# HP IT Business Analytics 10.00 Content Pack 0004 Release Notes


Linux operating system

Software version: March 2016

Documentation version: March 2016

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# Installation Instructions

This section provides the installation instructions for IT Business Analytics 10.00 Content Pack 0004.

## Before you begin

Review all instructions and the Hewlett-Packard SupportLine User Guide or your Hewlett-Packard support terms and conditions for precautions, scope of license, restrictions, and limitation of liability and warranties, before installing this Content Pack.

## Prerequisites

Before you install the Content Pack, perform the following steps:

1. Back up your customized files.
2. Back up your databases.
3. Ensure Java 7 is installed.
4. Make sure ITBA 10.00 is working, before starting the Content Pack installation.
5. Make sure all ETL and KPI calculation are not currently running.

## Content Pack 0004 Installation Steps

**Note:** If you want to show **Property** in the **Showback Detail for Cloud Services** report, you must install Cloud Service Automation (CSA) 4.50 and 4.50.0001 on the CSA server.

Install the Content Pack by performing the following steps:

**Note:** Each content pack includes the previous content packs.

1. In the ITBA server, backup the entire content pack located in **$HPBA_Home/Content_Packs** directory.
2. Download the ITBA Content Pack 0004 (ITBA10_00_ContentPacks_0004.zip) from (https://hpln.hpe.com/contentoffering/it-business-analytics-content-release ).

3. Upload the installation file to the ITBA server and unzip it.
4. Upgrade the Content Packs:
   a. In the ITBA server, backup the entire content pack folders located in the **$HPBA_HOME\ContentPacks** directory.
   b. Extract **ContentPacks.zip** from the root directory of the installation file.
   c. Unzip **ContentPacks.zip**, and use it to override the contents to the **$HPBA_HOME** directory.
   d. Update the common jar file:
      i. Get the **commons-codec-1.4.jar** file from the **3rd-jars** directory in the installation file.
      ii. Copy it to the **$HPBA_Home/glassfish/glassfish/domains/BTOA/lib** directory in the ITBA server.
      iii. Remove the following files from the ITBA server:
         - **$HPBA_HOME/glassfish/glassfish/domains/BTOA/lib/commons-codec-1.4-14.0.6.1036.jar**
         - **$HPBA_HOME/glassfish/glassfish/domains/BTOA/lib/commons-codec-1.3.jar**
   e. Restart ITBA by executing the following script in the ITBA server:

      **cd $HPBA_HOME/supervisor/bin**

      **./hpba-restart.sh**
   f. Select **ADMIN > Data Management > Install Content Pack**, select the relevant Content Pack, and:
      - If you had not already installed the Content Pack before installing the Content Pack 0004, click **Install**.
        After the installation completes, click **Upgrade**.
      - If you had already installed the Content Pack before installing the Content Pack 0004, click **upgrade**.

        **Note:** If you had installed either one of the AWS or AWSCW Content Pack, you must upgrade both.
   g. If you want to work with the latest CMS, install the Content Pack first and then import the contexts (universes) using the following steps :
      i. Unzip the **content-pack-tool.zip** located in the **tools\dw-content-pack-tool** directory in the installation file.

ii. Open **content-pack-tool**, and go to the **bin** directory.

iii. Execute the following command:

**bash contentPackTool.sh -A**

h. Execute SQL in Vertica by modifying the search path of the Vertica logon user:

**ALTER USER [ITBA_VerticaUserName] search_path [ApplicationSchemaName] , [ExtensionSchemaName], "$user", public, v_catalog, v_monitor, v_internal;**

The values of the parameters must be replaced with the correct values for your environment.

**Example:**

If the Vertica user is **vertica**, the password is **openview**, the ApplicationShemaName is **BA**, and the ExensionSchemaName is **ext**, then the command to run on the appliance VM is:

i. **cd /opt/vertica/bin**

ii. **./vsql –U vertica –d xsvertica** Password: **openview**

iii. **ALTER USER vertica search_path BA , ext, "$user", public, v_catalog, v_monitor, v_internal;**

i. If necessay, clean the ETL data. For details, see "Clean ETL Data After Upgrade" on page 38.

j. Restart the BOE service.

# Working with CMS and CAC

To work with CMS and CAC:

1. Backup **dw-web.war** from the **$HPBA_HOME/apps** directory.
2. Replace **dw-web.war** in the **$HPBA_HOME/apps** directory with the provided hotfix **dw-web.war**.
3. Go to the **$HPBA_HOME/bin** directory, and run: **./deploy.sh –r dw-web**.

# How to Upload .BIAR Files

Some Webi reports are supported in ITBA. You can view these reports in the relevant ITBA Dashboard pages. They are provided in the CSA CAP and the CSA_Demo CAP.

You can view these reports through the Dashboard pages that are linked to the BOE server.

Only the CSA CAP reports are imported into the BOE server automatically if you have configured the BOE connection while installing ITBA.

**Note:**

- **Cloud_Billing.biar** is needed for the **Billing Statement for Cloud Services** or **Billing Statement for Consumer Organization Admin** reports provided in the CSA CAP.
- **Cloud_Billing_Demo.biar** is needed for the **Billing Statement for Cloud Services Demo** report provided by the CSA_Demo CAP.

If you did not configure the BOE connection while installing ITBA, or if you want to watch demo reports, run the below steps.

To import the **Cloud_Billing.biar** or the **Cloud_Billing_Demo.biar**:

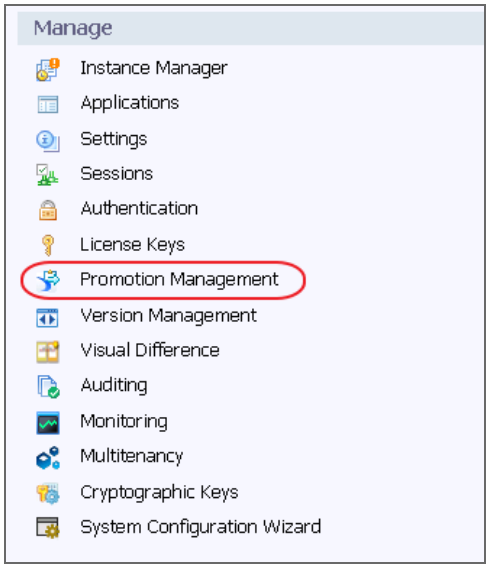
1. Copy the **.biar** files from the ITBA server:

   **$HPBA_HOME /ContentPacks/CSA/INBUILT/BI/BOE/Cloud_Billing.biar**

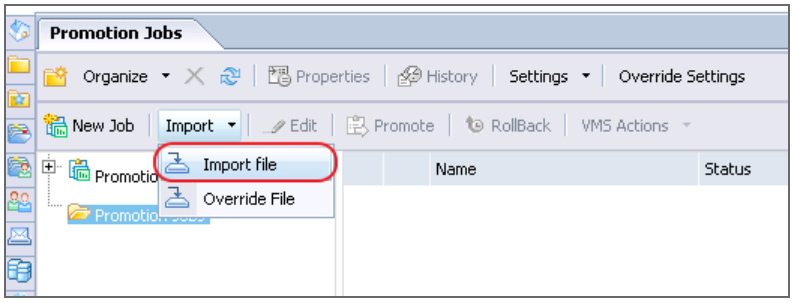
   **$HPBA_HOME /ContentPacks/DEMO_CONTENT/INBUILT/BI/BOE/Cloud_Billing_Demo.biar**

2. Log on to the SAP BusinessObjects Central Management Console (CMC) at: **http://<BOE_Server_IP>:8080/BOE/CMC**.

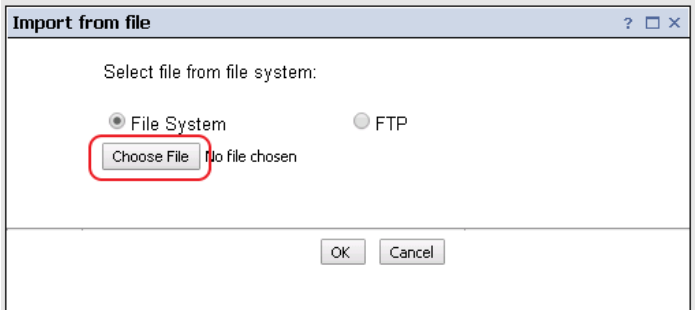
3. Click **Promotion Management**.



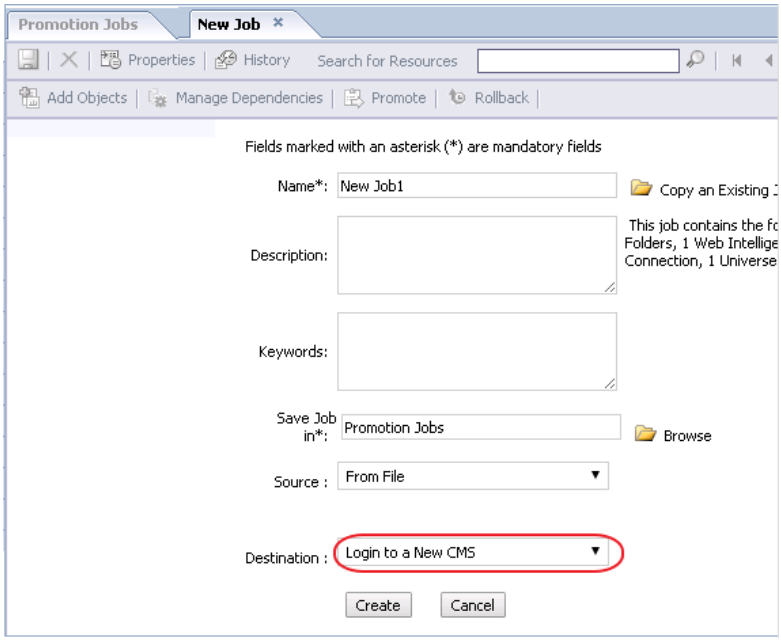

4. Click **Promotion Jobs > Import > Import file**.



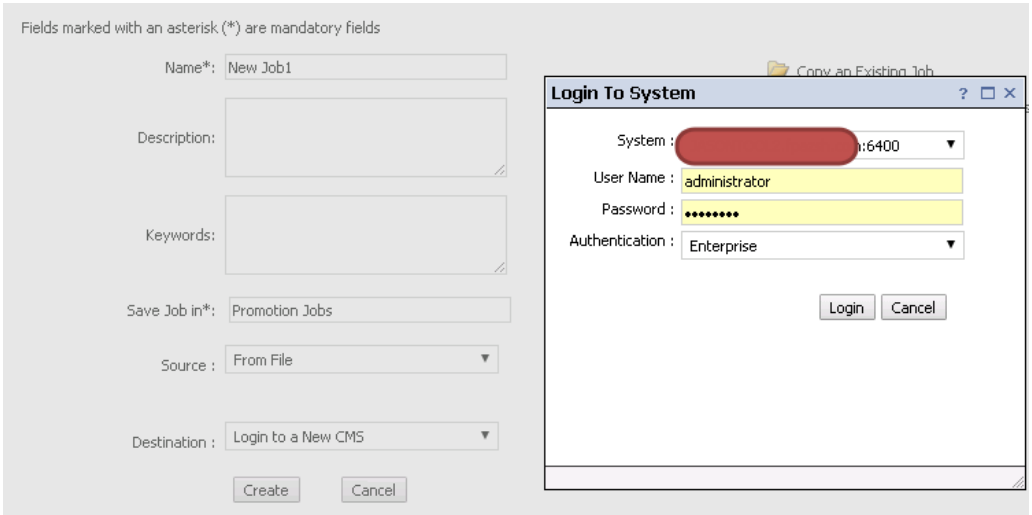

5. Click **Choose File** and select the relevant .biar file.



6. In the **Destination** field, select **Login to a New CMS**.

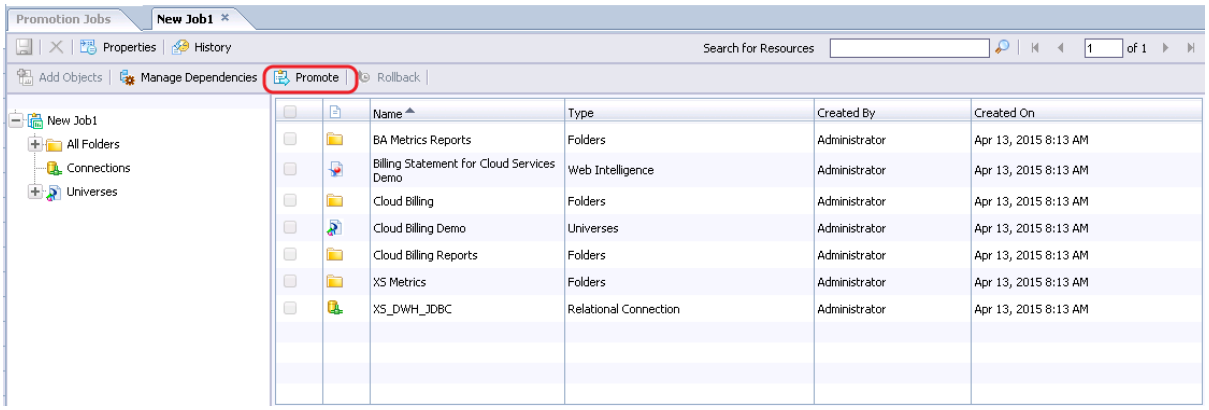



7. Enter the BOE server IP number or server name, user name, and password, and then click **Login**.

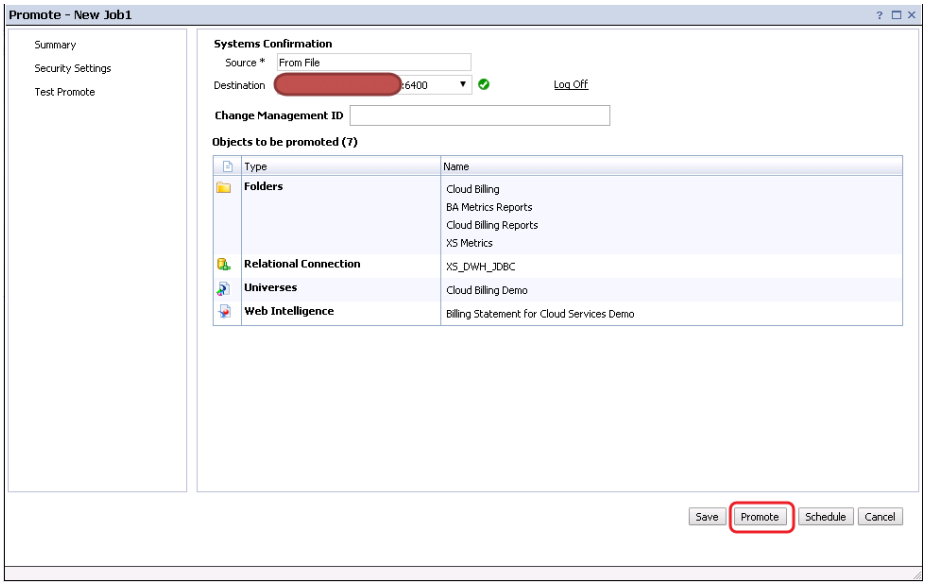



8. Click **Create** to create promotion job.

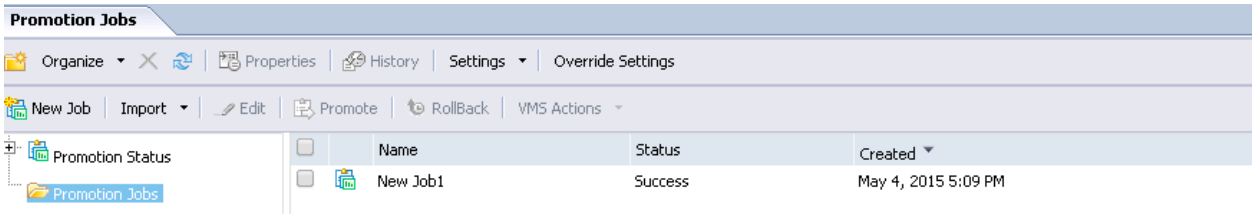
9. Click **Promote**.



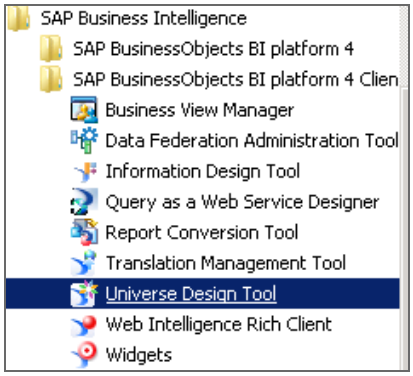

10. Click **Promote**.




The .biar file is uploaded successfully.



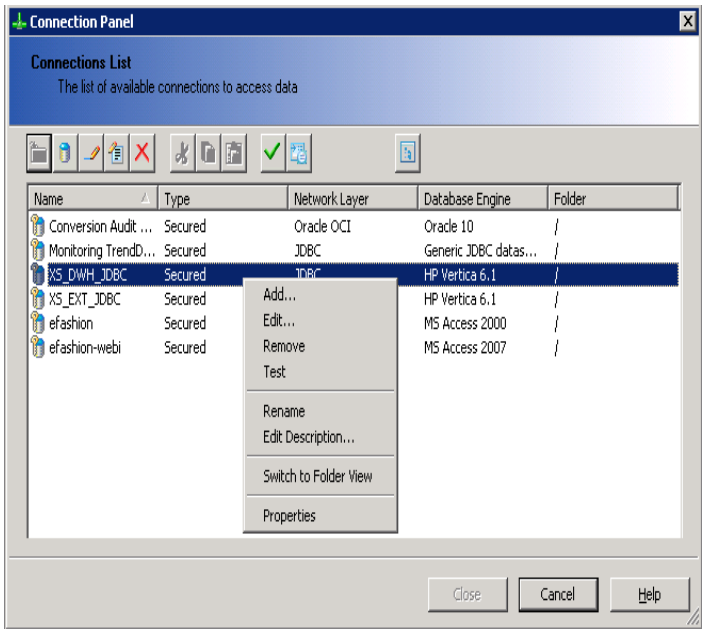
11. Log on to the **Universe Design Tool** from the BOE Client.



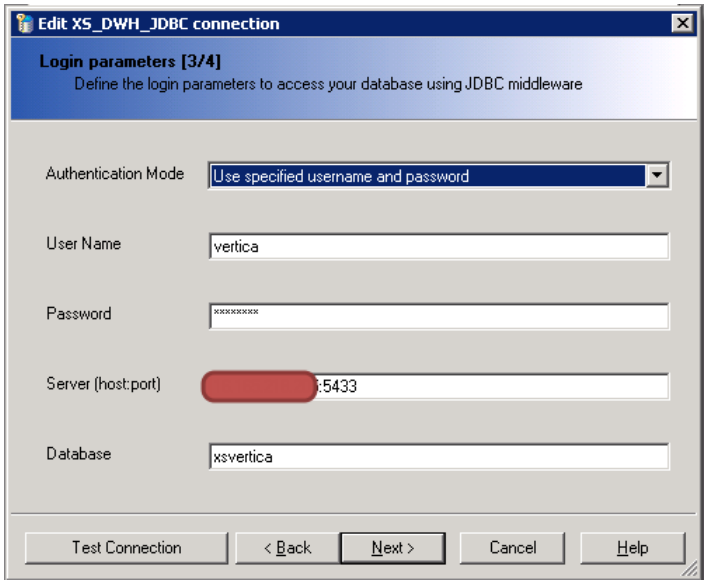

12. Click **Tools > Connections...**. Edit the relevant connection.

    If you are uploading the CSA CAP, edit **XS_DWH_JDBC**.

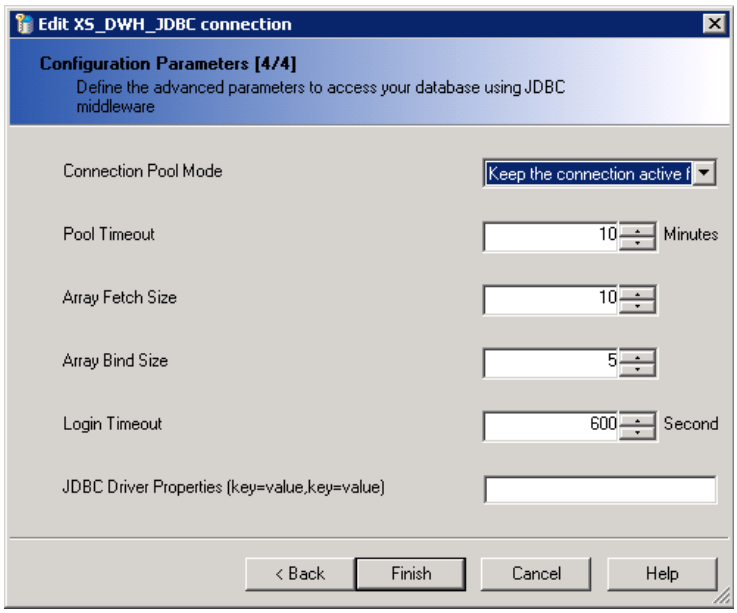
    If you are uploading the CSA_Demo CAP, edit **XS_EXT_JDBC**.



13. Enter the relevant connection message of the Vertica server and click **Next**.



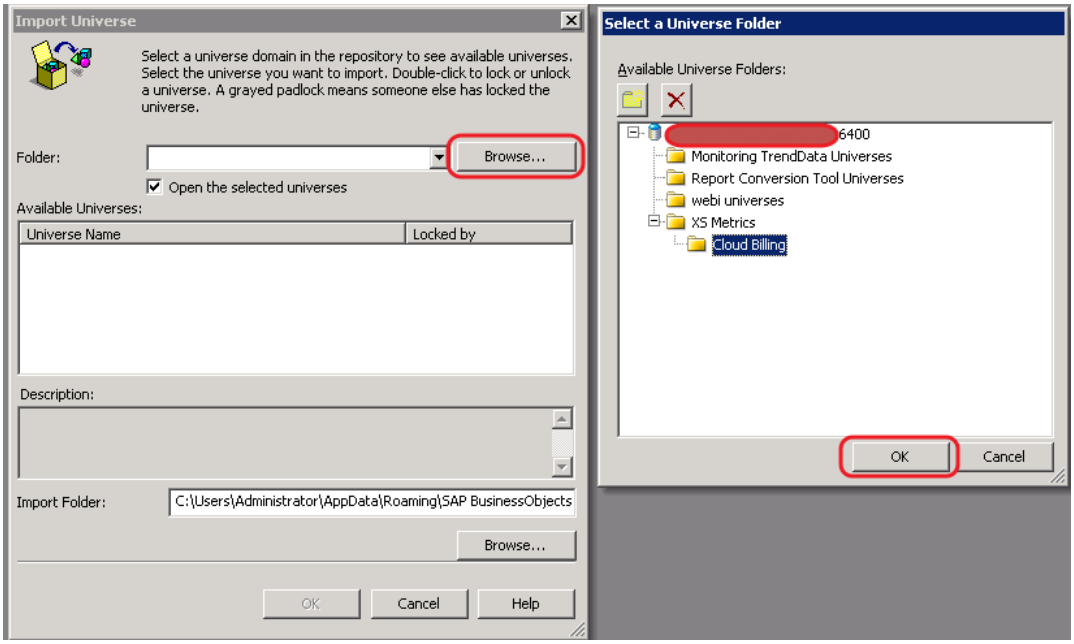

14. Click **Next > Finish > Close**.



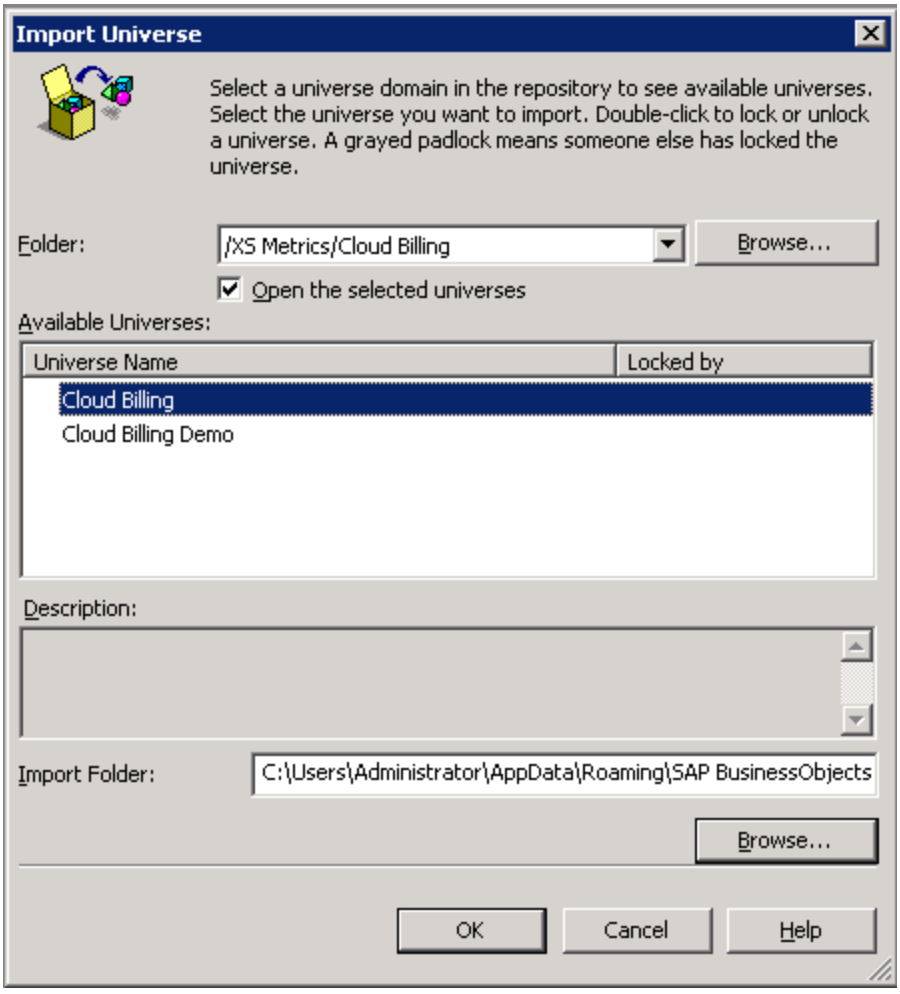

The import of the .biar files is complete.

15. By default, the application schema name is **BA**, the extension schema name is **ext**, and the database name is **xsvertica**. If the customer server settings are different, change the as shown below.

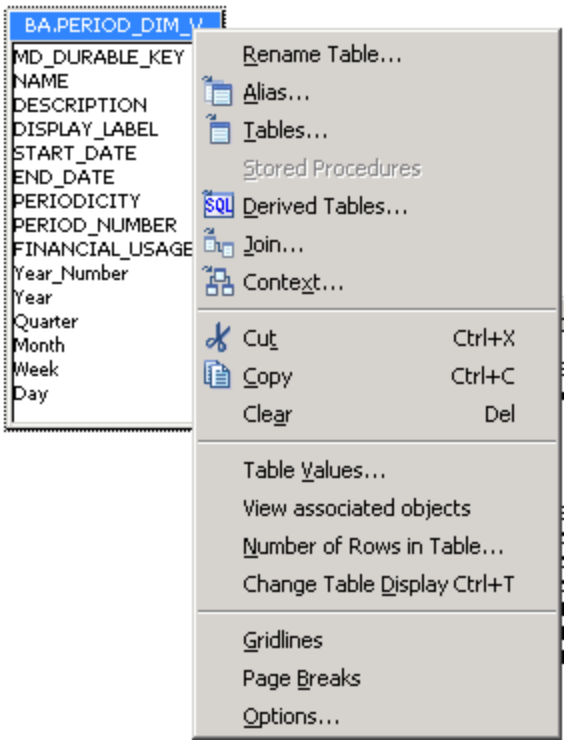
a. Click **File > Import...**, and select the **Cloud Billing** universe directory.



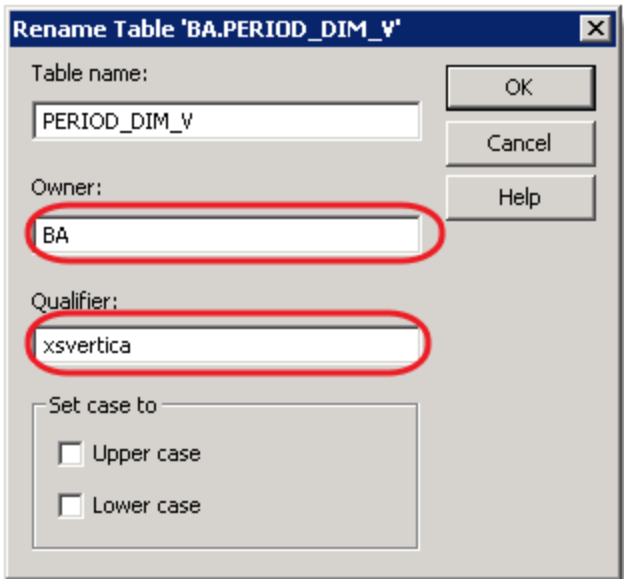

b. Select **Cloud Billing** and click **OK**.


Import Universe
Select a universe domain in the repository to see available universes. Select the universe you want to import. Double-click to lock or unlock a universe. A grayed padlock means someone else has locked the universe.
Folder:
/XS Metrics/Cloud Billing
Browse...
Open the selected universes
Available Universes:
Universe Name
Locked by
Cloud Billing
Cloud Billing Demo
Description:
Import Folder:
C:\Users\Administrator\AppData\Roaming\SAP BusinessObjects
Browse...
OK
Cancel
Help

c. Right-click the relevant table, and select **Rename Table**.




d. In the **Owner** field enter the correct application schema name and in the **Qualifier** field enter the correct database name.




e. After modifying all the relevant tables as shown above, click **File > Export...**.

f. Click **OK** to upload the changes to BOE the server.

16. Proceed in the same way for the Cloud Billing Demo universe directory.

# Limitations

## Formula Filter Including '('

If the parameters in a KPI/Metric formula filter Expression contain ' (', the space is removed during the formatting of the formula and the calculation will be incorrect.

Example:

- Original formula:
  PERCENTAGE( ASSET , ASSET.ASSET_STATUS Like 'Return for maintenance%' And ASSET.DATE_INSTALLED <= END_PERIOD , ASSET.ASSET_STATUS <> **'Retired (demo)'** And ASSET.ASSET_STATUS <> 'unknown' And ASSET.DATE_INSTALLED <= END_PERIOD
- Formatted formula:
  PERCENTAGE( ASSET , ASSET.ASSET_STATUS Like 'Return for maintenance%' And ASSET.DATE_INSTALLED <= END_PERIOD , ASSET.ASSET_STATUS <> **'Retired (demo)'** And ASSET.ASSET_STATUS <> 'unknown' And ASSET.DATE_INSTALLED <= END_PERIOD

Workaround: Separate the string with '||'.

**Example:**

- Original formula:
  PERCENTAGE( ASSET , ASSET.ASSET_STATUS Like 'Return for maintenance%' And ASSET.DATE_INSTALLED <= END_PERIOD , ASSET.ASSET_STATUS <> **'Retired (demo)'** And ASSET.ASSET_STATUS <> 'unknown' And ASSET.DATE_INSTALLED <= END_PERIOD
- should be replaced:
  PERCENTAGE( ASSET , ASSET.ASSET_STATUS Like 'Return for maintenance%' And ASSET.DATE_INSTALLED <= END_PERIOD , ASSET.ASSET_STATUS <> **'Retired '||' (demo)'** And ASSET.ASSET_STATUS <> 'unknown' And ASSET.DATE_INSTALLED <= END_PERIOD

# KPI Breakdown Formula Limitation

When you configure the formula of a KPI for which you will set up Breakdowns, make sure that you do not use multiple entities.

**Example of a correct formula**, the formula uses the same entity for the numerator and denominator

PERCENTAGE_MATH(SUM(CostAmount,CostExpenseType = 'CAPEX' and PERIOD_ENTITY=Period),SUM(CostAmount,CostExpenseType = 'OPEX' and PERIOD_ENTITY=Period),100)

**Example of an incorrect formula**; the formula uses two different entities for the numerator and denominator and that might cause the Breakdown calculations to be incorrect.

PERCENTAGE_MATH(SUM(CostAmount,CostExpenseType = 'CAPEX' and PERIOD_ENTITY=Period),SUM(Cost,CostExpenseType = 'OPEX' and PERIOD_ENTITY=Period),100)

# The connection to the data source fails after timeout when connecting to the CMS CAC environment

To fix the issue, download and install the following hotfix:

https://patch-central.corp.hp.com/crypt-web/protected/viewContent.do?patchId=EXSC_00220

# Documentation_Additions

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# CP0004 Enhancements and Their Documentation

This section provides the changes and additions to the documentation that support Content Pack 0004.

## Enhancements

The enhancements provided by CP0004 are:

- The new CMS and CMS_demo CAPs. For details, see "CMS_Demo and CMS Content Acceleration Packs" on the next page.
- A new CMS Content Pack. For details, see "Integration with CMS" on page 32.
- Support for CMS 10.1 and 10.2
- Support for CSA 4.6
- Support for ALM 12.2, and 12.5
- The update of an SA KPI name
- A hotfix for CMS CAC. For details, see "Working with CMS and CAC" on page 6.
- A KPI limitation
- Clean ETL Data after upgrade to CP0004. For details, see "Clean ETL Data After Upgrade" on page 38.

## Documentation

The pages that follow describe the enhancements listed above and replace the relevant pages or do not appear in the ITBA 10.00 documentation.

# CMS_Demo and CMS Content Acceleration Packs

The purpose of the CMS Content Acceleration Pack (CAP) is to provide a set of items (Dashboard pages, Scorecards, Contexts, KPIs, Metrics, and more) that automatically gathers information from across your enterprise to build key performance indicators (KPIs) related to CMS-related issues with OOTB data from Data Warehouse. The CAP includes the CMS Governance, Cloud and Virtualization Perspectives. The CAP provides broad and deep insight that should enable you to Improve CMS Accuracy, Improve CMS Completeness, Improve CMS Modeling Completeness, Improve Virtualization Utility. This CAP provides a 360 degree view.

To access:

Click **Admin > Data Management > Activate CAP**. You can then select the relevant CAP and activate it.

If the CAP you want to activate is not the demo CAP, you must make sure you have installed the relevant Content Pack, connected the relevant data source, optionally configured the consolidations, and run the ETL to see the relevant data in the CAP Dashboard pages.



## What are Content Acceleration Packs (CAPs)

Content Acceleration Packs (CAPs) are packages that include Dashboard pages that display Scorecards and components, KPIs, Metrics, Contexts (universes), data (from .CSV files or from data sources), and documentation for the CAP. You can import them, export them, activate, or deactivate them, or you can create your own.

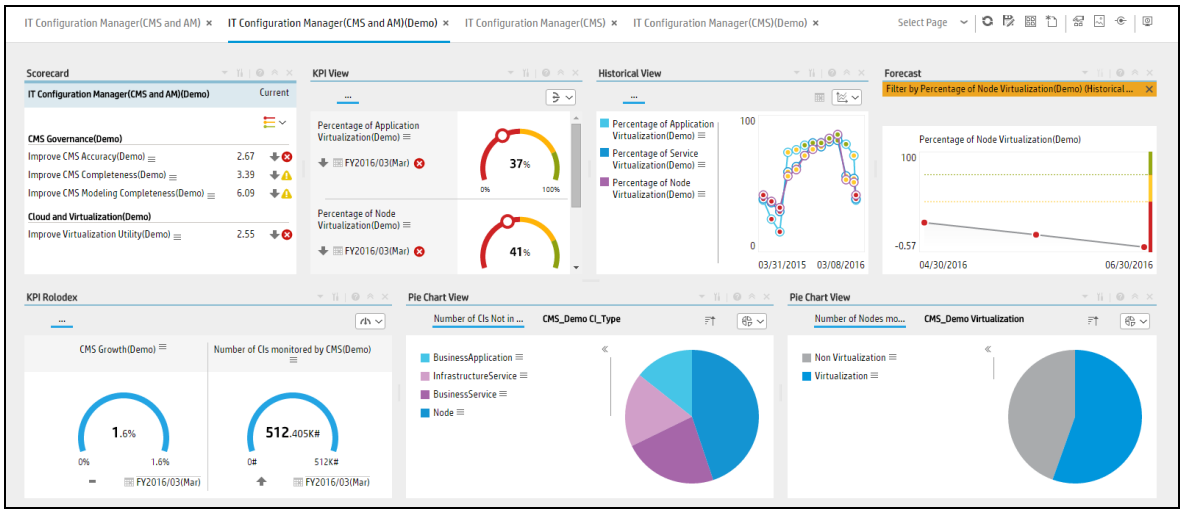
CAPs describe typical stories that show how the correct implementation of Business Analytics drives Performance Improvement and Cost Reduction for the IT organization.

CAPs demonstrate Business Analytics capabilities, and helps you add basic elements that can be used to customize your Dashboard.

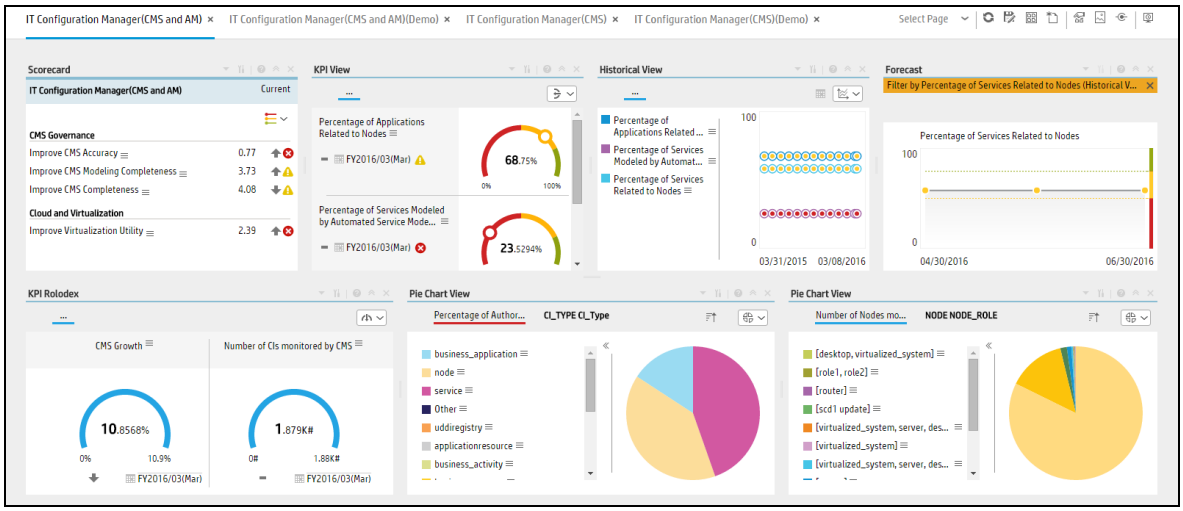
The CMS_Demo is based on data in .csv files that are part of the CAP package and CMS CAPs include data from the UCMDB data source.

# Pages

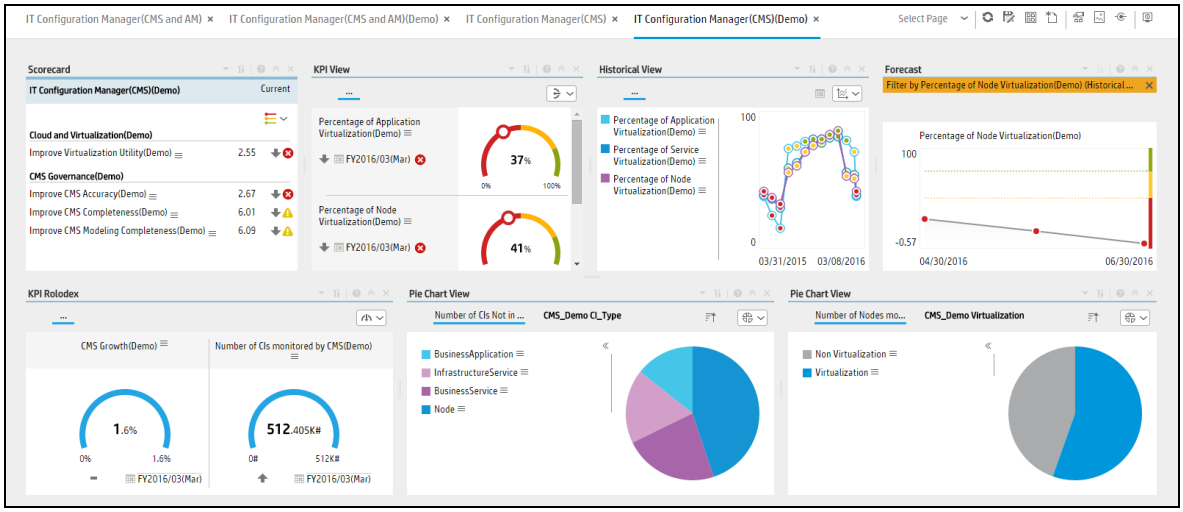
## IT Configuration Manager (CMS and AM)(Demo)



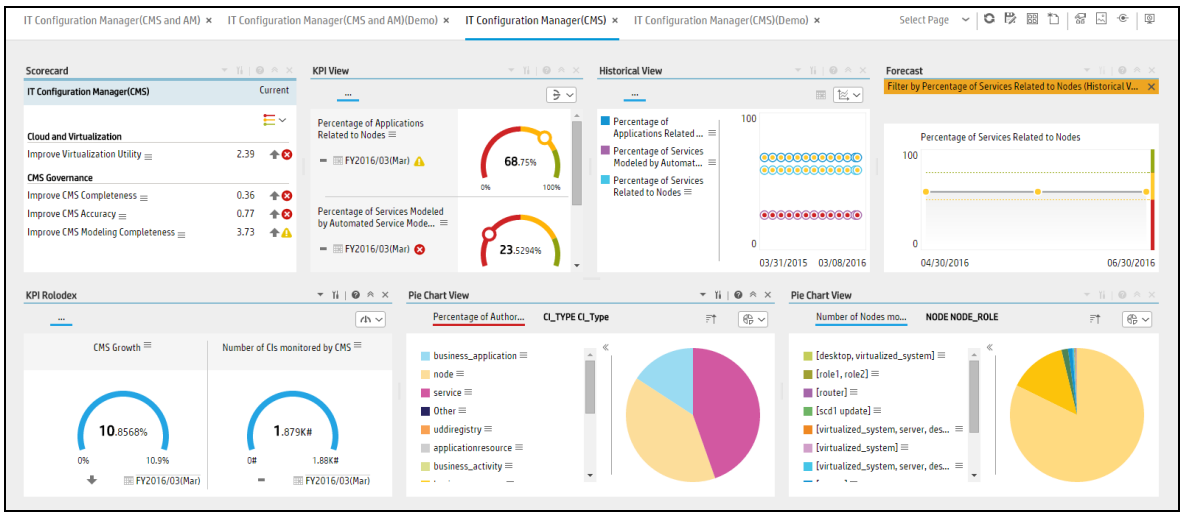

## IT Configuration Manager (CMS and AM)



### IT Configuration Manager (CMS)(Demo)




### IT Configuration Manager (CMS)




## Tasks

This section includes:

## Upload and manage the Content Acceleration Pack

For details, see Content Acceleration Packs (CAPs).

## View the CMS or CMS_Demo CAP-related Dashboard page

1. In the ITBA application, close all the tabs. The Dashboard is displayed.
2. Select one of the relevant pages in **Select Page** or click the **Page Gallery** button in the Dashboard toolbar, double-click the relevant icon and close the Page Gallery dialog box.

## View the Scorecard Structure and KPI and Metric Breakdowns in the Studio

1. Make sure the CAP is activated.
2. In the Business Analytics application, click **Studio**.
3. Expand the relevant Scorecards to view the Scorecards, Perspectives, Objectives, KPIs, KPI Breakdowns structure.

## User Story

1. Maggie is the IT Configuration Manager at ABC Inc. She manages the configuration management system in the IT organization.

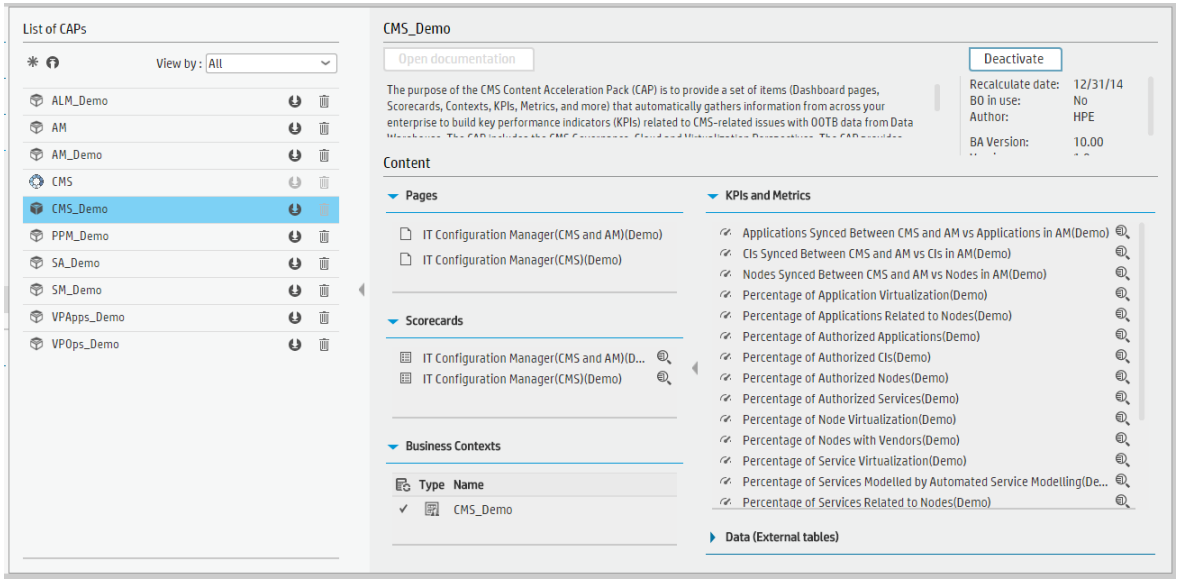
   One of her responsibilities is to ensure that all assets are accurately defined and identified in the configuration management system in support of business needs.
2. She logs into the ITBA application and opens the **IT Configuration Management (CMS)** page in Dashboard.
3. She first looks at the **Improve CMS Completeness** Objective.
4. Then she clicks the Objective and finds that the **CIs Synced Between CMS and AM vs CIs in AM** KPI is red.
5. In the Historical View in the same Dashboard page, she finds that the KPI value decreased considerably during the past week.
6. To understand why the KPI is red, Maggie clicks on the KPI to open EXPLORER, where the pie clearly shows there are still lots of missing CIs when compared to the CIs in the Asset Manager.
7. Maggie sends an annotation to Richard, the Discovery Administrator requesting clarifications: "Richard – We have poor CMS Completeness, please provide insight and set a plan by EOW".
8. Richard is responsible for collecting, discovering, and maintaining the configuration information for hardware assets in the configuration management system. After he receives the annotation from Maggie, he checks his report and starts the analysis of the problem.

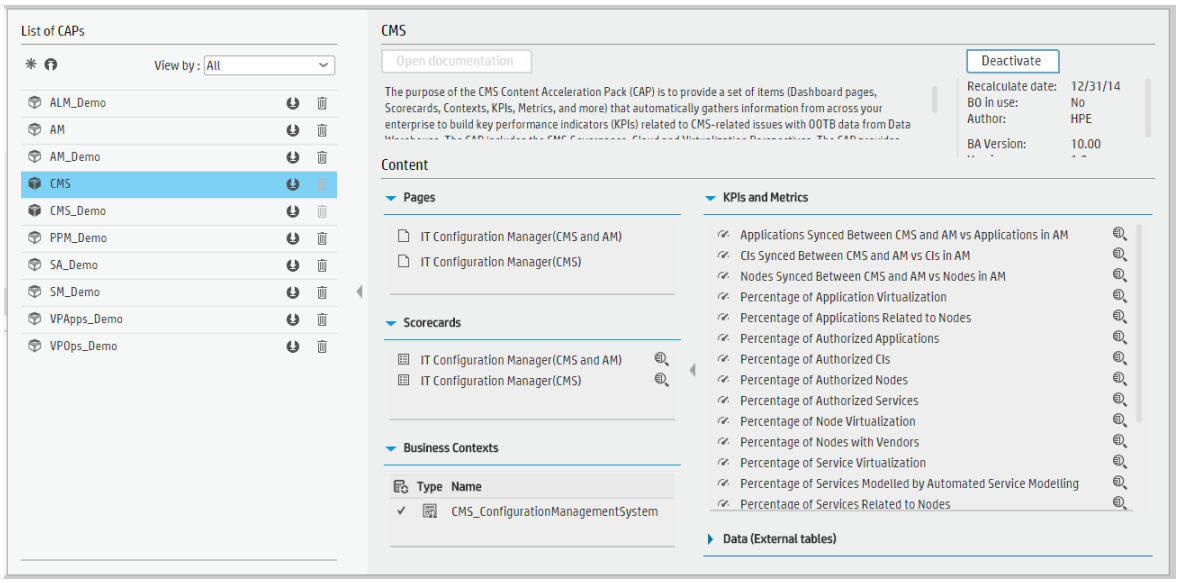
9. Richard then replies to Maggie that he will initiate a meeting with the Discovery Team to discuss the issue.
10. Then Maggie looks at the **Improve CMS Accuracy** Objective.
11. She clicks the Objective and finds that the **Percentage of Authorized CIs**KPI is red
12. To understand why the KPI is red, Maggie performs a Breakdown on this KPI by CI Type. She finds out that **Network Component** only hits 20% of authorized CIs and is the cause of the red ratio of the KPI.
13. She clicks on the **Network Component** in the legend to open the KPI EXPLORER, where the data shows details for which **Network Component** CIs are not authorized.
14. Maggie sends an annotation to John, the Configuration Team Leader: "John – We have poor CMS accuracy on Network Component CIs. Please provide insight and set a plan by EOW".

    The Configuration Team and John are responsible for authorizing the configuration item in the configuration management system.
15. When John gets the annotation from Maggie, he checks his report and starts the analysis of the problem.
16. John then replies to Maggie that he will work with the team to address the issue by EOW.
17. Then, Maggie updates the server virtualization results to her manager Steve, who is the director of the IT Organization, to help moving their traditional IT to the new style of IT in order to optimize the running of their IT organization.
18. She looks at the **Improve Virtualization Utility** Objective.
19. She clicks the Objective and finds that the **Percentage of Server Virtualization** KPI is red
20. To understand why the KPI is red, Maggie looks at the **Server by Virtualization** pie chart. She sees that only 30% of servers are running on the cloud and virtualization technology.
21. Maggie sends an annotation to Steve: "Steve – We have poor performance on server virtualization, I will setup a meeting with the IT infrastructure team to push them move more servers on the cloud".

# UI Description

## CMS_Demo and CMS




User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

| UI Element | Description |
|---|---|
| **Pages** | See "Pages " on page 24. |
| **Scorecards** | • IT Configuration Manager (CMS and AM)<br>• IT Configuration Manager (CMS) |
| **Business Contexts** | CMS_ConfigurationManagementSystem<br>For details, see Reference: Contexts (Universes) in the *Content Reference Guide*. |
| **KPIs and Metrics** | **Note:** The Demo CAP includes KPIs with names followed by (Demo). The CAP includes the same KPIs with names that do not include (Demo). The KPIs are the same but have different names so that both the Demo CAP and the CAP can be activated at the same time.<br>**Applications Synced Between UCMDB and AM vs Applications in AM KPI**<br>The number of Business Applications synchronized between CMS and AM compared to the number of Business Applications in AM.<br>**CIs Synced Between CMS and AM vs CIs in AM KPI**<br>The number of CIs synchronized between CMS and AM compared to the number of CIs AM (for CIs of type Node, Business Service, Infrastructure Service, or Business Application).<br>**Nodes Synced Between CMS and AM vs Nodes in AM KPI**<br>The number of Nodes synchronized between CMS and AM compared to the number of Nodes in AM.<br>**Percentage of Application Virtualization KPI**<br>The number of Business Applications provided by the relative Server components running on cloud virtualization technology relative to the total number of Business Applications (KPIs show data only if you are using CMS 10.22 and above).<br>**Percentage of Applications Related to Nodes KPI**<br>The number of Business Applications that have at least 1 direct or indirect relationship with a Node relative to the number of Business Applications.<br>**Percentage of Authorized Applications KPI**<br>The number of authorized Business Applications relative to the total number of Business Applications (KPIs show data only if you are using UCMDB Configuration Manager).<br>**Percentage of Authorized CIs KPI**<br>The number of authorized CIs relative to the total number of CIs (KPIs show data only if you are using UCMDB Configuration Manager).<br>**Percentage of Authorized Nodes KPI** |

| UI Element | Description |
|---|---|
| | The number of authorized Nodes relative to the total number of Nodes (KPIs show data only if you are using UCMDB Configuration Manager).<br><br>**Percentage of Authorized Services KPI**<br><br>The number of authorized Services relative to the total number of Services (Service in Business Service or Infrastructure Service) (KPIs show data only if you are using UCMDB Configuration Manager).<br><br>**Percentage of Node Virtualization KPI**<br><br>The number of Nodes that are running on cloud virtualization technology relative to the total number of Nodes (KPIs show data only if you are using CMS 10.22 and above).<br><br>**Percentage of Nodes with Vendors KPI**<br><br>The number of Nodes that contain vendor information relative to the total number of Nodes.<br><br>**Percentage of Service Virtualization KPI**<br><br>The number of Services provided by the relative Server components running on cloud virtualization technology relative to the total number of Services (Service in Business Service or Infrastructure Service) (KPIs show data only if you are using CMS 10.22 and above).<br><br>**Percentage of Services Modeled by Automated Service Modeling KPI**<br><br>The number of Services that are modeled by automated service modeling relative to the number of Services that are created during the measurement period (Service in Business Service and Infrastructure Service) (KPIs show data only if you are using CMS 10.2 and above).<br><br>**Percentage of Services Related to Nodes KPI**<br><br>The number of services that have at least 1 direct or indirect relationship with a Node relative to the number of services (Service in Business Service or Infrastructure Service).<br><br>**Services Synced Between CMS and AM vs Services in AM KPI**<br><br>The number of Services synchronized between CMS and AM compared to the number of Services in AM (Service in Business Service or Infrastructure Service).<br><br>**CMS Growth Metric**<br><br>The number of CIs created in the last period relative to the number of CIs created in the previous period.<br><br>**Number of CIs Monitored by CMS Metric**<br><br>The total number of CIs monitored by CMS.<br><br>**Number of CIs Not in Authorized State Metric** |

| UI Element | Description |
|---|---|
| | The total number of CIs that are not in authorized state.<br>**Number of Missed CIs Compared to Asset Manager Metric**<br>The number of CIs in Asset Manager that do not have a relevant CI record in CMS (for CIs of type Node, Business Service, Infrastructure Service, or Business Application).<br>**Number of Nodes Monitored by CMS Metric**<br>The total number of Nodes Monitored by CMS. |
| **Data (External Tables)** | CMS_demo |

# Integration with CMS

HPE Configuration Management System (CMS) comprises three components: UCMDB, Discovery, and Configuration Manager. The UCMDB reconciles data from multiple discovered and federated sources into one data set, model your business services, calculate the potential impact of changes within these services, track changes for any configuration item, and contains reporting capabilities to transform CMDB data into comprehensible, actionable information that helps answer critical questions and solve business problems. HPE Universal Discovery (UD) software is used by UCMDB to acquire and maintain application and IT infrastructure data. Configuration Manager makes it possible to analyze IT environments in order to move toward fewer standards and improve IT management processes. This helps you improve data quality in your configuration management system (CMS), avoid single points of failure, achieve geographic redundancy of applications and drive changes based on configuration standards.

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Configuration Management System data source.

The purpose of the integration of Configuration Management System (CMS) as a data source is to bring quality management information into the Data Warehouse.

**To access:**

Select **ADMIN > Data Management > Connect Data Source** then click **Add data source** and select **CMS** to activate the integration processes for the **CMS** data source.


## Learn More

### Content Packs and their functionality

To learn about Content Packs and their functionality see, Connect the Data Source in the *Administrator Guide*.

## DCS Integration:

An extractor using the Data Collection Service mechanism that extracts entities from the CMS source and generates corresponding flat files using the TQL query language. For details, see Connect the Data Source in the *Administrator Guide*.

## Important Information

- CMS supports multiple instances of the Content Pack.
- All fields are case-sensitive.

# Tasks

## Activate the integration

1. **Activate the CMS Data Source:**
   a. Select **ADMIN > Data Management > Connect Data Source** then click **Add data source**.
   b. The Add Data Source page opens. Select the **CMS** data source type.
   c. Select or enter the configuration parameters.
   d. Click **Next** to proceed to the validation page.

   **Note:** The system does not support changing the **Data Source Type**, therefore you must select the relevant type: CAC or non-CAC, before activation.

   **Note:** Before reactivating the CMS data source, click **Edit Settings** and enter the **Username** and **Password**.

## Connect to CMS on a Secured Connection

1. Export the CMS SSL certificate to a file. For details, see the CMS *Hardening Guide* available in the HPE Software Support Online web site (https://softwaresupport.hp.com/group/softwaresupport/home).
2. If you have selected CAC, perform this step, otherwise go to the next step.

   To reveal the CMS certificate to Data Warehouse, import the SSL certificate trusted by the CMS server into the JDK key store using a tool provided by the JDK called **keytool.exe** by running the command :

   **$HPBA_Home/dk/jre/bin/keytool -importcert -alias <alias> -file <file> -keystore %HPBA_Home%/jdk/jre/lib/security\cacerts -trustcacerts**

> **Note:** The default password for JVM keystore is a 'changeit'. If this password wasn't changed before, use the default keystore password for certificate import.

3. Restart the ITBA server.
4. Select **Is secured** in the activation parameters page.

   **Is secured** unchecked with NON CAC still works.
5. Change the port to a secured port. Default port is 8080. Secured default port is 8443, CAC default port is 8444.

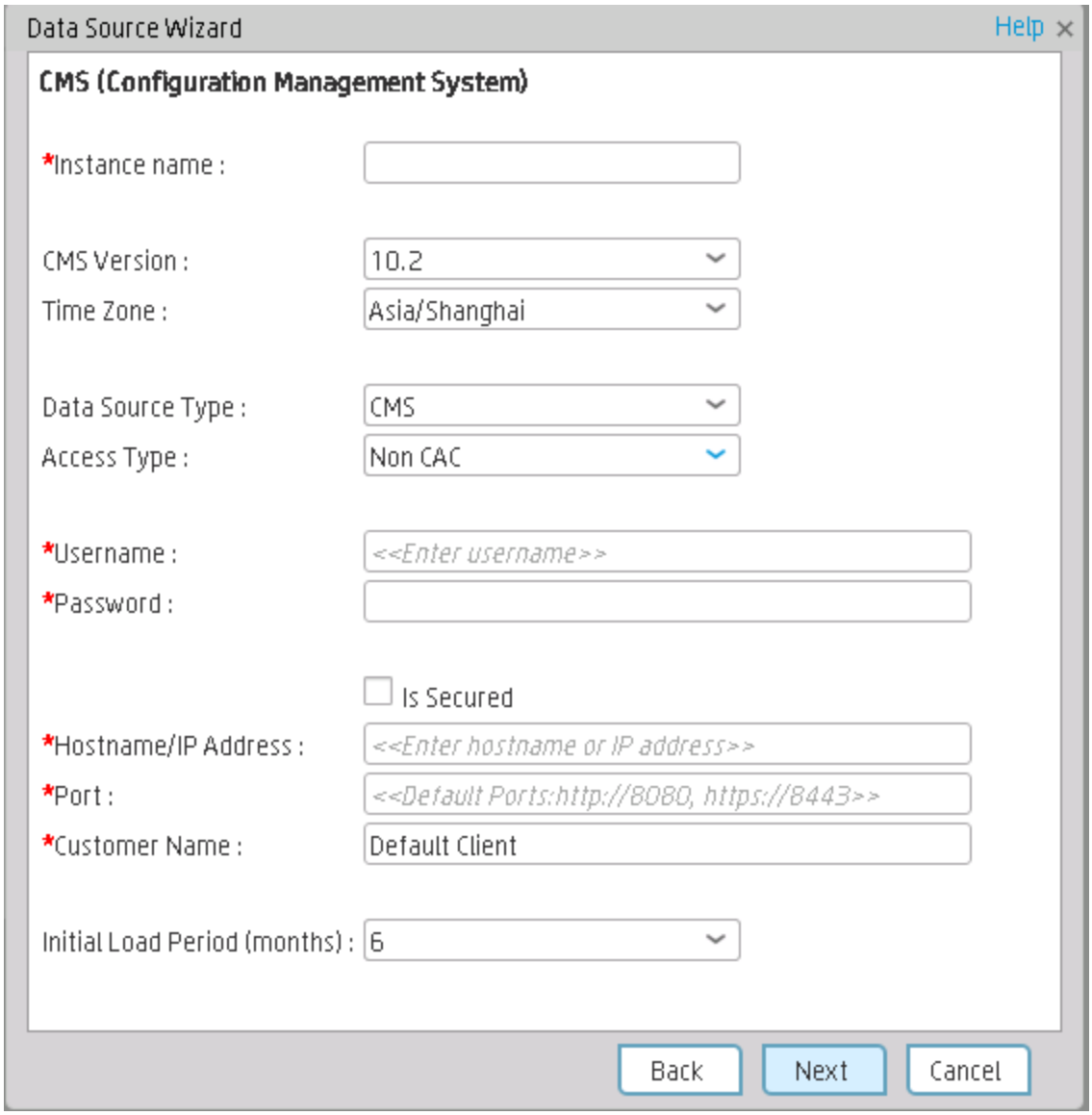
## UI Description

**CMS Activation Page**

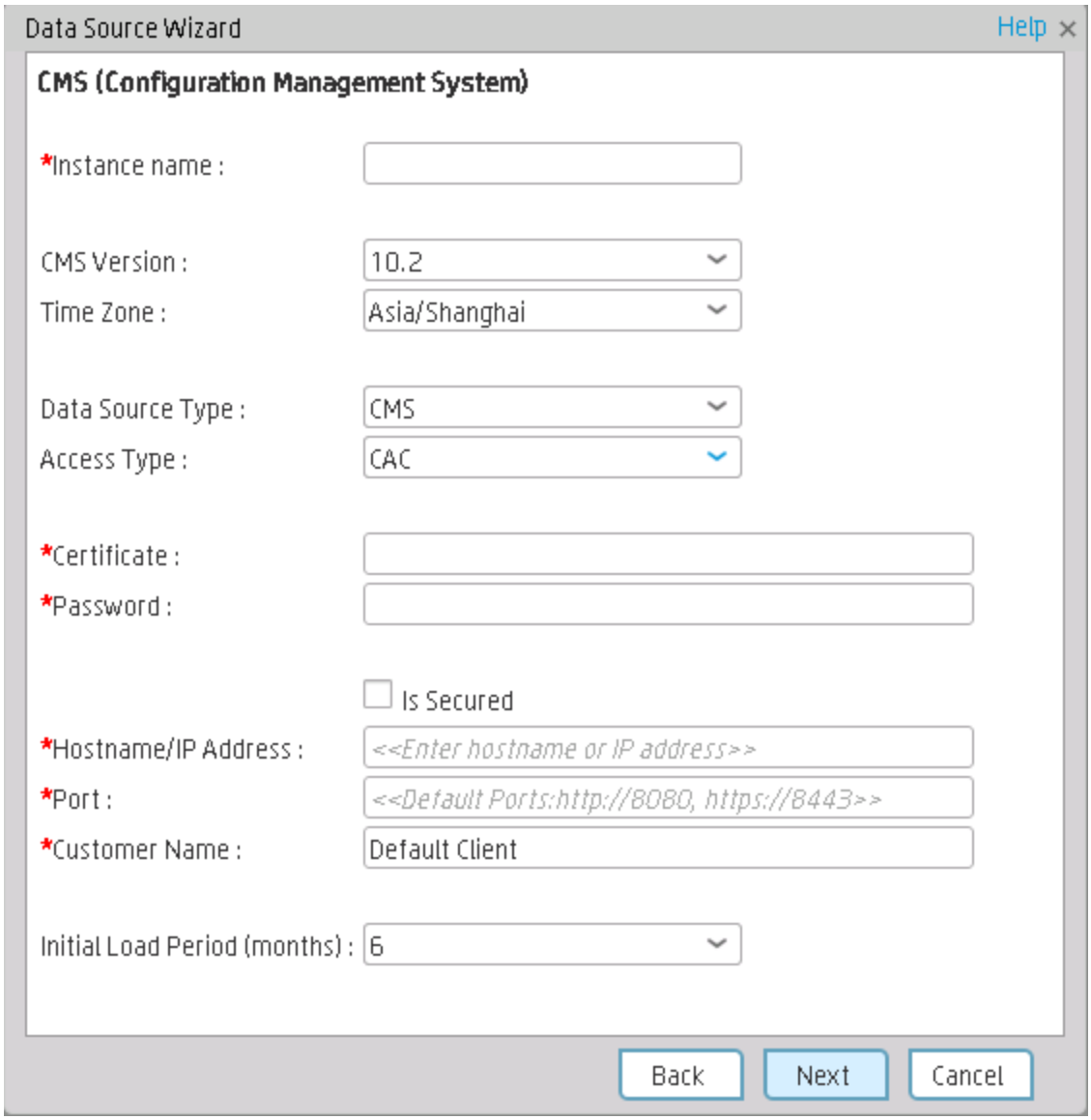
The data warehouse is connected to Configuration Management System through high-level integration processes.

- **Non CAC Access:**

  Mandatory fields are marked with a red asterisk.




- **CAC Access:**




| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **CMS Version** | Select the relevant CMS version. For details, see the *Support Matrix*. |
| **Time Zone** | Select the time zone for the data source. |
| **Data Source Type** | CMS. |
| **Access Type** | Select **CAC** or **Non CAC** |
| **Certificate/User Name** | If you select **CAC**, the field is displayed as Certificate. Enter the name of the certificate. |

| UI Element | Description |
|---|---|
| | If you select **Non CAC**, the field displayed as **User Name**. Enter the name of the user used to access the UCMDB server. |
| **Password** | If you select **CAC**, enter the password of the UCMDB server's certificate file.<br>If you select **Non CAC**, enter the password of the user used to access the UCMDB server. |
| **Is Secured** | Select to use https to get data.<br>Unselect to use http to get data. |
| **Hostname/IP Address** | Enter the CMS hostname or IP address. |
| **Port** | Enter the server port number. |
| **Customer Name** | Used for multi-customer purposes. If no user name is given, then **Default Client** is displayed. |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

## Reference

CMS-Related KPIs and Metrics

For a list of the CMS-related KPIs and Metrics, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

# Clean ETL Data After Upgrade

This section describes the cases when you need to clean the existing ETL data for the relevant Content Pack after upgrading from specific versions of Content Packs (CP) to CP0004.

To clean the ETL data, see Clean the ETL data in the *Utility Tools Guide*.

To download the Utility Tool Guide, go to HPLN (https://hpln.hp.com/group/it-business-analytics, click **Resources > 5.Tools > ITBA 10.0**, and download the PDF.

To check if you need to clean the ETL data, see the conditions below:

| Integration with | Base Version | Target Version | Clean the existing ETL data |
|---|---|---|---|
| CSA | 10.00 | 10.00 CP0004 | Yes |
| | 10.00 CP0001<br>10.00 CP0002<br>10.00 CP0003 | 10.00 CP0004 | No |
| AWS/AWSCW | 10.00<br>10.00 CP0001 | 10.00 CP0004 | Yes |
| | 10.00 CP0002<br>10.00 CP0003 | 10.00 CP0004 | No |
| AM | 10.00 CP0003 | 10.00 CP0004 | Yes if you want to use the KPI across CMS and AM |
| | 10.00 CP0001<br>10.00 CP0002 | 10.00 CP0004 | No |

# CP0003 Enhancements and Their Documentation

This section provides the changes and additions to the documentation that support Content Pack 0003.

## Enhancements

CP0003 helps you obtain Asset Manager business data including Asset Lifecycle, Procurement, Finance, Vendor Contract and software license information. It provides:

- Integration with AM. The collected data is integrated into AM-related KPIs, Metrics, and Dashboard pages. For details, see "Integration with AM" on the next page and "AM_Demo and AM Content Acceleration Packs" on page 46.
- Support for Asset Manager 9.41 and 9.50.
- Support for MSSQL and Oracle.
- Integration with vPV. The collected data is integrated into CSA-related KPIs, Metrics, and Dashboard pages.
- New AM KPIs.

## Documentation

The pages that follow describe the enhancements listed above and replace the relevant pages or do not appear in the ITBA 10.00 documentation.

# Integration with AM

Asset Management helps you to manage your assets across procurement, active lifecycle, and disposals so you can optimize end-to-end asset usage for optimal value and lower costs.

The AM integration uses the SAP BusinessObjects Data Services drivers for data store connections.

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Asset Manager data source.

The Asset Manager (AM) content pack enables you to receive data information from the AM application. AM is a fully integrated suite of modules delivered as part of the Service Management Center software package. AM software manages the physical, virtual, financial, and contractual aspects of assets.

**Note:** Information about the ALT data source and more general content issues are detailed in the *Content Reference Guide*.

**To access:**

Select **ADMIN > Data Management > Connect Data Source** then click **Add data source** and select **AM** to activate the integration processes for the **AM** data source.


## Learn More

### Content Packs and their functionality

To learn about Content Packs and their functionality see, Connect the Data Source in the *Administrator Guide*.

### Important Information

- The AM Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.

- All fields are case-sensitive.

## Tasks

### Activate the integration

1. **Prerequisite:**

   The AM data source can have either the Oracle or the SQL Server type.

2. **Activate the AM Data Source:**
   a. Select **ADMIN > Data Management > Connect Data Source** then click **Add data source**.
   b. The Add Data Source page opens. Select the **AM** data source type.
   c. Select or enter the configuration parameters.
   d. Click **Next** to proceed to the validation page.

   **Note:** The system does not support changing the **Data Source Type**, therefore you must select the relevant type, SQL or Oracle, before activation.

## UI Description

**AM Activation Page**

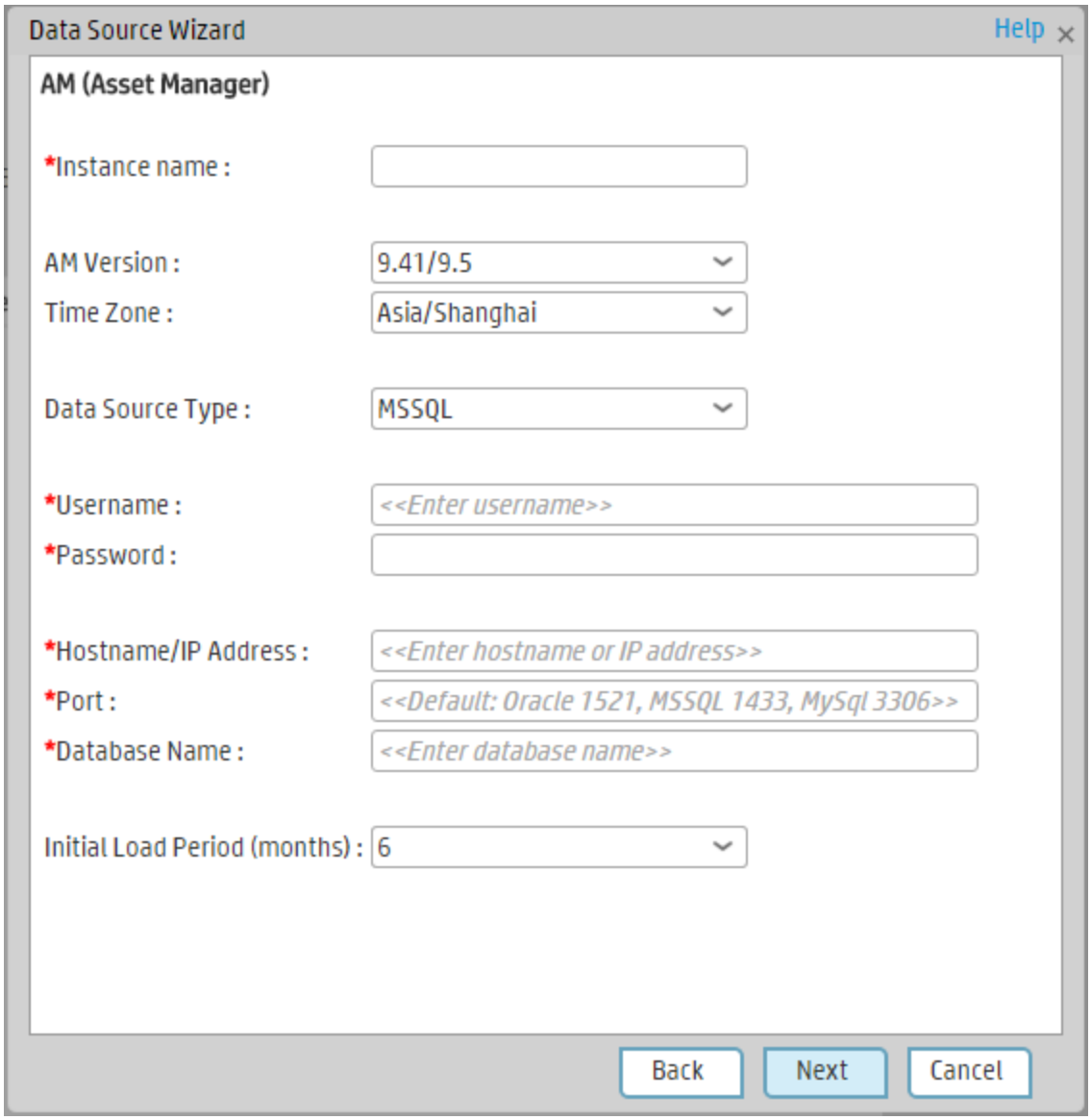
The data warehouse is connected to Asset Manager through high-level integration processes.

User interface elements are described below:

**For the SQL server:**

The following is an example of the AM Activation page when the database backup of Asset Manager is restored on an SQL Server.

Mandatory fields are marked with a red asterisk.



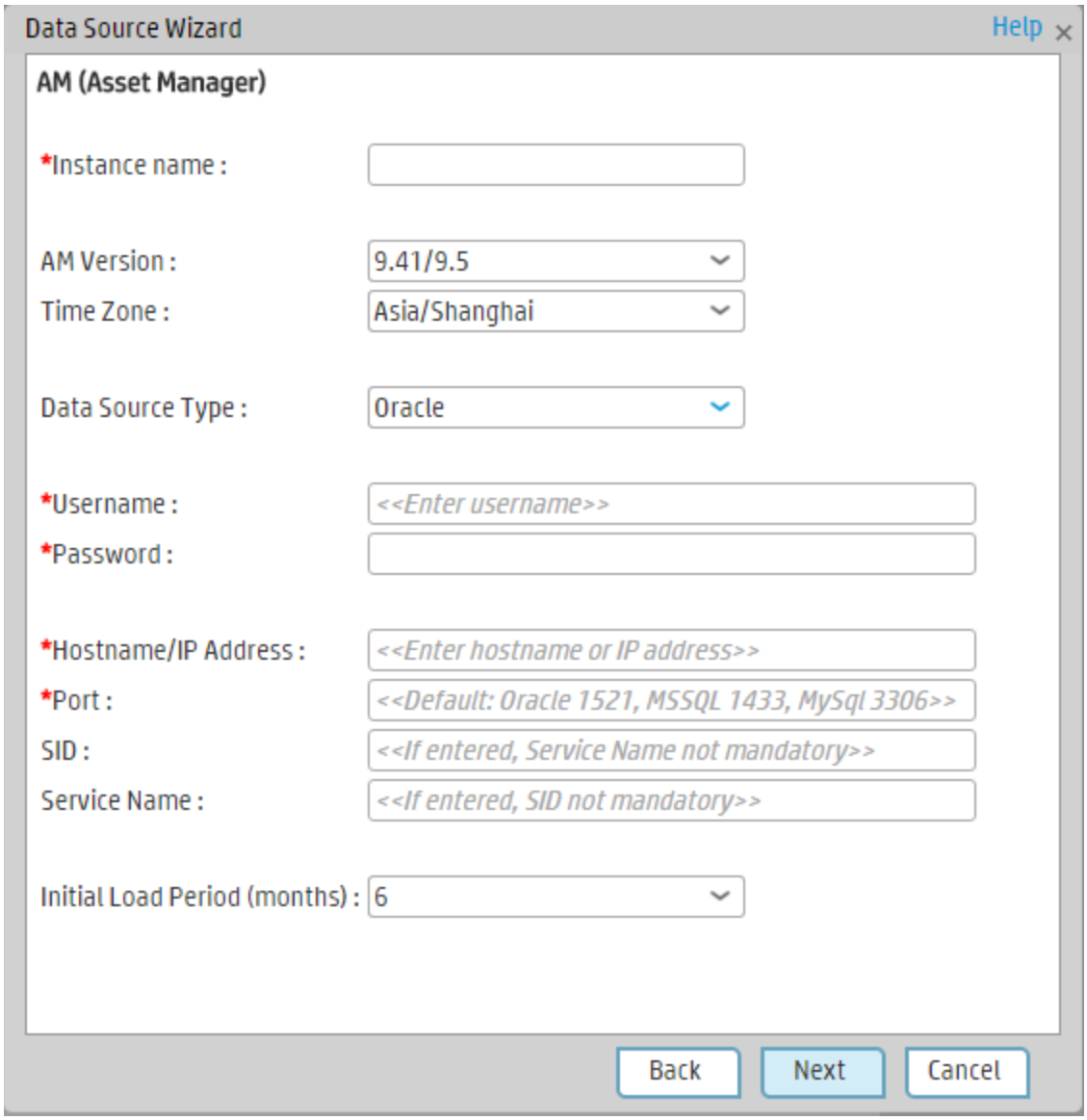

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **AM Version** | Select the relevant AM version. For details, see the *Support Matrix*. |
| **Time Zone** | Select the time zone for the data source. |

| UI Element | Description |
|---|---|
| **Data Source Type** | AM should be configured to run on an SQL Server. |
| **Username** | Enter the username used to log on to the AM database. |
| **Password** | Enter the password used to log on to the AM database. |
| **Hostname/IP Address** | Enter the SQL server database hostname or IP address. |
| **Port** | Enter the server port number. |
| **Database Name** | Enter the database name used by AM. |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

**For the Oracle Server:**

The following is an example of the AM Activation page when the database backup of Asset Manager is restored on an Oracle Server.

Mandatory fields are marked with a red asterisk.




**Note:** The Oracle database can have both Server ID (SID) and Service Name properties, but the user should specify only one. If you define the SID, then the SID is used, and if you define Service Name, then Service Name is used. If you define both in the UI, only SID is used.

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **AM Version** | Select the relevant AM version. For details, see the *Support Matrix*. |
| **Time Zone** | Select the time zone for the data source. |
| **Data Source Type** | AM should be configured to run on an Oracle server. |
| **Username** | Enter your username used to log on to the AM database. |
| **Password** | Enter your password used to log on to the AM database. |
| **Hostname/IP Address** | Enter the Oracle server hostname or IP address. |
| **Port** | Enter the server port number. |
| **SID** | Enter the unique name of the database. |
| **Service Name** | Enter the alias used when connecting. |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

## Reference

AM-Related KPIs and Metrics

For a list of the AM-related KPIs and Metrics, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

# AM_Demo and AM Content Acceleration Packs

The purpose of the AM_Demo and AM Content Acceleration Packs (CAPs) is to provide a set of items (Scorecards, Contexts, KPIs, Metrics, and more) that automatically gathers information from across your enterprise to build key performance indicators (KPIs) related to AM-related issues with OOTB data from Data Warehouse as well as Dashboard pages that display the relevant information. The CAPs provide broad and deep insight that should enable you to Improve Staff Effectiveness, Improve Responsiveness, Achieve Process Excellence, Improve Quality of Delivery, and Improve Customer Satisfaction. This CAP provides a 360 degree Asset Manager view.

To access:

Click **Admin > Data Management > Activate CAP**. You can then select the relevant CAP and activate it.

If the CAP you want to activate is not the demo CAP, you must make sure you have installed the relevant Content Pack, connected the relevant data source, optionally configured the consolidations, and run the ETL to see the relevant data in the CAP Dashboard pages.



## What are Content Acceleration Packs (CAPs)

Content Acceleration Packs (CAPs) are packages that include Dashboard pages that display Scorecards and components, KPIs, Metrics, Contexts (universes), data (from .CSV files or from data sources), and documentation for the CAP. You can import them, export them, activate, or deactivate them, or you can create your own.

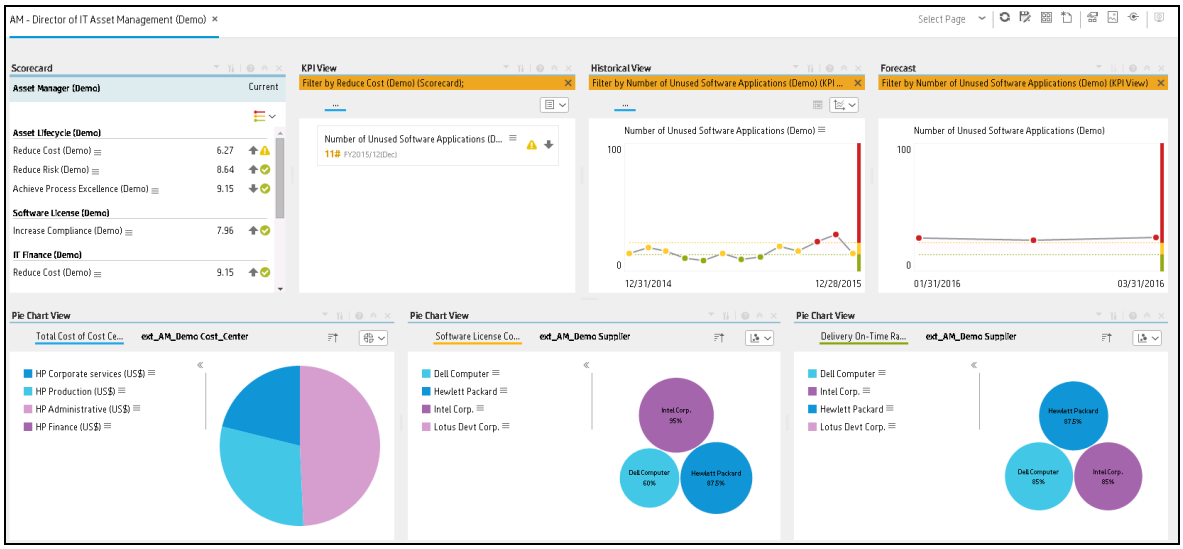
CAPs describe typical stories that show how the correct implementation of Business Analytics drives Performance Improvement and Cost Reduction for the IT organization.

CAPs demonstrate Business Analytics capabilities, and helps you add basic elements that can be used to customize your Dashboard.

The AM_Demo is based on data in .csv files that are part of the CAP package and AM CAPs include data from the Asset Manager data source.

# Pages

### AM - Director of IT Asset Management Page




# Tasks

This section includes:

## Upload and manage the Content Acceleration Pack

For details, see Content Acceleration Packs (CAPs).

## View the AM or AM_Demo CAP-related Dashboard page

1. In the ITBA application, close all the tabs. The Dashboard is displayed.
2. Click the **AM - Director of IT Asset Management** tab. If it is not displayed, select it in **Select Page** or click the **Page Gallery** button in the Dashboard toolbar, double-click the relevant icon and close the Page Gallery dialog box.

## View the Scorecard Structure and KPI and Metric Breakdowns in the Studio

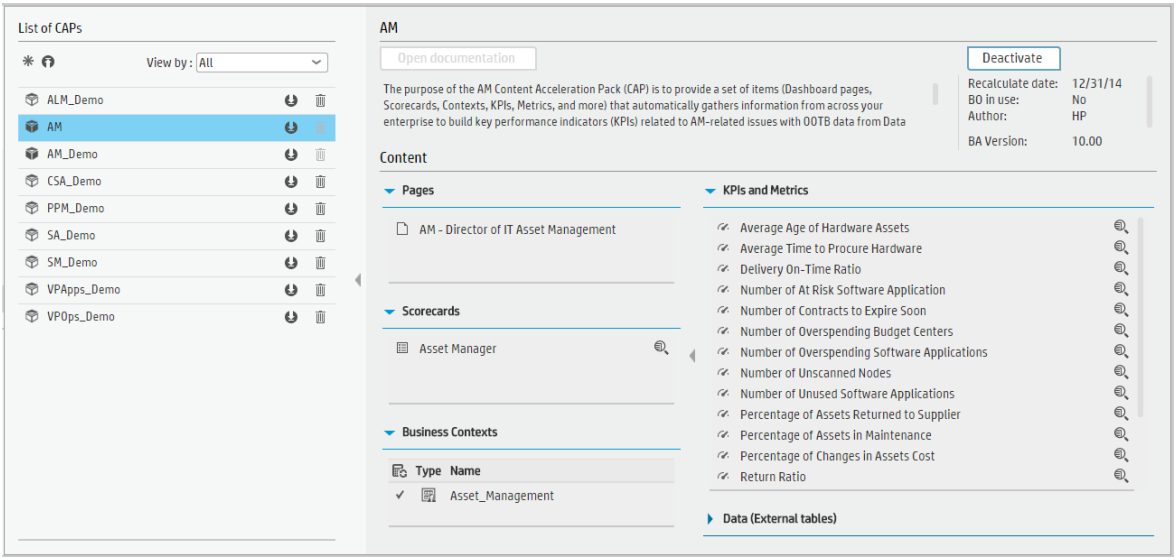
1. Make sure the CAP is activated.
2. In the Business Analytics application, click **Studio**.
3. Expand the relevant Scorecards to view the Scorecards, Perspectives, Objectives, KPIs, KPI Breakdowns structure.

## User Story

1. Maggie is the IT Director of Asset Management at ABC Inc. She manages the entire asset life-cycle of the IT organization.
2. One of her responsibilities is to ensure that the software licenses are compliant.
3. She logs into the AM – Director of IT Asset Management Dashboard page, and looks at her Scorecard to understand the overall performance of her organization and finds that the **Increase Compliance** Objective under the **Software License** Perspective is red.
4. She clicks the Objective and finds that the cause is the **Software Compliance Ratio** KPI that is also red.
5. Meanwhile, the Historical View shows, for the **Software License Compliance** KPI , a negative weekly trend for the last two weeks. Based on the current results, the Forecast component also shows a continuously decline for the week after and in the future.
6. Drilling down further, Maggie then looks at the KPI Breakdown called **Software License Compliance Ratio Breakdown by Supplier** in the Pie Chart View and realizes that the **Dell Computer** supplier only meets less than 45 percent of the license compliance ratio and is the cause of the red ratio of the KPI. She then clicks on the **Dell Computer** legend to open the KPI EXPLORER, where the data shows details about the software count for which licenses are not compliant.
7. Maggie sends an annotation to Richard, the Supplier Manager, requesting clarifications:"Richard – We have poor Software License Compliance performance on “Apache Group” supplier, please provide insight and set a plan by EOW".
8. Richard is responsible for maintaining the license contracts with the Apache Group supplier. When he gets the annotation from Maggie he checks his Scorecard and starts the analysis of the problem.
9. Richard then replies to Maggie that he will initiate a meeting with the supplier to discuss the license contract.

# UI Description

## AM_Demo and AM




User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

| UI Element | Description |
|---|---|
| **Pages** | See "Pages " on page 47. |
| **Scorecards** | • Asset Manager (Demo)<br>• Asset Manager |
| **Business Contexts** | • AM_Demo<br>• Asset_Management<br><br>For details, see Reference: Contexts (Universes) in the *Content Reference Guide*. |
| **KPIs and Metrics** | **Note:** The Demo CAP includes KPIs with names followed by (Demo). The CAP includes the same KPIs with names that do not include (Demo). The KPIs are the same but have different names so that both the Demo CAP and the CAP can be activated at the same time.<br><br>• **Average Age of Hardware Assets KPI**<br><br>The average age of hardware assets. |

| UI Element | Description |
|---|---|
| | • **Average Time to Procure Hardware KPI**<br>The average time needed to procure an item defined as the time lag between a request for procurement and the contract signing or the purchase.<br>• **Delivery On-Time Ratio KPI**<br>The ratio is calculated as the number of receipt lines for which the delivery is on-time divided by the total number of receipt lines.<br>• **Number of At Risk Software Applications KPI**<br>The number of software applications for which the license count exceeds the license pool.<br>• **Number of Contracts to Expire Soon KPI**<br>The number of Contracts that will expire in the coming three months.<br>• **Number of Overspending Budget Centers KPI**<br>The number of budget centers that ran over budget during the last fiscal year, in terms of gap between actual spending vs. budget.<br>• **Number of Overspending Software Applications KPI**<br>The number of software applications for which the license count is lower than than the license pool.<br>• **Number of Unscanned Nodes KPI**<br>The number of nodes that have not being scanned for more than 3 months.<br>• **Number of Unused Software Applications KPI**<br>The number of software applications that were unused for more than three months.<br>• **Percentage of Assets Returned to Supplier KPI**<br>The number of assets returned to the suppliers relative to the total number of assets.<br>• **Percentage of Assets in Maintenance KPI**<br>The number of assets in maintenance relative to the total number of assets.<br>• **Percentage of Changes in Assets Cost KPI**<br>The asset cost in the last period relative to the asset cost in the previous period.<br>• **Return Ratio KPI**<br>The ratio is calculated as the total quantity of returned assets divided by the total quantity of received assets.<br>• **Software License Compliance Ratio KPI**<br>The number of software applications where the license count are lower than the license pool divided by the number of software counters. |

| UI Element | Description |
|---|---|
| | • **Total Budget vs. Total Cost KPI**<br>The total budget vs the total cost in the last fiscal year.<br>• **Work Order Resolution On-Time Ratio KPI**<br>The ratio is calculated as the number of on-time work orders divided by the total number of work orders.<br>• **Total Cost of Asset KPI**<br>The total cost of assets during the measurement period. Supports Breakdown by Cost Center or Asset Type.<br>• **Total Cost of Cost Centers**<br>The total cost of cost centers during the measurement period. Supports Breakdown by Cost Center. |
| **Data (External Tables)** | AM_demo |

# CP0002 Enhancements and Their Documentation

This section provides the changes and additions to the documentation that support Content Pack 0002.

## Enhancements

The IT Business Analytics 10.00 Content Pack 0002 release provides:

- An updated and enhanced cloud integration that includes:
  - The new Azure Content Pack to obtain Microsoft Azure public cloud data including Azure billing, resource consumption, and VM resource utilization information. For details, see "Integration with Azure" on page 57.
  - The new Virtual Performance View (vPV) Content Pack to obtain:
    - VMware VCenter private cloud data including VM cost and consumption, VM utilization, and VM allocation information.
    - Helion OpenStack Version 2.0 private cloud data including VM cost and consumption, VM utilization, and VM allocation information.

    For details, see "Integration with vPV" on page 165.
  - An enhanced CSA Content Pack that provides the new **Resource Usage and Utilization for Consumer** and **Resource Usage and Utilization for Resource Supply Manager** reports. For details, see "CSA_Demo and CSA Content Acceleration Packs" on page 133
  - An enhanced Amazon Web Services (AWS) Content Pack that provides the new **Amazon EC2 Instance Usage and Utilization** report. For details, see
- The new Server Automation (SA) Content Pack to obtain Server Automation data including Node, Job, Policy, and Compliance information. The Content Pack also includes new SA KPIs. For details, see "CSA_Demo and CSA Content Acceleration Packs" on page 133.

## Documentation

The pages that follow describe the enhancements listed above and replace the relevant pages or do not appear in in the ITBA 10.00 documentation.

# Integration with AWS

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Amazon Web Services data source.

Amazon Web Services (AWS) offers a complete set of infrastructure and application services that enable you to run virtually everything in the cloud: from enterprise applications and big data projects to social games and mobile apps. One of the key benefits of cloud computing is the opportunity to replace up-front capital infrastructure expenses with low variable costs that scale with your business.

The purpose of the integration of AWS as a data source is to bring AWS information into the Data Warehouse.

**To access:**

Select **ADMIN > Data Management > Connect Data Source** then click **Add data source** and select **AWS** to activate the integration processes for the **AWS** data source.


## Learn More

### Cloud Optimization Offering

The Cloud Optimization offering includes integrations with:

- **Amazon Web Services** (AWS). For details see Integration with AWS in the *Content Reference Guide*.
- **Amazon Web Service CloudWatch**(AWSCW). For details see Integration with AWSCW in the *Content Reference Guide*.
- **Cloud Service Automation** (CSA). For details see Integration with CSA in the *Content Reference Guide*.

### Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.

## Important Information

- The AWS Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- All fields are case-sensitive.
- The AWS DCS extraction of the csv file from the S3 bucket uses a properties file along with the datasource.xml file. It is available once the AWS content pack is deployed under: **$HPBA_ Home/ContentPacks/AWS/conf**.

  The properties file defines fixed csv properties, such as the csv file name, suffix, time format, filters in csv file, delayDay, and can be modified.
- AWS proxy parameters are optional in a public network.
- **Tip:** If you integrate with both CSA and AWS/AWSCW, you must run the AWS/AWSCW ETL before the CSA ETL. If you do not run the ETL as recommended, you must wait for the end of the CSA ETL run to view the correct data.
- The cloud-related reports (Dashboard pages) provided in the CSA_CAP and CSA_Demo_ CAP CAPs combine integrated data from the following data sources Cloud Service Automation (CSA), Amazon Web Services (AWS), Amazon Web Service CloudWatch (AWSCW)

  For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

## Tasks

### Activate the Integration

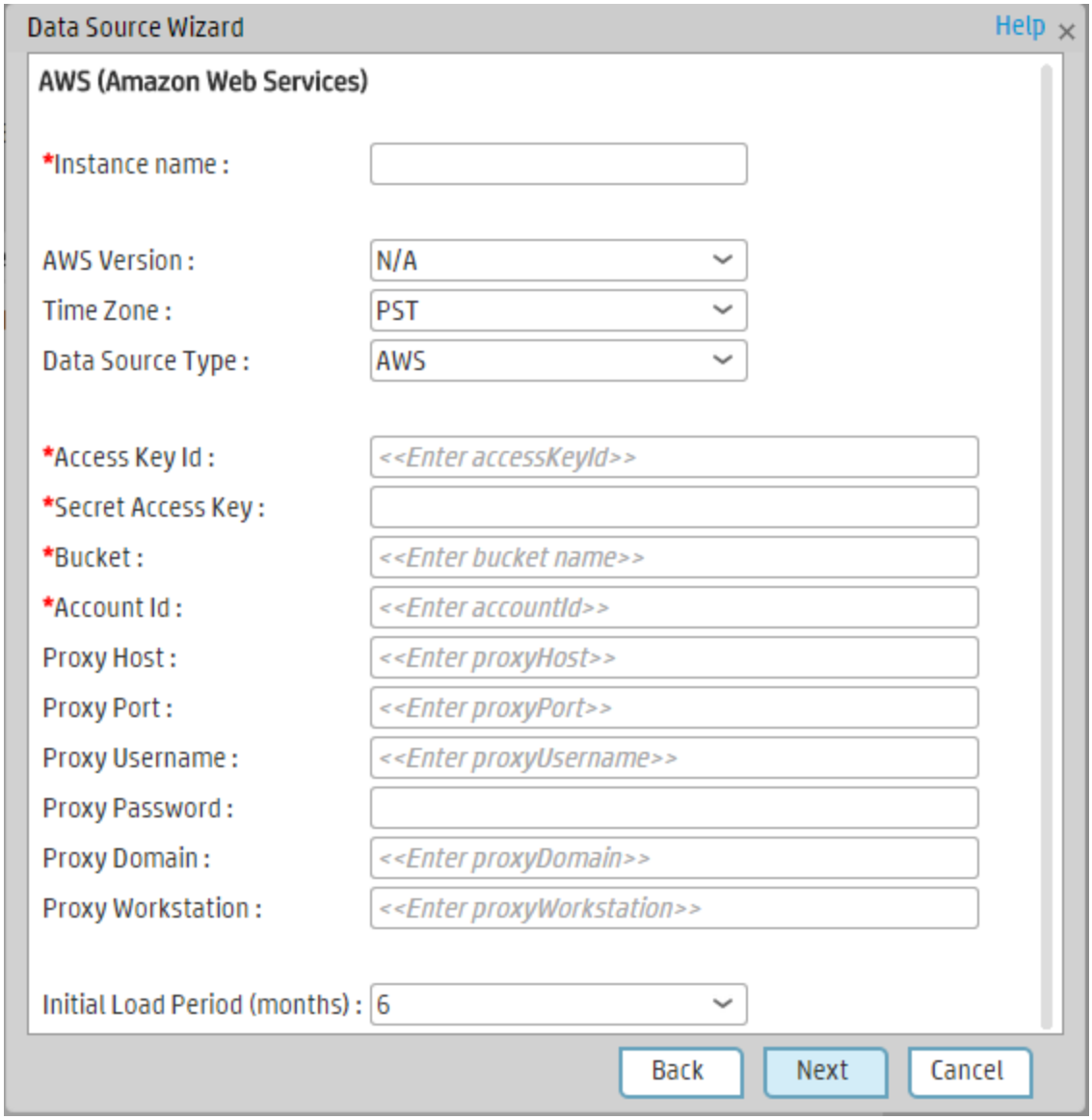
1. Select **ADMIN > Data Management > Install Content Pack** then click the install button relevant for the data source.
2. Select **ADMIN > Data Management > Connect Data Source** then click **Add data source**.
3. The Add Data Source page opens. Select the **AWS** data source type.
4. Select or enter the configuration parameters.

5. Click **Next** to proceed to the validation page.

## UI Description

### AWS Activation Page

The following is an example of the AWS Activation page.



User interface elements are described below:

**Note:** If the AWS configuration is for a named instance connection, make sure to enter the named instance port.

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **AWS Version** | This parameter is Not Applicable. |
| **Time Zone** | PST only |
| **Data Source Type** | AWS. This parameter is read only. |
| **Access Key Id** | Enter the AWS access key ID. |
| **Secret Access Key** | Enter the AWS secret access key. |
| **Bucket** | Enter the AWS S3 bucket name which was specified when you set up the Programmatic Billing Access. |
| **Account Id** | Enter the AWS account ID. |
| **Proxy Host** | Enter the proxy host name. |
| **Proxy Port** | Enter the proxy port number. |
| **Proxy Username** | Enter the proxy username used to log on to the network. |
| **Proxy Password** | Enter the proxy password used to log on to the network. |
| **Proxy Domain** | Enter the proxy domain. |
| **Proxy Workstation** | Enter the proxy workstation. |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

# Reference

## AWS-Related KPIs and Metrics

The KPIs and Metrics related to the Amazon Web Services data source are provided in the CSA and CSA_Demo CAPs. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

# Integration with Azure

Azure is Microsoft cloud computing platform, a growing collection of integrated services like analytics, computing, database, mobile, networking, storage, and web, for moving faster, achieving more, and saving money.

The purpose of the integration of Azure as a data source is to bring Azure information into the Data Warehouse.

The integration with Azure provides a general idea on how much money is spent on each Virtual Machine daily by different usage types. In addition, if the diagnostics function is enabled, you can also view the CPU utilization and Memory.

The data extracted from Azure is correlated to the data available in the KPIs and reports available in the CSA CAP. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

**To access:**

Select **ADMIN > Data Management > Connect Data Source** then click **Add data source** and select **Azure** to activate the integration processes for the Azure data source.


## Learn More

## Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.

## Important Information

- The Azure Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.

- All fields are case-sensitive.
- Azure must be activated with the CSA data source. If you activate Azure alone, only the cost fact information is displayed, without the ability to drill down further.

## Azure Usage Data.

For performance reasons, the ETL job extracts only, at most, 1 month of data for the initial and delta loads.

## Utilization Data.

For performance reasons, the ETL job extracts only, at most, 1 week of data for the initial and delta loads.

Azure utilization data is based on the latest Microsoft Azure preview portal function. Make sure you switch on Diagnostic for the Microsoft Azure Cloud VM instances, to have utilization data returned by the Microsoft Azure Cloud Service API.

**Limitation:**

- You can create Virtual Machines, storage, web apps, and a lot of other components with one subscription ID under a global account of Azure. If the Virtual Machine type is Windows, BA can obtain the name of the Cloud Services and provide its utilization data. If the Virtual Machine type is Linux, BA cannot obtain the name of the Cloud Services and provide its utilization data. The impact is on the SERVICE_PROVIDER_UTILIZATION_FACT entity.
- In Azure, you can enter your VM name when creating the VMs, and it is possible to use the same VM name for different Cloud Services. Due to the above limitation, the deployment ID is not displayed in the storage table, making it impossible to know the VM from which the metric data originates. So it is recommended **not** to create VMs with the same name.
- When using CSA with Azure Content Pack version: 14.12, and the OOTB design : **CSL_BP_MICROSOFT_AZURE_COMPUTE_3.20_CP3.0**, Azure usage related data is displayed in the **CSA-Resource Usage and Utilization for Consumer** and **CSA_Resource Usage and Utilization for Resource Supplier Manager** reports, but Azure CPU utilization data is not available and is not displayed in these reports.

# Tasks

This section includes:

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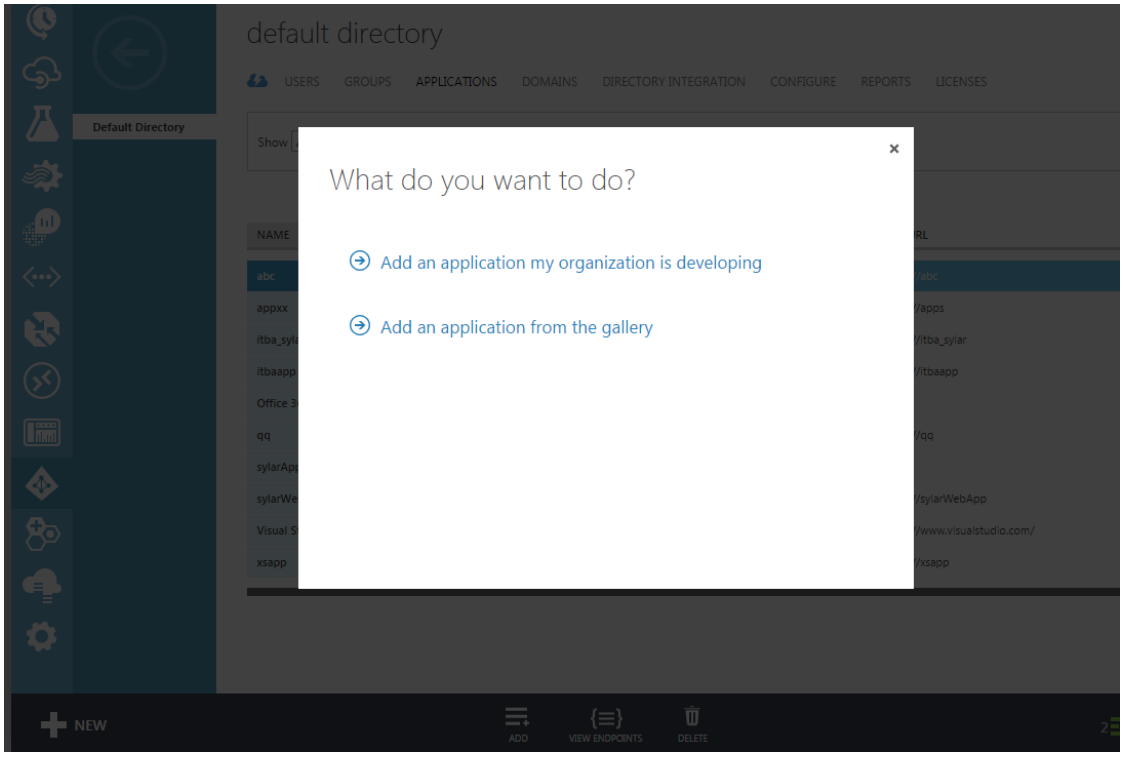
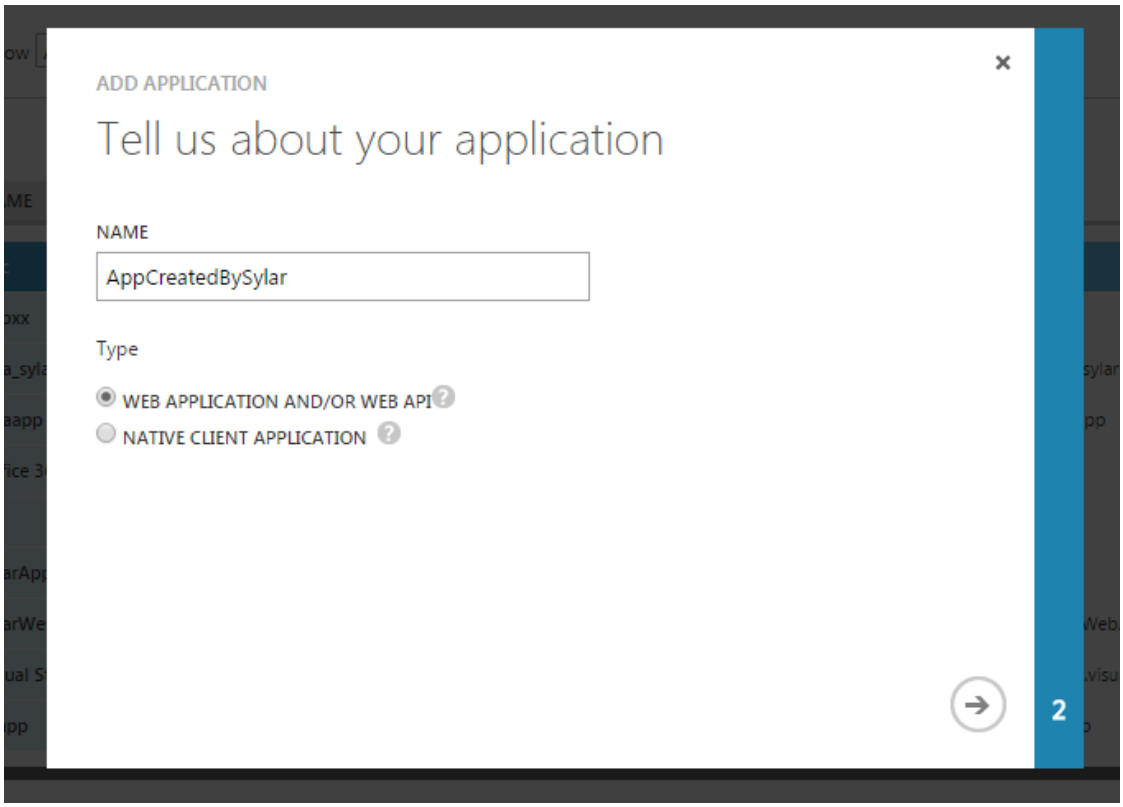
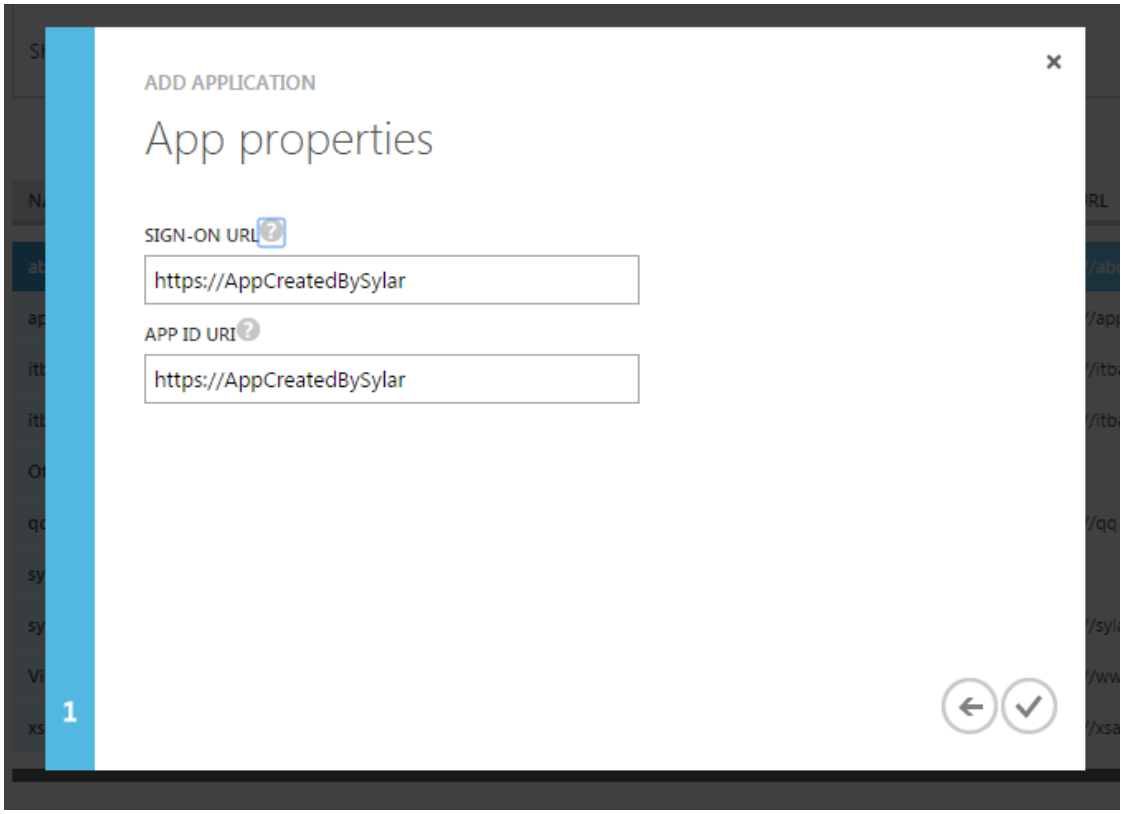
Assign permission to subscriptions in the Azure portal ..... 62
Create the certificate and bind all subscriptions ..... 63
Activate the Integration ..... 65

## Create an application in Azure portal

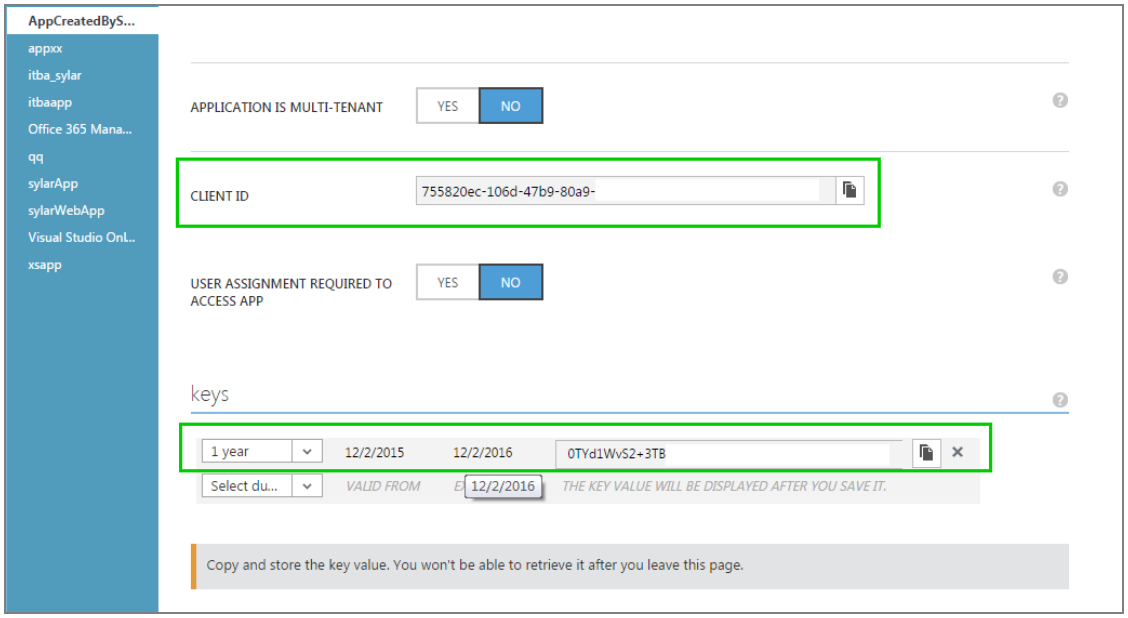
1. To create an application in the Azure portal, open: https://manage.windowsazure.com/ and click **ACTIVE DIRECTORY > Default Directory > APPLICATIONS > ADD > Add an application my organization is developing**.




ADD APPLICATION
Tell us about your application
NAME
AppCreatedBySylar
Type
WEB APPLICATION AND/OR WEB API
NATIVE CLIENT APPLICATION
2

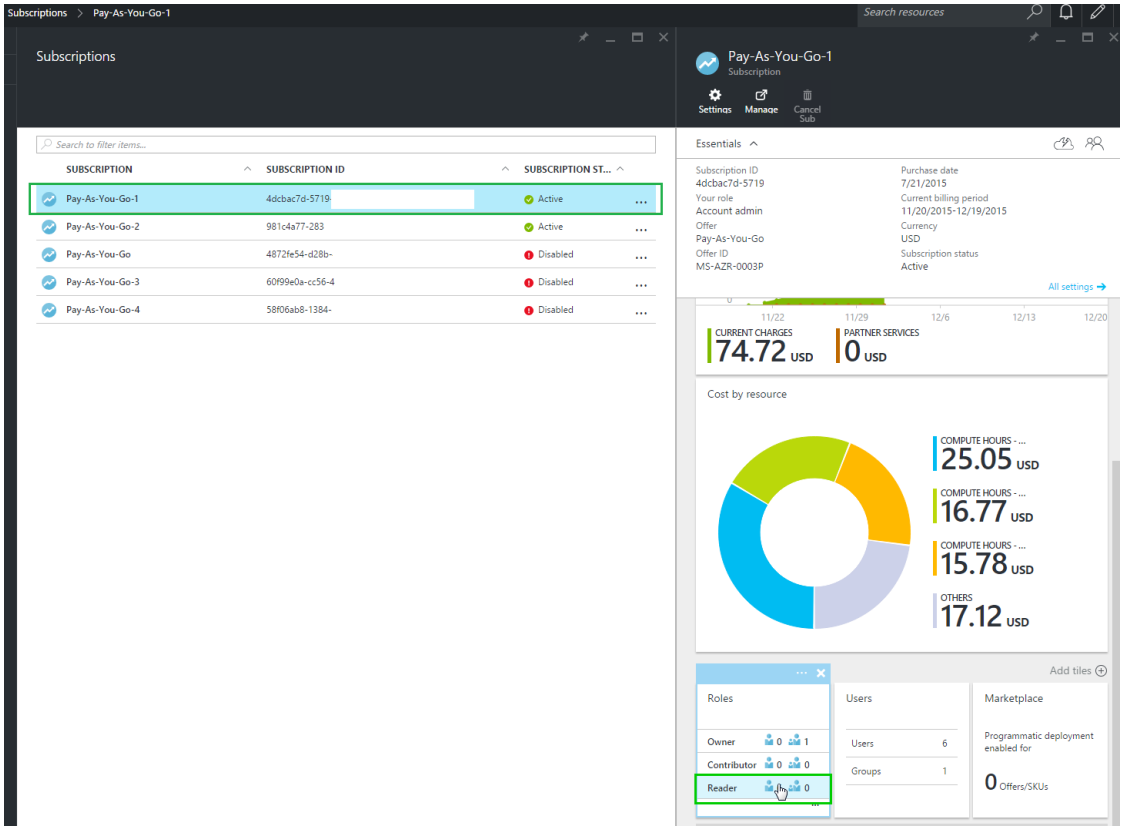



2. Click **<Application_just_created> > CONFIGURE > keys > Select Duration > Save** to get the key as **App password**; and the CLIENT ID as **App id**. They are used when configuring the data source in ITBA.

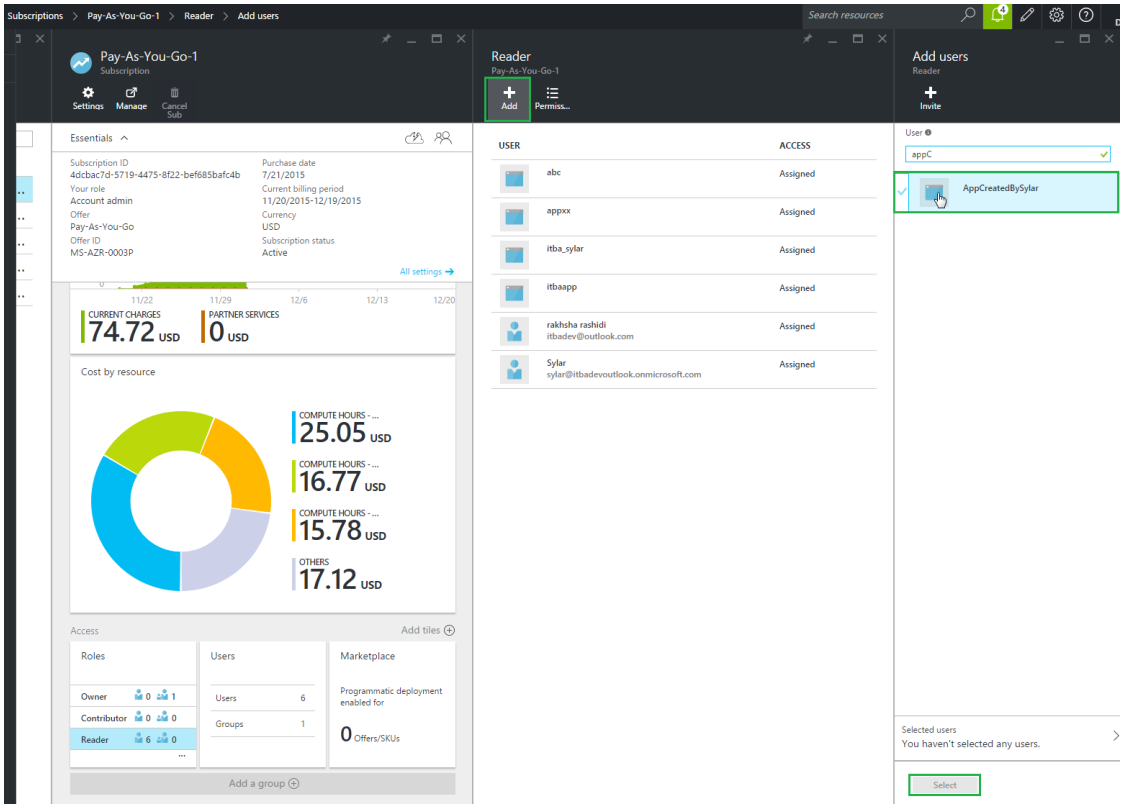


# Assign permission to subscriptions in the Azure portal

1. To assign permissions to subscriptions in the Azure portal, open: https://portal.azure.com/ and click **Subscriptions** , select the relevant subscription for which the customer wants to view data in ITBA, click **Access (Roles) > Reader** .



2. Click **Add** and select the application that the customer created for ITBA and click **Select**.




**Note:** If, in ITBA, you want to view data from multiple subscriptions you must assign the permissions to each subscription separately using the above procedure.

## Create the certificate and bind all subscriptions

1. Generate a self-signed certificate using the JDK keytool:

   a. After ITBA is installed, log on to the ITBA Linux server and use the following command in the command line to generate the certificate:

   **cd $HPBA_HOME/jdk/bin**

   **keytool -genkey -keyalg RSA -keystore <certificatename>.jks -keysize 2048**

   where **<certificatename>** is the name of the certificate you want to create.

b. Enter the keystore password and the requested information.

```
[hpba@qm bin]$ ./keytool -genkey -keyalg RSA -keystore Azure_certification.jks -keysize 2048
Enter keystore password:
Re-enter new password:
What is your first and last name?
  [Unknown]:  name
What is the name of your organizational unit?
  [Unknown]:  HPE
What is the name of your organization?
  [Unknown]:  HPE
What is the name of your City or Locality?
  [Unknown]:  SH
What is the name of your State or Province?
  [Unknown]:  SH
What is the two-letter country code for this unit?
  [Unknown]:  CN
Is CN=name, OU=HPE, O=HPE, L=SH, ST=SH, C=CN correct?
  [no]:  yes

Enter key password for <mykey>
        (RETURN if same as keystore password):
```

c. Convert **<certificatename>.jks** to **<certificatename>.cer** and **<certificatename>.pfx**. using the following command:

**keytool -importkeystore -srckeystore <certificatename>.jks -srcstoretype JKS -**

**destkeystore <certificatename>.pfx -deststoretype PKCS12**

d. Enter destination keystore password. Remember this password which will be used in the Connect to Data Source page.

Use the same password for destination keystore and source keystore.

```
[hpba@qm bin]$ ./keytool -importkeystore -srckeystore Azure_certification.jks -srcstoretype JKS -destkeystore Azure_certification.pfx -deststoretype PKCS12
Enter destination keystore password:
Re-enter new password:
Enter source keystore password:
Entry for alias mykey successfully imported.
Import command completed:  1 entries successfully imported, 0 entries failed or cancelled
```

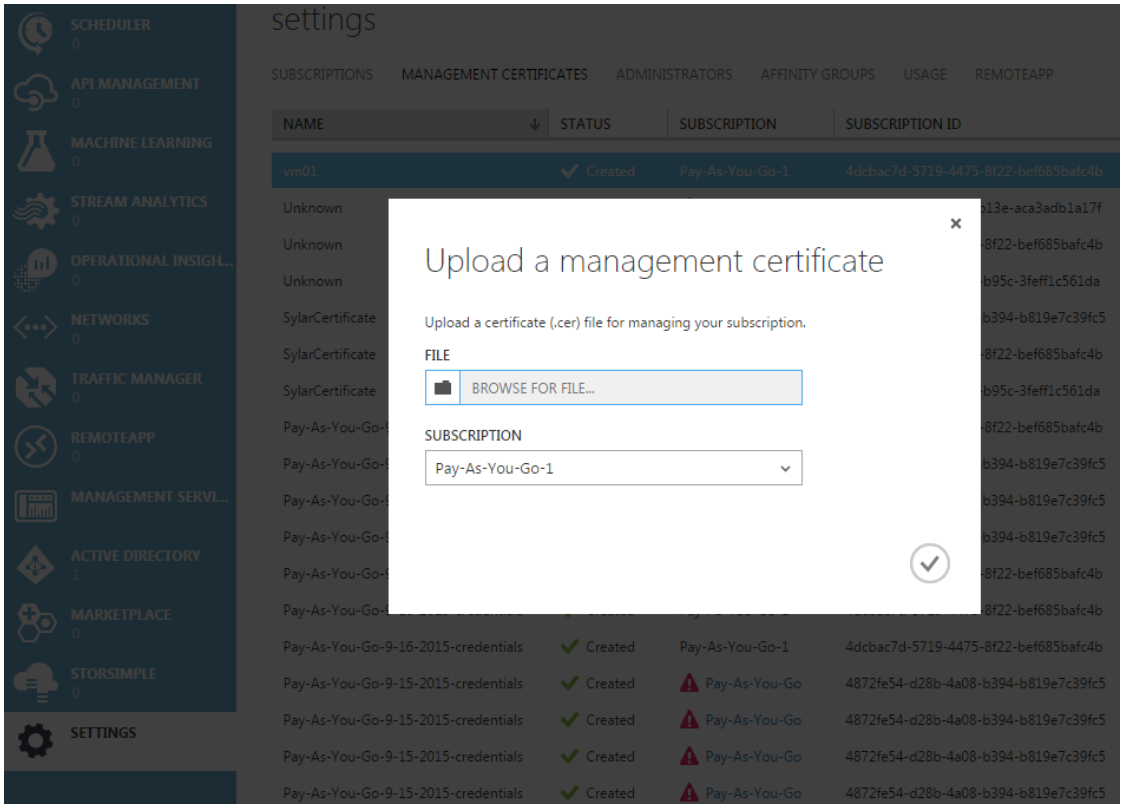
e. Enter the following command:

**keytool -export -file <certificatename>.cer -keystore <certificatename>.jks**

Enter the keystore password.

```
[hpba@qm bin]$ ./keytool -export -file Azure_certification.cer -keystore Azure_certification.jks
Enter keystore password:
Certificate stored in file <Azure certification.cer>
```

2. In the Azure Management Portal accessed via **https://manage.windowsazure.com/**, select **SETTINGS > MANAGEMENT CERTIFICATES > UPLOAD**.




3. Upload **<certificatename>.cer** for each subscriptions.

## Activate the Integration

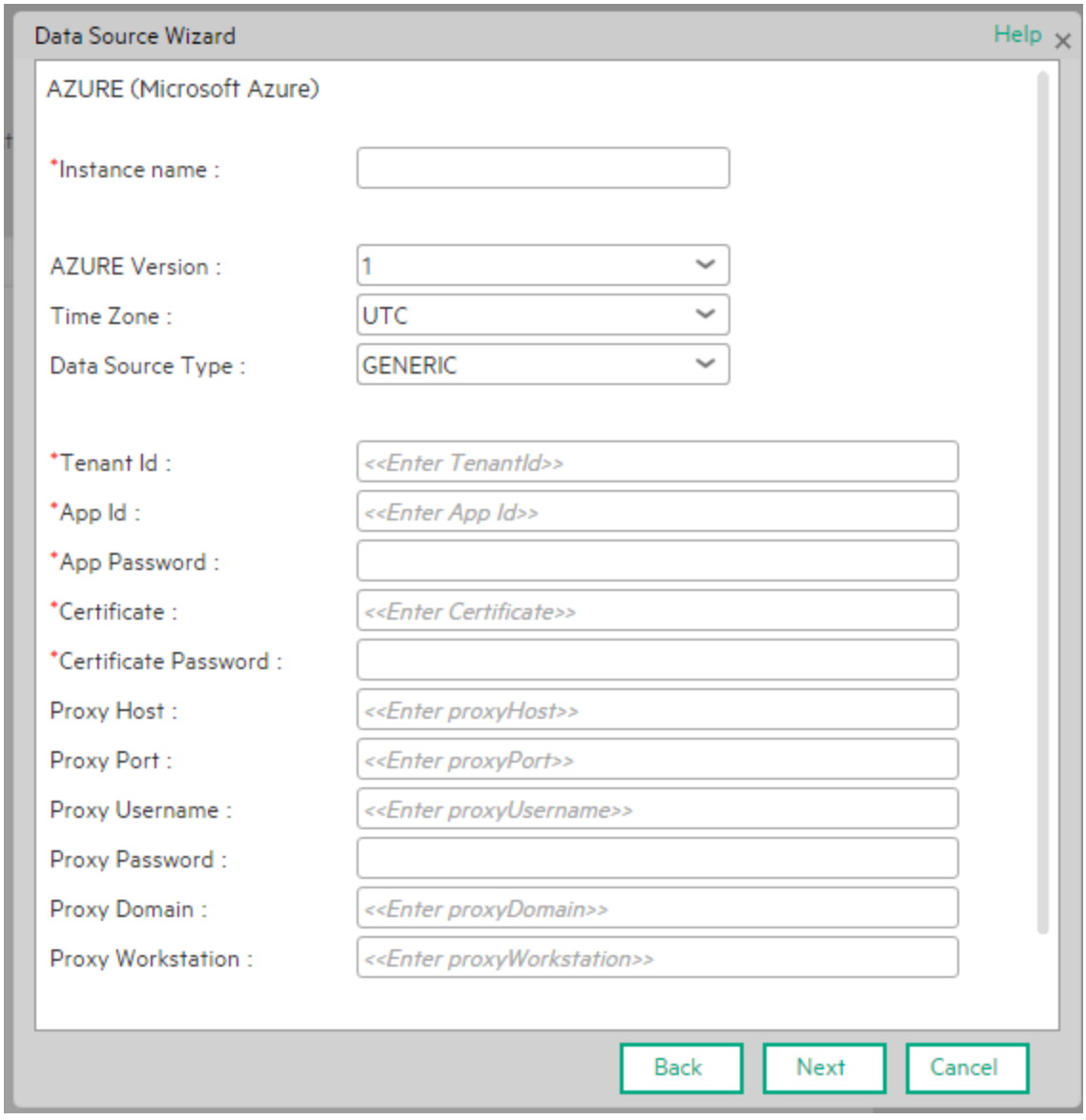
1. Select **ADMIN > Data Management > Connect Data Source** then click **Add data source**.
2. The Add Data Source page opens. Select the Azure data source type.
3. Select or enter the configuration parameters.
4. Click **Next** to proceed to the validation page.

**Note:** If you want to display Azure utilization data returned by the Microsoft Azure Cloud Service API, make sure you switch on Diagnostic for the Microsoft Azure Cloud VM instances.

# UI Description

## Azure Activation Page

The following is an example of the Azure Activation page.



User interface elements are described below:

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **Azure Version** | Select the relevant Azure version. For details, see the *Support Matrix*. |
| **Time Zone** | Time zone must be UTC. |
| **Data Source Type** | **GENERIC.** This parameter is read only. |
| **Tenant ID** | The unique ID of the organization in Azure AD that has granted access for your app. |
| **APP ID** | The unique identifier for your application. You must use this if your application accesses data in another application, such as the Microsoft Azure AD Graph API.<br>Input the CLIENT ID that you obtain after creating the relevant application in the Azure portal.<br>**Note:** In Azure, one Global ID can have multiple subscriptions. To get consumption data for an Azure subscription, APP ID is required. If you want to get consumption data for all subscriptions under the Global ID, all subscriptions are required to be authorized for the same APP ID, which will be added to the DCS page. |
| **APP Password** | If your app reads or writes data from/to Microsoft Azure AD, such as data that is made available through the Graph API, your app need a key. The APP Password is the key that you obtain after creating the relevant application in the Azure portal. |
| **Certificate** | Once you have created a management certificate, (a .cer file with only the public key) you can upload it into the portal. When the certificate is available in the portal, anyone with a matching certificate (private key) can connect through the Management API and access the resources for the associated subscription.<br>The absolute path to the .pfx certification file on the ITBA Linux server. For example,<br>**/home/ITBA/Azure_certification.pfx**. |
| **Certificate Password** | The keystore password of the .pfx certification. |
| **Proxy Host** | The proxy host. |
| **Proxy Port** | The proxy port. |
| **Proxy Username** | The Proxy user name. |

| UI Element | Description |
|---|---|
| **Proxy Password** | The Proxy password. |
| **Proxy Domain** | The Proxy domain. |
| **Proxy Workstation** | The Proxy workstation. |
| **Initial Load Period (month)** | Select the number of months from which you want the initial data loaded.<br>The Initial load period is 1 month for usage and 1 week for utilization. |

## Reference

### Azure-Related KPIs and Metrics

The KPIs and Metrics related to the Azure data source are provided in the CSA and CSA_Demo CAPs. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

# Integration with CSA

Cloud Service Automation (CSA) is a platform that orchestrates the deployment of computation and infrastructure resources and of complex multi-tier application architectures. HP CSA integrates and leverages the strengths of a hybrid cloud environment, providing the ability to design and deploy enterprise-ready cloud services tailored to the business needs of your organization. It works through a catalog-based subscription process. Subscribers request and modify cloud service offerings with pre-defined pricing and other customer-specific features. Once the request is approved, through a policy-driven process, HP CSA deploys the cloud service offering using a structured lifecycle with pre-defined integration mechanisms for invoking external processes.

The integration with CSA as new content pack provides reporting analysis based on CSA data model.

The purpose of the integration of CSA as a data source is to bring this information into the Data Warehouse.

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with specific data sources.

**To access:**

Select **ADMIN> Data Management > Connect Data Source** then click **Add data source** and select **CSA** to activate the integration processes for the **CSA** data source.


## Learn More

## Cloud Optimization Offering

The Cloud Optimization offering includes integrations with:

- **Amazon Web Services** (AWS). For details see Integration with AWS in the *Content Reference Guide*.
- **Amazon Web Service CloudWatch**(AWSCW). For details see Integration with AWSCW in the *Content Reference Guide*.
- **Cloud Service Automation** (CSA). For details see Integration with CSA in the *Content Reference Guide*.

## Other Data Sources

The data from the below data sources is integrated with the data from CSA and displayed in the CSA CAP pages, KPIs, and Metrcs. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

- Amazon Web Services (AWS) offers a complete set of infrastructure and application services that enable you to run virtually everything in the cloud: from enterprise applications and big data projects to social games and mobile apps. One of the key benefits of cloud computing is the opportunity to replace up-front capital infrastructure expenses with low variable costs that scale with your business.

  The integration with AWS provides cost and usage reports based on the cost allocation report provided by AWS account.

- Amazon CloudWatch (AWSCW) monitors your Amazon Web Services resources and the applications you run on AWS in real-time. You can use CloudWatch to collect and track metrics, which are the variables you want to measure for your resources and applications. CloudWatch alarms send notifications or automatically make changes to the resources you are monitoring based on rules that you define. For example, you can monitor the CPU usage and disk reads and writes of your Amazon Elastic Compute Cloud (Amazon EC2) instances and then use this data to determine whether you should launch additional instances to handle increased load. You can also use this data to stop under-used instances to save money. In addition to monitoring the built-in metrics that come with AWS, you can monitor your own custom metrics. With CloudWatch, you gain system-wide visibility into resource utilization, application performance, and operational health.

- Azure is Microsoft cloud computing platform, a growing collection of integrated services like analytics, computing, database, mobile, networking, storage, and web, for moving faster, achieving more, and saving money.

- Virtual Performance Viewer (vPV) is a web-based analysis and visualization tool that analyzes performance trends of elements in virtualized environments. vPV gives you at-a-glance visibility across your virtual environment for real-time insights into performance, capacity, and health. This helps you to optimize your infrastructure and quickly solve virtualization and cloud performance issues. It enables virtualization monitoring by providing an overview of the environment, near-real-time and historical data analysis and triaging using an interactive dashboard. It also enables monitoring for cloud and hypervisor environments. HPE vPV provides performance monitoring, graphing, and reporting in a single interface.

## Important Information

- To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.
- The CSA Content Pack supports multiple instances.
- All fields are case-sensitive.
- The CSA ETL job aggregates the CSA Subscription Price with a daily granularity in the target database. This means that the ETL job gets the price from CSA, converts it into the actual cost according to the ETL running date, generates a cost record for that day, and stores it in the target database. For example, if the current date is April 22nd, for the month of April, after the ETL run has completed, you see a total of the 22 aggregated records of the CSA subscription Price in the target database.
- **Example of a CSA subscription price calculation:** If, for example, the price of one daily subscription is $10, you have just used the subscription for 12 hours, and the ETL starts to run at this moment, the total you have to pay is 10*12/24=$5. The CSA subscription price is calculated for the real usage accurate to the second. Though some customers would prefer to see $10 on the report even if the usage is not yet 24 hours, BA displays $5 after the ETL load because it represents the real usage.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- **Tip:** If you integrate with both CSA and AWS/AWSCW, you must run the AWS/AWSCW ETL before the CSA ETL. If you do not run the ETL as recommended, you must wait for the end of the CSA ETL run to view the correct data.
- The CSA and CSA_Demo CAPs are associated with the CSA data source, its context, KPIs, and Metrics. For details, see the CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.
- When using CSA with Azure Content Pack version: 14.12, and the OOTB design : **CSL_BP_MICROSOFT_AZURE_COMPUTE_3.20_CP3.0**, Azure usage related data is displayed in the **CSA-Resource Usage and Utilization for Consumer** and **CSA_Resource Usage and Utilization for Resource Supplier Manager** reports, but Azure CPU utilization data is not available and is not displayed in these reports.

# Tasks

This section includes:

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## Change the default exchange rate of each currency

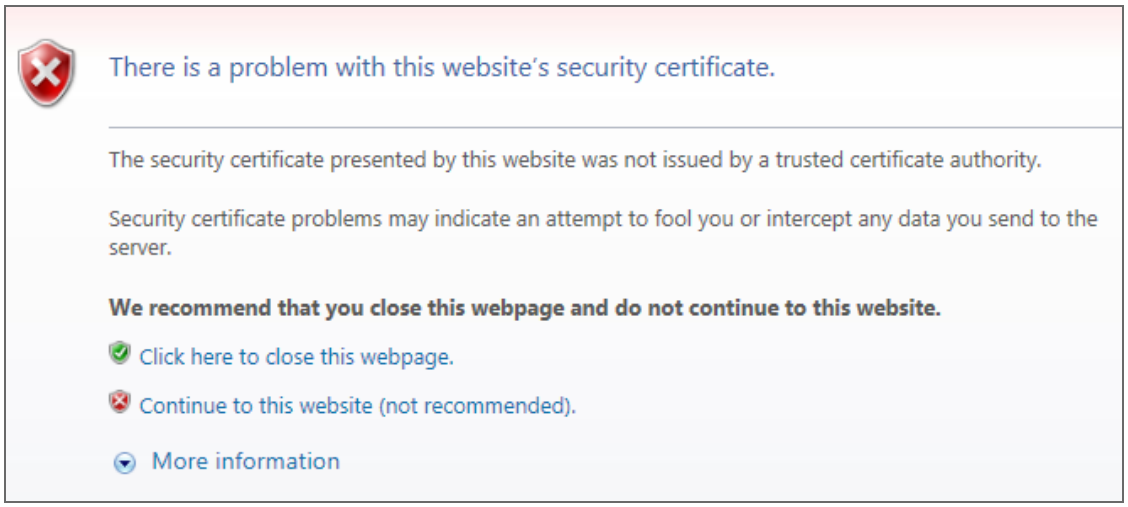
To help you convert the billing amount to different currencies, ITBA has pre-configured their default exchange rates.

If you want to change the default exchange rate of each currency, open the **$HPBA_HOME/ContentPacks/CSA/EXTERNAL/EXCHANGE.csv** file and change the rates.

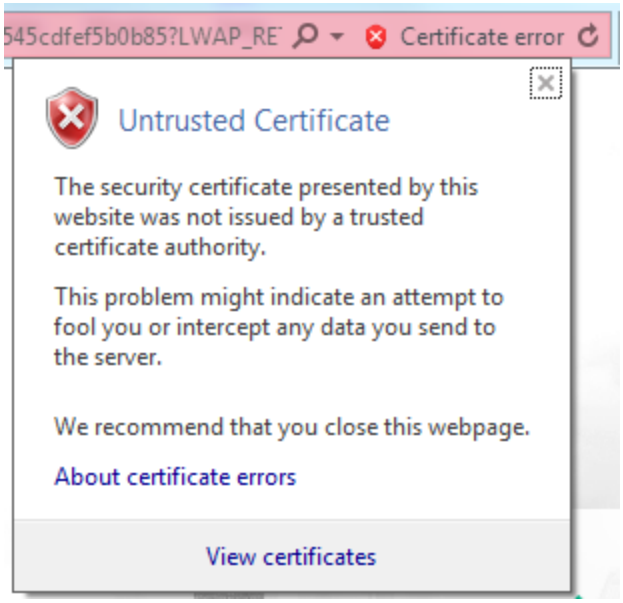
| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | SOURCE_CURRENCY | TARGET_CURRENCY | START_DATE | END_DATE | EXCHANGE_RATE | IS_CURRENT |
| 2 | JPY | CNY | 2009/1/1 | 2009/1/11 | 0.0741 | Y |
| 3 | JPY | EUR | 2009/1/1 | 2009/1/11 | 0.008 | Y |
| 4 | JPY | GBP | 2009/1/1 | 2009/1/11 | 0.0073 | Y |
| 5 | JPY | USD | 2009/1/1 | 2009/1/11 | 0.0109 | Y |

## Configure the BA Website Browser SSL

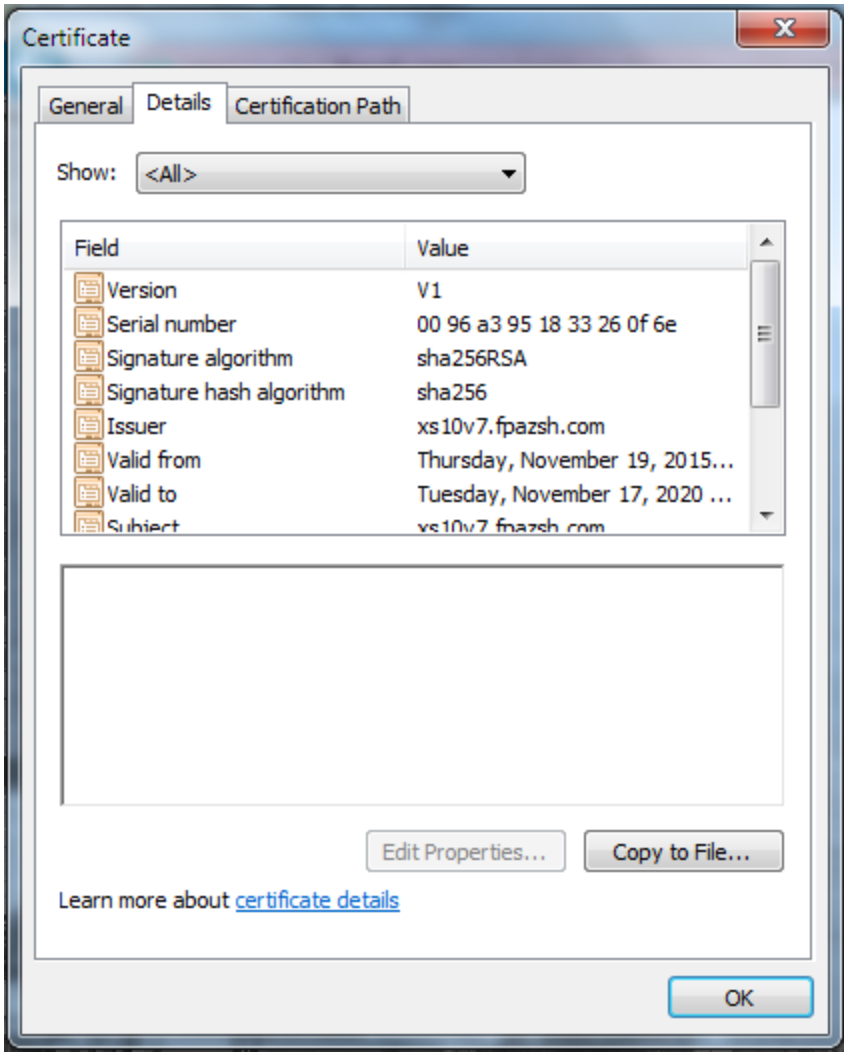
1. Log on to BA, and click **Continue to this website (not recommended)**.




2. Click **Certificate error** and then click **View certificates**.



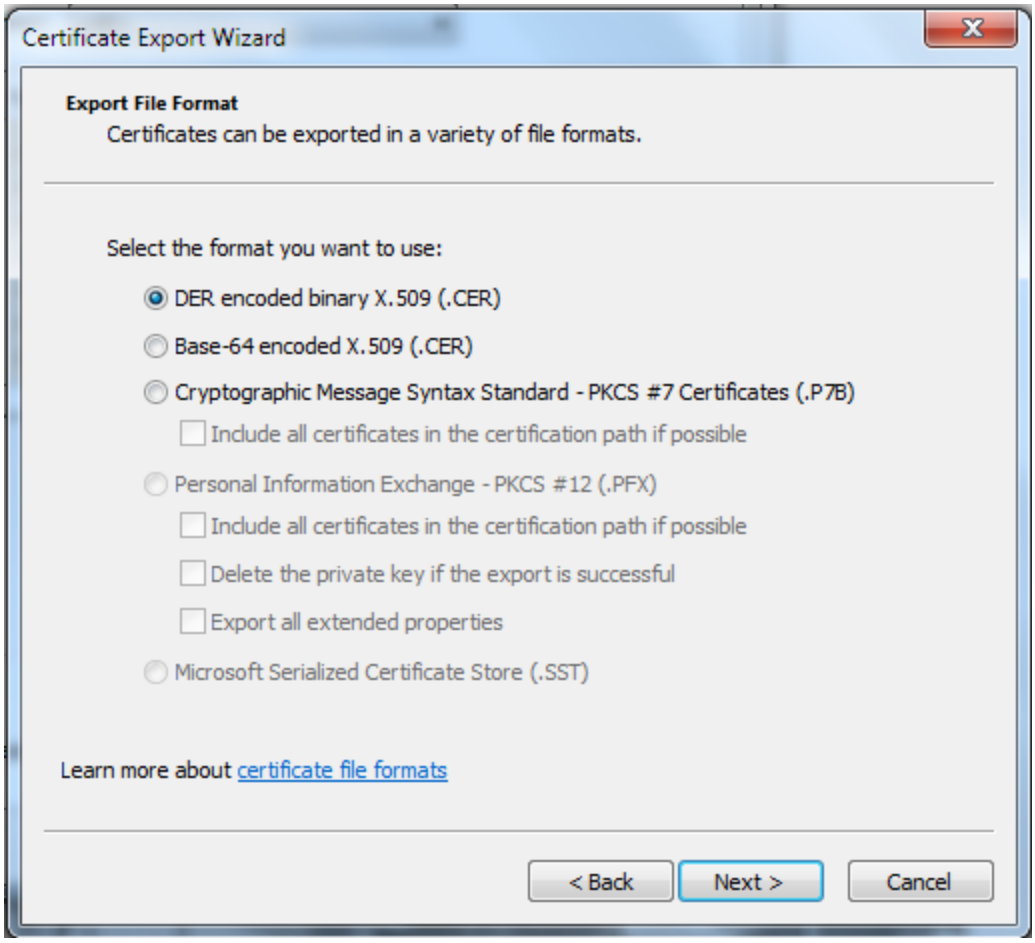

3. Click the **Details** tab and click **Copy to File …**


Certificate
General
Details
Certification Path
Show:
<All>
Field
Value
Version
V1
Serial number
00 96 a3 95 18 33 26 0f 6e
Signature algorithm
sha256RSA
Signature hash algorithm
sha256
Issuer
xs10v7.fpazsh.com
Valid from
Thursday, November 19, 2015...
Valid to
Tuesday, November 17, 2020 ...
Edit Properties...
Copy to File...
Learn more about certificate details
OK

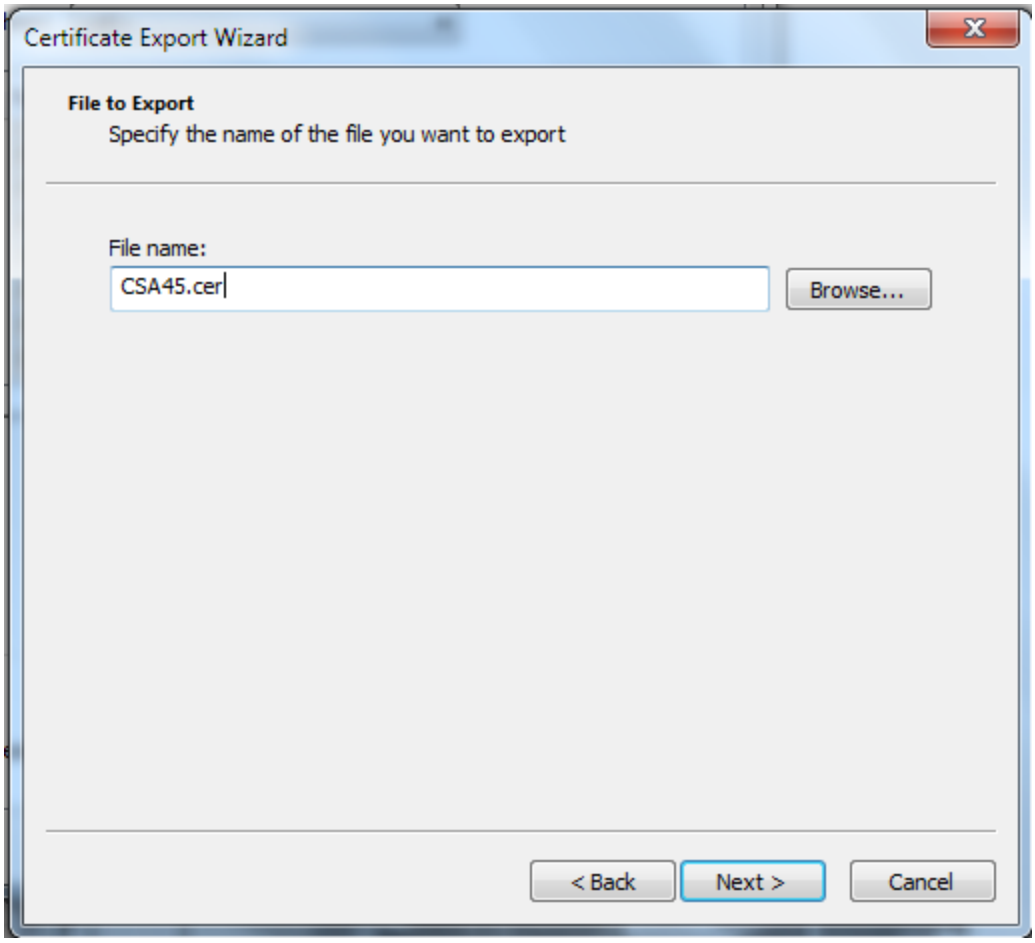
Click **Next**.


Certificate Export Wizard
Welcome to the Certificate Export Wizard
This wizard helps you copy certificates, certificate trust lists and certificate revocation lists from a certificate store to your disk.
A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.
To continue, click Next.
< Back
Next >
Cancel

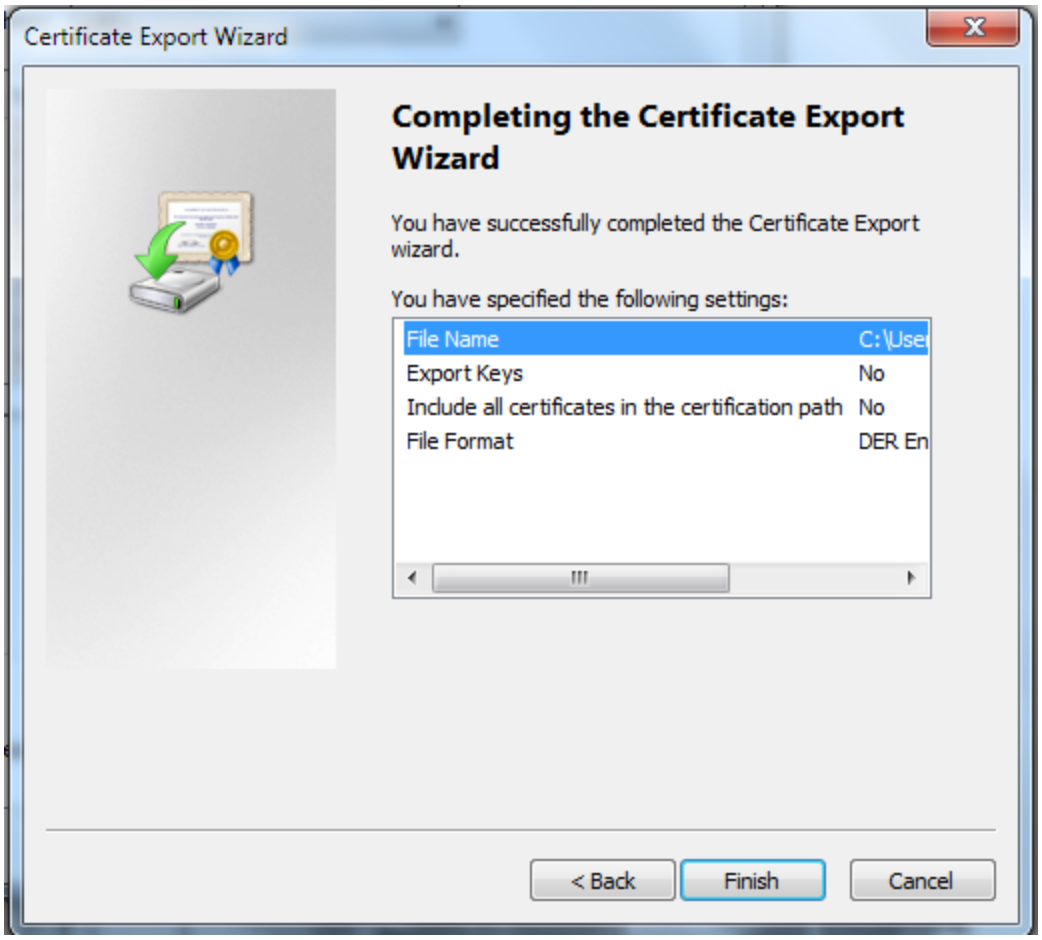
Click **Next**.



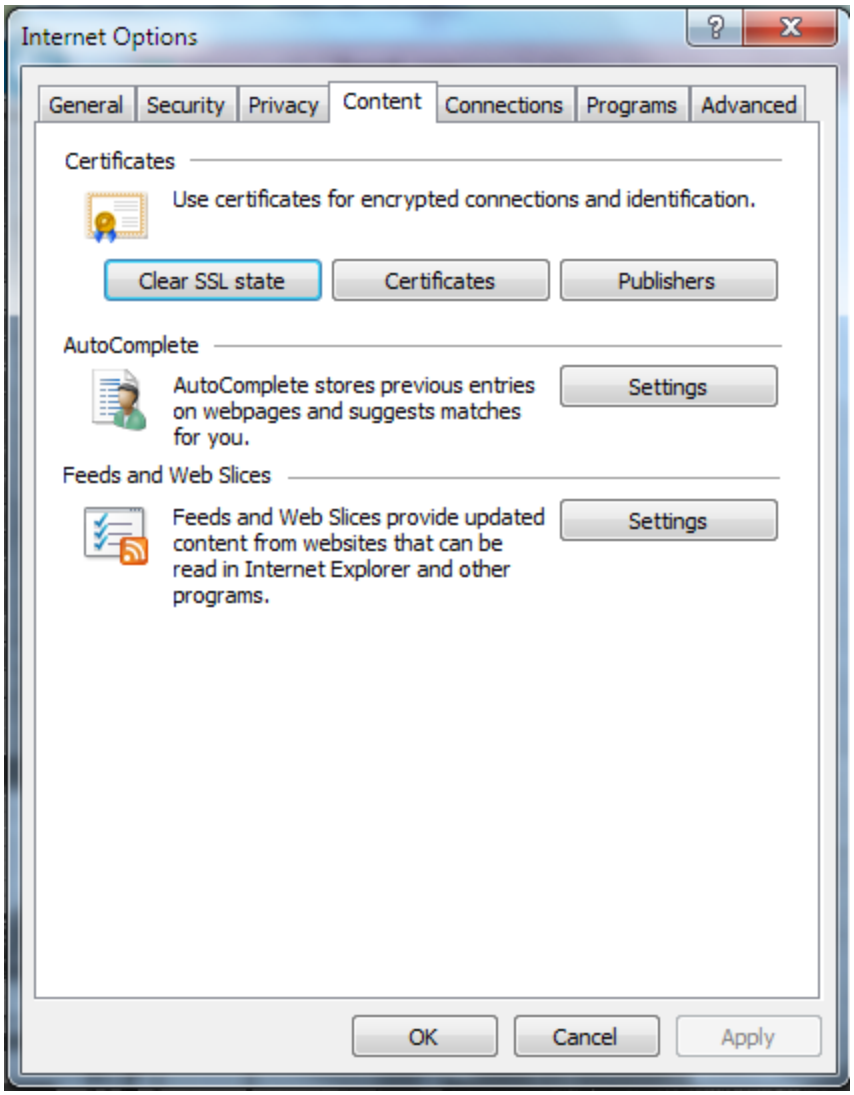

Click the **Browse...** button and give a file name, such as **CSA45.cer**, and click **Next**.



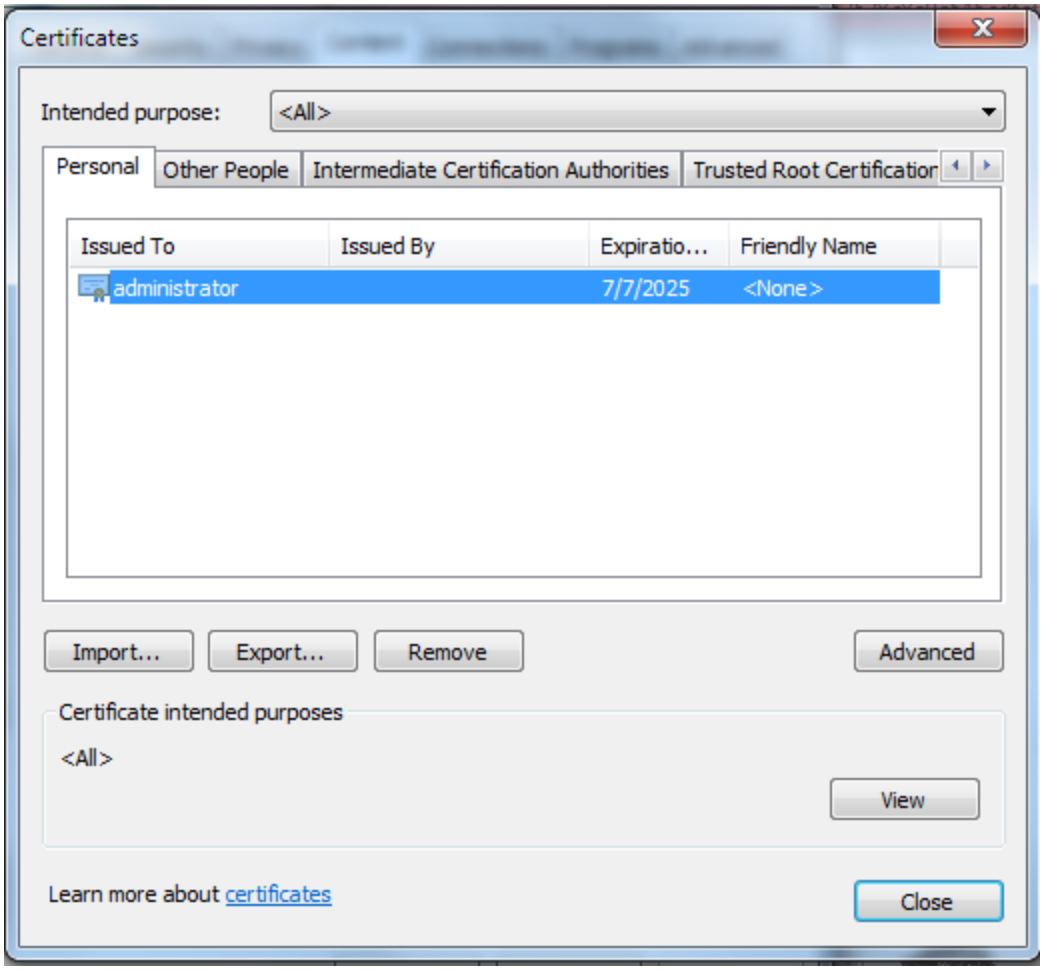

Click the **Finish** button.




4. Open the **Internet Options > Content** and click **Certificates**.

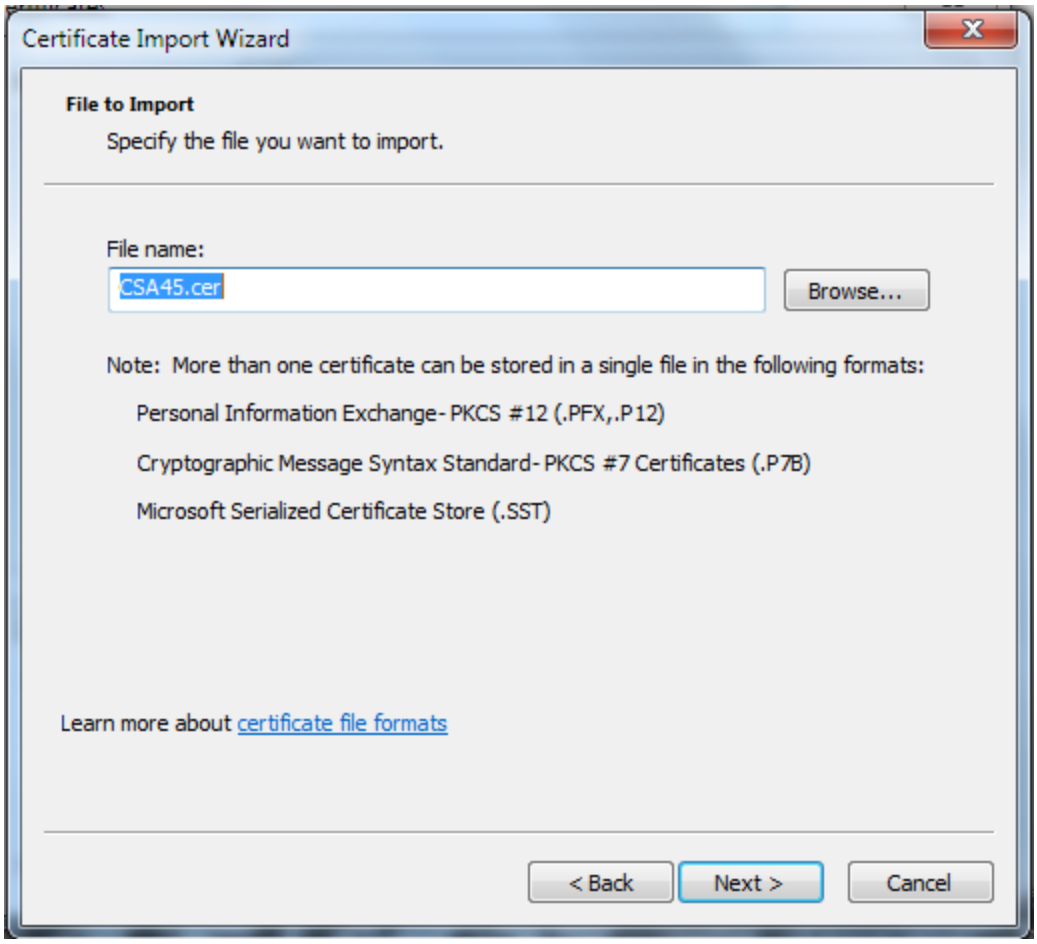



5. Open the **Trusted Root Certification Authorities** and click **Import...** link.

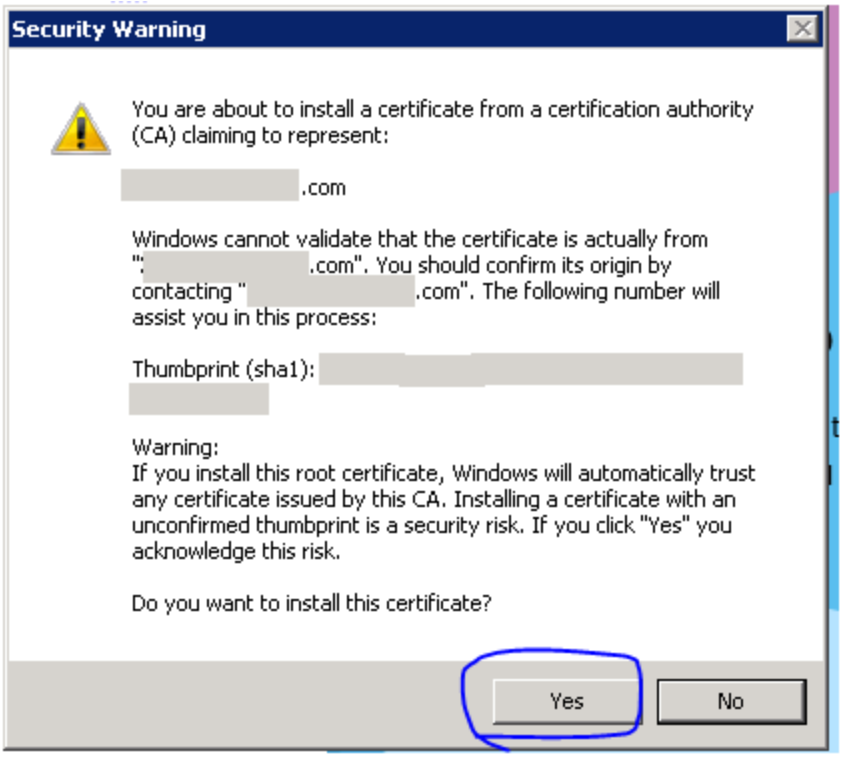



6. Select the relevant certificate file and click **Import**.
7. Click **Next**.

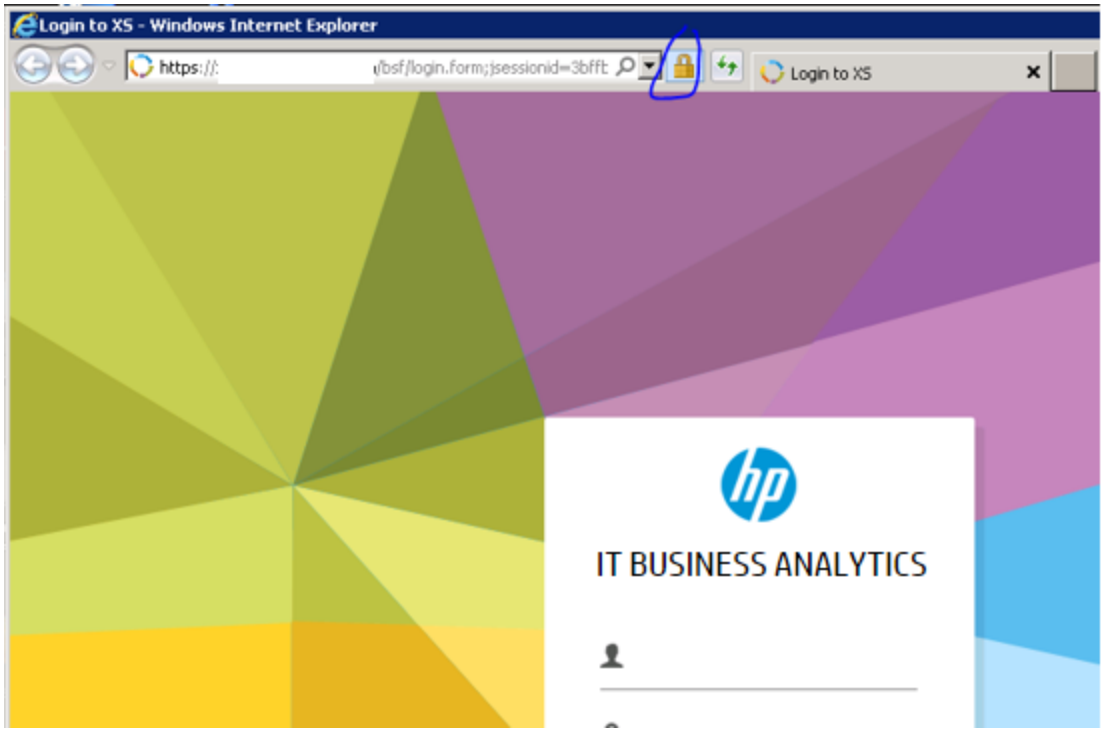

Certificate Import Wizard
Welcome to the Certificate Import Wizard
This wizard helps you copy certificates, certificate trust lists, and certificate revocation lists from your disk to a certificate store.
A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.
To continue, click Next.
< Back
Next >
Cancel


Certificate Import Wizard
File to Import
Specify the file you want to import.
File name:
CSA45.cer
Browse...
Note: More than one certificate can be stored in a single file in the following formats:
Personal Information Exchange- PKCS #12 (.PFX,.P12)
Cryptographic Message Syntax Standard- PKCS #7 Certificates (.P7B)
Microsoft Serialized Certificate Store (.SST)
Learn more about certificate file formats
< Back
Next >
Cancel

8. Click **Yes**.

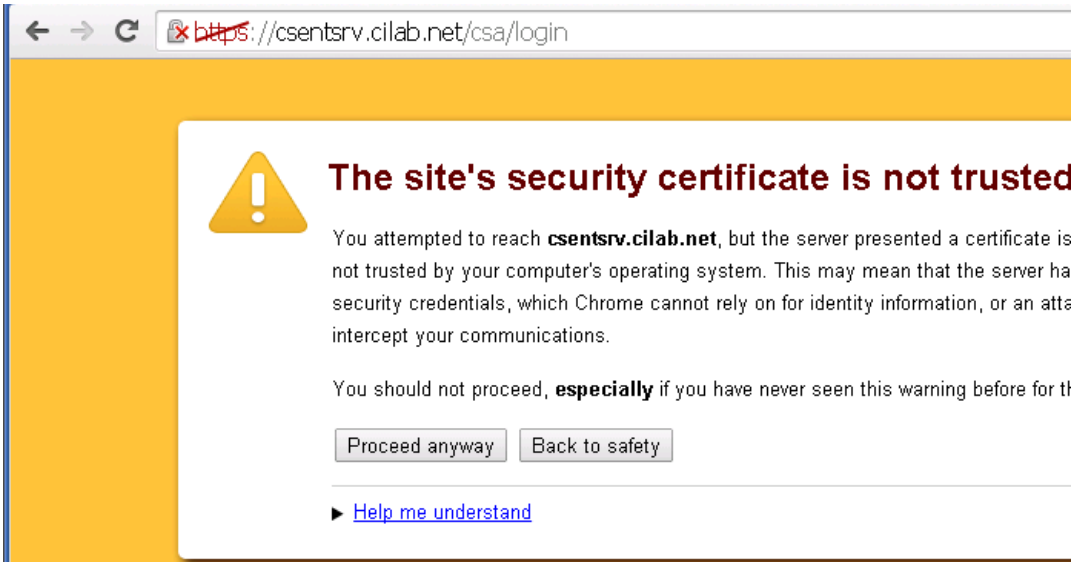



9. Open your browser and reopen the BA logon page.

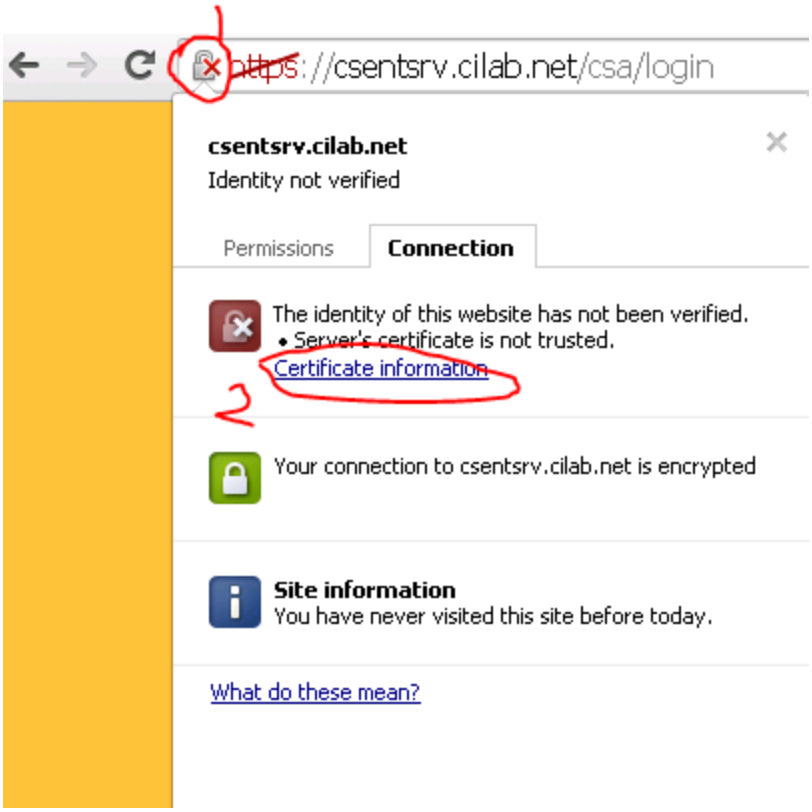


## Import the CSA SSL certificate to BA keystore

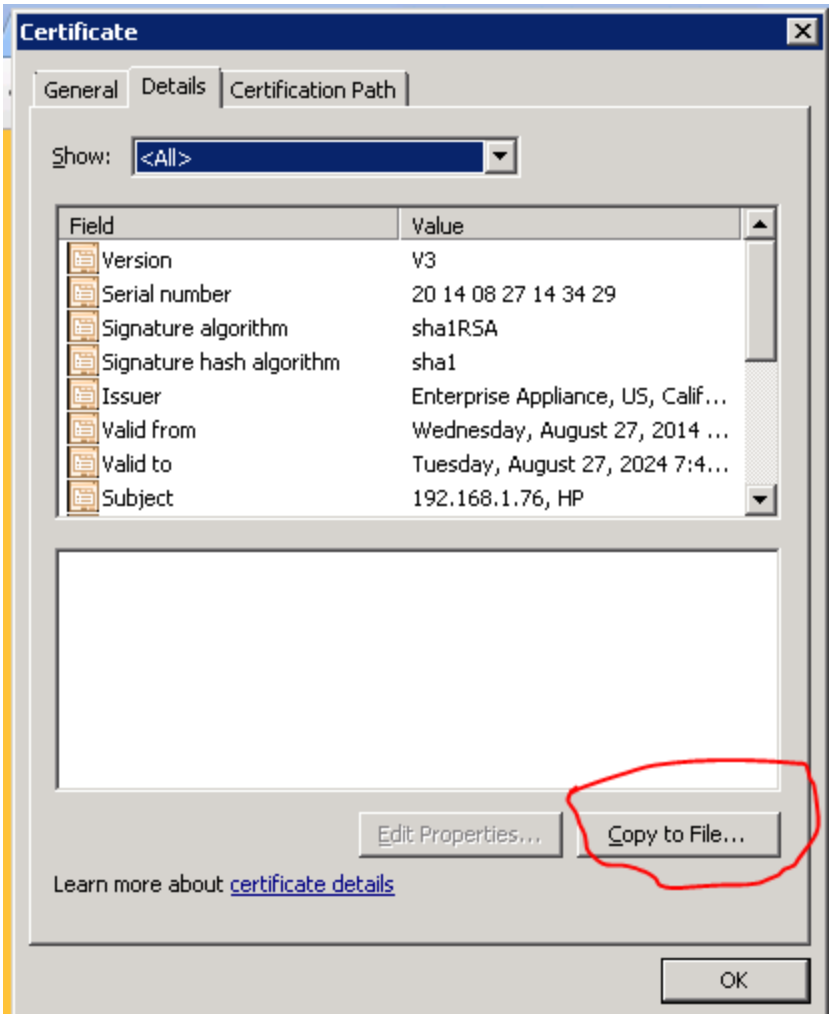
1. Export the CSA SSL certificate:
   a. Access the CSA portal from the browser of the BA server.



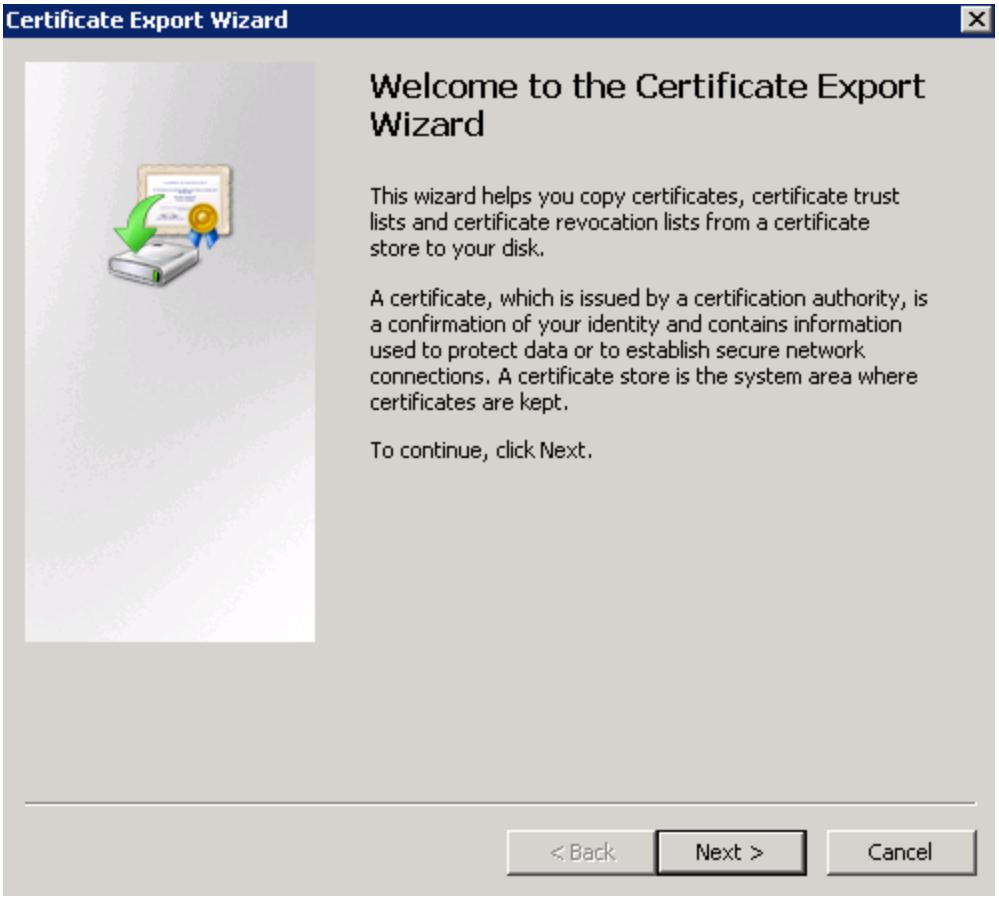
b. Click the red cross in the URL bar and then click **Certificate information**.



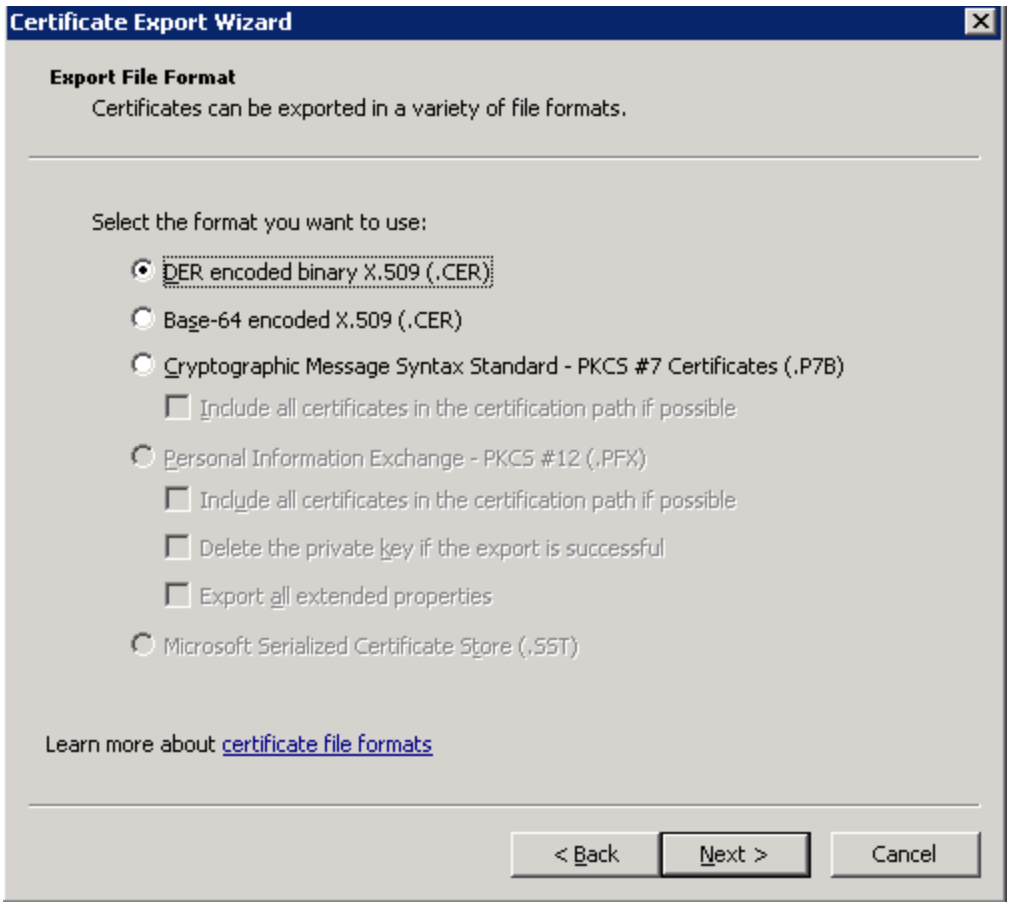
c. In the window that pops up, click the **Details** tab, and click the **Copy to File** … button.



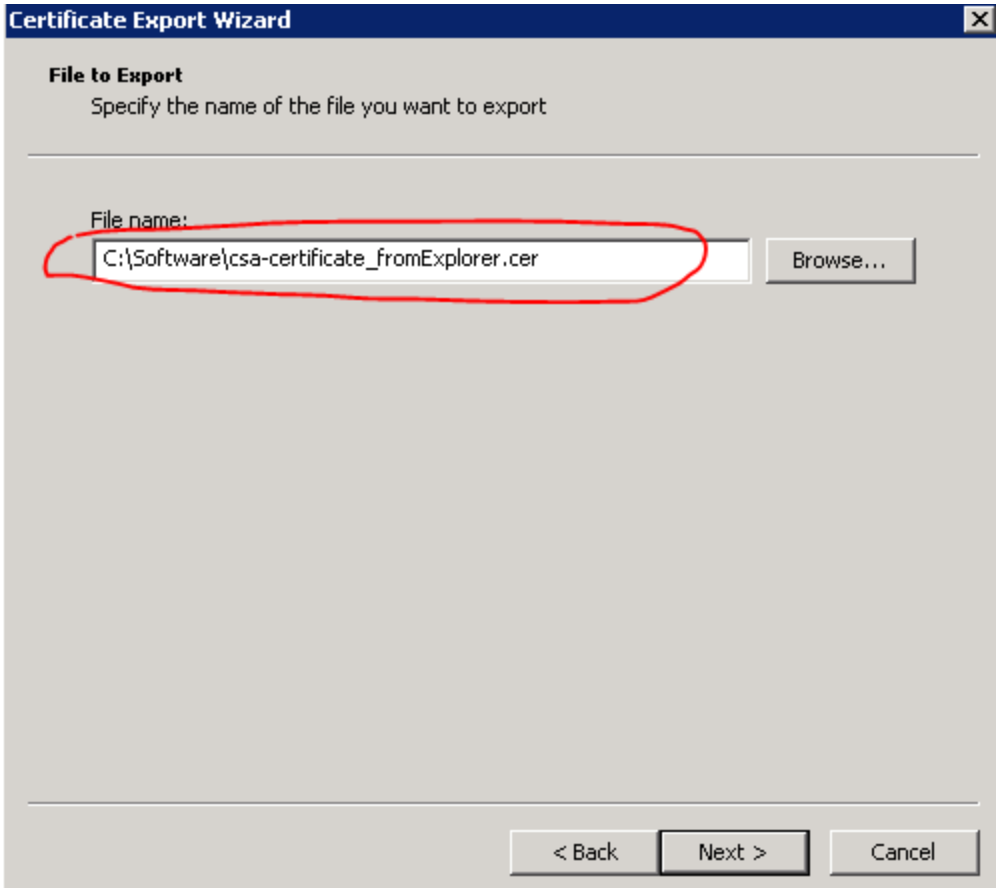
d. In the window that pops up, click **Next**.



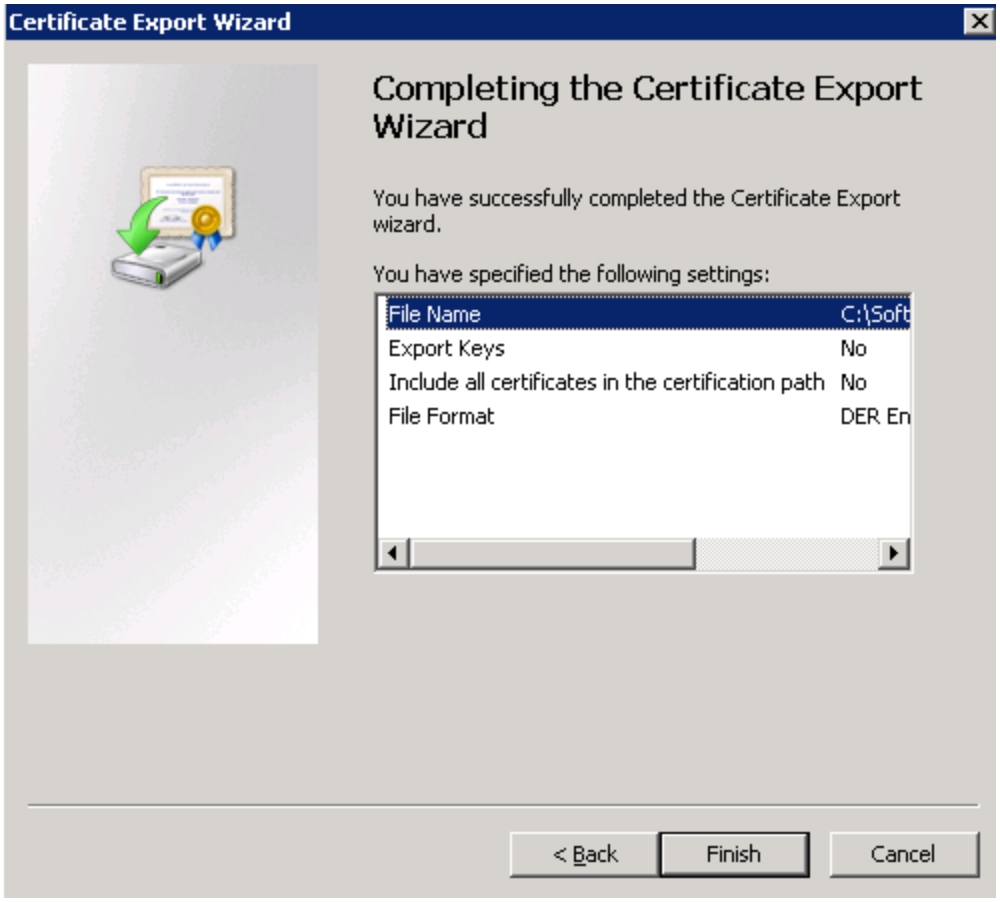
e. Click **Next**.


Certificate Export Wizard
Export File Format
Certificates can be exported in a variety of file formats.
Select the format you want to use:
DER encoded binary X.509 (.CER)
Base-64 encoded X.509 (.CER)
Cryptographic Message Syntax Standard - PKCS #7 Certificates (.P7B)
Include all certificates in the certification path if possible
Personal Information Exchange - PKCS #12 (.PFX)
Include all certificates in the certification path if possible
Delete the private key if the export is successful
Export all extended properties
Microsoft Serialized Certificate Store (.SST)
Learn more about certificate file formats
< Back
Next >
Cancel

f. Specify the name of the file you want to export and click **Next**.



g. In the next page, click **Finish**.




The CSA SSL cert file is now exported.

In the above example, the file is located at **C:\software\csa-certificate_ fromExplorer.cer%HPBA_Home%/software/csa-certificate_fromExplorer.cer**.

2. Open a command prompt and run the following commands:

   - In Linux:

     **keytool -importcert -alias csa -file %HPBA_Home%/software/csa-certificate_ fromExplorer.cer -keystore %HPBA_Home%/jdk/jre/lib/security/cacerts -trustcacerts**

   - In Windows:

     **cd <HPBA_Home>\jdk\jre\bin**
     **keytool –importcert –alias csa –file "c:/Software\csa-certificate_fromExplorer.cer" –keystore C:/%HPBA_Home%/jdk/jre/lib/security/cacerts –trustcacerts**

a. When prompted for the keystore password, type **changeit**.

b. When prompted to trust this certificate, type **yes**.

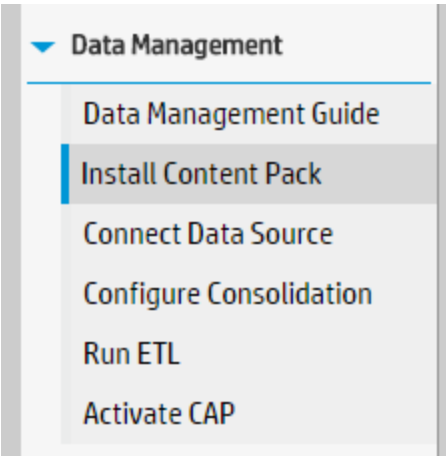

c. Restart the **HP IT Business Analytics** Service from Services Windows admin tools.

d. Run **%HPBA_Home%/supervisor/bin/hpba-restart.sh** to restart BA.

e. Wait a few minutes for the services to fully start.

## Install the Content Pack

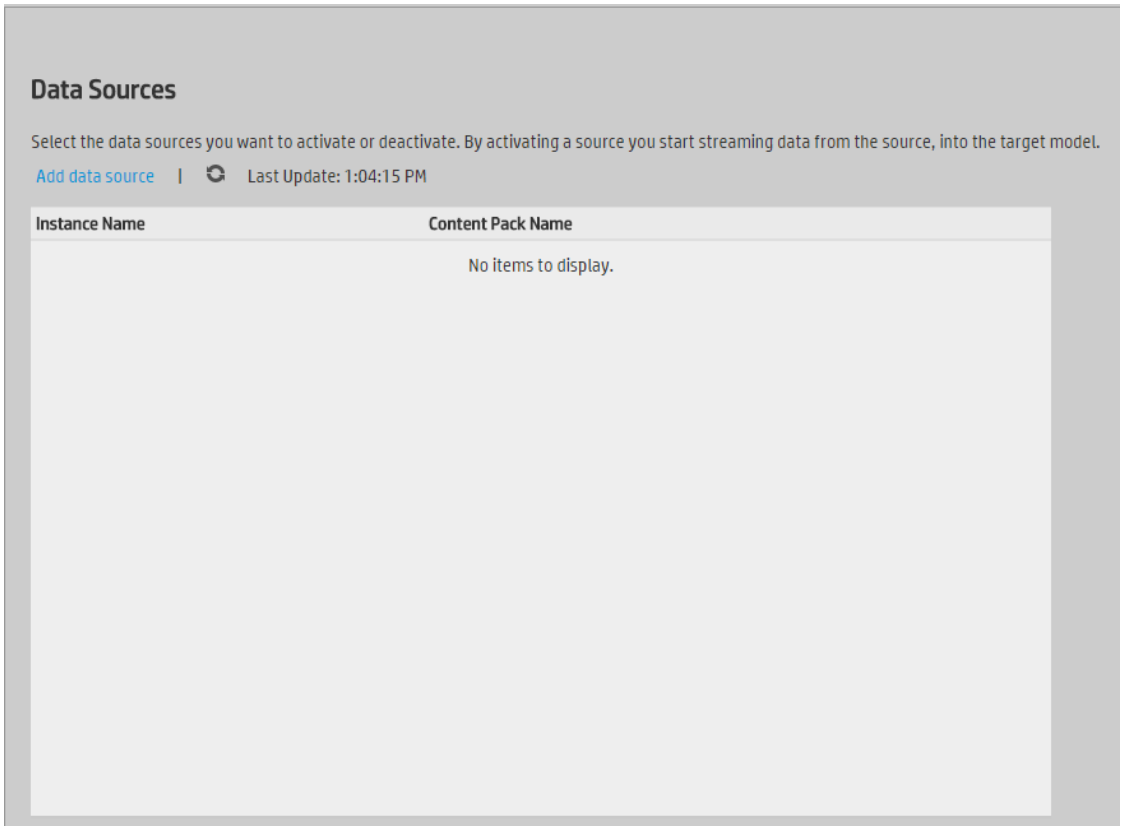
1. Make sure you have imported the CSA SSL Certificate (see above).
2. Log on to the BA application.
3. Click **ADMIN > Data Management**, click **Install Content Pack** to install the CSA Content Pack. For details, see Install Content Pack.



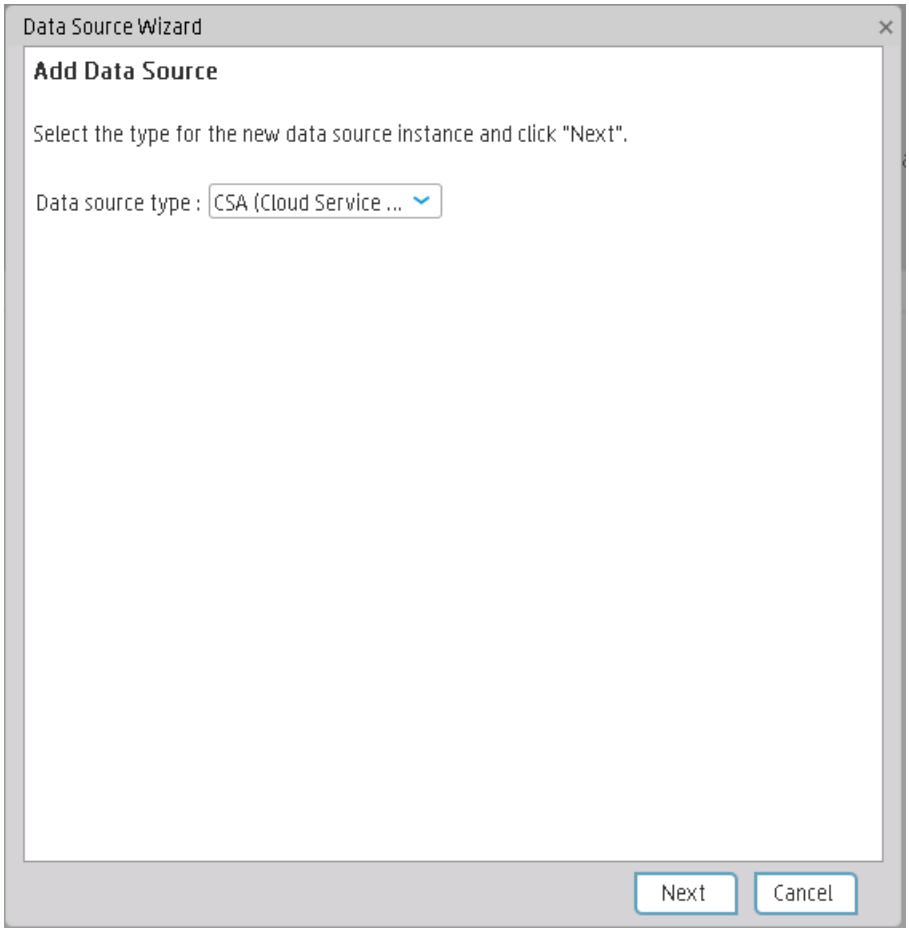

## Activate the CSA data source

1. Make sure you have imported the CSA SSL Certificate (see above).
2. Log on to the BA application.
3. Make sure you have installed the Content Pack (see above).
4. Click **ADMIN > Data Management** and the click **Connect Data Source** .

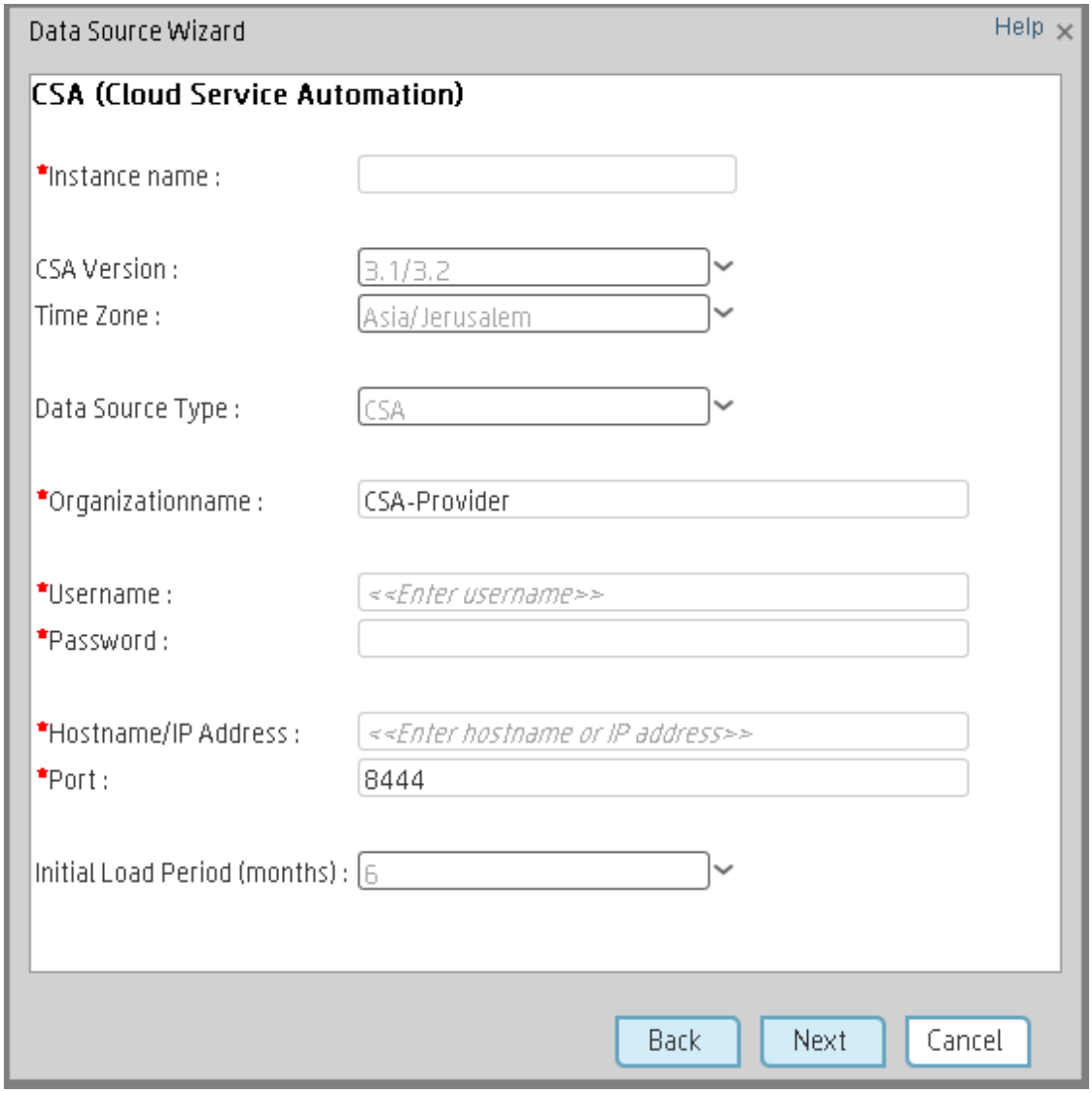
5. Click **Add data source**.



6. Select the CSA data source type and press **Next**.



If the **Next** button does not appear in the Wizard dialog box, click the edge of the Data Source Wizard and when the black cross appear, move the window upwards until you see the **Next** button.

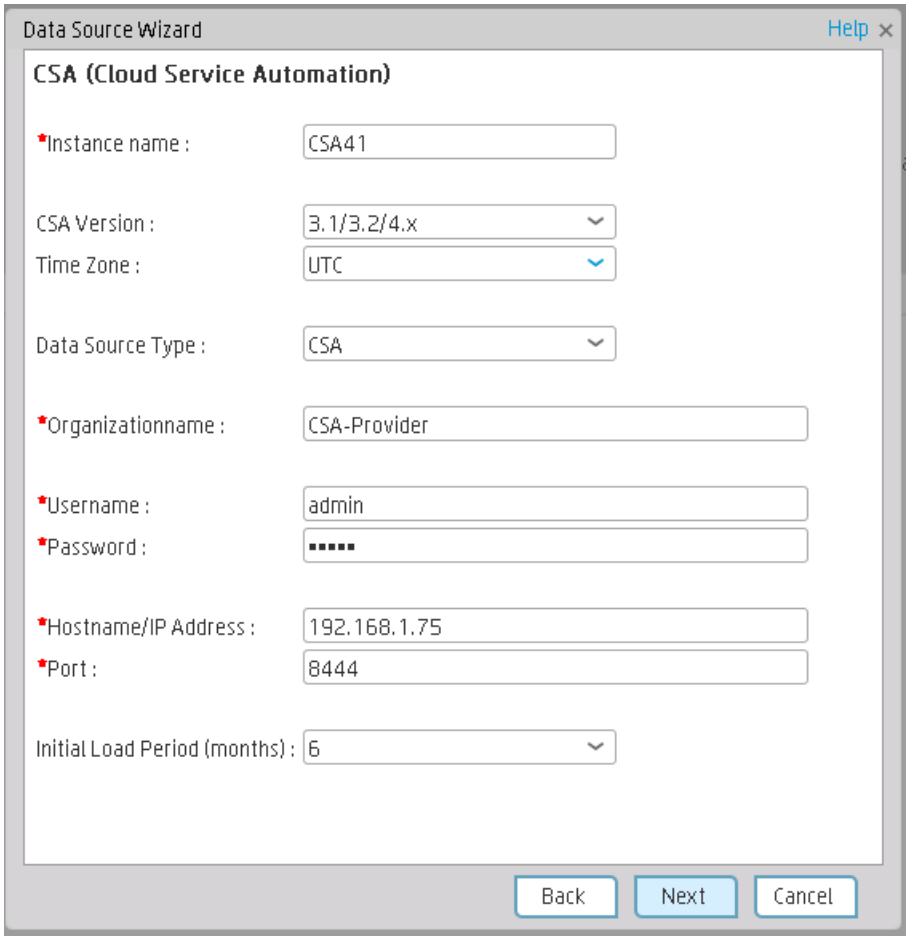



User interface elements are described below:

**Note:** If the CSA configuration is for a named instance connection, make sure to enter the named instance port.

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **CSA Version** | Select the relevant version. . For details, see the *Support Matrix*. |
| **Time Zone** | Select the time zone for the data source. |
| **Data Source Type** | CSA<br>This parameter is read only. |
| **Organization Name** | Enter the Organization Name that is necessary to retrieve admin details.<br>The default value is CSA-Provider. |
| **Username** | Enter your admin username used to log on to CSA. The default username is **ooInboundUser**. |
| **Password** | Enter your admin password used to log on to CSA. The default admin password is **cloud**. |
| **Hostname/IP Address** | Enter the CSA server hostname or IP address. |
| **Port** | Port for REST API (default value is 8444). |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

7. Enter the CSA configuration parameters and click **Next** to validate the parameters.




## Execute the ETL process

After adding the CSA data source, you need to run the ETL to pull data from CSA source.

You can schedule the running of the ETL process. For details, see Run ETL - Content Flow Managementin the *Administrator Guide*.

1. Log on to the BA application.
2. Make sure you have imported the CSA SSL Certificate (see above).
3. Make sure you have installed the Content Pack (see above).
4. Make sure you have activated the data source (see above).
5. Click **ADMIN > Data Management > Run ETL**.

6. Click **Add Scheduler** to schedule the ETL run or click >. This loads the data from the CSA data source.

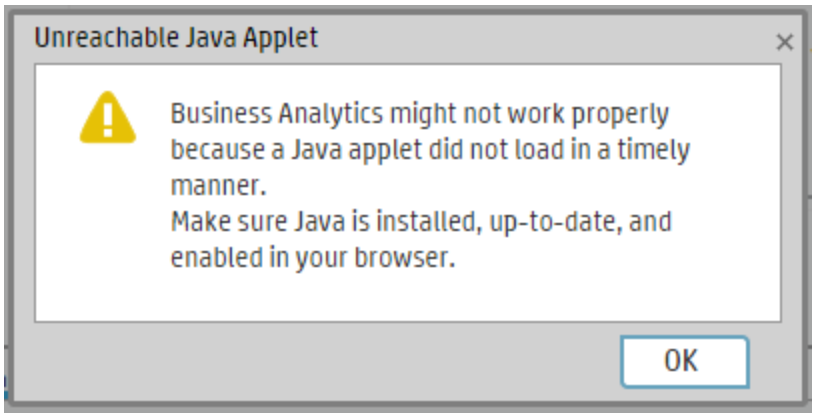
   **Note:** The ETL run might last some time depending on the volume of data it has to load.

## Activate the relevant CSA CAP

Activate the CSA_Demo CAP for demo purposes or activate the CSA CAP for live data into BA.

For live data cases, if you had activated the CSA_Demo previously, you must deactivate it before you activate the CSA CAP.

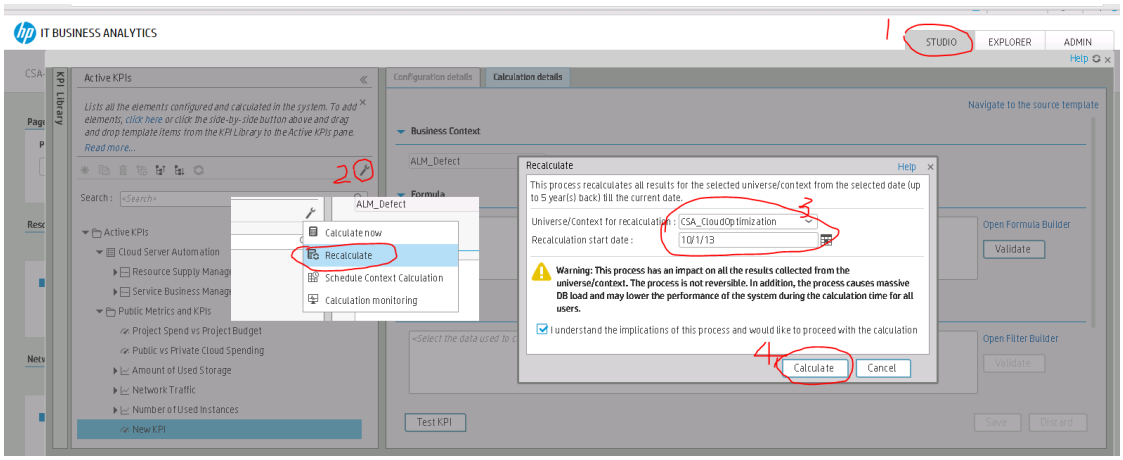
1. Log on to the BA application.
2. Ignore the **Unreachable Java Applet**. Click **OK**.




3. Make sure you have imported the CSA SSL Certificate (see above).
4. Log on to the BA application.
5. Make sure you have installed the Content Pack (see above).
6. If you plan to activate the CSA_Demo proceed to the next step. If you plan to activate the CSA, make sure you have executed the ETL (see "Execute the ETL process" on the previous page).
7. Click **ADMIN > Data Management** and click **Activate CAP**.
8. Select the **CSA** or the **CSA_Demo** in the list of CPs, and click **Activate** to activate the CAP.
   Click **Yes** to begin the activation process.
   Then wait until the CAP activation is successful.
9. Close the **ADMIN** tab.

# Calculate the KPI

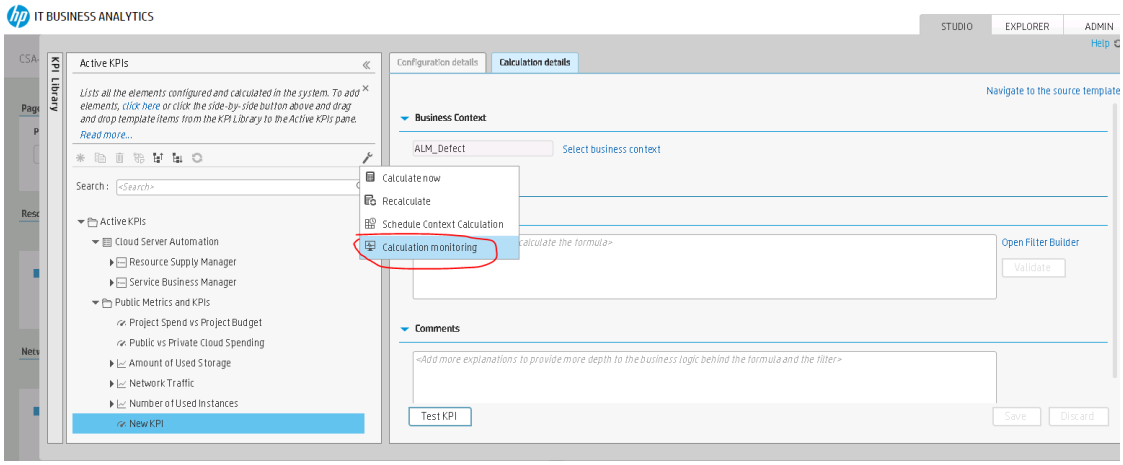
1. Log on to the BA application.
2. Click the **STUDIO** tab and click the calculation tool and select **Recalculate**.



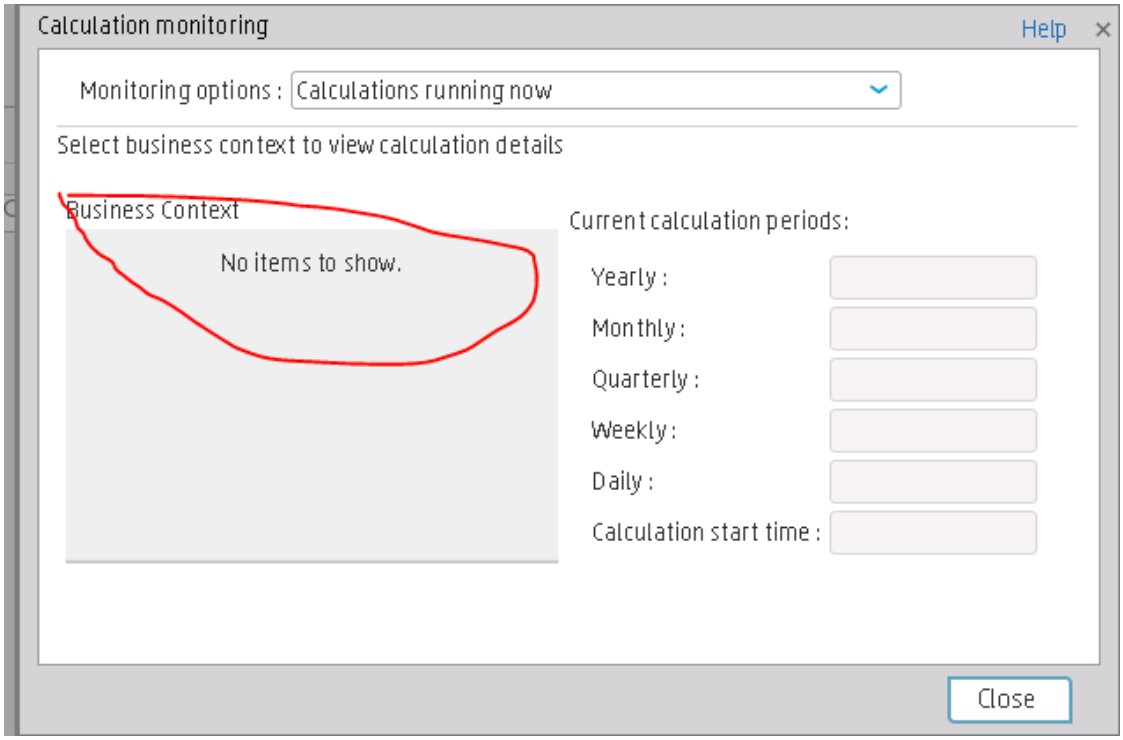

   a. Select the **CSA_CloudOptimization** in the **Universe/Context for recalculation** list.
   b. Select the recalculation start date.
   c. Check the check box.
   d. Click **Calculate**.

      The calculation may take a few minutes.

3. To check the KPI calculation status, click the calculation tool and select **Calculation monitoring**.



4. Select **Calculations running now** in the Monitoring options.



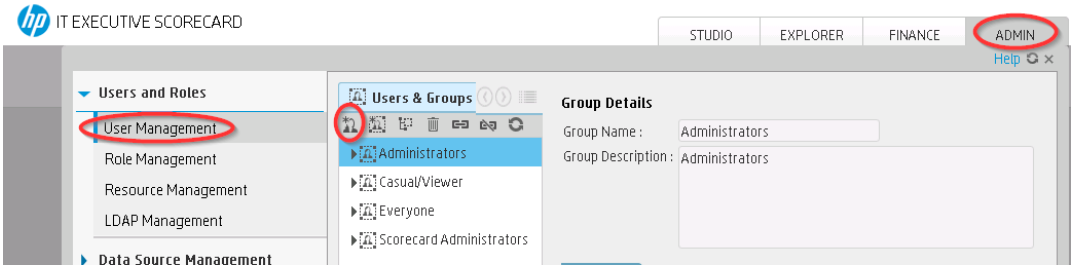

If **No items to show** is displayed, the KPI calculation is finished.

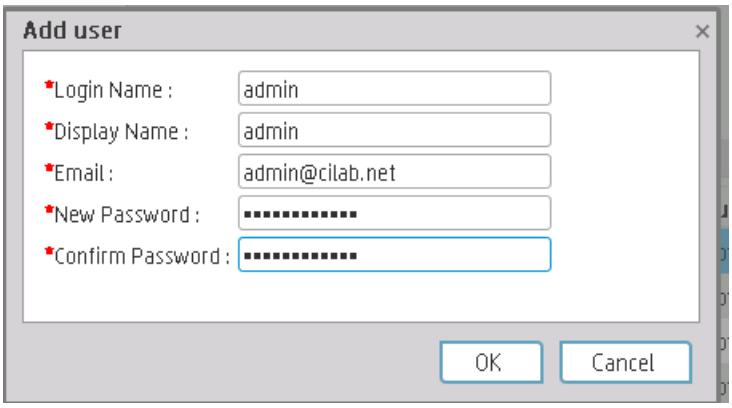
Now you can view the CSA dashboard pages with live data.

You can schedule the Scheduled calculation of the KPI. For details, see Calculation Scheduling in the *Business Analyst Guide*.

## Configure the Cloud Analytic Tiles in the Provider Portal

1. Create a user in ITBA with the same login name as in CSA.
   a. From the ITBA ADMIN tab, create an ITBA user account with same login name as CSA (admin). The password does not need to be the same. The password needs to be complex.




b. Log out from ITBA, and log on again in as the administrator.

c. Select the pages relevant to CSA and make sure you can see the pages with live data.

2. **Configure single sign-on:**

a. Enable SSO between the CSA Cloud Service Management Console (SMC) and BA. For details, see "Enabling the Cloud Analytics Secondary Tiles" in the *HP Cloud Service Automation Configuration Guide*.

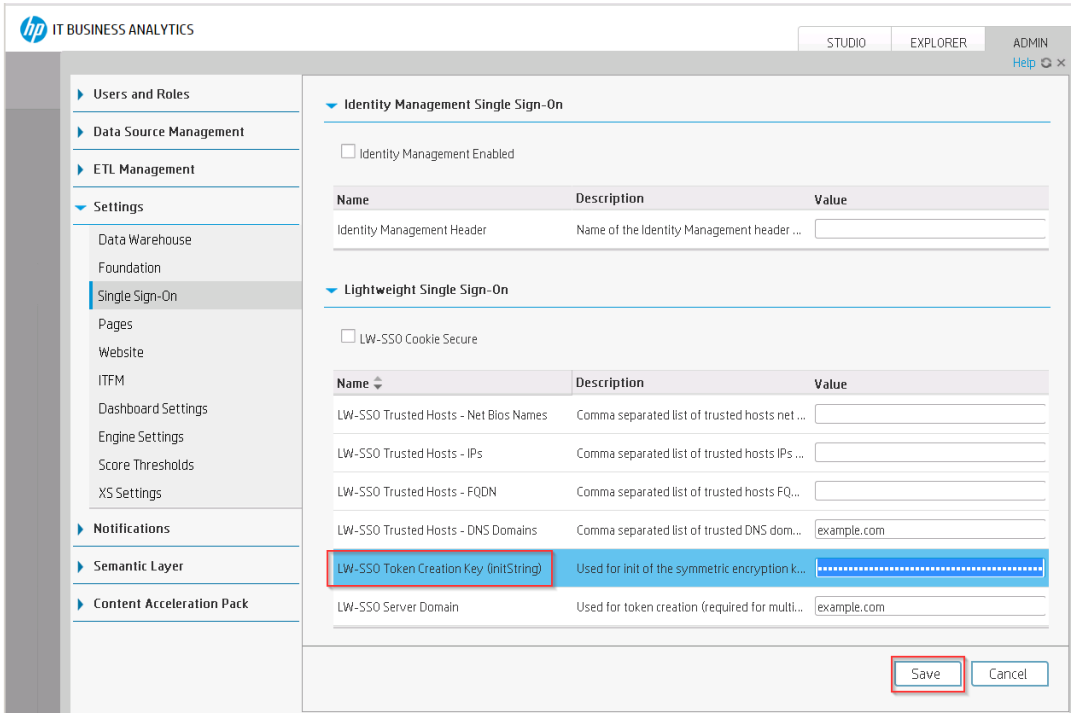
Enable SSO between the Marketplace Portal (MPP) and BA. For details, see "Configure the Showback Report Tile" in the *HP Cloud Service Automation Configuration Guide*.

b. In CSA, initString is configured in the crypto element in the **%CSA_HOME%\jboss-as-7.1.1.Final\standalone\deployments\csa.war\WEB-INF\hpssoConfiguration.xml** file.

The initString value represents a secret key and should be treated as such in your environment.

Navigate to the <crypto> tag and enter the relevant value in the initString parameter.

c. In BA, click **ADMIN > Settings > Single Sign-on** and set the LW-SSO Token Creation key (initString) with the key above (without the double-quote and without the string “initString”). Change the domain name to the BA server domain (CSA server should have the same domain name). Click **Save**.

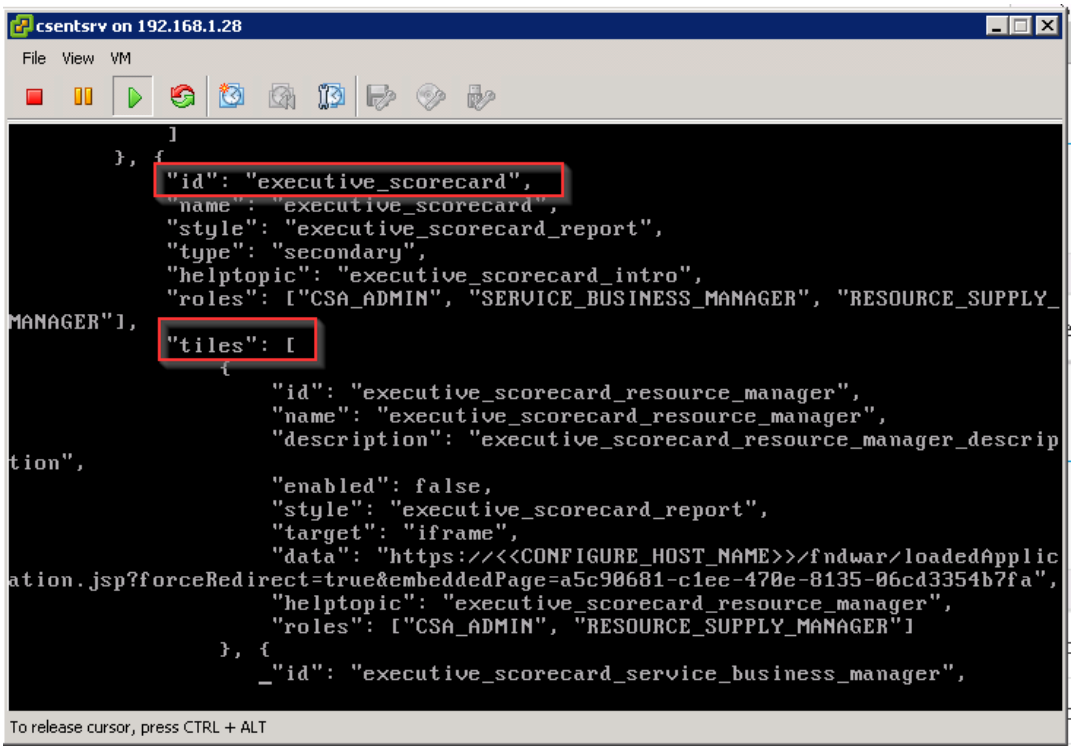



3. Configure the embedded page URL:

   a. In CSA server, backup the **%CSA_HOME%/jboss-as-7.1.1.Final/standalone/deployments/csa.war/dashboard/config.json** file (where %CSA_HOME% is the directory in which Cloud Service Automation is installed).

   b. Edit the **config.json** file.

c. Search for the **id: executive_scorecard** tile (beware there are two such tiles), start from the second (type = secondary) as shown below:




d. Under the **tiles** node, change **"enabled": false** to **"enabled": true**, for the following ids:

   i. **Executive_scorecard_resource_manager**

   ii. **Executive_scorecard_service_business_manager**

   iii. **Executive_scorecard_showback_report**

e. Do not change it in the id: **executive_scorecard_standalone**.

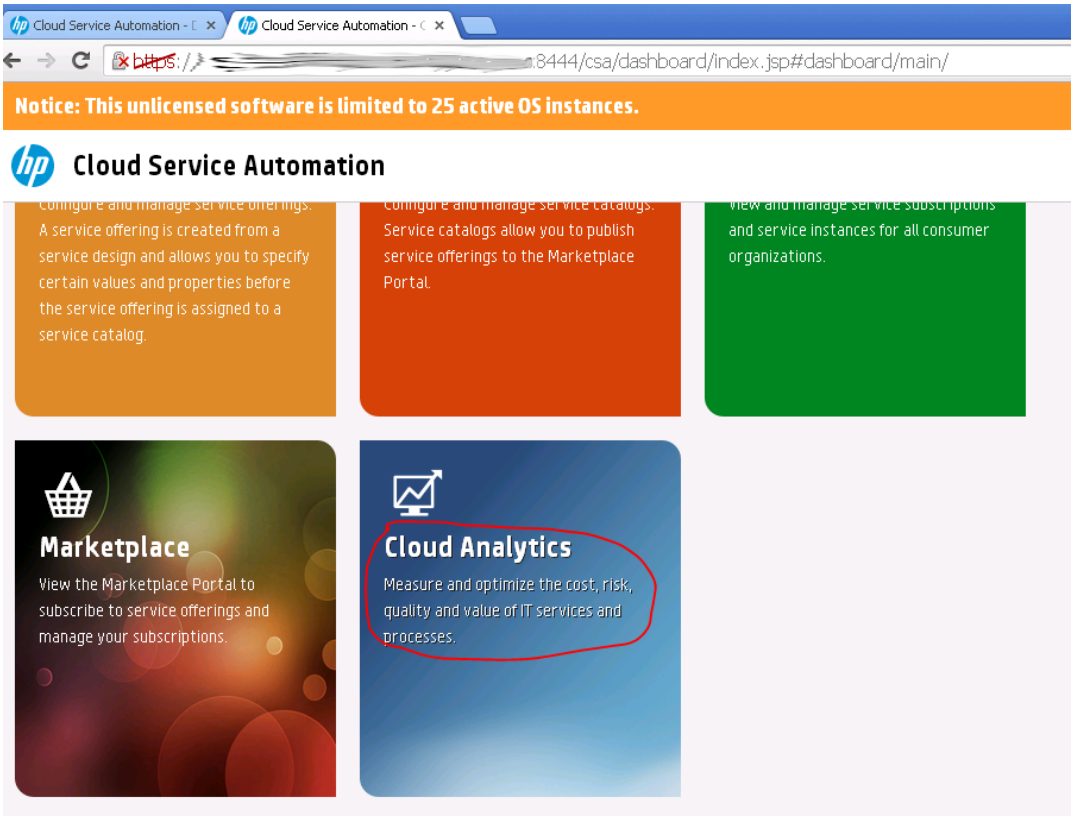
f. Change **"enabled": true** to **"enabled": false**in the id: **assistance_executive_scorecard**.

g. For all tiles that are under the id: **executive_scorecard**, in the data section, change **<CONFIGURE_HOST_NAME>** to match the hostname of your Business Analytics installation. For example **xs.example.com**.

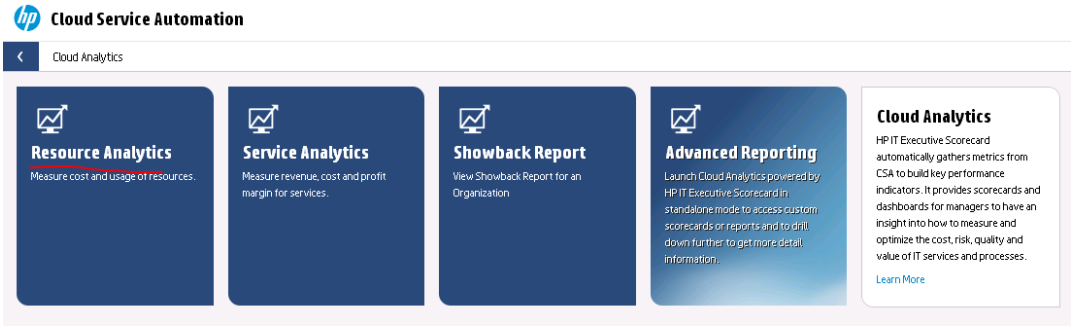
```
"helptopic": "executive_scorecard_intro",
"roles": ["CSA_ADMIN", "SERVICE_BUSINESS_MANAGER", "RESOURCE_SUPPLY_MANAGER"],
"tiles": [
    {
        "id": "executive_scorecard_resource_manager",
        "name": "executive_scorecard_resource_manager",
        "description": "executive_scorecard_resource_manager_description",
        "enabled": true,
        "style": "executive_scorecard_report",
        "target": "iframe",
        "data": "https://rhelxs10ba.cdl.local:8443/fndwar/loadedApplication.jsp?forceRedirect=true&embeddedPage=a5c90681-c1ee-470e-8135-06cd3354b7fa",
        "helptopic": "executive_scorecard_resource_manager",
        "roles": ["CSA_ADMIN", "RESOURCE_SUPPLY_MANAGER"]
    }, {
        "id": "executive_scorecard_service_business_manager",
        "name": "executive_scorecard_service_business_manager",
        "description": "executive_scorecard_service_business_manager_description",
        "enabled": true,
        "style": "executive_scorecard_report",
        "target": "iframe",
        "data": "https://rhelxs10ba.cdl.local:8443/fndwar/loadedApplication.jsp?forceRedirect=true&embeddedPage=636665b5-30cc-45c8-a44d-32ab33bc3249",
        "helptopic": "executive_scorecard_service_business_manager",
        "roles": ["CSA_ADMIN", "SERVICE_BUSINESS_MANAGER"]
    }, {
        "id": "executive_scorecard_showback_report",
        "name": "executive_scorecard_showback_report",
        "description": "executive_scorecard_showback_report_description",
        "enabled": true,
        "style": "executive_scorecard_report",
        "target": "iframe",
        "data": "https://rhelxs10ba.cdl.local:8443/fndwar/loadedApplication.jsp?forceRedirect=true&embeddedPage=5096cb94-7dc5-43a4-a786-c84227639abe",
        "helptopic": "executive_scorecard_showback_report",
        "roles": ["CSA_ADMIN", "SERVICE_BUSINESS_MANAGER"]
    }, {
        "id": "executive_scorecard_standalone",
        "name": "executive_scorecard_standalone",
        "description": "executive_scorecard_standalone_description",
        "enabled": true,
        "style": "executive_scorecard",
        "target": "new",
        "data": "https://rhelxs10ba.cdl.local:8443/ba",
        "helptopic": "executive_scorecard_intro",
        "roles": ["CSA_ADMIN", "SERVICE_BUSINESS_MANAGER", "RESOURCE_SUPPLY_MANAGER"]
    }, {
        "id": "assistance_executive_scorecard",
        "name": "assistance_executive_scorecard",
        "description": "assistance_executive_scorecard_description",
        "enabled": true,
        "style": "assistance",
        "target": "assistance",
        "data": "/csa-provider-help/q/executive_scorecard_intro",
        "helptopic": "executive_scorecard_intro",
        "roles": ["CSA_ADMIN", "SERVICE_BUSINESS_MANAGER", "RESOURCE_SUPPLY_MANAGER"]
    }
```

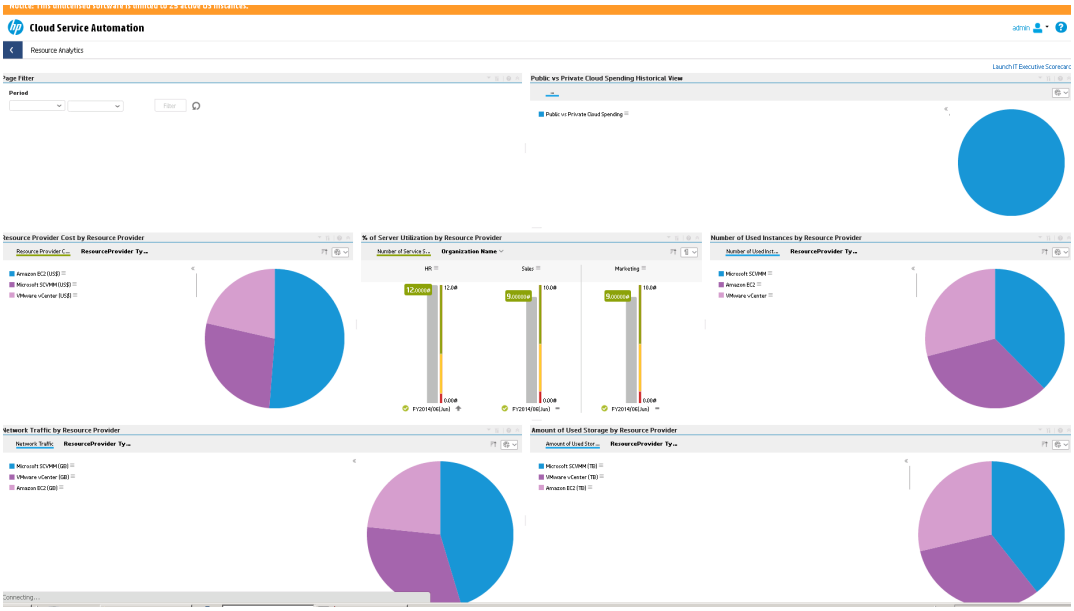
4. Access BA pages in the CSA system:

a. Log on to CSA using the full qualifier domain name (FQDN) URL.




b. Open the embedded BA pages in the CSA system.






## Support CSA Multiple Currency for Service Offering

1. Edit **EXCHANGE.csv**.
2. Upload **EXCHANGE.csv** to **%HPBA%/ContentPacks/CSA/EXTERNAL** in the BA server.
3. Run the ETL to import exchange data. For details, see Run ETL - Content Flow Managementin the *Administrator Guide*.

## Configure the Showback report for the Consumer Organization Administrator

In this section, we simulate the CSA Consumer Organization administrator use case that leverages two existing groups in the LDAP server. Each group can only see its own group's data. CSAEngineers group can only see the engineering group data and the CSAHR group can only see the HR group data. For details, see also Setting access restrictions on a universe in the *Universe Designer for BusinessObjects XI 3.1*.

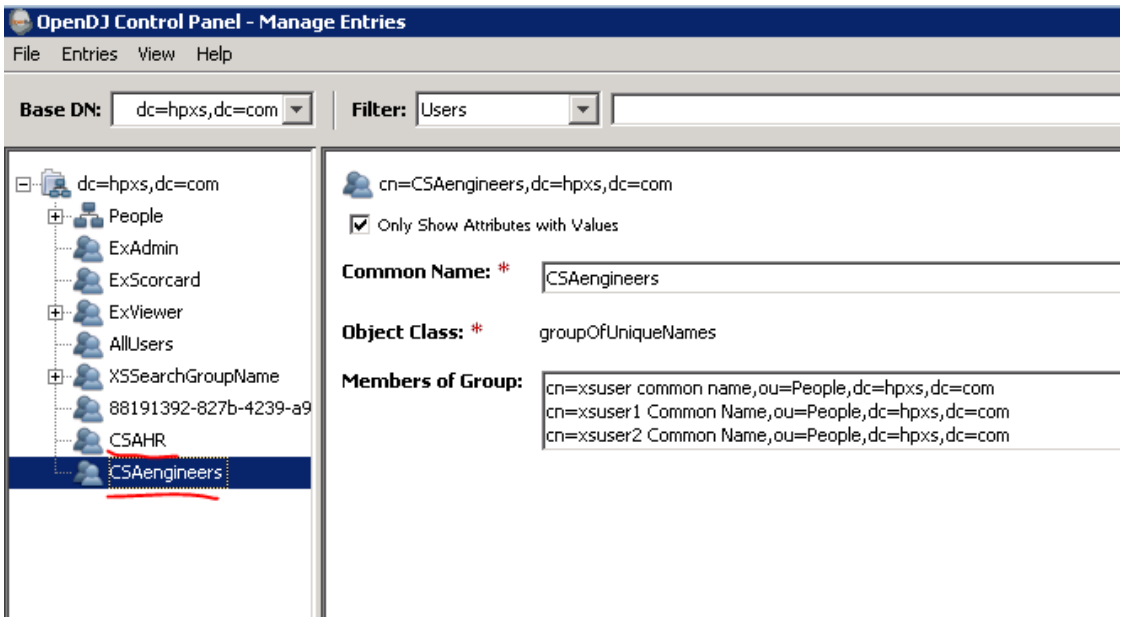
"Step 1 - Configure resource, user and permission" on the next page

"Step 2 - Configure the restriction of Cloud Billing universe" on page 117

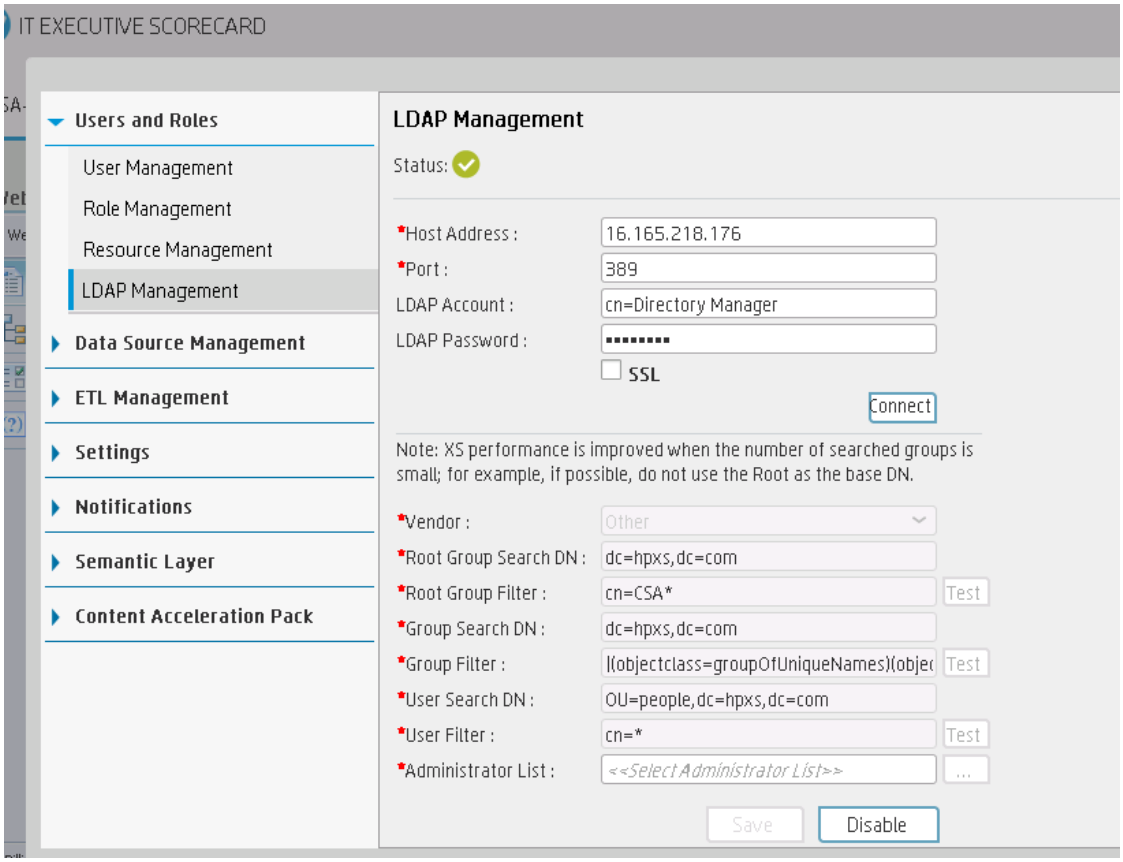
"Step 3 - Configure the Business Analytics tile in the CSA Market Place Portal" on page 129

### Step 1 - Configure resource, user and permission

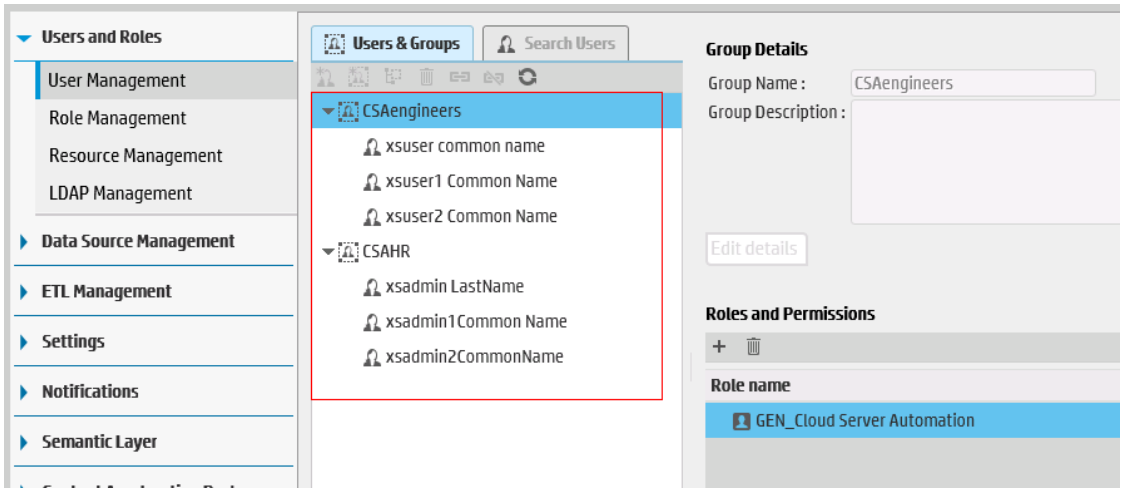
1. In the CSA integrated LDAP server, select 2 groups: CSAHR and CSAEngineers.



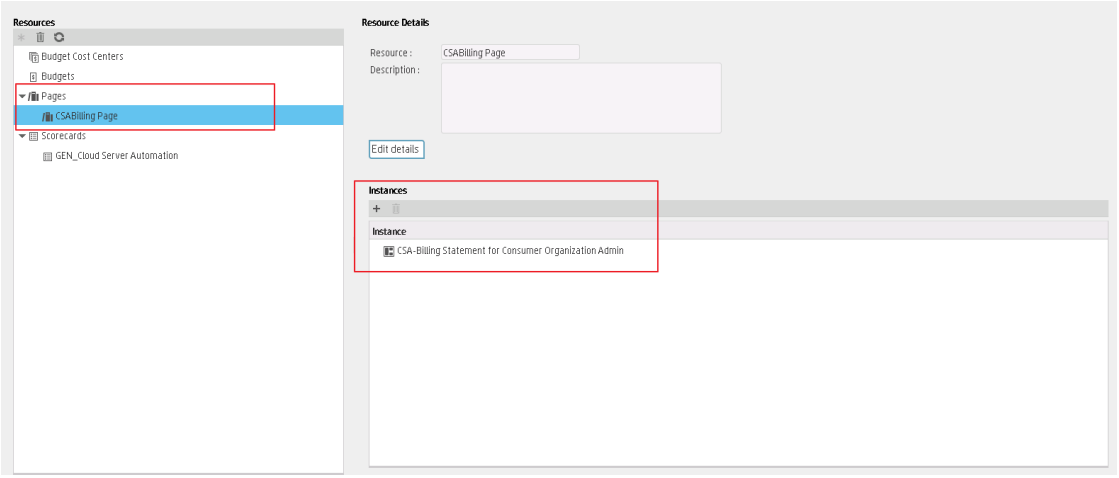
2. In the ITBA application, configure LDAP. For details, see LDAP Management in the *Administrator Guide*.



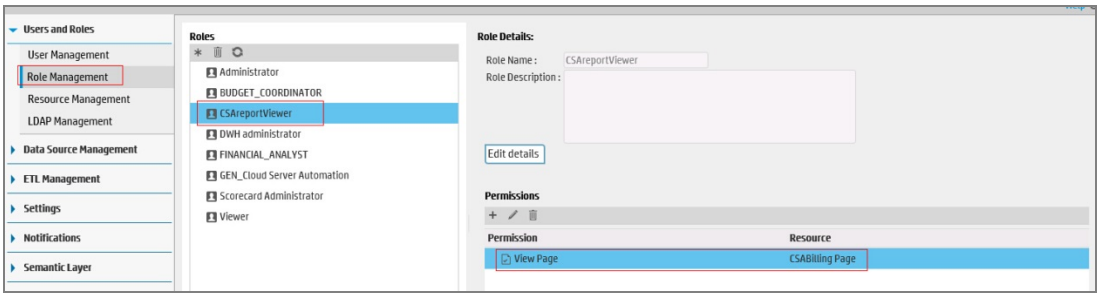

Create the CSAengineers and CSAHR groups and assign them users.



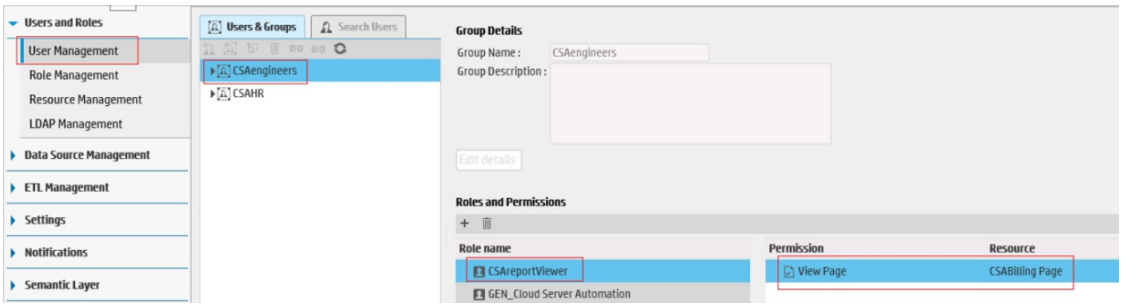

3. Create the resource for the CSA-Showback for Consumer Organization Admin page.



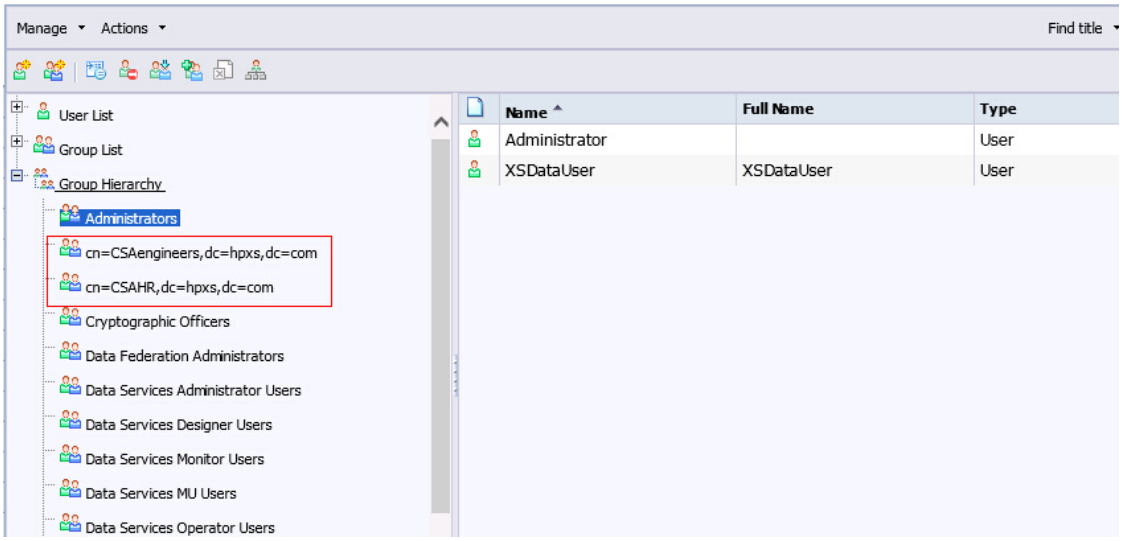

4. Create the CSAreportviewer role.




5. Assign the role CSAreportviewer to two groups.



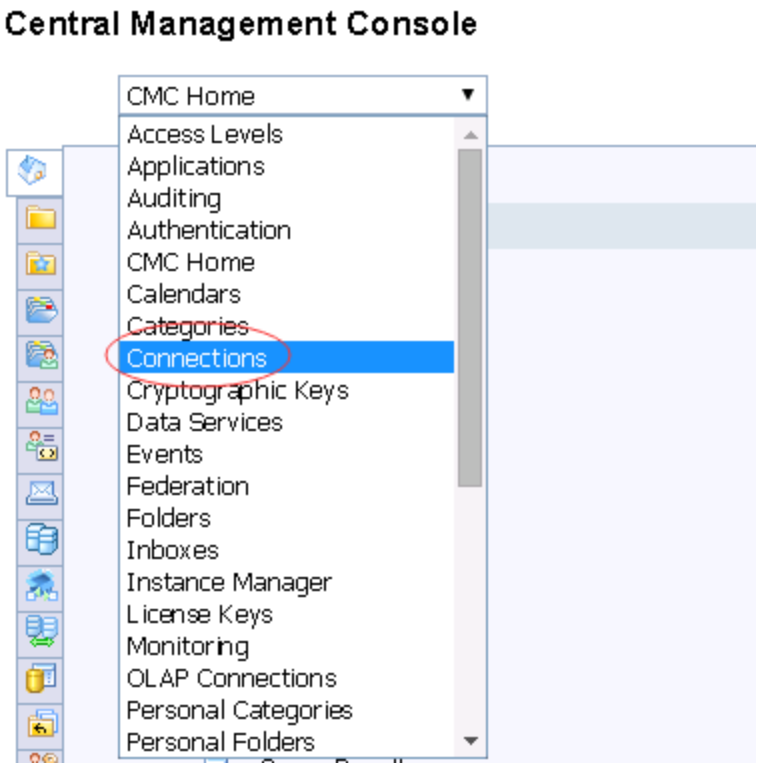

6. Configure LDAP with BOE. For details, see LDAP in BusinessObjects in the *Administrator Guide*.



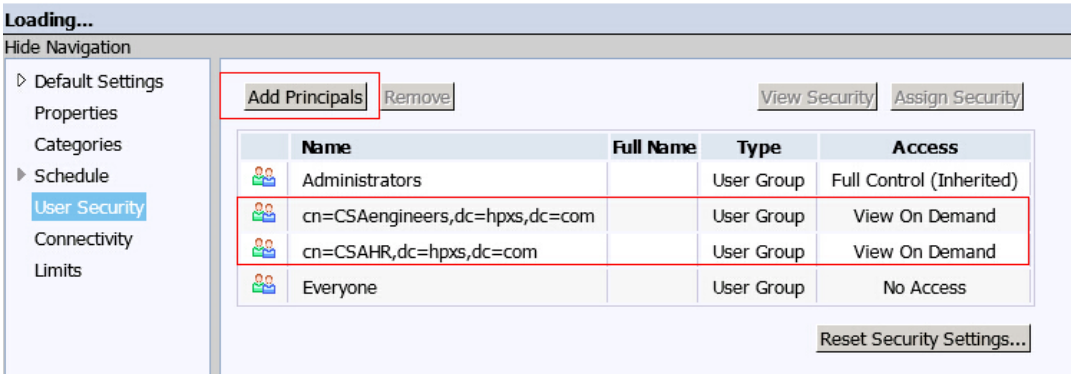

7. Configure the group permission in the BOE server:

   a. Log on to BusinessObjects Central Management Console (http:// <local BOE server name>:8080/BOE/CMC) using the administrator name and password and configure LDAP with BOE. For details, see LDAP in BusinessObjects in the *Administrator Guide*.

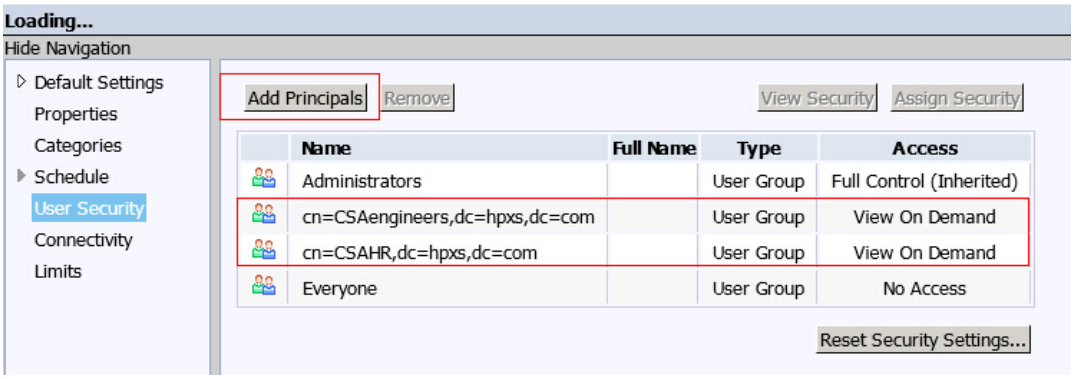
   b. Open the Connections:



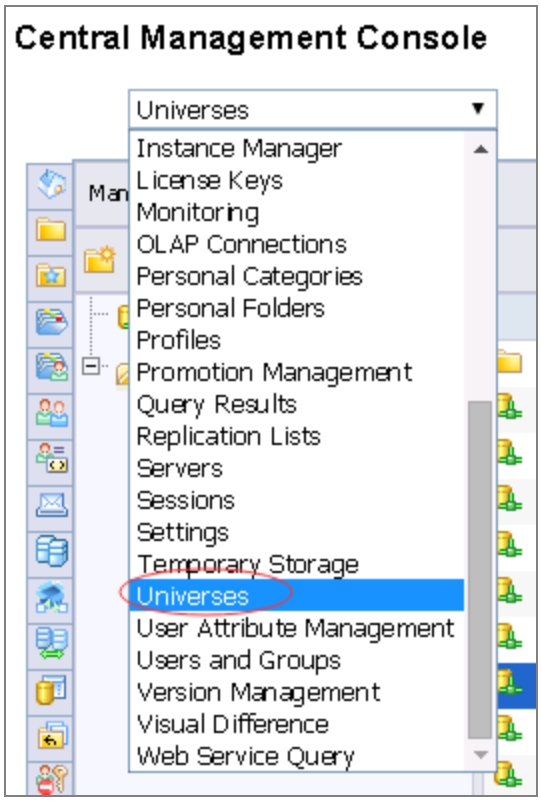
c. Select the XS_DWH_JDBC connection that your report uses and click **User Security**.



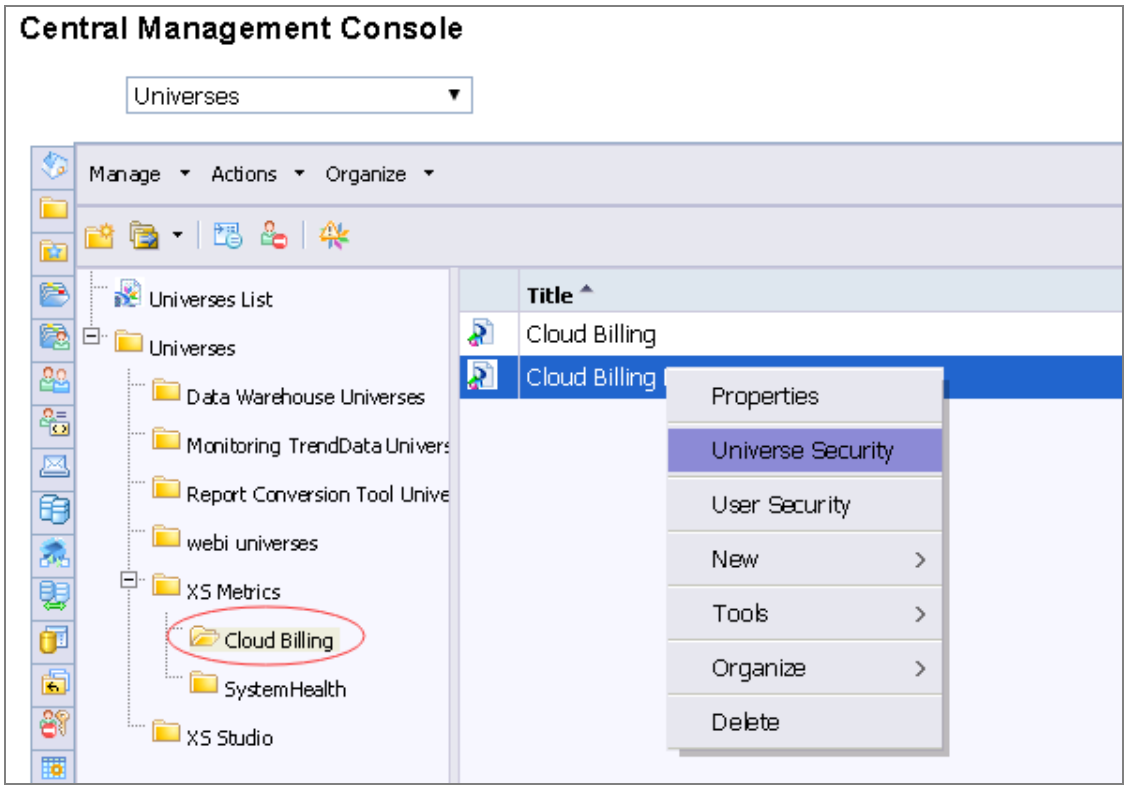

d. Grant the **View On Demand** permission to the two groups.



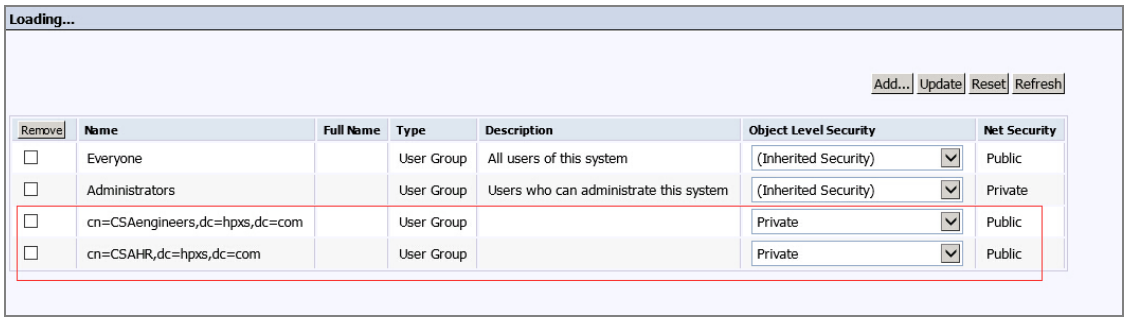

8. Open the Universes.



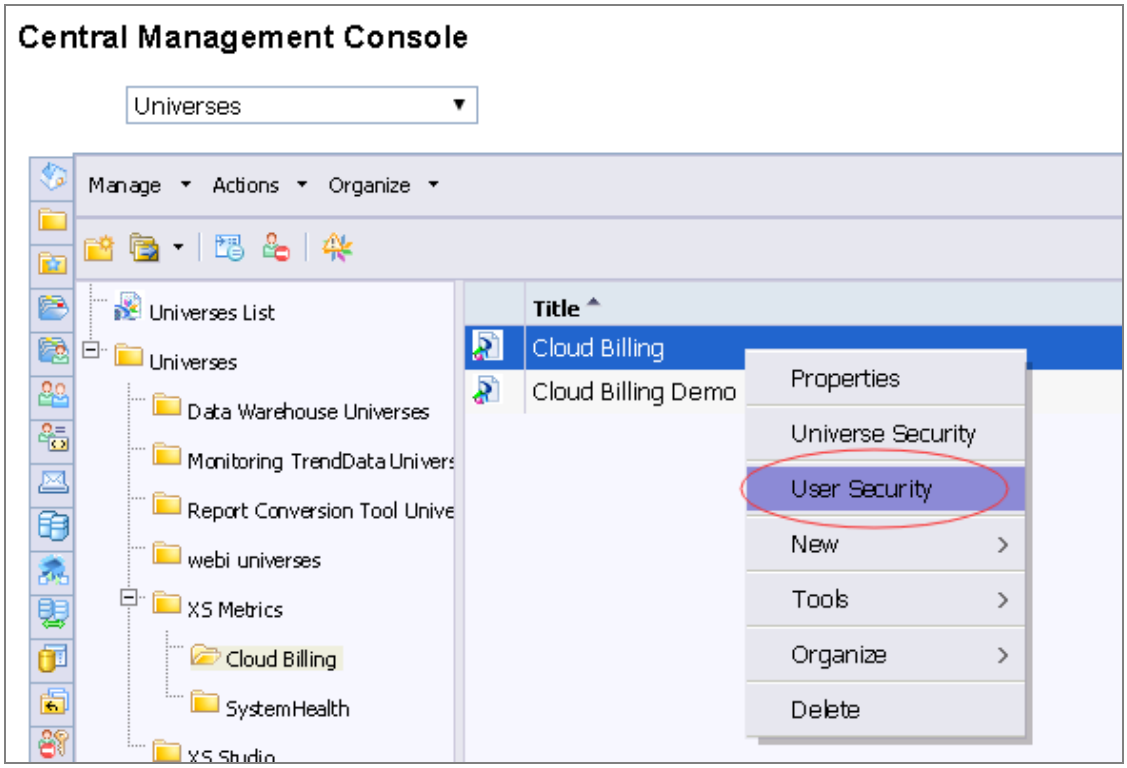

9. Select the **CloudBilling** universe that your report uses and click **Universe Security**.




10. Add the **Private** security to the two groups.

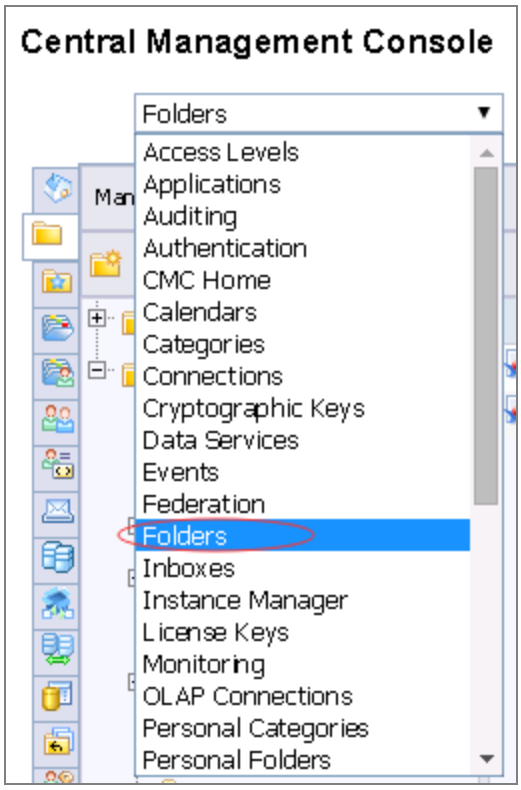



11. Grant the **View on Demand** permission to the 2 groups in **User Security**.

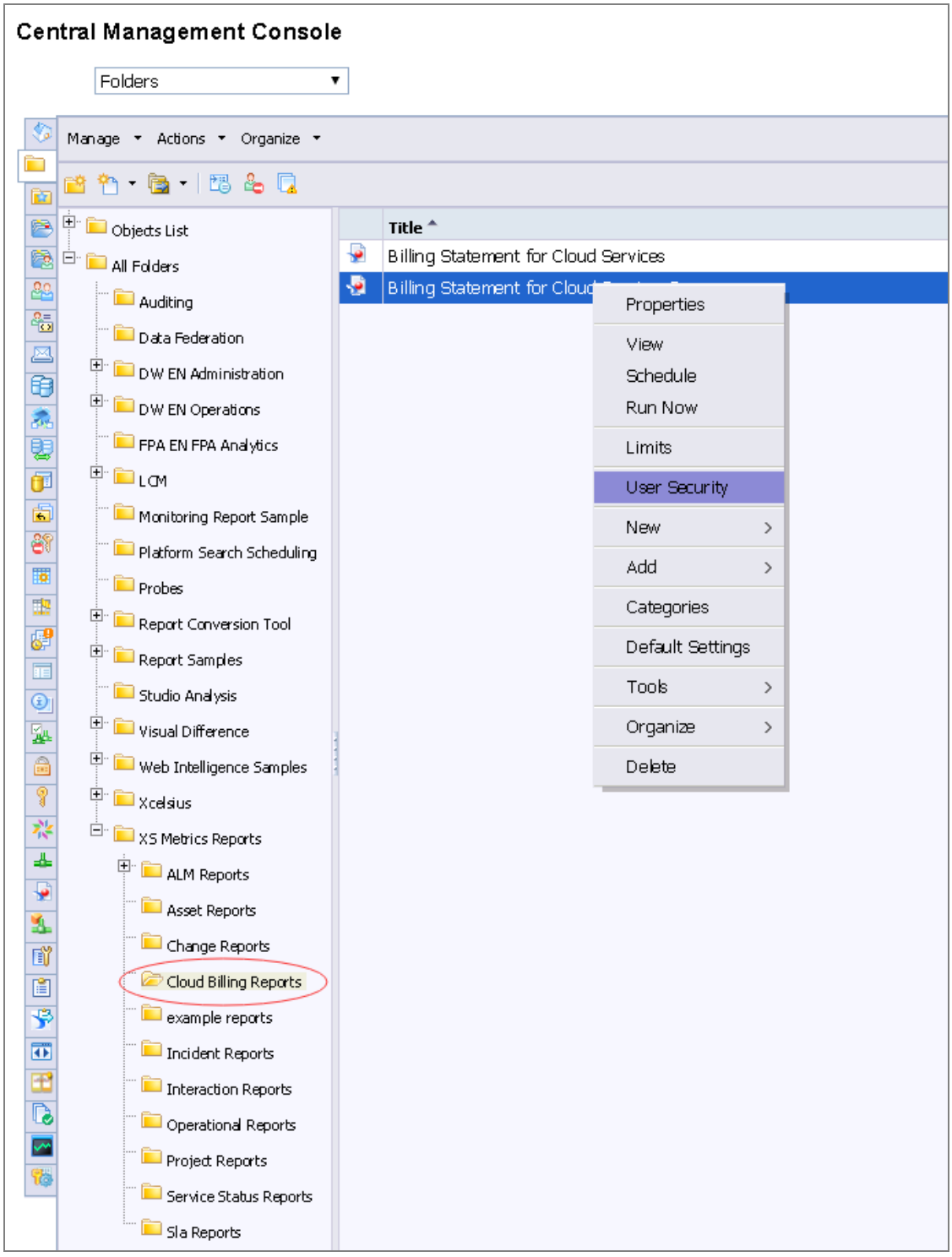




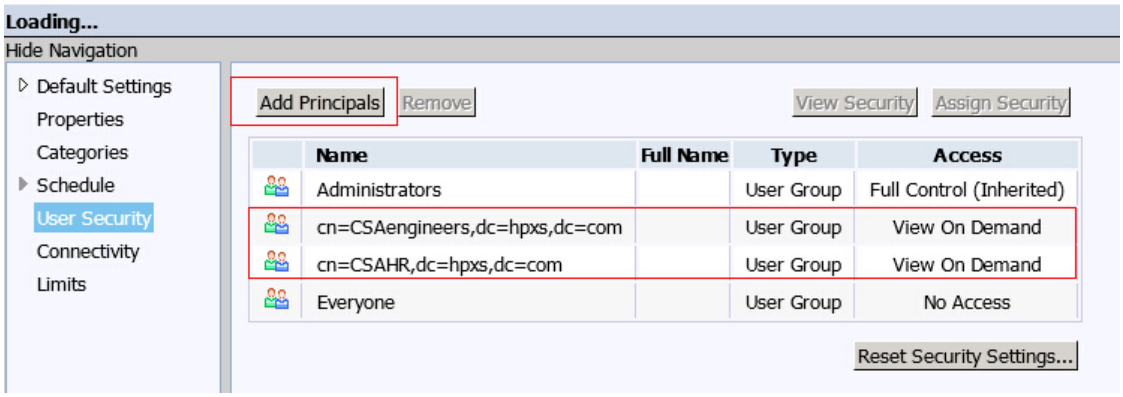
12. Select **Folders**.




13. Select the **Showback for Consumer Organization Admin** report and click **User Security**.



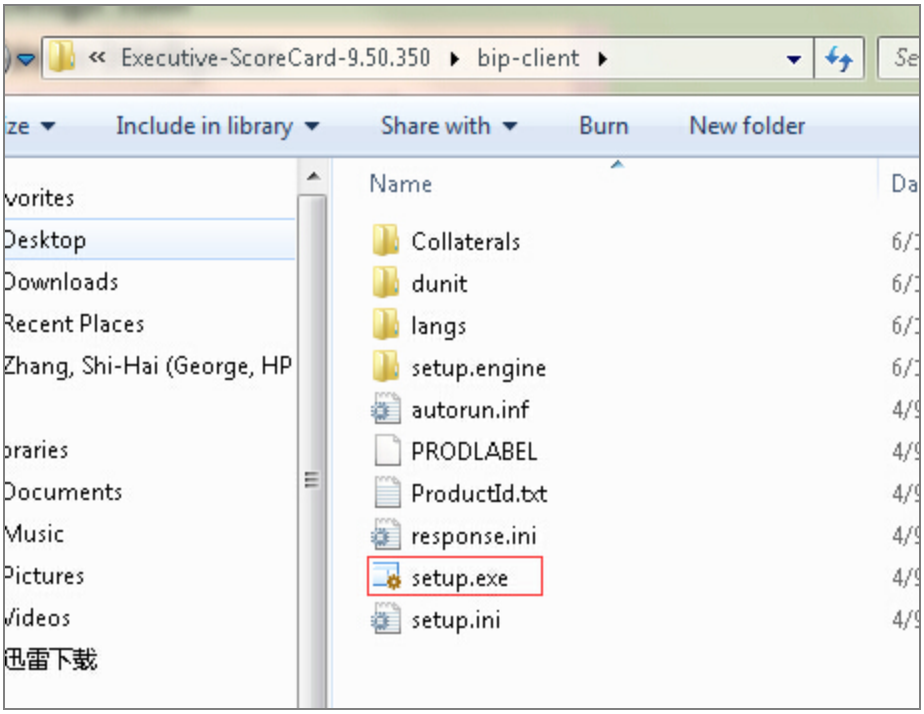

14. Grant the **View On Demand** to the 2 groups.



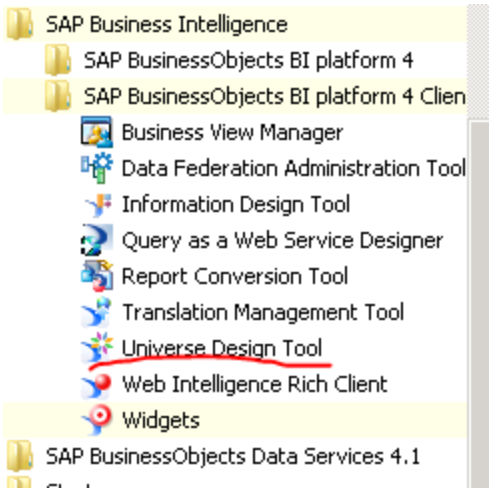

### Step 2 - Configure the restriction of Cloud Billing universe

1. Configure the restrictions of the Cloud Billing universe:

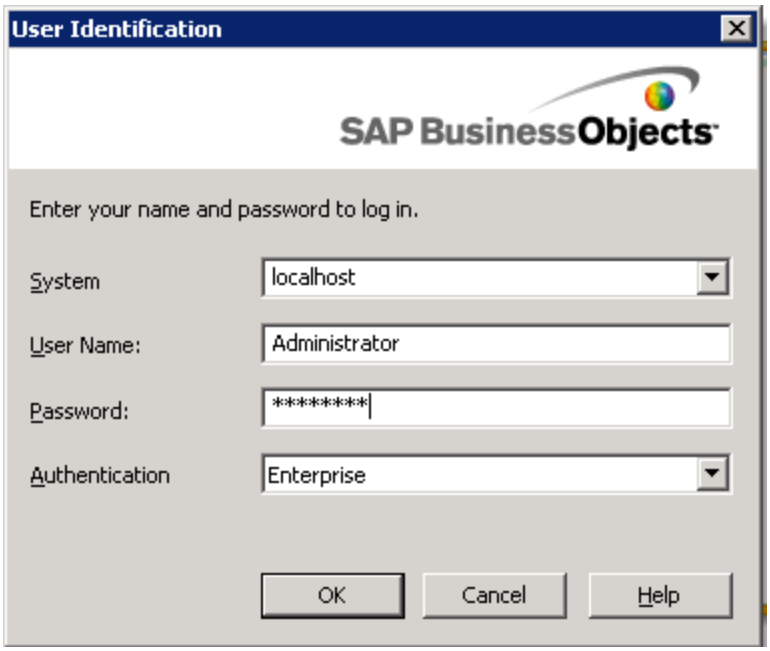
   a. On the BOE server, install SAP BusinessObjects BI platform 4 Client Tools. Unzip the **bip-client.ZIP** file from installation file and click **setup.exe** to install it.



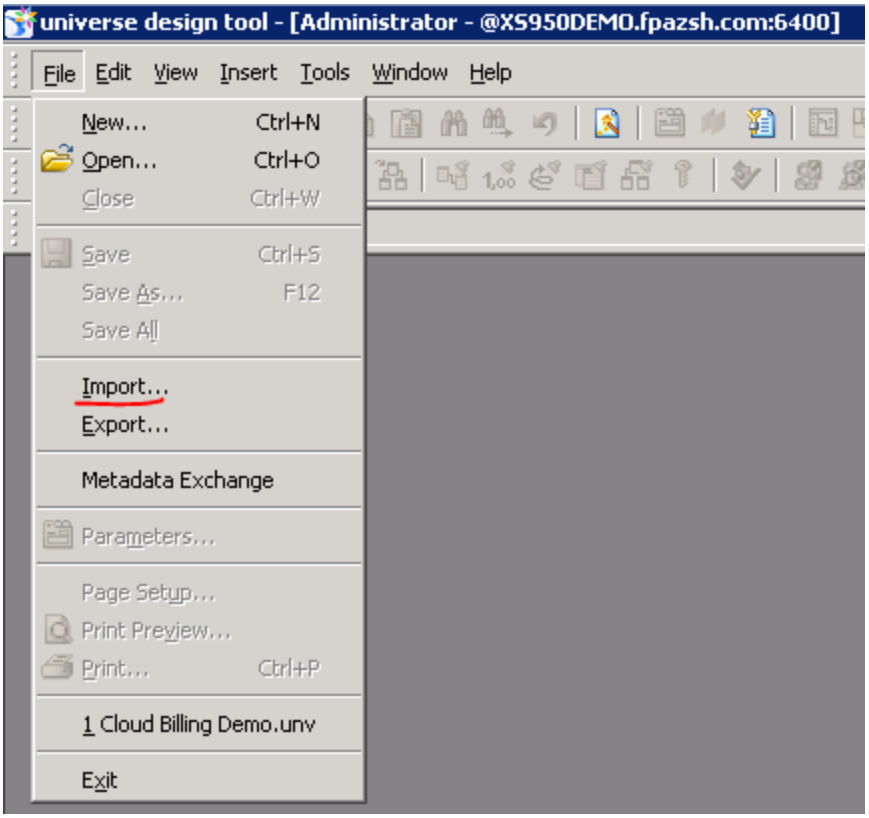
b. Open the Universe Design Tool.



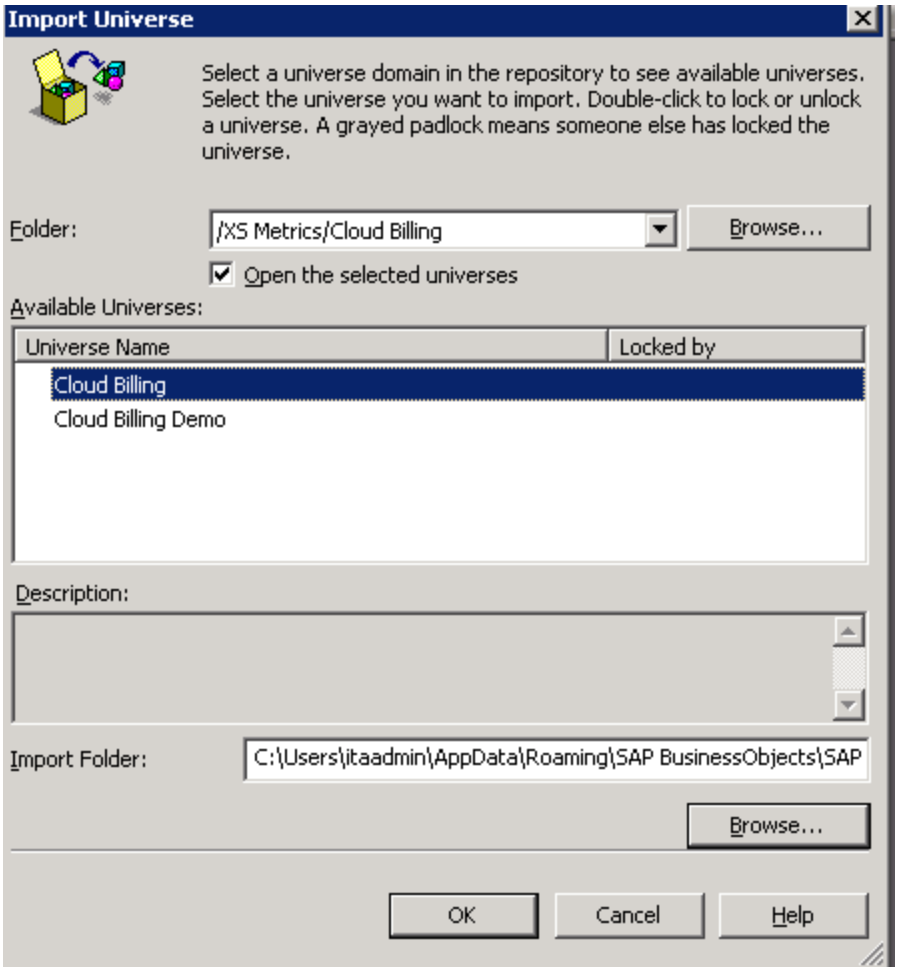

c. Log on to the Universe Design using the BOE administrator.

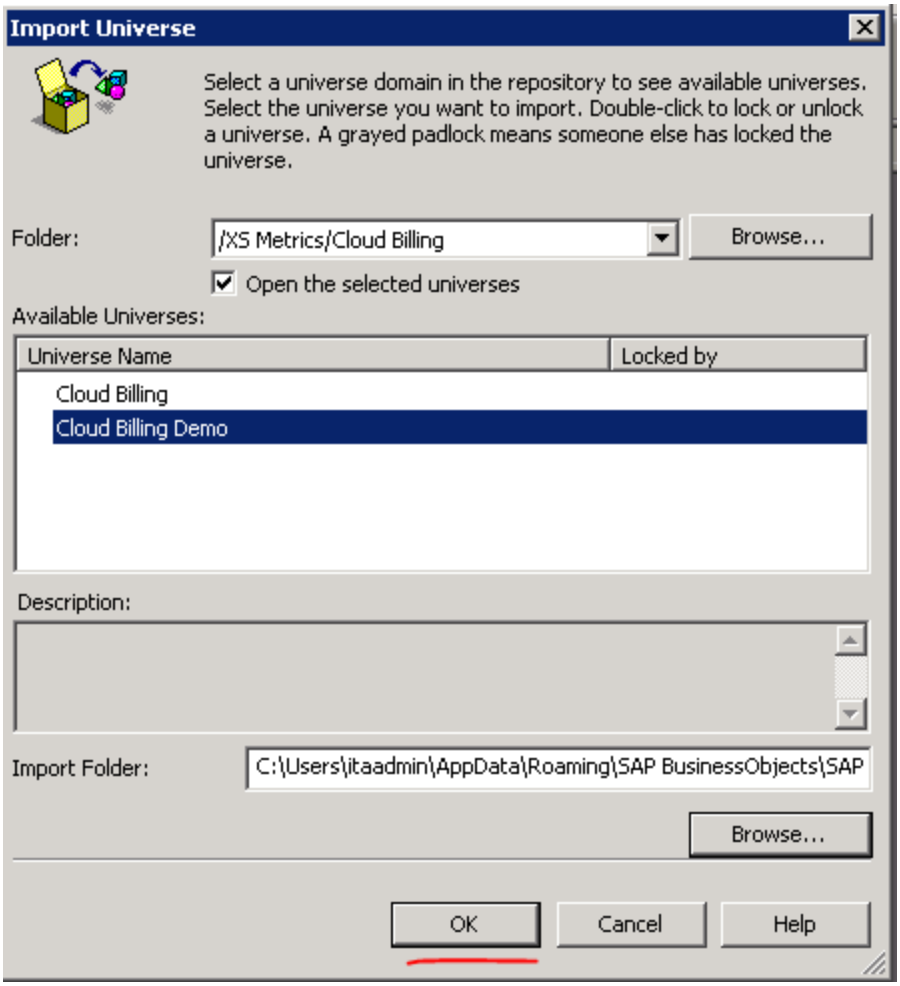


d. Click the **Import** button.



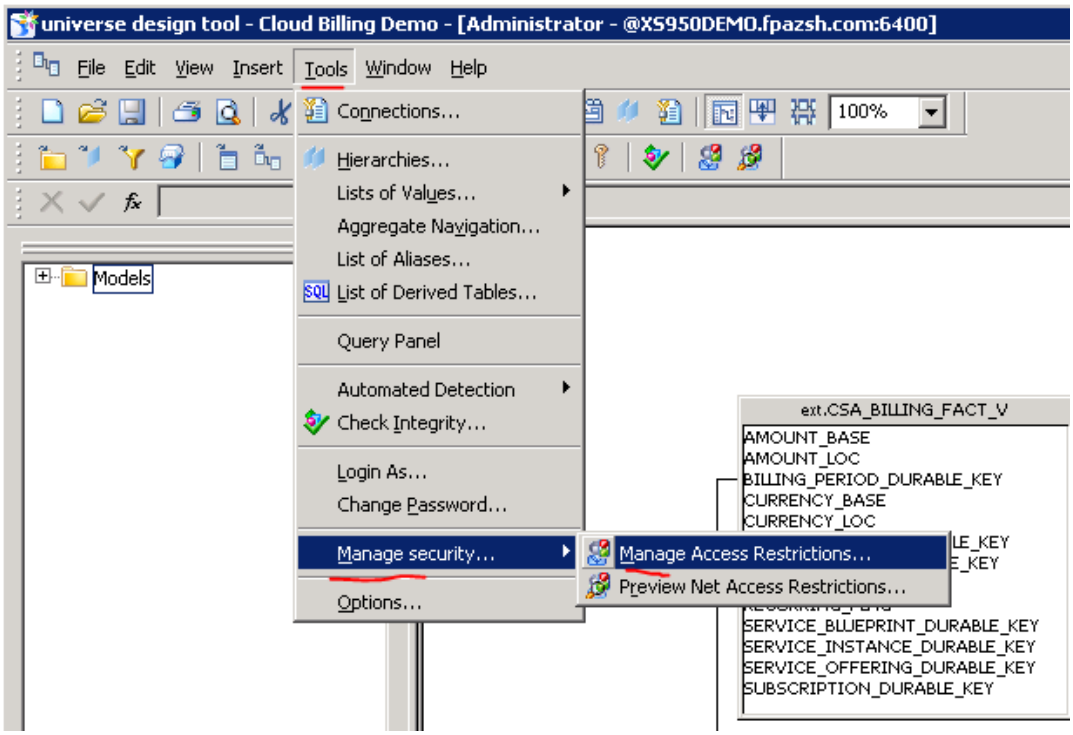

e. Open the Cloud Billing universe.


Import Universe
Select a universe domain in the repository to see available universes. Select the universe you want to import. Double-click to lock or unlock a universe. A grayed padlock means someone else has locked the universe.
Folder:
/XS Metrics/Cloud Billing
Browse...
Open the selected universes
Available Universes:
Universe Name
Locked by
Cloud Billing
Cloud Billing Demo
Description:
Import Folder:
C:\Users\itaadmin\AppData\Roaming\SAP BusinessObjects\SAP
Browse...
OK
Cancel
Help




f. Add the relevant restrictions in the Manage Access Restrictions wizard:

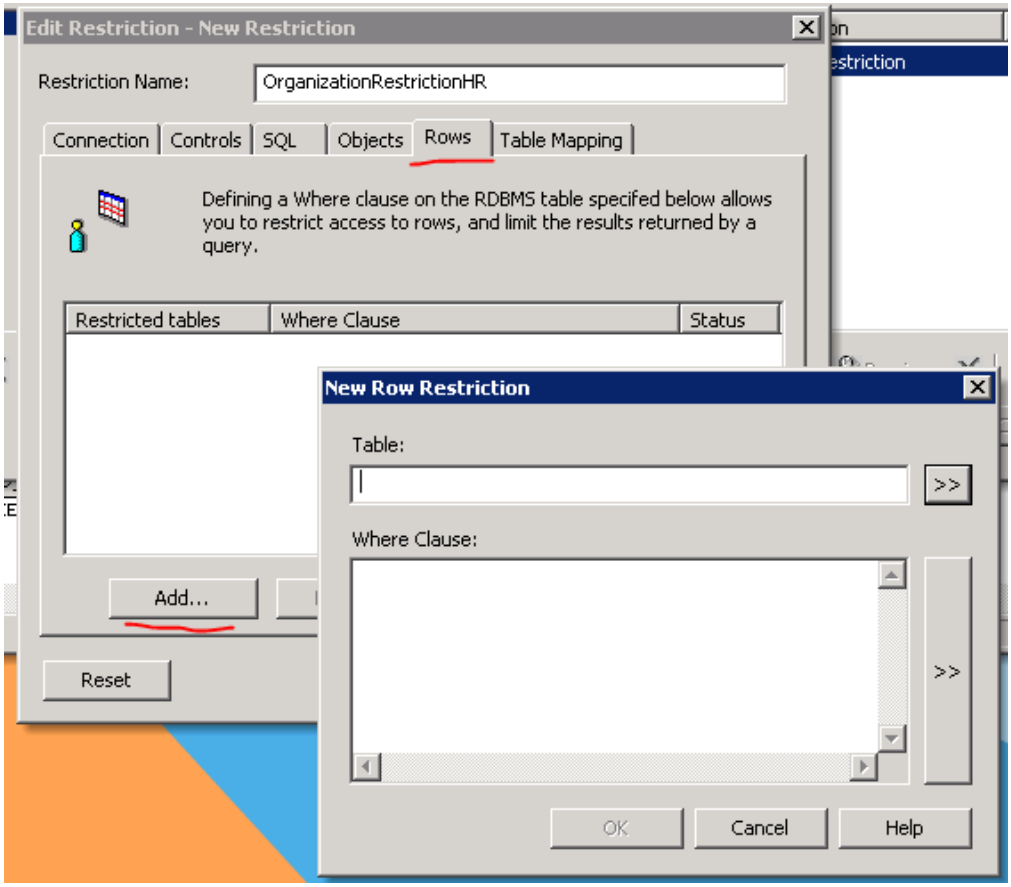
- Engineer_restriction is set for CSAengineers which is configured to see only the engineering group's data.
- HR_restriction is set for CSAHR which is configured to see only the HR group's data.



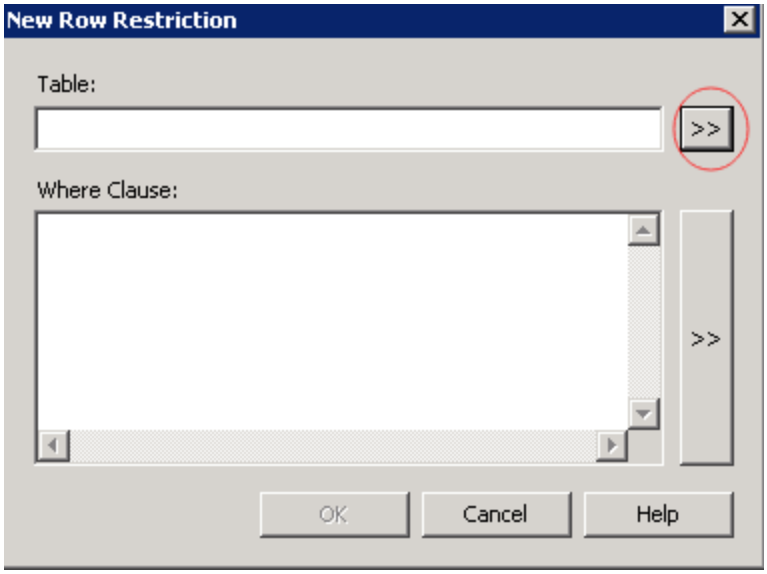

g. **Create the restriction.**

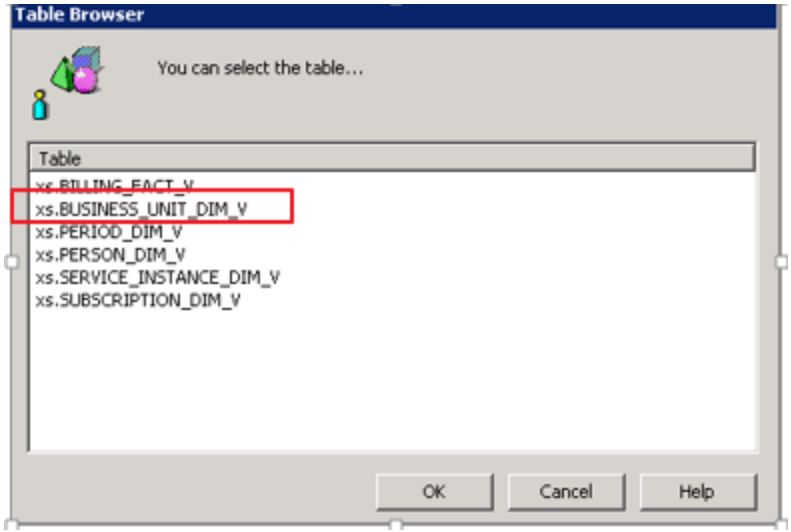
i. Click **New** in the wizard.

ii. Click the **Rows** tab and click **Add...**.



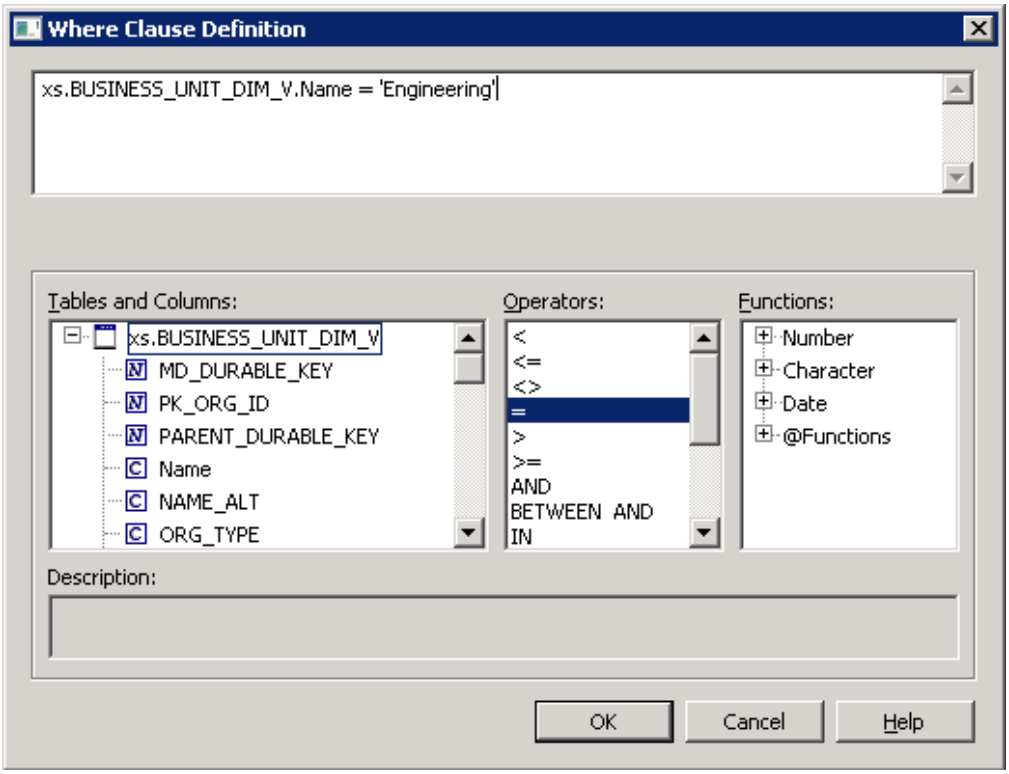
iii. Select the **XS_BUSINESS_UNIT_DIM_V** table in the **Table** list, and set the SQL query in as follows:



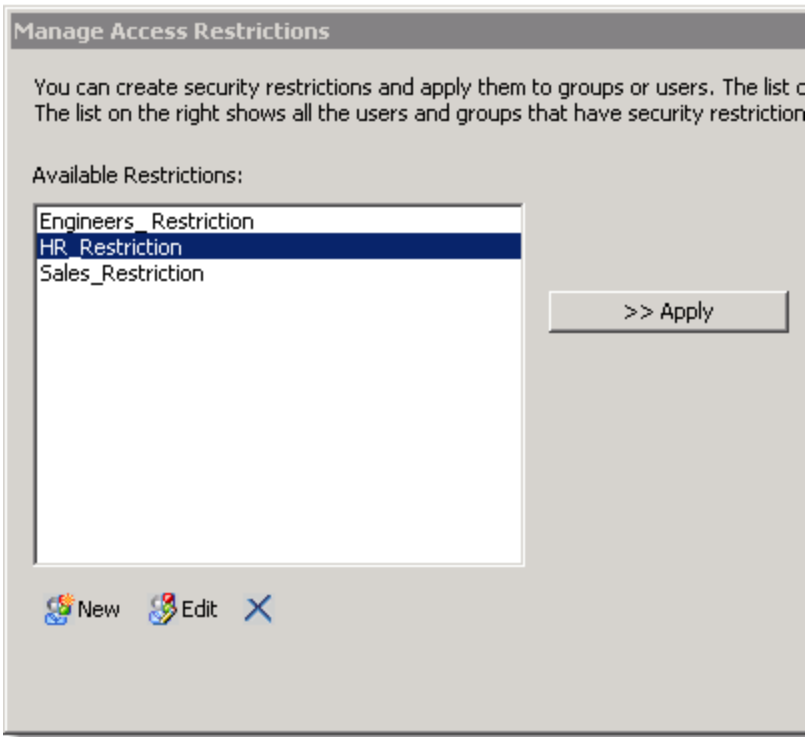

iv. Click **OK**.

v. Add restrictions1 as XS.BUSINESS_UNIT_DIM_V.Name = 'Engineering'.

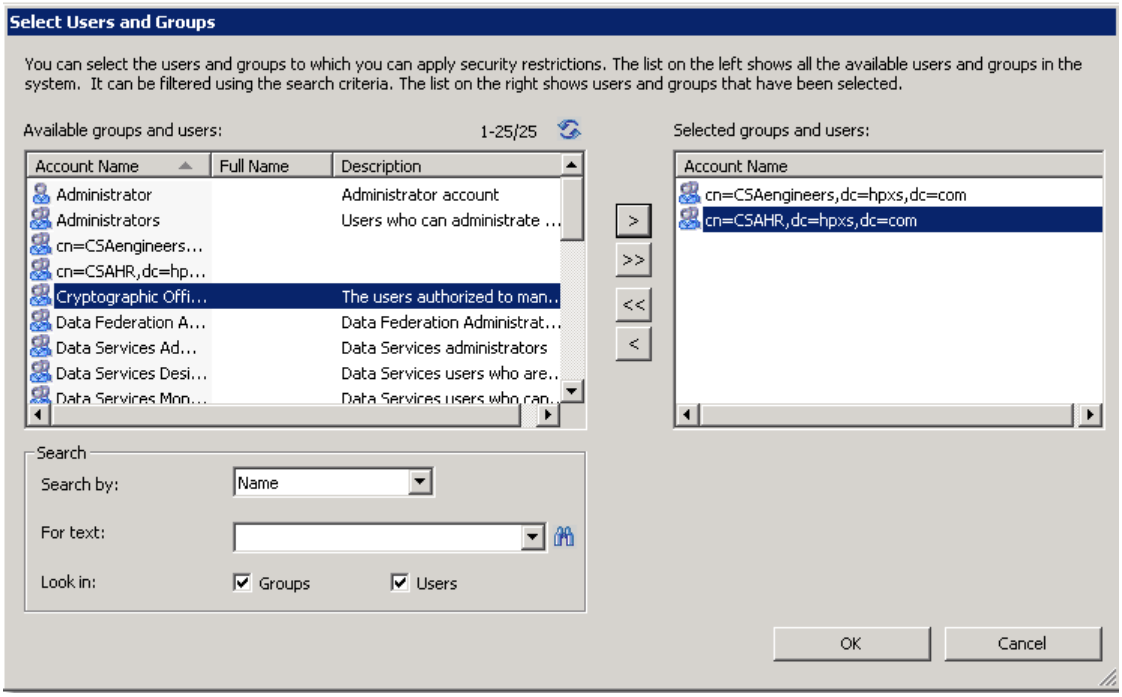



vi. Click **OK**.

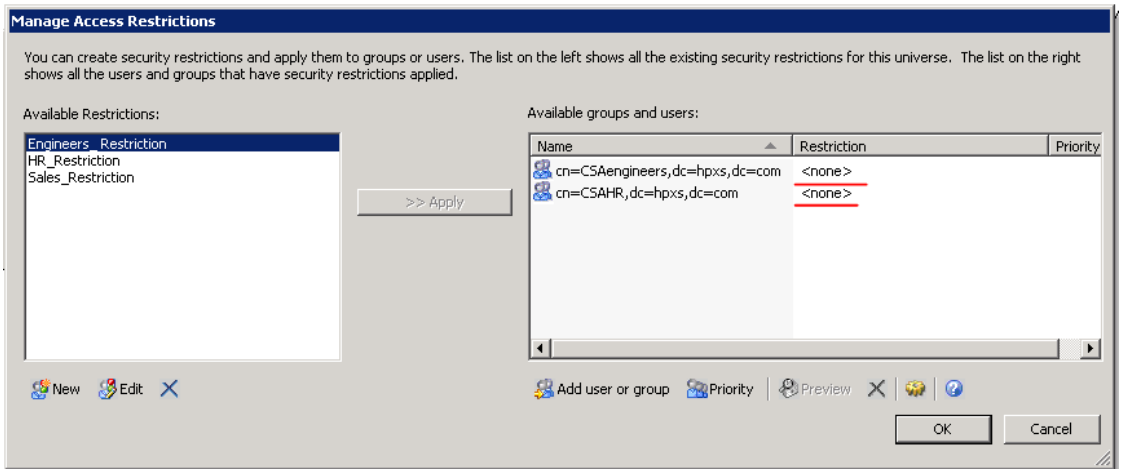
h. Repeat the steps from "Create the restriction. " on page 122 to create the second restriction.



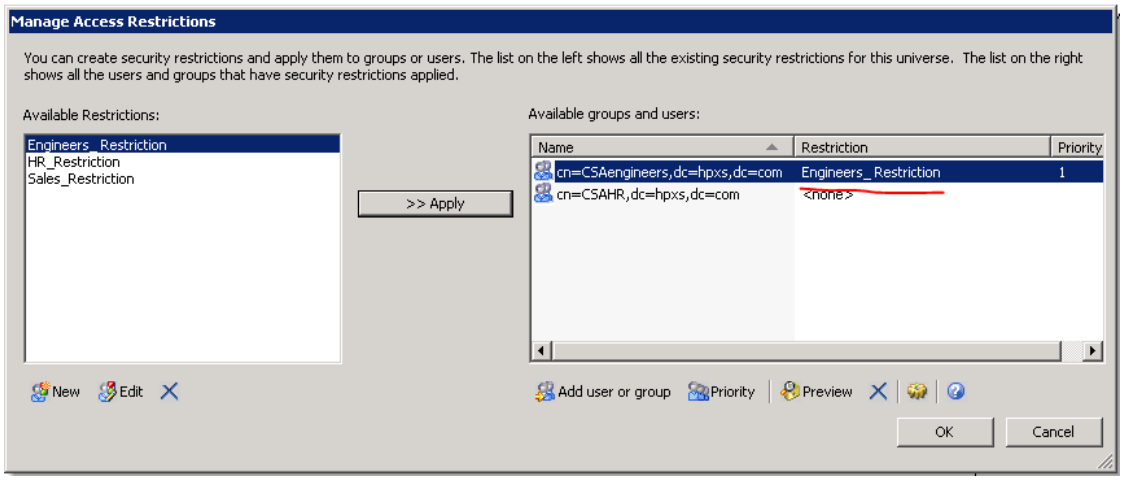

2. Click the **Add user** or **Add group** button, select the user and click the > button.



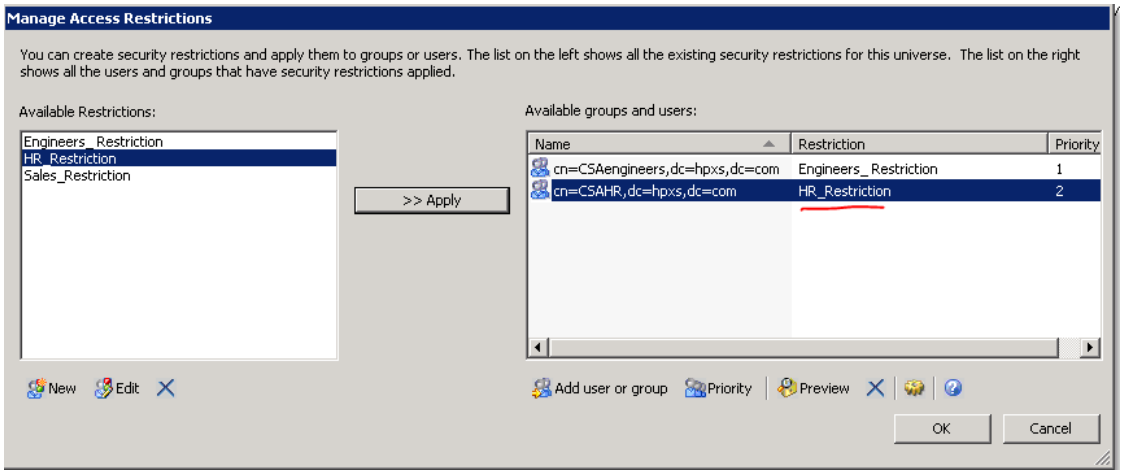
3. Click **OK**.



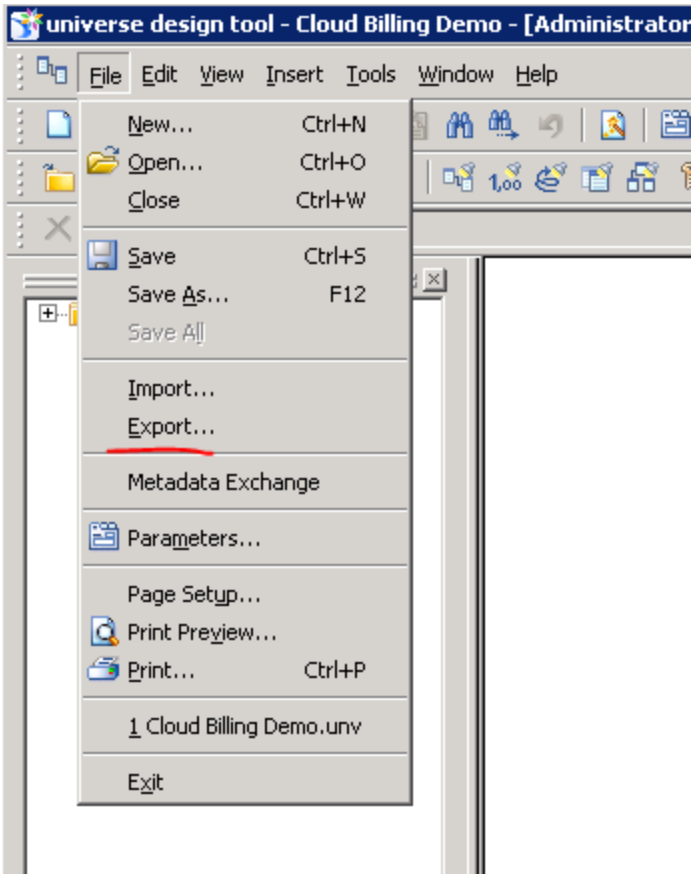

4. Select **Engineers_Restriction** in **Available Restrictions** area, select the **CSAengineers** group in the **Available groups and users** area, and then click the **>>Apply** button.



5. Repeat the previous step for the **HR_Restriction** and the HR group.

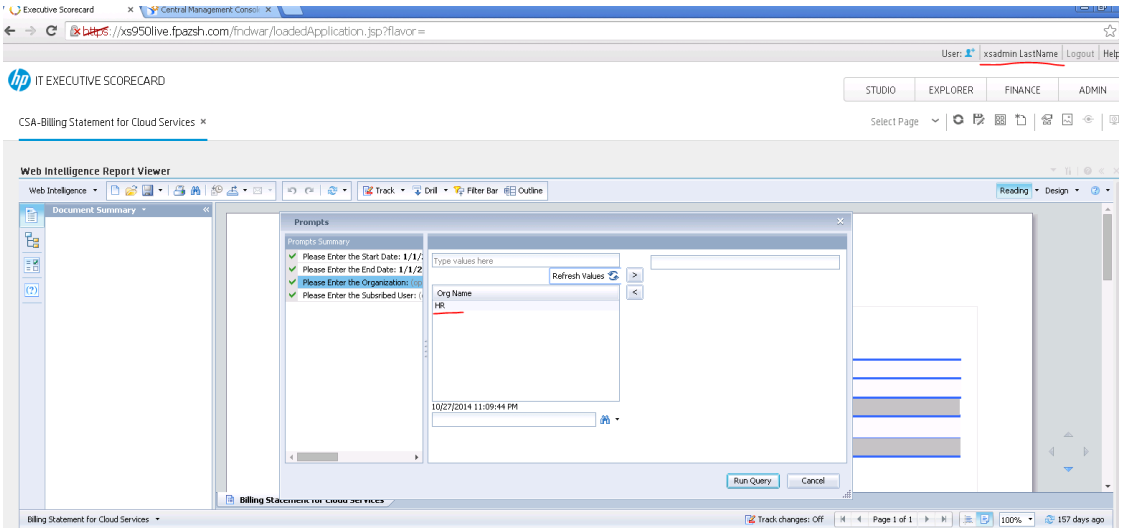



6. Click **Export...**



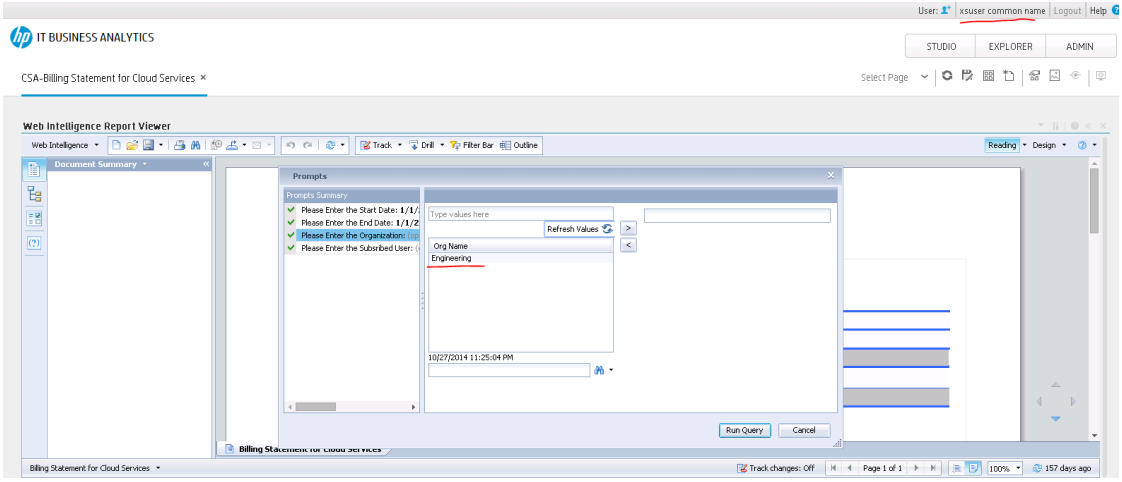

7. Click **OK**.
8. Log on to BA as the HR group one user and open the CSA billing report in the Dashboard.

9. Click the **Refresh** button to display the following value for Org Name.




10. Log on BA as the Engineers group one user and open the CSA billing report in the Dashboard.

11. Click the **Refresh** button to display the following value for Org Name.




## Step 3 - Configure the Business Analytics tile in the CSA Market Place Portal

To enable and configure the Showback report on the CSA Market Place Portal for the Consumer Organization Administrator persona:

1. Locate the **%CSA_HOME%\portal\conf\dashboard.json** file.
2. In the file, locate the section below and in the highlighted url replace the <CONFIGURE_HOST_NAME> placeholder with the host name of the BA instance.

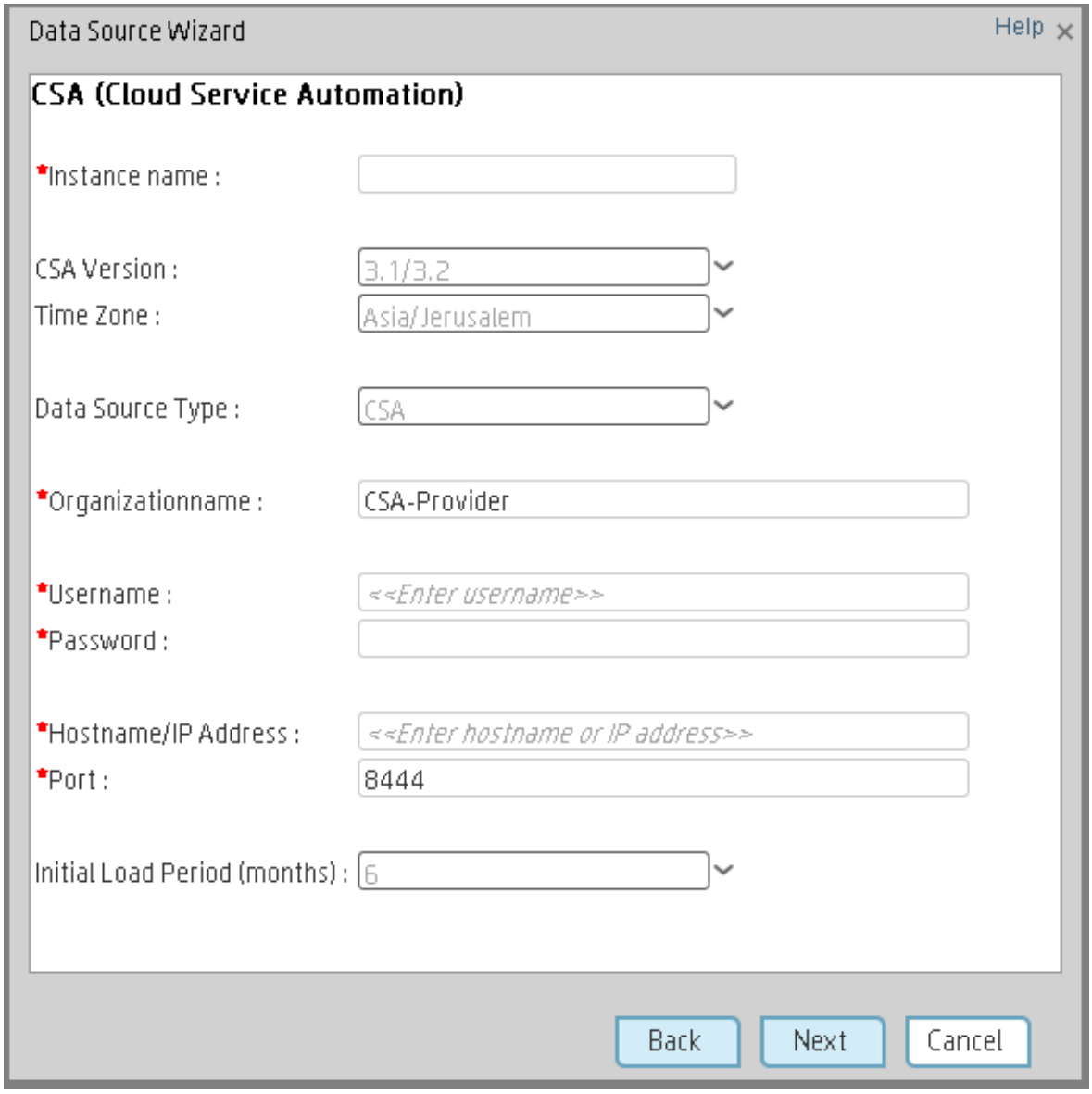
```
{
    "label": "common.section.ADMINISTRATION.label",
    "role": ["CONSUMER_ORGANIZATION_ADMINISTRATOR"],
    "tiles": {
      "default": {
        "className": "light-gray"
      },
      "items": [{
        "label": "common.items.MANAGE_USER_SUBSCRIPTIONS",
        "icon": {
          "className": "icon-manage-subscriptions"
        },
        "link": "#/user/manage"
      }, {
        "label": "common.items.SCORECARD",
        "icon": {
          "className": "icon-status"
        },
        "link": {
          "url":"https://<CONFIGURE_HOST_
NAME>/fndwar/loadEmbeddedPage.jsp?com.hp.bsm.uim.pageUID=ef63ab7f-b86b-43c8-
b8d8-bb81869b73dc",
          "target": "_blank"
        }
      }]
    }
  }
```

3. Save.

# UI Description

## CSA Activation Page

The following is an example of the CSA Activation page.




User interface elements are described below:

**Note:** If the CSA configuration is for a named instance connection, make sure to enter the named

instance port.

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **CSA Version** | Select the relevant version. . For details, see the *Support Matrix*. |
| **Time Zone** | Select the time zone for the data source. |
| **Data Source Type** | CSA<br>This parameter is read only. |
| **Organization Name** | Enter the Organization Name that is necessary to retrieve admin details.<br>The default value is CSA-Provider. |
| **Username** | Enter your admin username used to log on to CSA. The default username is **ooInboundUser**. |
| **Password** | Enter your admin password used to log on to CSA. The default admin password is **cloud**. |
| **Hostname/IP Address** | Enter the CSA server hostname or IP address. |
| **Port** | Port for REST API (default value is 8444). |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

## Reference

## CSA-Related KPIs and Metrics

For a list of the KPIs and Metrics related to the Cloud Service Automation data source, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

# CSA_Demo and CSA Content Acceleration Packs

The purpose of the CSA_Demo and CSA Content Acceleration Packs (CAPs) is to provide a set of items (Scorecards, Contexts, KPIs, Metrics, and more) that automatically gathers information from across your enterprise to build key performance indicators (KPIs) related to CSA-related issues with OOTB data from Data Warehouse as well as Dashboard pages that display the relevant information. The CAPs include the Cloud Server Automation Perspectives. The CAPs provide broad and deep insight that should enable you to Increase Service Profitability, Optimize Resource Provider Relationship, Improve Resource Utilization. This CAP provides a 360 degree Cloud Service Automation view.

The CSA is based on the Cloud Service Automation, Amazon Web Services, and Amazon Web Service CloudWatchdata sources.

The CSA_Demo takes its data from out-of-the-box .CSV files included in the CAP.

To access:

Click **Admin > Data Management > Activate CAP**. You can then select the relevant CAP and activate it.

If the CAP you want to activate is not the demo CAP, you must make sure you have installed the relevant Content Pack, connected the relevant data source, optionally configured the consolidations, and run the ETL to see the relevant data in the CAP Dashboard pages.


## Learn More

## What are Content Acceleration Packs (CAPs)

Content Acceleration Packs (CAPs) are packages that include Dashboard pages that display Scorecards and components, KPIs, Metrics, Contexts (universes), data (from .CSV files or from data sources), and documentation for the CAP. You can import them, export them, activate, or deactivate them, or you can create your own.

CAPs describe typical stories that show how the correct implementation of Business Analytics drives Performance Improvement and Cost Reduction for the IT organization.

CAPs demonstrate Business Analytics capabilities, and helps you add basic elements that can be used to customize your Dashboard.

The CSA_Demo is based on data in .csv files that are part of the CAP package and CSA CAPs include data from data sources.

## Reports

- The CSA-Showback for Cloud Services report displays the subscription cost incurred by each organization during the time period you specified when you opened the report. for details, see CSA-Related Reports in the *Content Reference Guide*.
- To view data in the CSA-related reports, make sure you have installed BOE.
- The cloud-related reports (Dashboard pages) provided in the CSA_CAP and CSA_Demo_ CAP CAPs combine integrated data from the following data sources Cloud Service Automation (CSA), Amazon Web Services (AWS), Amazon Web Service CloudWatch (AWSCW)

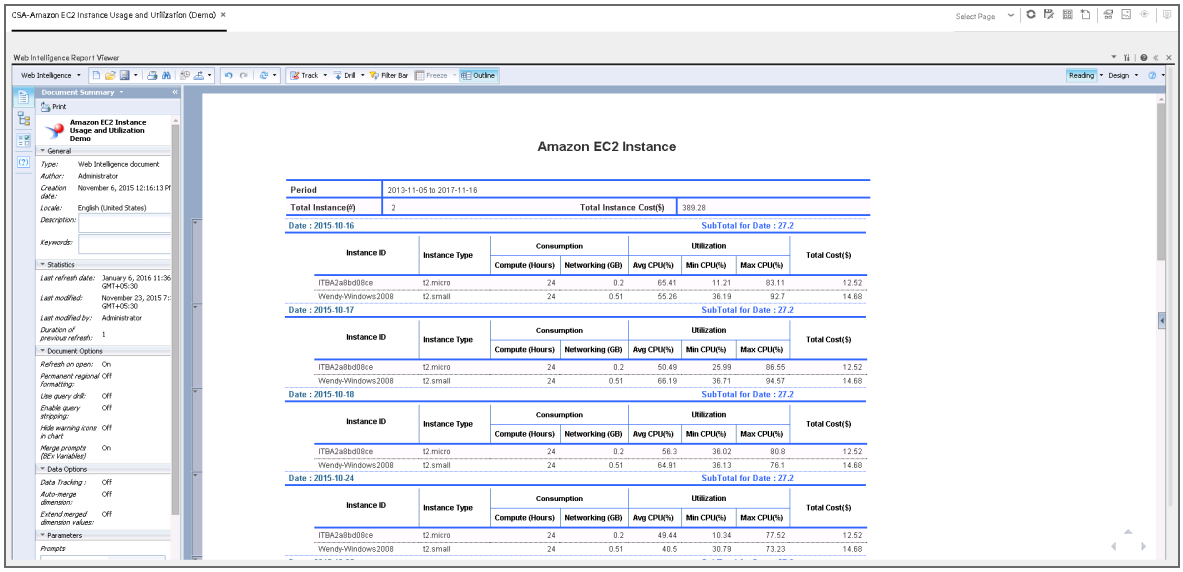
## Pages

| CAP | Page |
|---|---|
| CSA_Demo | • "CSA - Amazon EC2 Instance Usage and Utilization" on the next page<br>• "CSA-Showback for Cloud Services" on the next page<br>• "CSA-Showback Detail for Cloud Services" on page 137<br>• "CSA_Demo and CSA Content Acceleration Packs" on the previous page<br>• "CSA-Showback Detail for Consumer " on page 138<br>• "CSA-Cloud Service Automation Overview" on page 139<br>• "CSA-Organization" on page 139<br>• "CSA-Resource Supply Manager" on page 140<br>• "CSA-Resource Usage and Utilization for Consumer" on page 141<br>• "CSA-Resource Usage and Utilization for Resource Supplier Manager" on page 142<br>• "CSA-Service Business Manager" on page 143<br>• "CSA-Service Business Manager_Extended" on page 143<br>• "CSA-World Map" on page 144<br>• "CSA-US Map" on page 145 |
| CSA | • "CSA - Amazon EC2 Instance Usage and Utilization" on the next page |

| CAP | Page |
|---|---|
| | • "CSA-Showback for Cloud Services" below<br>• "CSA-Showback Detail for Cloud Services" on page 137<br>• "CSA-Showback for Consumer Organization Admin " on page 137<br>• "CSA_Demo and CSA Content Acceleration Packs" on page 133<br>• "CSA-Showback Detail for Consumer " on page 138<br>• "CSA-Cloud Service Automation Overview" on page 139<br>• "CSA-Organization" on page 139<br>• "CSA-Resource Supply Manager" on page 140<br>• "CSA-Resource Usage and Utilization for Consumer" on page 141<br>• "CSA-Resource Usage and Utilization for Resource Supplier Manager" on page 142<br>• "CSA-Service Business Manager" on page 143<br>• "CSA-Service Business Manager_Extended" on page 143 |

## CSA - Amazon EC2 Instance Usage and Utilization

The data sources are AWS and AWSCW.

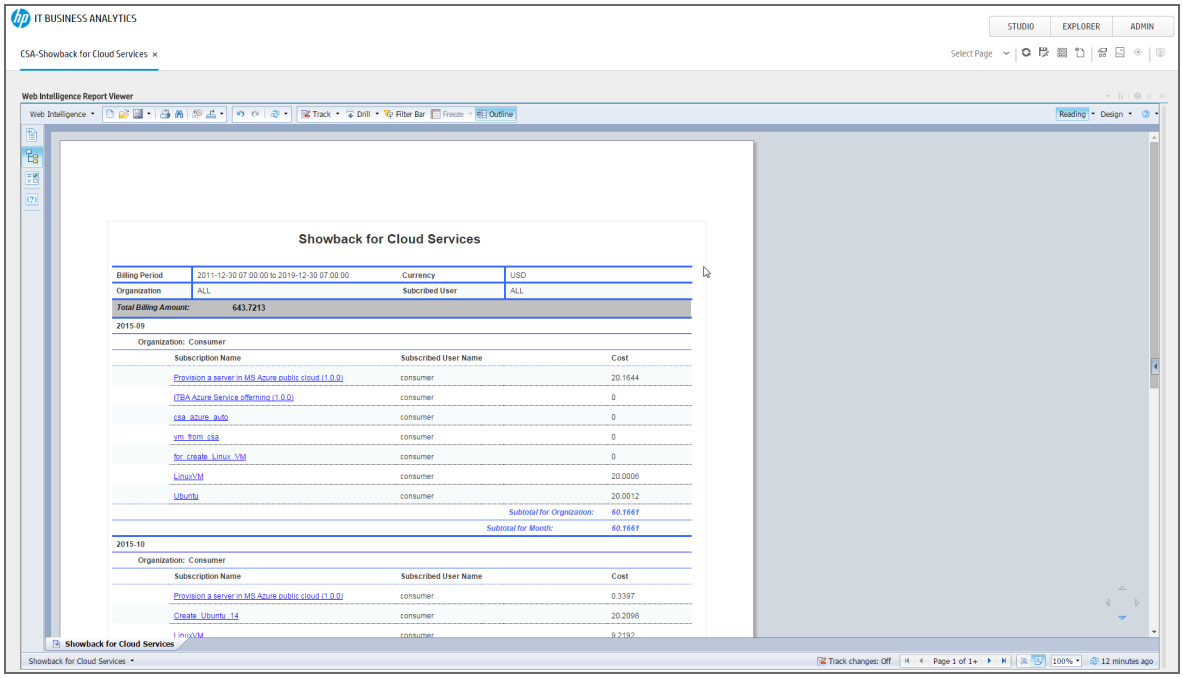



## CSA-Showback for Cloud Services

The CSA-Showback for Cloud Services report displays the subscription cost incurred, during the time

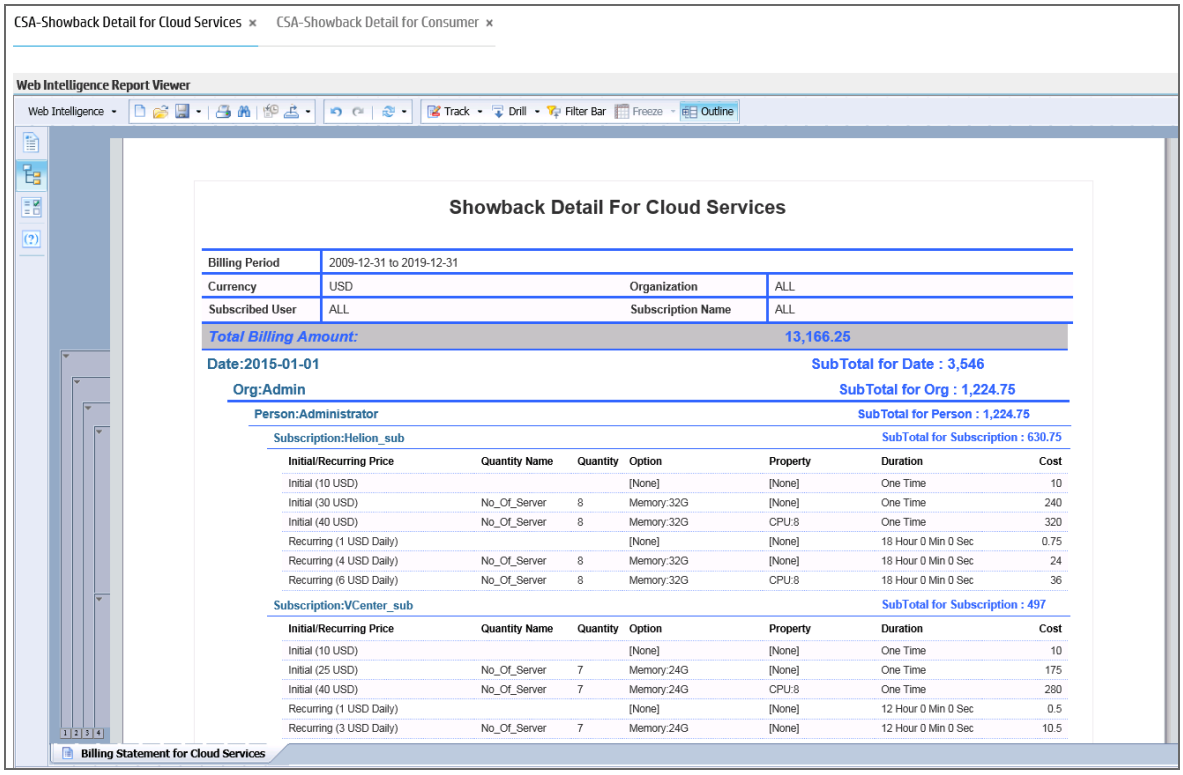
period specified when the user opened the report, by the organizations for which the user has permission. It also displays the Option Full Name, Property Name, Property Value, and Cost for each selected user subscription. The period granularity of this report is daily. You can search by specific date range, by user name, or by organization name.

The CSA-Showback for Cloud Services report displays the subscription cost incurred by each organization based on demo data.



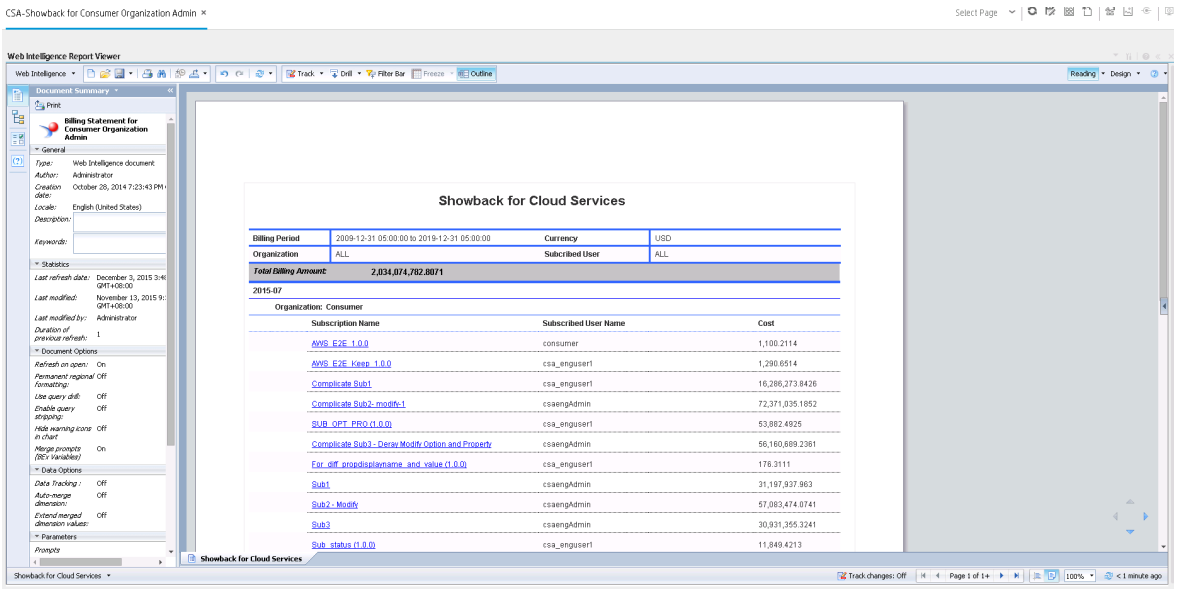
## CSA-Showback Detail for Cloud Services

The report displays the option and property cost for each selected user subscription. The period granularity of this report is daily. The user can search by specific date range, by user name, by organization name, or by subscription name.

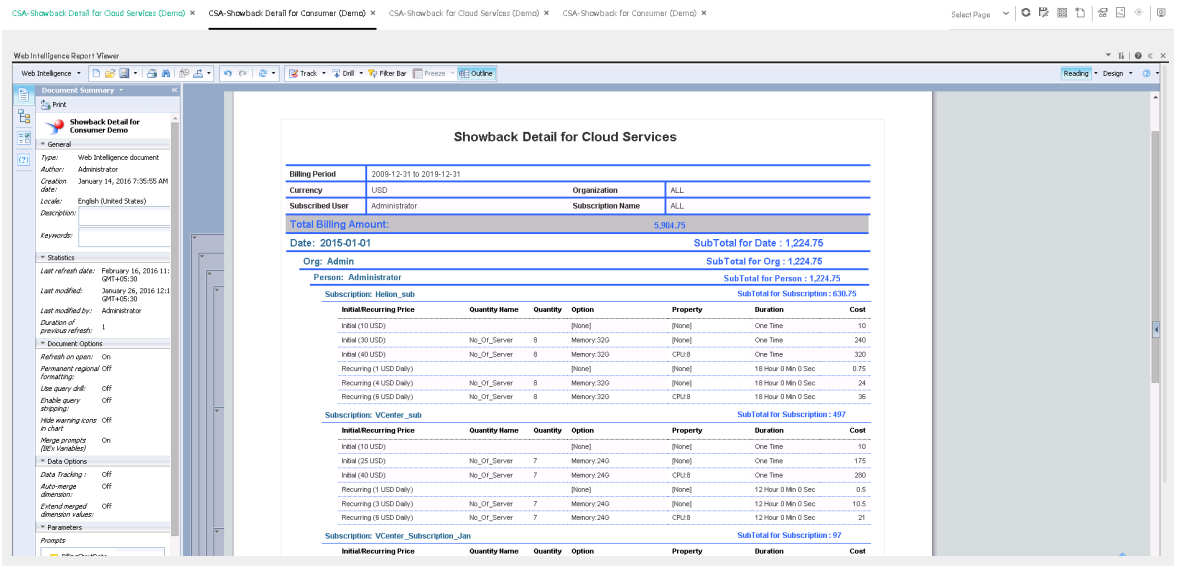



## CSA-Showback for Consumer Organization Admin

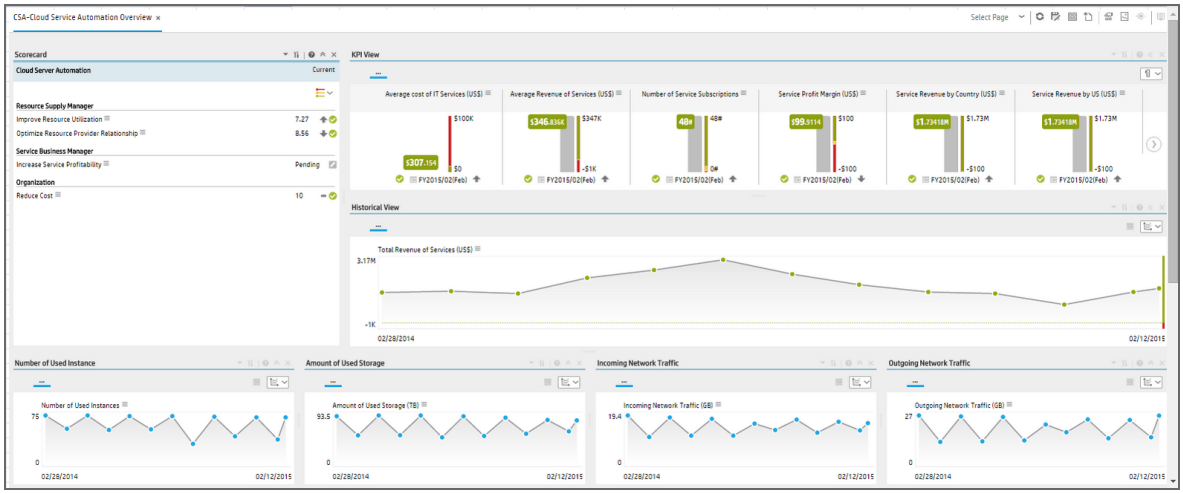
The CSA-Showback for Consumer Organization Admin report displays the subscription cost incurred by each organization during the time period you specified when you opened the report for the Admin user.



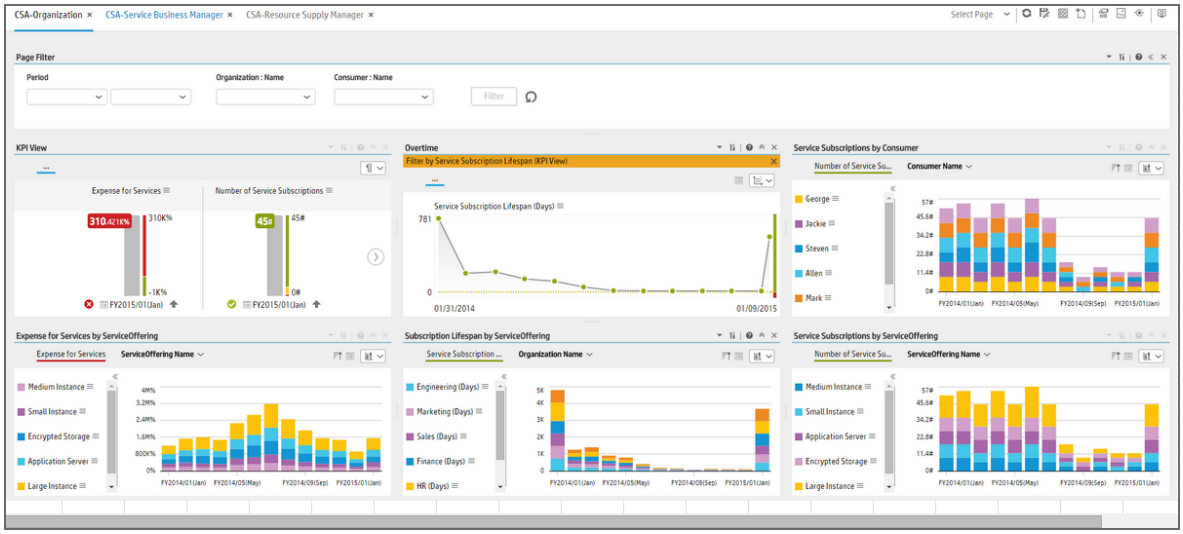

# CSA-Showback Detail for Consumer



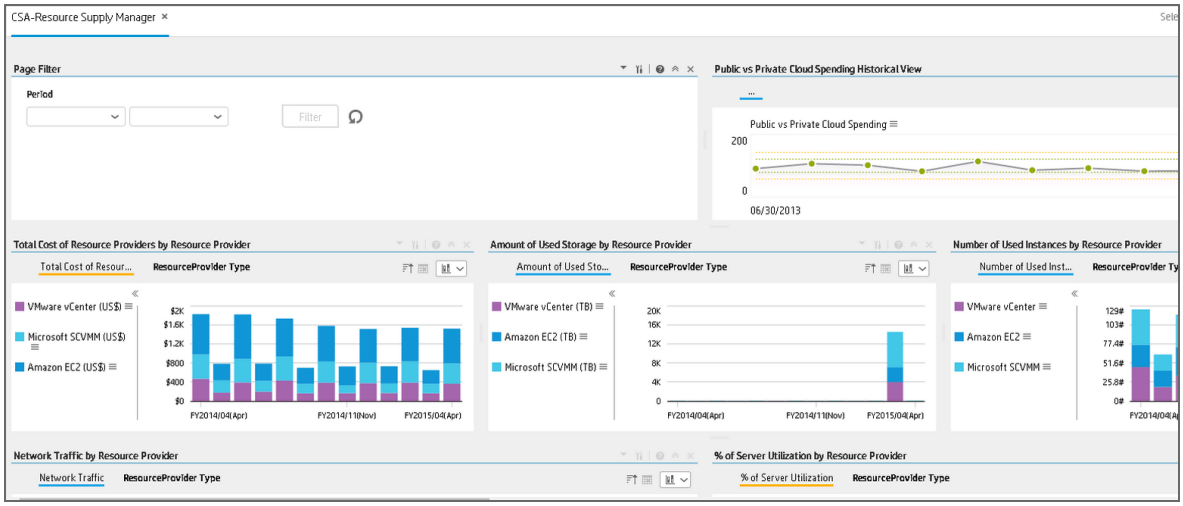
## CSA-Cloud Service Automation Overview




## CSA-Organization



# CSA-Resource Supply Manager



# CSA-Resource Usage and Utilization for Consumer

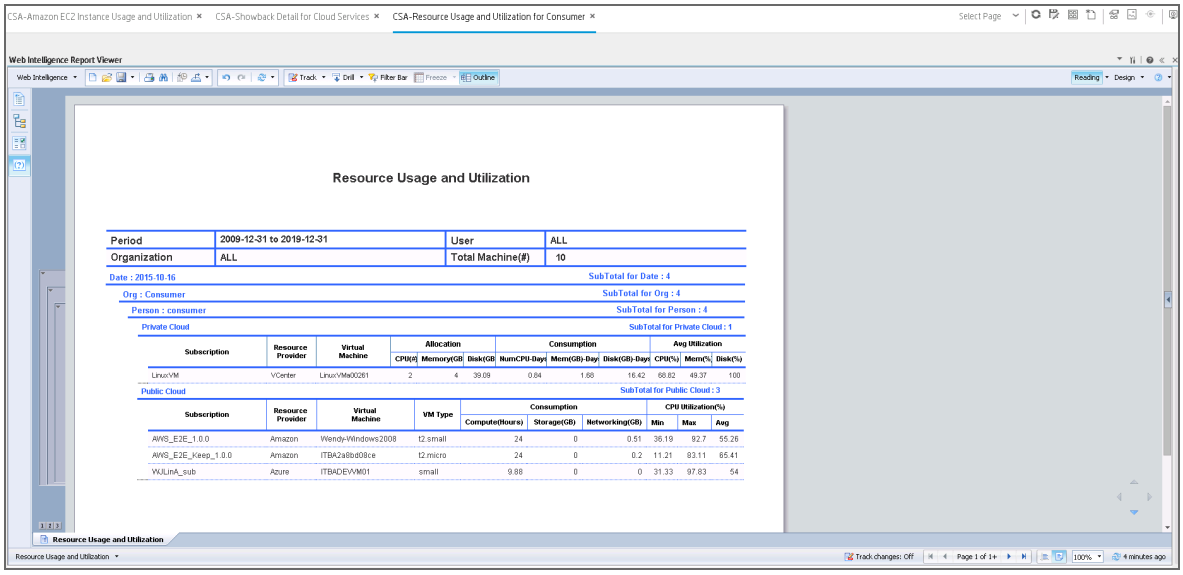
The persona is the resource supply manager, who is responsible for the management of equipment, hardware, and other logistical details of a company or a company's division.

Since the traditional IT is transforming to the new style of IT by moving IT assets to the cloud, His job is to manage each resource provider; deliver the infrastructure service to support the business application and service run in the company; make sure the overall cost of resource provider is under control.

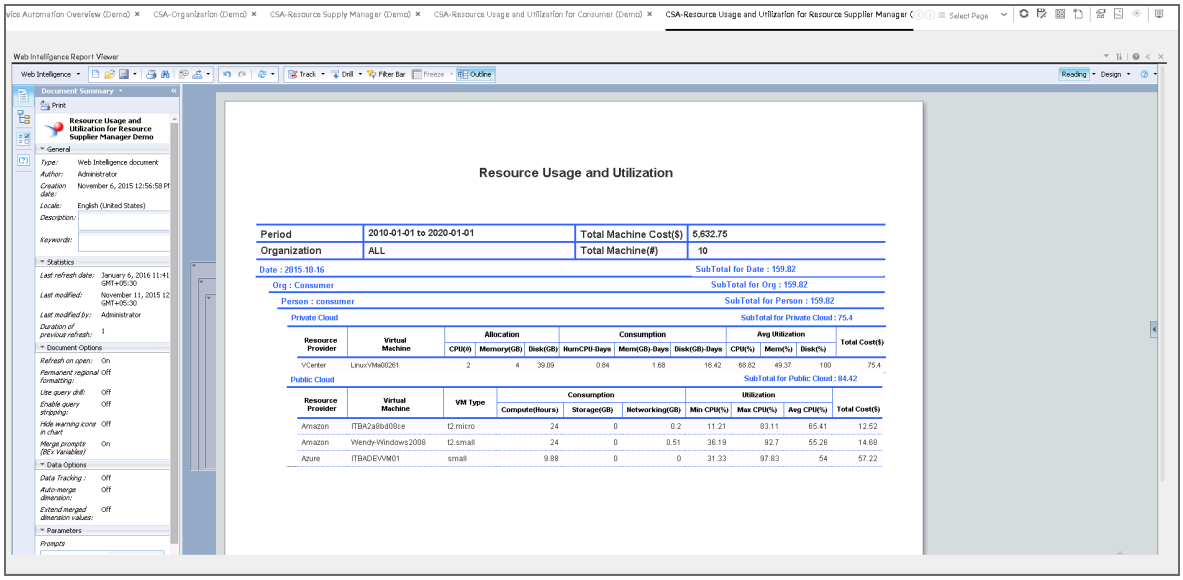
In this report, the private cloud VM instance cost is based on the based rate inputed by user multiplied by real VM usage. Other usage and utilization are directly from VM.

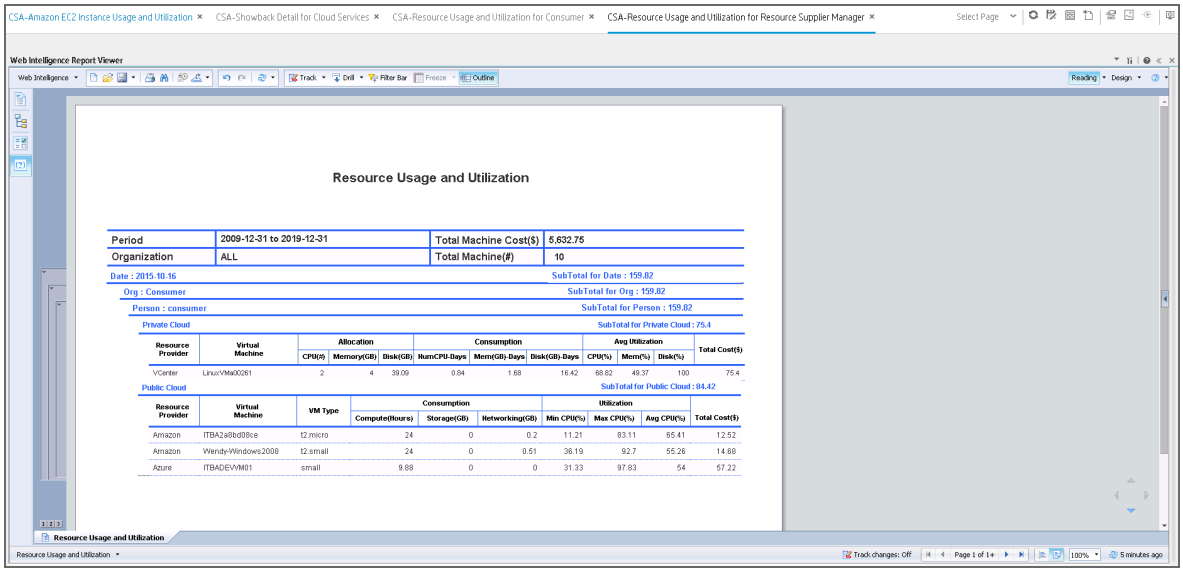
The report only displays the VM that created by CSA subscription, if the VM has no linkage to CSA subscription, it should display on this report.

The report is at daily level. User will able to filter start time and end time, organization, resource provider.

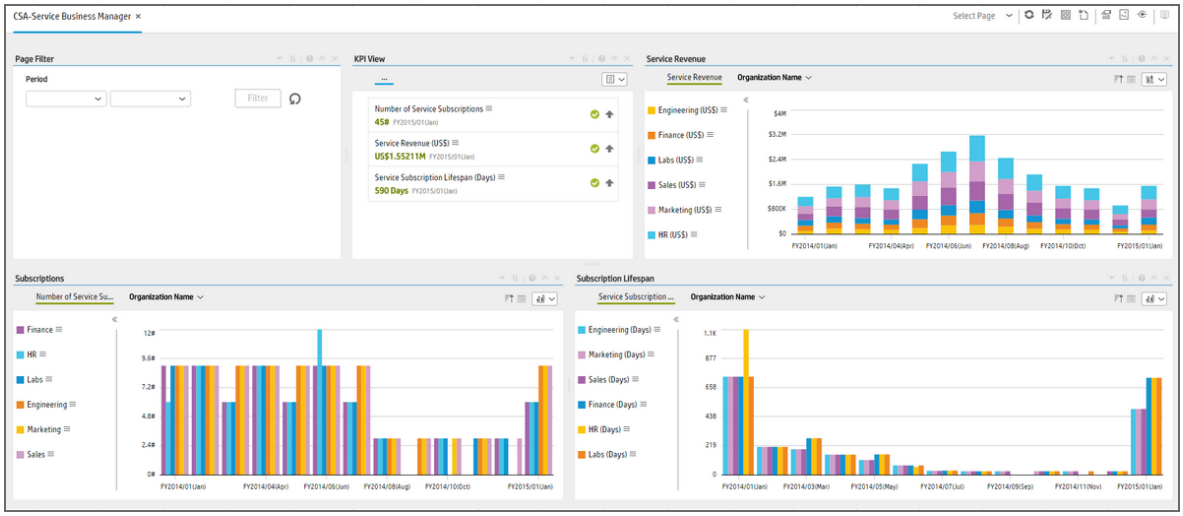


# CSA-Resource Usage and Utilization for Resource Supplier Manager



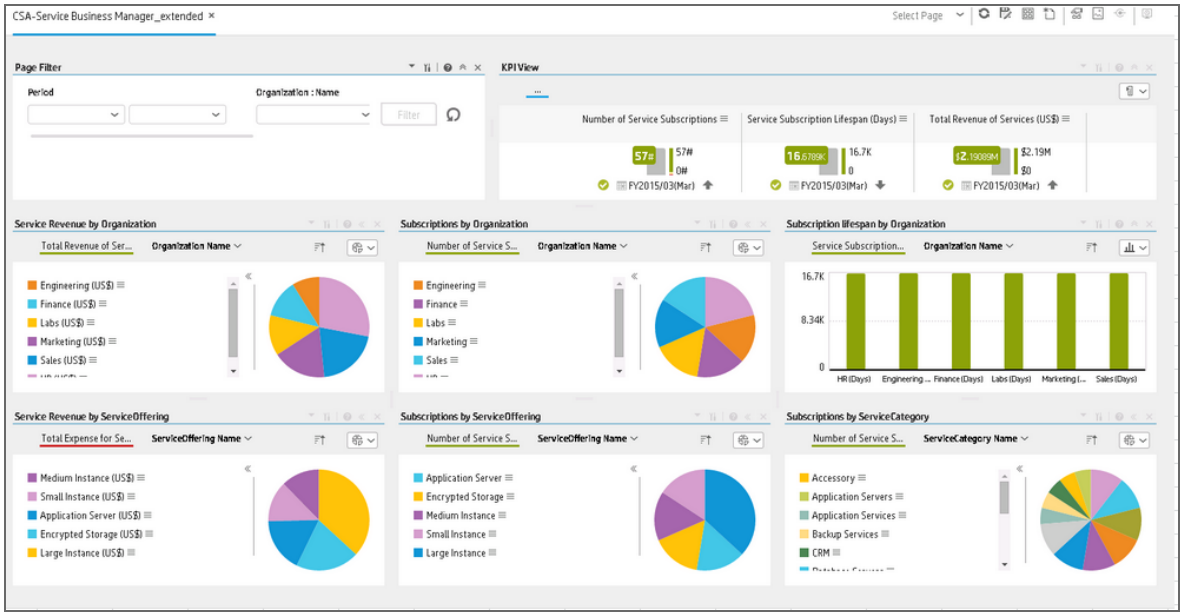



## CSA-Service Business Manager



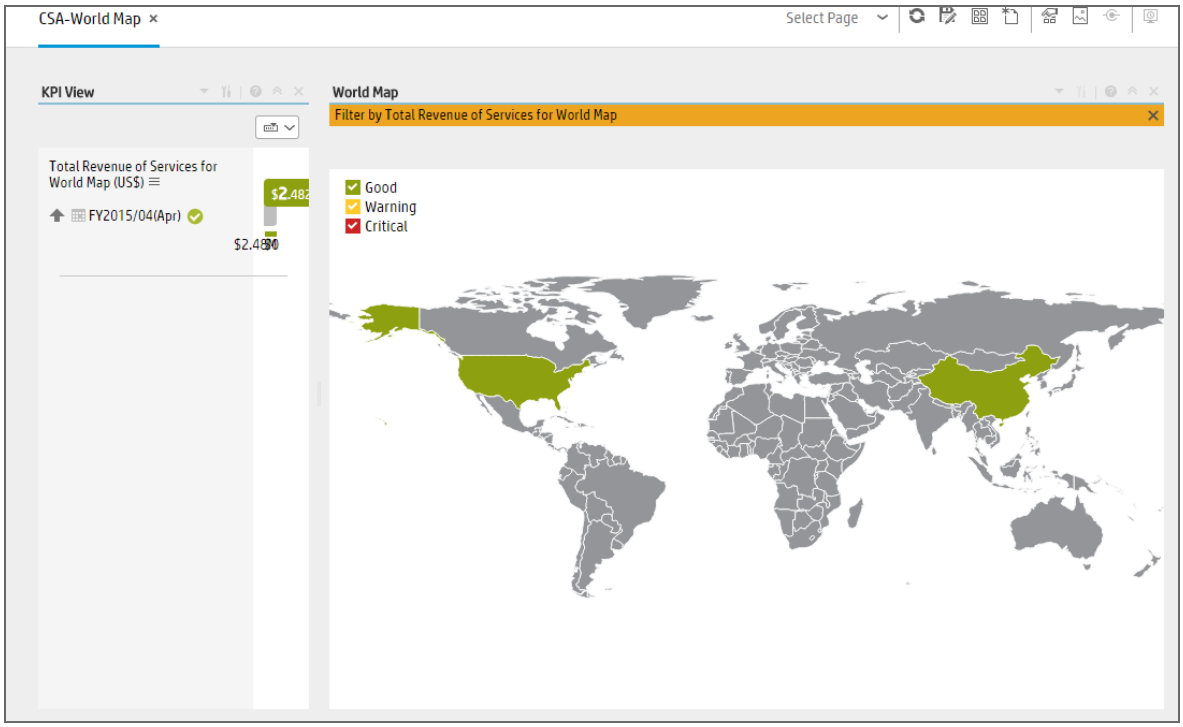

## CSA-Service Business Manager_Extended

**Note:** This page is only available on your mobile device.



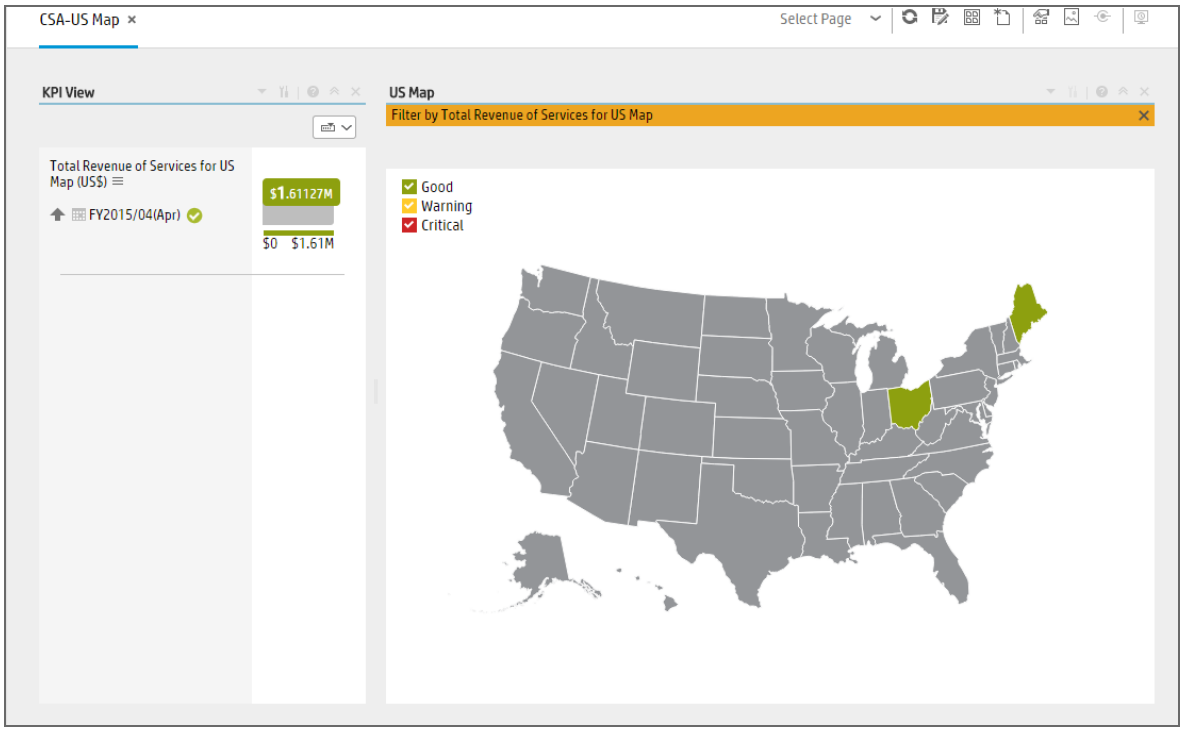
# CSA-World Map

This page is only available with the CSA_Demo CAP. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.



## CSA-US Map

This page is only available with the CSA_Demo.




## Tasks

This section includes:

Upload and manage the Content Acceleration Pack ..... 145
View the CAP-related Dashboard pages ..... 146
View the Scorecard Structure and KPI and Metric Breakdowns in the Studio ..... 146
Activate the CSA_Demo in ITBA ..... 146
Deactivate the CSA_Demo and activate the CSA CAP ..... 147
CSA_Demo and CSA ..... 149

## Upload and manage the Content Acceleration Pack

For details , see Content Acceleration Packs (CAPs).

## View the CAP-related Dashboard pages

1. In the ITBA application, close all the tabs. The Dashboard is displayed.
2. Click the tab corresponding to the relevant CAP page (for details, see "Pages" on page 134) in the Dashboard. If it is not displayed, click the **Page Gallery** button in the Dashboard toolbar, double-click the relevant page icon and close the Page Gallery dialog box.

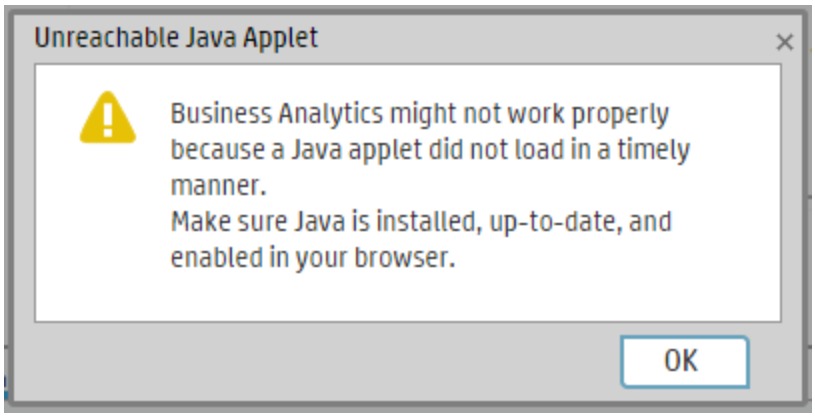
## View the Scorecard Structure and KPI and Metric Breakdowns in the Studio

1. Make sure the CAP is activated.
2. In the Business Analytics application, click **Studio**.
3. Expand the relevant Scorecards to view the Scorecards, Perspectives, Objectives, KPIs, KPI Breakdowns structure.

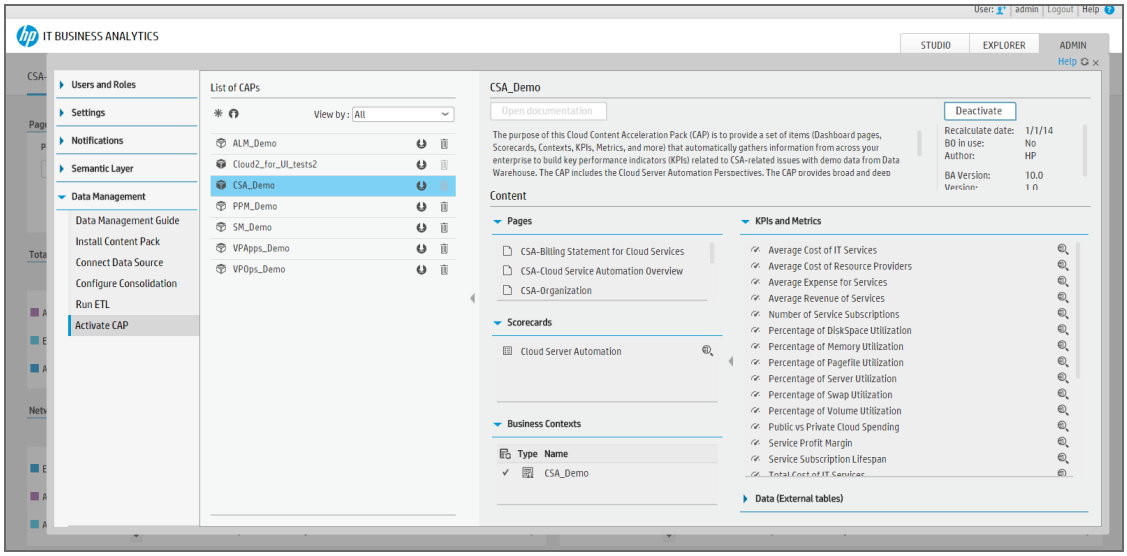
## Activate the CSA_Demo in ITBA

To activate the CSA_Demo you do not need to connect to a live CSA source.

1. Log on to the ITBA application.
2. Ignore the **Unreachable Java Applet**. Click **OK**.



3. Click the **ADMIN > Data Management > Activate CAP**.




4. Select **CSA_Demo** in the list of CPs, and click **Activate** to activate the CAP. Click **Yes** to begin the activation process.
   Then wait until the CAP activation is successful.
5. Close the **ADMIN** tab.
6. In the Dashboard, click **Select Page** and select the pages that are relevant for CSA. For details, see "Pages" on page 134.

   The pages display demo data.

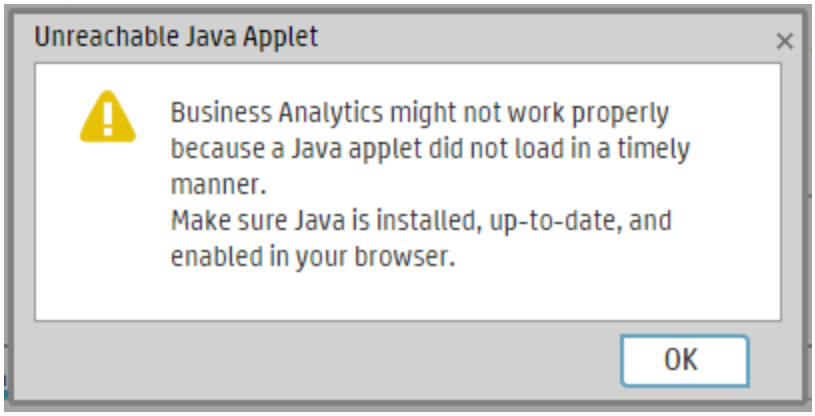
> **Note:** If the CSA-Billing Statement for Cloud page displays a blank screen with the title **Web Intelligent Report Viewer**and a shield icon  is displayed in the URL bar (top right-hand corner), click the shield and allow script to run. After a few seconds, the page will display data.

## Deactivate the CSA_Demo and activate the CSA CAP

If you have activated the CSA_Demo previously, you must deactivate if before you activate the CSA CAP.

1. Log on to the ITBA application.

2. Ignore the **Unreachable Java Applet**. Click **OK**.

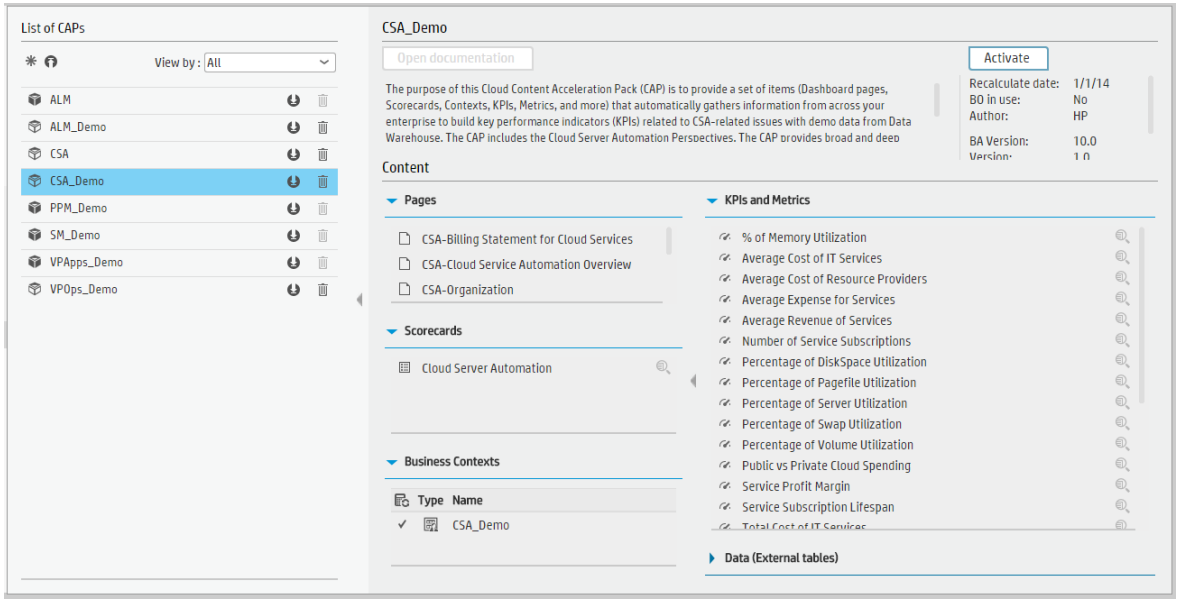


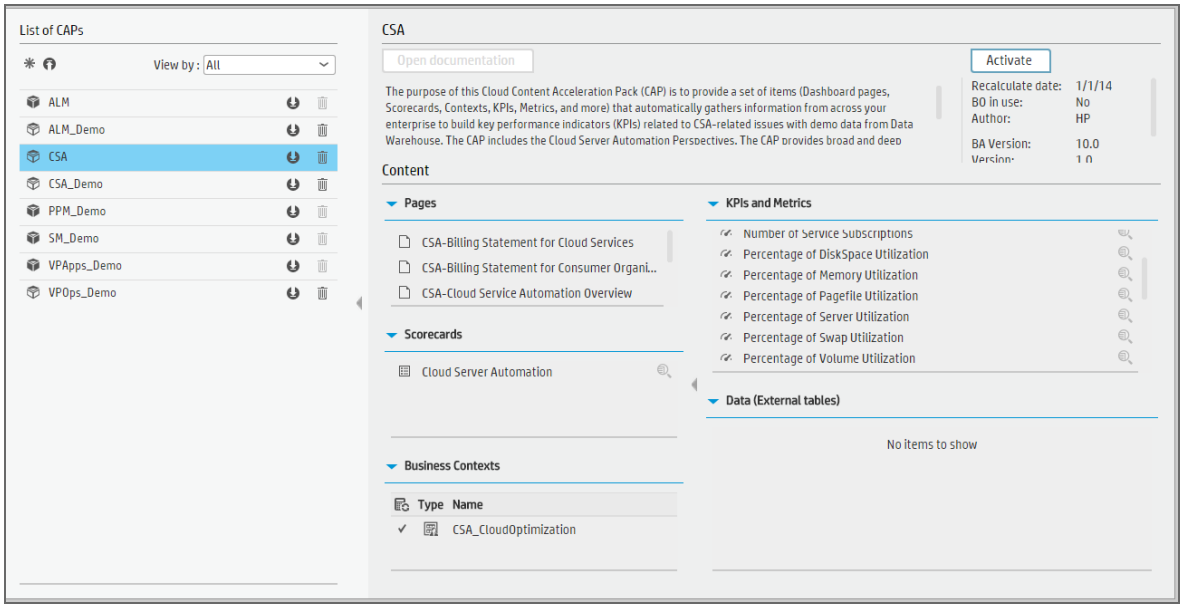

   a. Click the **ADMIN > Data Management > Activate CAP**.

3. Select **CSA_Demo** in the list of CPs, and click **Deactivate** to deactivate the CAP. Click **Yes** to begin the deactivation process.
   Then wait until the CAP deactivation is successful.
4. Select **CSA** in the list of CPs, and click **Activate** to activate the CAP. Click **Yes** to begin the activation process.
   Then wait until the CAP activation is successful.
5. Close the **ADMIN** tab.

# UI Description

## CSA_Demo and CSA



User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

| UI Element | Description |
|---|---|
| **Pages** | See "Pages" on page 134. |
| **Scorecards** | • Cloud Server Automation |
| **Business Contexts** | • CSA_CloudOptimization<br>• CSA_Demo<br><br>For details, see Reference: Contexts (Universes) in the *Content Reference Guide*. |
| **KPIs and Metrics** | **KPIs**<br>• **Average Cost of IT Services KPI**<br>The average cost of services provided by IT.<br>• **Average Cost of Resource Providers KPI**<br>The average cost of the Resource Providers during the measurement period.<br>• **Average Expense for Services KPI**<br>The average expense of services consumed by the organization.<br>• **Average Revenue of Services KPI**<br>The average revenue of services provided by IT during the measurement period.<br>• **Number of Service Subscriptions KPI**<br>The number of Service subscriptions created during the measurement period.<br>• **Percentage of DiskSpace Utilization KPI**<br>The average of percentages of diskspace utilization at instance level.<br>• **Percentage of Memory Utilization KPI**<br>The average of percentages of memory utilization at instance level.<br>• **Percentage of Pagefile Utilization KPI**<br>The average of percentages of pagefile utilization at instance level.<br>• **Percentage of Server Utilization KPI**<br>The average of percentages of CPU utilization at instance level.<br>• **Percentage of Swap Utilization KPI**<br>The average of percentages of swap utilization at instance level.<br>• **Percentage of Volume Utilization KPI**<br>The average of percentages of volume utilization at instance level. |

| UI Element | Description |
|---|---|
| | • **Public vs Private Cloud Spending KPI**<br>The ratio between the public and the private spending.<br>• **Service Profit Margin KPI**<br>The profit margin of the services provided by IT during the measurement period.<br>• **Service Subscription Lifespan KPI**<br>The average lifecycle time of a subscription to a service during the measurement period.<br>• **Total Cost of IT Services KPI**<br>The total cost of services provided by IT during the measurement period.<br>• **Total Cost of Resource Providers KPI**<br>The total cost of the Resource Providers during the measurement period.<br>• **Total Expense for Services KPI**<br>The total expense of services consumed by the organization.<br>• **Total Revenue of Services KPI**<br>The total revenue of service provided by IT during the measurement period. In addition, the following KPIs are also available in the CSA_Demo CAP only:<br>a. **Total Revenue of Services for US Map**: The total revenue of service provided by IT during the measurement period (this KPI is created for US Map component).<br>b. **Total Revenue of Services for World Map**: The total revenue of service provided by IT during the measurement period (this KPI is created for World Map component).<br>• **Total Revenue of Services for US Map KPI** (see Total Revenue of Services KPI)<br>• **Total Revenue of Services for World Map KPI** (see Total Revenue of Services KPI)<br><br>**Metrics:**<br>• **Amount of Used Disk Metric**<br>The product of the amount of disk provisioned and the number of days the VM has been running. For example, if a VM has been running with 20 GB of hard disk for 5 days, the DiskDays is calculated as 20x5 = 100 Disk (GB)-Days.<br>• **Amount of Used Memory Metric**<br>The product of the amount of memory allocated and the number of days the VM has been running. For example, if a VM has been running with 4 GB of memory for |

| UI Element | Description |
|---|---|
| | 5 days, the MemDays is calculated as follows: 5x4 = 20 Memory (GB)-Days.<br>• **Amount of Used Storage Metric**<br>The number of TBs of storage that are currently in use.<br>• **Compute Hours Metric**<br>The number of hours during which the VM has been running.<br>• **Incoming Network Traffic Metric**<br>Network Download.<br>• **Network Traffic Metric**<br>Total network traffic.<br>• **Number of Used CPUs Metric**<br>The product of the number of CPUs and the number of days the VM has been running. For example, if 4 CPUs are used for the first 15 days and 8 CPUs are used for the next 15 days in a month, the CPUDays is calculated as follows: (4x15)+(8x15) = 180 CPUDays<br>• **Number of Used Instances Metric**<br>The number of dedicated instances you are running in your hybrid cloud environment.<br>• **Outgoing Network Traffic Metric**<br>Network Upload. |
| **Data (External Tables)** | • CSA_BILLING_FACT_V<br>• CSA_BUSINESS_UNIT_DIM_V<br>• CSA_CLOUD_BILLING_UTIL_FACT_V<br>• CSA_CLOUD_INF_UTILIZATION_FACT_V<br>• CSA_COMPONENT_DIM_V<br>• CSA_CONSUMER_DIM_V<br>• CSA_Demo<br>• CSA_GLOBAL_MAP_DIM_V<br>• CSA_LOCATION_DIM_V<br>• CSA_Map_Demo<br>• CSA_NODE_DIM_V<br>• CSA_OPTION_PROPERTY_DIM_V<br>• CSA_PERIOD_DIM_V<br>• CSA_RESOURCE_PROVIDER_DIM_V |

| UI Element | Description |
| --- | --- |
| | • CSA_PERSON_DIM_V<br>• CSA_SERVICE_CATEGORY_DIM_V<br>• CSA_SERVICE_INSTANCE_DIM_V<br>• CSA_SERVICE_OFFERING_DIM_V<br>• CSA_SERVICE_PROVIDER_BILLING_FACT_V<br>• CSA_SUBSCRIPTION_DIM_V<br>• CSA_REQUEST_OPTION_DIM_V<br>• CSA_SERVICE_REQUEST_DIM_V<br>• CSA_SHOWBACK_DETAIL_FACT_V<br>• CSA_US_MAP_DIM_V |

# Integration with SA

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Server Automation data source.

Server Automation (SA) enables you to govern the full spectrum of your software management requirements. With SA policy-based software management you can automate software installation and application configuration, and ensure that managed servers are compliant with software policies.

**Note:** Information about the ALT data source and more general content issues are detailed in the *Content Reference Guide*.

The purpose of the integration of SA  as a data source is to bring quality management information into the Data Warehouse.

**To access:**

Select **ADMIN > > Data Management > Connect Data Source** then click **Add data source** and select **SA** to activate the integration processes for the **SA** data source.


## Learn More

**Content Packs and their functionality**

To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.

**Important Information**

- The SA Content Pack supports multiple instances.
- All fields are case-sensitive.

## Tasks

This section includes:

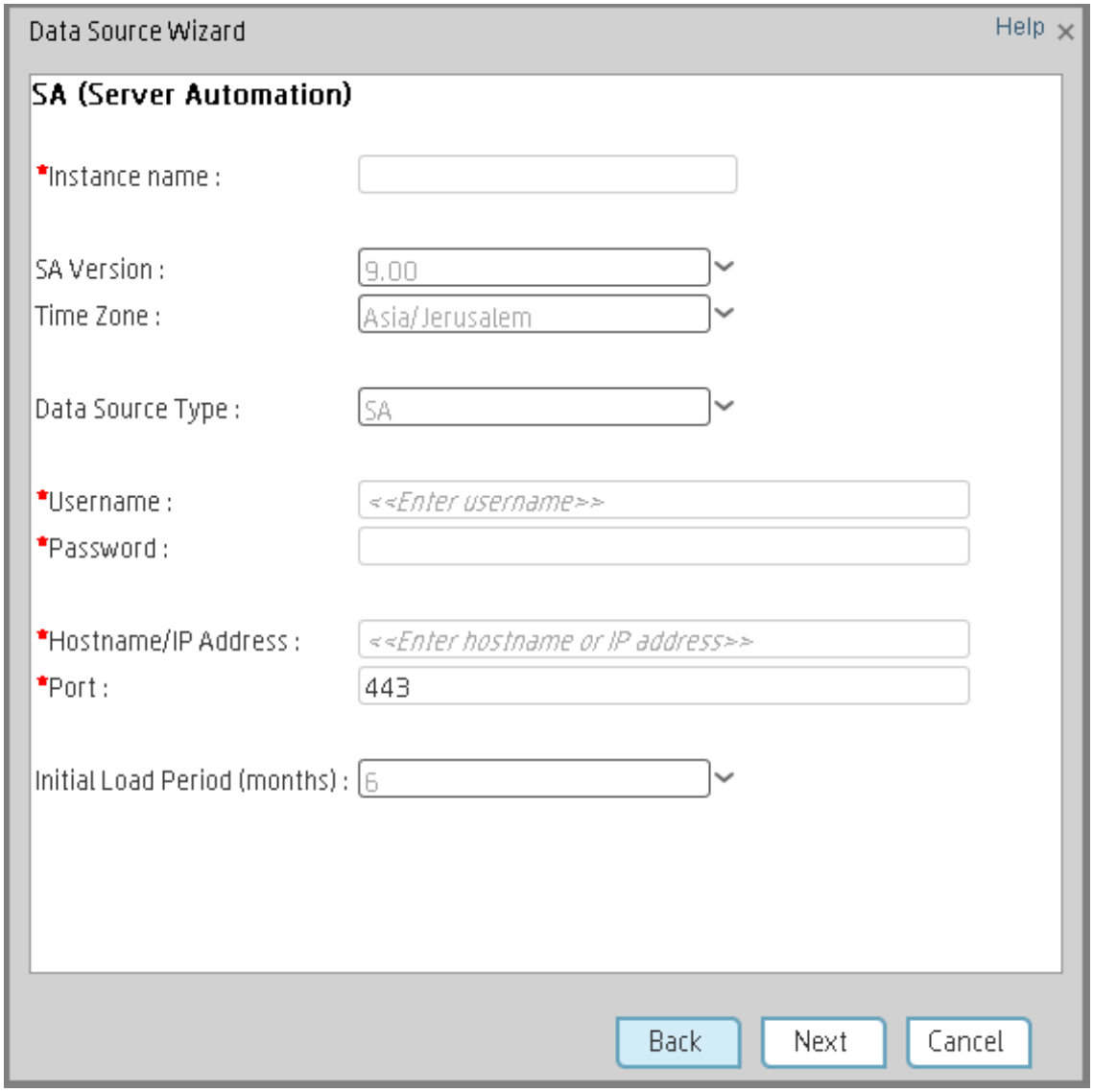
Activate the Integration ..... 155

## Activate the Integration

1. **Prerequisite:**
   - Make sure that the Server Automation Platform is ready for use, meaning a set of APIs and a runtime environment that facilitate the integration and extension of SA.
   - Check the *Support Matrix* for supported versions.
2. Select **ADMIN > Data Management > Connect Data Source** then click **Add data source**.
3. The Add Data Source page opens. Select the **SA** data source type.
4. Select or enter the configuration parameters.
5. Click **Next** to proceed to the validation page.

## UI Description

### SA Activation Page




Mandatory fields are marked with a red asterisk.

User interface elements are described below:

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |

| UI Element | Description |
|---|---|
| **SA Version** | Select the relevant SA version. For details, see the *Support Matrix*. |
| **Time Zone** | Select the time zone for the data source. |
| **Data Source Type** | Oracle<br>This parameter is read only. |
| **User** | Enter your username used to log on to the SA database. |
| **Password** | Enter your password used to log on to the SA database. |
| **Hostname/IP Address** | The remote server on which the SA database resides. |
| **Port** | Enter the port in the SA server which waits for connections from the SDK Client side. By default, the port number is 443.<br>Enter the port of the SA DB. By default, the port number is 1521. |
| **SID** | Enter the unique name of the database. |
| **Service Name** | Enter the alias used when connecting. |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

# Reference

## SA-Related KPIs and Metrics

For details about the KPIs and Metrics related to the integration with SA, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

# SA_Demo and SA Content Acceleration Packs

The purpose of the SA Content Acceleration Pack (CAP) is to provide a set of items (Dashboard pages, Scorecards, Contexts, KPIs, Metrics, and more) that automatically gathers information from across your enterprise to build key performance indicators (KPIs) related to SM-related issues with OOTB data from Data Warehouse. The CAP includes the Server Automation Perspectives. The CAP provides a 360 degree Server Automation view.

To access:

Click **Admin > Data Management > Activate CAP**. You can then select the relevant CAP and activate it.

If the CAP you want to activate is not the demo CAP, you must make sure you have installed the relevant Content Pack, connected the relevant data source, optionally configured the consolidations, and run the ETL to see the relevant data in the CAP Dashboard pages.

Learn More | Tasks | UI Description

## Learn More

### What are Content Acceleration Packs (CAPs)

Content Acceleration Packs (CAPs) are packages that include Dashboard pages that display Scorecards and components, KPIs, Metrics, Contexts (universes), data (from .CSV files or from data sources), and documentation for the CAP. You can import them, export them, activate, or deactivate them, or you can create your own.

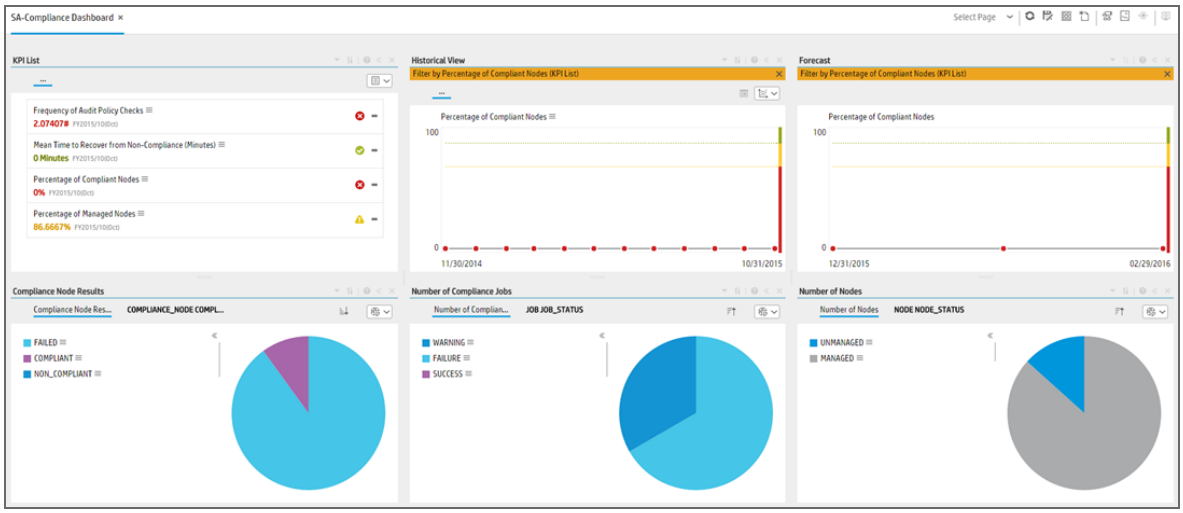
CAPs describe typical stories that show how the correct implementation of Business Analytics drives Performance Improvement and Cost Reduction for the IT organization.

CAPs demonstrate Business Analytics capabilities, and helps you add basic elements that can be used to customize your Dashboard.

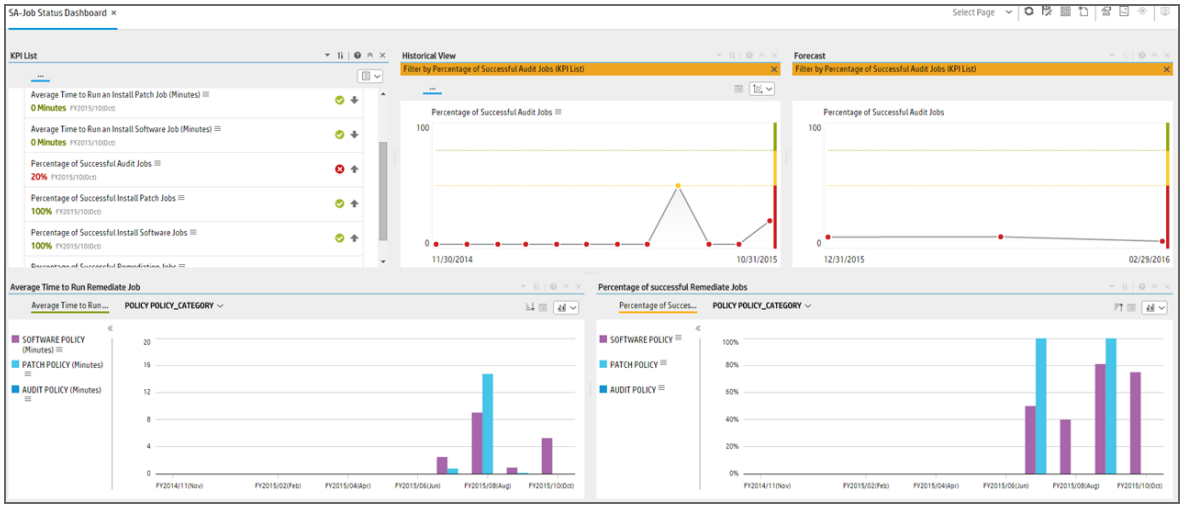
The SA CAP includes data from the Server Automation data source.

# Pages

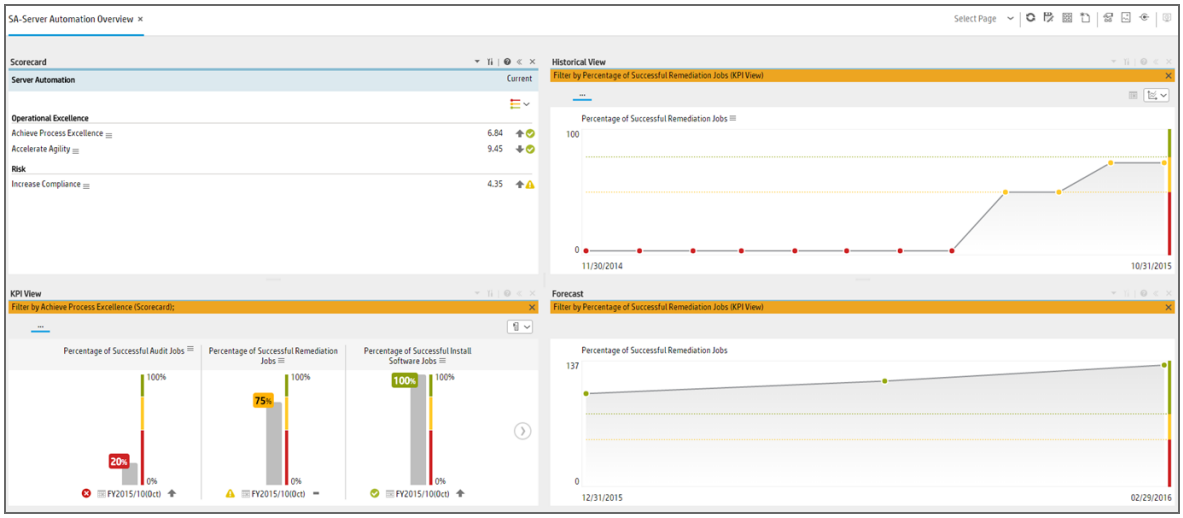
## SA-Compliance Dashboard




## SA-JOB Status Dashboard



## SA-Server Automation Overview




## Tasks

This section includes:

Upload and manage the Content Acceleration Pack ..... 160
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## Upload and manage the Content Acceleration Pack

For details , see Content Acceleration Packs (CAPs).

## View the CAP-related Dashboard pages

1. In the Business Analytics application, close all the tabs. The Dashboard is displayed.
2. Click the tab corresponding to the relevant CAP page (for details, see "Pages" on the previous page) in the Dashboard. If it is not displayed, click the **Page Gallery** button in the Dashboard toolbar, double-click the relevant page icon and close the Page Gallery dialog box.

## View the Scorecard Structure and KPI and Metric Breakdowns in the Studio

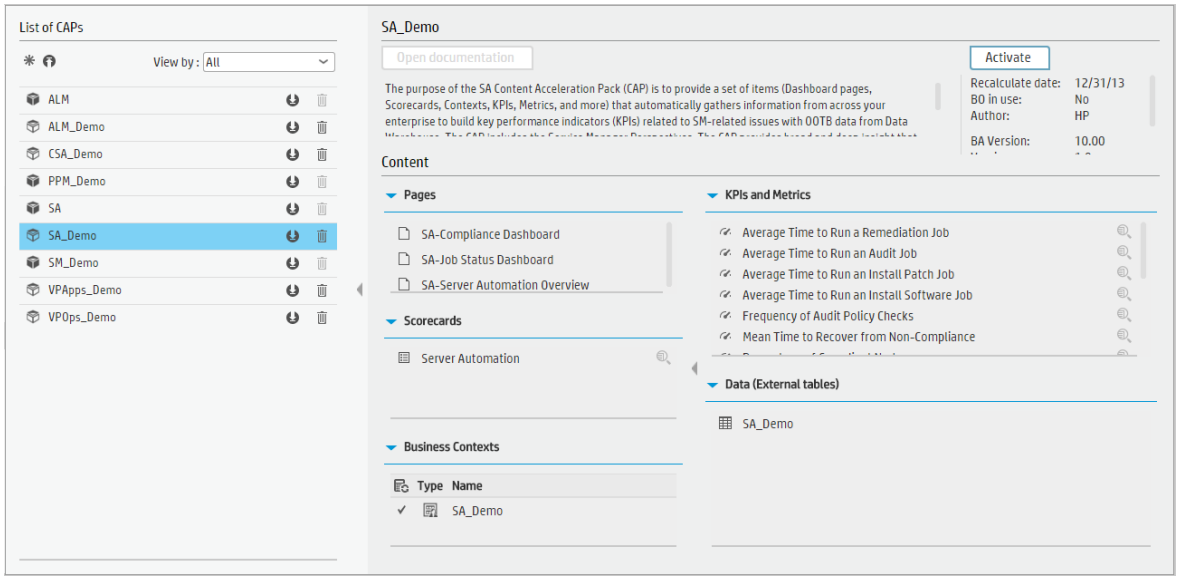
1. Make sure the CAP is activated.
2. In the Business Analytics application, click **Studio**.
3. Expand the relevant Scorecards to view the Scorecards, Perspectives, Objectives, KPIs, KPI Breakdowns structure.

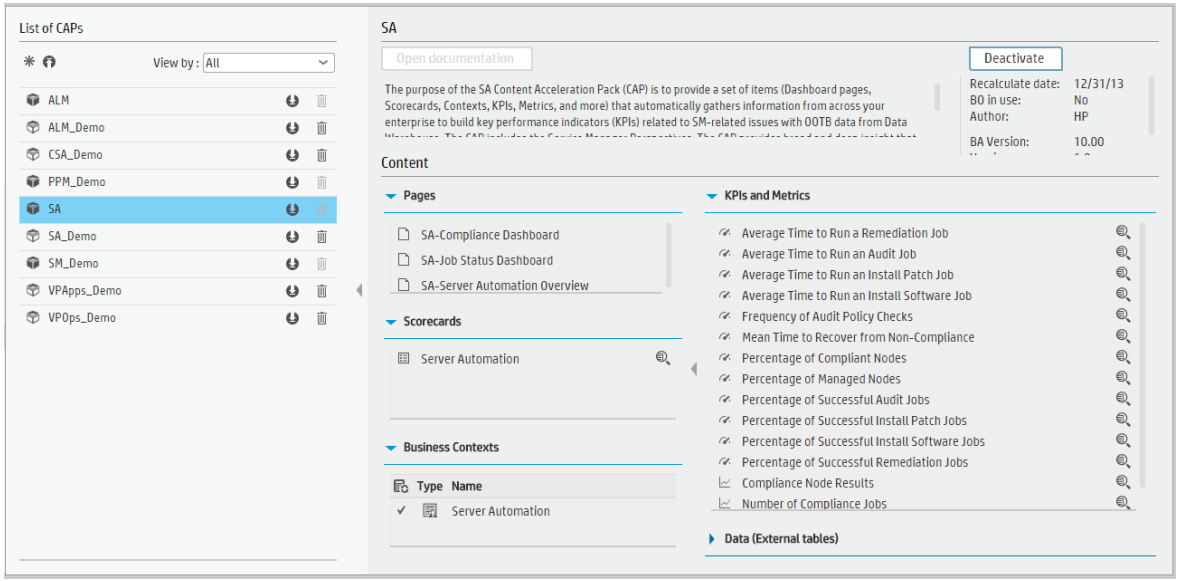
## User Story

1. Scott is the IT Security and Compliance Analyst of ABC Inc. IT Security organization.
2. One of his responsibilities is to ensure that all the managed nodes are compliant.
3. Scott logs on the ITBA application and opens the Job Status page in the Dashboard to make sure that all server automation jobs have completed successfully in the last period. He sees that the status of all job-related KPIs is green.
4. Scott then switches to the Compliance Dashboard and looks at the **Percentage of Successful Install Patch Jobs** KPI to see if it meets the target. He finds out that the latest KPI value is orange.
5. The Historical View shows the poor weekly performance of the KPI for the past few days. In addition, based on the current results, the Forecast is a continuous decline for the next week and in the future.
6. Drilling into the details, Scott then looks at the **Compliance Node Results** Pie Chart, and understands how many servers are not compliant. He also notices that there are still a couple of nodes that are not compliant causing the red status of the KPI.
7. He then clicks on **Non-compliant** in the legend to open the KPI EXPLORER to see the data set that lists all the servers that are not compliant.
8. Scott decides to setup a meeting with Chris who is the Compliance Manager of the IT organization responsible for enforcing the IT compliance policy. They come up with a plan to return the node compliance status back to normal for all managed nodes.

# UI Description

## SA_Demo and SA CAPs




User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

| UI Element | Description |
|---|---|
| **Pages** | See "Pages" on page 159. |
| **Scorecards** | • Server Automation |
| **Business Contexts** | • Server Automation<br>• SA_Demo<br><br>For details, see Reference: Contexts (Universes) in the *Content Reference Guide*. |
| **KPIs and Metrics** | **Note:** The Demo CAP includes KPIs with names followed by (Demo). The CAP includes the same KPIs with names that do not include (Demo). The KPIs are the same but have different names so that both the Demo CAP and the CAP can be activated at the same time.<br><br>• **Average Time to Run a Remediation Job KPI**<br>The average time it takes to run a remediation job.<br>• **Average Time to Run an Audit Job KPI**<br>The average time it takes to run an audit job.<br>• **Average Time to Run an Install Patch Job KPI**<br>The average time it takes to run an install patch job.<br>• **Average Time to Run an Install Software Job KPI**<br>The average time it takes to run an install software job.<br>• **Frequency of Audit Policy Checks KPI**<br>Measures how frequently compliance checks are running during the measurement period.<br>• **Mean Time to Recover from Non-Compliance KPI**<br>The length of time it takes and the service level to which a business process must be restored after a non-compliance in order to avoid unacceptable consequences associated with a break in business continuity.<br>• **Percentage of Compliant Nodes KPI**<br>The number of compliant nodes relative to the total number of nodes.<br>• **Percentage of Managed Nodes KPI**<br>The number of managed nodes relative to the total number of nodes.<br>• **Percentage of Successful Audit Jobs KPI**<br>The number of successful audit jobs relative to the total number of audit jobs.<br>• **Percentage of Successful Install Patch Jobs KPI** |

| UI Element | Description |
|---|---|
| | The number of successful patch jobs relative to the total number of patch jobs.<br>• **Percentage of Successful Install Software Jobs KPI**<br>The number of successful software jobs relative to the total number of software jobs.<br>• **Percentage of Successful Remediation Jobs KPI**<br>The number of successful remediation jobs relative to the total number of remediation jobs.<br>**Metrics**<br>• **Compliance Node Results Metric**<br>The number of compliance results.<br>• **Number of Compliance Jobs Metric**<br>The number of compliance jobs.<br>• **Number of Nodes Monitored by SA Metric**<br>The number of nodes monitored by SA. |
| **Data (External Tables)** | SA_Demo |

# Integration with vPV

The integration with VPV (Virtual Performance View) as a data source enables accessing vCenter and HP Helion data.

The purpose of the integration of VPV as a data source is to bring this information into the Data Warehouse.

Virtual Performance Viewer (vPV) is a web-based analysis and visualization tool that analyzes performance trends of elements in virtualized environments. vPV gives you at-a-glance visibility across your virtual environment for real-time insights into performance, capacity, and health. This helps you to optimize your infrastructure and quickly solve virtualization and cloud performance issues. It enables virtualization monitoring by providing an overview of the environment, near-real-time and historical data analysis and triaging using an interactive dashboard. It also enables monitoring for cloud and hypervisor environments. HPE vPV provides performance monitoring, graphing, and reporting in a single interface.

The data extracted from vPV is correlated to the data available in the KPIs and reports available in the CSA CAP. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

**To access:**

Select **ADMIN > Data Management > Connect Data Source** then click **Add data source** and select **VPV** to activate the integration processes for the **VPV** data source.


## Learn More

### Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.

### Important Information

- The VPV Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service

(DCS) in the *Administrator Guide*.

- All fields are case-sensitive.
- VPV must be activated with the CSA data source. If you activate VPV alone, only the cost fact information is displayed, without the ability to drill down further.

**Note: When configuring VPV reports:**

- VPV **Custom** reports are not supported, therefore it is recommended to select the **Daily** report option.
- Only cost reports are supported.
- When you generate a report in vCenter Chargeback Manager, you cannot select the following values:
  - Disk Read
  - Disk Write
  - Network Transmitted
  - Network Received

  Although the combined disk read and write utilization data and the combined network transmitted and received utilization data can be fetched and included in the report, the split utilization data for disk read, disk write, network transmitted, and network received is unavailable.

**When using both the AWS and VCM data sources.** Both the AWS and the VCM data sources offer the same type of information. If you integrate with both data sources, the values provided by the relevant Metrics might combine. For example, the Number of Used Instances Metric calculates how many VMs users are using the hybrid cloud environment. Both of the AWS data source (100 VM subscriptions) and the VCM data source (300 VM subscriptions) include this information. If, for example, you work with AWS only, the Number of Used Instances Metric is 100. If you work with VCM only, the Number of Used Instances Metric is 300. If you work with both data source, the Number of Used Instances Metric is 400.

The cloud-related reports (Dashboard pages) provided in the CSA_CAP and CSA_Demo_CAP CAPs combine integrated data from the following data sources Cloud Service Automation (CSA), Amazon Web Services (AWS), Amazon Web Service CloudWatch (AWSCW)

For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

# Tasks

This section includes:

## Activate the Integration

1. Select **ADMIN > Data Management > Connect Data Source** then click **Add data source**.
2. The Add Data Source page opens. Select the VPV data source type.
3. Select or enter the configuration parameters.
4. Click **Next** to proceed to the validation page.

## Change the default price of the vPV private cloud resources

To help you calculate the cost for vPV supported private cloud resources (CPU, Memory, Disk), ITBA has pre-configured their default prices.

To change the default price:

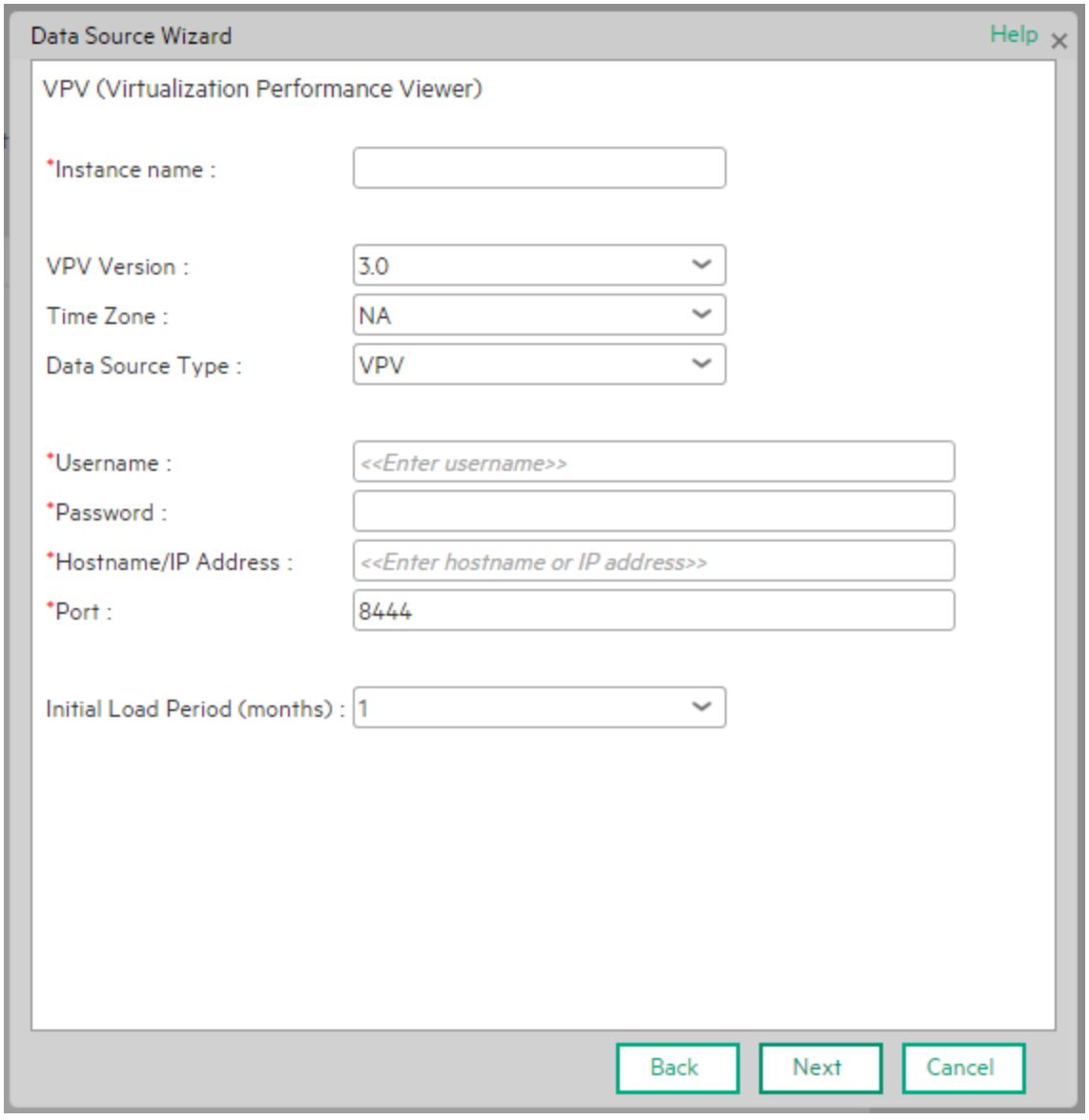
1. Log on to the ITBA server.
2. Edit the last column in the **PRICING_MODEL.csv** located in **$HPBA_ Home/ContentPacks/vPV/EXTERNAL**. The column provides the unit price.
3. Save.

   The new pricing model will be valid in the next ETL run.

# UI Description

## VPV Activation Page

The following is an example of the VPV Activation page for MS SQL server.




User interface elements are described below:

**For the SQL server:**

If the VPV configuration is for a named instance connection, make sure to enter the named instance port.

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **VPV Version** | Select the relevant VPV version. For details, see the *Support Matrix*. |
| **Time Zone** | Time zone must be UTC. |
| **Data Source Type** | **VPV.** This parameter is read only. |
| **vpvUsername** | Enter your username used to log on to the VPV web application. |
| **vpvPassword** | Enter your password used to log on to the VPV web application. |
| **Hostname/IP Address** | Enter the hostname or IP address on which VPV is installed. |
| **Port** | Port for VPV web application. |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

# Reference

## vPV-Related KPIs and Metrics

The KPIs and Metrics related to the integration with vPV are part of the integration with CSA. For details, see "CSA-Related KPIs and Metrics" on page 132.

# CP0001 Enhancements and Their Documentation

## Enhancements

The CSA Content Pack 0001 supports the following functionality:

1. A new billing details report (**Showback Details for Cloud Services**) shows the option level cost and property level cost. For details, see "Billing Report Design Format – option and property level" on the next page.
2. Customized CSA service designer for Amazon Web Service Resource Provider is supported. For details, see "Customized CSA Service Designer for Amazon Web Service Resource Provider is Supported" on the next page.

# Documentation

## Billing Report Design Format – option and property level

**Showback Detail For Cloud Services**

| | | | |
|---|---|---|---|
| **Billing Period** | 2015-08-12 to 2015-10-09 | | |
| **Currency** | USD | **Organization** | ALL |
| **Subcribed User** | ALL | **Suscription Name** | Sub1 |
| ***Total Billing Amount:*** | | **2,798,657.3148** | |
| **Date:2015-08-12** | | **SubTotal for Date : 786,000** | |
| Org: Consumer | | SubTotal for Org : 786,000 | |
| Person: consumer | | SubTotal for Person : 786,000 | |
| Subscription: Sub1 | | SubTotal for Subscription : 262,000 | |

| Initial/Recurring Price | Option | Property | Duration | Cost |
|---|---|---|---|---|
| Recurring (1,000 USD Daily) | [Non-Option] | [Non-Property] | 24 Hour 0 Min 0 Sec | 1,000 |
| Recurring (2,000 USD Daily) | Hardware-display:High-display | [Non-Property] | 24 Hour 0 Min 0 Sec | 2,000 |
| Recurring (13,000 USD Daily) | Hardware-display:High-display-CPU-display:8 | [Non-Property] | 24 Hour 0 Min 0 Sec | 13,000 |
| Recurring (15,000 USD Daily) | Hardware-display:High-display-DiskVolumn-display:1T | [Non-Property] | 24 Hour 0 Min 0 Sec | 15,000 |
| Recurring (17,000 USD Daily) | Hardware-display:High-display-Network-display:Internet | [Non-Property] | 24 Hour 0 Min 0 Sec | 17,000 |
| Recurring (18,000 USD Daily) | Hardware-display:High-display-Network-display:Internet-Width-display:4M | [Non-Property] | 24 Hour 0 Min 0 Sec | 18,000 |
| Recurring (53,000 USD Daily) | Setup:Day | [Non-Property] | 24 Hour 0 Min 0 Sec | 53,000 |
| Recurring (51,000 USD Daily) | Software:ITBA 10.0 | [Non-Property] | 24 Hour 0 Min 0 Sec | 51,000 |
| Recurring (45,000 USD Daily) | Software:Oracle | [Non-Property] | 24 Hour 0 Min 0 Sec | 45,000 |
| Recurring (47,000 USD Daily) | Software:Oracle-Version:11i | [Non-Property] | 24 Hour 0 Min 0 Sec | 47,000 |

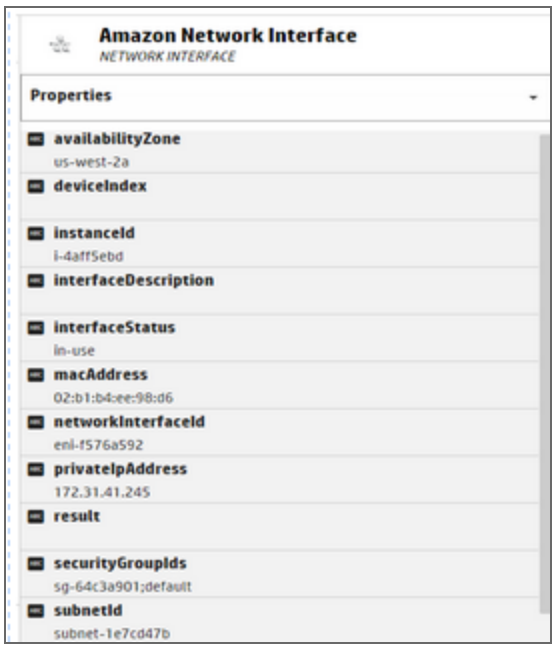
The report displays the option and property cost for each selected user subscription. The period granularity of this report is daily. The user can search by specific date range, by user name, by organization name, or by subscription name.

## Customized CSA Service Designer for Amazon Web Service Resource Provider is Supported

In CSA, you can define different service designs for Amazon Provider and those service designs can be different from user to user, and can be different from the CSA OOTB service design.

By default, the ETL logic hardcodes, the component type value, the component property value, and the values match only the CSA OOTB service design. If you do not use the CSA OOTB service designer, then you must change the ETL scripts manually.

In addition, when you add fields to component property list, and then display these field in the report, the data model does not include the new customized data.




- **The CSA Content Pack provides a separate ETL logic to support customized CSA service designs**

  Below is the ETL logic that you can use to get the component value from the AWS service design. To easily customize the logic in the ETL scripts:

  a. The logic used to handle the AWS service design is extracted into a separate script instead of having all logic in one Server Side Includes (SSI) step. The file name of the script is **AWS-service-design**.

  b. Afterwards, you can modify the OOTB logic to support your own CSA service design, without impacting the others. Modify the **$HPBA_HOME/ContentPacks/CSA/INBUILT/ETL/COMPONENT/CSA_COMPONENT_CONF_DF.sql** file by providing the SSI scripts folder and the file name for the SSI component in the **CSTM_PROPERTY_<NN>** fields.

```
case
    when positionb('^|^'||ext.propertylist,'^|^'||'INSTANCEID'||'^=^') = 0 then null
    else
        ext.SERVICEINSTANCEID || ':' ||split_part(split_part(substrb('^|^'||
        ext.propertylist,positionb('^|^'||ext.propertylist,'^|^'||'INSTANCEID'||'^=^')),'^|^',2),'^=^',2)
end as CSTM_PROPERTY_01 ,
case
    when positionb('^|^'||ext.propertylist,'^|^'||'IPaddress'||'^=^') = 0 then null
    else
        ext.SERVICEINSTANCEID || ':' ||split_part(split_part(substrb('^|^'||
        ext.propertylist,positionb('^|^'||ext.propertylist,'^|^'||'IPaddress'||'^=^')),'^|^',2),'^=^',2)
end as CSTM_PROPERTY_02 ,
```

- **Additional Customized Fields in the Component Entity to Support Customized CSA Service Designs**

  Currently, you cannot add extra fields to the **Showback for Cloud Services** report as the current data model cannot accommodate customized fields.

  To support the capability of adding customized fields to the **Showback for Cloud Services** report, the component was modified to include 10 additional customized fields. For details, see "CP0001 Enhancements and Their Documentation" on page 170.

- **BILLING_FACT table details**

  To support option level pricing calculation, the existing BILLING_FACT table was modified. It stores the real cost based on the subscription details including the subscription request, request option, and option property. The granularity of BILLING_FACT table is at the levels of subscription, request, option, property, daily.

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| SUBSCRIPTION_ID | FK | N | Foreign Key to subscription |
| SERVICE_ REQUEST_ID | FK | N | Foreign Key to subscription request |
| REQUEST_ OPTION_ID | FK | N | Foreign Key to request option |
| OPTION_ PROPERTY_ID | FK | N | Foreign Key to property |
| SERVICE_ INSTANCE_ID | FK | N | Foreign Key to service instance |
| BILLING_START | DATE | N | Foreign Key to billing start period |
| BILLING_END | DATE | N | Foreign Key to billing end period |
| CURRENCY_LOC | VARCHAR (10) | Y | Source currency |
| CURRENCY_BASE | VARCHAR (10) | Y | DWH currency |
| AMOUNT_LOC | NUMERIC | Y | The cost stays with the source currency |
| AMOUNT_BASE | NUMERIC | Y | The cost is converted into DWH currency |
| RECURRING_FLAG | INTEGER | Y | The flag to identify if the cost is coming from recurring price or not |

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| | | | 1=Recurring price, 0=Initial price |
| BASE_FLAG | INTEGER | Y | The flag to identify if the cost is coming from base price or not |
| OPTION_FLAG | INTEGER | Y | The flag to identify if the cost is coming from option or not |
| PROPERTY_FLAG | INTEGER | Y | The flag to identify if the cost is coming from property price or not |

- **SERVICE_REQUEST_DIM table details**

  The user can subscribe to any on-shelf service offering in the CSA Consumer portal. When the user subscribes to a service, CSA creates the relevant request for the subscription, and if the user changes the subscription option from CPU 1 to CPU 2, another request is generated for the modified subscription.

  The SERVICE_REQUEST_DIM table holds the subscription request information for the business analysis.

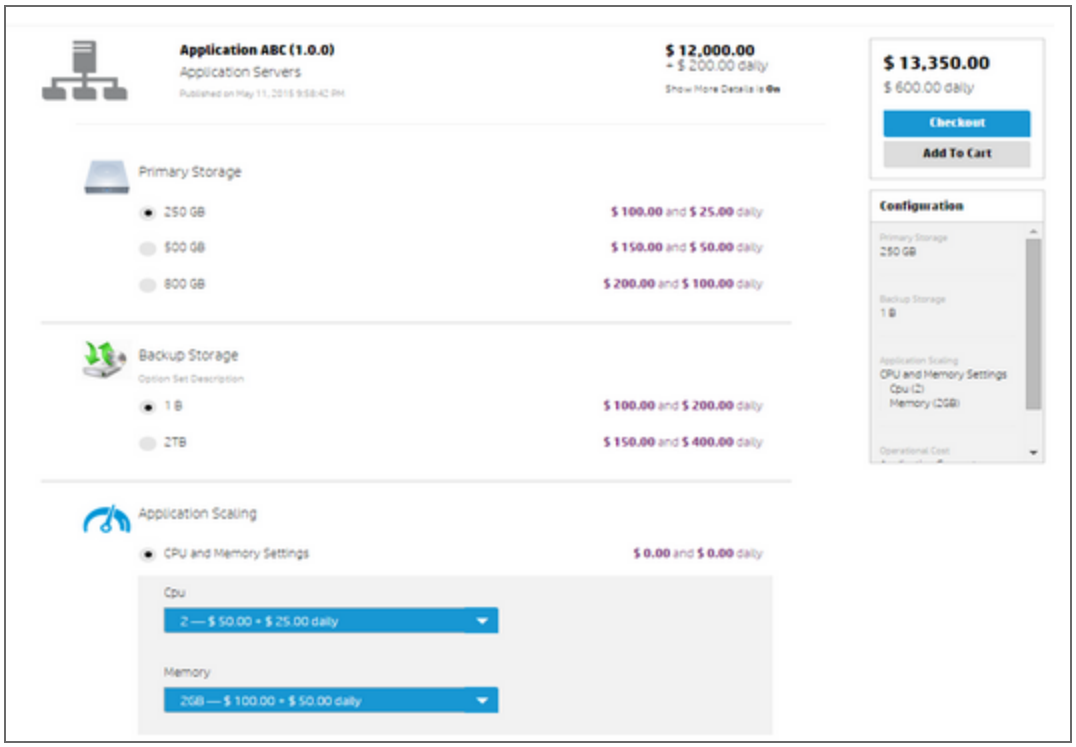
| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| SERVICE_ REQUEST_ID | PK | N | PK of service request |
| NAME | VARCHAR (1000) | Y | Name of service request |
| DISPLAY_LABEL | VARCHAR (1000) | Y | Display name of service request |
| INITIAL_PRICE | NUMERIC | Y | Initial price of service request |
| RECURRING_ PRICE | NUMERIC | Y | Recurring price of service request |
| RECURRING_ PERIOD | VARCHAR (100) | Y | Recurring period of service request |
| CURRENCY | VARCHAR (10) | Y | Source currency |
| REQUEST_ START | DATE | Y | The create time of service request |
| REQUEST_END | DATE | Y | The time that the service request is end of lifecycle |

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| REQUEST_ STATE | VARCHAR (100) | Y | The state of service request |
| REQUEST_ STATUS | VARCHAR (100) | Y | The status of service request |
| REQUEST_ ACTION | VARCHAR (100) | Y | The action of service request(mainly used to capture the user subscription cancellation action) |
| SUBSCRIPTION_ ID | FK | N | Foreign Key to subscription |

- **REQUEST_OPTION_DIM table details**

  The user can subscribe to any on-shelf service offering in the CSA Consumer portal. When subscribing to a service, the user can select the relevant option.

  Below is the screenshot for CSA catalog ordering, **Application ABC (1.0.0)** is the subscription. It contains three options **Primary Storage**, **Backup Storage**, and **Application Scaling**. Each option can define its own initial price and recurring price.




  The REQUEST_OPTION_DIM table is designed to store the option level price information for each user submitted service request.

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| REQUEST_OPTION_ID | PK | N | PK of Request Option |
| OPTIONSET_NAME | VARCHAR (1000) | Y | Name of Option Set |
| OPTIONSET_DISPLAY_ LABEL | VARCHAR (1000) | Y | Display name of Option Set |
| OPTION_NAME | VARCHAR (1000) | Y | Name of Option |
| OPTION_DISPLAY_LABEL | VARCHAR (1000) | Y | Display name of Option |
| OPTION_FULL_NAME | VARCHAR (2000) | Y | Name of Option Set + Name of Option |
| OPTION_FULL_DISPLAY_ LABEL | VARCHAR (2000) | Y | Display name of Option Set + Display name of Option |
| INITIAL_PRICE | NUMERIC | Y | Initial price of option |
| RECURRING_PRICE | NUMERIC | Y | Recurring price of option |
| RECURRING_PERIOD | VARCHAR (100) | Y | Recurring period of option |
| SERVICE_REQUEST_ID | FK | N | Foreign Key to Service request |
| PARENT_ID | FK | N | Parent Foreign Key to Request Option |

- **REQUEST_OPTION_DIM_HIER table details**

  The user can subscribe any on-shelf service offering in the CSA Consumer portal. When subscribing to a service, the user can select the relevant option. Each option can contain sub options, which can themselves include sub options.

  The REQUEST_OPTION_DIM_HIER table stores the option name hierarchy information for each user submitted service request. The maximum supported number of levels in the hierarchy is 20.

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| MD_SLEVEL | INTEGER | N | The level of the option |
| MD_LEVEL_0_NAME | VARCHAR(2000) | N | The full name of top level option |
| MD_LEVEL_1_NAME | VARCHAR(2000) | Y | The full name of second level option |

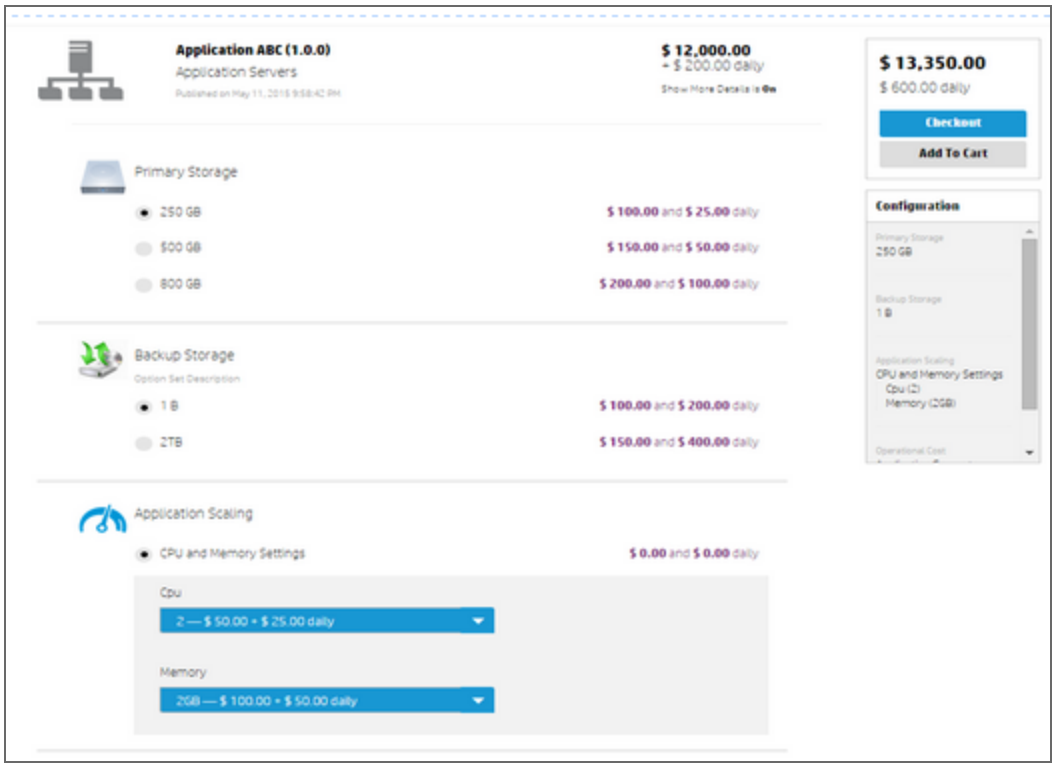
| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| MD_LEVEL_2_NAME | VARCHAR(2000) | Y | The full name of third level option |
| …… | VARCHAR(2000) | Y | The full name of n level option |
| MD_LEVEL_19_NAME | VARCHAR(2000) | Y | The full name of twentieth level option |
| REQUEST_OPTION_ID | FK | N | Foreign Key to Request option |

For example, if you have the following hierarchy: option1 > option1.1> option1.1.1, then the row is displayed as follows:

| MD_ SLEVEL | MD_LEVEL_ 0_NAME | MD_LEVEL_ 1_NAME | MD_LEVEL_ 2_NAME | MD_LEVEL_ 3...19_NAME | REQUEST_ OPTION_ID |
|---|---|---|---|---|---|
| 3 | option1 | option1.1 | option1.1.1 | Null | option1.1.1's PK |
| 2 | option1 | option1.1 | Null | Null | option1.1's PK |
| 1 | option1 | Null | Null | Null | option1's PK |

- **OPTION_PROPERTY_DIM table details**

  The user can subscribe any on-shelf service offering in the CSA Consumer portal. When subscribing to a service, the user can select the relevant option. The option contains three properties (**250 GB**, **500 GB**, **800 GB**), and each property can define its own initial price and recurring price. The price supports fixed values, listed values, or multiple values.




The OPTION_PROPERTY_DIM table stores the property information for each user selected property value in its related service request.

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| OPTION_PROPERTY_ID | PK | N | PK of Option property |
| PROPERTY_NAME | VARCHAR (1000) | Y | The name of the property |
| PROPERTY_DISPLAY_ NAME | VARCHAR (1000) | Y | The display name of the property |
| PROPERTY_VALUE_ID | VARCHAR (1000) | Y | The value ID of the option property |
| PROPERTY_VALUE_TYPE | VARCHAR (1000) | Y | The value type of the property |
| PROPERTY_VALUE | VARCHAR (1000) | Y | The value of the property |
| PROPERTY_DISPLAY_ VALUE | VARCHAR (1000) | Y | The display value of the property |

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| INITIAL_PRICE | NUMERIC | Y | The initial price of the property |
| INITIAL_PRICE_TYPE | VARCHAR(100) | Y | The initial price type of the property |
| RECURRING_PRICE | NUMERIC | Y | The recurring price of the property |
| RECURRING_PRICE_TYPE | VARCHAR(100) | Y | The recurring price type of the property |
| RECURRING_PERIOD | VARCHAR(100) | Y | The recurring period of the property |
| REQUEST_OPTION_ID | FK | N | Foreign Key to request option |

- **COMPONENT_DIM table enhancements**

  The existing COMPONENT_DIM table was extended by adding more component properties to support customized service designs.

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| CSTM_PROPERTY_01 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_02 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_03 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_04 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_05 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_06 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_07 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_08 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_09 | VARCHAR (1000) | Y | Customized component property field |
| CSTM_PROPERTY_10 | VARCHAR (1000) | Y | Customized component property field |

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| Other existing fields did not change | | | |

- **CSA Component_Property entity**

| Field Name | Field Type | Null | Field Description |
|---|---|---|---|
| PROPERTY_NAME | VARCHAR(1000) | Y | The name of the component property. |
| PROPERTY_VALUE | VARCHAR(2000) | N | The value of the component property. |
| COMPONENT_ID | FK | Y | Foreign Key to COMPONENT. |

- **CSA Target entity**

| Entity Name | Change Description |
|---|---|
| BILLING_FACT | Refactor the existing logic of the cost aggregation to store option and property cost |
| REQUEST_OPTION_ DIM_HIER | New entity add to support option and sub option info |
| REQUEST_OPTION_DIM | New entity add to support option info |
| OPTION_PROPERTY_ DIM | New entity add to support option property info |
| SERVICE_REQUEST_ DIM | New entity add to support service request info |
| COMPONENT_DIM | Refactor the existing logic of the cost aggregation to store option and property cost |

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- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and to sign in. Many also require a support contract. To register for an HP Passport ID, click **Register** on the HP Support site or click **Create an Account** on the HP Passport logon page.

To find more information about access levels, go to:
https://softwaresupport.hpe.com/web/softwaresupport/access-levels.

**HP Software Solutions Now** accesses the HPSW Solution and Integration Portal website. This site enables you to explore HP Product Solutions to meet your business needs, includes a full list of Integrations between HP Products, as well as a listing of ITIL Processes. The URL for this website is http://h20230.www2.hp.com/sc/solutions/index.jsp.

## Support Matrices

For complete support and compatibility information, see the support matrix for the relevant product release. All support matrices and product manuals are available here on the HPE Software Support Online website:

https://softwaresupport.hp.com/group/softwaresupport/support-matrices

You can also download the HPE Support and Compatibility Matrix for this release from the HPE Self-solve documentation portal:

https://softwaresupport.hp.com/group/softwaresupport/

## Document Change Notes

The following table provides details of any changes introduced in this version of this document.