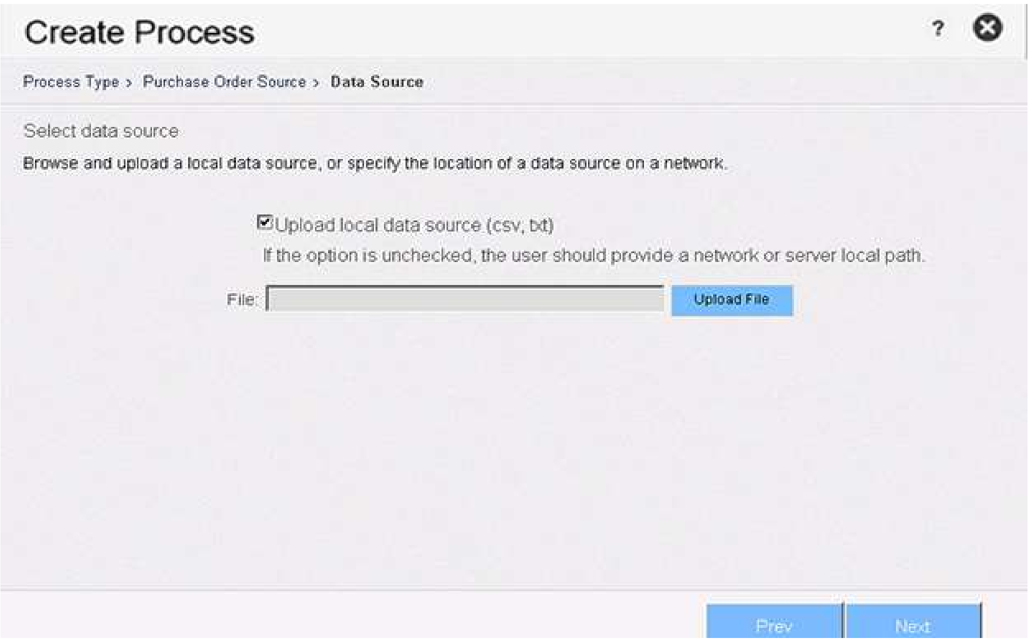
6. Complete the steps for one of the following options.

   - **If the file is on a local server:** (see Purchase Order Data Source—ZIP File on Local Server)
     - **Click the checkbox:** Upload local data source.
     - Click Upload ZIP and select the file to upload.
   - **If the file is on a network or Data Platform server:** (see Purchase Order Data Source—ZIP File on Network Server)
     - Uncheck the Upload local data source checkbox.
     - Enter a local path and authentication for the file located on either a network or Normalize server.
     - Click Test Connection to confirm that BDNA Normalize can connect to the data source.

***Note** • You must see the status message "Connected Successfully" to activate the Next button and proceed with the configuration.*

7. Complete one of the following options:

   - **To configure the Process Settings now:** Go to Configuring Purchase Order Process Settings for detailed instructions.
   - **To configure Process Settings later:** Click Finish to add the process to the Administration Console.
   - **Purchase Order Data Source**—CSV File on Local Server


Create Process
?
Process Type › Purchase Order Source › **Data Source**
Upload File
Prev
Next

Select data source

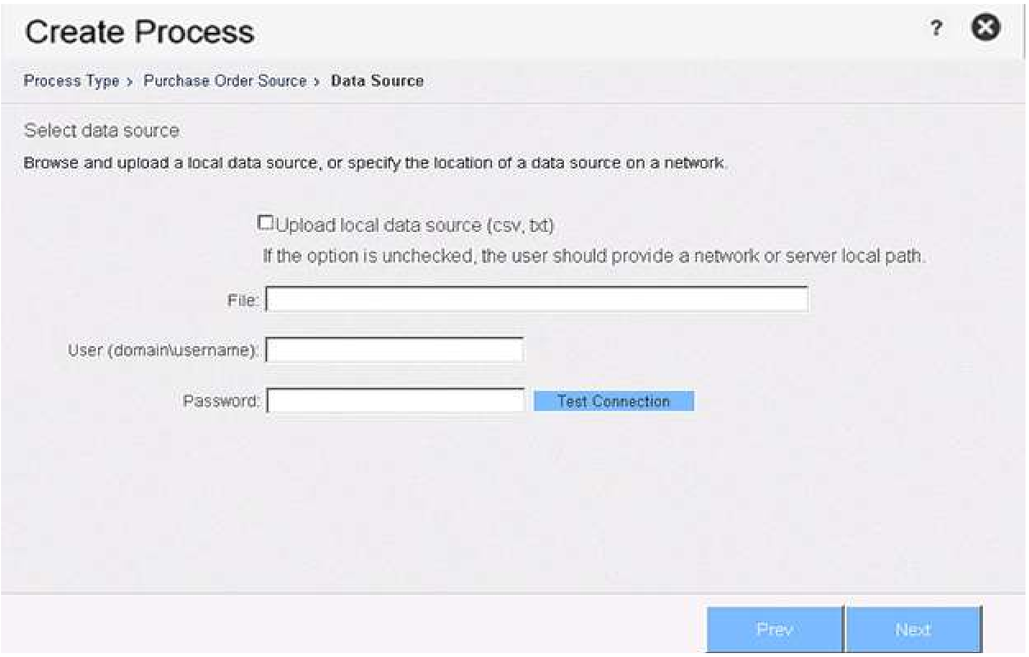
Browse and upload a local data source, or specify the location of a data source on a network.

☑ Upload local data source (csv, txt)

If the option is unchecked, the user should provide a network or server local path.

File:

Figure 7-55: Purchase Order Data Source—CSV File on Network Server


Create Process
?
Process Type › Purchase Order Source › **Data Source**
Test Connection
Prev
Next

Select data source

Browse and upload a local data source, or specify the location of a data source on a network.

☐ Upload local data source (csv, txt)

If the option is unchecked, the user should provide a network or server local path.

File:

User (domain\username):

Password:

Using a BDNA Normalize Zip File as a Data Source

Task ***To configure a zip file as a data source:***

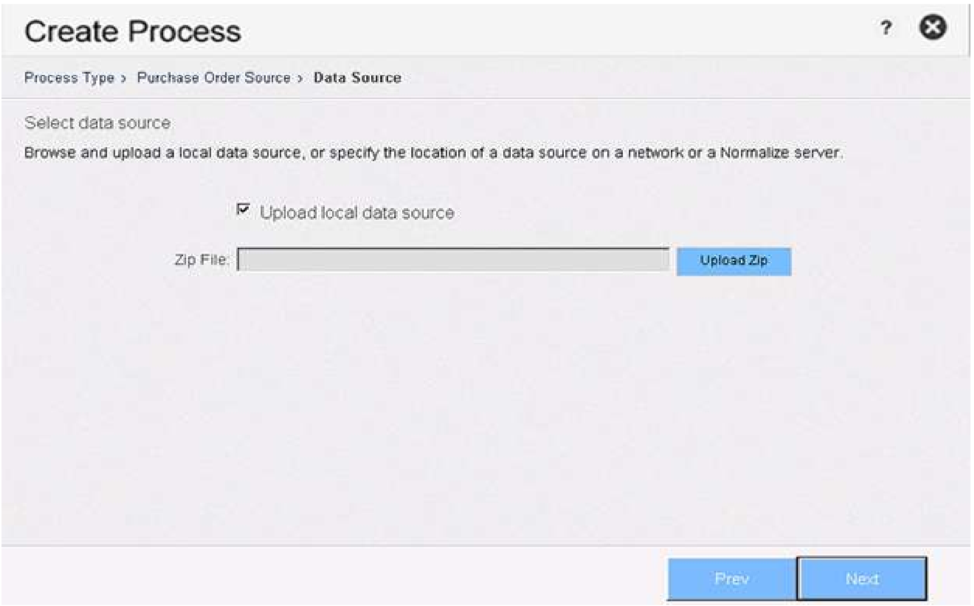
1. Click Create Process, located in the upper section of the Administration Console. The Process Type screen opens.
2. Click the Purchase Order radio button.
3. Click Next.
4. Select Other: Normalize Zip File.
5. Click Next. The Select Data Source screen opens.
6. Complete the steps for one of the following options.
    - **If the Zip file is on a local server:** (Purchase Order Data Source—ZIP File on Local Server)
        - Click the checkbox: Upload local data source.
        - Click Upload ZIP and select the file to upload.
    - **If the Zip file is on a network or** BDNA Normalize **server:** (Purchase Order Data Source—ZIP File on Network Server)
        - Uncheck the Upload local data source checkbox.
        - Enter a **l**ocal path and authentication for the file located on either a network or BDNA Normalize server.
        - Click Test Connection to confirm that BDNA Normalize can connect to the data source.

    Note • *You must see the status message “Connected Successfully” to activate the Next button and proceed with the configuration.*

7. Complete one of the following options.
    - **To configure the Process Settings now:** Go to Configuring Purchase Order Process Settings for detailed instructions.

- **To configure Process Settings later:** Click Finish to add the process to the Administration Console.

Figure 7-56: Purchase Order Data Source—ZIP File on Local Server


Create Process
?
Process Type › Purchase Order Source › Data Source
Upload Zip
Prev
Next

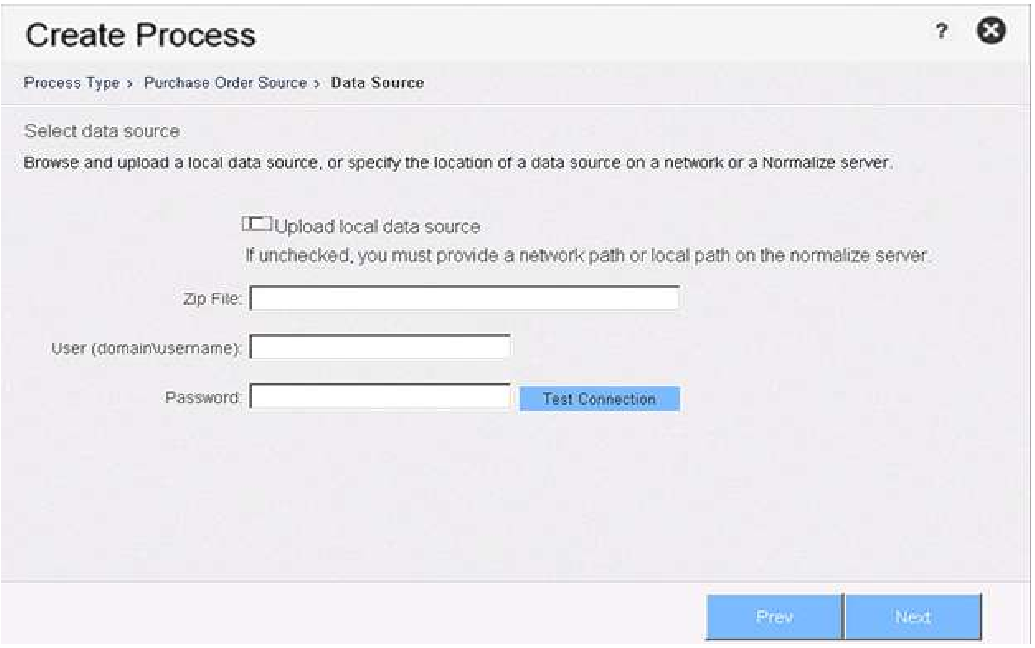
Select data source

Browse and upload a local data source, or specify the location of a data source on a network or a Normalize server.

☑ Upload local data source

Zip File:

Figure 7-57: Purchase Order Data Source—ZIP File on Network Server


Create Process
?
Process Type › Purchase Order Source › Data Source
Test Connection
Prev
Next

Select data source

Browse and upload a local data source, or specify the location of a data source on a network or a Normalize server.

☐ Upload local data source

If unchecked, you must provide a network path or local path on the normalize server.

Zip File:

User (domain\username):

Password:

Configuring Purchase Order Process Settings

If you clicked Next after configuring Data Source settings, you can specify History Mode, Metering Rules, and Output Formats for the discovery process—while configuring the process.

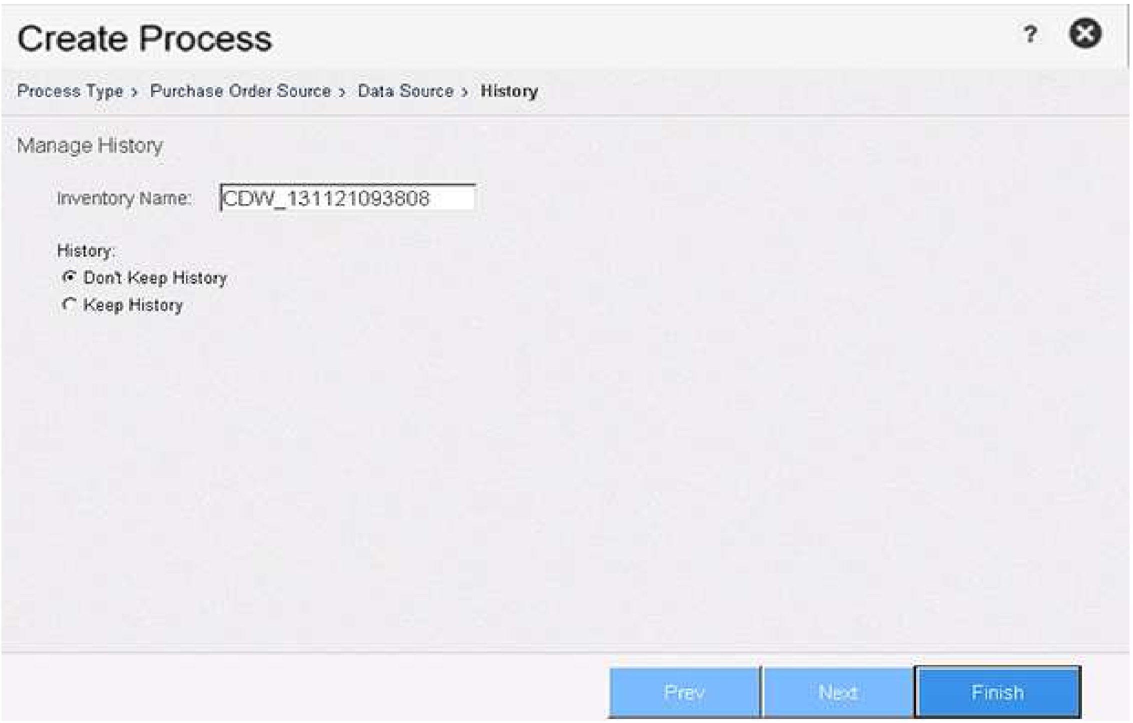
***Note** • If you clicked Finish while configuring the Data Source settings, you will need to go to 'Managing Sessions' to edit the process settings.*

Task ***Setting History Mode for a Purchase Order Process***

When you are creating a process, use this screen to accept or modify the default inventory name, and set a history mode.

1. Click Next. The History screen opens.

Figure 7-58: Manage History



Create Process

Process Type › Purchase Order Source › Data Source › **History**

Manage History

Inventory Name: CDW_131121093808

History:
● Don't Keep History
○ Keep History

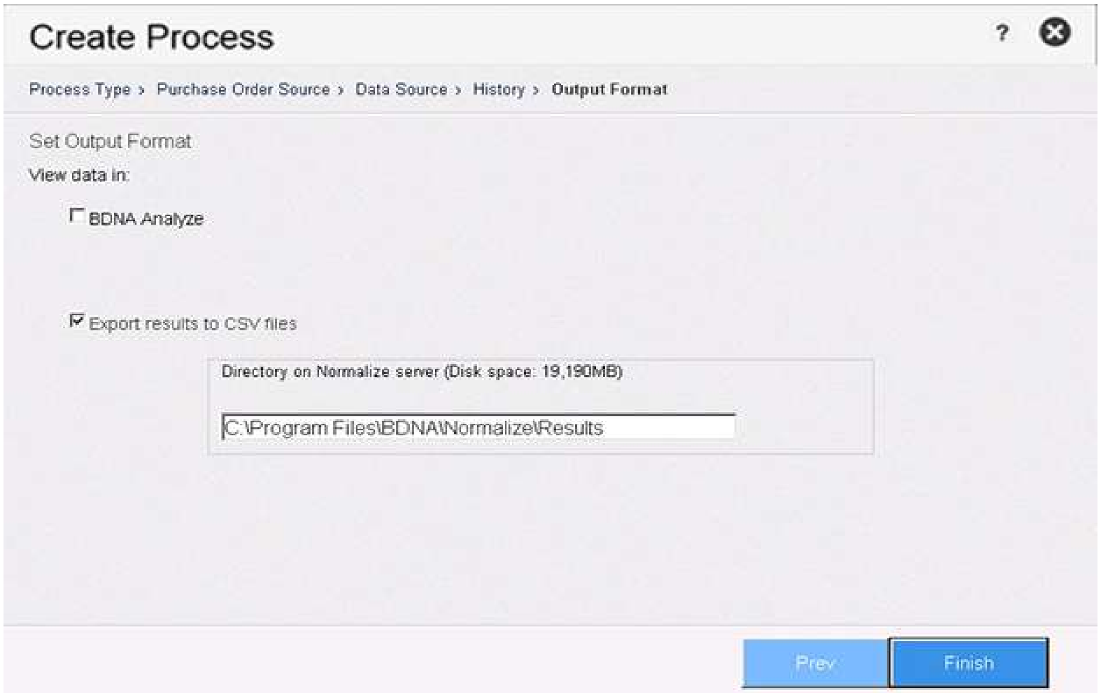
2. Click one of the following radio buttons.

- Don't Keep History
- Keep History

***Caution** • Selecting "Keep History" saves all inventory data to Analyze and/or Normalize. Depending on the number of assets, saved inventories can grow very large and severely impact Data Platform application performance, especially reporting and analysis. BDNA advises caution when setting "Keep History" values, and recommends monitoring saved inventory sizes frequently.*

3. Click Next. The Output Format screen opens.

Figure 7-59: Output Formats



Create Process
?
Process Type › Purchase Order Source › Data Source › History › **Output Format**
Prev
Finish

Set Output Format

View data in:

☐ BDNA Analyze

☑ Export results to CSV files

Directory on Normalize server (Disk space: 19,190MB)

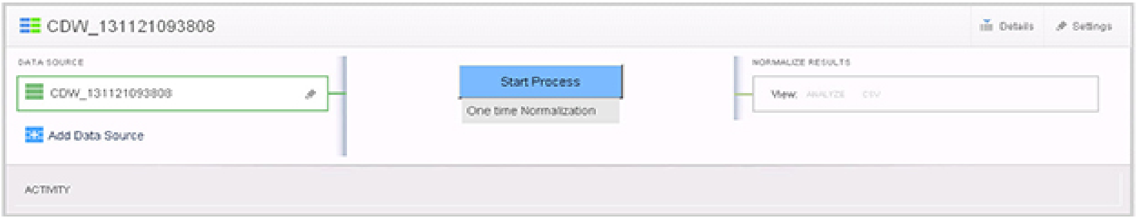
C:\Program Files\BDNA\Normalize\Results

4. Click one or more of the following checkboxes.

- BDNA Analyze
- Export results to CSV files

5. Click Finish. The Purchase Order process is added to the Administration Console**.**

Figure 7-60: Purchase Order Process added to Administration Console



CDW_131121093808
Details
Settings
DATA SOURCE
CDW_131121093808
Add Data Source
Start Process
One time Normalization
NORMALIZE RESULTS
View: ANALYZE CSV
ACTIVITY

Creating a Purchase Order CSV File

Data that you import from an external data source must be converted to a CSV file format before it can be loaded into BDNA Normalize.

Note • *To load data directly from a database connection, see Using a Database Connection as a Data Source*

CSV Header

The CSV columns header is used to define which columns will be using for mapping and which will only be used as additional information. Set the mapping field definition in the CSV Header.

- For a detailed list of objects, mapping fields, and limitations, see 'Objects and Mapping Fields'.
- For an example of a Purchase Order CSV file, see Sample Purchase Order CSVObject: Purchase OrderMapping Fields:

Matching Key Column

Each column used as a mapping field must have a header written in the following format:

KEY-XXXXXXX:YYYYYYY

Where XXXXXXX is:

- The mapping field name. (See KEY_ITEM.KEY definition in 'Objects and Mapping Fields'.

Where YYYYYYY is:

- The original label of the column

Other Columns

All other header columns must be labeled as standard CSV columns. If you are also using BDNA Analyze, the labels will be used as Dimension attribute names.

Note • *You cannot have two columns with the same label.*

Table 7-1 • Sample Purchase Order CSVObject: Purchase OrderMapping Fields:

Customer Order Ref (P.O)	KEY-START_DATE: Date of Invoice	KEY-PRODUCT_DESC: Item Description	KEY-MANUFACTURER: MFG Name	KEY-MFR_PART_NO: MFG Part Number	KEY-QUANTITY: Qty	KEY-QUANTITY: Qty
17996	1/25/2005	IBM 3YR 9X5XNBD ONSITE+ ADP SVC LAPT	IBM Options Service Agree	58P8774	1	$262.00

Customer Order Ref (P.O)	KEY-START_DATE: Date of Invoice	KEY-PRODUCT_DESC: Item Description	KEY-MANUFACTURER: MFG Name	KEY-MFR_PART_NO: MFG Part Number	KEY-QUANTITY: Qty	KEY-QUANTITY: Qty
18005CCR	1/25/2005	IBM 3YR 9X5XNBD ONSITE+ ADP SVC LAPT	IBM Options Service Agree	58P8774	1	$262.00
18018	1/5/2005	HP PROLIANT DL560R 2X 7/3.0 1GB	HP Server & Accessories	346921-001	1	$14,559.00
18018	1/5/2005	EMULEX EMC 2GB 133MHZ FC HBA PCI	Emulex Corporation	LP9802-E	2	$1,051.00
18018	1/5/2005	EMULEX EMC 2GB 133MHZ FC HBA PCI	Emulex Corporation	LP9802-E	2	$1,051.00
18018	1/5/2005	HP 72GB PLUG U320 SCSI 15K HD	HP Server & Accessories	286778-B22	2	$535.00
18018	1/5/2005	HP 72GB PLUG U320 SCSI 15K HD	HP Server & Accessories	286778-B22	2	$535.00
18018	1/5/2005	HP 4GB PC2100 DDR KIT	HP Memory Products	300682-B21	4	$2,742.00
18018	1/19/2005	HP DL560 7/3.0 PROC UPG	HP Server & Accessories	346990-B21	2	$5,800.00
123004MM02	1/14/2005	IBM 3YR 9X5XNBD ONSITE+ ADP SVC LAPT	IBM Options Service Agree	58P8774	1	$262.00
18032CR	1/4/2005	NEC MULTI LCD1860NX 18IN LCD DVI BLK	NEC Display	LCD1860NX-BK-1	2	$442.00

Customer Order Ref (P.O)	KEY-START_DATE: Date of Invoice	KEY-PRODUCT_DESC: Item Description	KEY-MANUFACTURER: MFG Name	KEY-MFR_PART_NO: MFG Part Number	KEY-QUANTITY: Qty	KEY-QUANTITY: Qty
18032CR	1/4/2005	NEC MULTI LCD1860NX 18IN LCD DVI BLK	NEC Display	LCD1860NX-BK-1	2	$442.00
18035CR	1/4/2005	RSP CPB-ML370/DL380 7/3.06 PROC UPG	HP Server & Accessories	CPB-333713-B21	1	$894.00
18035CR	1/4/2005	HP 1GB PC2100 DDR KIT	HP Memory Products	300679-B21	1	$479.00
18037CR	1/4/2005	BROTHER INTELLIFAX-2800 PLAIN PAPER	Brother International	PPF-2800	1	$195.00
18033CCR	1/5/2005	HP PROLIANT DL380R G3 7/3.06 1GB	HP Server & Accessories	333704-001	1	$2,958.00
18033CCR	1/5/2005	RSP CPB-PL DL380 G3 REDUN PWR SUPPLY	HP Server & Accessories	CPB-313054-001	1	$220.00
18033CCR	1/5/2005	HP BATTERY BACKED WRITE CACHE ENAB	HP Computers	255514-B21	1	$198.00
18033CCR	1/5/2005	HP DL380 G3 G4 REDUNDANT FAN KIT	HP Server & Accessories	293048-B21	1	$202.00
18033CCR	1/6/2005	HP 36GB PLUG U320 SCSI 15K HD	HP Server & Accessories	286776-B22	2	$305.00
18033CCR	1/6/2005	HP 36GB PLUG U320 SCSI 15K HD	HP Server & Accessories	286776-B22	2	$305.00

Customer Order Ref (P.O)	KEY-START_DATE: Date of Invoice	KEY-PRODUCT_DESC: Item Description	KEY-MANUFACTURER: MFG Name	KEY-MFR_PART_NO: MFG Part Number	KEY-QUANTITY: Qty	KEY-QUANTITY: Qty
18034	1/6/2005	VER STOR FOUND WIN 4.1 MEDIA	Veritas Software Licensing	N121068	1	$32.55
18029	1/7/2005	PLANAR PL1700 17"	Planar	997-2795-00	9	$256.00

`KEY-START_DATE:Date of Invoice`
`Where “START_DATE” is:`

- The mapping field name.

Where “Date of Invoice” is:

- The label of this field.

Note • *The “START_DATE” field is used for metadata, not for direct mapping.*

KEY-PRODUCT_DESC:Item Description

`Where “PRODUCT_DESC” is:`

- The mapping field name.

Where “Item Description” is:

- The label of this field.

KEY-MANUFACTURER:MFG name

Where “MANUFACTURER” is:

- The mapping field name.

Where “MFG name” is:

- The label of this field.

KEY-MFR_PART_NO:MFG Part Number

Where “MFR_PART_NO” is:

- The mapping field name.

`Where “MFG Part Number” is:`

- The label of this field.

`KEY-QUANTITY:Qty`

Where “QUANTITY” is:

- The mapping field name.

Where “Qty” is:

- The label of this field.

Note • *The “QUANTITY” field is used for metadata, not for direct mapping.*

```
KEY-UNIT_PRICE:Unit Price
Where “UNIT_PRICE” is:
```

- The mapping field name.

Where “Unit Price” is:

- The label of this field.

Note • *The “UNIT_PRICE” field is used for metadata, not for direct mapping.*

Other Columns:

The following field is used as an additional attribute under the PurchaseOrder Objects.

- Customer Order Ref (P.O.)

Note • *In BDNA Analyze, this field is available as an Attribute under the “Purchase Order” dimension.*

Creating a Purchase Order Configuration File

Detailed information about the a Purchase Order configuration file’s headers and fields can be found in ‘Dissecting a Configuration file’. However, below is an example of a Purchase Order configuration file.

Example: Purchase Order Configuration File

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration LoaderConfig="po_loader_config_20130812" Disc_Source="CDW">
   <Connection Type="MSSQLSERVER">
      <Property Name="Data Source" Value=""/>
      <Property Name="Initial Catalog" Value=""/>
      <Property Name="Persist Security Info" Value="True"/>
      <Property Name="User ID" Value=""/>
      <Property Name="Password" Value=""/>
      <Property Name="Integrated Security" Value="false"/>
   </Connection>
   <Tables>
      <Table Type="PurchaseOrder" Name="PO" Dynamic_subtype="PurchaseOrder" Label="CDW"
HiddenFields="">
```

```
   <Fields>
         <Field Name="Customer_Order_1" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="0" FileColumnName="Customer Order Ref (P O)" Expression="inherit" />
         <Field Name="Contact_Name" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Contact Name" Expression="inherit" />
         <Field Name="Original_Date_o3" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="0" FileColumnName="Original Date of Order" Expression="inherit" />
         <Field Name="Order_Number" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Order Number" Expression="inherit" />
         <Field Name="START_DATE" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="1" FileColumnName="KEY-START_DATE:Date of Invoice" Expression="inherit" />
         <Field Name="Invoice_Number" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Invoice Number" Expression="inherit" />
         <Field Name="Item_class" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Item class" Expression="inherit" />
         <Field Name="Product_Class_D8" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="0" FileColumnName="Product Class Description" Expression="inherit" />
         <Field Name="Item_Type" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Item Type" Expression="inherit" />
         <Field Name="Product_Type_De10" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="0" FileColumnName="Product Type Description" Expression="inherit" />
         <Field Name="Item_Number" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Item Number" Expression="inherit" />
         <Field Name="PRODUCT_DESC" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="1" FileColumnName="KEY-PRODUCT_DESC:Item Description" Expression="inherit" />
         <Field Name="MFG_Code" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="MFG Code" Expression="inherit" />
         <Field Name="MANUFACTURER" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="1" FileColumnName="KEY-MANUFACTURER:MFG Name" Expression="inherit" />
         <Field Name="MFR_PART_NO" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="1" FileColumnName="KEY-MFR_PART_NO:MFG Part Number" Expression="inherit" />
         <Field Name="Users" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Users" Expression="inherit" />
         <Field Name="Delivery_Type" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Delivery Type" Expression="inherit" />
         <Field Name="Reference_Line_18" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="0" FileColumnName="Reference Line Number" Expression="inherit" />
         <Field Name="QUANTITY" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="1" FileColumnName="KEY-QUANTITY:Qty" Expression="inherit" />
         <Field Name="UNIT_PRICE" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="1" FileColumnName="KEY-UNIT_PRICE:Unit Price" Expression="inherit" />
         <Field Name="TOTAL_PRICE" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="1" FileColumnName="KEY-TOTAL_PRICE:Total Amount" Expression="inherit" />
         <Field Name="Serial_Number" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Serial Number" Expression="inherit" />
         <Field Name="Ship_To_Name" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Ship To Name" Expression="inherit" />
         <Field Name="Ship_To_Address" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Ship To Address" Expression="inherit" />
         <Field Name="Ship_To_Attention" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="0" FileColumnName="Ship To Attention" Expression="inherit" />
         <Field Name="Ship_To_City" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="Ship To City" Expression="inherit" />
         <Field Name="Ship_to_State_Code" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="0" FileColumnName="Ship to State Code" Expression="inherit" />
```

```
          <Field Name="Ship_To_Zip_Code" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="0" FileColumnName="Ship To Zip Code" Expression="inherit" />
          </Fields>
             <SQL>
             <![CDATA[
                SELECT
                    [Customer Order Ref (P O)],
                    [Contact Name],
                    [Original Date of Order],
                    [Order Number],
                    [Date of Invoice] as 'KEY-START_DATE:Date of Invoice',
                    [Invoice Number],
                    [Item class],
                    [Product Class Description],
                    [Item Type],
                    [Product Type Description],
                    [Item Number],
                    [Item Description] as 'KEY-PRODUCT_DESC:Item Description',
                    [MFG Code],
                    [MFG Name] as 'KEY-MANUFACTURER:MFG Name',
                    [MFG Part Number] as 'KEY-MFR_PART_NO:MFG Part Number',
                    [Users],
                    [Delivery Type],
                    [Reference Line Number],
                    [Qty] as 'KEY-QUANTITY:Qty',
                    [Unit Price] as 'KEY-UNIT_PRICE:Unit Price',
                    [Total Amount] as 'KEY-TOTAL_PRICE:Total Amount',
                    [Serial Number],
                    [Ship To Name],
                    [Ship To Address],
                    [Ship To Attention],
                    [Ship To City],
                    [Ship to State Code],
                    [Ship To Zip Code]
                FROM CDW_DB
             ]]>
          </SQL>
          <SP><![CDATA[]]></SP>
       </Table>
   </Tables>
</configuration>
```

8

Managing Processes and Data Sources

You can manage the following processes and data sources from the BDNA Normalize panel of the Administration Console:

- Adding an IT Discovery or Purchase Order Data Source to a Process
- Adding a Data Mashup to a Process
- Setting Deduping Rules
- Deleting a Data Source from a Process
- Deleting a Process

Adding an IT Discovery or Purchase Order Data Source to a Process

You can add a data source to an existing process, within the following constraints:

- An IT Discovery Tool can only be added to an IT Discovery Tool or a Normalize CM process.
- A Purchase Order data source can only be added to a Purchase Order process.

Task ***To add a data source to a process:***

1. Click the Add Data Source link, within the process's Data Source pane. The Create Process screen opens.
2. Click the radio button for the data source type that you want to add.
3. Provide the Data Source information for the data source, using the following instructions:
    - If adding an **IT Discovery** data source:
        - Using ServiceNow as a Data Source, steps 1 - 9.
        - Using ServiceNow as a Data Source, steps 9 - 11.

    - Adding a Data Mashup Using a Normalize Zip File steps 1-6.
  - If adding a **Purchase Order** data source:
    - Using a Database Connection as a Data Source, steps 1 - 8.
    - Using a CSV File as a Data Source steps 1 - 6.
    - Using a BDNA Normalize Zip File as a Data Source, steps 1 - 6.

4. Click Finish. The data source is now added to the specified process.

Adding a Data Mashup to a Process

A data mashup allows the import of an external data source to the Normalize database. Add a data mashup when you want to input data from any data sources that are accessible from your BDNA Normalize server. For example, you can input warranty data from an Accounting database or Human Resource data from a Human Resources database. A data mashup is added as a separate data source to an existing process.

The following items are prerequisites to creating a data mashup:

- Your activation key must grant access to the Data Mashup feature
- Create at least one IT Discovery Tool, Fingerprint, and/or Normalize CM process
- Determine your data source
- Create a mashup configuration file with instructions for retrieving data from the specified data source

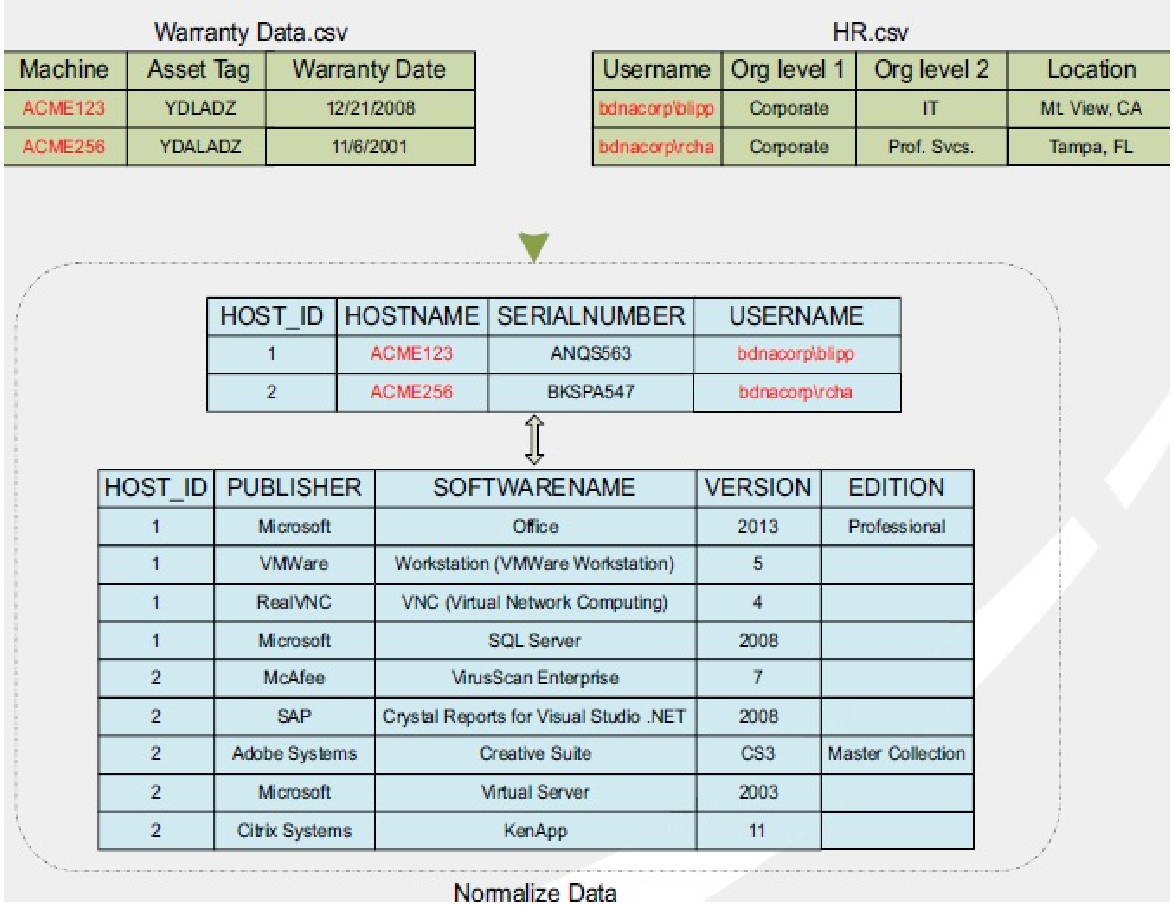
***Note** • A data mashup can only be added to an existing IT Discovery Tool or Normalize CM process.*

There are three types of data sources you can use as a mashup source:

- **Database Connection**—Obtains data from your MSSQL, Oracle, DB2, MySQL, PostgreSQL, or Sybase database. For more information, see Adding a Data Mashup Using a Database Connection
- **File (csv, txt)**—Obtains data from a CSV or TXT file located on a network or local server. For more information, see Adding a Data Mashup Using a CSV File

- **Zip File**—Obtains data from a BDNA Normalize zip file located on a network or local server. For more information, see Adding a Data Mashup Using a Normalize Zip File

Figure 8-61: Example of a Data Mashup Using CSV Files



Warranty Data.csv

Machine	Asset Tag	Warranty Date
ACME123	YDLADZ	12/21/2008
ACME256	YDALADZ	11/6/2001

HR.csv

Username	Org level 1	Org level 2	Location
bdnacorp\blipp	Corporate	IT	Mt. View, CA
bdnacorp\rcha	Corporate	Prof. Svcs.	Tampa, FL

HOST_ID	HOSTNAME	SERIALNUMBER	USERNAME
1	ACME123	ANQS563	bdnacorp\blipp
2	ACME256	BKSPA547	bdnacorp\rcha

HOST_ID	PUBLISHER	SOFTWARENAME	VERSION	EDITION
1	Microsoft	Office	2013	Professional
1	VMWare	Workstation (VMWare Workstation)	5	
1	RealVNC	VNC (Virtual Network Computing)	4	
1	Microsoft	SQL Server	2008	
2	McAfee	VirusScan Enterprise	7	
2	SAP	Crystal Reports for Visual Studio .NET	2008	
2	Adobe Systems	Creative Suite	CS3	Master Collection
2	Microsoft	Virtual Server	2003	
2	Citrix Systems	KenApp	11	

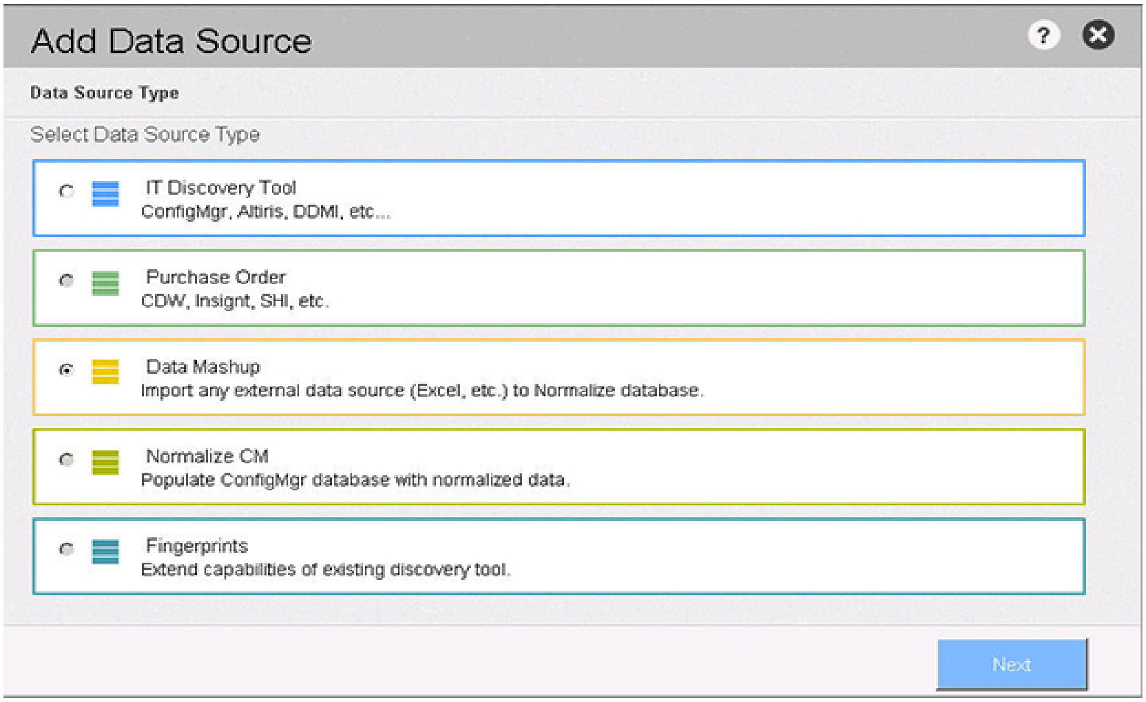
Normalize Data

Adding a Data Mashup Using a Database Connection

Task ***Adding a data mashup:***

1. Click Add Data Source, located on the BDNA Normalize panel of the Administration Console. The Select Data Source Type screen opens.

   Figure 8-62: Add Data Source Type



Add Data Source

Data Source Type

Select Data Source Type

○ IT Discovery Tool
ConfigMgr, Altiris, DDMI, etc...

○ Purchase Order
CDW, Insignt, SHI, etc.

● Data Mashup
Import any external data source (Excel, etc.) to Normalize database.

○ Normalize CM
Populate ConfigMgr database with normalized data.

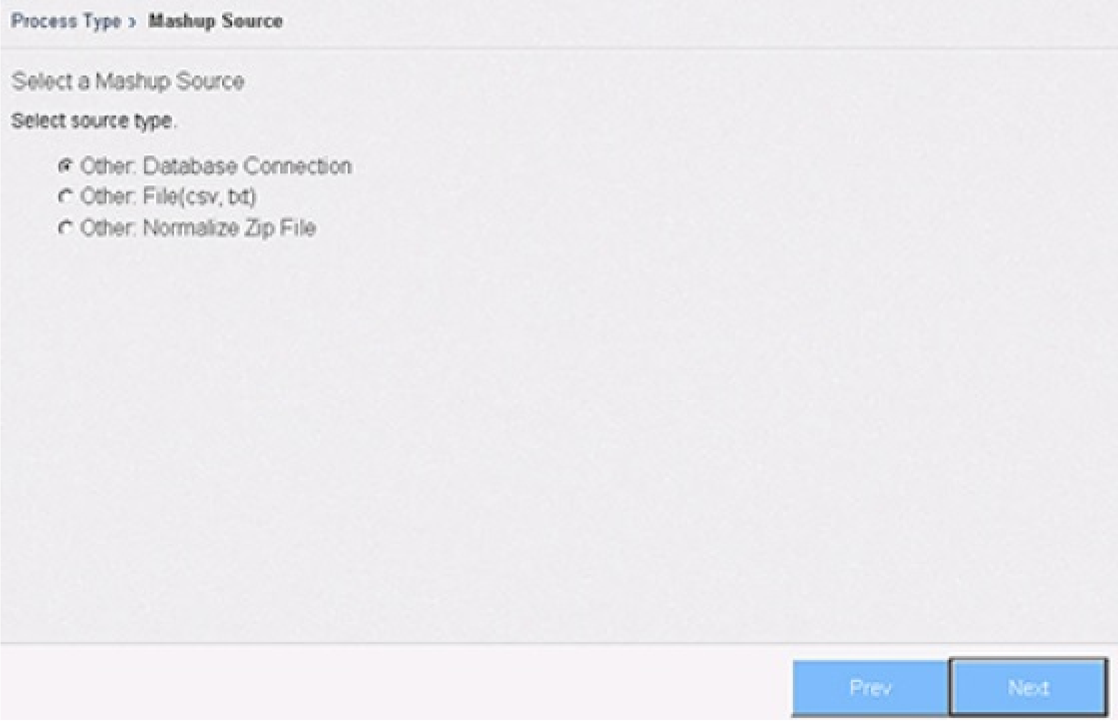
○ Fingerprints
Extend capabilities of existing discovery tool.

2. Click the Data Mashup radio button.

3. Click Next. The Mashup Source screen opens.

4. Click the Other: Database Connection radio button.

Figure 8-63: Mashup Source



Process Type > **Mashup Source**

Select a Mashup Source

Select source type.

● Other: Database Connection
○ Other: File(csv, txt)
○ Other: Normalize Zip File

5. Click Next. The Select Data Source dialog opens.

6. Click the database connection radio button that is applicable to your situation. Options are determined by the IT Discovery Tool process and type of database used by BDNA Normalize.

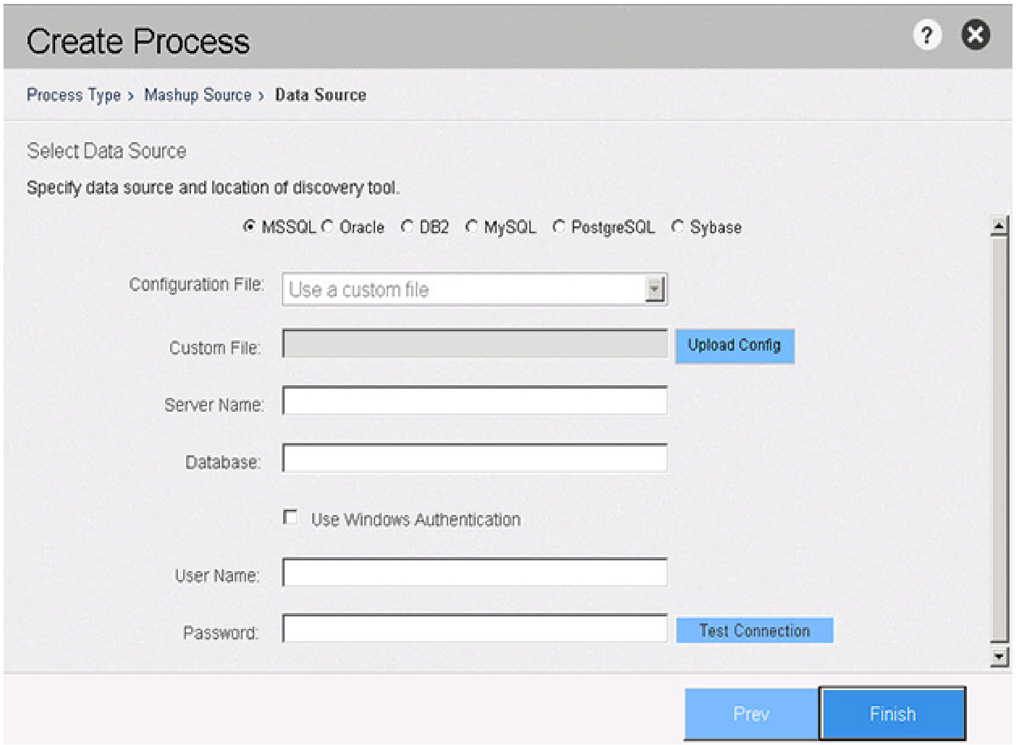
7. Select a configuration file (or use a customized configuration file), for the discovery tool you are adding. (For detailed information about the values required in the customizable sections of a configuration file, see (Appendix C Configuration File Dissection)

8. Enter configuration values for the discovery tool’s data source and location.

***Note** • The specific fields that display on the screen will vary, depending on the database connection previously selected.*

9. Click Finish to add the data source to the process.

Figure 8-64: IT Discovery Tool Data Source—MSSQL



Select Data Source

Specify data source and location of discovery tool.

● MSSQL ○ Oracle ○ DB2 ○ MySQL ○ PostgreSQL ○ Sybase

Configuration File: Use a custom file

☐ Use Windows Authentication

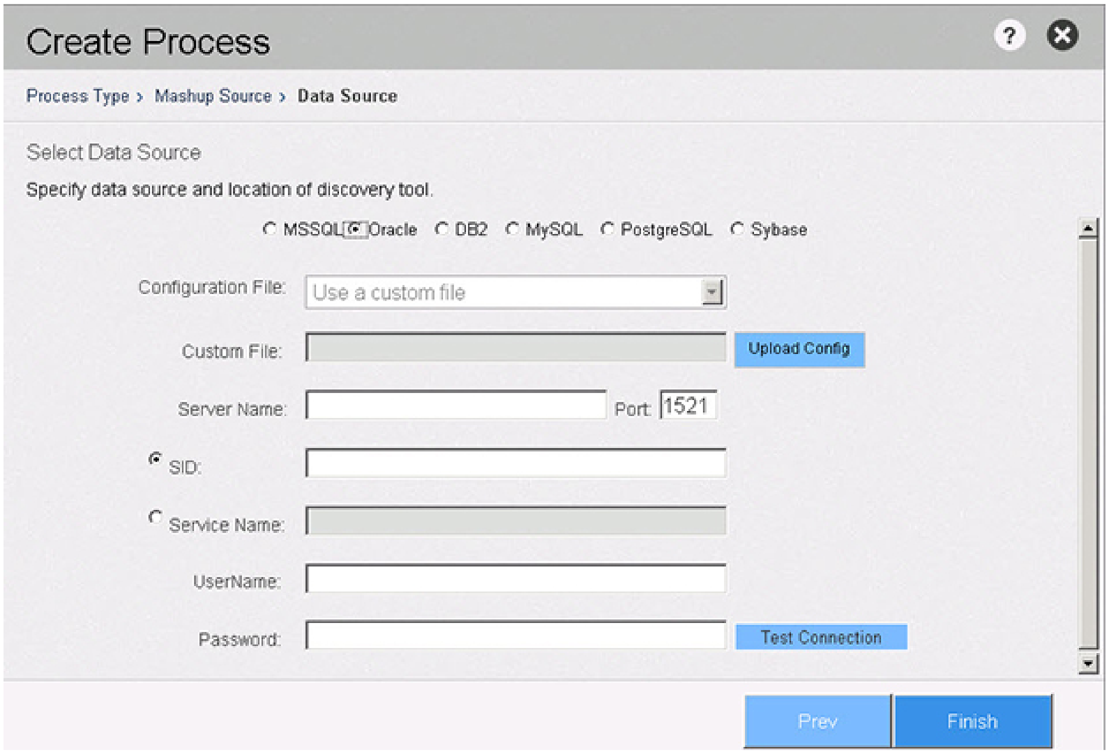
Create Process
?
Process Type › Mashup Source › Data Source
Custom File:
Upload Config
Server Name:
Database:
User Name:
Password:
Test Connection
Prev
Finish

When MSSQL is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Database**—Enter the name of the database.
- **Use Windows Authentication**—Click the checkbox to enable Windows authentication.
- **User Name**—Enter the authentication domain/username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 8-65: IT Discovery Tool Data Source—Oracle

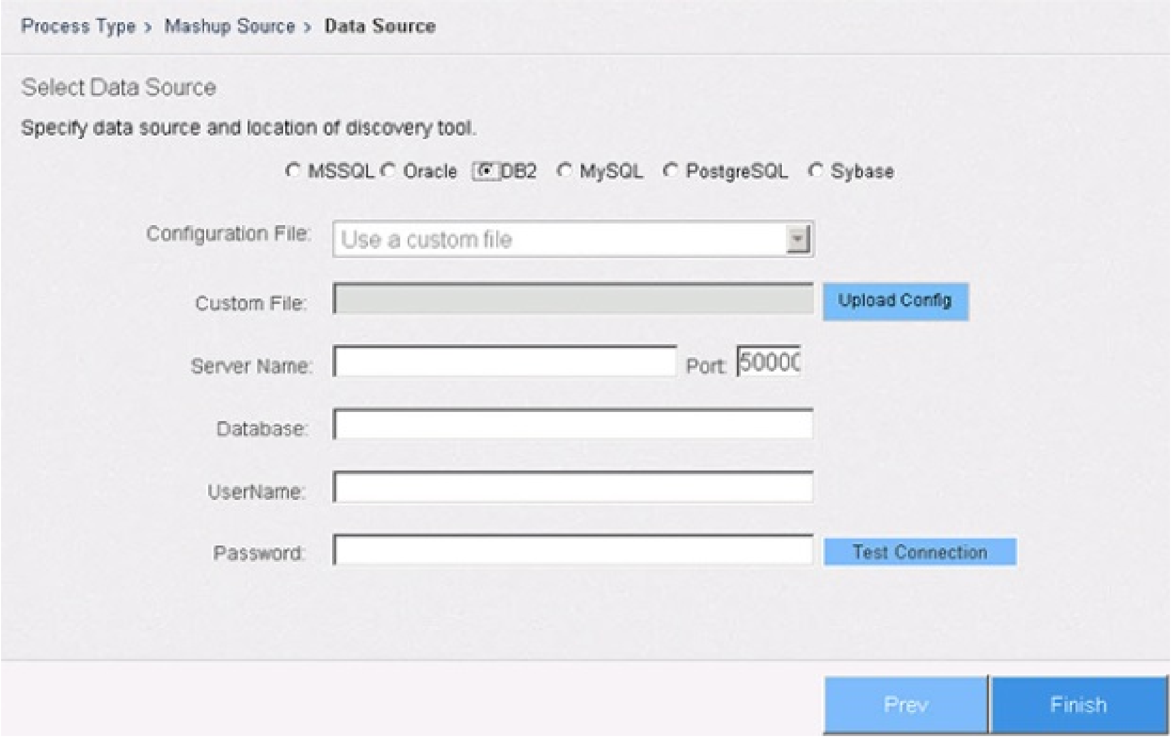

Create Process
Process Type > Mashup Source > Data Source
Select Data Source
Specify data source and location of discovery tool.
○ MSSQL ● Oracle ○ DB2 ○ MySQL ○ PostgreSQL ○ Sybase
Configuration File: Use a custom file
Custom File:
Upload Config
Server Name:
Port: 1521
● SID:
○ Service Name:
UserName:
Password:
Test Connection
Prev
Finish

When Oracle is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **SID**—Click this radio button to enable use of the System Identifier (SID) that identifies the database instance, and then enter system identifier (database name + instance number; e.g. `database3`).
- **Service Name**—Click this radio button to enable use of a ‘connector’ to one or more instances of the database, and then enter the Service Name (e.g., s`ales.us.example.com`).
- **User Name**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 8-66: IT Discovery Tool Data Source—DB2



Select Data Source

Specify data source and location of discovery tool.

○ MSSQL ○ Oracle ● DB2 ○ MySQL ○ PostgreSQL ○ Sybase

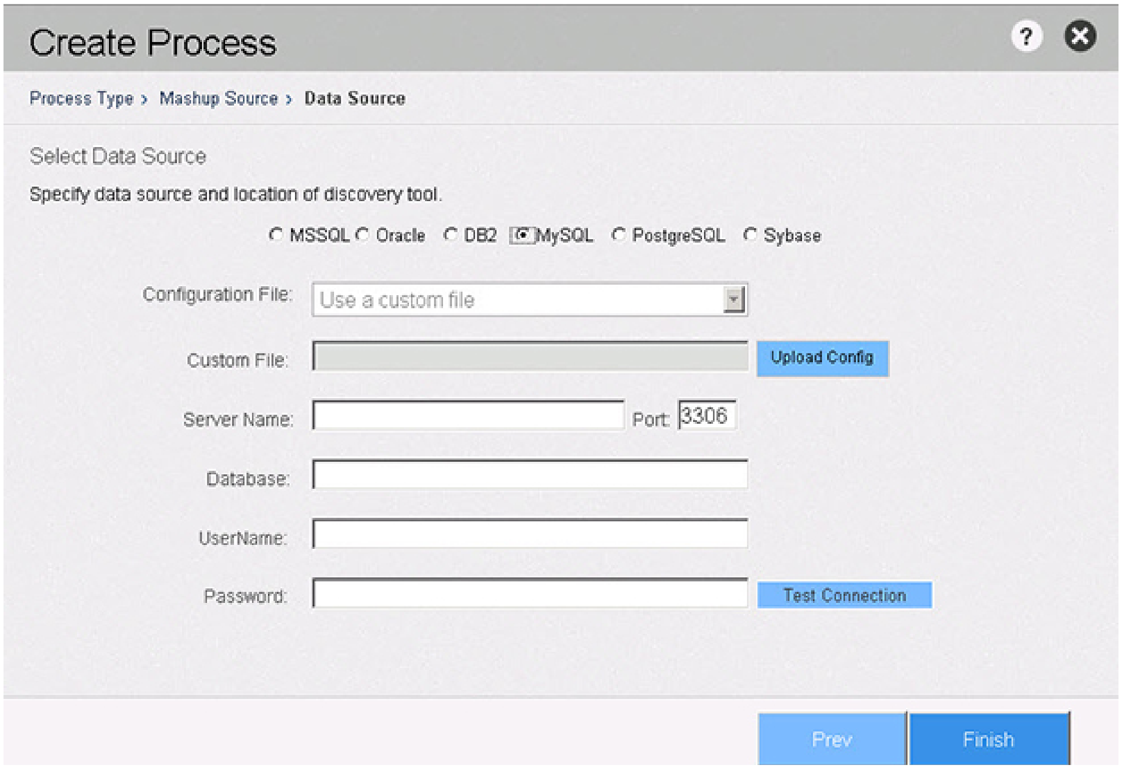
Configuration File: Use a custom file
Custom File:
Server Name:
Port: 5000
Database:
UserName:
Password:

When DB2 is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 8-67: IT Discovery Tool Data Source—MySQL


Create Process
?
Process Type > Mashup Source > Data Source
Upload Config
Test Connection
Prev
Finish

Select Data Source

Specify data source and location of discovery tool.

○ MSSQL ○ Oracle ○ DB2 ● MySQL ○ PostgreSQL ○ Sybase

Configuration File: Use a custom file

Custom File:

Server Name:

Port: 3306

Database:

UserName:

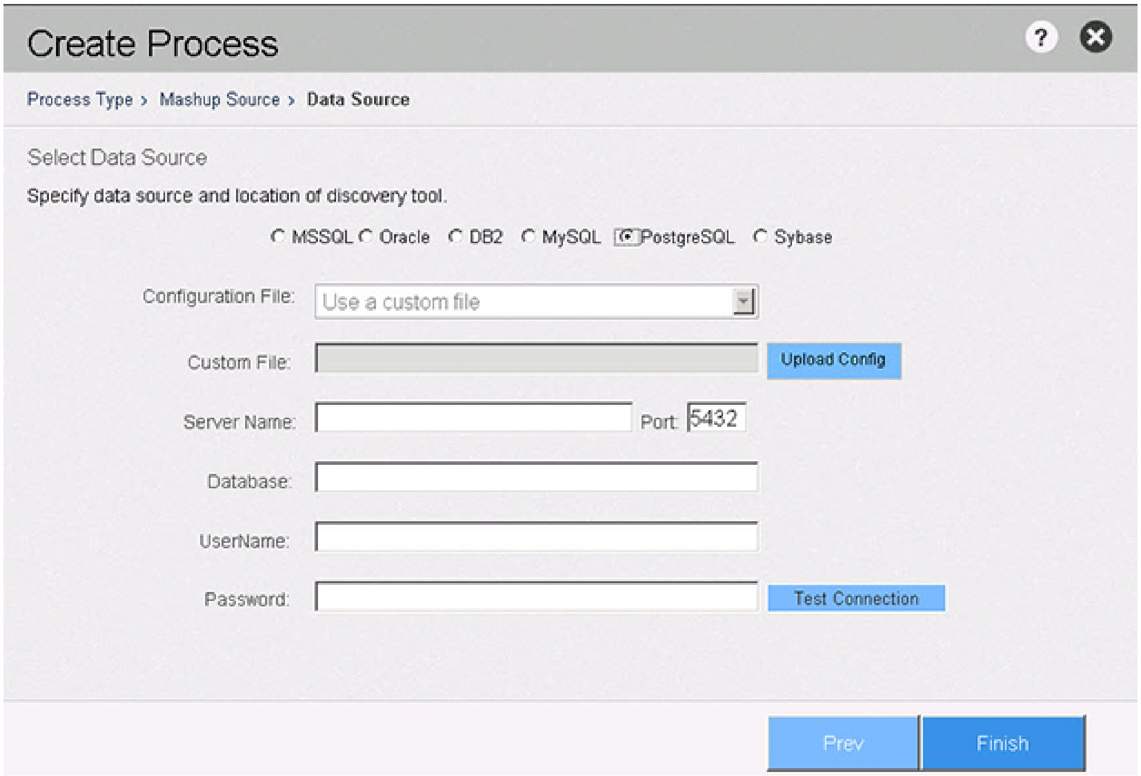
Password:

When MSSQL is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Database**—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 8-68: IT Discovery Tool Data Source—PostgreSQL

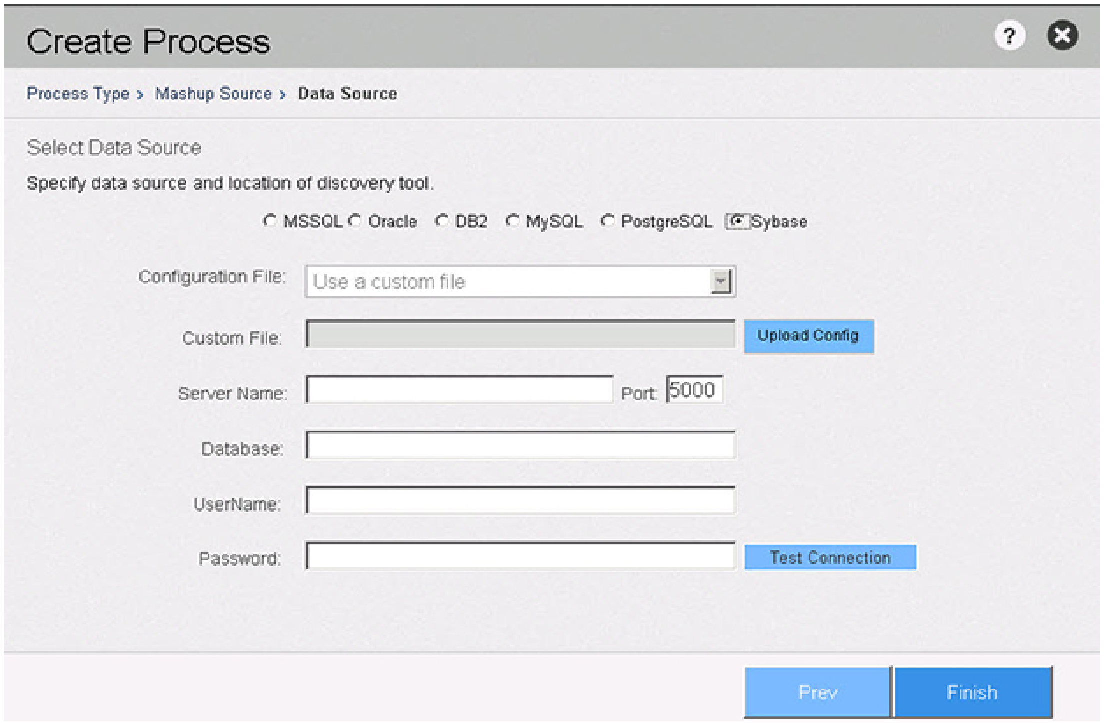

Create Process
?
Process Type › Mashup Source › Data Source
Select Data Source
Specify data source and location of discovery tool.
○ MSSQL ○ Oracle ○ DB2 ○ MySQL ● PostgreSQL ○ Sybase
Configuration File:
Use a custom file
Custom File:
Upload Config
Server Name:
Port
5432
Database:
UserName:
Password:
Test Connection
Prev
Finish

When PostgreSQL is selected as the data source, the Create Process dialog box includes the following properties:

- **Custom File**—Click Upload Config and select the custom file to be used for this process. (This option may be greyed-out and not available, depending on the database settings.)
- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.

- **Password**—Enter the password that enables access to the database.

Figure 8-69: IT Discovery Tool Data Source—Sybase


Create Process
?
Process Type › Mashup Source › Data Source
Select Data Source
Specify data source and location of discovery tool.
○ MSSQL ○ Oracle ○ DB2 ○ MySQL ○ PostgreSQL
Custom File:
Upload Config
Server Name:
Database:
UserName:
Password:
Test Connection
Prev
Finish

● Sybase

Configuration File: Use a custom file

Port: 5000

When Sybase is selected as the data source, the Create Process dialog box includes the following properties:

- **Server Name**—Enter the name of the database server.
- **Port**—Enter the port used to connect to the database.
- **Database**—Enter the name of the database.
- **User Name**—Enter the username that enables access to the database.
- **Password**—Enter the password that enables access to the database.

Adding a Data Mashup Using a CSV File

There are two primary steps for adding a data mashup using a CSV file:

- Creating a Mashup CSV File
- Adding a CSV File as a Data Mashup Source

Creating a Mashup CSV File

Data that you import from an external data source must be converted to a CSV file format before it can be loaded into BDNA Normalize.

***Note** • To load data directly from a database connection, see Adding a Data Mashup Using a Database Connection*

CSV Header

The CSV columns header is used to define which columns will be used for mapping and which will only be used as additional information. Set the mapping field definition in the CSV Header.

- For a detailed list of objects, mapping fields, and limitations, see "Objects and Mapping Fields."
- For an example of a Data Mashup CSV file, see Example of a Data Mashup Using CSV Files.

Matching Key Column

Each column used as a mapping field must have a header written in the following format:

`KEY-XXXXXXX:YYYYYYY`

Where XXXXXXX is:

- The mapping field name. (See KEY_ITEM.KEY definition in Objects and Mapping Fields)

Where YYYYYYY is:

- The original label of the column

Other Columns

All other header columns must be labeled as standard CSV columns. If you are also using BDNA Normalize, the labels will be used for BDNA Normalize attribute names.

***Note** • You cannot have two columns with the same label.*

CSV File Examples

The following Mashup CSV file provides examples of Objects and Mapping Fields. Object: User[1]

Table 8-2 •

KEY-DomNain\Uername:FullUserName	DEPT1	DEPT2	SITE1	LOC
ACME\jsmith	Corporate	Marketing	US	NY

---

[1] *For a Mashup CSV file, you must use the Normalize UI to define the main object to which the data is to be attached.*

Table 8-2 •

KEY-DomNain\Uername:FullUserName	DEPT1	DEPT2	SITE1	LOC
ACME\adunn	Corporate	Marketing	ASIA	SG
ACME\lthor	Corporate	Marketing	US	WA
ACME\sadams	Corporate	Marketing	US	TX

Mapping Fields

`KEY-Domain\Username:FullUserName`

Where Domain\Username is:

- The matching key name

Where FullUserName is:

- The label of this key

Other Columns

The following fields are used as additional attributes under the User object:

- DEPT1
- DEPT2
- SITE1
- LOC

***Note** • In BDNA Normalize, the fields shown above are available as Attributes under the “User” dimension.*

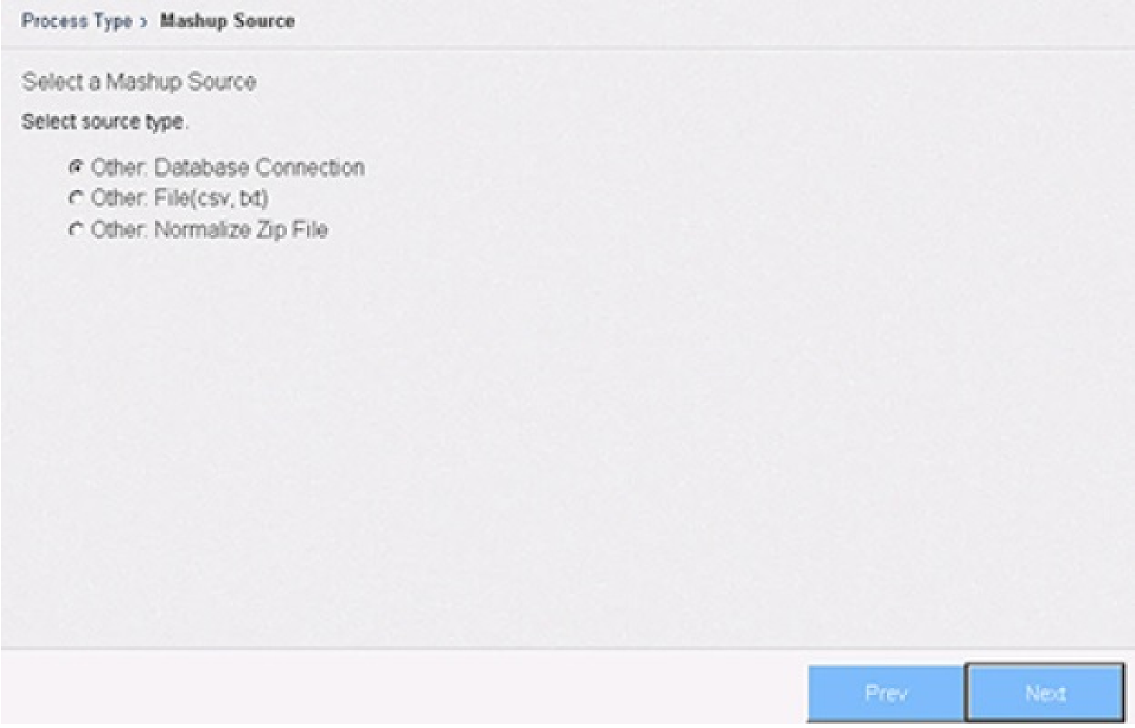
Adding a CSV File as a Data Mashup Source

Task ***To add a csv file:***

1. Click Add Data Source, located on the Console. The Select Process Type screen opens.
2. Click the Data Mashup radio button.

3. Click Next. The Mashup Source screen opens.

Figure 8-70: Mashup Source



Process Type > **Mashup Source**

Select a Mashup Source

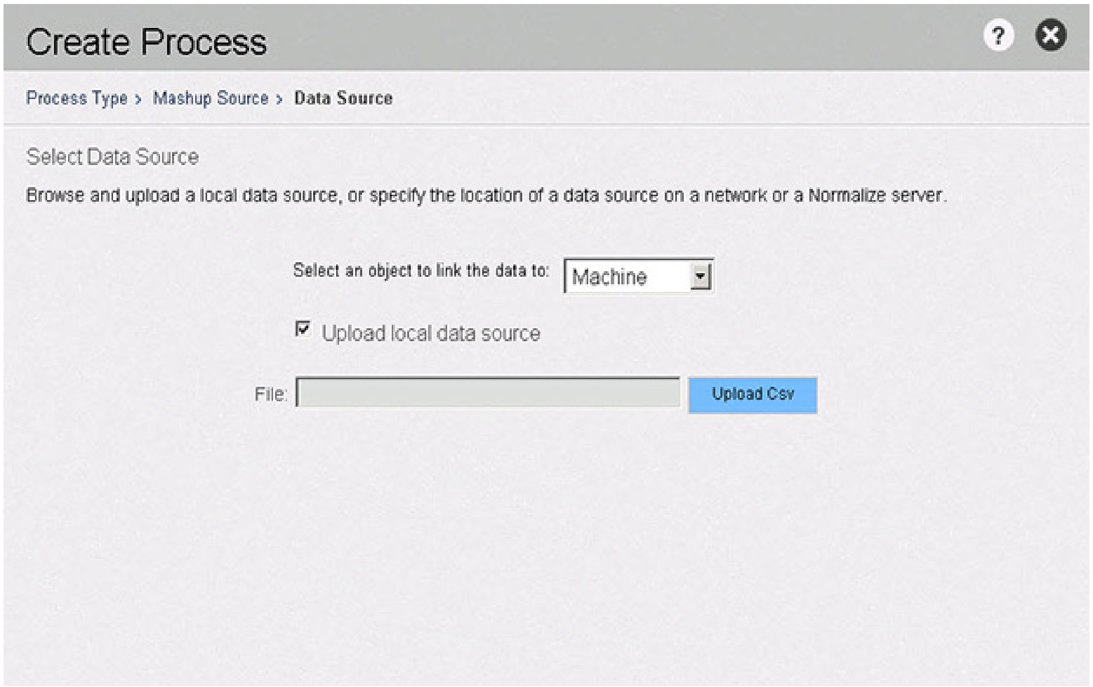
Select source type.

● Other: Database Connection
○ Other: File(csv, txt)
○ Other: Normalize Zip File

4. Click the Other: File (csv, txt) radio button.

5. Click Next. The Data Source screen opens.

Figure 8-71: Data Source



Create Process

Process Type > Mashup Source > **Data Source**

Select Data Source

Browse and upload a local data source, or specify the location of a data source on a network or a Normalize server.

Select an object to link the data to: Machine

☑ Upload local data source

File:

6. Select an object from the drop-down list. When you select an object, the data imported from the CSV file will be attached to the object.

   ***Note** • The CSV file should have a mapping key allowed by the selected object. Reference tables for all available Objects and Mapping Fields that can be used for Data Mashup, Pass-Through, and Purchase Order, can be found in Reference tables for Objects and Mapping Fields*

   The objects, which are the data that the mashup process links to, are:

   - Machine
   - User
   - Software
   - Hardware
   - OS
   - CPU
   - Manufacturer
   - Other (imported data is not attached to any object)

7. Click the Upload local data source checkbox.
8. Click Upload CSV to locate and upload the data mashup file.
9. Click Finish.

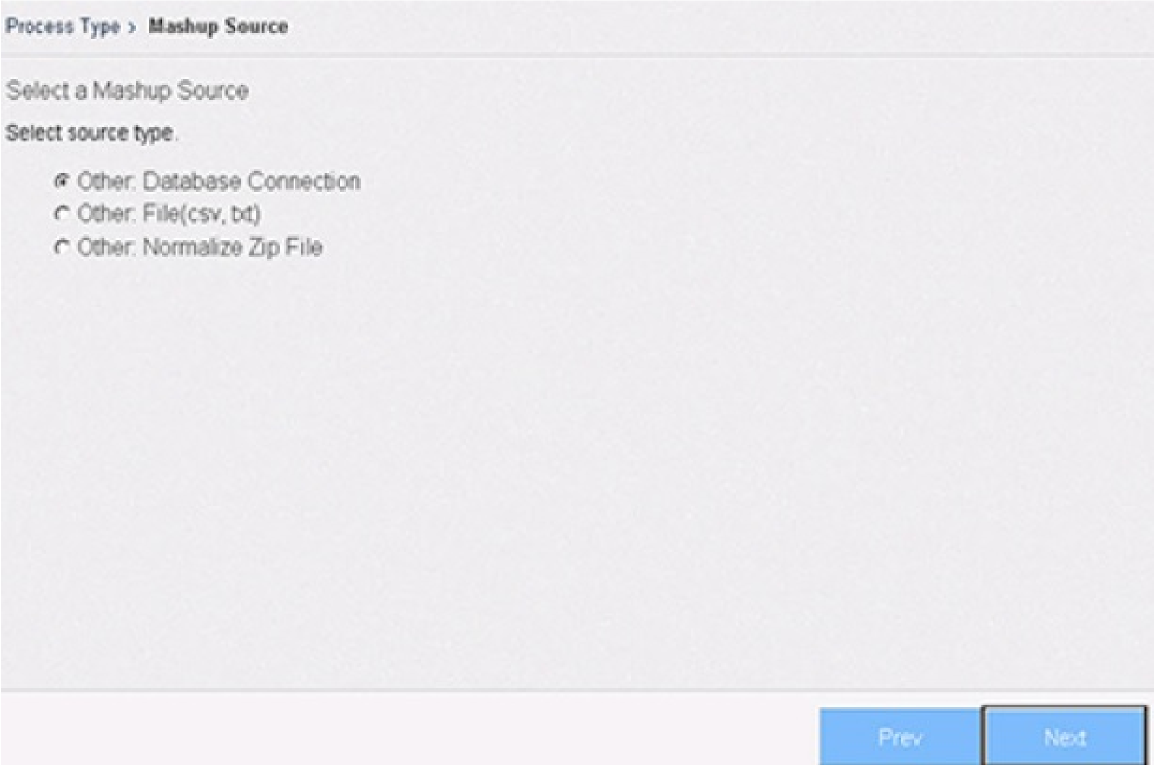
Adding a Data Mashup Using a Normalize Zip File

Task ***To add a data mashup:***

1. Click **Add Data Source**, located on the main screen of the Normalize Console. The Select Process Type screen opens.
2. Click the **Data Mashup** radio button.

3. Click **Next**. The Mashup Source screen opens.

Figure 8-72: Mashup Source



Process Type > **Mashup Source**

Select a Mashup Source

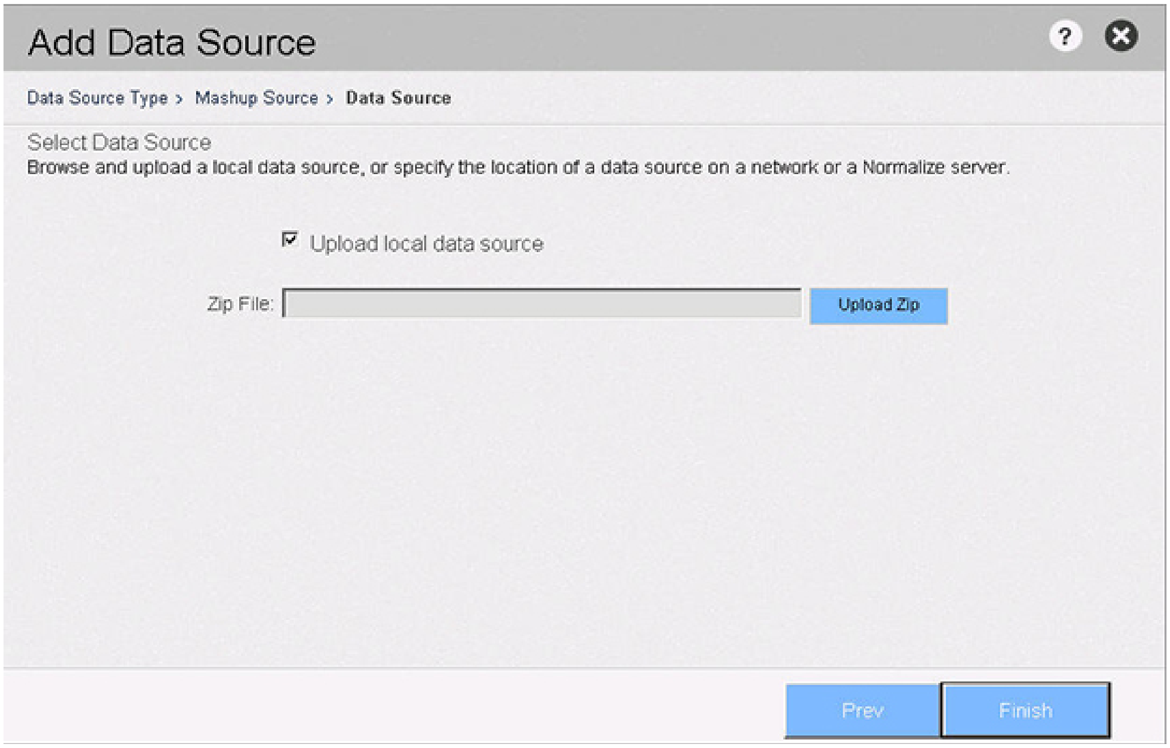
Select source type.

● Other: Database Connection
○ Other: File(csv, txt)
○ Other: Normalize Zip File

4. Click the **Other: Normalize ZIP File** radio button.

5. Click **Next**. The Data Source screen opens.

Figure 8-73: Data Source



Select Data Source

Browse and upload a local data source, or specify the location of a data source on a network or a Normalize server.

☑ Upload local data source

Zip File:

6. Make sure that the **Upload local data source** checkbox is checked.
7. Click **Upload Zip**.
8. Select the Zip file that you want to use.
9. Click **Finish.**

Setting Deduping Rules

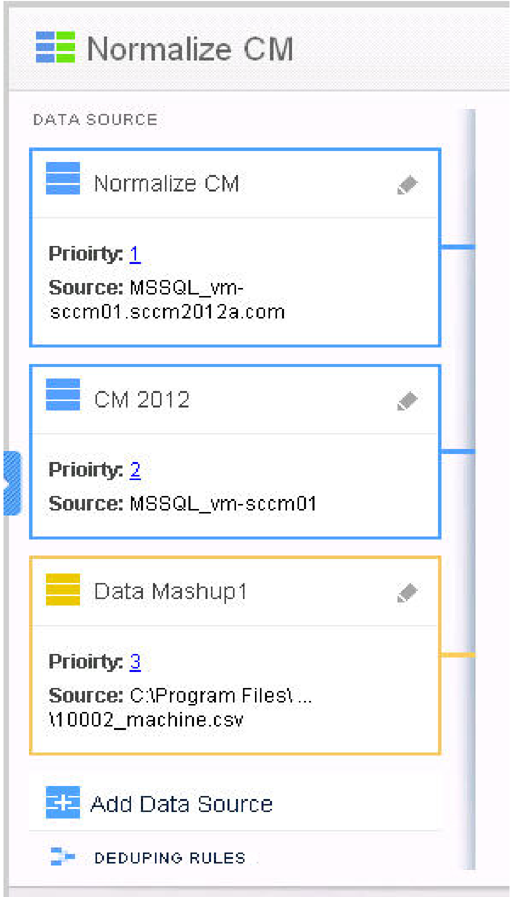
When you add multiple data sources to an IT Discovery Tool process, there is a possibility that normalization will gather duplicate entries for the raw data. You can specify deduping rules to eliminate duplication of data.

Note • *Deduping rules do not apply to data mashup data sources. Normalize CM is no longer available.*

Task ***To specify deduping rules:***

1. Click the Details link (Process Details). The Data Source pane expands to include priority information about each data source.

Figure 8-74: Process Details



Normalize CM

DATA SOURCE

Normalize CM

Prioirty: 1

Source: MSSQL_vm-sccm01.sccm2012a.com

CM 2012

Prioirty: 2

Source: MSSQL_vm-sccm01

Data Mashup1

Prioirty: 3

Source: C:\Program Files\ ... \10002_machine.csv

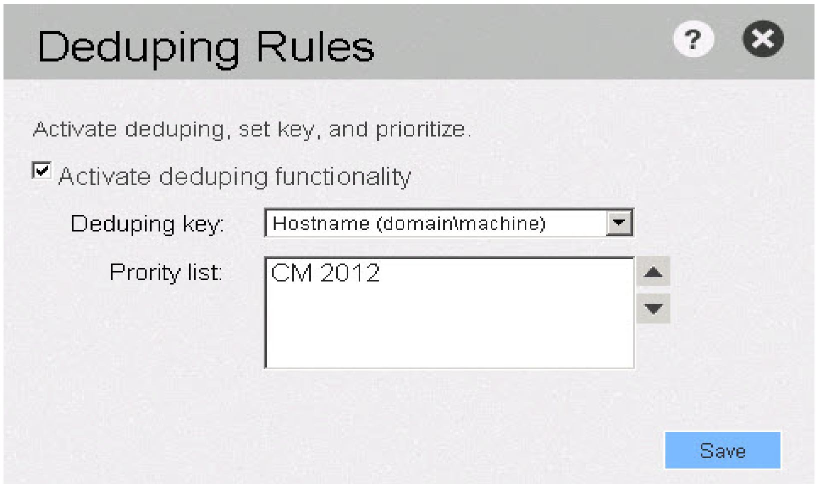
Add Data Source

DEDUPING RULES

2. Click the Deduping Rules link, located at the bottom of the expanded Data Source details pane, beneath the Add Data Source link. The Deduping Rules dialog opens (Deduping Rules).
3. Click the checkbox: Activate deduping functionality.
4. Select a deduping key from the Deduping key drop-down. The available deduping rules are:
   - Hostname (domain\machine)
     - Domain + Hostname
     - Hostname + Serial Number
     - Hostname
   - Serial Number
     - Serial Number only (except Virtual Machines), and for machines without a Serial Number.

5. Use the down and up arrows to set the order in which deduping will occur.

Figure 8-75: Deduping Rules



Activate deduping, set key, and prioritize.

☑ Activate deduping functionality

Deduping key: Hostname (domain\machine)

Prority list: CM 2012

Deleting a Data Source from a Process

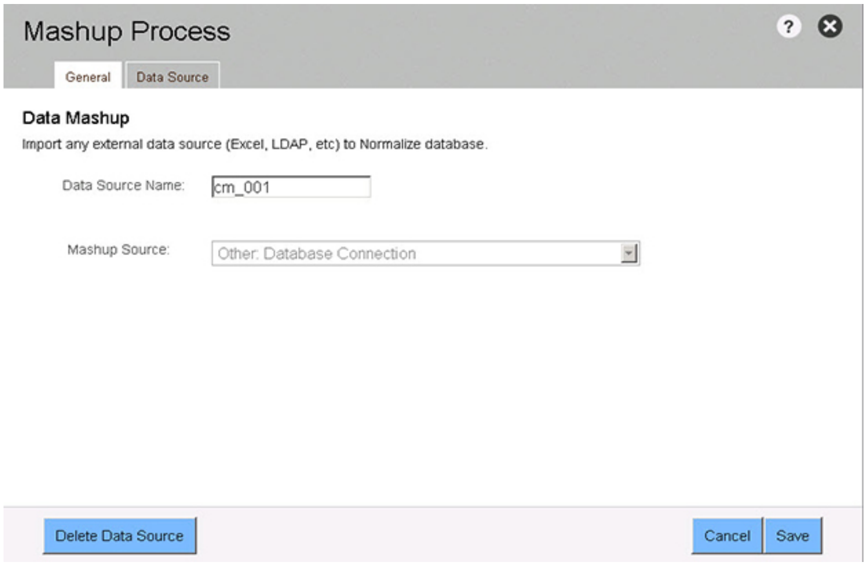
Note • *If a process has multiple data sources, the first data source that was created can only be deleted after the other data sources are deleted.*

Task ***To delete a data source from a process:***

1. Click the Settings link located on the right-side of the process overview pane. The Settings screen opens.
2. Click Delete Data Source. A Confirmation dialog opens.

3. Click OK to confirm that you want to delete the data source.

Figure 8-76: Delete Data Source



Data Mashup

Import any external data source (Excel, LDAP, etc) to Normalize database.

Data Source Name: cm_001

Mashup Source: Other: Database Connection

Deleting a Process

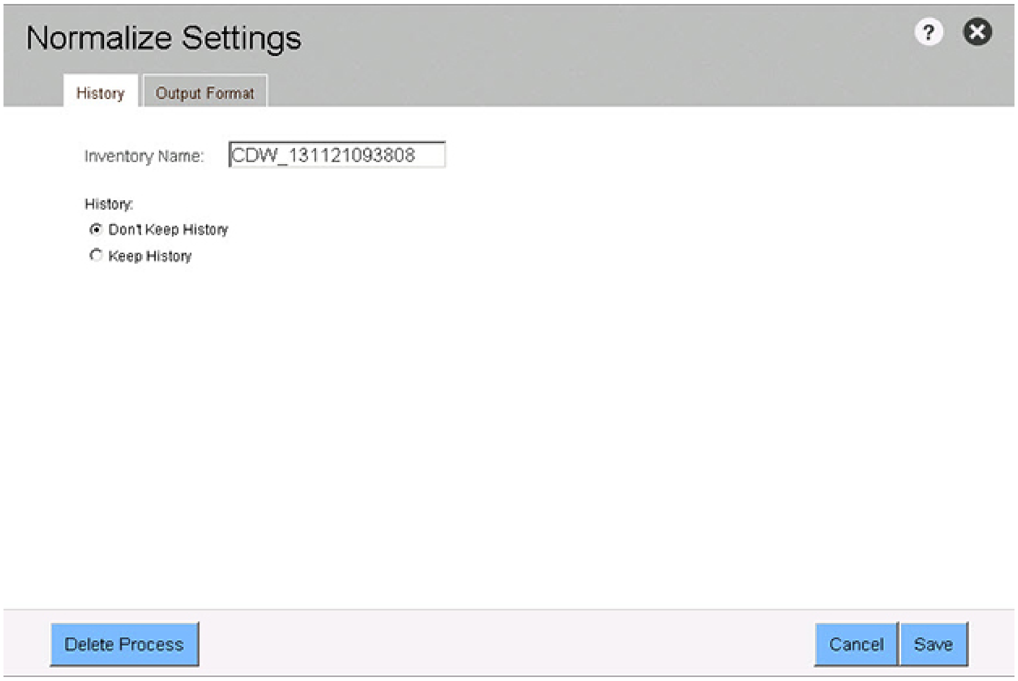
Note • *Deleting a process does not delete Inventory data.*

Task ***To delete a process:***

1. Click the Settings link located on the right-side of the process overview pane. The Settings screen opens.
2. Click Delete Process. A Confirmation dialog opens.

3. Click OK to confirm that you want to delete the process.

Figure 8-77: Delete Process


Normalize Settings
?
History
Output Format
Delete Process
Cancel
Save

Inventory Name: CDW_131121093808

History:
● Don't Keep History
○ Keep History

9

Running Normalize

The Process panel of the Administration Console shows the time of the last BDNA Normalize operation. It also lets you run BDNA Normalize on either an on-demand or scheduled basis.

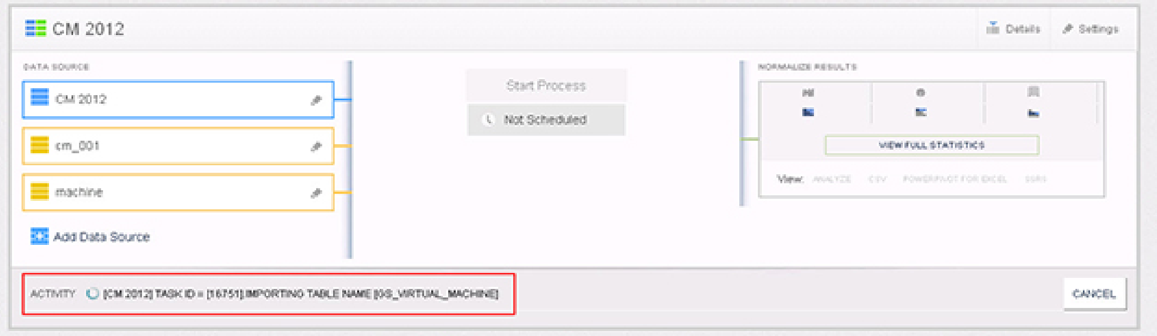
Choose from the following options to run Normalize:

- Running BDNA Normalize On Demand
- Setting Up a Simple BDNA Normalize Schedule
- Setting Up a Weekly Normalize Schedule
- Stopping a Normalization Operation in Progress

Running BDNA Normalize On Demand

Click Start Process on the Administration Console to begin a BDNA Normalize process on demand. During processing, a processing status is displayed in the panel below and to the left of the Start Process button.

Figure 9-78: Normalize On-Demand Showing Activity Status


CM 2012
Details
Settings
DATA SOURCE
CM 2012
cm_001
machine
Add Data Source
Start Process
Not Scheduled
NORMALIZE RESULTS
VIEW FULL STATISTICS
View:
ANALYZE
CSV
POWERPIVOT FOR EXCEL
SSRS
ACTIVITY
CANCEL

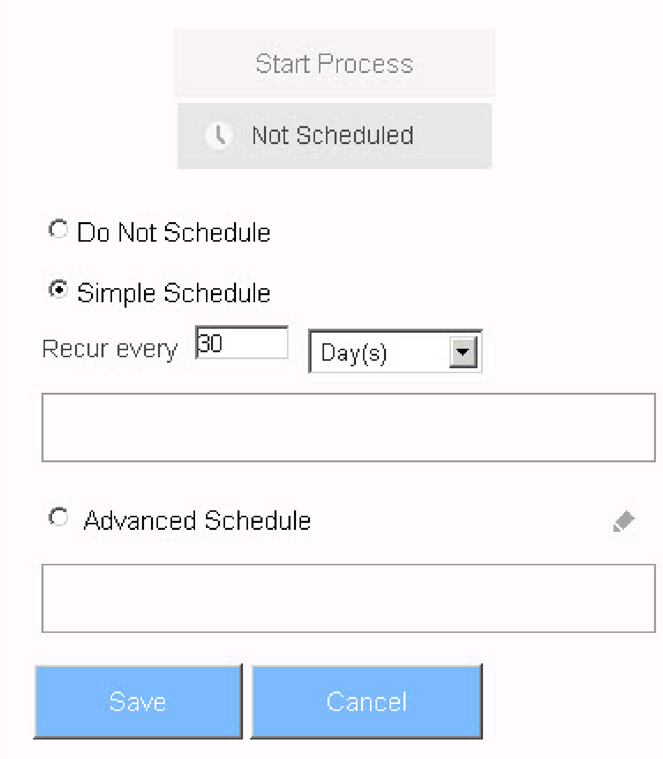
[CM 2012] TASK ID = [16751] IMPORTING TABLE NAME [GS_VIRTUAL_MACHINE]

Setting Up a Simple BDNA Normalize Schedule

Task ***Use a simple schedule to launch BDNA Normalize at recurring intervals that correspond to hours, days, weeks, or months.***

1. Click the Details icon to open the Schedule panel.
2. Select the Simple Schedule radio button.

Figure 9-79: Simple Schedule



● Simple Schedule

Recur every 30 Day(s)

○ Advanced Schedule

3. Enter a value in the “Recur every” text box that specifies how often the schedule will occur. Values are:
   - Hours: 1 to 24
   - Days: 1-31
   - Weeks: 1-4
   - Months: 1-12
4. Select one of the following options from the dropdown list:
   - Hours
   - Days
   - Weeks
   - Months

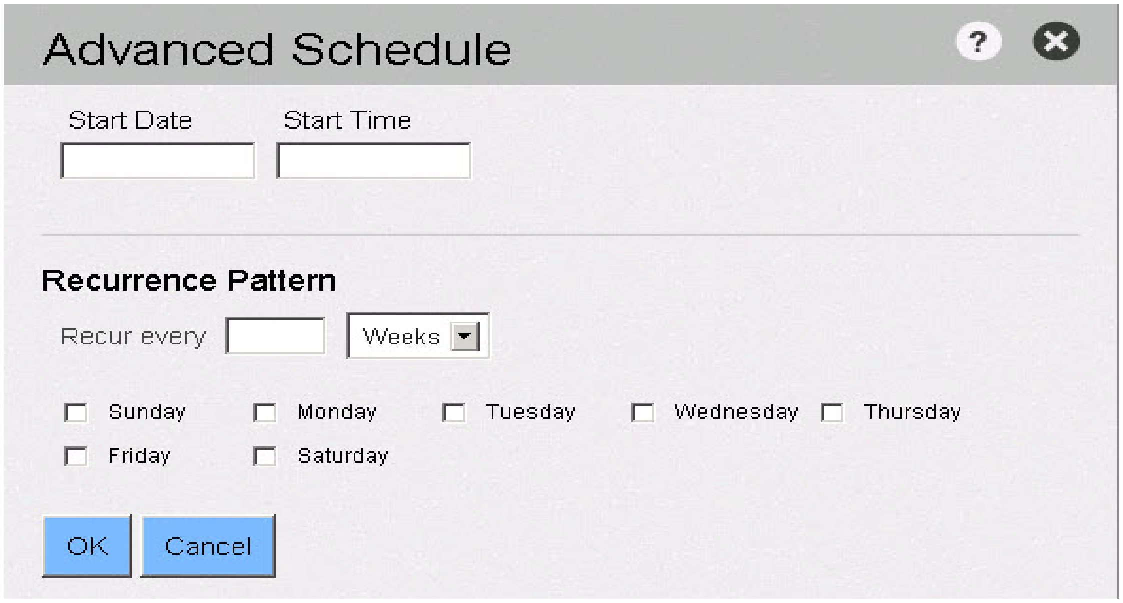
5. Click Save. The Simple schedule status is displayed in the Details panel.

Setting Up a Weekly Normalize Schedule

Task ***Set up a weekly normalize schedule:***

1. Click the Details icon to open the Schedule panel.
2. Select the Advanced Schedule radio button. The Advanced Schedule dialog opens.

Figure 9-80: Advanced Schedule dialog

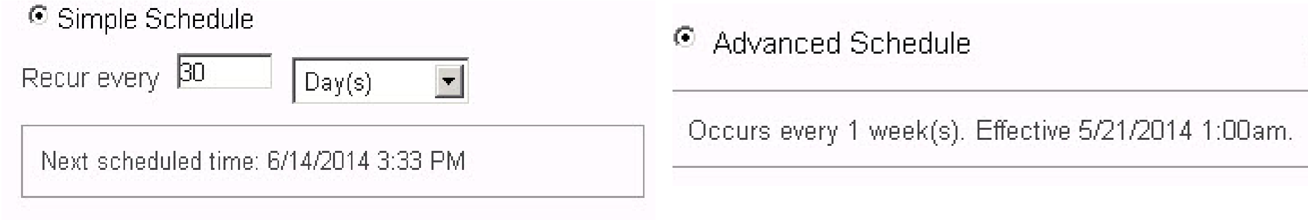

Advanced Schedule
?
Start Date
Start Time
Recurrence Pattern
Recur every
Weeks
☐ Sunday
☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☐ Saturday
OK
Cancel

3. Click the Start Date field to choose a date from the calendar.
4. Click the Start Time field to choose a time from the time list.
5. Enter a number in the Recur Every entry field. Values are 1-4.
6. Select Weeks from the dropdown list.
7. Select checkboxes for each day in the week that you want to run Normalize.

   For example, to run Normalize every Monday and Thursday, enter 1 in the Recur Every entry field and place checks in the Monday and Thursday checkboxes.

8. Click OK. The Advanced schedule status is displayed in the Details panel. Click the Edit icon to modify the schedule settings.

Figure 9-81: Weekly Advanced Schedule Status



● Simple Schedule

Recur every 30 Day(s)

Next scheduled time: 6/14/2014 3:33 PM

● Advanced Schedule

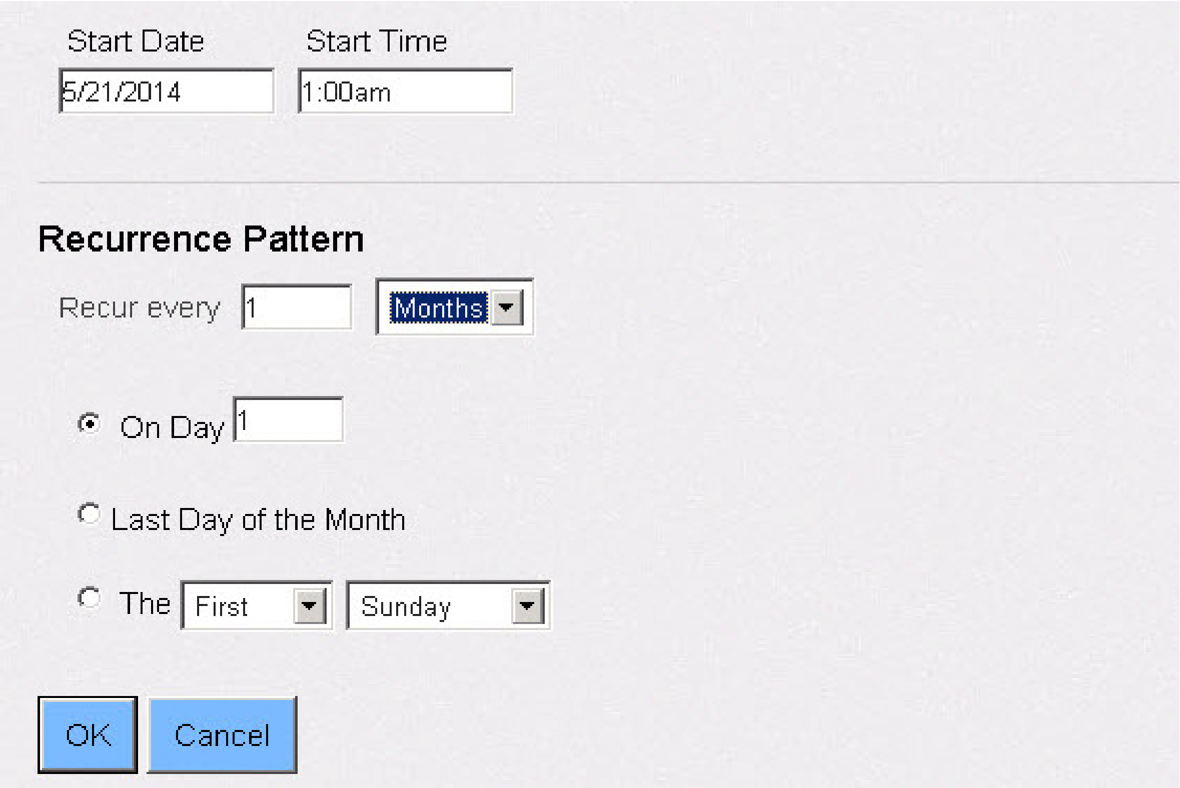
Occurs every 1 week(s). Effective 5/21/2014 1:00am.

Setting Up a Monthly BDNA Normalize Schedule

Task ***Set up a monthly schedule:***

1. Click the Details icon to open the Schedule panel.
2. Select the Advanced Schedule radio button. The Advanced Schedule dialog opens.

Figure 9-82: Monthly Schedule



Start Date 5/21/2014

Start Time 1:00am

Recurrence Pattern

Recur every 1 Months

● On Day 1

○ Last Day of the Month

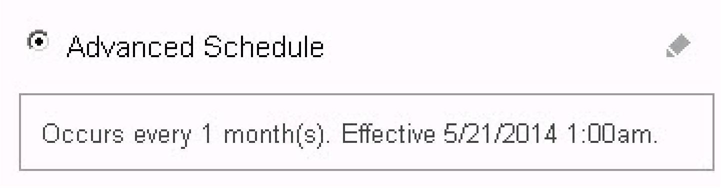
○ The First Sunday

3. Click the Start Date field to choose a date from the selection calendar.
4. Click the Start Time field to choose a time from the time list.
5. Enter a number in the Recur Every entry field.
    - Values: 1-12

6. Select Months from the dropdown list.
7. Complete the steps for one of the following options.
    1. **To run** BDNA Normalize **on a specific day of the month**: Click the On Day radio button and enter a value in the Day field. Values can be any whole number between 1 and 31.
    2. **To run** BDNA Normalize **on the last day of the month:** Click the Last Day of the month radio button to schedule BDNA Normalize to run on the last day of the month.
    3. **To run** BDNA Normalize **on a specific day according to its location on the calendar**, complete the following steps.
        1. Click the bottom radio button.
        2. Select a a value from the Frequency drop-down list. The values are First, Second, Third, Fourth, Last.
        3. Select a value from the Day drop-down list. The values are Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday.

           For example, to run BDNA Normalize on the third Saturday of every month, choose Third and Saturday.
8. Click Save. The Advanced schedule status is displayed in the Details panel.

Figure 9-83: Monthly Advanced Schedule Status

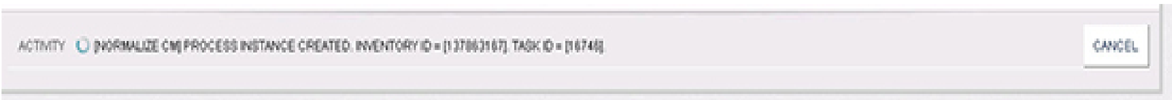


Occurs every 1 month(s). Effective 5/21/2014 1:00am.

Stopping a Normalization Operation in Progress

You can stop a normalization operation that is in progress by clicking Cancel on the BDNA Normalize panel.

Figure 9-84: Stopping a BDNA Normalize Operation



[NORMALIZE CM] PROCESS INSTANCE CREATED. INVENTORY ID = [137863167]. TASK ID = [16746]

10

Managing Settings

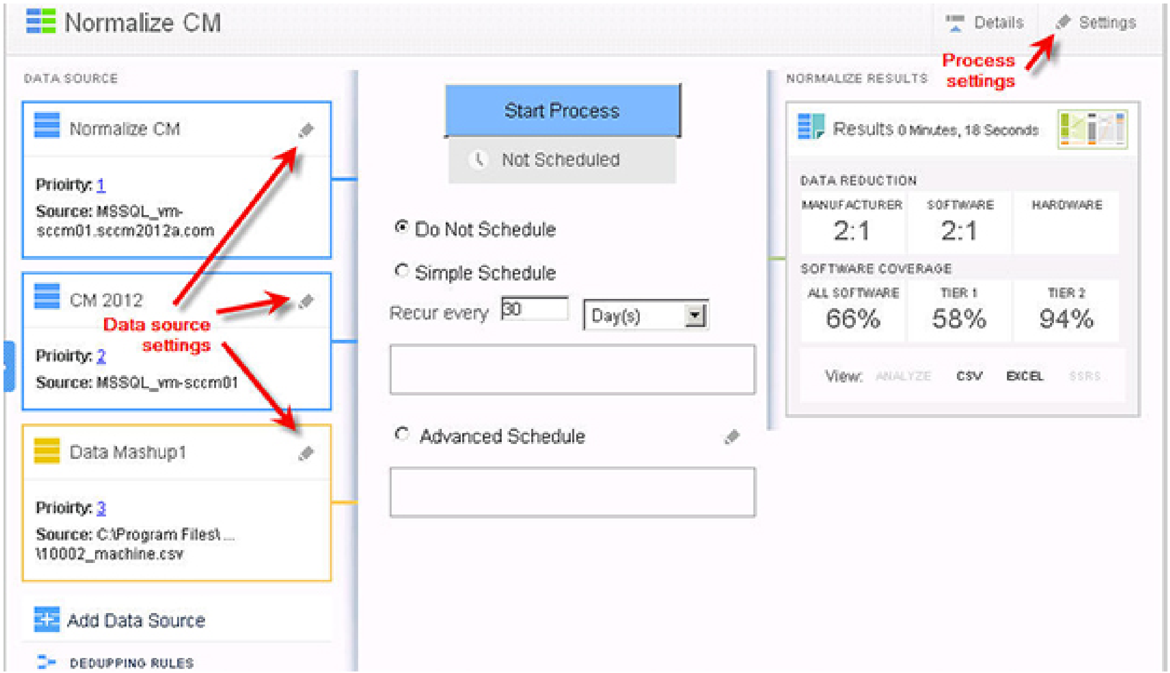
Use the BDNA Normalize Settings screens to review and edit information about any of the BDNA Normalize processes you added to the Administration Console.

Accessing the Data Source and Process Settings Screens

You can access two types of settings from the main screen of the Administration Console.

- **Data Source Settings**—Click the Edit icon located in the process's Data Source pane.
  - **BDNA Normalize Processes**—View and edit the data source name, type, and location settings.
  - **Purchase Order Processes**—View and edit the data source name, type, and configuration settings..
  - **Data Mashup Processes**—View and edit data source name, mashup source, and file settings.
- **Process Settings**—Click the Settings link located on the right-side of the process Overview pane.
  - **BDNA Normalize and Normalize CM Processes** —View and edit History, Metering, and Output Formats settings.
  - **Purchase Order Processes**—View History and Output Format settings.

Figure 10-85: Accessing BDNA Normalize Data Source and Process Settings


Normalize CM
Details
Settings
Process settings
DATA SOURCE
Normalize CM
CM 2012
Data source settings
Data Mashup1
Add Data Source
DEDUPPING RULES
Start Process
Not Scheduled
NORMALIZE RESULTS
DATA REDUCTION
MANUFACTURER
SOFTWARE
HARDWARE
SOFTWARE COVERAGE
ALL SOFTWARE
TIER 1
TIER 2
View: ANALYZE CSV EXCEL SSRS

Normalize CM
Priority: 1
Source: MSSQL_vm-sccm01.sccm2012a.com

CM 2012
Priority: 2
Source: MSSQL_vm-sccm01

Data Mashup1
Priority: 3
Source: C:\Program Files\...\10002_machine.csv

● Do Not Schedule
○ Simple Schedule
Recur every 30 Day(s)
○ Advanced Schedule

Results 0 Minutes, 18 Seconds

MANUFACTURER	SOFTWARE	HARDWARE
2:1	2:1	

ALL SOFTWARE	TIER 1	TIER 2
66%	58%	94%

Managing IT Discovery Tool, Data Mashup, and Purchase Order Settings

Unless otherwise noted, the information below applies to *both* BDNA Normalize (IT Discovery Tool, Purchase Order, and Mashup).

Note • *Normalize CM is no longer available in BDNA Normalize.*

Managing Data Source Settings

Data Source settings are organized under General, Data Source, and Authentication tabs. The Authentication tab is only available for Normalize CM processes.

Viewing and Editing General Settings

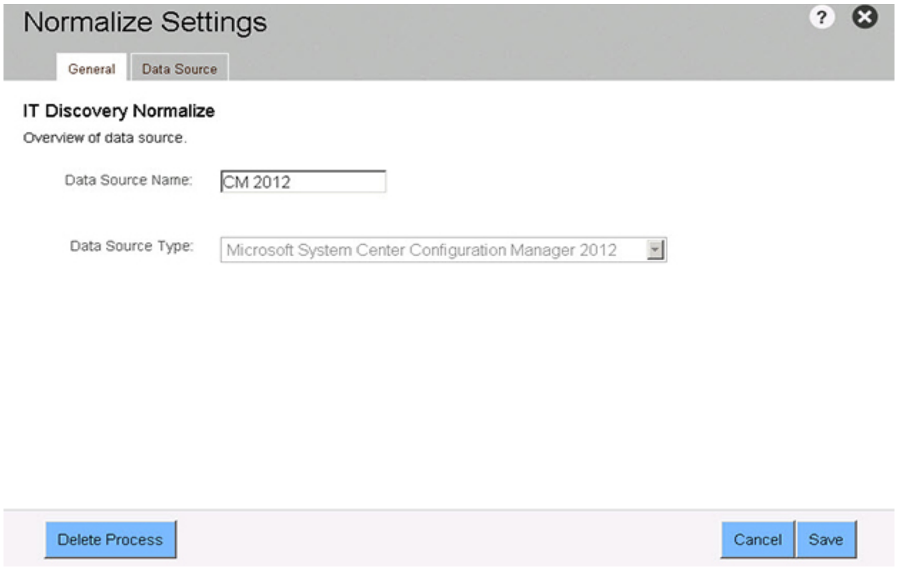
The General settings provides the following information about the selected process:

- **Data Source Name**—The name that identifies the data source.
- **Data Source Type**—The discovery tool used by this process.

Task ***To view and edit General data source settings:***

1. Click the Edit icon located in the Data Source panel of the process overview pane.
2. Click the General tab.
3. To edit the settings, make any changes and then click Save.
4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-86: Data Source Settings—General Tab—IT Discovery Tool Example



IT Discovery Normalize

Overview of data source.

Data Source Name: CM 2012

Data Source Type: Microsoft System Center Configuration Manager 2012

Viewing and Editing Database Data Source Settings

The Data Source settings provide the following information about the database.

- **Radio buttons**—View or edit the database type. Based on which IT Discovery tool is used in the process, one or more radio buttons for the following database types are active: MSSQL, Oracle, DB2, MySQL, PostgreSQL, and Sybase. For example, in Data Source Settings—Data Source Tab—Database Connection—MSSQL, only the MSSQL radio button is active since the selected process uses ConfigMgr 2012 as its IT Discovery Tool.
- **Configuration File**—View or edit the configuration file used by the specified discovery tool.
- **Configuration Fields**—View or edit database configuration fields, as determine by the database type:
  - MSSQL
    - **Server Name**—View or edit the name of the database server.
    - **Database**—View or edit the name of the database.
    - Use Windows Authentication—Click the checkbox to enable Windows authentication.
  - Oracle:
    - **Server Name**—View or edit the name of the database server.

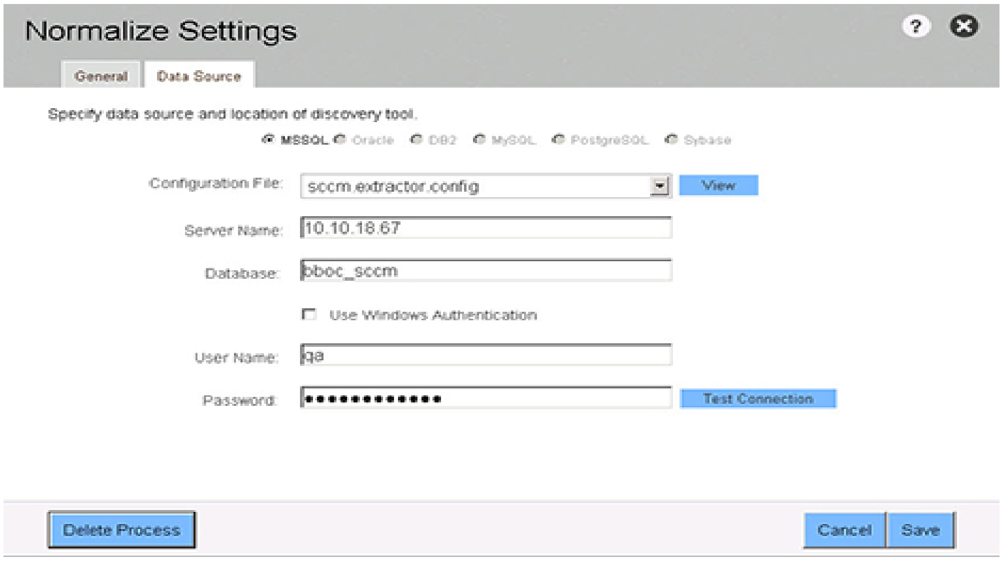
    - **Port**—View or edit the port used to connect to f the database.
    - **SID**—Click this radio button to enable use of the System Identifier (SID) that identifies the database instance, and then enter the system identifier (database name + instance number; e.g. `database3`).
    - **Service Name**—Click this radio button to enable use of a ‘connector’ to one or more instances of the database, and then enter the Service Name (e.g., s`ales.us.example.com`).
  - DB2
    - **Server Name**—View or edit the name of the database server.
    - **Port**—View or edit the port used to connect to the database.
    - **Database**—View or edit the name of the database.
  - MySQL
    - **Server Name**—View or edit the name of the database server.
    - **Database**—View or edit the name of the database.
  - PostgreSQL
    - **Custom File**—Click Upload Config and select the custom file to be used for this process.
    - **Server Name**—View or edit the name of the database server.
    - **Port**—View or edit the port used to connect to the database.
    - **Database**—View or edit the name of the database.
  - Sybase
    - **Server Name**—View or edit the name of the database server.
    - **Port**—View or edit the port used to connect to the database.
    - **Database**—View or edit the name of the database.
- **User Name**—View or edit the authentication domain (MSSQL only) and/or username that enables access to the database.
- **Password**—View or edit the username password that enables access to the database.

Task ***To view and edit database data source settings:***

1. Click the Edit icon located in the Data Source panel of the process overview pane.
2. Click the Data Source tab.
3. Select the database radio button.
4. To edit the settings, make any changes, click Test Connection, and then click Save.

5. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-87: Data Source Settings—Data Source Tab—Database Connection—MSSQL



Specify data source and location of discovery tool.

● MSSQL ○ Oracle ○ DB2 ○ MySQL ○ PostgreSQL ○ Sybase

Configuration File: sccm.extractor.config

Server Name: 10.10.18.67

Database: bboc_sccm

☐ Use Windows Authentication

User Name: qa

Password: •••••••••••••

Viewing and Editing Normalize Zip File Data Source Settings

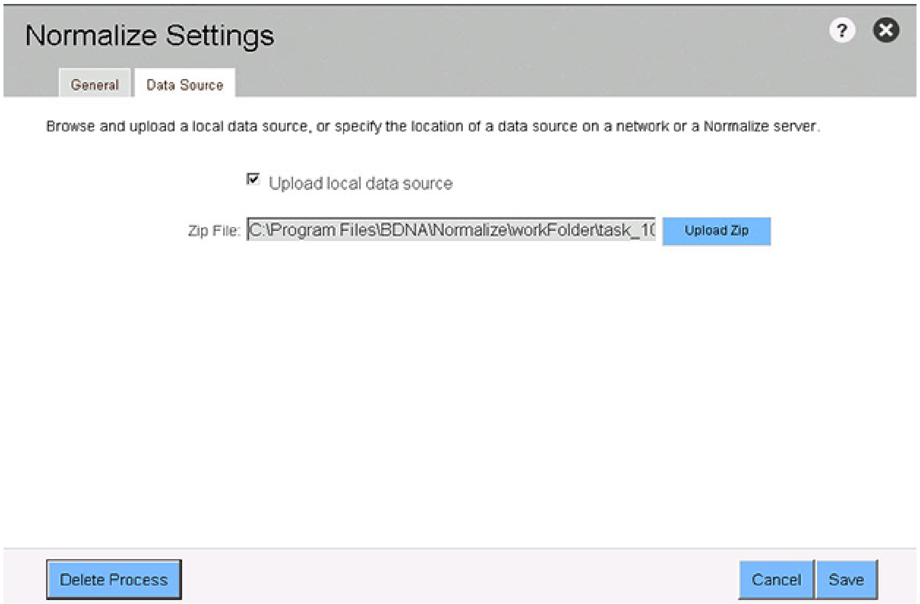
The Data Source settings for a process that uses a zip file provides the file’s name, location, and (if the file is located on a network server) the authentication credentials.

Task ***To view and edit BDNA Normalize ZIP file data source settings:***

1. Click the Edit icon located in the Data Source panel of the process overview pane.
2. Click the Data Source tab.
3. To edit the settings, make any changes, and then click Save.

4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-88: Data Source Settings—Data Source Tab—Normalize ZIP File on Local Server



Browse and upload a local data source, or specify the location of a data source on a network or a Normalize server.

☑ Upload local data source

Zip File: C:\Program Files\BDNA\Normalize\workFolder\task_1(

Viewing and Editing CSV File Data Source Settings

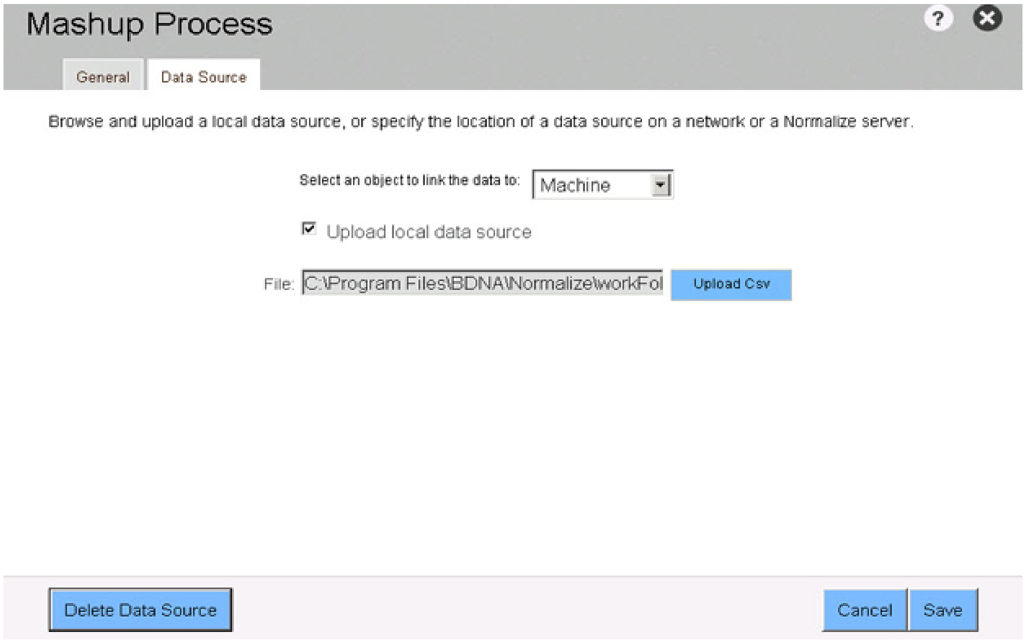
The Data Source settings for a process using a CSV file provides the file’s name, location, the object to which it is linked, and (if the CSV file is located on a network server), authentication credentials.

Task ***To view and edit CSV file data source settings:***

1. Click the Edit icon located in the Data Source panel of the process overview pane.
2. Click the Data Source tab.
3. To edit the settings, make any changes, and then click Save.

4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-89: Data Source Settings—Data Source Tab—CSV on Local Server



Browse and upload a local data source, or specify the location of a data source on a network or a Normalize server.

Select an object to link the data to: Machine

☑ Upload local data source

File: C:\Program Files\BDNA\Normalize\workFol

Viewing and Editing ServiceNow Data Source Settings

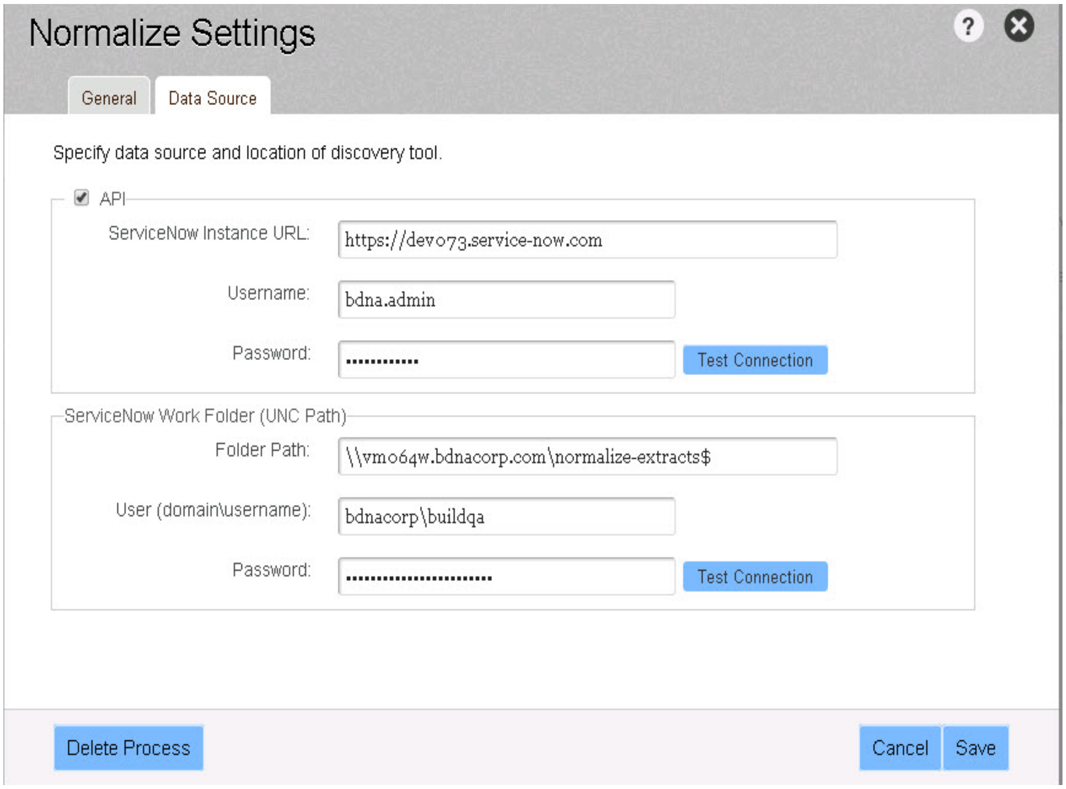
The Data Source settings for a process using ServiceNow provides the ServiceNow instance URL, work folder location, and authentication credentials for each.

Task ***To view and edit Service Now data source settings:***

1. Click the Edit icon located in the Data Source panel of the process overview pane.
2. Click the Data Source tab.
3. To edit the settings, make any changes, and then click Save.

4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-90: Data Source Settings—Data Source Tab—Service Now



Specify data source and location of discovery tool.

☑ API

ServiceNow Instance URL: https://dev073.service-now.com

Username: bdna.admin

Password: ••••••••••••

ServiceNow Work Folder (UNC Path)

Folder Path: \\vm064w.bdnacorp.com\normalize-extracts$

User (domain\username): bdnacorp\buildqa

Password: ••••••••••••••••••••••••

Managing Process Settings

Process settings for IT Discovery Tool and Normalize CM processes are History, Metering, and Output Formats.

Viewing History Settings—IT Discovery Tool, Data Mashup Processes

Use this screen to accept or modify the inventory name, and/or to set a history mode.

- **Inventory Name**—Accept the pre-populated name or enter a new inventory name.
- **History Mode**—Click the radio button next to the setting you want to activate.
  - **Don’t Keep History**—Always overwrite the most recent Normalization
  - **Keep History**—Activate history for Analyze and/or Normalize
    - **In Analyze**—Activate Analyze history
    - **In Normalize**—Activate Normalization history

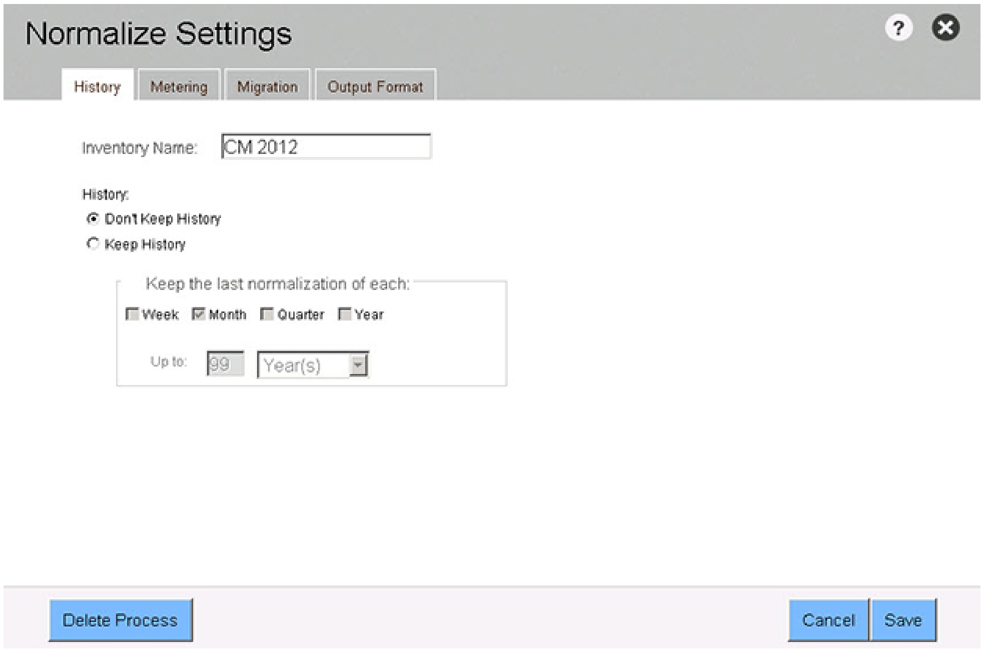
Caution • *Selecting "Keep History" saves all inventory data to Analyze and/or Normalize. Depending on the number of assets, saved inventories can grow very large and severely impact Data Platform application performance, especially reporting and analysis. BDNA advises caution when setting "Keep History" values, and recommends monitoring saved inventory sizes frequently.*

- Keep the last normalization of each—Place a check next to the schedule you want to activate.
  - Store the last Normalization of each Week
  - Store the last Normalization of each Month
  - Store the last Normalization of each Quarter
  - Store the last Normalization of each Year
  - Up to: 1-99 Weeks, Months, Quarters, or Years

Task ***To view and edit History settings:***

1. Click the Settings link located on the right-side of the process overview pane.
2. Click the History tab.
3. To edit the settings, make any changes and then click Save.
4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-91: Process Settings—History Tab



Inventory Name: CM 2012

History:
● Don't Keep History
○ Keep History

Keep the last normalization of each:
☐ Week ☑ Month ☐ Quarter ☐ Year

Up to: 99 Year(s)

Viewing History Settings—Purchase Order Processes

Use this screen to accept or modify the inventory name, and/or to set a history mode.

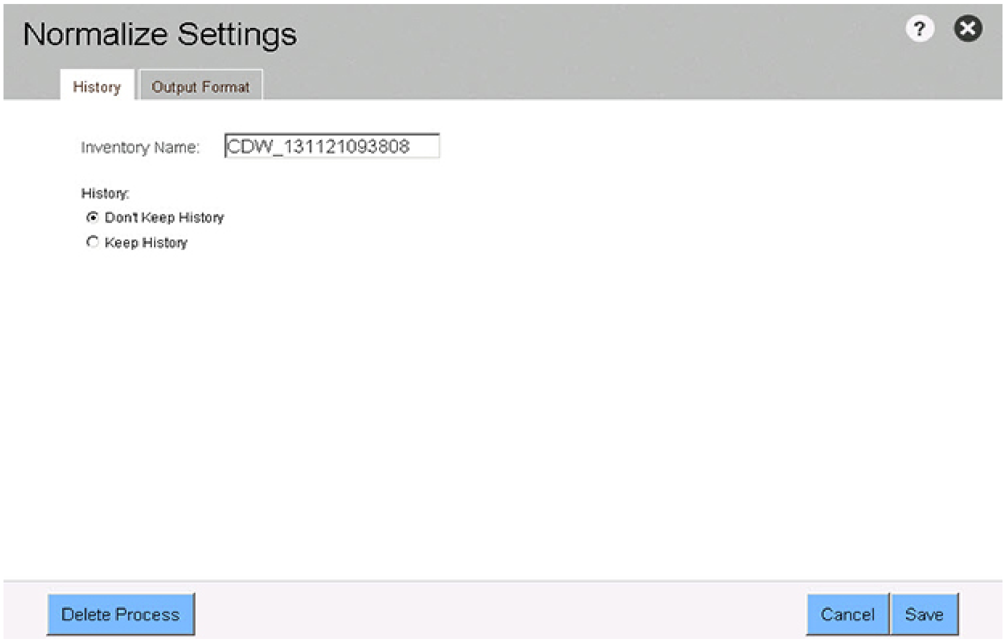
- History Mode—Click the radio button next to the setting you want to activate.
  - Don’t Keep History—Always overwrite the most recent Normalization
  - Keep History—Activate history for Analyze and/or Normalize

***Caution** • Selecting “Keep History” saves all inventory data to Analyze and/or Normalize. Depending on the number of assets, saved inventories can grow very large and severely impact Data Platform application performance, especially reporting and analysis. BDNA advises caution when setting “Keep History” values, and recommends monitoring saved inventory sizes frequently.*

Task ***To view and edit History settings:***

1. Click the Settings link located on the right-side of the process overview pane.
2. Click the History tab.
3. To edit the settings, make any changes and then click Save.
4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-92: Process Settings—History Tab—Purchase Order



Normalize Settings

Inventory Name: CDW_131121093808

History:
● Don't Keep History
○ Keep History

Viewing Metering Settings

Note • *Metering settings are* ***not*** *available for Purchase Order processes.*

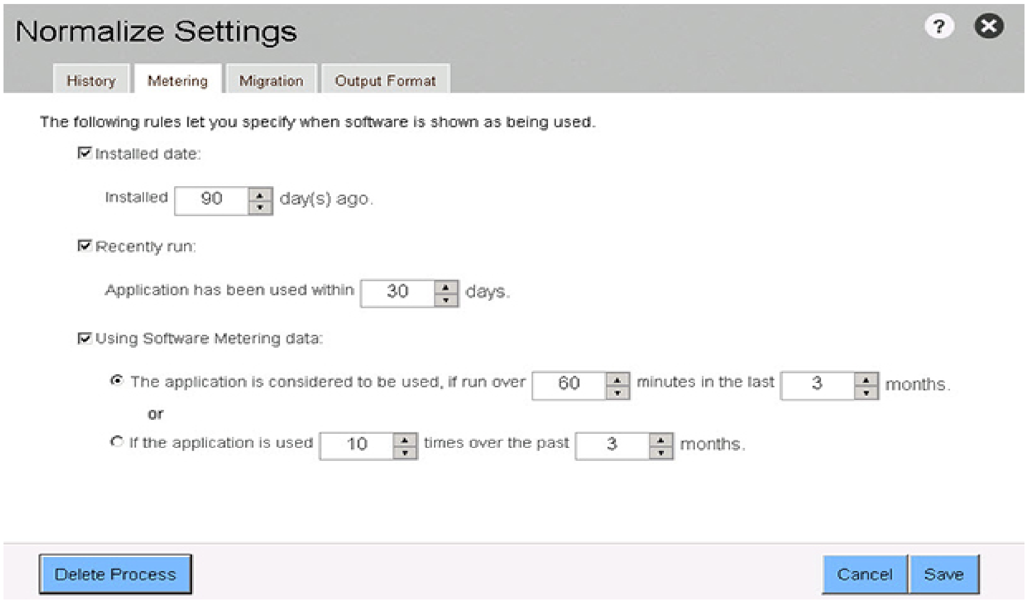
Use this screen to view and edit when software is shown as being used. Metering options are dependent on the IT Discovery Tool. If an IT Discovery tool does not provide metering information, the option will still be visible in the UI, but will not be available for use.

- **Installed date**—Click this checkbox if you want to calculate the usage based on the installed date.
- **Recently run**—Click this checkbox if you want to calculate the usage based on the last run date.
- Using software metering data—Click this checkbox to specify the rules that define what determines the “use” of software. Click either radio button to specify the following:
    - The application is considered to be used if run over a specified number of minutes in the last specified number of months.
    - The application is used a specified number of times in the last specified number of months.

Task ***To view and edit Metering settings:***

1. Click the Settings link located on the right-side of the process overview pane.
2. Click the Metering tab.
3. To edit the settings, make any changes and then click Save.
4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-93: Process Settings—Metering Tab



The following rules let you specify when software is shown as being used.

☑ Installed date:

Installed 90 day(s) ago.

☑ Recently run:

Application has been used within 30 days.

☑ Using Software Metering data:

● The application is considered to be used, if run over 60 minutes in the last 3 months.

or

○ If the application is used 10 times over the past 3 months.

Viewing and Editing Output Format Settings

Use this screen to view and set the following output formats:

- BDNA Analyze—Click this checkbox to enable this type of output format.
- Export results to CSV files—Click this checkbox to enable this type of output format.
    - Directory on Normalize server (Disk space: XX MB)—Accept or edit the file location and available disk space.

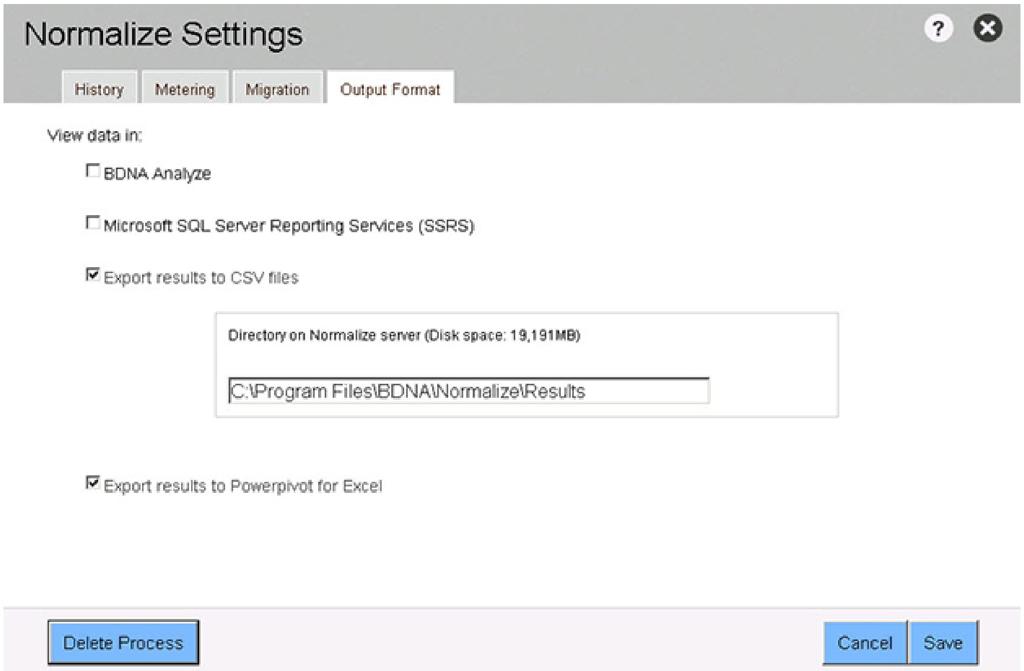
Note • *BDNA pre-defined SQL queries that output to CSV files are customizable and extensible. For more information, see "Customizing CSV Results" in the BDNA Data Platform Installation and Configuration Guide.*

Task ***To view and edit Output Format settings:***

1. Click the Settings link located on the right-side of the process overview pane.
2. Click the Output Formats tab.
3. To edit the settings, make any changes and then click Save.

4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-94: Process Settings—Output Format Tab—IT Discovery, Mashup


Normalize Settings
?
History
Metering
Migration
Output Format
Delete Process
Cancel
Save

View data in:

☐ BDNA Analyze

☐ Microsoft SQL Server Reporting Services (SSRS)

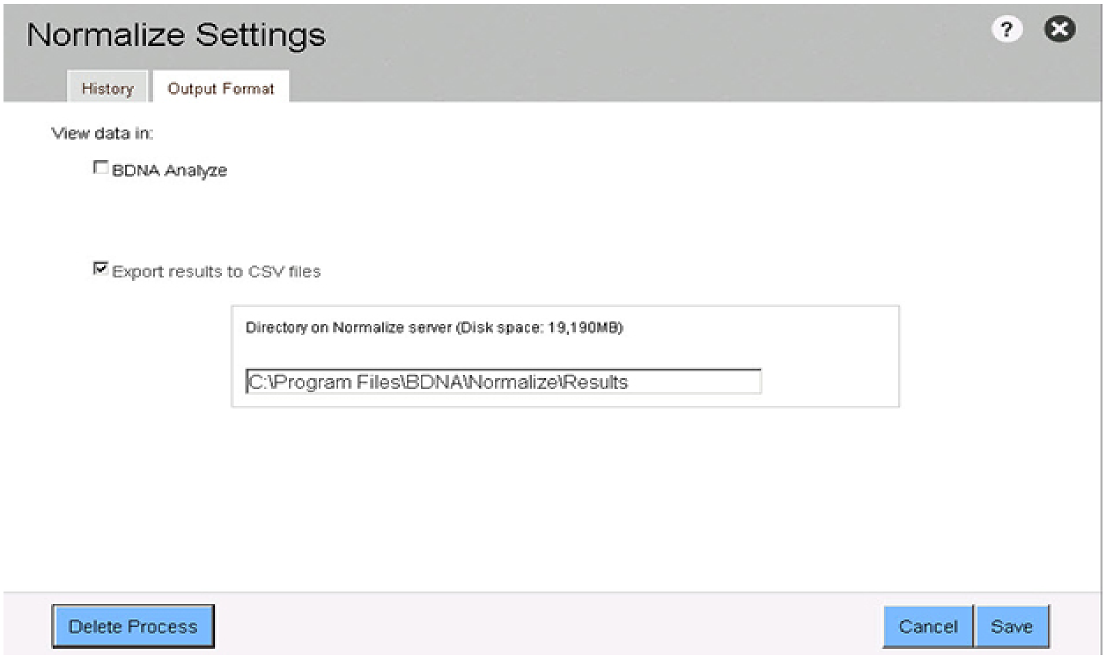
☑ Export results to CSV files

Directory on Normalize server (Disk space: 19,191MB)

C:\Program Files\BDNA\Normalize\Results

☑ Export results to Powerpivot for Excel

Figure 10-95: Process Settings—Output Format Tab—Purchase Order


Normalize Settings
?
History
Output Format
Delete Process
Cancel
Save

View data in:

☐ BDNA Analyze

☑ Export results to CSV files

Directory on Normalize server (Disk space: 19,190MB)

C:\Program Files\BDNA\Normalize\Results

Managing Data Source Settings

Data Source settings are organized under General and ConfigMgr Server tabs.

Viewing and Editing General Settings

The General settings provides the following information about the selected process:

- Data Source Name—The name that identifies the data source.
- Data Source Type—The discovery tool used by this process.
- Generate Package and Advertisement Automatically—Enables the automatic distribution of the Package and Advertisement.
- Manual Distribution—Enables the manual distribution of the Package and Advertisement.

Task ***To view and edit General data source settings:***

1. Click the Edit icon located in the Data Source panel of the process overview pane.
2. Click the General tab.
3. To edit the settings, make any changes and then click Save.
4. To close the dialog box, click the X in the upper-right corner of the dialog.

Viewing and Editing ConfigMgr Server Settings

The ConfigMgr Server settings provides the following information about the selected process:

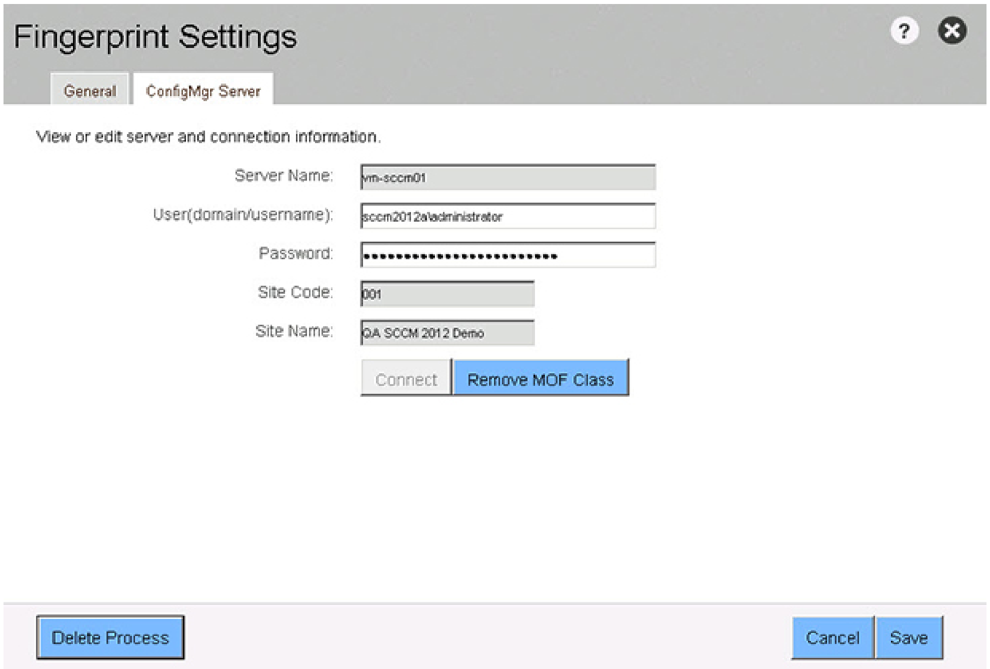
- **Server Name**—The name that identifies the data source.
- **User/Domain Name**—The name used to access the ConfigMgr server.
- **Password**—The password used to access the ConfigMgr server.
- **Site Code**—The numerical identifier for the server.
- **Site Name**—The descriptive name for the server.
- **Remove MOF Class**—Deletes the MOF class file from the designated ConfigMgr server.

Task ***To view and edit ConfigMgr Server data source settings:***

1. Click the Edit icon located in the Data Source panel of the process overview pane.
2. Click the ConfigMgr Server tab.
3. To edit the settings, make any changes and then click Save.

4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-96: Fingerprint Data Source Settings—ConfigMgr Server (no longer available)



View or edit server and connection information.

Server Name: vm-sccm01
User(domain/username): sccm2012a\administrator
Password: ••••••••••••••••••••••••
Site Code: 001
Site Name: QA SCCM 2012 Demo

Managing Process Settings

Process settings for a Fingerprints process were organized under Credentials, Package, Advertisement, and Schedule tabs. Fingerprints are no longer available.

Viewing and Editing Credential Settings

The Credential settings provides the following information about the selected process:

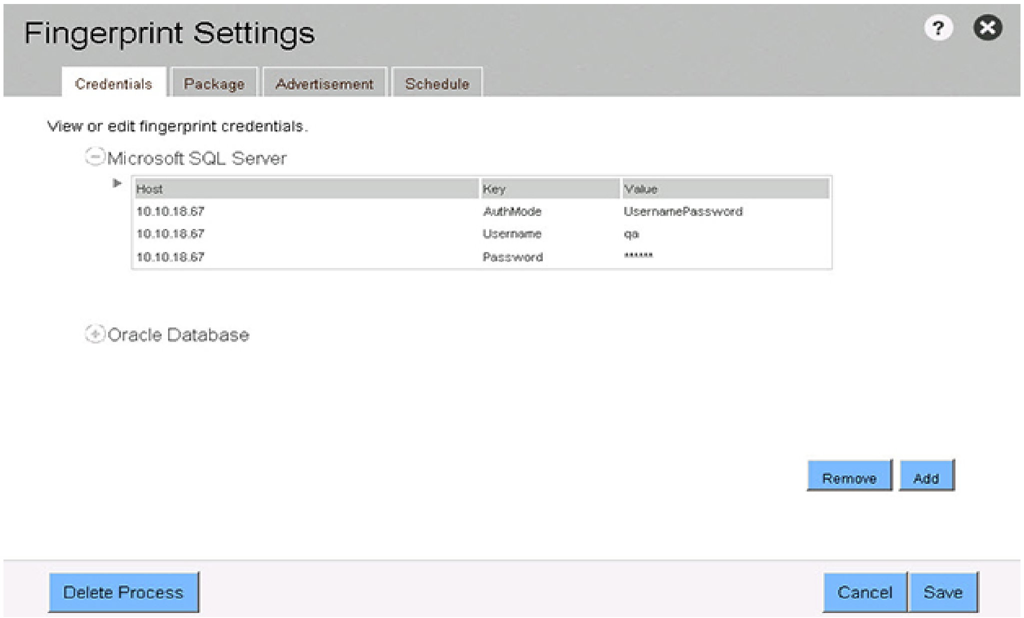
- **Database Information**—Read-only information about the database Host, Key, and Value.
- **Add**—Click the Add button to open a dialog to enter the following information: Database Credential Type, Host, Username, and Password.
- **Remove**—Click the Remove button to delete a specific database credential.

Task ***To view and edit Credential settings:***

1. Click the Settings link located on the right-side of the process Overview pane.
2. Click the Credential tab.
3. To edit the settings, make any changes and then click Save.

4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-97: Fingerprint Process Settings—Credentials (no longer available)



View or edit fingerprint credentials.

Microsoft SQL Server

Host	Key	Value
10.10.18.67	AuthMode	UsernamePassword
10.10.18.67	Username	qa
10.10.18.67	Password	******

Oracle Database

Viewing and Editing Package Settings

The Package settings provides the following information about the selected process:

- Package Name—Name of the Fingerprints Package.
- Version—Read-only information about the Package version.
- Distribution Points—Checkbox to enable or disable distribution by the specified points.

Viewing and Editing Advertisement Settings

The Advertisement settings provides the following information about the selected process:

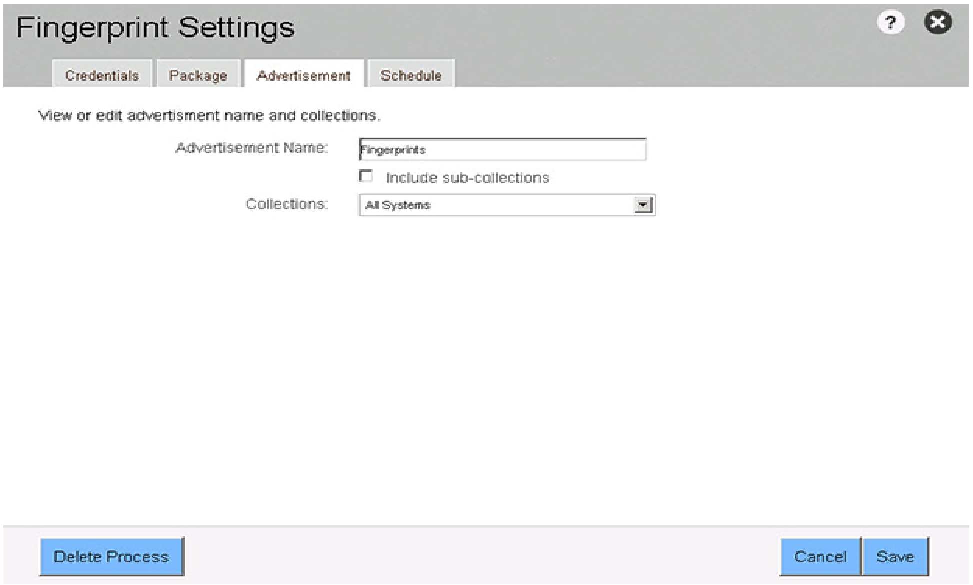
- **Advertisement Name**—Name of the Advertisement.
- **Include Sub-collections**—Checkbox to enable or disable including sub-collections.
- **Collections**—Drop-down list of collection to which the Fingerprints process is linked.

Task ***To view and edit Advertisement settings:***

1. Click the Settings link located on the right-side of the process Overview pane.
2. Click the Advertisement tab.
3. To edit the settings, make any changes and then click Save.

4. To close the dialog box, click the X in the upper-right corner of the dialog.

Figure 10-98: Fingerprint Process Settings—Advertisement (no longer available)



View or edit advertisment name and collections.

Advertisement Name: Fingerprints

☐ Include sub-collections

Collections: All Systems

Viewing and Editing Schedule Settings

The Schedule settings provides the following information about the selected process:

- **Start**—Date to start automatic distribution of the Package and Advertisement.
- **No Expiration**—Checkbox to enable to disable ongoing distribution of the Package and Advertisement.
- **Expire**—Date to end automatic distribution of the Package and Advertisement.
- **Assign Immediately After Event**—Checkbox to enable or disable the distribution immediately after saving any setting changes.
- **Recurrence Pattern**—Enable None, Weekly, Monthly, or Custom Interval distribution of the Package and Advertisement. Selecting any option other than None will open a dialog that lets you specify frequency of the distributions.

Task ***To view and edit Schedule settings:***

1. Click the Settings link located on the right-side of the process Overview pane.
2. Click the Schedule tab.
3. To edit the settings, make any changes and then click Save.
4. To close the dialog box, click the X in the upper-right corner of the dialog.

11

Monitoring BDNA Normalize

You can use the Administration Console to perform the following operations:

- Viewing the Activity Monitor
- Viewing Inventory Summary and Details
- Viewing Inventory Results
- Deleting Inventories
- Viewing Normalize Statistics
- Downloading Information from the Last Normalization

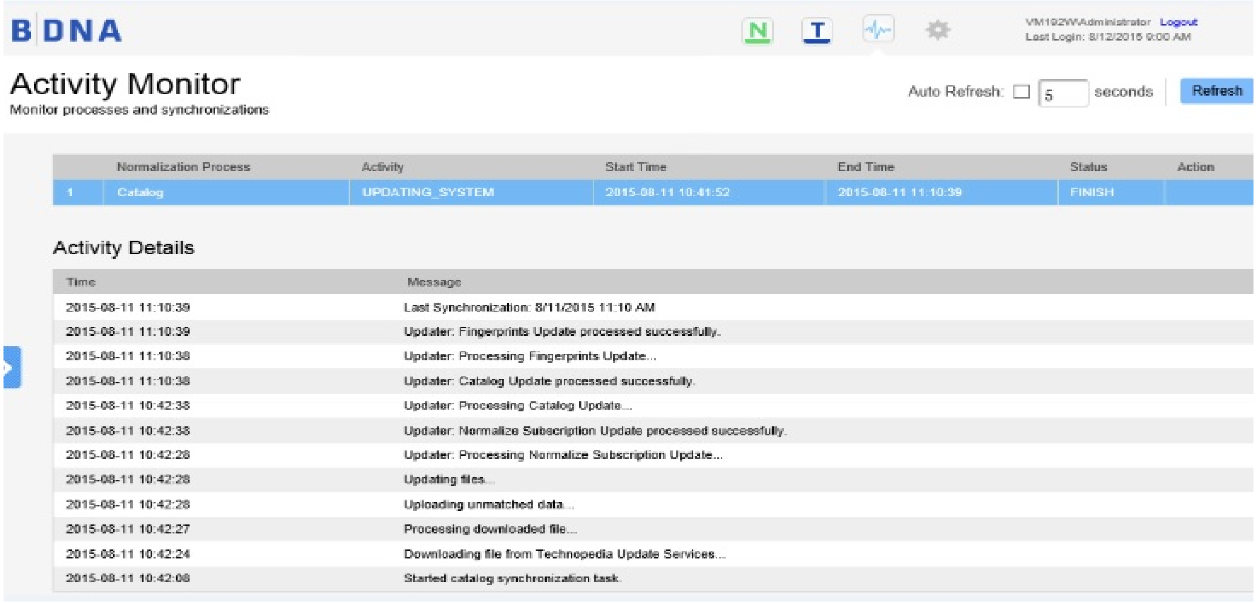
Viewing the Activity Monitor

The Activity Monitor provides details on recent Normalize processes and Catalog synchronizations.

Task ***To view Activity Monitor information:***

1. Click the Activity Monitor “heartbeat” icon on the Administration Console to open the Activity Monitor (Activity Monitor).
2. To refresh activity date, complete the following steps.
    a. Click the Auto Refresh checkbox to automatically update the Activity Monitor.
    b. Enter a number in the text field, using a two-digit format (for example, to specify 3 seconds enter 03).
    c. Click Refresh.
3. To view details about an activity item, click the relevant entry. Details about the selected entry display in the Activity Details pane.

Figure 11-99: Activity Monitor


BDNA
N
T
VM192W\Administrator Logout
Last Login: 8/12/2015 9:00 AM
Auto Refresh: ☐ 5 seconds
Refresh

Activity Monitor

Monitor processes and synchronizations

	Normalization Process	Activity	Start Time	End Time	Status	Action
1	Catalog	UPDATING_SYSTEM	2015-08-11 10:41:52	2015-08-11 11:10:39	FINISH	

Activity Details

Time	Message
2015-08-11 11:10:39	Last Synchronization: 8/11/2015 11:10 AM
2015-08-11 11:10:39	Updater: Fingerprints Update processed successfully.
2015-08-11 11:10:38	Updater: Processing Fingerprints Update...
2015-08-11 11:10:38	Updater: Catalog Update processed successfully.
2015-08-11 10:42:38	Updater: Processing Catalog Update...
2015-08-11 10:42:38	Updater: Normalize Subscription Update processed successfully.
2015-08-11 10:42:28	Updater: Processing Normalize Subscription Update...
2015-08-11 10:42:28	Updating files...
2015-08-11 10:42:28	Uploading unmatched data...
2015-08-11 10:42:27	Processing downloaded file...
2015-08-11 10:42:24	Downloading file from Technopedia Update Services...
2015-08-11 10:42:08	Started catalog synchronization task.

Viewing Inventory Summary and Details

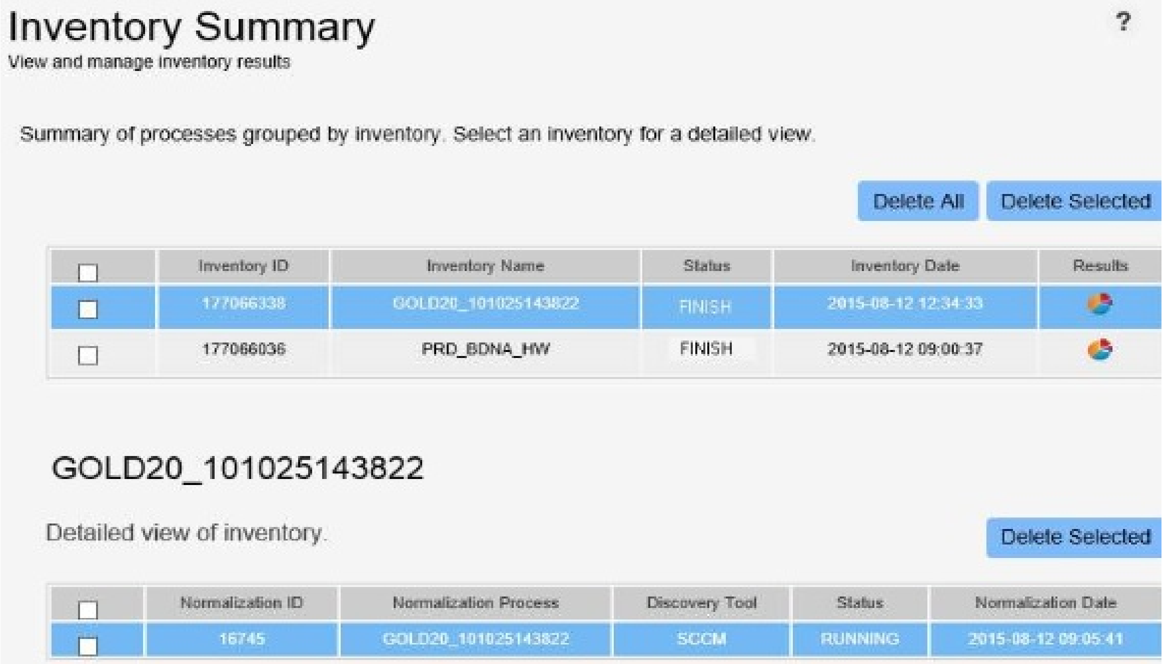
Task ***To view inventory:***

1. On the Administration Console, open the BDNA Normalize page.
2. Click Inventory. The Inventory Summary screen opens to display a summary of processes, grouped by Inventory. The screen is divided into two panes: Summary and Detailed View.

- **Inventory Summary pane**—provides the following information and/or options:
    - **Inventory ID**—Unique ID number given to a specific Inventory.
    - **Inventory Name**—Descriptive name given to the Inventory by the user.
    - **Status**—Indicates whether the Inventory is in process or finished.
    - **Inventory Date**—Date and time the Inventory was created.
    - **Results**—Option to view results of the Inventory.
    - **Delete**—Option to remove the selected Inventory.
- Detailed View—provides the following information and/or options:
    - **Normalization ID**—Unique ID number given to the normalization.
    - **Normalization Process**—Method used to normalize discovered data.
    - **Discovery Tool**—Data source of the normalized data.

- **Status**—Indicates whether the Inventory is in process or finished.
- **Normalization Date**—Data and time of the normalization.
- **Delete**—Option to remove the selected Inventory.

Figure 11-100: Inventory Summary and Details



Inventory Summary

View and manage inventory results

Summary of processes grouped by inventory. Select an inventory for a detailed view.

☐	Inventory ID	Inventory Name	Status	Inventory Date	Results
☐	177066338	GOLD20_101025143822	FINISH	2015-08-12 12:34:33	
☐	177066036	PRD_BDNA_HW	FINISH	2015-08-12 09:00:37	

GOLD20_101025143822

Detailed view of inventory.

☐	Normalization ID	Normalization Process	Discovery Tool	Status	Normalization Date
☐	16745	GOLD20_101025143822	SCCM	RUNNING	2015-08-12 09:05:41

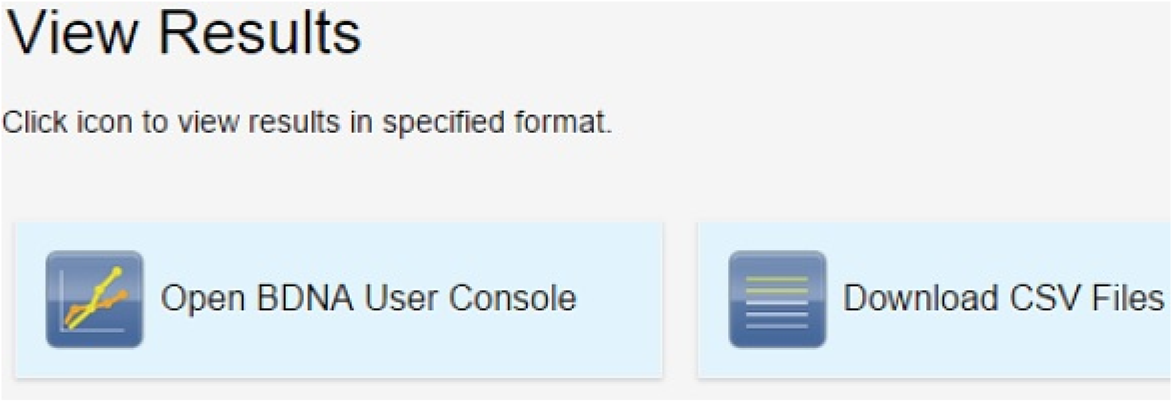
Viewing Inventory Results

Task ***To view inventory results:***

1. On the Administration Console, open the Normalize page.
2. Click Inventory.
3. Click the Results icon for the Inventory whose results you want to view. The View Results screen opens, with options to view results in various formats:
    - **Open BDNA Analyze**—View and manipulate data in BDNA Analyze

- **Download CSV files**—View data in a CSV format

Figure 11-101: View Results



Deleting Inventories

Task ***To delete inventories:***

1. On the Administration Console, open the Normalize page.
2. Click Inventory.
3. Select the checkbox next to the Inventory (or Inventories) that you want to delete.
4. Click Delete Selected. A Confirmation message opens.
5. Click OK to confirm that you want to delete the selected Inventory.

Viewing Normalize Statistics

Task ***To view normalize statistics:***

The Statistics page (BDNA Normalize Statistics—Enrichment) contains a summary of information about the most recent normalization. Statistics are provided for:

- **Extraction**—Summary of extraction time, plus a summary and details on data sources.
- **Normalize Process**—Summary of processing time, plus summary and details on input/output.
- **Normalize Enrichment**—Summary of time, plus summary and details on input/output

Task ***To view Normalize statistics:***

1. Go to the BDNA Normalize panel of the Administration Console.
2. Click View Full Statistics for the process whose statistics you want to view. The Statistics page opens to the Extraction view (BDNA Normalize Statistics—Extraction).
3. Click the Extraction, Normalize Process, or Normalize Enrichment navigation links to view details.

Note • *The Data Platform UI detects the configuration file (Norm.Configuration.config) to see if Tier 1 & 2 software statistics are turned on or off. By default, it is set to 'false.' Hence, users do not see Normalize statistics on Admin Console page. Customers can still turn this functionality on by editing Norm.Configuration.config and setting values for "StatsKeywordExec" and "StatsKeywordAddremove" to 'true' if they want to see Tier 1 & 2 software statistics on both the Normalize Results section of the Admin Console page and the Full Statistics pop-up window.*

Figure 11-102: BDNA Normalize Statistics—Extraction

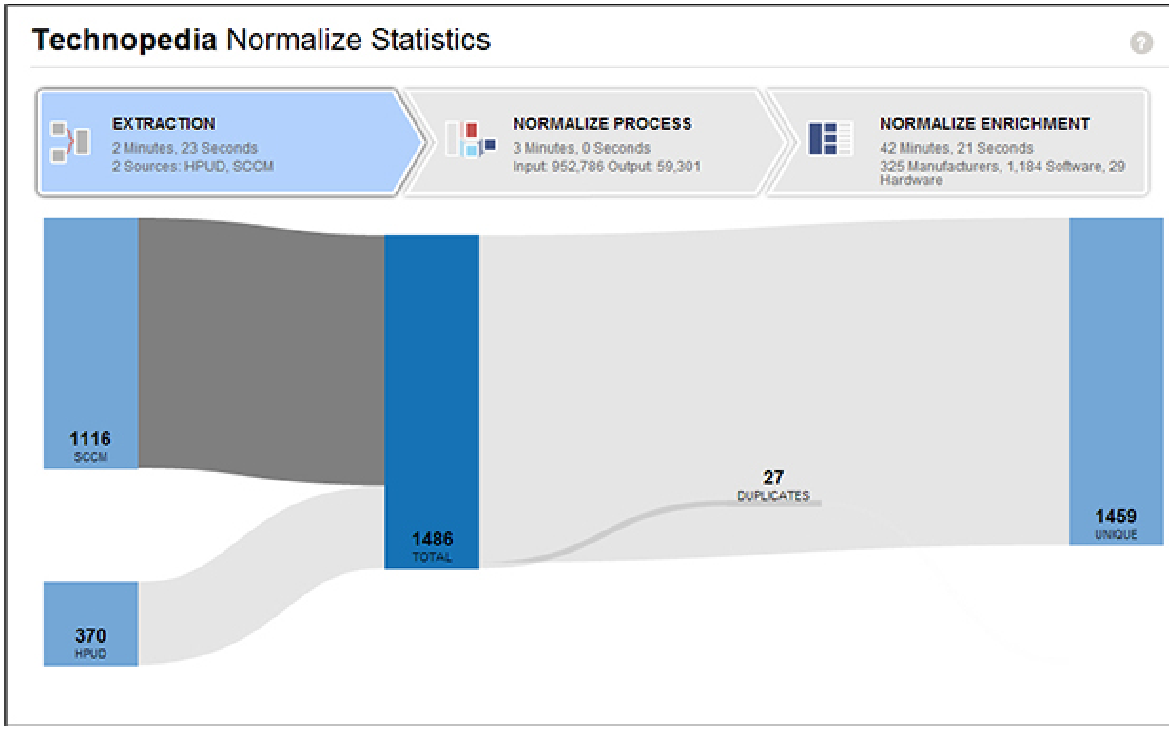
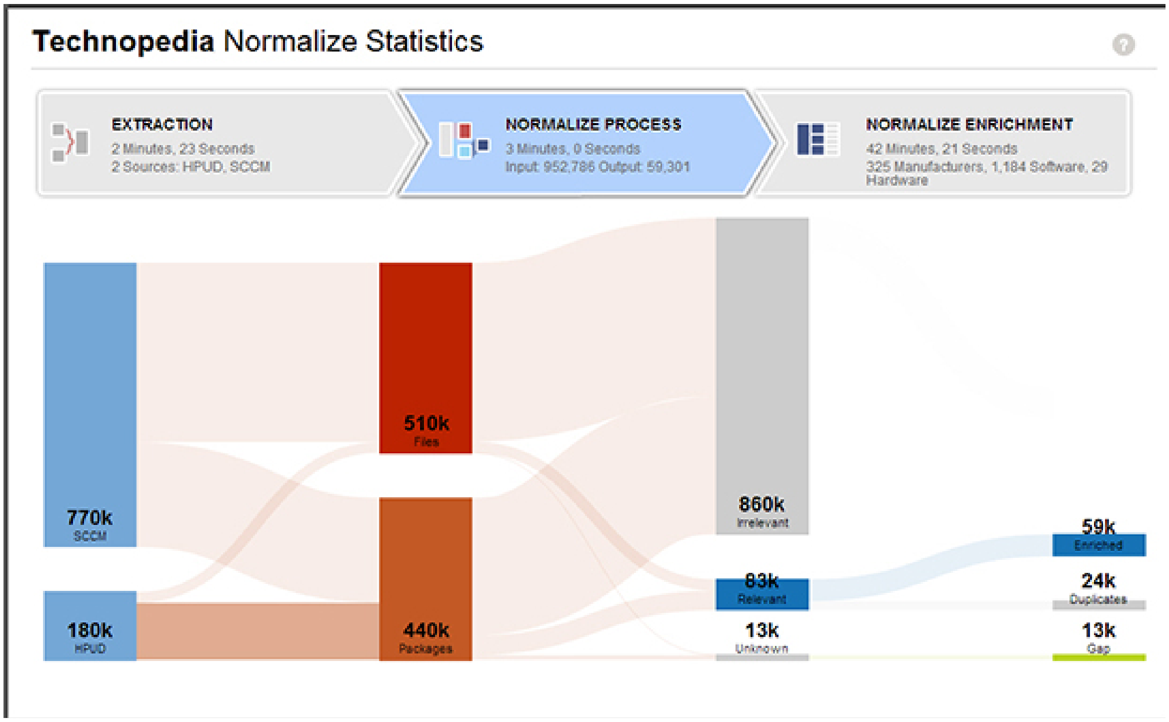

Technopedia Normalize Statistics
EXTRACTION
2 Minutes, 23 Seconds
2 Sources: HPUD, SCCM
NORMALIZE PROCESS
3 Minutes, 0 Seconds
Input: 952,786 Output: 59,301
NORMALIZE ENRICHMENT
42 Minutes, 21 Seconds
325 Manufacturers, 1,184 Software, 29 Hardware
1116
SCCM
370
HPUD
1486
TOTAL
27
DUPLICATES
1459
UNIQUE

Figure 11-103: BDNA Normalize Statistics—Normalize Process



Technopedia Normalize Statistics

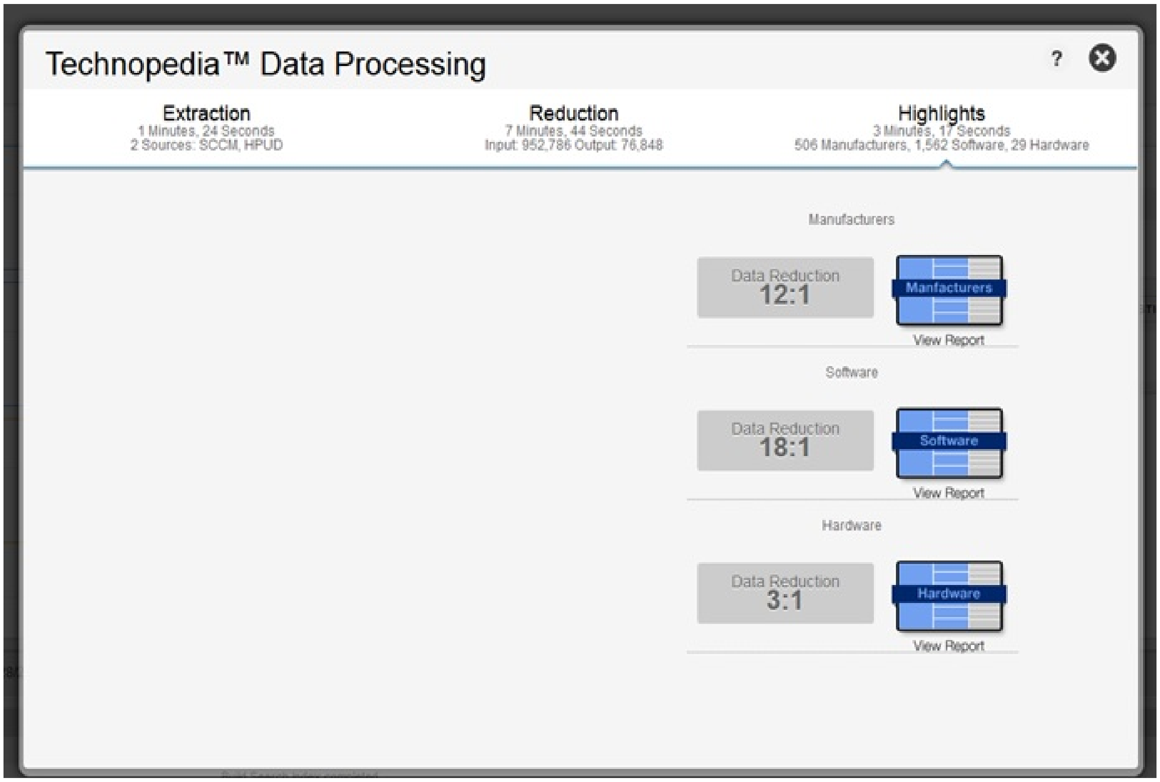
EXTRACTION
2 Minutes, 23 Seconds
2 Sources: HPUD, SCCM

NORMALIZE PROCESS
3 Minutes, 0 Seconds
Input: 952,786 Output: 59,301

NORMALIZE ENRICHMENT
42 Minutes, 21 Seconds
325 Manufacturers, 1,184 Software, 29 Hardware

770k
SCCM
180k
HPUD
510k
Files
440k
Packages
860k
Irrelevant
83k
Relevant
13k
Unknown
59k
Enriched
24k
Duplicates
13k
Gap

Figure 11-104: BDNA Normalize Statistics—Enrichment



Technopedia™ Data Processing

Extraction
1 Minutes, 24 Seconds
2 Sources: SCCM, HPUD

Reduction
7 Minutes, 44 Seconds
Input: 952,786 Output: 76,848

Highlights
3 Minutes, 17 Seconds
506 Manufacturers, 1,562 Software, 29 Hardware

Manufacturers
Data Reduction 12:1

Software
Data Reduction 18:1

Hardware
Data Reduction 3:1

Downloading Information from the Last Normalization

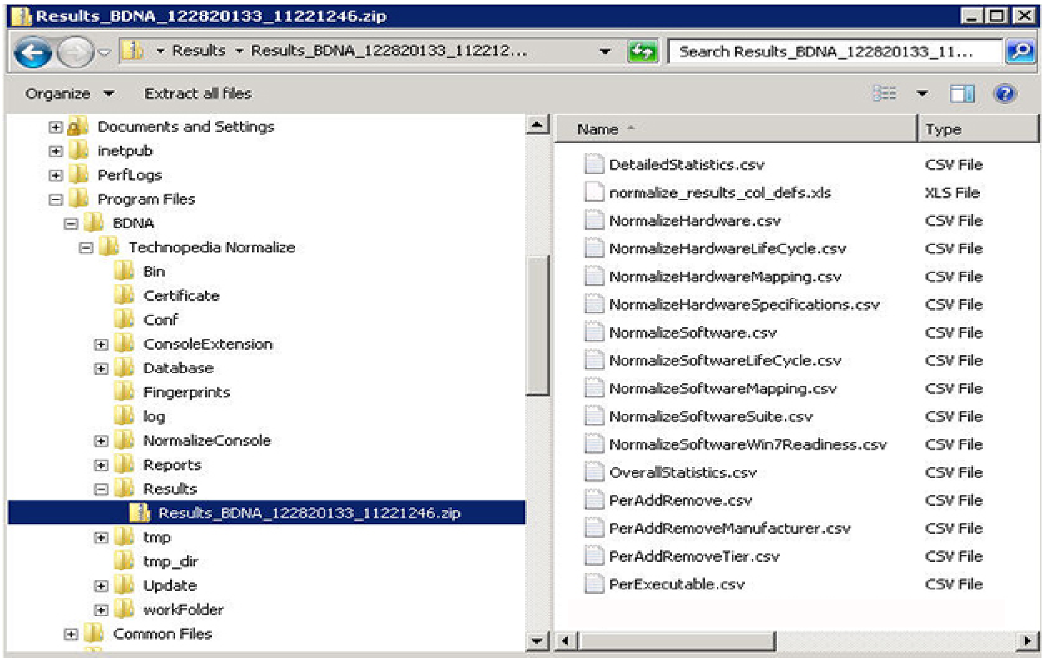
Information from each normalization is automatically saved on the server, if you choose the Export Results to CSV files checkbox on the Output Format tab. The information from the most recent Normalization is contained in the PreviousResults.zip file, with the contents as shown in <Z_Hyperlink>Figure . The zip file includes an Excel file (.xls) that contains a description of each of the CSV files.

Task ***To download results from the last Normalization:***

1. Open the Administration Console.
2. Click the CSV label for the BDNA Normalize process whose results you want to download. A File Download dialog opens.
3. Click Save to download the Results*.zip file.
4. Browse to identify a location.

5. Click Save.

Figure 11-105: Contents of the Download Zip File


Results_BDNA_122820133_11221246.zip
Results ▸ Results_BDNA_122820133_112212...
Search Results_BDNA_122820133_11...
Organize
Extract all files
Documents and Settings
inetpub
PerfLogs
Program Files
BDNA
Technopedia Normalize
Bin
Certificate
Conf
ConsoleExtension
Database
Fingerprints
log
NormalizeConsole
Reports
Results
Results_BDNA_122820133_11221246.zip
tmp
tmp_dir
Update
workFolder
Common Files

Name	Type
DetailedStatistics.csv	CSV File
normalize_results_col_defs.xls	XLS File
NormalizeHardware.csv	CSV File
NormalizeHardwareLifeCycle.csv	CSV File
NormalizeHardwareMapping.csv	CSV File
NormalizeHardwareSpecifications.csv	CSV File
NormalizeSoftware.csv	CSV File
NormalizeSoftwareLifeCycle.csv	CSV File
NormalizeSoftwareMapping.csv	CSV File
NormalizeSoftwareSuite.csv	CSV File
NormalizeSoftwareWin7Readiness.csv	CSV File
OverallStatistics.csv	CSV File
PerAddRemove.csv	CSV File
PerAddRemoveManufacturer.csv	CSV File
PerAddRemoveTier.csv	CSV File
PerExecutable.csv	CSV File

Catalog Terminology

The following table shows the terms and definitions that are used in the catalog files.

Table 11-3 • Catalog Terms and Definitions

Term	Definition	Used in File(s)...
Unmatched	The entry doesn't exist in the catalog.	Unmatched_*.zip -> Unmatch_*.csv (This file is uploaded to bdna.com during synchronization.)
NoRef	The entry exists in the catalog, but it either has not been mapped nor has it been marked as Irrelevant.	Unmatched_*.zip -> Noref_*.csv (This file is uploaded to bdna.com during synchronization.)

Table 11-3 • Catalog Terms and Definitions

Term	Definition	Used in File(s)...
Irrelevant	The entry exists in the catalog, but it is considered to be irrelevant, hence ignored. A reason is associated with the Irrelevant entry.	PerAddRemove_*.csv PerExecutable_*.csv OverallStatistics_*.csv
Mapped	The entry exists in the catalog, and has been mapped to a proper catalog product.	PerAddRemove_*.csv PerExecutable_*.csv OverallStatistics_*.csv
Known	The entry exists in the catalog, and it either has been mapped or has been marked as Irrelevant (Mapped+Irrelevant).	OverallStatistics_*.csv
Unknown	The entry either exists or doesn't exist in the catalog, and it either has not been mapped or has not been marked as Irrelevant (Unmatched+NoRef).	PerAddRemove_*.csv PerExecutable_*.csv OverallStatistics_*.csv

Unmatched Data Files

Unmatched files refer to zip package files that are generated by a Normalize process and stored locally (where Normalize is installed). The name of the zip package file uses the following naming convention:

Unmatched_[Company_Identifier]_timestamp_[task_id]

For example: Unmatched_ACMECompany_1704222148_16752.zip

***Note** • With the latest release of Normalize, the Company Identifier now uses the Org GUID (HASH) characters (as opposed to plain text).*

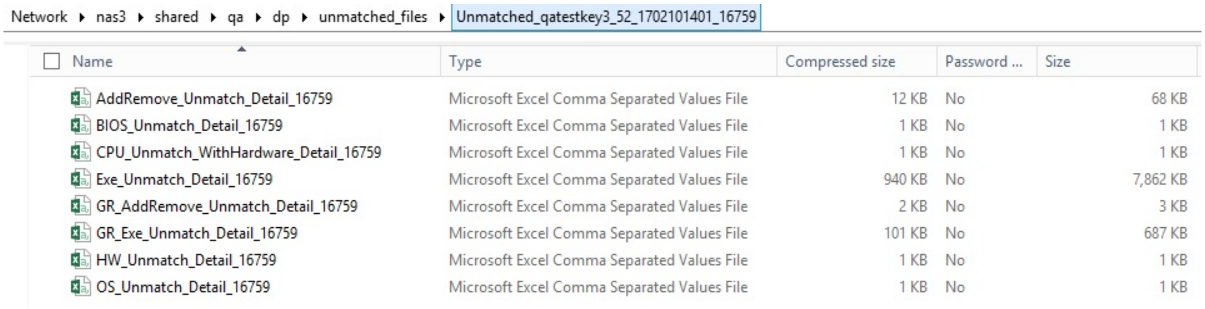
This Unmatched zip package file contains multiple csv files:

- AddRemove_Unmatch_Detail_[task_id]
- BIOS_Unmatch_Detail_[task_id]
- CPU_Unmatch_WithHardware_Detail_[task_id]
- Exe_Unmatch_Detail_[task_id]
- GR_AddRemove_Unmatch_Detail_[task_id]
- GR_Exe_Unmatch_Detail_[task_id]
- HW_Unmatch_Detail_[task_id]
- OS_Unmatch_Detail_[task_id]

The first argument in those file names indicate which table in the Normalize schema the data comes from (i. e. from AddRemove table, BIOS table, Exe table, and so on). Note that there are some files that are prefixed with a GR_ string to indicate that the file contains usage metering data (if it's enabled in the discovery tool). Every file contains the 'Unmatch_Detail' argument, and is suffixed by the task ID.

Each of the Unmatch_Detail files contain the 'unmatched' entries (i.e. entries that contain no matching string in the existing BDNA Normalize mapping signatures). For example, the AddRemove_Unmatch file contains entries from the AddRemove table in Normalize that returns no match with any mapping signature. This happens in this instance because Normalize has never seen any data that matches this exact string in the past. As a consequence, these entries will return neither Technopedia data nor the indication that it is 'Irrelevant' in Normalize reports. Customers generally would like to see the entries to be either 'Mapped' or marked as 'Irrelevant', therefore they may choose to (optionally) have them go through the 'gap-fill' process.

Figure 11-106: Sample of an Unmatched File:



Network ▸ nas3 ▸ shared ▸ qa ▸ dp ▸ unmatched_files ▸ Unmatched_qatestkey3_52_1702101401_16759

☐ Name	Type	Compressed size	Password ...	Size
AddRemove_Unmatch_Detail_16759	Microsoft Excel Comma Separated Values File	12 KB	No	68 KB
BIOS_Unmatch_Detail_16759	Microsoft Excel Comma Separated Values File	1 KB	No	1 KB
CPU_Unmatch_WithHardware_Detail_16759	Microsoft Excel Comma Separated Values File	1 KB	No	1 KB
Exe_Unmatch_Detail_16759	Microsoft Excel Comma Separated Values File	940 KB	No	7,862 KB
GR_AddRemove_Unmatch_Detail_16759	Microsoft Excel Comma Separated Values File	2 KB	No	3 KB
GR_Exe_Unmatch_Detail_16759	Microsoft Excel Comma Separated Values File	101 KB	No	687 KB
HW_Unmatch_Detail_16759	Microsoft Excel Comma Separated Values File	1 KB	No	1 KB
OS_Unmatch_Detail_16759	Microsoft Excel Comma Separated Values File	1 KB	No	1 KB

What Happens to the Unmatched File

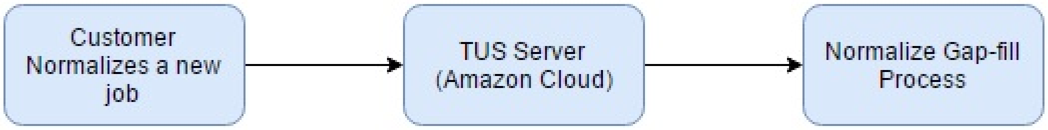
The unmatched file is generated automatically with every Normalize task. The Normalize UI provides the information about where the unmatched file is stored (locally). The settings in the Normalize UI also provide the option for the user to automatically send the unmatched file to BDNA every time a Technopedia sync is being performed. Note that the default option is checked, meaning the unmatched file will be sent automatically.

When the sync button is clicked, the unmatched file will be transmitted to the BDNA's Technopedia Update Server (TUS) over a SSL-encrypted connection.

Note that some customers may choose to send the unmatched file manually (i.e. via their own secure transmission process or via BDNA's Customer Support Portal). These customers set the option in Normalize Settings by un-checking the button in order to send the unmatched file automatically.

The TUS lives within BDNA's secure AWS environment and is only accessible to select BDNA personnel with certain credential levels. Most of the time, access to the TUS is done via a secure automation process that monitors the TUS periodically. This is done in order to detect any new unmatched file that gets uploaded and to pick the unmatched file(s) to be processed via the gap-fill.

Figure 11-107: Update Process

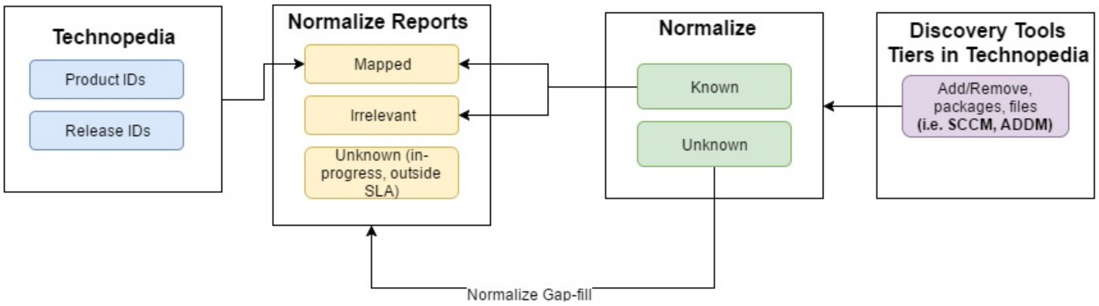

Customer Normalizes a new job
TUS Server (Amazon Cloud)
Normalize Gap-fill Process

Normalize Gap-fill Process

Normalize gap-fill process refers to the process of reviewing 'Unknown' entries from the Normalize result and turning them into 'Known' entries (either 'Mapped' or 'Irrelevant').

Some definitions around the Normalize gap-fill:

- **Known**: Data that have been identified in Normalize (as represented by either the 'Mapped' or 'Irrelevant' signatures).
- **Mapped**: Mapping signatures where the discovered data is mapped to Technopedia entries. This represents the 'Relevant' data, as well as raw data that has been deterministically identified and is aligned to Technopedia.
- **Irrelevant**: This represents the signatures where the discovered data has been identified and deemed to be not relevant in order to identify the assets. While irrelevant data is not discarded, it's filtered out to remove the 'noise' created by all the extraneous data.
- **Unknown**: This represents raw data that has not been processed by BDNA Normalize. It's either completely new data or existing data that has not been categorized as either 'relevant' (i.e. Mapped) or 'irrelevant' (i.e. marked as 'Irrelevant'). This is subject of the “gap-fill” process. Note that there may still be potentially entries that remain 'unknown' (typically customer developed custom software that can be identified and mapped using the BDNA Private Catalog capability) or it may be data that falls outside the SLA, which most of the time represents items that contribute little or nothing regarding the identification of an asset.


Technopedia
Product IDs
Release IDs
Normalize Reports
Mapped
Irrelevant
Unknown (in-progress, outside SLA)
Normalize
Known
Unknown
Discovery Tools Tiers in Technopedia
Add/Remove, packages, files (i.e. SCCM, ADDM)
Normalize Gap-fill

Unmatched Data Resolution Goals (SLAs)

Normalize Unmatched Data Resolution Goals

- BDNA will provide Gap-fill for all Unmatched Data from customer's Data Source for Tier 1 and Tier 2 vendors (as specified in the Technopedia Catalog) within 30 days.
- BDNA will provide Gap-fill for any Unmatched Data from a customer's Data Source for any Tier 3 vendor (with more than twenty installations of a single product) within 30 days.
- For large submissions of initial Unmatched Data, BDNA will provide an estimate for Gap-fill within 3 business days. Customer must submit a support incident in order to request this estimate.

P.O. Normalize Unmatched Data Source Resolution Goals

The P.O. Data Source is defined as the purchasing or procurement tool from which purchase order data is extracted in order to be normalized. Unmatched P.O. data refers to purchase order data from a P.O. Data Source for hardware and software purchases that are not successfully normalized by BDNA P.O. Normalize (excluding accessories, services, etc.).

- BDNA will Gap-fill all Unmatched P.O. Data from a customer's P.O. Data Source (for Supported Vendors) for up to 2,000 purchase orders no later than 30 days after BDNA receives the data.
- For large initial blocks of Unmatched P.O. Data, BDNA will Gap-fill all Unmatched P.O. Data from a customer's P.O. Data Source with the following schedule:
  - Up to 5,000 POs: 2 Months.
  - Up to 10,000 POs: 4 Months.
  - Up to 20,000 POs: 6 Months.
  - More than 20,000 POs: Contact BDNA for more information.

A

Extracting Additional Data from an IT Discovery Tool

Adding a pass-through configuration file to an IT Discovery Tool process lets you extract additional data from that tool. There are two types of pass-through files:

- Pass-through inputs of specific data from your discovery data source that is not included by default.
- Pass-through_A data adds or imports additional attributes related to software from your discovery data source.

To enable the processing of a pass-through configuration file, you must first create a Pass-through or Pass_through_A configuration file that contains the instructions necessary to retrieve the data from the data source you are using as a pass-through. We have provided examples of a Pass-through and Pass-through_A configuration file.

After you create the applicable configuration file, you can add it as a data source of an IT Discovery process.

Customizing a Configuration File

In this section you will find two examples of customized configuration files that you can use as a basis for building your own configuration file. The examples are:

- Example 1: Pass-through Configuration File—Use this type when you want to input specific data from your discovery data source that may not have been included by default.
- Example 2: Pass-through_A Configuration File—Use this type when you want to add/import attributes related to BDNA Normalize.

Note • *The customizable portions of the files are color-coded.*

The configuration files also include standard XML entries, which have been truncated to save space.

Example 1: Pass-through Configuration File

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration LoaderConfig="disc4_loader_config_201304" Disc_Source="DISCOVER">
```

```
   <Connection Type="ORACLE">
      <Property Name="Host" Value=""/>
      <Property Name="Service Name" Value=""/>
      <Property Name="User ID" Value=""/>
      <Property Name="Password" Value=""/>
      <Property Name="Port" Value="1521"/>
   </Connection>

   <Tables>
      <Table Type="AddRemove">
          <SQL>
             <![CDATA[
      “
”
             ]]>
          </SQL>
      </Table>
      “
      ”

      <Table Type="Pass-through" Name="MU_HOST" Dynamic_subtype="Machine" Label="Discovered CPU">

             <Fields>
                <Field Name="MachineID" DataType="NVARCHAR(255)" Nullable="1" DefaultValue=""
Comment="" Key_Position="1" FileColumnName="Key-MachineID:MachineID" />
      <Field Name="NUMCPUS" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="NUMCPUS" />
                <Field Name="NUMCORES" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" Comment=""
Key_Position="0" FileColumnName="NUMCORES" />
             </Fields>

             <SQL>
                <![CDATA[
                   SELECT
                     MachineID as "Key-MachineID:MachineID",
                     NUMCPUS,
                     NUMCORES
                   FROM (
                     SELECT DISTINCT
                      c.OPERATINGSYSTEM_ID as MachineID,
                      COUNT(c.CPU_ID) as NUMCPUS,
                      SUM(cpu.CORES) as NUMCORES
                     FROM BDNA_CPUS c
                     INNER JOIN BDNA_INV_CATALOG_MAP m ON  c.operatingsystem_id=m.inv_asset_id
                                    AND c.inventory_id = m.inventory_id
                     INNER JOIN BDNA_HW_CPU_INFO cpu ON m.cpu_id = cpu.hw_cpu_id
                     INNER JOIN (
                               SELECT OPERATINGSYSTEM_ID, INVENTORY_ID FROM BDNA_ALL_OS WHERE
LEVEL2='Y' AND INVENTORY_ID IN (SELECT MAX(INVENTORY_ID) FROM BDNA_INVENTORY_INFO)
                     )RON  R.OPERATINGSYSTEM_ID=c.OPERATINGSYSTEM_ID
                      AND R.INVENTORY_ID=c.INVENTORY_ID
                     GROUP BY c.operatingsystem_id
                   )T
                ]]>
             </SQL>
```

```
         </Table>
  </Tables>
</configuration>
```

Example 2: Pass-through_A Configuration File

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration LoaderConfig="disc4_loader_config_201304" Disc_Source="DISCOVER">

   <Connection Type="ORACLE">
      <Property Name="Host" Value=""/>
      <Property Name="Service Name" Value=""/>
      <Property Name="User ID" Value=""/>
      <Property Name="Password" Value=""/>
      <Property Name="Port" Value="1521"/>
   </Connection>

   <Tables>
      <Table Type="AddRemove">
         <SQL>
            <![CDATA[
       “
”
            ]]>
         </SQL>

      </Table>
      <Table Type="Pass-through_A">


         <Fields>
            <Field Name="installdirectory" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" />
            <Field Name="isrunning" DataType="NVARCHAR(255)" Nullable="1" DefaultValue="" />
         </Fields>

      <SQL>
            <![CDATA[
               SELECT
                  BDNA_FP_APPS.OPERATINGSYSTEM_ID as ResourceID,
                  BDNA_TYPES.FULL_TYPE_NAME || '.' || REPLACE((CASE WHEN
BDNA_FP_APPS.APPLICATION_EDITION IS NOT NULL THEN BDNA_FP_APPS.APPLICATION_EDITION END),' ','_') as
ProdID,
                  CASE WHEN BDNA_FP_APPS.APPLICATION_EDITION IS NULL THEN BDNA_TYPES.TYPE_LABEL ELSE
BDNA_TYPES.TYPE_LABEL || ' ' || BDNA_FP_APPS.APPLICATION_EDITION END as DisplayName,
                  BDNA_FP_APPS.MANUFACTURER as Publisher,
                  BDNA_FP_APPS.APPLICATION_VERSION as Version,
                  null as InstallDate,
                  installdirectory as installdirectory,
                  isrunning as isrunning
               FROM BDNA_FP_APPS
               INNER JOIN BDNA_TYPES ON BDNA_TYPES.TYPE_ID=BDNA_FP_APPS.APPLICATION_TYPE
               INNER JOIN (
                  SELECT OPERATINGSYSTEM_ID, INVENTORY_ID FROM BDNA_ALL_OS WHERE LEVEL2='Y' AND
INVENTORY_ID IN (SELECT MAX(INVENTORY_ID) FROM BDNA_INVENTORY_INFO)
```

```
                    )R ON  R.OPERATINGSYSTEM_ID=BDNA_FP_APPS.OPERATINGSYSTEM_ID
                       AND R.INVENTORY_ID=BDNA_FP_APPS.INVENTORY_ID
                ]]>
              </SQL>

            </Table>
            “
        ”
              </Tables>
            </configuration>
```

B

Objects and Mapping Fields

This section provides reference tables for all available Objects and Mapping Fields that can be used for Data Mashup, Pass-Through, and Purchase Orders. The tables provide the following information:

- **TABLE_TYPE**—How the data is brought into the system, based on process type.
- **OBJECT_NAME**—The object to which you want to attach the data.
- **TABLE_NAME**—The short name for the physical table.
- **KEY_ITEM**—A list of available mapping fields for a specific object.
- **LIMIT_LIST**—Indicates a limitation. For example, some fields cannot be standalone—they must be associated with other fields.

Reference tables for Objects and Mapping Fields

The following tables show objects and mapping fields:

Purchase Order

Table B-4 • Purchase Order

Objects	Fields	Notes
TABLE_TYPE	PurchaseOrder	
OBJECT_NAME	PurchaseOrder	
TABLE_NAME	PO	

Table B-4 • Purchase Order (cont.)

Objects	Fields	Notes
KEY_ITEM	KEY	NOTES
	Mfr_Part_No	
	Manufacturer	
	PRODUCT_DESC	
	UNIT_OF_MEASURE	
	OTHER_INFO	
	Reseller	
	SKU_No	
	Quantity	Not a mapping field; only used as meta-data.
	Unit_Price	Not a mapping field; only used as meta-data.
	Total_Price	Not a mapping field; only used as meta-data.
	Start_Date	Not a mapping field; only used as meta-data.
LIMIT_LIST	LIST	NOTES
	SKU_No,Reseller	
	Mfr_Part_No,Manufacturer	
	Mfr_Part_No,PRODUCT_DESC	
	Mfr_Part_No,SKU_No,Reseller	
	PRODUCT_DESC	
	PRODUCT_DESC,Manufacturer	
	PRODUCT_DESC, UNIT_OF_MEASURE	
	PRODUCT_DESC, OTHER_INFO	

Machine

Table B-5 • Machine

Objects	Fields	Notes
TABLE_TYPE	Mashup, Pass-through	
OBJECT_NAME	Machine	
TABLE_NAME	MU_HOST	
KEY_ITEM	KEY	NOTES
	Hostname	
	Domain	Domain cannot be used as a single mapping key. It must be associated with Hostname
	Domain\\Hostname	Double backslash ("\\") is a required escape sequence in an XML file. The escape sequence is not necessary in a CSV file.
	IPAddress	
	MachineID	
	SerialNumber	
LIMIT_LIST	LIST	NOTES
	Hostname	
	Domain\\Hostname	
	IPAddress	
	MachineID	
	SerialNumber	
	Domain,Hostname	

User

Table B-6 • User

Objects	Fields	Notes
TABLE_TYPE	Mashup, Pass-through	
OBJECT_NAME	User	
TABLE_NAME	MU_USR	
KEY_ITEM	KEY	NOTES
	Domain	Domain cannot be used as a single mapping key. It must be associated with Username
	Domain\\Username	Double backslash ("\\") is a required escape sequence in an XML file. The escape sequence is not necessary in a CSV file.
	Username	
LIMIT_LIST	LIST	NOTES
	Domain\\Username	
	Username	
	Domain,Username	

Software

Table B-7 • Software

Objects	Fields	Notes
TABLE_TYPE	Mashup, Pass-through	
OBJECT_NAME	Software	
TABLE_NAME	MU_SW	

Table B-7 • Software (cont.)

Objects	Fields	Notes
KEY_ITEM	KEY	NOTES
	ReleaseID	
	ProductID	
	VersionID	
	VersionGroupID	
	EditionID	
LIMIT_LIST	LIST	NOTES
	ReleaseID	
	ProductID	
	VersionID	
	VersionGroupID	
	EditionID	

Hardware

Table B-8 • Hardware

Objects	Fields	Notes
TABLE_TYPE	Mashup, Pass-through	
OBJECT_NAME	Hardware	
TABLE_NAME	MU_HW	
KEY_ITEM	KEY	NOTES
	ProductID	
	ModelID	

Table B-8 • Hardware

Objects	Fields	Notes
LIMIT_LIST	LIST	NOTES
	ProductID	
	ModelID	

OS

Table B-9 • OS

Objects	Fields	Notes
TABLE_TYPE	Mashup, Pass-through	
OBJECT_NAME	OS	
TABLE_NAME	MU_OS	
KEY_ITEM	KEY	NOTES
	ReleaseID	
	ProductID	
	VersionID	
	VersionGroupID	
	EditionID	
LIMIT_LIST	LIST	NOTES
	ReleaseID	
	ProductID	
	VersionID	
	VersionGroupID	
	EditionID	

CPU

Table B-10 • CPU

Objects	Fields	Notes
TABLE_TYPE	Mashup, Pass-through	
OBJECT_NAME	CPU	
TABLE_NAME	MU_CPU	
KEY_ITEM	KEY	NOTES
	ModelID	
LIMIT_LIST	LIST	NOTES
	ModelID	

Manufacturer

Table B-11 • Manufacturer

Objects	Fields	Notes
TABLE_TYPE	Mashup, Pass-through	
OBJECT_NAME	Manufacturer	
TABLE_NAME	MU_MFR	
KEY_ITEM	KEY	NOTES
	ManufacturerID	
LIMIT_LIST	LIST	NOTES
	ManufacturerID	

***Note** • Other object has no definition—it is used to import any external data; no specific keys are required.The Manufacturer object is not used in the current version of BDNA Normalize*

C

Dissecting a Configuration File

Configuration File Dissection

This section provides a detailed explanation of the values required in the customizable sections of a configuration file. The sections shown here include:

- Header
- Fields
- SQL Query

For a detailed reference of Objects and Mapping Fields, see Appendix B.

Values are provided for the following:

- TABLE_TYPE
- OBJECT_NAME
- TABLE_NAME
- KEY_ITEM
- LIMIT_LIST

The customizable portions of the files include:

- Standard XML file entries
- Headers
- Fields (labeled as <fields>)
- Truncated (portions often indicated with empty quotes “ ”)

Header

A header defines the type of objects/tables to be imported into Normalize.

```
<Table Type="XXXXX" Dynamic_subtype="YYYYY" Name="ZZZZZ" Label="WWWWW">
…
</Table>
```

Where XXXXX is one of the following TABLE_TYPE:

- Values:
  - Mashup
  - Pass-through
  - Pass-through_A
  - PurchaseOrder

Where YYYYY is one of the following OBJECT_NAME:

- Values if XXXXX is “Mashup” or “Pass-through”:
  - Machine
  - User
  - Software
  - Hardware
  - OS
  - CPU
  - Manufacturer
  - Other
- Value if XXXXX is “PurchaseOrder”:
  - PurchaseOrder
- Value if XXXXX is “Pass-through_A”:

  Where ZZZZZ is one of the following TABLE_NAME:
- Value if YYYYY is “Machine”:
  - MU_HOST
- Value if YYYYY is “User”:
  - MU_USR
- Value if YYYYY is “Software”:
  - MU_SW
- Value if YYYYY is “Hardware”:
  - MU_HW

- Value if YYYYY is “OS”:
    - MU_OS
- Value if YYYYY is “CPU”:
    - MU_CPU
- Value if YYYYY is “Manufacturer”:
    - MU_MFR
- Value if YYYY is “Other”:
    - OTHER (Or any name limited to 14 characters.)
- Value if YYYYY is “PO”:
    - PO
- Value if XXXXX is “Pass-through_A”:

NOT AVAILABLE Where WWWWW is one of the following labels for a table:

- Values:
    - Free Text—30-character maximum.
- If Analyze is activated:
    - The Label will be used as a Dimension name for all objects except “Other”, “Manufacturer”, and “PurchaseOrder”.

Note • *If TABLE_NAME is “Other”, a dynamic view is created in the Publish database. This dynamic view inherits the name of the value defined in the LABEL field.*

Fields

This section describes each field to be imported into Normalize, and whether or not a field is used as a mapping field.

Note • *For Pass-Through_A you should not add a definition for the standard fields: +ResourceID, +ProdID, +DisplayName, +Publisher, +Version, +InstallDate*

```
<Fields>
    <Field Name="XXXXX" DataType="YYYYY" Nullable="Z" DefaultValue=""  Comment="" Key_Position="W"
FileColumnName="VVVVV" />
 </Fields>
```

Where XXXXX is the name of the KEY_ITEM.KEY:

- If W is “1”
    - Values if Dynamic_subtype is “Machine”:
        - Hostname

  - Domain
  - Domain\\Hostname
  - IPAddress
  - MachineID
  - SerialNumber
- Limitation:
  - “Domain,Hostname”

***Note •** You can only have one mapping field at a time, except for the one specified in the Limitation section. A limitation is the first field, which cannot be used without the second. In the example use case shown above, Domain cannot be used without Hostname.*

- Values if Dynamic_subtype is “User”:
  - Domain
  - Domain\\Username
  - Username
- Limitation:
  - “Domain,Username”
- Values if Dynamic_subtyp is “Software”:
  - ReleaseID
  - ProductID
  - VersionID
  - VersionGroupID
  - EditionID
- Values if Dynamic_subtype is “Hardware”:
  - ProductID
  - ModelID
- Values if Dynamic_subtype is “OS”:
  - ReleaseID
  - ProductID
  - VersionID
  - VersionGroupID
  - EditionID
- Value if Dynamic_subtype is “CPU”:

  - ModelID
- Value if Dynamic_subtype is “Manufacturer”:
  - ManufacturerID
- Value if Dynamic_subtype is “Other”:
  - NOT AVAILABLE
- Values if Dynamic_subtype is “PurchaseOrder”:
  - Mfr_Part_No
  - Manufacturer
  - PRODUCT_DESC
  - Unit_of_Measure
  - Other_Info
  - Reseller
  - SKU_No
  - Quantity
  - Unit_Price
  - Total_Price
  - Start_Date
- Limitation:
  - "SKU_No,Reseller"
  - "Mfr_Part_No,Manufacturer"
  - "Mfr_Part_No,PRODUCT_DESC"
  - "Mfr_Part_No,SKU_No,Reseller"
  - "PRODUCT_DESC"
  - "PRODUCT_DESC,Manufacturer"
  - "PRODUCT_DESC,Unit_of_Measure"
  - "PRODUCT_DESC,Other_Info"

Where YYYYY is the type of the physical column in Publish DB:

- Values:
  - NUMERIC
  - NVARCHAR(255)
  - DATETIME

Note • *For OBJECT_NAME (Machine, User, Software, Hardware, OS, CPU, Manufacturer), you must use the same data type (NUMERIC, NVARCHAR, DATETIME) for all columns—excluding the matching key.*

Where Z defines whether the field can be NULL or NOT:

- Values:
    - If 0 the field can be NULL
    - If 1 the field CANNOT be NULL

Where W defines whether the field is used as a matching key or not:

- Values:
    - If 0 the field is not used for Matching
    - If 1 the field is used for KEY_ITEMS.KEY

Where VVVVV is the name of the column returned by the SQL Query:

- Value:
    - Name of the column returned by the SQL Query

SQL Query

This is the SQL Query to be run against the data source that extracts the data and imports it into Normalize.

```
<SQL>
    <![CDATA[XXXXX]>
 </SQL>
```

Where XXXXX is the SQL Query run against the data source.

The query will return the same number of columns as the number of fields defined in the above Fields section except in Pass-through_A, where ProdID, DisplayName, Publisher, and Version are not defined in the Field section. Each column should return the same name as defined in FileColumnName.

D

ADDM Extractor Setup

This appendix provides step-by-step instructions on how to enable BDNA Normalize processing of data from a BMC Atrium Discovery and Dependency Mapping database (ADDM). In order for BDNA Normalize to process the ADDM data, you must first export it into an MS SQL database using the ADDM Exporter.

Using the ADDM Exporter

Task ***ADDM provides functionality to export native data to an RDBMS or CSV format. The following instructions show how to export ADDM data into either of these formats.***

1. In the ADDM console, navigate to `Administration > Export`
2. Create a new Mapping Set:
    a. Select the “Mapping Sets” tab.
    b. Create a new Mapping Set named “normalize-mapping-set”.

***Note** • Normalize requires a specific set of fields from ADDM. Several of those fields are not in the standard “extended-rdv-mapping-set”*

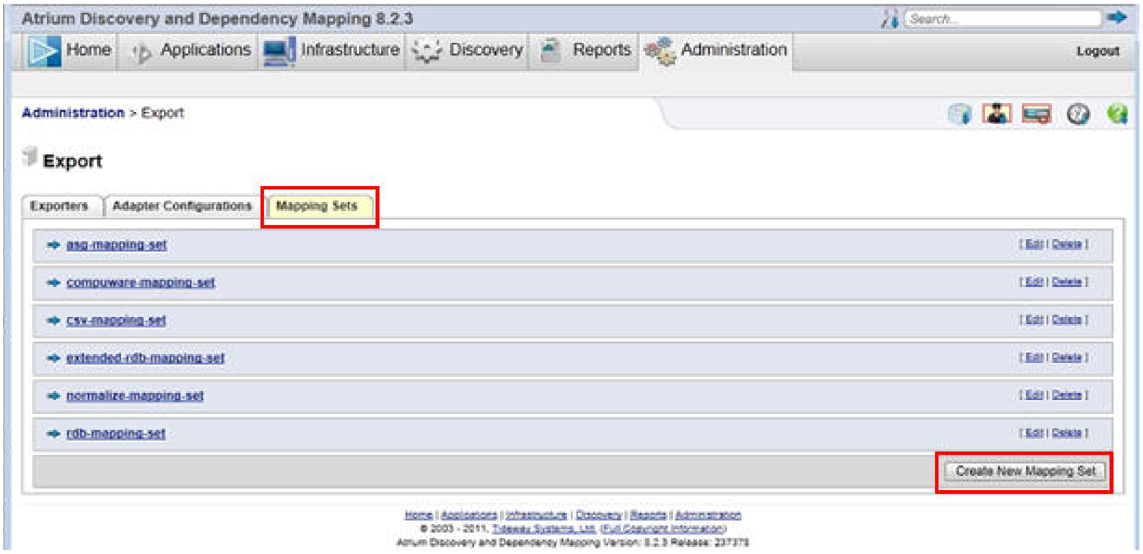
Table D-12 • Required fields

OBJECT_NAME	COLUMN_NAME	Used by Normalize	In Standard Mapping-Set
HOST_CI	DOMAIN	Yes	Yes
HOST_CI	HOST_HOSTNAME	Yes	Yes
HOST_CI	HOST_KEY	Yes	Yes
HOST_CI	HOST_KEY_HASH	Yes	Yes
HOST_CI	LAST_UPDATE_SUCCESS	Yes	Yes
HOST_CI	MODEL	Yes	Yes
HOST_CI	NUM_LOGICAL_PROCESSORS	Yes	Yes
HOST_CI	NUM_PROCESSORS	Yes	Yes
HOST_CI	OS	Yes	Yes
HOST_CI	OS_EDITION	Yes	Yes
HOST_CI	OS_VERSION	Yes	Yes
HOST_CI	PARTITION	Yes	No
HOST_CI	PROCESSOR_SPEED	Yes	Yes
HOST_CI	PROCESSOR_TYPE	Yes	Yes
HOST_CI	RAM	Yes	Yes
HOST_CI	SERIAL	Yes	Yes
HOST_CI	VENDOR	Yes	Yes
HOST_CI	VIRTUAL	Yes	No
PACKAGE_CI	PACKAGE_DESCRIPTION	Yes	No
PACKAGE_CI	PACKAGE_KEY_HASH	Yes	Yes
PACKAGE_CI	PACKAGE_NAME	Yes	Yes
PACKAGE_CI	PACKAGE_OS	Yes	Yes
PACKAGE_CI	PACKAGE_VERSION	Yes	Yes
PACKAGE_CI	VENDOR	Yes	No
PACKAGE_HOST_REL	HOST_KEY_HASH	Yes	Yes

Table D-12 • Required fields

OBJECT_NAME	COLUMN_NAME	Used by Normalize	In Standard Mapping-Set
PACKAGE_HOST_REL	PACKAGE_KEY_HASH	Yes	Yes
SI_CI	EDITION	Yes	Yes
SI_CI	PUBLISHERS	Yes	No
SI_CI	SI_KEY_HASH	Yes	Yes
SI_CI	SI_TYPE	Yes	Yes
SI_CI	SI_VERSION	Yes	Yes
SI_HOST_REL	HOST_KEY_HASH	Yes	Yes
SI_HOST_REL	SI_KEY_HASH	Yes	Yes

Figure D-108: Mapping Set tab


Atrium Discovery and Dependency Mapping 8.2.3
Search...
Home
Applications
Infrastructure
Discovery
Reports
Administration
Logout
Administration > Export
Export
Exporters
Adapter Configurations
Mapping Sets
asg-mapping-set
compuware-mapping-set
csv-mapping-set
extended-rdb-mapping-set
normalize-mapping-set
rdb-mapping-set
[Edit | Delete]
Create New Mapping Set

3. Import the following files into the new mapping set:
   - host.xml
   - si.xml
   - package.xml

Note • *The .xml files listed here are included with this .pdf file as Attachments. For those viewing the online help, the .xml files can be obtained from the .pdf version of the BDNA User Console User Guide.*

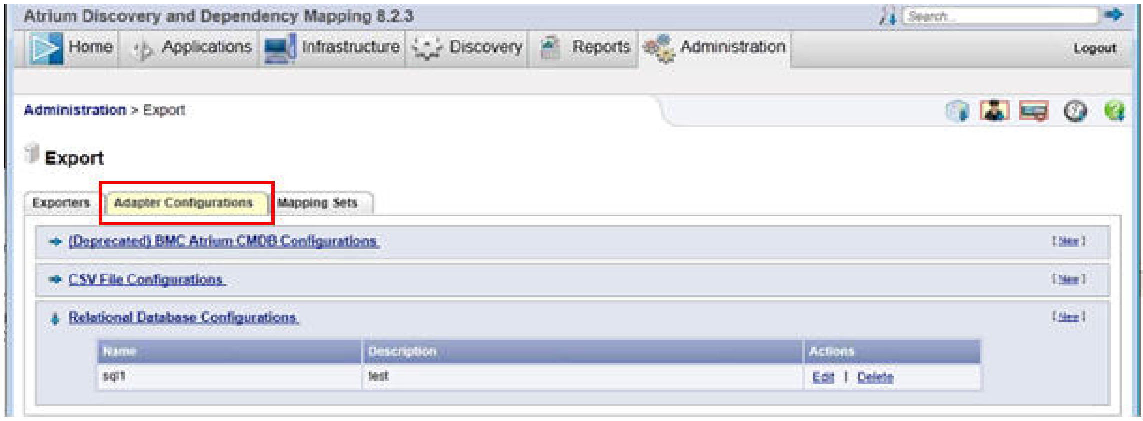
4. Create a new ADDM SQL Server database.
5. Execute the following script on the new SQL Server database:

- Normalize-ADDM-Exporter-(MSS).sql

Note • *The .sql file listed here is included with this .pdf file as an Attachment. For those viewing the online help, the .xml files can be obtained from the .pdf version of the BDNA User Console User Guide.*

6. Select the “Adapter Configurations” tab.

Figure D-109: Adapter Configurations tab


Atrium Discovery and Dependency Mapping 8.2.3
Search...
Home
Applications
Infrastructure
Discovery
Reports
Administration
Logout
Administration > Export
Export
Exporters
Adapter Configurations
Mapping Sets
(Deprecated) BMC Atrium CMDB Configurations
[New]
CSV File Configurations
[New]
Relational Database Configurations
[New]

Name	Description	Actions
sql1	test	Edit | Delete

7. Click Edit to edit the Adapter Configuration.

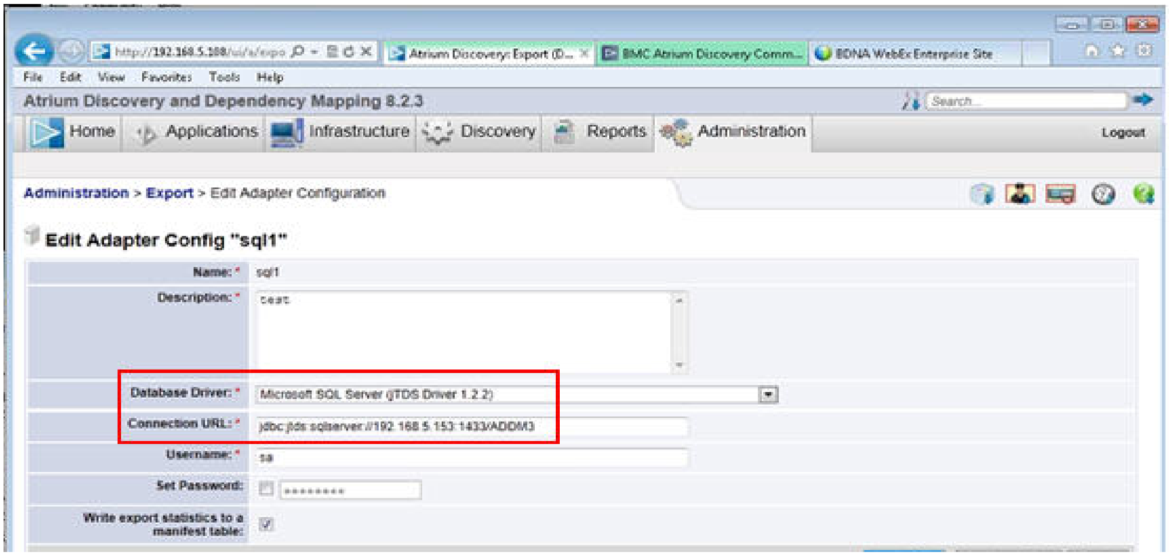
8. Select the Microsoft SQL Server (JTDS Driver) in the Database Driver drop-down.

   For more information about adding new drivers, click here: http://discovery.bmc.com/confluence/display/83/RDB+adapter+-+Adding+a+new+JDBC+driver

9. Enter a Connection URL using the required syntax. For example:

   jdbc:jtds:servertype://server[:port][/database][;property=value][;property=value]

Figure D-110: Editing the adapter configuration

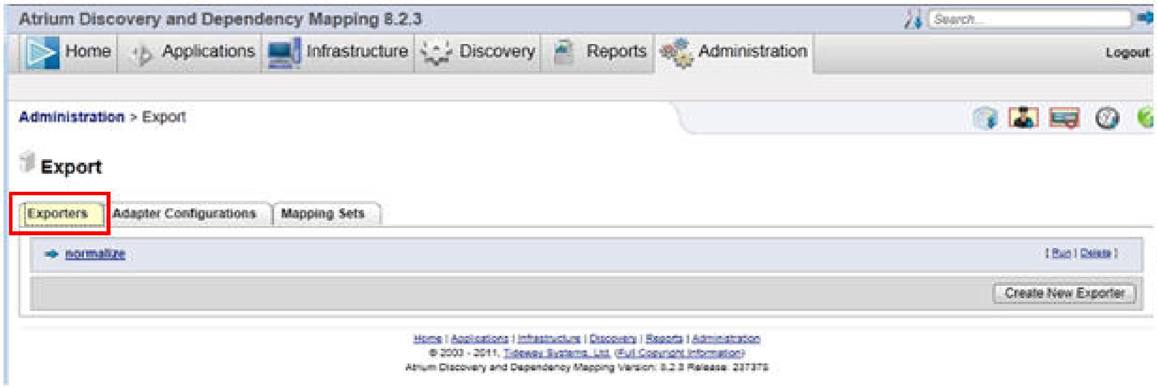

http://192.168.5.108/ui/a/expo
Atrium Discovery: Export (D...
BMC Atrium Discovery Comm...
BDNA WebEx Enterprise Site
File
Edit
View
Favorites
Tools
Help
Atrium Discovery and Dependency Mapping 8.2.3
Search...
Home
Applications
Infrastructure
Discovery
Reports
Administration
Logout
Administration > Export > Edit Adapter Configuration
Edit Adapter Config "sql1"

Name: *	sql1
Description: *	test
Database Driver: *	Microsoft SQL Server (jTDS Driver 1.2.2)
Connection URL: *	jdbc:jtds:sqlserver://192.168.5.153:1433/ADDM3
Username: *	sa
Set Password:	☐ ********
Write export statistics to a manifest table:	☑

10. Select the “Exporters” tab.

11. Create a new Exporter named “Normalize”.

Figure D-111: Exporters tab


Atrium Discovery and Dependency Mapping 8.2.3
Search...
Home
Applications
Infrastructure
Discovery
Reports
Administration
Logout
Administration > Export
Export
Exporters
Adapter Configurations
Mapping Sets
normalize
[Run | Delete]
Create New Exporter
Home | Applications | Infrastructure | Discovery | Reports | Administration
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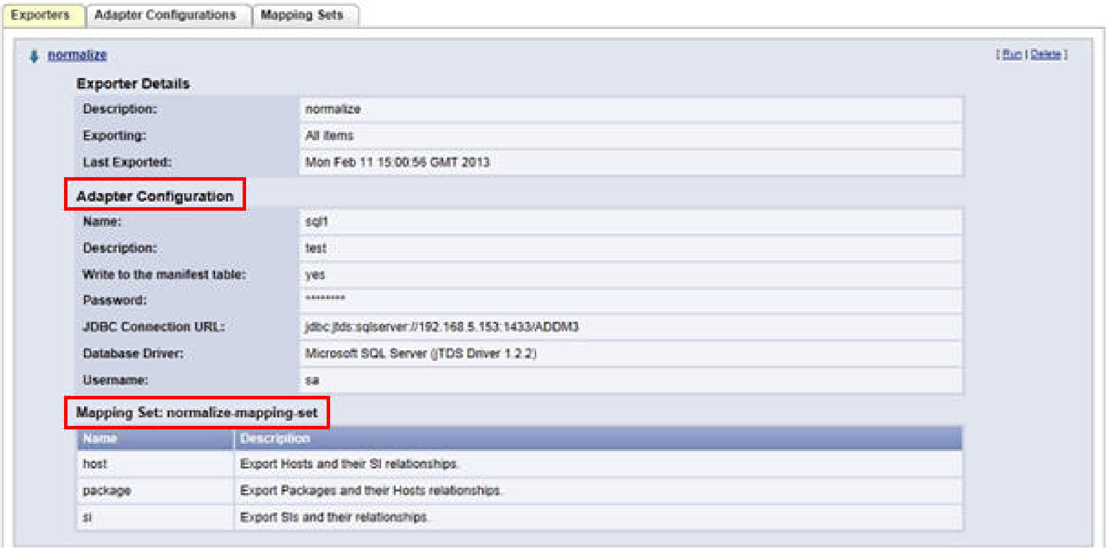
12. Select the new Adapter Configuration and the new “normalize-mapping-set”.

Figure D-112: Adapter Configuration and Mapping Set


Exporters
Adapter Configurations
Mapping Sets
normalize
[Run | Delete]

Exporter Details

Description:	normalize
Exporting:	All items
Last Exported:	Mon Feb 11 15:00:56 GMT 2013

Adapter Configuration

Name:	sql1
Description:	test
Write to the manifest table:	yes
Password:	********
JDBC Connection URL:	jdbc:jtds:sqlserver://192.168.5.153:1433/ADDM3
Database Driver:	Microsoft SQL Server (jTDS Driver 1.2.2)
Username:	sa

Mapping Set: normalize-mapping-set

Name	Description
host	Export Hosts and their SI relationships.
package	Export Packages and their Hosts relationships.
si	Export SIs and their relationships.

13. Run the Normalize Exporter.

Connecting the BDNA Normalize Extractor

Once the data has been exported, you can connect the BDNA Normalize Extractor to the new ADDM SQL Server database using the “addm.extractor(MSS).config” configuration file.

E

Converting a Custom 4.x Extractor Configuration

If you have been using a Normalize 4.x custom configuration file to extract data from any of the data sources listed in the table below, you will need to convert the format of the configuration file to conform to the BDNA Data Platform standard format.

Custom4.x Extractor Conversion

Data sources and configuration files that must be converted to Data Platform format:

Table E-13 •

Data Source	Configuration file
BMC ADDM	● addm.extractor (MSS).config ● addm.trial.extractor (MSS).config
HP DDMA	● hpddma.extractor (MSSQL).config ● hpddma.extractor (ORA).config ● hpddma.schema_name.extractor (ORA).config ● hpddma.schema_name.trial.extractor (ORA).config ● hpddma.trial.extractor (MSSQL).config ● hpddma.trial.extractor (ORA).config

Table E-13 •

Data Source	Configuration file
HP UD	● hpud.4.2.CFGM01M.extractor(ORA).config ● hpud.CFGM01M.extractor(ORA).config ● hpud.extractor(MSSQL).config ● hpud.extractor(ORA).config, hpud.schema_name.extractor(ORA).config ● hpud.schema_name.trial.extractor(ORA).config ● hpud.trial.extractor(MSSQL).config ● hpud.trial.extractor(ORA).config
ILMT	● ilmt.extractor (DB2).config ● ilmt.trial.extractor (DB2).config
MAP	● map.full.extractor.config ● map.light.extractor.config ● map.trial.extractor.config ● map8.extractor (MSS).config ● map8.trial.extractor (MSS).config
RADIA	● radia.extractor (MSSQL).config ● radia.trial.extractor (MSSQL).config
TAD4D	● tad4d.extractor (DB2).config
TAD4Z	● tad4d.trial.extractor (DB2).config ● tad4z.extractor (DB2).config ● tad4z.trial.extractor (DB2).config
TADDM	● taddm.extractor (DB2).config ● taddm.trial.extractor (DB2).config
TIVOLI	● tivoli.tcm.extractor(MSS).config ● tivoli.tcm.extractor(ORA).config ● tivoli.trial.tcm.extractor(MSS).config ● tivoli.trial.tcm.extractor(ORA).config)

Task ***To modify a 4.x custom configuration file:***

1. Change the loader config value to “**disc5_nonNumeric_loader_config_2015**”:

```
<?xml version="1.0" encoding="utf-8" ?>
```

```
<configuration LoaderConfig="disc5_nonNumeric_loader_config_2015" Disc_Source="TCM">
```

2. Search for <Table Type="GUID"> in extractor config and interchange column names for Resource ID and GUID.

   a. When GUID query is present in extractor config:

   Before change to file:

```
<Table Type="GUID">
          <SQL>
             <![CDATA[
                SELECT
                     ROW_NUMBER() OVER (ORDER BY HOST_NODE_1.CMDB_ID) as ResourceID,
                     TO_CHAR(rawtohex(HOST_NODE_1.CMDB_ID)) as GUID
                FROM HOST_NODE_1
             ]]>
          </SQL>
       </Table>
```

   After change to file:

```
<Table Type="GUID">
          <SQL>
             <![CDATA[
                SELECT
                 TO_CHAR(rawtohex(HOST_NODE_1.CMDB_ID)) as ResourceID,
                 ROW_NUMBER() OVER (ORDER BY HOST_NODE_1.CMDB_ID) as GUID
                FROM HOST_NODE_1
             ]]>
          </SQL>
       </Table>
```

   b. When GUID query is not present in extractor config, add GUID query to extractor config so that a unique string such as GUID is used as Resource ID, and Row Number sequence is used as GUID.

```
<Table Type="GUID">
          <SQL>
             <![CDATA[
                SELECT
                 TO_CHAR(rawtohex(HOST_NODE_1.CMDB_ID)) as ResourceID,
                 ROW_NUMBER() OVER (ORDER BY HOST_NODE_1.CMDB_ID) as GUID
                FROM HOST_NODE_1
             ]]>
          </SQL>
       </Table>
```

3. In all other extractor config queries:

   a. Modify the remaining queries in extractor config by utilizing the Resource ID expression from GUID query as ResourceID in other queries.

   b. Remove Row Number expression from all extractor queries except GUID query.

   In the example below, note the change in Resource ID column and removal of Row Number function.

   Before change to file:

```
<Table Type="System">
   <SQL>
          <![CDATA[
                 SELECT DISTINCT
                    comp.ResourceID as ResourceID,
                    null as AD_Site,
                    null as User_Domain,
                    null as User_Name,
                    COMPUTER_ALIAS as Name,
                    null as Domain,
                    1 as Active,
                    0 as Obsolete
                 FROM dbo.COMPUTER_VIEW main
                 INNER JOIN
                    (SELECT DISTINCT
                    row_number() over (order by COMPUTER_SYS_ID) as ResourceID,
                        COMPUTER_SYS_ID as GUID
                 FROM dbo.COMPUTER_VIEW) comp ON comp.GUID = main.COMPUTER_SYS_ID
              ]]>
       </SQL>
    </Table>
After change to file:
    <Table Type="System">
       <SQL>
          <![CDATA[
              SELECT DISTINCT
                 COMPUTER_SYS_ID as ResourceID,
                 null as AD_Site,
```

F

Integrating the HP Data Flow Probe Server

This appendix provides detailed information about integrating the Hewlett-Packard Universal Discovery (HPUD) agent-based discovery solution with the Normalize component of the BDNA Data Platform. The integration enables you to normalize the output of the HP Data Flow Probe Server using the data contained within the BDNA Technopedia catalog, rather than the HP Universal Discovery Software Application Library. The HP scan file output (.xsf) is processed by Normalize and stored in a file directory on the HP Probe Server. The file directory is “watched” by the HP Probe Server, which is configured to retrieve the .xsf file and send it to the HP UCMDB (Universal Content Management Database).

Typically, the BDNA Data Platform Server is installed directly on the same system as the HP Data Flow Probe Server.

BDNA Data Platform and HP Data Flow Probe Server 10.21 are required for this integration.

HP Data Flow Probe Server Integration

Typically, the BDNA Data Platform Server is installed directly on the same system as the HP Data Flow Probe Server.

BDNA Data Platform and HP Data Flow Probe Server 10.21 are required for this integration.

Hardware Specifications

BDNA Data Platform Supported Hardware shows the hardware specifications for the BDNA Data Platform. The Database Server specifications are especially relevant to integrating the HPUD solution, rather than the specifications for the Data Platform Server and the User Console Server. This happens because the application servers and the database server are located on the same system in the recommended configuration. For storage, you should estimate one megabyte per scan file of additional storage requirements.

It is essential to consider the CPU, storage, and memory requirements for BDNA Normalize, in addition to the existing CPU, storage, and memory requirements of the HP Data Flow Probe Server, as shown in HP Universal CMDB 10.21 Supported Hardware.

The Normalize specifications for sizing are also shown in BDNA Data Platform Supported Hardware. For an accurate comparison, you should replace BDNA “devices” with HP “scan files” (as shown in Additional Data Flow Probe Hardware Requirements), and use this as the suggested hardware requirement for the HP Probe Server with BDNA Normalize.

Table F-14 • BDNA Data Platform Supported Hardware

Environment	Data Platform Server	User Console Server	Database Server
Small (up to 2,000 devices)[a]	● CPU: Xeon ES-2630 or similar, 2 cores ● RAM: 4 GB ● Storage capacity: 20 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec	● CPU: Xeon ES-2630 or similar, 2 cores ● RAM: 8 GB ● Storage capacity: 20 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec	● CPU: Xeon ES-2630 or similar, 2 cores ● RAM: 16 GB ● Storage capacity: 50 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec
Medium (up to 50,000 devices)	● CPU: Xeon ES-2630 or similar, 4 cores ● RAM: 8 GB ● Storage capacity: 100 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec	● CPU: Xeon ES-2630 or similar, 4 cores ● RAM: 16 GB ● Storage capacity: 100 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec	● CPU: Xeon ES-2630 or similar, 4 cores ● RAM: 32 GB ● Storage capacity: 350 GB free space ● Network connection: Gigabit ● Disk I/O: 150 MB/sec
Large (up to 300,000 devices)	● CPU: Xeon ES-2630 or similar, 8 cores ● RAM: 16 GB ● Storage capacity: 200 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec	● CPU: Xeon ES-2630 or similar, 8 cores ● RAM: 32 GB ● Storage capacity: 200 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec	● CPU: Xeon ES-2630 or similar, 8 cores ● RAM: 64 GB ● Storage capacity: 1.5 TB free space ● Network connection: Gigabit ● Disk I/O: 250 MB/sec

[a] According to HP, a small deployment is less than 7000 assets, while BDNA characterizes a small deployment as less than 2000 assets. Note the disk discrepancy on the HP Probe Server hardware disk space for enterprise (75,000 assets) of 300 GB vs. BDNA’s 1.5 TB.

Table F-15 • HP Universal CMDB 10.21 Supported Hardware

Component	Requirement		
Computer/Processor	Windows/Linux: To fulfill the CPU requirements, you must have one of the following: ● Intel Dual Core Xeon Processor 2.4 GHz or later ● AMD Opteron Dual Core Processor 2.4 GHz or later Recommended: The latest generation of Intel/AMD processors are recommended. In addition to the above requirements, you must have the following number of CPU Cores, depending on your deployment configuration. CPU Cores:		
	Deployment	Minimum	Recommended
	Small	2 Cores	4 Cores
	Standard	4 Cores	8 Cores
	Enterprise	8 Cores	24 Cores
	Note: As HP Universal CMDB performance is dependent upon processor speed, to ensure proper HP Universal CMDB performance, it is recommended that you use the fastest possible processor speed.		
Memory	Deployment	Windows	
		Minimum	Recommended
	Small	4 GB RAM	8 GB RAM
	Standard	8 GB RAM	16 GB RAM
	Enterprise	16 GB RAM	32 GB RAM (for more than 40 million CIs and relationships)
Memory Swap File	Windows: The virtual memory for Windows should be at least 1.5 times the size of the physical memory. Linux: The Linux swap file size should be equal in size to the physical memory.		
Free hard disk space	● Small/Standard/Enterprise: At least 100 GB (for logs, memory dumps, and so on) ● If the search functionality is enabled, more hard disk space is required. For example, ● 4M CIs + relationships: 30G or more space would be needed for SOLR index files ● 20M CIs + relationships: Almost 50G space would be needed		
Display	Windows: Color palette setting of at least 256 colors (recommended: 32,000 colors)		

Table F-15 • HP Universal CMDB 10.21 Supported Hardware

Component	Requirement
Note: The hardware requirements for HP Universal CMDB Configuration Manager are the same as those for Universal CMDB.	

Table F-16 • Additional Data Flow Probe Hardware Requirements

<table>
<tr><th>Component</th><th colspan="3">Requirement</th></tr>
<tr><td rowspan="6">Computer/processor</td><td colspan="3">Recommended: The latest generation of Intel/AMD processors (Intel Xeon CPUs or compatible) and the fastest possible processor speed.
CPU Cores:</td></tr>
<tr><td>Deployment</td><td>Minimum</td><td>Recommended</td></tr>
<tr><td>Small</td><td>4 Cores</td><td>8 Cores</td></tr>
<tr><td>Standard</td><td>4 Cores</td><td>8 Cores</td></tr>
<tr><td>Enterprise</td><td>8 Cores</td><td>24 Cores</td></tr>
<tr><td colspan="3">Note: As HP Universal CMDB performance is dependent upon processor speed in order to ensure proper HP Universal CMDB performance it is recommended that you use the fastest possible processor speed.</td></tr>
<tr><td rowspan="5">Memory</td><td rowspan="2">Deployment</td><td colspan="2">Windows</td></tr>
<tr><td>Minimum</td><td>Recommended</td></tr>
<tr><td>Small</td><td>4 GB RAM</td><td>8 GB RAM</td></tr>
<tr><td>Standard</td><td>8 GB RAM</td><td>16 GB RAM</td></tr>
<tr><td>Enterprise</td><td>12 GB RAM</td><td>24 GB RAM</td></tr>
<tr><td>Memory Swap File</td><td colspan="3">Windows: The virtual memory for Windows should be at least 1.5 times the size of the physical memory.</td></tr>
<tr><td>Free hard disk space</td><td colspan="3">● Small/Standard: 100 GB (Note: 75 out of 100 GB disk space is required for scan files storage)
● Enterprise: 300 GB (Note: 225 out of 300 GB disk space is required for scan files storage)</td></tr>
<tr><td>Display</td><td colspan="3">Windows: Color palette setting of at least 256 colors (32,000 colors recommended)</td></tr>
</table>

Table F-16 • Additional Data Flow Probe Hardware Requirements

Component	Requirement
Note: ● A Small Deployment supports a biweekly scanner-based inventory of 7500 nodes or a daily discovery of 5000 nodes for application dependency mapping. Other combinations of scanner-based inventory nodes and application dependency mapping discovery nodes are also supported, according to the following formula: [The number of Inventory Discovery nodes] + 5 times [the number of application dependency mapping nodes] is less than or equal to 7500. ● A Standard Deployment supports a biweekly scanner-based inventory of 25,000 nodes or a daily discovery of 5000 nodes for application dependency mapping. Other combinations of scanner-based inventory nodes and application dependency mapping discovery nodes are also supported, according to the following formula: [The number of Inventory Discovery nodes] + 5 times [the number of application dependency mapping nodes] is less than or equal to 25,000. ● An Enterprise Deployment supports a biweekly scanner-based inventory of 75,000 nodes or a daily discovery of 10,000 nodes for application dependency mapping. Other combinations of scanner-based inventory nodes and application dependency mapping discovery nodes are also supported, according to the following formula: [The number of Inventory Discovery nodes] + 7.5 times [the number of application dependency mapping nodes] is less than or equal to 75,000. ○ For example, 15,000 inventory discovery nodes and 2000 application dependency mapping nodes, in a Standard deployment, would be supported. ● The XML Enricher must be configured to match the deployment mode of the probe. For details, see the “How to Configure XML Enricher to Suit the Probe Deployment Mode” section in the *HP Universal CMDB Data Flow Management Guide*.	

Software Specifications

BDNA Normalize does not support all of the operating systems supported by the HP Probe Server (i.e., Linux).

Table F-17 • BDNA Data Platform Supported Software

Operating Systems	Databases	Browsers
- Windows Server 2012 R2™ - Windows Server 2016 R2™	- MS SQL Server 2012™ (Standard Edition) - MS SQL Server 2014™ (Enterprise and Standard Editions) - MS SQL Server 2016™ (Enterprise and Standard Editions) - Oracle 11gR2 Enterprise Edition™ - Oracle 12c Enterprise Edition™	- Windows Internet Explorer™ v11 - Google Chrome™ v44 or later - Mozilla Firefox™ v37 or later

Table F-18 • HP Universal CMDB 10.21 Supported Operating Systems

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows Server 2012 R2	Datacenter and Standard, 64-bit	Yes	Yes
x86-64	Windows Server 2012	Datacenter and Standard, 64-bit	Yes	Yes
x86-64	Windows Server 2008	Enterprise SP2, R2, and R2 SP1 64-bit	Yes	
x86-64	Windows Server 2008	Standard R2 and R2 SP1, 64-bit	Yes	
x86-64	Red Hat Linux Server 5.x	Enterprise/Advanced 64-bit	Yes	
x86-64	Red Hat Enterprise Linux Server 6.2, 6.3, 6.4, and 6.5	64-bit	Yes	
x86-64	Oracle Enterprise Linux Server with Red Hat Compatible Kernel v6.3, v6.4, and v6.5	Enterprise/ Advanced64-bit	Yes	

Table F-18 • HP Universal CMDB 10.21 Supported Operating Systems

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Oracle Enterprise Linux Server with Unbreakable Enterprise Kernel v6.3, v6.4, and v6.5	Enterprise/ Advanced64-bit	Yes	
x86-64	Windows Server 2003		No	
x86	Windows Server 2008		No	
Any	SUSE Linux Server 9, 10, 11	Enterprise	No	
Sun SPARC	Solaris 8, 9, or 10		No	
Any	Red Hat Linux Server 3, 4	Enterprise	No	
Itanium 64	Windows Server 2008		No	
Itanium64	Red Hat Linux Server 5	Enterprise/Advanced	No	

Note • *Note the following regarding HP Universal:*

- *All operating systems supported for Universal CMDB are also supported for HP Universal CMDB Configuration Manager.*
- *Unsupported configurations are listed to ensure that there is no ambiguity on the scope of the Support Matrix.*
- *To start the HP Universal CMDB Configuration Manager installer on Windows 2012, you must use one of the following methods:*
  - *Open a command prompt window and run the command HP_CM.10.20.exe –i GUI.*
  - *Right-click the installer and select Properties. Open the Compatibility tab and select Run this program in compatibility mode for Windows 7.*
- *Windows Server 2003 is no longer supported as of UCMDB 10.01.*
- *Installation of HP Universal CMDB is not supported on 32-bit machines.*

Note • *Note: HP Probe Server supports Linux OS. Normalize does not.*

HP UCMDB 10.20 Release Note

The following excerpt is from the HP UCMDB 10.20 Release Note: “Make sure that the server running the Data Flow Probe meets the combined set of hardware requirements for both the Data Flow Probe and BDNA Normalize. For more detailed information about the Data Flow Probe hardware requirements, see the *HP Universal CMDB Support Matrix* document. For details about the BDNA Normalize hardware requirements, refer to the BDNA Normalize documentation.”

HP What’s New Announcement

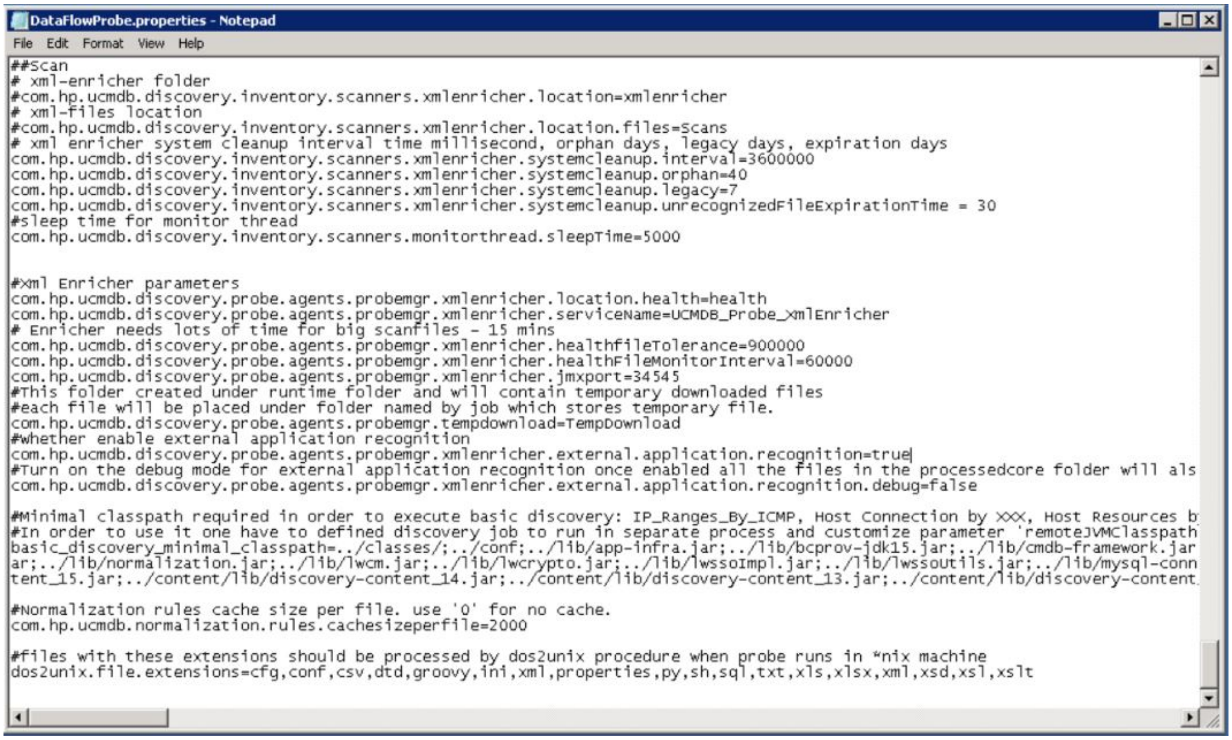
The following excerpt is from the HP “What’s New” announcement with version 10.20: “You may want to consider the extra hardware requirements if you plan to install BDNA Normalize on the same machine as the HP Probe. For more detailed information, refer to the BDNA Normalize documentation.”

HP Data Flow Probe Server Configuration

Prior to installing the BDNA Normalize server, the HP Data Flow Probe Server must be configured to bypass its default XML Enricher and to use Normalize instead in order to normalize and/or enrich the .xsf scan files (DataFlowProbe.properties). The HP Data Flow Probe Server 10.20 is a prerequisite. To do this you need to edit the DataFlowProbe.properties file and set the value for ***com.hp.ucmdb.discovery.probe.agents.probemgr.xmlenricher.external.application.recognition=true***.

This information is detailed in the HP document, *Data Flow Management Guide*, which is available on the HP support portal. For your convenience, they are available in the section included in this document.

Figure F-113: Data FlowProbe.Properties


DataFlowProbe.properties - Notepad
File Edit Format View Help

```
##Scan
# xml-enricher folder
#com.hp.ucmdb.discovery.inventory.scanners.xmlenricher.location=xmlenricher
# xml-files location
#com.hp.ucmdb.discovery.inventory.scanners.xmlenricher.location.files=Scans
# xml enricher system cleanup interval time millisecond, orphan days, legacy days, expiration days
com.hp.ucmdb.discovery.inventory.scanners.xmlenricher.systemcleanup.interval=3600000
com.hp.ucmdb.discovery.inventory.scanners.xmlenricher.systemcleanup.orphan=40
com.hp.ucmdb.discovery.inventory.scanners.xmlenricher.systemcleanup.legacy=7
com.hp.ucmdb.discovery.inventory.scanners.xmlenricher.systemcleanup.unrecognizedFileExpirationTime = 30
#sleep time for monitor thread
com.hp.ucmdb.discovery.inventory.scanners.monitorthread.sleepTime=5000


#Xml Enricher parameters
com.hp.ucmdb.discovery.probe.agents.probemgr.xmlenricher.location.health=health
com.hp.ucmdb.discovery.probe.agents.probemgr.xmlenricher.serviceName=UCMDB_Probe_XmlEnricher
# Enricher needs lots of time for big scanfiles - 15 mins
com.hp.ucmdb.discovery.probe.agents.probemgr.xmlenricher.healthfileTolerance=900000
com.hp.ucmdb.discovery.probe.agents.probemgr.xmlenricher.healthFileMonitorInterval=60000
com.hp.ucmdb.discovery.probe.agents.probemgr.xmlenricher.jmxport=34545
#This folder created under runtime folder and will contain temporary downloaded files
#each file will be placed under folder named by job which stores temporary file.
com.hp.ucmdb.discovery.probe.agents.probemgr.tempdownload=TempDownload
#whether enable external application recognition
com.hp.ucmdb.discovery.probe.agents.probemgr.xmlenricher.external.application.recognition=true
#Turn on the debug mode for external application recognition once enabled all the files in the processedcore folder will als
com.hp.ucmdb.discovery.probe.agents.probemgr.xmlenricher.external.application.recognition.debug=false

#Minimal classpath required in order to execute basic discovery: IP_Ranges_By_ICMP, Host Connection by XXX, Host Resources b
#In order to use it one have to defined discovery job to run in separate process and customize parameter 'remoteJVMClasspath
basic_discovery_minimal_classpath=../classes/;../conf;../lib/app-infra.jar;../lib/bcprov-jdk15.jar;../lib/cmdb-framework.jar
ar;../lib/normalization.jar;../lib/lwcm.jar;../lib/lwcrypto.jar;../lib/lwssoImpl.jar;../lib/lwssoUtils.jar;../lib/mysql-conn
tent_15.jar;../content/lib/discovery-content_14.jar;../content/lib/discovery-content_13.jar;../content/lib/discovery-content

#Normalization rules cache size per file. use '0' for no cache.
com.hp.ucmdb.normalization.rules.cachesizeperfile=2000

#files with these extensions should be processed by dos2unix procedure when probe runs in *nix machine
dos2unix.file.extensions=cfg,conf,csv,dtd,groovy,ini,xml,properties,py,sh,sql,txt,xls,xlsx,xml,xsd,xsl,xslt
```

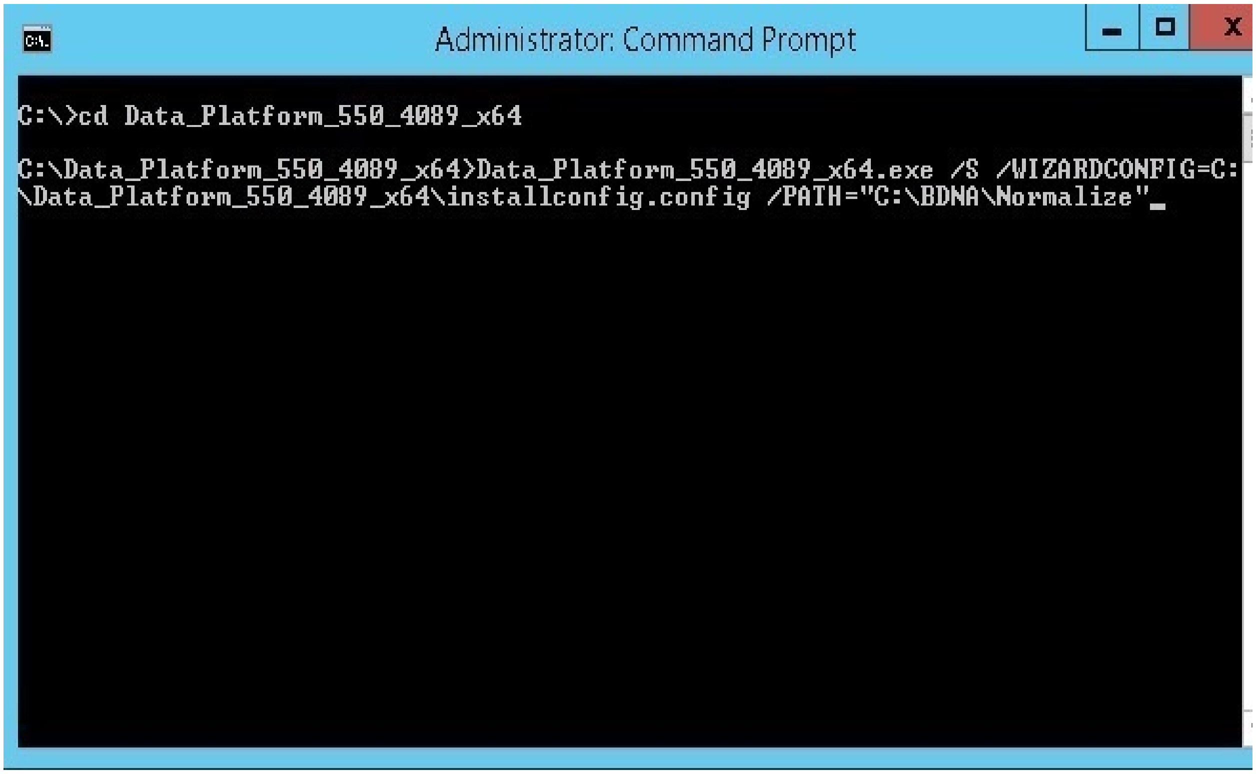
Using the Normalize Silent Installer

You can use the silent installer available in Normalize to install Normalize on the HP Data Flow Probe Server. The silent install is detailed in the *Normalize_CLI_API_Reference_Guide*, which is available on the BDNA Support Portal. This document details the various switches available during installation, such as overriding the default installation directory (i.e., `/PATH=”D:\BDNA\Normalize`”).

When you run the silent installer, you can include a configuration file to create the database and load the catalog in BDNA Normalize.

In the directory you downloaded the BDNA Normalize installer issue this command from a Windows command line prompt (ensure you are running the command line prompt as Administrator).

```
Data_Platform_550_4089_x64.exe /S /
WIZARDCONFIG=”E:\Path\to\installc
```



```
C:\>cd Data_Platform_550_4089_x64

C:\Data_Platform_550_4089_x64>Data_Platform_550_4089_x64.exe /S /WIZARDCONFIG=C:
\Data_Platform_550_4089_x64\installconfig.config /PATH="C:\BDNA\Normalize"_
```

If you do not specify a /TYPE argument, the installation default is IIS Express and SQLServer Express. The installer will attempt to install those prerequisites.

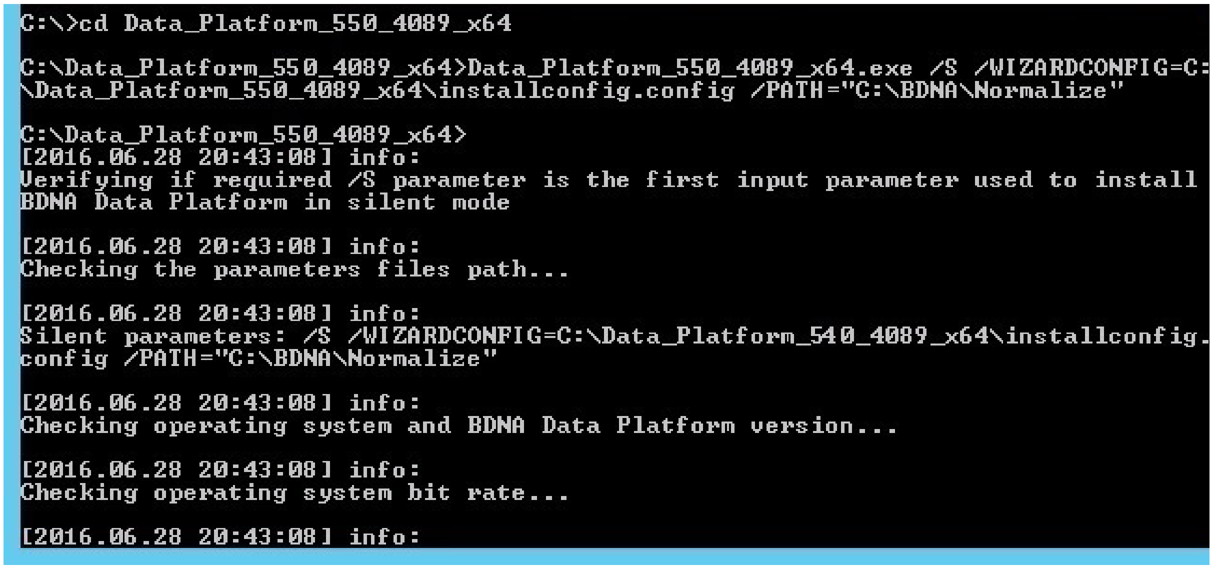
The download of SQLServer Express may fail due to a corporate firewall blocking the download. If this is the case, you can manually copy the prerequisites to the server, then specify an offline location for the SQLServer Express installer. To do this, specify a command line argument to the silent installer that you can then run manually. When you rerun the silent installer, it will verify that those prerequisites are present. An example of the command follows:

```
SQLEXPR2014_x64_ENU.exe /ACTION=Install /FEATURES=SQLEngine /InstanceName=BDNANORMALIZE50 /Q /
HIDECONSOLE /IAcceptSQLServerLicenseTerms /INSTALLSQLDATADIR="C:\Program Files\Microsoft SQL Server" /
TCPENABLED=1 /NPENABLED=1 /BROWSERSVCSTARTUPTYPE=Automatic /SQLSVCACCOUNT="NT AUTHORITY\SYSTEM"
```

A proxy may also time out while waiting for the silent installer to download the initial 1 GB catalog file. If this is the case, you must copy the catalog to the server and specify that the silent installer should use that location with the following / PKGPATH switch:

```
/PKGPATH=”E:\Path\to\Catalog.zip”
```

After the prerequisites are downloaded and installed, the BDNA Normalize software is installed and the 1GB initial catalog file is loaded. The BDNA Normalize install process is completed.



```
C:\>cd Data_Platform_550_4089_x64

C:\Data_Platform_550_4089_x64>Data_Platform_550_4089_x64.exe /S /WIZARDCONFIG=C:
\Data_Platform_550_4089_x64\installconfig.config /PATH="C:\BDNA\Normalize"

C:\Data_Platform_550_4089_x64>
[2016.06.28 20:43:08] info:
Verifying if required /S parameter is the first input parameter used to install
BDNA Data Platform in silent mode

[2016.06.28 20:43:08] info:
Checking the parameters files path...

[2016.06.28 20:43:08] info:
Silent parameters: /S /WIZARDCONFIG=C:\Data_Platform_540_4089_x64\installconfig.
config /PATH="C:\BDNA\Normalize"

[2016.06.28 20:43:08] info:
Checking operating system and BDNA Data Platform version...

[2016.06.28 20:43:08] info:
Checking operating system bit rate...

[2016.06.28 20:43:08] info:
```

In the sample installation configuration file provided in Example of a BDNA Normalize installconfig.config File, you will need to update the company name and activation key with the company name and the BDNA Normalize key provided by BDNA Support.

<CompanyName>PUT_YOUR_COMPANY_NAME_HERE</CompanyName>

<ActivationKey>PUT_YOUR_NORMALIZE_KEY_HERE</ActivationKey>

Running a Normalize Process

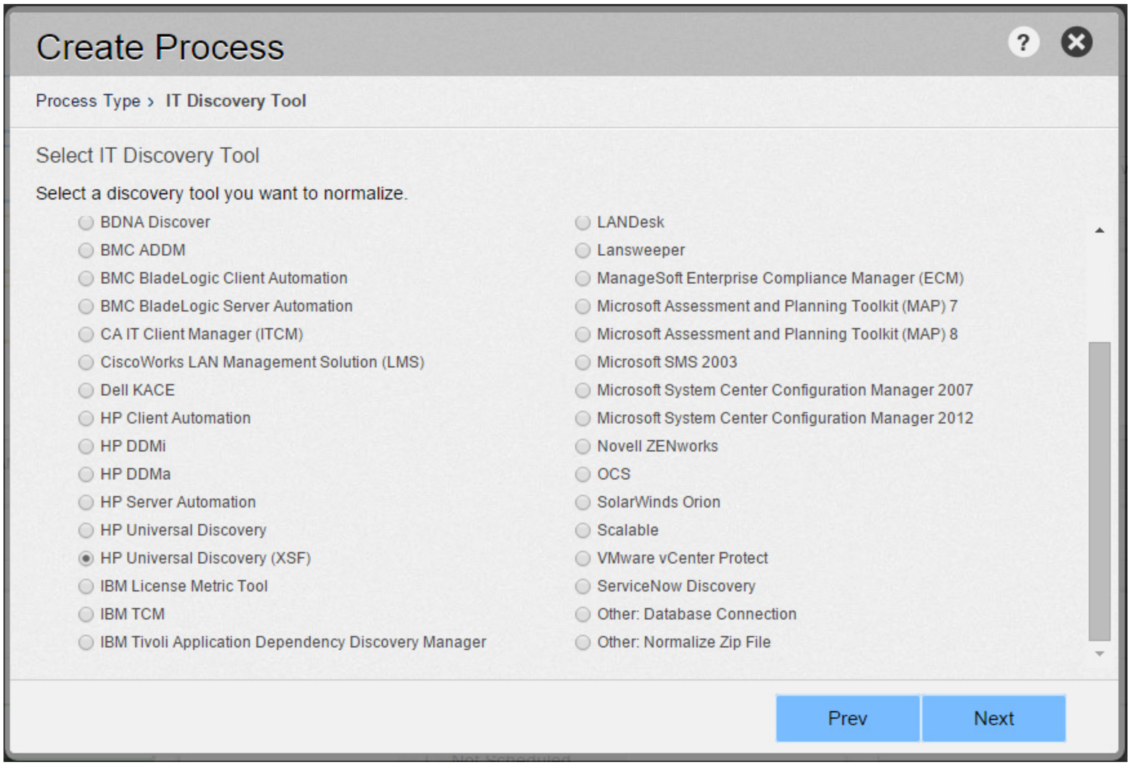
When the Normalize installation is finished, the HP Data Flow Probe server is configured to bypass the HP SAI enrichment process and use the BDNA Normalize enrichment process in order to scan the output file using the BDNA Technopedia Catalog. However, the HP Data Flow Probe Server is not set up to store the scan files indefinitely, so it is important to schedule a Normalize process to run every 1-2 hours on the HP Data Flow Probe Server. As detailed in the HP documentation below, there is a specific folder on the probe server in which the Normalize job should be configured in order to retrieve scan files. It will also require a specific folder location in which to move new scan files.

Unlike Normalize jobs that pull from a database, you must use the Normalize Administration Console to create a Normalize process that uses HP scan files (xsf).

Task ***To run an HP Universal Discovery (.XSF) process in BDNA Normalize:***

1. Create an HP Universal Discovery Process. (Refer to the *BDNA Normalize Administrator Guide* for detailed instructions on creating and running a Normalize process.)

Figure F-114: Creating an HP Universal Discovery (.xsf) Process in BDNA Normalize



Create Process

Process Type › IT Discovery Tool

Select IT Discovery Tool

Select a discovery tool you want to normalize.

○ BDNA Discover
○ BMC ADDM
○ BMC BladeLogic Client Automation
○ BMC BladeLogic Server Automation
○ CA IT Client Manager (ITCM)
○ CiscoWorks LAN Management Solution (LMS)
○ Dell KACE
○ HP Client Automation
○ HP DDMi
○ HP DDMa
○ HP Server Automation
○ HP Universal Discovery
● HP Universal Discovery (XSF)
○ IBM License Metric Tool
○ IBM TCM
○ IBM Tivoli Application Dependency Discovery Manager
○ LANDesk
○ Lansweeper
○ ManageSoft Enterprise Compliance Manager (ECM)
○ Microsoft Assessment and Planning Toolkit (MAP) 7
○ Microsoft Assessment and Planning Toolkit (MAP) 8
○ Microsoft SMS 2003
○ Microsoft System Center Configuration Manager 2007
○ Microsoft System Center Configuration Manager 2012
○ Novell ZENworks
○ OCS
○ SolarWinds Orion
○ Scalable
○ VMware vCenter Protect
○ ServiceNow Discovery
○ Other: Database Connection
○ Other: Normalize Zip File

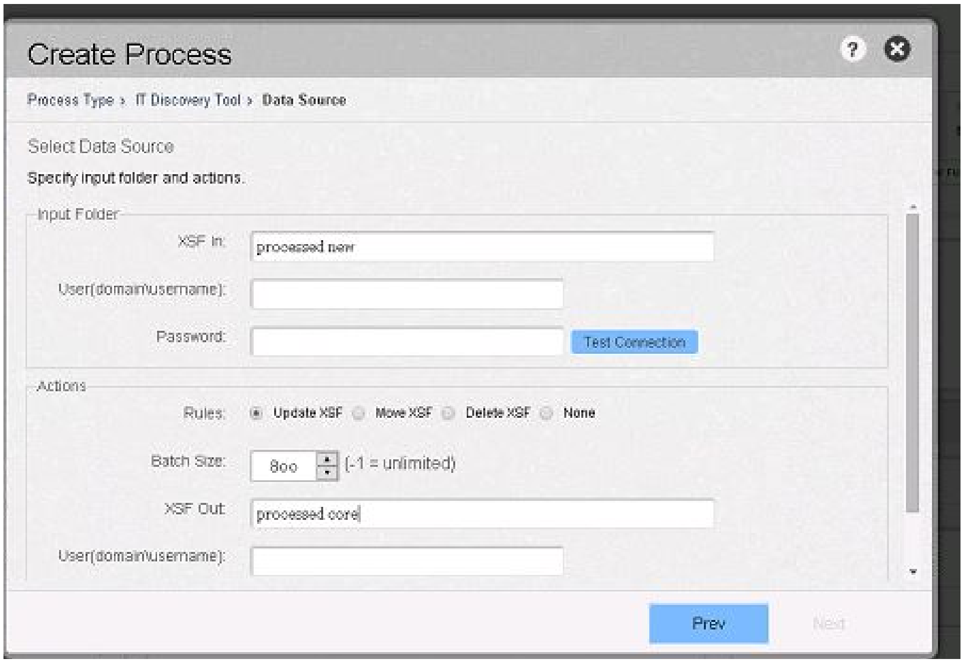
2. Specify the Input Folder in which to parse and update the .xsf file with normalized data. Also include the folder in which you wish to move the updated scan files so they are sent to the UCMDB. Enter the following settings:

Input Folder:

<DataFlowProbeInstallDir>`\runtime\xmlenricher\Scans\ProcessedNew` directory
XSF Out:
<DataFlowProbeInstallDir>`\runtime\xmlenricher\Scans\ProcessedCore` directory

3. A batch size of 800 is recommended.

Figure F-115: Data Source and Output Specifications


Create Process
?
Process Type › IT Discovery Tool › Data Source

Select Data Source

Specify input folder and actions.

Input Folder

XSF In: processed new

User(domain\username):

Password:

Test Connection

Actions

Rules: ● Update XSF ○ Move XSF ○ Delete XSF ○ None

Batch Size: 800 (-1 = unlimited)

XSF Out: processed core

User(domain\username):

Prev
Next

Details regarding the changes BDNA Normalize makes to the scan files can be found in the section, Understanding Scan Files

Example of a BDNA Normalize installconfig.config File

```
<?xml version="1.0" encoding="utf-8"?>
<Configuration>
   <CMDList>
    <CommandLine>
      <ErrorContinue>true</ErrorContinue>
      <CMDName> <![CDATA[${BMS_HOME}\Bin\NormalizeCMD.exe]]> </CMDName>
      <Para><![CDATA[-DEACTIVATENORMALIZECONSOLE]]> </Para>
    </CommandLine>
    <CommandLine>
      <ErrorContinue>false</ErrorContinue>
      <CMDName> <![CDATA[${BMS_HOME}\Bin\NormalizeCMD.exe]]> </CMDName>
      <Para><![CDATA[-SCHEDULEPROCESS /PROCESS_ID=1 /JSON="${BMS_HOME}\HPConf\Default_SCHSync.json"]]>
</Para>
    </CommandLine>
    <CommandLine>
      <API>ReplaceHPPara</API>
      <ErrorContinue>false</ErrorContinue>
      <CMDName> <![CDATA[${BMS_HOME}\Bin\NormalizeCMD.exe]]> </CMDName>
      <Para><![CDATA[-CREATEPROCESS /PROCESS_TYPE=NORMALIZE /
JSON="${BMS_HOME}\HPConf\Default_XSFProcess.json"]]> </Para>
    </CommandLine>
    <CommandLine>
      <ErrorContinue>false</ErrorContinue>
      <CMDName> <![CDATA[${BMS_HOME}\Bin\NormalizeCMD.exe]]> </CMDName>
      <Para><![CDATA[-SCHEDULEPROCESS /PROCESS_ID=10000 /JSON="${BMS_HOME}\HPConf\Default_SCH.json"]]>
</Para>
    </CommandLine>
```

```
  <CommandLine>
    <ErrorContinue>false</ErrorContinue>
    <CMDName> <![CDATA[${BMS_HOME}\Bin\NormalizeCMD.exe]]> </CMDName>
    <Para><![CDATA[-runprocess /PROCESS_ID=10000]]> </Para>
  </CommandLine>
</CMDList>
<StartMenu>true</StartMenu>
<OverwriteExistingDatabase>true</OverwriteExistingDatabase>
<CompanyName></CompanyName>
<ActivationKey></ActivationKey>
<TUSOffLineURL>http://tus50.bdna.com/GetOffLineUpdatedFile.aspx</TUSOffLineURL>
<NormalizeVersion>5.5.0</NormalizeVersion>
<InstallParameters>
  <SerializableDictionary>
    <key>
      <string>Configuration/Normalize/NDB_DBConnection@type</string>
    </key>
    <value>
      <string>DBConnectionSQLServer</string>
    </value>
  </SerializableDictionary>
  <SerializableDictionary>
    <key>
      <string>Configuration/Normalize/PDB_DBConnection@type</string>
    </key>
    <value>
      <string>DBConnectionSQLServer</string>
    </value>
  </SerializableDictionary>
  <SerializableDictionary>
    <key>
      <string>Configuration/Normalize/NDBDBA_DBConnection@type</string>
    </key>
    <value>
      <string>DBConnectionSQLServer</string>
    </value>
  </SerializableDictionary>
  <SerializableDictionary>
    <key>
      <string>Configuration/Normalize/NDB_DBConnection</string>
    </key>
    <value>
      <string>
        <![CDATA[
    <ConnectionType>MsSqlServer</ConnectionType>
    <Host>.\BDNANORMALIZE50</Host>
    <User>BDNA</User>
    <Password />
    <Pooling>false</Pooling>
    <MinPoolSize>0</MinPoolSize>
    <MaxPoolSize>100</MaxPoolSize>
    <ConnectionLifetime>30</ConnectionLifetime>
    <Catalog>BDNA</Catalog>
    <WindowsAuthentication>true</WindowsAuthentication>
    <UseCurrentUser>true</UseCurrentUser>
    <ConnectAsUser />
```

```
        <ConnectAsPassword />
            ]]>
          </string>
        </value>
      </SerializableDictionary>
      <SerializableDictionary>
        <key>
          <string>Configuration/Normalize/PDB_DBConnection</string>
        </key>
        <value>
          <string>
            <![CDATA[
        <ConnectionType>MsSqlServer</ConnectionType>
        <Host>.\BDNANORMALIZE50</Host>
        <User>BDNA_PUBLISH</User>
        <Password />
        <Pooling>false</Pooling>
        <MinPoolSize>0</MinPoolSize>
        <MaxPoolSize>100</MaxPoolSize>
        <ConnectionLifetime>30</ConnectionLifetime>
        <Catalog>BDNA_PUBLISH</Catalog>
        <WindowsAuthentication>true</WindowsAuthentication>
        <UseCurrentUser>true</UseCurrentUser>
        <ConnectAsUser />
        <ConnectAsPassword />
            ]]>
          </string>
        </value>
      </SerializableDictionary>
      <SerializableDictionary>
        <key>
          <string>Configuration/Normalize/NDBDBA_DBConnection</string>
        </key>
        <value>
          <string>
            <![CDATA[
        <ConnectionType>MsSqlServer</ConnectionType>
        <Host>.\BDNANORMALIZE50</Host>
        <User />
        <Password />
        <Pooling>false</Pooling>
        <MinPoolSize>0</MinPoolSize>
        <MaxPoolSize>100</MaxPoolSize>
        <ConnectionLifetime>30</ConnectionLifetime>
        <Catalog>master</Catalog>
        <WindowsAuthentication>true</WindowsAuthentication>
        <UseCurrentUser>true</UseCurrentUser>
        <ConnectAsUser />
        <ConnectAsPassword />
            ]]>
          </string>
        </value>
      </SerializableDictionary>
      <SerializableDictionary>
        <key>
          <string>Configuration/WebServer</string>
```

```
  </key>
  <value>
   <string>
    <![CDATA[
    <IISWEBSITE>Default Web Site</IISWEBSITE>
    <PhysicalPath />
    <TAPIAlisaName>bdna-api</TAPIAlisaName>
     <TAPIAppPoolName>bdna-api</TAPIAppPoolName>
     <AliasName>bdna-admin</AliasName>
     <AppPoolName>bdna-admin</AppPoolName>
     <IISType>IISEXPRESS</IISType>
     <IsNativeIIS>false</IsNativeIIS>
     <IISPort>8080</IISPort>
     <State>NULL</State>
    ]]>
   </string>
  </value>
 </SerializableDictionary>
<SerializableDictionary>
    <key>
      <string>Configuration/LDAP</string>
    </key>
    <value>
      <string>
        <![CDATA[
 <ValueDict>
  <key>
   <string>UserName</string>
  </key>
  <value>
   <string>DOMAIN\USERNAME</string>
  </value>
  <key>
   <string>Password</string>
  </key>
  <value>
   <string>ENTER_ENCRYPTED_PASSWORD_HERE</string>
  </value>
  <key>
   <string>URL</string>
  </key>
  <value>
   <string>LDAP/AD_SERVER:PORT</string>
  </value>
  <key>
   <string>UserSearchFilter</string>
  </key>
  <value>
   <string>(&amp;(objectClass=Person))</string>
  </value>
  <key>
   <string>UserSearchBase</string>
  </key>
  <value>
   <string>ou=OU_NAME,dc=DOMAIN_NAME,dc=DOMAIN_SUFFIX</string>
  </value>
```

```
<key>
  <string>UserAttribute</string>
</key>
<value>
  <string>sAMAccountName</string>
</value>
<key>
  <string>ManagerDN</string>
</key>
<value>
  <string>cn=USER_NAME,ou=OU_NAME,dc=DOMAIN_NAME,dc=DOMAIN_SUFFIX</string>
</value>
<key>
  <string>Type</string>
</key>
<value>
  <string>ActiveDirectory</string>
</value>
<key>
  <string>GroupSearchFilter</string>
</key>
<value>
  <string>(member={0})</string>
</value>
<key>
  <string>AuthoritiesSearchBase</string>
</key>
<value>
  <string>ou=OU_NAME,dc=DOMAIN_NAME,dc=DOMAIN_SUFFIX</string>
</value>
<key>
  <string>GroupSearchBase</string>
</key>
<value>
  <string>ou=OU_NAME,dc=DOMAIN_NAME,dc=DOMAIN_SUFFIX</string>
</value>
<key>
  <string>AuthoritiesSearchFilter</string>
</key>
<value>
  <string>(&amp;(objectClass=group))</string>
</value>
<key>
  <string>AuthoritiesRoleAtrribute</string>
</key>
<value>
  <string>cn</string>
</value>
<key>
  <string>GroupRoleAtrribute</string>
</key>
<value>
  <string>cn</string>
</value>
<key>
  <string>GroupIsSubtree</string>
```

```
      </key>
      <value>
        <string>True</string>
      </value>
     <key>
        <string>GroupTestUser</string>
      </key>
      <value>
        <string>Test_User_Name</string>
      </value>
    </ValueDict>
     <UserAuthentication>WA</UserAuthentication>
   ]]>
             </string>
          </value>
       </SerializableDictionary>
        <SerializableDictionary>
            <key>
                <string>Configuration/AUTO_UPDATE_SOFTWARE</string>
            </key>
            <value>
                <string>OFF</string>
            </value>
        </SerializableDictionary>
  </InstallParameters>
</Configuration>
```

Relevant Contents of the HP Data Flow Management Guide

You can learn more by consulting the *HP Data Flow Management Guide*, which contains material that is relevant to the BDNA Normalize integration.

Understanding Scan Files

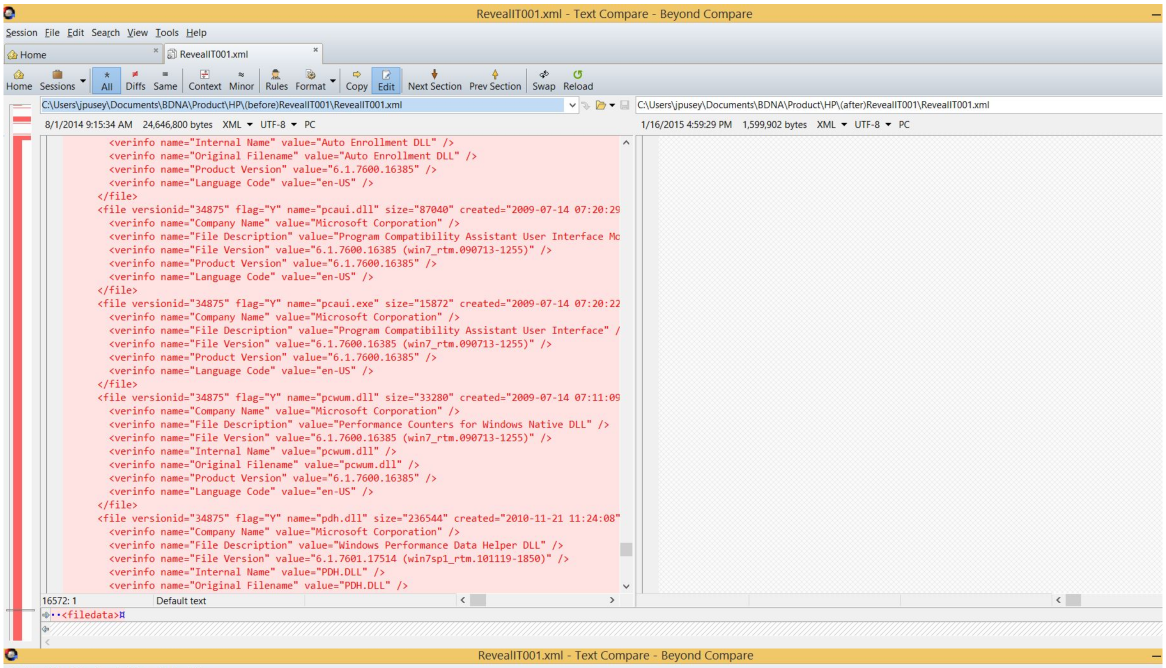
A scan file (referred to as an .xsf file) is a compressed format (i.e., gzip) of an xml file that an HP Universal Discovery agent generates on a server or workstation. The file is populated with all of that machine's hardware and software inventory information. You can open a .xsf file with a tool such as winzip or winrar, and then open the .xml file contained inside for a readable list of inventory information on the corresponding server (one .xsf file equals one machine).

A comparison of the Pre-BDNA Normalize and Post-BDNA Normalize .xsf files was performed in order to document the changes BDNA makes to the scan file during normalization and prior to loading to the UCMDB. The results of the comparison include:

- In the <hwOSWMISoftwareFeatureDescription> and <hwOSServiceFileName> the file has quotes and apostrophes encoded (i.e., &quot; instead of “).
- The file size is massively reduced after we run this process. i.e., the xml for Pre-Normalize files is 24mb and the xml for Post is 1mb. This is a huge savings in terms of storage and UCMDB processing due to a smaller file size for 10,000 scan files.

  - This happens because we strip out all of the <file> info from the Pre-Normalize files (all the xml tags for the dll, exe files, etc.). We also strip out the Partially Recognized apps (<partialapp> tags).
- We put the normalized values into the application data section along with each normalized application within its own application tag. <applicationdata><application>.

- We do not change the OS installed applications (<hwOSInstalledApps_value> tag in the xsf).


RevealIT001.xml - Text Compare - Beyond Compare
Session File Edit Search View Tools Help
Home
RevealIT001.xml
Home Sessions All Diffs Same Context Minor Rules Format Copy Edit Next Section Prev Section Swap Reload

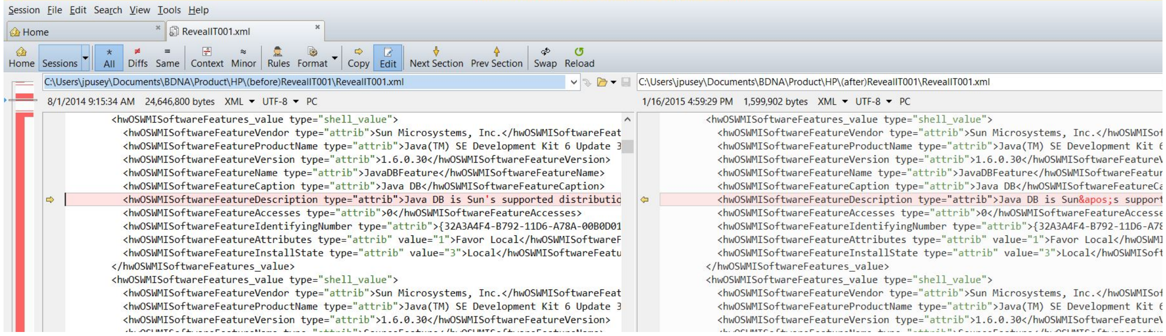
C:\Users\jpusey\Documents\BDNA\Product\HP\(before)RevealIT001\RevealIT001.xml
8/1/2014 9:15:34 AM 24,646,800 bytes XML UTF-8 PC

C:\Users\jpusey\Documents\BDNA\Product\HP\(after)RevealIT001\RevealIT001.xml
1/16/2015 4:59:29 PM 1,599,902 bytes XML UTF-8 PC

```
      <verinfo name="Internal Name" value="Auto Enrollment DLL" />
      <verinfo name="Original Filename" value="Auto Enrollment DLL" />
      <verinfo name="Product Version" value="6.1.7600.16385" />
      <verinfo name="Language Code" value="en-US" />
    </file>
    <file versionid="34875" flag="Y" name="pcaui.dll" size="87040" created="2009-07-14 07:20:29
      <verinfo name="Company Name" value="Microsoft Corporation" />
      <verinfo name="File Description" value="Program Compatibility Assistant User Interface Mo
      <verinfo name="File Version" value="6.1.7600.16385 (win7_rtm.090713-1255)" />
      <verinfo name="Product Version" value="6.1.7600.16385" />
      <verinfo name="Language Code" value="en-US" />
    </file>
    <file versionid="34875" flag="Y" name="pcaui.exe" size="15872" created="2009-07-14 07:20:22
      <verinfo name="Company Name" value="Microsoft Corporation" />
      <verinfo name="File Description" value="Program Compatibility Assistant User Interface" /
      <verinfo name="File Version" value="6.1.7600.16385 (win7_rtm.090713-1255)" />
      <verinfo name="Product Version" value="6.1.7600.16385" />
      <verinfo name="Language Code" value="en-US" />
    </file>
    <file versionid="34875" flag="Y" name="pcwum.dll" size="33280" created="2009-07-14 07:11:09
      <verinfo name="Company Name" value="Microsoft Corporation" />
      <verinfo name="File Description" value="Performance Counters for Windows Native DLL" />
      <verinfo name="File Version" value="6.1.7600.16385 (win7_rtm.090713-1255)" />
      <verinfo name="Internal Name" value="pcwum.dll" />
      <verinfo name="Original Filename" value="pcwum.dll" />
      <verinfo name="Product Version" value="6.1.7600.16385" />
      <verinfo name="Language Code" value="en-US" />
    </file>
    <file versionid="34875" flag="Y" name="pdh.dll" size="236544" created="2010-11-21 11:24:08"
      <verinfo name="Company Name" value="Microsoft Corporation" />
      <verinfo name="File Description" value="Windows Performance Data Helper DLL" />
      <verinfo name="File Version" value="6.1.7601.17514 (win7sp1_rtm.101119-1850)" />
      <verinfo name="Internal Name" value="PDH.DLL" />
      <verinfo name="Original Filename" value="PDH.DLL" />
```

16572: 1 Default text

```
··<filedata>¤
```

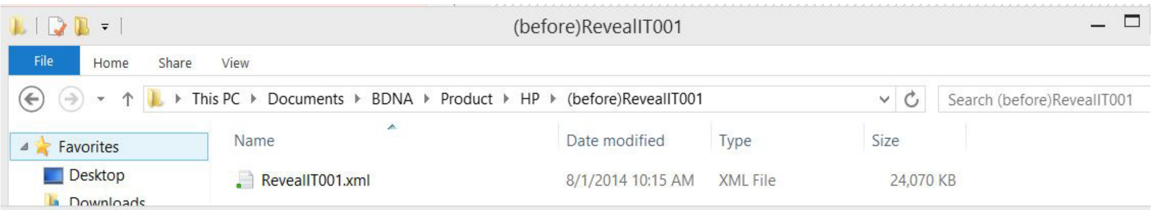

RevealIT001.xml - Text Compare - Beyond Compare
Session File Edit Search View Tools Help
Home
RevealIT001.xml
Home Sessions All Diffs Same Context Minor Rules Format Copy Edit Next Section Prev Section Swap Reload

C:\Users\jpusey\Documents\BDNA\Product\HP\(before)RevealIT001\RevealIT001.xml
8/1/2014 9:15:34 AM 24,646,800 bytes XML UTF-8 PC

```
        <hwOSWMISoftwareFeatures_value type="shell_value">
          <hwOSWMISoftwareFeatureVendor type="attrib">Sun Microsystems, Inc.</hwOSWMISoftwareFeat
          <hwOSWMISoftwareFeatureProductName type="attrib">Java(TM) SE Development Kit 6 Update 3
          <hwOSWMISoftwareFeatureVersion type="attrib">1.6.0.30</hwOSWMISoftwareFeatureVersion>
          <hwOSWMISoftwareFeatureName type="attrib">JavaDBFeature</hwOSWMISoftwareFeatureName>
          <hwOSWMISoftwareFeatureCaption type="attrib">Java DB</hwOSWMISoftwareFeatureCaption>
          <hwOSWMISoftwareFeatureDescription type="attrib">Java DB is Sun's supported distributio
          <hwOSWMISoftwareFeatureAccesses type="attrib">0</hwOSWMISoftwareFeatureAccesses>
          <hwOSWMISoftwareFeatureIdentifyingNumber type="attrib">{32A3A4F4-B792-11D6-A78A-00B0D01
          <hwOSWMISoftwareFeatureAttributes type="attrib" value="1">Favor Local</hwOSWMISoftwareF
          <hwOSWMISoftwareFeatureInstallState type="attrib" value="3">Local</hwOSWMISoftwareFeatu
        </hwOSWMISoftwareFeatures_value>
        <hwOSWMISoftwareFeatures_value type="shell_value">
          <hwOSWMISoftwareFeatureVendor type="attrib">Sun Microsystems, Inc.</hwOSWMISoftwareFeat
          <hwOSWMISoftwareFeatureProductName type="attrib">Java(TM) SE Development Kit 6 Update 3
          <hwOSWMISoftwareFeatureVersion type="attrib">1.6.0.30</hwOSWMISoftwareFeatureVersion>
```

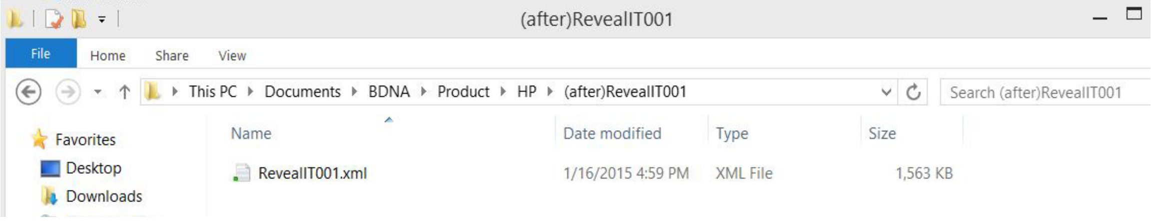
C:\Users\jpusey\Documents\BDNA\Product\HP\(after)RevealIT001\RevealIT001.xml
1/16/2015 4:59:29 PM 1,599,902 bytes XML UTF-8 PC

```
        <hwOSWMISoftwareFeatures_value type="shell_value">
          <hwOSWMISoftwareFeatureVendor type="attrib">Sun Microsystems, Inc.</hwOSWMISof
          <hwOSWMISoftwareFeatureProductName type="attrib">Java(TM) SE Development Kit 6
          <hwOSWMISoftwareFeatureVersion type="attrib">1.6.0.30</hwOSWMISoftwareFeatureV
          <hwOSWMISoftwareFeatureName type="attrib">JavaDBFeature</hwOSWMISoftwareFeatur
          <hwOSWMISoftwareFeatureCaption type="attrib">Java DB</hwOSWMISoftwareFeatureCa
          <hwOSWMISoftwareFeatureDescription type="attrib">Java DB is Sun&apos;s support
          <hwOSWMISoftwareFeatureAccesses type="attrib">0</hwOSWMISoftwareFeatureAccesse
          <hwOSWMISoftwareFeatureIdentifyingNumber type="attrib">{32A3A4F4-B792-11D6-A78
          <hwOSWMISoftwareFeatureAttributes type="attrib" value="1">Favor Local</hwOSWMI
          <hwOSWMISoftwareFeatureInstallState type="attrib" value="3">Local</hwOSWMISoft
        </hwOSWMISoftwareFeatures_value>
        <hwOSWMISoftwareFeatures_value type="shell_value">
          <hwOSWMISoftwareFeatureVendor type="attrib">Sun Microsystems, Inc.</hwOSWMISof
          <hwOSWMISoftwareFeatureProductName type="attrib">Java(TM) SE Development Kit 6
          <hwOSWMISoftwareFeatureVersion type="attrib">1.6.0.30</hwOSWMISoftwareFeatureV
```


(before)RevealIT001
File
Home
Share
View
Search (before)RevealIT001
Favorites
Desktop
Downloads

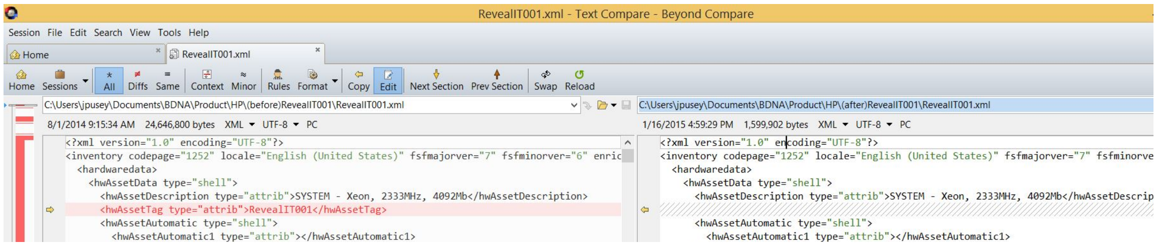
This PC › Documents › BDNA › Product › HP › (before)RevealIT001

Name	Date modified	Type	Size
RevealIT001.xml	8/1/2014 10:15 AM	XML File	24,070 KB


(after)RevealIT001
File
Home
Share
View
Search (after)RevealIT001
Favorites
Desktop
Downloads

This PC › Documents › BDNA › Product › HP › (after)RevealIT001

Name	Date modified	Type	Size
RevealIT001.xml	1/16/2015 4:59 PM	XML File	1,563 KB


RevealIT001.xml - Text Compare - Beyond Compare
Session File Edit Search View Tools Help
Home
RevealIT001.xml
Home Sessions All Diffs Same Context Minor Rules Format Copy Edit Next Section Prev Section Swap Reload

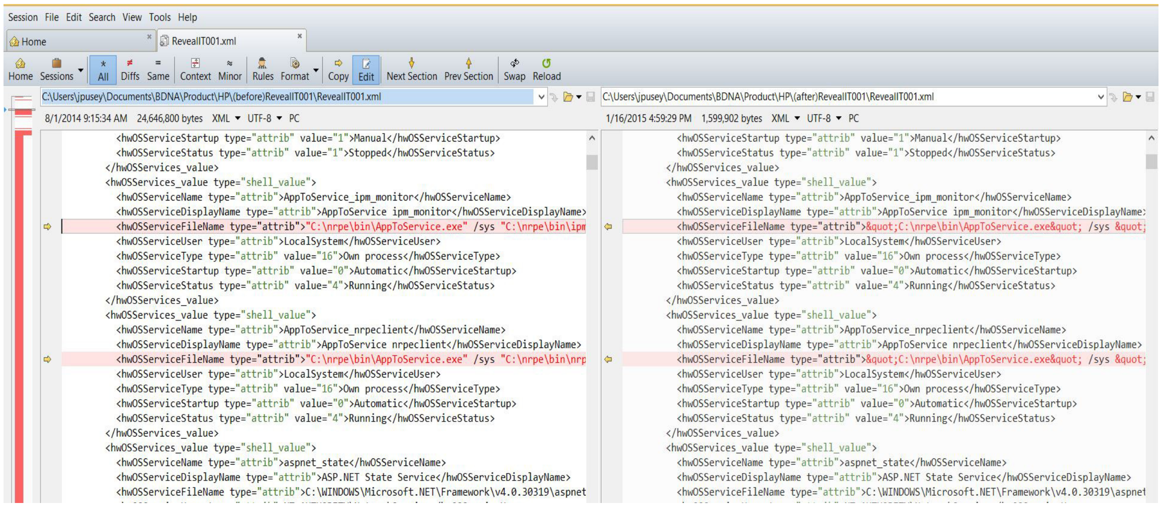
C:\Users\jpusey\Documents\BDNA\Product\HP\(before)RevealIT001\RevealIT001.xml
8/1/2014 9:15:34 AM 24,646,800 bytes XML UTF-8 PC

```
<?xml version="1.0" encoding="UTF-8"?>
<inventory codepage="1252" locale="English (United States)" fsfmajorver="7" fsfminorver="6" enric
  <hardwaredata>
    <hwAssetData type="shell">
      <hwAssetDescription type="attrib">SYSTEM - Xeon, 2333MHz, 4092Mb</hwAssetDescription>
      <hwAssetTag type="attrib">RevealIT001</hwAssetTag>
      <hwAssetAutomatic type="shell">
        <hwAssetAutomatic1 type="attrib"></hwAssetAutomatic1>
```

C:\Users\jpusey\Documents\BDNA\Product\HP\(after)RevealIT001\RevealIT001.xml
1/16/2015 4:59:29 PM 1,599,902 bytes XML UTF-8 PC

```
<?xml version="1.0" encoding="UTF-8"?>
<inventory codepage="1252" locale="English (United States)" fsfmajorver="7" fsfminorve
  <hardwaredata>
    <hwAssetData type="shell">
      <hwAssetDescription type="attrib">SYSTEM - Xeon, 2333MHz, 4092Mb</hwAssetDescrip

      <hwAssetAutomatic type="shell">
        <hwAssetAutomatic1 type="attrib"></hwAssetAutomatic1>
```


Session
File
Edit
Search
View
Tools
Help
Home
RevealIT001.xml
Home
Sessions
All
Diffs
Same
Context
Minor
Rules
Format
Copy
Edit
Next Section
Prev Section
Swap
Reload

C:\Users\jpusey\Documents\BDNA\Product\HP\(before)RevealIT001\RevealIT001.xml

8/1/2014 9:15:34 AM 24,646,800 bytes XML UTF-8 PC

```
      <hwOSServiceStartup type="attrib" value="1">Manual</hwOSServiceStartup>
      <hwOSServiceStatus type="attrib" value="1">Stopped</hwOSServiceStatus>
    </hwOSServices_value>
    <hwOSServices_value type="shell_value">
      <hwOSServiceName type="attrib">AppToService_ipm_monitor</hwOSServiceName>
      <hwOSServiceDisplayName type="attrib">AppToService ipm_monitor</hwOSServiceDisplayName>
      <hwOSServiceFileName type="attrib">"C:\nrpe\bin\AppToService.exe" /sys "C:\nrpe\bin\ipm
      <hwOSServiceUser type="attrib">LocalSystem</hwOSServiceUser>
      <hwOSServiceType type="attrib" value="16">Own process</hwOSServiceType>
      <hwOSServiceStartup type="attrib" value="0">Automatic</hwOSServiceStartup>
      <hwOSServiceStatus type="attrib" value="4">Running</hwOSServiceStatus>
    </hwOSServices_value>
    <hwOSServices_value type="shell_value">
      <hwOSServiceName type="attrib">AppToService_nrpeclient</hwOSServiceName>
      <hwOSServiceDisplayName type="attrib">AppToService nrpeclient</hwOSServiceDisplayName>
      <hwOSServiceFileName type="attrib">"C:\nrpe\bin\AppToService.exe" /sys "C:\nrpe\bin\nrp
      <hwOSServiceUser type="attrib">LocalSystem</hwOSServiceUser>
      <hwOSServiceType type="attrib" value="16">Own process</hwOSServiceType>
      <hwOSServiceStartup type="attrib" value="0">Automatic</hwOSServiceStartup>
      <hwOSServiceStatus type="attrib" value="4">Running</hwOSServiceStatus>
    </hwOSServices_value>
    <hwOSServices_value type="shell_value">
      <hwOSServiceName type="attrib">aspnet_state</hwOSServiceName>
      <hwOSServiceDisplayName type="attrib">ASP.NET State Service</hwOSServiceDisplayName>
      <hwOSServiceFileName type="attrib">C:\WINDOWS\Microsoft.NET\Framework\v4.0.30319\aspnet
```

C:\Users\jpusey\Documents\BDNA\Product\HP\(after)RevealIT001\RevealIT001.xml

1/16/2015 4:59:29 PM 1,599,902 bytes XML UTF-8 PC

```
      <hwOSServiceStartup type="attrib" value="1">Manual</hwOSServiceStartup>
      <hwOSServiceStatus type="attrib" value="1">Stopped</hwOSServiceStatus>
    </hwOSServices_value>
    <hwOSServices_value type="shell_value">
      <hwOSServiceName type="attrib">AppToService_ipm_monitor</hwOSServiceName>
      <hwOSServiceDisplayName type="attrib">AppToService ipm_monitor</hwOSServiceDisplayName>
      <hwOSServiceFileName type="attrib">&quot;C:\nrpe\bin\AppToService.exe&quot; /sys &quot;
      <hwOSServiceUser type="attrib">LocalSystem</hwOSServiceUser>
      <hwOSServiceType type="attrib" value="16">Own process</hwOSServiceType>
      <hwOSServiceStartup type="attrib" value="0">Automatic</hwOSServiceStartup>
      <hwOSServiceStatus type="attrib" value="4">Running</hwOSServiceStatus>
    </hwOSServices_value>
    <hwOSServices_value type="shell_value">
      <hwOSServiceName type="attrib">AppToService_nrpeclient</hwOSServiceName>
      <hwOSServiceDisplayName type="attrib">AppToService nrpeclient</hwOSServiceDisplayName>
      <hwOSServiceFileName type="attrib">&quot;C:\nrpe\bin\AppToService.exe&quot; /sys &quot;
      <hwOSServiceUser type="attrib">LocalSystem</hwOSServiceUser>
      <hwOSServiceType type="attrib" value="16">Own process</hwOSServiceType>
      <hwOSServiceStartup type="attrib" value="0">Automatic</hwOSServiceStartup>
      <hwOSServiceStatus type="attrib" value="4">Running</hwOSServiceStatus>
    </hwOSServices_value>
    <hwOSServices_value type="shell_value">
      <hwOSServiceName type="attrib">aspnet_state</hwOSServiceName>
      <hwOSServiceDisplayName type="attrib">ASP.NET State Service</hwOSServiceDisplayName>
      <hwOSServiceFileName type="attrib">C:\WINDOWS\Microsoft.NET\Framework\v4.0.30319\aspnet
```