



Avaya Context Store Snap-in Release Notes

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Chapter 1: Introduction

Purpose

The Avaya Context Store Snap-in 3.4.0.0 Release Notes provides information on the features available and solution details. This document provides the latest information to supplement Context Store software and documentation.

Intended audience

This document is intended for implementation engineers and administrators who install/deploy Context Store Snap-in.

Related resources

Documentation

For updated documentation, product support notices, and service pack information, visit the Avaya Support Center website at <https://support.avaya.com>.

| Title | Description |
|--|---|
| Avaya Context Store Snap-In Reference Guide | The purpose of this document is to describe the Context Store Snap-In characteristics and capabilities, including feature descriptions, interoperability, and performance specifications and to provide instructions on deploying, configuring, and troubleshooting the Context Store services. |
| Avaya Context Store Snap-In Developer Guide | Developer guide explaining how to use each individual feature of Context Store |
| <i>Other relevant product documentation</i> | |
| Avaya Breeze™ Documentation | |
| Engagement Designer Documentation [for users of the Context Store Task Type only] | |
| Orchestration Designer Documentation [for users of the Context Store Pluggable Data Connector only] | |

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Chapter 2: Release Information

Changes in Avaya Context Store 3.4

This CS 3.4.0.0 release supports the same feature set as that of CS 3.3.X.X

For detailed information about these features, as well as installation and configuration instructions, see the latest *Context Store Reference Guide* and *Context Store Developer Guide* available from support.avaya.com

The *Context Store Developer Guide* contains API documentation for Context Store interfaces and SDKs, as well as usage tutorials for the sample clients provided for certain features of the product.

(Modified) – Changes to Service Names and Service Attributes

Context Store snap-in service names and their attributes have changed significantly in this release, to conform to with name requirements for the 3.4 release of the Oceana Solution.

Service Name Changes:

Service names have been extended to contain the full product name, rather than the initialism “CS” e.g. **CSManager** is now **ContextStoreManager**

NB: ContextStoreNotification snap-in has been renamed **ContextStoreNotify**. This additional name modification is necessary due to limitations of name size on the platform.

Service URL Changes:

Service URLs have automatically changed as the service name is used directly in the URL. e.g. `/services/CSRest/` becomes `/services/ContextStoreRest/`

- URLs in custom-built applications must be updated to use the new service name
- 3.4.0.0 services cannot be used with older releases of client components (such as, Breeze Client SDK, AAEP Pluggable Data Connector, Engagement Designer Tasks) and vice versa

Alarms Conflict:

CSManager and **ContextStoreManager** are distinct services from Breeze Element Manager perspective, therefore it is not possible to load the 3.4 **ContextStoreManager** SVAR while the 3.3 **CSManager** SVAR is still loaded.

The following error will be reported by Element Manager:

```
"Error uploading 'CSManager-3.4.0.0.80601.svar': Validation for alarms.xml failed. Alarm Oid .1.3.6.1.4.1.6889.2.68.10.1has already been used."
```

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- This service is mandatory on clusters created using the "Context Store" cluster profile, so the existed cluster must be deleted in order to delete the 3.3 **CSManager** service
- On all other cluster profiles, **CSManager** is optional and can therefore be uninstalled and deleted, while leaving the cluster intact

Service Attribute Changes:

Service attributes are now grouped (where appropriate) and some names have been altered. Drop-down selectors are available on suitable attributes. EDM database URL has been broken-down into constituent elements

It is no longer necessary to specify the version of **ContextStoreRest** in the attributes of the **ContextStoreScreenPop** or **ContextStoreSoap** services, the installed version is automatically detected when these services initialize. The `Context Store Rest Version` attribute has been removed from both of these services in release 3.4.0.0

If a different version of **ContextStoreRest** is installed on the cluster after services have initialized, the **ContextStoreScreenPop** or **ContextStoreSoap** services must be reinstalled to detect the new version.

Refer to the *Avaya Context Store Snap-in Reference Guide* for all attribute details.

(Modified) – Smaller Default Context Store Data-Grid Deployed

The default Context Store data-grid size (controlled by **ContextStoreManager** attributes) has been reduced to align with the Oceana 1000-agent footprint. See the Appendix for details of this sizing.

(Modified) – External DataMart Schema

New columns (touchpoint and timestamp) have been added to the CS_OPERATION table to facilitate more efficient querying for Customer Journey data. CREATE and ALTER scripts are provided in the *Avaya Context Store Snap-in Reference Guide*

(Modified) - Status Check Operation

Context Store 'Status Check' APIs will now return a message

- 200 OK – “*Context Store cluster is UP*”
- 503 ERROR – “*There is an issue with the Context Store cluster*”

Support for this Status Check operation has been added to Client SDK Datastore package (JavaScript SDK for Context Store) in release 3.4.0.0

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(Modified) – Runtime Configuration of EDM and GEO Connections

It is no longer necessary to reboot the Context Store cluster when attribute values related to **Geo-Redundancy** or **External DataMart** connections are modified. Context Store 3.4 supports runtime configuration/re-configuration of ContextStoreManager’s “GEO:” and “EDM:” attributes.

The new/modified connection details are applied when the applicable enablement attribute for the feature is toggled to `false` and then back to `true`

- For the **External DataMart** connection, `EDM: Enable Persistence to database`
- For the **Geo-Redundancy** connection, `GEO: Enable session preservation`
 - **NB:** the `ContextStore DataGrid type` attribute cannot be changed dynamically. If this value is not already set to `GEO` or `PROVISIONED-GEO` type, the existing data-grid must be removed, therefore the cluster must be rebooted.

(Modified) - Centralized Logging for Context Store Services

The **ContextStoreManager** and **ContextStoreQuery** services now support the same centralized logging functionality as was added to the **ContextStoreRest** service in release 3.3.0.0

Logs to be shipped to centralized location are written to

`/var/log/Avaya/services/<SERVICE_NAME>/<SERVICE_NAME>_json.log`

(New) – “EDM: Mirror Service redo log size” Attribute

The new **ContextStoreManager** attribute, `EDM: Mirror Service redo log size`, controls the amount of queued External DataMart updates that will be stored in the in-memory data-grid while the connection to the EDM is unavailable. Recommended sizes are given in the Appendix of this document for each of the certified deployment sizes. These recommendations equate to roughly 30 minutes of EDM updates that will be re-attempted when the connection is re-established.

NB: setting the `EDM: Mirror Service redo log size` higher than recommended jeopardizes the stability of the data-grid as the queued update data is also stored in-memory. If you increase this figure, the system must be tested under full load with while the connection to the EDM is unavailable, to verify that the data-grid can withstand hosting the extra queued update data.

(New) - Co-Deployment of External DataMart with Oceanalytics

NB: This note applies to use of Context Store within the Oceana Solution only

From Avaya Oceana™ Solution 3.4, you can deploy the EDM schema within the Avaya Oceanalytics™ Insights database. This reduces the solution’s footprint.

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Installation

The script `base_install.sql` needs to be run on the Oceanalytics database as system admin.

1. Navigate to the unzipped installation folder containing `base_install.sql`
 - The CS scripts will be in the directory
`<OCEANALYTICS_BUILD_UNPACKAGED_DIRECTORY>\context_store_schema_scripts\`
2. Run: `sqlplus sys/<password>@orcl as sysdba @base_install.sql`
 - (replace `<password>` with the current password)

Configuration

The default username is `context_store` and the default password is `ContextStoreAv33`.

These can be updated by modifying the details in the `create_schemas.sql` script (in the general folder) and the re-running the `base_install.sql`

Important Notes about Avaya Breeze™ 3.4

Breeze root login

Enabling Avaya EASG login is required in order to enable the root user account on Breeze nodes.

Re-configuration of certificates required after Avaya Breeze™ upgrade

When an Avaya Breeze™ 3.4 server is upgraded (using the .ISO), the security keystore required for the Context Store geo-redundancy feature is erased by the upgrade process. Without the keystore, the geo-redundancy feature cannot operate; no data will be replicated between the clusters.

It is therefore necessary to reconfigure this keystore in the `/opt/Avaya/dcm/gigaspace/security/` directory as per the instructions in the *Avaya Context Store Snap-In Reference Guide 3.4*

Java 8 and SQL Server JDBC Driver (for EDM)

Breeze 3.4 (and 3.3) are Java 8 environments, therefore the Java 8 version of SQL Server JDBC driver (*sqljdbc42.jar*) must be used for the External Data Mart feature.

See section *Upgrade SQL Server JDBC Driver used for External DataMart* in this document

Supported TLS version

By default, the supported TLS version across clusters is TLS 1.0 but the Oceana solution, of which Context Store is a component supports TLS1.2. You can manually change the TLS version through System Manager from `Home / Services / Security / Configuration / Security Configuration`

Chapter 3: Context Store Software Installation and Upgrade

All the software required for deploying the Avaya Context Store services and underlying platform is available on the Avaya Support site - <https://support.avaya.com/>

Context Store Software

This section provides information on the software required for deployment of Context Store 3.4.0.0.

| Product | Version | PLDS ID & MD5 Checksum |
|---|--------------------------------|---|
| ContextStoreManager SVAR | 3.4.0.0.80601 | PLDS ID: CS000000073 MD5: 83c092a3eac8b4898acb9f64c983e233 |
| ContextStoreRest SVAR | 3.4.0.0.80601 | PLDS ID: CS000000074 MD5: 21fb8a3cd6c8585b45b1a8f480ad2f4a |
| ContextStoreScreenPop SVAR | 3.4.0.0.8060 | PLDS ID: CS000000075 MD5: 64d0e8a306393324d5262c54ca18ccd1 |
| ContextStoreNotify SVAR | 3.4.0.0.8060 | PLDS ID: CS000000076 MD5: 653df487aab01190a0c189703fc1e114 |
| ContextStoreRules SVAR | 3.4.0.0.8060 | PLDS ID: CS000000077 MD5: fab18bf2fd68de02610dc5ce25dfafa3 |
| Streams SVAR | 3.4.0.0.806 | PLDS ID: CS000000078 MD5: 8848a188a69f34ea674503aacaeb8b78 |
| ContextStoreSoap SVAR | 3.4.0.0.80601 | PLDS ID: CS000000080 MD5: ad7caddbdda64ebafa4c02c96f9d97de |
| ContextStoreQuery SVAR | 3.4.0.0.80601 | PLDS ID: CS000000081 MD5: 066a9893e4091def585cd0fe1b7caf85 |
| ContextStoreTasks (for Engagement Designer) | 3.4.0.0.80601 | PLDS ID: CS000000079 MD5: 698d17af852247e26066835990f48560 |
| CS PDC JAR (Pluggable Data Connector) | cs-pdc-plugin-8.0.6 | MD5: 87235bdd240d7032df272b0ccf95d91f |
| CS Java SDK ZIP | ContextStore-8.0.6 | MD5: d68e0302edad03f9a6617847802bf4ec |
| CS JavaScript SDK (DataStore package in the Client SDK) | Client SDK 3.3 (CS 3.4.0.0) | MD5: 1320728f31666751794bf3345faa0f7a |

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Platform Interoperability

Context Store 3.4.0.0 release software is supported on the Avaya Breeze™ 3.4 releases only. For System Manager line-up and installation information, see Avaya Breeze™ documentation.

Avaya Breeze™

| Product | Version | MD5 Checksum |
|-------------------------------------|----------------------------------|----------------------------------|
| Avaya Breeze™ ova | Breeze-3.4.0.0.340003.ova | 88faf254be5793623bd1257787f613b9 |
| Avaya Breeze™ iso (for upgrades) | aus-installer-3.4.0.0.340003.iso | 07d64e4a6a11683f1652025e7bfd1bf4 |
| Required Avaya Breeze™ patch | ce-patch-3.4.0.0.06340003.bin | cf029deb57811ef67a74cb1124ebaef3 |

NB: Before installing this Context Store release, you must install (or upgrade to) Avaya Breeze™ 3.4 release.

Snap-in service software built for Avaya Breeze™ 3.4, such as Context Store 3.4.0.0, is compatible with, and can be installed on, any 3.4.X.X version of Avaya Breeze™.

Engagement Designer

| Product | Version | MD5 Checksum |
|-----------------------------|---------------|----------------------------------|
| Engagement Designer svar | 3.4.0.0.32008 | 5da4604ece636678eb4b6bd3b596a397 |
| EngagementDesignerTasks jar | 3.4.0.0.32008 | 01b5631ec66e8f9d549a8d0d23457a5f |

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Upgrading the Context Store snap-in services

Before you begin

NB: Upgrade to Avaya Breeze™ 3.4 before proceeding with this Context Store 3.4.0.0 upgrade

Avaya Breeze™ Upgrade Overview

To upgrade a Context Store Snap-In service, you must install a new version of the snap-in service using the in Avaya Breeze™ Element Manager.

When you upgrade the ContextStoreManager SVAR, the existing data-grid remains unchanged. All CS services currently installed will continue to use the existing spaces until the cluster of Avaya Breeze™ servers are simultaneously restarted and the new data-grid is deployed.

NB: All information stored in the data-grid will be lost when the cluster is restarted.

Service Version Management

- If no **Preferred Version** is selected, the newest version of the snap-in currently installed will automatically be selected to service requests.
- If **Preferred Version** is already set for the currently installed snap-in service, this version will continue to service the Context Store requests after the new version of the service has been installed. To use the newly installed snap-in service version by default, you must to set the newer version as the **Preferred Version**.

For more information about snap-in service version management, see Avaya Breeze™ administration guide.

Upgrade procedures for Context Store Snap-In Services

Upgrade SQL Server JDBC Driver used for External DataMart

Breeze 3.4 runs on Java 8 therefore the SQL Server driver used in for prior releases (which is for Java 7 environments) will not function correctly.

1. Upload the Java 8 SQL Server JDBC driver (**sqljdbc42.jar**) into the Breeze Element Manager from Home / Elements / Avaya Breeze™ / Configuration / JDBC Providers
2. Upgrade the JDBC driver used in Context Store cluster by following the Standard Upgrade Procedure below.

Standard Upgrade Procedure for Context Store services

NB: The standard upgrade procedure described below applies to all Context Store SVARs except ContextStoreScreenPop, ContextStoreRules, Streams and ContextStoreTasks for Engagement Designer (see section customized upgrade instructions on page 18)

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1. Verify that the current Context Store deployment is functioning correctly before the upgrade.
2. Upgrade to Avaya Breeze™ 3.4 before proceeding with this Context Store 3.4.0.0 upgrade.
3. On the System Manager Web console, click **Elements > Avaya Breeze™**
4. In the left navigation pane, click **Cluster Administration**.
5. Select cluster to be upgraded and set to **Deny New Service** state in the **Cluster State** list.
6. In the left navigation pane, click **Service Management**.
7. On the **Service Management** page, load the new versions of the Context Store snap-in services.
8. To upgrade to the latest release of the Context Store service (3.4.0.0), following either of the following procedures:
 - ✓ On the **Service Management** page, select and install the new version of Context Store
 - ✓ On the **Cluster Administration** page, select the check-box beside the cluster you wish to upgrade and click the **Edit** button. On the **Services** tab, select the snap-in versions to install from the **Available Services** list.

For more information about loading and installing snap-in service, see *Administering Avaya Breeze™*.
9. When the installation is complete, verify that the upgraded services are successfully installed. For verification steps, see **Verifying a successful deployment** in the *Avaya Context Store Snap-in Reference*.
10. In the left navigation pane, click **Cluster Administration**.
11. Select upgraded cluster and set to **Accept New Service** state in the **Cluster State** list.
12. Verify that the Context Store deployment is functioning correctly after the upgrade.
13. The previously installed versions can now be uninstalled and deleted. These procedures are documented in the *Avaya Context Store Snap-in Reference Guide 3.4*

Upgrade Procedure for ContextStoreScreenPop, ContextStoreRules and Streams services

1. Follow steps 1- 6 in the standard upgrade procedure on page 17.
2. On the **Service Management** page, uninstall the old service by selecting it and clicking uninstall.
3. After uninstallation is completed, delete the old service version from Avaya Breeze™ Element Manager.
4. Load the new version of the service SVAR.
5. Install the new version of the service on the Context Store cluster.
6. When the installation is complete:
 - *Streams*:
 - 1) navigate to **Elements > Avaya Breeze™ > Configuration > Service Ports** page
 - 2) select the Streams service

- 3) Verify that **TCP/HTTP** and **TCP/HTTPS** ports ranging from **9292** to **9301** and **8443** to **8452** appears respectively which is an indication that System has reserved these ports for the Service.
7. In the left navigation pane, click **Cluster Administration**.
8. Select upgraded cluster and set to **Accept New Service** state in the **Cluster State** list.

Upgrade procedure for Context Store PDC

1. Verify that the currently installed Context Store Snap-In Service versions are functioning correctly before starting the upgrade.
2. Start the Orchestration Designer Eclipse application.
3. Select **Window > Open Perspective > Speech**.
4. Select the project for which you have enabled Context Store PDC connector.
5. From the **Project** menu, select **Properties**.
6. On the left pane of the properties window, click **Orchestration Designer**.
7. On the **Orchestration Designer** pane, click the **Pluggable Connectors** tab.
8. From the **Available Connectors** list, clear the **Context Store Connector** check box.
9. Click **OK**.
10. Repeat step 2 through 8 for all the projects for which you have enabled Context Store PDC connector.
11. Close the Orchestration Designer Eclipse application.
12. Open the `<Eclipse_Home>/plugins` folder and delete the existing `ingensg-cs-pdc-plugin-x.xx.jar` file.
13. Start the Orchestration Designer Eclipse application.
14. Copy the new `cs-pdc-plugin-8.0.6.jar` file into the `<Eclipse_Home>/plugins` folder.
15. Re-start the Orchestration Designer Eclipse application.
16. Configure the projects to use the upgraded Context Store PDC plug-in.

For information on how to configure a project to use Context Store PDC for Avaya Experience Portal, see **Configuring the sample application to use Context Store PDC plug-in** in the *Avaya Context Store Snap-in Reference*.

Optional: Update pre-3.3.0.0 release AAEP callflows which use the CS PDC

Existing Orchestration Designer/Avaya Aura Experience Portal workflows must be updated after upgrading to the latest Context Store PDC. A new parameter (`rulesEnabled`) was added to the Context Store PDC in 3.3.0.0 to support ContextStoreRules service functionality.

1. Verify workflow execute successfully using the Application Simulator in the Orchestration Designer environment which uses an older version of the CS PDC
2. Upgrade the PDC as instructed above (procedure also documented in the CS Developer Guide)
3. Make sure that `WEB-INF/lib` contains the updated version PDC jar only. If the old version also exists then:

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- remove it from *WEB-INF/lib* folder;
 - go to *Properties -> Java Build Path (Libraries)* and remove old PDC jar from list.
4. Restart Orchestration Designer.

Optional: Update pre-3.2.0.0 release AAEP callflows which use the CS PDC

Context Store PDC packaging and naming was updated in the CS 3.2 release; applications built against a 3.1.X or 3.0.x version of this plugin must be cleaned and rebuilt. If rebuilding does not resolve the reported error, main .flow file must be updated manually as instructed below

1. Upgrade the PDC as instructed in Context Store Developer Guide
2. Error will be reported when new Context Store connector is enabled
(*"Call flow item is not valid. Either the type no longer exists, or the plug-ins that define the item type are not installed. Type: com.avaya.ingensg.cs.pdc.connector"*)
3. The word "*ingensg*" in the Context Store connector package name is no longer valid and therefore all references to this name must be removed by cleaning and rebuilding the project.
NB: If cleaning and rebuilding the project does not correct the error, all references to the old package name must be updated manually.
Right-click on the main **.flow** class in the project (usually called *main.flow*), click on **Open with** and select **Text Editor** and delete "*ingensg*" from all package references, correct package name should now be "*com.avaya.cs.pdc.connector*"
4. Restart the Orchestration Designer Eclipse application; the error will be removed.

Upgrade procedure for Context Store Tasks for Engagement Designer

Before you begin

NB: The Engagement Designer environment must be upgraded to the version 3.2 release before proceeding with the upgrade of Task bundles.

Follow the corresponding procedure below depending on whether the existing ContextStoreTasks version is:

- 1) installed using the Avaya Breeze™ Element Manager
- 2) installed using the Engagement Designer Admin console

The Engagement Design Admin console can be accessed at the following URL:

`https://<ED-IP-ADDRESS>/services/EngagementDesigner/admin.html`

Refer to *Getting Started with Avaya Engagement Designer* for usage information for the Engagement Designer Admin console.

Procedure for upgrading ContextStoreTasks installed via Avaya Breeze™ Element Manager

1. On the System Manager Web console, click **Elements > Avaya Breeze™**.
2. In the left navigation pane, click **Cluster Administration**.

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3. Select cluster to be upgraded and set to **Deny New Service** state in the **Cluster State** list.
4. In the left navigation pane, click **Service Management**.
5. On the **Service Management** page, uninstall the old ContextStoreTasks service by selecting it and clicking **uninstall**.
6. After uninstallation is completed, delete the old ContextStoreTasks service version from Avaya Breeze™ Element Manager.
7. Open the **Engagement Designer Admin** console. Click on the **Bundles** tab.
8. To upload the new ContextStoreTasks SVAR, click on **Upload Bundle**
9. Click **Choose File** and navigate to the location of your saved ContextStoreTasks SVAR
10. Select the ContextStoreTasks SVAR and click **Upload**
11. When the ContextStoreTasks SVAR has been uploaded, click on it and select **Deploy Bundle**

Procedure for upgrading ContextStoreTasks installed via the ED Admin console

1. Open the **Engagement Designer Admin** console.
2. Click on the **Bundles** tab.
3. Select the version of ContextStoreTasks that you wish to uninstall
4. Click on **Undeploy Bundle**
5. To upload the new ContextStoreTasks SVAR, click on **Upload Bundle**
6. Click **Choose File** and navigate to the location of your saved ContextStoreTasks SVAR
7. Select the SVAR and click **Upload**
8. When the SVAR has been uploaded, click on it and select **Deploy Bundle**
9. After the ContextStoreTasks bundle has been deployed successfully, select the old version of ContextStoreTasks and click on **Delete Bundle**

Chapter 4: Known issues, fixes and workarounds

Refer to the Avaya Breeze™ release 3.3.1 documentation for known platform issues and workarounds.

Context Store: Known issues

Issue 1: *ContextStoreNotify* snap-in service is limited to one subscriber and certified to max throughput of 620 requests per second

Problem

There has been no change in the *ContextStoreNotify* itself, but the Breeze platform and Context Store base (*ContextStoreManager*) has been modified in numerous releases to support the Oceana solution, so there is no longer enough CPU capacity available to support more than one notification subscriber. Each subscription requires a significant amount of CPU resources to process.

Workaround

Avoid combining use of the *ContextStoreNotify* service, with use of features which have high CPU utilization (e.g. *aliasIds*, *audit trail*, *upsert*, *ContextStoreRules*, *Streams*).

Reference

CSSNAPIN-4792

Keywords

Notification, CPU, limitation

Issue 2: *Streams* snap-in service cannot be deployed on secured grid

Problem

When the 'secure grid' feature is enabled on a Context Store cluster, the *Streams* service will not deploy correctly. The *cometD* component which is required for sending Event Stream notifications does not get deployed therefore the service cannot function.

Workaround

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The Streams service can only be used in a non-secure cluster

Reference

CSSNAPIN-1970

Keywords

Deployment, Streams, Event Streams, Secure Grid

Issue 3: The default value of 'Grid Heap Size for LU' is the Context Store cluster profile is incorrect and must be manually updated

Problem

The default value for attribute `Grid Heap Size for LU` set by the **Context Store** cluster profile is incorrect.

Workaround

When creating a cluster with the `Context Store` cluster profile, or correcting an existing cluster's configuration, update this cluster profile attribute value.

1. On the System Manager web console, click **Elements** > **Avaya Breeze™** > **Cluster Administration**
2. On the **Cluster Administration** page, click **New**, or select an existing cluster and click **Edit**
3. In the **Cluster Attributes** section on **General** tab, change the value of `Grid Heap Size for LU` attribute from `-Xms64m -Xmx256m` to `-Xms64m -Xmx384m`

Reference

ZEPHYR-58977

Keywords

Deployment, Cluster, Cluster Attributes, Heap Size, Sizing

Issue 4: Context Store Data-Grid not sized correctly by Configuration service for Oceana Solution for 2000-agent deployment

Problem

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The `memoryCapacityPerContainer` size set by the **OceanaConfiguration** snap-in service is incorrect and must be corrected after Oceana has been installed and configured.

Workaround

Change the `ContextStoreSpace DataGrid Settings` attribute value from **2560m**, 20480m, 1 to **2048m**, 20480m, 1.

If the data-grid has already been deployed, a cluster reboot is necessary for the change in container size to take effect.

Reference

AOEC-3841

Keywords

Deployment, Data-Grid, ContextStoreManager, Attributes, Size, Sizing

Issue 5: Erroneous extra log file written `/var/log/Avaya/dcm/pu/ContextStoreManager`

Problem

This directory contains an extra PU log file being produced that just has this `setClusterInfo` log line from UCAM repeated over and over.

E.g. 2017-12-08 13:26:49,588 [80601] [14] [tion-pool-1-thread-6]
INFO com.avaya.ucam.common.info.PUInfo | [RROR[cs]-edm][M:setClusterInfo][T:].

Workaround

n/a – this issue has no impact on the product, extra file can be ignored. In the ‘correct’ PU log there is also a `setClusterInfo` log and it contains much more information.

Reference

UCAM-493

Keywords

Log, EDM, dcm, pu, ContextStoreManager

Issue 6: Context Store Data-Grid not sized correctly by Configuration service for Oceana Solution for small deployments

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Problem

The management data-grid size set by the **OceanaConfiguration** snap-in service for “lab” and “small” deployments is too small to host all the required management data in a shared Oceana cluster. Therefore must be manually overridden using the *ContextStoreManager* service attribute - `ContextStore ManagerSpace DataGrid Settings`

Workaround

When deploying a “lab” or “small” sized deployment, change the `ContextStore ManagerSpace DataGrid Settings` attribute value from **64m, 128m, 1** to **128m, 256m, 1**.

If the data-grid has already been deployed, a cluster reboot is necessary for the change in container size to take effect.

Reference

AOEC-3981

Keywords

Deployment, Data-Grid, ContextStoreManager, Attributes, Size, Sizing, Management

Issue 7: ‘EDM: Mirror Service container size’ cannot be modified dynamically like other EDM-related attributes

Problem

Dem ‘EDM: Enable Persistence to database’ is toggled off and on, the EDM Processing Unit (PU) should be undeployed from the data-grid and then redeployed with latest configuration values set in EDM-related attributes. This dynamic re-configuration is works for all EDM-related attributes except ‘EDM: Mirror Service container size’

Workaround

If the EDM PU has already been deployed, a cluster reboot is necessary for the change in container size to take effect.

Reference

CSSNAPIN-4795

Keywords

ContextStoreManager, EDM, size, dynamic, configuration

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Context Store: Fixed issues

Issue 1: Service alarms are not reported in System Manager Events page

Problem

This problem affected all alarms with CS 3.4.0.0 / Oceana 3.4.0.0.

Alarms are written to the `event.log` file in `/var/log/Avaya/services/` directory but are not picked up for display in SMGR UI.

This is caused by incorrect library usage in the Oceana common logger (this component is using `com.avaya.common.logging.client.Logger` instead of `com.avaya.collaboration.util.logger.Logger`)

Fix Notes

Context Store now uses the new logging/alarming API of Avaya Breeze™ 3.4 release

Reference

UCAM-477

Keywords

Alarms, events, serviceability, ContextStoreManager_CS_EVT

Issue 2: CS EDM alarm is not raised when required

Problem

When a Context fails to persist to the EDM, an alarm should be raised. In the 3.3 release however, the alarm (`CSManager_CS_EVT_4: Failed to persist item to external data mart`) is not being created or written to the `event.log` file in `/var/log/Avaya/services/` directory.

Fix Notes

The alarm is now raised when appropriate with Context Store 3.4.0.0 release

Reference

CSSNAPIN-2353

Keywords

Alarms, events, EDM, ContextStoreManager_CS_EVT4

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Chapter 5: Certified Deployments

This chapter contains a list of all Context Store deployments which have been tested and certified.

Detailed configuration information for each of these thirteen certified deployment options is provided in the [Error! Not a valid bookmark self-reference.](#) of this document. For additional, uncertified deployment configurations, use the CS Capacity Planner (available from DevConnect) to estimate the most suitable configuration.

About these certified deployments

- Deployments 1 - 3 are small labs intended for trial purposes and product demos only.
- Deployments 4 – 13 are suitable for production environments.

Configuration Details – Supported Features

| Id | Deployment Name | Avaya Breeze™ Nodes | Memory | CPU Cores | Disk Size | HA | GEO | EDM | Event Streams | Notifications |
|----|-----------------|---------------------|--------|-----------|-----------|----|-----|-----|---------------|---------------|
| 1 | Lab: Core | 1 | 8 | 4 | S | N | N | N | N | N |
| 2 | Lab: HA | 2 | 8 | 4 | S | Y | N | N | N | Y |
| 3 | Lab: Feature | 1 | 10 | 6 | S | N | N | Y | N | Y |
| 4 | Prod: 16x2 | 2 | 16 | 8 | M | Y | Y | Y | N | Y |
| 5 | Prod: 16x3 | 3 | 16 | 8 | M | Y | Y | Y | N | Y |
| 6 | Prod: 32x3 | 3 | 32 | 8 | M | Y | Y | Y | N | Y |
| 7 | Prod: 32x4 | 4 | 32 | 8 | M | Y | Y | Y | N | Y |
| 8 | Prod: 32x5 | 5 | 32 | 8 | M | Y | Y | Y | N | Y |
| 9 | Prod: 64x3 | 3 | 64 | 8 | L | Y | Y | Y | Y | Y |
| 10 | Prod: 64x5 | 5 | 64 | 8 | L | Y | N | Y | Y | Y |
| 11 | Prod: 128x1 | 1 | 128 | 8 | L | N | N | Y | N | Y |
| 12 | Prod :128x2 | 2 | 128 | 8 | L | Y | Y | Y | N | Y |
| 13 | Prod: 128x3 | 3 | 128 | 8 | L | Y | Y | Y | N | Y |

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NOTE:

All of the thirteen certified deployment configurations listed support the **ContextStoreRest** interface (which includes the audit, upsert and alias features), **ContextStoreScreenPop**, **ContextStoreNotify**, the **Context Store SDK**, **ContextStoreRules**, the **Context Store PDC** and the **Context Store Engagement Designer Tasks**.

- **NB:** The *Event Streams* feature (Streams SVAR) is not included in these certified configurations.

If enabling this feature, the 6GB of memory required for deployment of this feature must be taken from the *ContextStoreSpace* size given for certified deployment configurations.

Traffic Rates, Configuration Settings and Limitations

| Id | Requests / Sec | Lease | Number of Notifications Clients | Max Number of Audit Trail Entries | Number of AliasIds per Context |
|----|----------------|-------|---------------------------------|-----------------------------------|--------------------------------|
| 1 | 5 | 7200 | 0 | 10 | 1 |
| 2 | 10 | 7200 | 1 | 10 | 1 |
| 3 | 5 | 7200 | 1 | 10 | 1 |
| 4 | 50 | 7200 | 2 | 10 | 2 |
| 5 | 100 | 7200 | 2 | 10 | 2 |
| 6 | 120 | 3600 | 3 | 10 | 3 |
| 7 | 700 | 7200 | 1 | 10 | 2 |
| 8 | 1000 | 7200 | 1 | 10 | 2 |
| 9 | 1240 | 7200 | 1 | 10 | 3 |
| 10 | 1240 | 10800 | 1 | 10 | 3 |
| 11 | 400 | 9000 | 1 | 10 | 3 |
| 12 | 420 | 10800 | 1 | 10 | 3 |
| 13 | 1240 | 14400 | 1 | 10 | 3 |

The configuration information (snap-in service attributes) which applies to these certified Context Store deployments is provided in the [Error! Not a valid bookmark self-reference.](#) of this document.

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Performance Impact when Enabling Multiple Optional Features

If multiple optional features which have high cpu-usage are enabled on the Context Store cluster, supported throughput rate is decreased. This is necessary to preserve service by preventing *CPU Overload* state from being triggered on the Avaya Breeze™ nodes in the Context Store cluster.

If CPU usage on an Avaya Breeze™ server remains above 80% for more than one minute, *CPU Overload* protection will be triggered on Avaya Breeze™ and all requests to that server will be blocked. This situation puts additional load on the CPUs of remaining nodes in the cluster therefore it is likely that *CPU Overload* state will eventually be triggered on these nodes also.

For example, If both **EDM** and **ContextStoreNotify** features are enabled, the supportable throughput rate for environments which support over 1000 RPS for basic operation, is reduced by 50%

For additional performance-related information, see the **Performance and Scalability Considerations** chapter in the *Context Store Developer Guide*; in particular the **Enabling Optional Features** sub-section

ContextStoreSoap Capacity Limitation

The **ContextStoreSoap** interface is certified for up to 300 requests per second only in CS 3.4.0.0. This throughput level has been certified with the following combination of features.

- AliasId feature used, three aliasIds associated with each Context
- EDM persistence enabled, all Contexts persisted to External DataMart
- ContextStoreNotify enabled, two notifications subscribers receiving unfiltered notifications
- CS Audit: Event Limit = 5 entries per Context

ContextStoreNotify Capacity Limitation

ContextStoreNotify snap-in service is limited to one subscriber and certified to max throughput of 620 requests per second in this release. Each notification subscription requires a significant amount of CPU resources to process, and there is no longer enough spare CPU capacity available on a cluster to support more than one subscription at high throughput (> 620 requests per second). Enabling multiple subscribers at high throughput is likely to cause *CPU Overload* state which will negatively impact all users of Context Store.

For optimum performance, avoid combining use of the *ContextStoreNotify* service, with use of other features which have high CPU utilization (e.g. aliasIds, audit trail, upsert, *ContextStoreRules*, *Streams*) at high traffic rates.

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Appendix

Data-grid Configuration Settings – ContextStoreManager Attributes

NB: If enabling *Event Streams* feature (Streams SVAR), the 6GB of memory required for deployment of this feature must be taken from the *ContextStoreSpace* size given for certified deployment configurations.

This feature is only supported on Context Store clusters equal to, or greater than, 3 servers with 64GB of RAM each, i.e. lab Id 9 or higher.

Deployment Scenario – Id 1 Lab: Core

→ Single Avaya Breeze™ server with 8GB of RAM and 4 cores

| Requirement | Specification |
|---|---|
| ContextStore ManagerSpace DataGrid Settings | 64m,128m,1 |
| ContextStoreSpace DataGrid Settings | 256m,1024m,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 6 |
| CS Threshold: Instance Low Requests per Second | 5 |
| CS Threshold: Service High Requests per Second | 6 |
| CS Threshold: Service Low Requests per Second | 5 |
| EDM: Mirror Service container size | <i>EDM is not supported on nodes with just 8GB of RAM</i> |
| GEO: Gateway Service container size | <i>GEO is not supported on single-node deployments or on nodes with just 8GB of RAM</i> |

Deployment Scenario – Id 2 Lab: HA

→ Cluster of two Avaya Breeze™ servers with 8GB of RAM and 4 cores each

| Requirement | Specification |
|---|---|
| ContextStore ManagerSpace DataGrid Settings | 64m,128m,1 |
| ContextStoreSpace DataGrid Settings | 256m,1536m,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 11 |
| CS Threshold: Instance Low Requests per Second | 10 |
| CS Threshold: Service High Requests per Second | 11 |
| CS Threshold: Service Low Requests per Second | 10 |
| EDM: Mirror Service container size | <i>EDM is not supported on nodes with just 8GB of RAM</i> |
| GEO: Gateway Service container size | <i>GEO is not supported on nodes with just 8GB of RAM</i> |

Deployment Scenario – Id 3 Lab: Feature

→ Single Avaya Breeze™ server with 10GB of RAM with 6 cores

| Requirement | Specification |
|---|--|
| ContextStore ManagerSpace DataGrid Settings | 64m,128m,1 |
| ContextStoreSpace DataGrid Settings | 256m,1024m,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 6 |
| CS Threshold: Instance Low Requests per Second | 5 |
| CS Threshold: Service High Requests per Second | 6 |
| CS Threshold: Service Low Requests per Second | 5 |
| EDM: Mirror Service container size | 128m |
| EDM: Mirror Service redo log size | 10000 |
| GEO: Gateway Service container size | <i>GEO is not supported on single-node deployments</i> |

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Deployment Scenario – Id 4 Prod: 16x2

→ Cluster of two Avaya Breeze™ servers with 16GB of RAM and 8 cores each

| Requirement | Specification |
|---|---------------|
| ContextStore ManagerSpace DataGrid Settings | 256m,512m,1 |
| ContextStoreSpace DataGrid Settings | 512m,5120m,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 50 |
| CS Threshold: Instance Low Requests per Second | 40 |
| CS Threshold: Service High Requests per Second | 50 |
| CS Threshold: Service Low Requests per Second | 40 |
| EDM: Mirror Service container size | 1 |
| EDM: Mirror Service redo log size | 30000 |
| GEO: Gateway Service container size | 1 |

Deployment Scenario – Id 5 Prod: 16x3

→ Cluster of three Avaya Breeze™ servers with 16GB of RAM and 8 cores each

| Requirement | Specification |
|---|---------------|
| ContextStore ManagerSpace DataGrid Settings | 256m,512m,1 |
| ContextStoreSpace DataGrid Settings | 512m,9216m,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 60 |
| CS Threshold: Instance Low Requests per Second | 50 |
| CS Threshold: Service High Requests per Second | 100 |
| CS Threshold: Service Low Requests per Second | 80 |
| EDM: Mirror Service container size | 1 |
| EDM: Mirror Service redo log size | 60000 |
| GEO: Gateway Service container size | 1 |

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Deployment Scenario – Id 6 Prod: 32x3

→ Cluster of three Avaya Breeze™ servers with 32GB of RAM and 8 cores each

| Requirement | Specification |
|---|---------------|
| ContextStore ManagerSpace DataGrid Settings | 1,2,1 |
| ContextStoreSpace DataGrid Settings | 4,16,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 3600 |
| CS Threshold: Instance High Requests per Second | 60 |
| CS Threshold: Instance Low Requests per Second | 50 |
| CS Threshold: Service High Requests per Second | 120 |
| CS Threshold: Service Low Requests per Second | 100 |
| EDM: Mirror Service container size | 2 |
| EDM: Mirror Service redo log size | 10000 |
| GEO: Gateway Service container size | 2 |

Deployment Scenario – Id 7 Prod: 32x4

→ Cluster of four Avaya Breeze™ servers with 32GB of RAM and 8 cores each

| Requirement | Specification |
|---|---|
| ContextStore ManagerSpace DataGrid Settings | 1,2,1 |
| ContextStoreSpace DataGrid Settings | 2,32,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 650 |
| CS Threshold: Instance Low Requests per Second | 550 |
| CS Threshold: Service High Requests per Second | 1240 |
| CS Threshold: Service Low Requests per Second | 1000 |
| EDM: Mirror Service container size | <i>Certified configuration does not include EDM feature</i> |
| EDM: Mirror Service redo log size | <i>Certified configuration does not include EDM feature</i> |
| GEO: Gateway Service container size | <i>Certified configuration does not include GEO feature</i> |

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Deployment Scenario – Id 8 Prod: 32x5

→ Cluster of five Avaya Breeze™ servers with 32GB of RAM and 8 cores each

| Requirement | Specification |
|---|---|
| ContextStore ManagerSpace DataGrid Settings | 512m,1024m,1 |
| ContextStoreSpace DataGrid Settings | 4,40,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 650 |
| CS Threshold: Instance Low Requests per Second | 550 |
| CS Threshold: Service High Requests per Second | 1240 |
| CS Threshold: Service Low Requests per Second | 1000 |
| EDM: Mirror Service container size | 2 |
| EDM: Mirror Service redo log size | 30000 |
| GEO: Gateway Service container size | <i>Certified configuration does not include GEO feature</i> |

Deployment Scenario – Id 9 Prod: 64x3

→ Cluster of three Avaya Breeze™ servers with 64GB of RAM and 8 cores each

| Requirement | Specification |
|---|---------------|
| ContextStore ManagerSpace DataGrid Settings | 1,2,1 |
| ContextStoreSpace DataGrid Settings | 8,112,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 650 |
| CS Threshold: Instance Low Requests per Second | 550 |
| CS Threshold: Service High Requests per Second | 1240 |
| CS Threshold: Service Low Requests per Second | 1000 |
| EDM: Mirror Service container size | 4 |
| EDM: Mirror Service redo log size | 250000 |
| GEO: Gateway Service container size | 4 |

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Deployment Scenario – Id 10 Prod: 64x5

→ Cluster of five Avaya Breeze™ servers with 64GB of RAM and 8 cores each

| Requirement | Specification |
|---|---------------|
| ContextStore ManagerSpace DataGrid Settings | 1,2,1 |
| ContextStoreSpace DataGrid Settings | 8,160,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 10800 |
| CS Threshold: Instance High Requests per Second | 650 |
| CS Threshold: Instance Low Requests per Second | 550 |
| CS Threshold: Service High Requests per Second | 1240 |
| CS Threshold: Service Low Requests per Second | 1000 |
| EDM: Mirror Service container size | 4 |
| EDM: Mirror Service redo log size | 250000 |
| GEO: Gateway Service container size | 4 |

Deployment Scenario – Id 11 Prod: 128x1

→ Single Avaya Breeze™ server with 128GB of RAM and 8 cores

| Requirement | Specification |
|---|--|
| ContextStore ManagerSpace DataGrid Settings | 1,2,1 |
| ContextStoreSpace DataGrid Settings | 8,80,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 9000 |
| CS Threshold: Instance High Requests per Second | 401 |
| CS Threshold: Instance Low Requests per Second | 400 |
| CS Threshold: Service High Requests per Second | 401 |
| CS Threshold: Service Low Requests per Second | 400 |
| EDM: Mirror Service container size | 4 |
| EDM: Mirror Service redo log size | 30000 |
| GEO: Gateway Service container size | <i>GEO is not supported on single-node deployments</i> |

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Deployment Scenario – Id 12 Prod: 128x2

→ Cluster of two Avaya Breeze™ servers with 128GB of RAM and 8 cores each

| Requirement | Specification |
|---|---------------|
| ContextStore ManagerSpace DataGrid Settings | 1,2,1 |
| ContextStoreSpace DataGrid Settings | 8,80,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 10800 |
| CS Threshold: Instance High Requests per Second | 420 |
| CS Threshold: Instance Low Requests per Second | 340 |
| CS Threshold: Service High Requests per Second | 420 |
| CS Threshold: Service Low Requests per Second | 340 |
| EDM: Mirror Service container size | 4 |
| EDM: Mirror Service redo log size | 30000 |
| GEO: Gateway Service container size | 4 |

Deployment Scenario – Id 13 Prod: 128x3

→ Cluster of three Avaya Breeze™ servers with 128GB of RAM and 8 cores each

| Requirement | Specification |
|---|---|
| ContextStore ManagerSpace DataGrid Settings | 1,2,1 |
| ContextStoreSpace DataGrid Settings | 8,120,1 |
| CS Audit: Event limit | 10 |
| CS Default Lease Time | 14400 |
| CS Threshold: Instance High Requests per Second | 650 |
| CS Threshold: Instance Low Requests per Second | 550 |
| CS Threshold: Service High Requests per Second | 1240 |
| CS Threshold: Service Low Requests per Second | 1000 |
| EDM: Mirror Service container size | 4 |
| EDM: Mirror Service redo log size | 45000 |
| GEO: Gateway Service container size | <i>Certified configuration does not include GEO feature due to lack of hardware for test (128GB x 6 nodes). This does not preclude customers from running a GEO setup with clusters of this size.</i> |

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Context Store Deployment in Oceana Solution

Oceana 100-Agent Deployment

| Requirement | Specification |
|---|---------------|
| ContextStore ManagerSpace DataGrid Settings | 128m,256m,1 |
| ContextStoreSpace DataGrid Settings | 256m,1536m,1 |
| CS Audit: Event limit | 50 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 11 |
| CS Threshold: Instance Low Requests per Second | 10 |
| CS Threshold: Service High Requests per Second | 11 |
| CS Threshold: Service Low Requests per Second | 10 |
| EDM: Mirror Service container size | 128m |
| EDM: Mirror Service redo log size | 10000 |

Oceana 1000-Agent Deployment

| Requirement | Specification |
|---|---------------|
| ContextStore ManagerSpace DataGrid Settings | 128m,256m,1 |
| ContextStoreSpace DataGrid Settings | 512m,10240m,1 |
| CS Audit: Event limit | 50 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 65 |
| CS Threshold: Instance Low Requests per Second | 55 |
| CS Threshold: Service High Requests per Second | 105 |
| CS Threshold: Service Low Requests per Second | 85 |
| EDM: Mirror Service container size | 1 |
| EDM: Mirror Service redo log size | 60000 |

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Oceana 2000-Agent Deployment

NB: As per Issue 4: Context Store Data-Grid not sized correctly by Configuration service for Oceana Solution for 2000-agent deployment, the `memoryCapacityPerContainer` set by the OceanaConfiguration snap-in service is incorrect and must be corrected after Oceana has been installed and configured.

Change the `ContextStoreSpace DataGrid Settings` attribute value from **2560m**, 20480m, 1 to **2048m**, 20480m, 1. If the data-grid has already been deployed, a cluster reboot is necessary for the change in container size to take effect.

| Requirement | Specification |
|---|----------------|
| ContextStore ManagerSpace DataGrid Settings | 128m,256m,1 |
| ContextStoreSpace DataGrid Settings | 2048m,20480m,1 |
| CS Audit: Event limit | 50 |
| CS Default Lease Time | 7200 |
| CS Threshold: Instance High Requests per Second | 130 |
| CS Threshold: Instance Low Requests per Second | 110 |
| CS Threshold: Service High Requests per Second | 210 |
| CS Threshold: Service Low Requests per Second | 170 |
| EDM: Mirror Service container size | 2 |
| EDM: Mirror Service redo log size | 250000 |

Migrating External DataMart Data

Changes in the schema of the External DataMart require migration of the existing schema.

If migration steps are not executed, the old data with differing structure will cause errors when Customer Journey data is being queried.

These migration scripts are also available from www.devconnectprogram.com on the Context Store product page for release 3.4.

Variations of migration scripts are available for each database type supported by Context Store (PostgreSQL, SQL Server, Oracle), to facilitate older as well as more modern product versions.

***** WARNING *** DO NOT INTERRUPT COMMANDS as doing so will result in data corruption**

Expected Operation Ranges Per SQL Migration Command:

| Database | Estimated Migration Time Per 1,000 Records (this will increase for larger context data) |
|----------------------|--|
| PostgreSQL | 209 Milliseconds / 1,000 records |
| Microsoft SQL Server | 596 Milliseconds / 1,000 records |
| Oracle | 1394 Milliseconds / 1,000 records |

Verify Indexes:

Ensure that the indexes below are in place before running the scripts. The indexes do not exist then refer to the *Avaya Context Store Snap-in Reference Guide* for details on how to create them.

| Index Name | Table | Field |
|-----------------------------|--------------|------------|
| CS_OPERATION_TOUCHPOINT_IDX | CS_OPERATION | TOUCHPOINT |
| CS_OPERATION_TIMESTAMP_IDX | CS_OPERATION | TIMESTAMP |

SQL Migration Commands:

| Database | SQL Commands |
|------------|---|
| PostgreSQL | 1 DO LANGUAGE plpgsql \$\$ DECLARE max_id INTEGER = 0; BEGIN WHILE max_id > -1 LOOP |

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| | |
|--------------------------|---|
| | <pre> WITH insertrows AS (WITH cte AS (SELECT persist_context_uid, touchpoint FROM CS_OPERATION WHERE touchpoint IS NULL LIMIT 10000) UPDATE CS_OPERATION d SET touchpoint = LEFT(RIGHT(META_JSON, (position('}' in META_JSON) - (position('lastTouchpoint' in META_JSON)+16))), (position('*' in REPLACE (REPLACE (RIGHT(META_JSON,(position('}' in META_JSON) - (position('lastTouchpoint' in META_JSON)+16))) ',' , '*') ,'}' , '*')) -2)) FROM cte WHERE d.persist_context_uid = cte.persist_context_uid RETURNING d.persist_context_uid) SELECT max(persist_context_uid) INTO max_id from insertrows; RAISE NOTICE '%', max_id; END LOOP; END\$\$ </pre> |
| <p>PostgreSQL</p> | <p>2</p> <pre> DO LANGUAGE plpgsql \$\$ DECLARE max_id INTEGER = 0; BEGIN WHILE max_id > -1 LOOP WITH insertrows AS (WITH cte AS (SELECT persist_context_uid, timestamp FROM CS_OPERATION WHERE timestamp IS NULL LIMIT 10000) UPDATE CS_OPERATION d SET timestamp = LEFT(RIGHT(META_JSON, (position('}' in META_JSON) - (position('timestamp' in META_JSON)+10))), (position('*' in REPLACE (REPLACE (RIGHT(META_JSON,(position('}' in META_JSON) - (position('timestamp' in META_JSON)+10))) ',' , '*') ,'}' , '*')) -1)) FROM cte WHERE d.persist_context_uid = cte.persist_context_uid RETURNING d.persist_context_uid) SELECT max(persist_context_uid) INTO max_id from insertrows; RAISE NOTICE '%', max_id; </pre> |

| | | |
|----------------------|----------|---|
| | | <pre> END LOOP; END\$\$ </pre> |
| Oracle | 1 | <pre> BEGIN LOOP UPDATE CS_OPERATION SET TOUCHPOINT = SUBSTR(SUBSTR(META_JSON,INSTR(META_JSON,'lastTouchpoint')+17), 0, (INSTR(REPLACE (REPLACE (SUBSTR(META_JSON,INSTR(META_JSON,'lastTouchpoint')+17) , ' ' , '*') , '}' , '*') , '*') -2)) WHERE TOUCHPOINT IS NULL AND rownum <= 10000; exit when sql%notfound; COMMIT; END LOOP; commit; END; </pre> |
| Oracle | 2 | <pre> BEGIN LOOP UPDATE CS_OPERATION SET TIMESTAMP = SUBSTR(SUBSTR(META_JSON, INSTR(META_JSON,'timestamp')+11) ,1 , (INSTR(REPLACE (REPLACE (SUBSTR(META_JSON,INSTR(META_JSON,'timestamp')+11) , ' ' , '*') , '}' , '*') , '*') -1)) WHERE TIMESTAMP IS NULL AND rownum <= 10000; exit when sql%notfound; COMMIT; END LOOP; </pre> |
| MS SQL Server | 1 | <pre> DECLARE @Rowcount INT = 1 WHILE @Rowcount > 0 </pre> |

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| | |
|-----------------------------|---|
| | <pre> BEGIN UPDATE TOP (10000) CS_OPERATION SET TOUCHPOINT = LEFT(RIGHT(CAST(META_JSON as NVarchar(MAX)), (CharINDEX('}',META_JSON) - (CharINDEX('lastTouchpoint',META_JSON)+16))), (CharINDEX('*', REPLACE (REPLACE (RIGHT(CAST(META_JSON as NVarchar(MAX)), (CharINDEX('}',META_JSON) - (CharINDEX('lastTouchpoint',META_JSON)+16))) ',' , '*') ',' , '*')) -2)) where TOUCHPOINT IS NULL or TOUCHPOINT = '' SET @Rowcount = @@ROWCOUNT END; </pre> |
| <p>MS SQL Server</p> | <pre> 2 DECLARE @Rowcount INT = 1 WHILE @Rowcount > 0 BEGIN UPDATE TOP (10000) CS_OPERATION SET TIMESTAMP = LEFT(RIGHT(CAST(META_JSON as NVarchar(MAX)), (CharINDEX('}',META_JSON) - (CharINDEX('timestamp',META_JSON)+10))), (CharINDEX('*', REPLACE (REPLACE (RIGHT(CAST(META_JSON as NVarchar(MAX)), (CharINDEX('}',META_JSON) - (CharINDEX('timestamp',META_JSON)+10))) ',' , '*') ',' , '*')) -1)) where TIMESTAMP IS NULL or TIMESTAMP = '' SET @Rowcount = @@ROWCOUNT END; </pre> |