



Avaya Context Store Snap-in Release Notes

Release 3.6.0.0

Issue 2

April 2019

© 2014-2019, Avaya Inc.
All Rights Reserved.

Notice

While reasonable efforts have been made to ensure that the information in this document is complete and accurate at the time of printing, Avaya assumes no liability for any errors. Avaya reserves the right to make changes and corrections to the information in this document without the obligation to notify any person or organization of such changes.

Documentation disclaimer

“Documentation” means information published in varying mediums which may include product information, operating instructions and performance specifications that are generally made available to users of products. Documentation does not include marketing materials. Avaya shall not be responsible for any modifications, additions, or deletions to the original published version of Documentation unless such modifications, additions, or deletions were performed by or on the express behalf of Avaya. End User agrees to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation, to the extent made by End User.

Link disclaimer

Avaya is not responsible for the contents or reliability of any linked websites referenced within this site or Documentation provided by Avaya. Avaya is not responsible for the accuracy of any information, statement or content provided on these sites and does not necessarily endorse the products, services, or information described or offered within them. Avaya does not guarantee that these links will work all the time and has no control over the availability of the linked pages.

Warranty

Avaya provides a limited warranty on Avaya hardware and software. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language, as well as information regarding support for this product while under warranty is available to Avaya customers and other parties through the Avaya Support website: <https://support.avaya.com/helpcenter/getGenericDetails?detailId=C20091120112456651010> under the link “Warranty & Product Lifecycle” or such successor site as designated by Avaya. Please note that if You acquired the product(s) from an authorized Avaya Channel Partner outside of the United States and Canada, the warranty is provided to You by said Avaya Channel Partner and not by Avaya.

“Hosted Service” means an Avaya hosted service subscription that You acquire from either Avaya or an authorized Avaya Channel Partner (as applicable) and which is described further in Hosted SAS or other service description documentation regarding the applicable hosted service. If You purchase a Hosted Service subscription, the foregoing limited warranty may not apply but You may be entitled to support services in connection with the Hosted Service as described further in your service description documents for the applicable Hosted Service. Contact Avaya or Avaya Channel Partner (as applicable) for more information.

Hosted Service

THE FOLLOWING APPLIES ONLY IF YOU PURCHASE AN AVAYA HOSTED SERVICE SUBSCRIPTION FROM AVAYA OR AN AVAYA CHANNEL PARTNER (AS APPLICABLE), THE TERMS OF USE FOR HOSTED SERVICES ARE AVAILABLE

ON THE AVAYA WEBSITE, [HTTPS://SUPPORT.AVAYA.COM/LICENSEINFO](https://support.avaya.com/licenseinfo) UNDER THE LINK “Avaya Terms of Use for Hosted Services” OR SUCH SUCCESSOR SITE AS DESIGNATED BY AVAYA, AND ARE APPLICABLE TO ANYONE WHO ACCESSES OR USES THE HOSTED SERVICE. BY ACCESSING OR USING THE HOSTED SERVICE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE DOING SO (HEREINAFTER REFERRED TO INTERCHANGEABLY AS “YOU” AND “END USER”), AGREE TO THE TERMS OF USE. IF YOU ARE ACCEPTING THE TERMS OF USE ON BEHALF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE AUTHORITY TO BIND SUCH ENTITY TO THESE TERMS OF USE. IF YOU DO NOT HAVE SUCH AUTHORITY, OR IF YOU DO NOT WISH TO ACCEPT THESE TERMS OF USE, YOU MUST NOT ACCESS OR USE THE HOSTED SERVICE OR AUTHORIZE ANYONE TO ACCESS OR USE THE HOSTED SERVICE.

Licenses

THE SOFTWARE LICENSE TERMS AVAILABLE ON THE AVAYA WEBSITE, [HTTPS://SUPPORT.AVAYA.COM/LICENSEINFO](https://support.avaya.com/licenseinfo), UNDER THE LINK “AVAYA SOFTWARE LICENSE TERMS (Avaya Products)” OR SUCH SUCCESSOR SITE AS DESIGNATED BY AVAYA, ARE APPLICABLE TO ANYONE WHO DOWNLOADS, USES AND/OR INSTALLS AVAYA SOFTWARE, PURCHASED FROM AVAYA INC., ANY AVAYA AFFILIATE, OR AN AVAYA CHANNEL PARTNER (AS APPLICABLE) UNDER A COMMERCIAL AGREEMENT WITH AVAYA OR AN AVAYA CHANNEL PARTNER. UNLESS OTHERWISE AGREED TO BY AVAYA IN WRITING, AVAYA DOES NOT EXTEND THIS LICENSE IF THE SOFTWARE WAS OBTAINED FROM ANYONE OTHER THAN AVAYA, AN AVAYA AFFILIATE OR AN AVAYA CHANNEL PARTNER; AVAYA RESERVES THE RIGHT TO TAKE LEGAL ACTION AGAINST YOU AND ANYONE ELSE USING OR SELLING THE SOFTWARE WITHOUT A LICENSE. BY INSTALLING, DOWNLOADING OR USING THE SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE INSTALLING, DOWNLOADING OR USING THE SOFTWARE (HEREINAFTER REFERRED TO INTERCHANGEABLY AS “YOU” AND “END USER”), AGREE TO THESE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE (“AVAYA”).

Avaya grants You a license within the scope of the license types described below, with the exception of Heritage Nortel Software, for which the scope of the license is detailed below. Where the order documentation does not expressly identify a license type, the applicable license will be a Designated System License as set forth below in the Designated System(s) License (DS) section as applicable. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the documentation or other materials available to You. “Software” means computer programs in object code, provided by Avaya or an Avaya Channel Partner, whether as stand-alone products, pre-installed on hardware products, and any upgrades, updates, patches, bug fixes, or modified versions thereto. “Designated Processor” means a single stand-alone computing device. “Server” means a set of Designated Processors that hosts (physically or virtually) a software application to be accessed by multiple users. “Instance” means a single copy of the Software executing at a particular time: (i) on one physical

machine; or (ii) on one deployed software virtual machine (“VM”) or similar deployment.

License types

Designated System(s) License (DS). End User may install and use each copy or an Instance of the Software only: 1) on a number of Designated Processors up to the number indicated in the order; or 2) up to the number of Instances of the Software as indicated in the order, Documentation, or as authorized by Avaya in writing. Avaya may require the Designated Processor(s) to be identified in the order by type, serial number, feature key, Instance, location or other specific designation, or to be provided by End User to Avaya through electronic means established by Avaya specifically for this purpose.

Heritage Nortel Software

“Heritage Nortel Software” means the software that was acquired by Avaya as part of its purchase of the Nortel Enterprise Solutions Business in December 2009. The Heritage Nortel Software is the software contained within the list of Heritage Nortel Products located at <https://support.avaya.com/LicenseInfo> under the link “Heritage Nortel Products” or such successor site as designated by Avaya. For Heritage Nortel Software, Avaya grants Customer a license to use Heritage Nortel Software provided hereunder solely to the extent of the authorized activation or authorized usage level, solely for the purpose specified in the Documentation, and solely as embedded in, for execution on, or for communication with Avaya equipment. Charges for Heritage Nortel Software may be based on extent of activation or use authorized as specified in an order or invoice.

Copyright

Except where expressly stated otherwise, no use should be made of materials on this site, the Documentation, Software, Hosted Service, or hardware provided by Avaya. All content on this site, the documentation, Hosted Service, and the product provided by Avaya including the selection, arrangement and design of the content is owned either by Avaya or its licensors and is protected by copyright and other intellectual property laws including the sui generis rights relating to the protection of databases. You may not modify, copy, reproduce, republish, upload, post, transmit or distribute in any way any content, in whole or in part, including any code and software unless expressly authorized by Avaya. Unauthorized reproduction, transmission, dissemination, storage, and or use without the express written consent of Avaya can be a criminal, as well as a civil offense under the applicable law.

Virtualization

The following applies if the product is deployed on a virtual machine. Each product has its own ordering code and license types. Note, unless otherwise stated, that each Instance of a product must be separately licensed and ordered. For example, if the end user customer or Avaya Channel Partner would like to install two Instances of the same type of products, then two products of that type must be ordered.

Third Party Components

“Third Party Components” mean certain software programs or portions thereof included in the Software or Hosted Service may contain software (including open source software) distributed under third party agreements (“Third Party Components”), which contain terms regarding the rights to use certain portions of the Software (“Third Party Terms”). As required, information regarding distributed Linux OS source code (for those products that have distributed Linux OS source code) and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply is available in the products, Documentation or on Avaya’s website at: <https://>

support.avaya.com/Copyright or such successor site as designated by Avaya. The open source software license terms provided as Third Party Terms are consistent with the license rights granted in these Software License Terms, and may contain additional rights benefiting You, such as modification and distribution of the open source software. The Third Party Terms shall take precedence over these Software License Terms, solely with respect to the applicable Third Party Components to the extent that these Software License Terms impose greater restrictions on You than the applicable Third Party Terms.

The following applies only if the H.264 (AVC) codec is distributed with the product. THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD (“AVC VIDEO”) AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE [HTTP://WWW.MPEGLA.COM](http://www.mpegla.com).

Service Provider

THE FOLLOWING APPLIES TO AVAYA CHANNEL PARTNER’S HOSTING OF AVAYA PRODUCTS OR SERVICES. THE PRODUCT OR HOSTED SERVICE MAY USE THIRD PARTY COMPONENTS SUBJECT TO THIRD PARTY TERMS AND REQUIRE A SERVICE PROVIDER TO BE INDEPENDENTLY LICENSED DIRECTLY FROM THE THIRD PARTY SUPPLIER. AN AVAYA CHANNEL PARTNER’S HOSTING OF AVAYA PRODUCTS MUST BE AUTHORIZED IN WRITING BY AVAYA AND IF THOSE HOSTED PRODUCTS USE OR EMBED CERTAIN THIRD PARTY SOFTWARE, INCLUDING BUT NOT LIMITED TO MICROSOFT SOFTWARE OR CODECS, THE AVAYA CHANNEL PARTNER IS REQUIRED TO INDEPENDENTLY OBTAIN ANY APPLICABLE LICENSE AGREEMENTS, AT THE AVAYA CHANNEL PARTNER’S EXPENSE, DIRECTLY FROM THE APPLICABLE THIRD PARTY SUPPLIER. WITH RESPECT TO CODECS, IF THE AVAYA CHANNEL PARTNER IS HOSTING ANY PRODUCTS THAT USE OR EMBED THE G.729 CODEC, H.264 CODEC, OR H.265 CODEC, THE AVAYA CHANNEL PARTNER ACKNOWLEDGES AND AGREES THE AVAYA CHANNEL PARTNER IS RESPONSIBLE FOR ANY AND ALL RELATED FEES AND/OR ROYALTIES. THE G.729 CODEC IS LICENSED BY SIPRO LAB TELECOM INC. SEE [WWW.SIPRO.COM/CONTACT.HTML](http://www.sipro.com/contact.html). THE H.264 (AVC) CODEC IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO: (I) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD (“AVC VIDEO”) AND/OR (II) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION FOR H.264 (AVC) AND H.265 (HEVC) CODECS MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE [HTTP://WWW.MPEGLA.COM](http://www.mpegla.com).

Compliance with Laws

You acknowledge and agree that it is Your responsibility for

complying with any applicable laws and regulations, including, but not limited to laws and regulations related to call recording, data privacy, intellectual property, trade secret, fraud, and music performance rights, in the country or territory where the Avaya product is used.

Preventing Toll Fraud

“Toll Fraud” is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there can be a risk of Toll Fraud associated with your system and that, if Toll Fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Toll Fraud intervention

If You suspect that You are being victimized by Toll Fraud and You need technical assistance or support, call Technical Service Center Toll Fraud Intervention Hotline at +1-800-643-2353 for the United States and Canada. For additional support telephone numbers, see the Avaya Support website: <https://support.avaya.com> or such successor site as designated by Avaya.

Security Vulnerabilities

Information about Avaya's security support policies can be found in the Security Policies and Support section of <https://support.avaya.com/security>.

Suspected Avaya product security vulnerabilities are handled per the Avaya Product Security Support Flow (<https://support.avaya.com/css/P8/documents/100161515>).

Downloading Documentation

For the most current versions of Documentation, see the Avaya Support website: <https://support.avaya.com>, or such successor site as designated by Avaya.

Contact Avaya Support

See the Avaya Support website: <https://support.avaya.com> for product or Hosted Service notices and articles, or to report a problem with your Avaya product or Hosted Service. For a list of support telephone numbers and contact addresses, go to the Avaya Support website: <https://support.avaya.com> (or such successor site as designated by Avaya), scroll to the bottom of the page, and select Contact Avaya Support.

Trademarks

The trademarks, logos and service marks (“Marks”) displayed in this site, the Documentation, Hosted Service(s), and product(s) provided by Avaya are the registered or unregistered Marks of Avaya, its affiliates, its licensors, its suppliers, or other third parties. Users are not permitted to use such Marks without prior written consent from Avaya or such third party which may own the Mark. Nothing contained in this site, the Documentation, Hosted Service(s) and product(s) should be construed as granting, by implication, estoppel, or otherwise, any license or right in and to the Marks without the express written permission of Avaya or the applicable third party.

Avaya is a registered trademark of Avaya Inc. All non-Avaya trademarks are the property of their respective owners. Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

Contents

- Chapter 1: Introduction4**
 - Purpose4
 - Intended audience.....4
 - Related resources4
 - Documentation*4
 - Training*5
 - Avaya Mentor videos*.....5
 - Support.....5

- Chapter 2: Release Information6**
 - Changes in Avaya Context Store 3.6.0.06
 - (Modified) – Changes to ContextStoreRest service API*6
 - Avaya Breeze™ 3.6.0.0*7
 - Breeze root login*7
 - Re-configuration of certificates required after Avaya Breeze™ upgrade*7
 - Java 8 and SQL Server JDBC Driver (for EDM)*8
 - Supported TLS version*8

- Chapter 3: Context Store Software Installation and Upgrade9**
 - Context Store Software9
 - Additional Software required for ‘Customer Journey for Workspaces on Elite’ 10
 - Platform Interoperability 10
 - Avaya Breeze™* 10
 - Engagement Designer* 11
 - Upgrading the Context Store snap-in services 11
 - Upgrade Overview* 11
 - Upgrade procedures for Context Store Snap-In Services* 12
 - Upgrade procedure for Context Store PDC* 13
 - Upgrade procedure for Context Store Tasks for Engagement Designer*..... 14

- Chapter 4: Known issues, fixes and workarounds..... 16**
 - Context Store: Known issues 16
 - Issue 1: ContextStoreNotify snap-in service is limited to one subscriber and certified to max throughput of 620 requests per second* 16
 - Issue 2: High CPU Utilization for Lab 9 Deployment* 16
 - Issue 3: ContextStoreManager attribute 'GEO:Target Cluster Id' needs to be reconfigured if there is only one version of ContextStoreManager installed on SMGR which is then uninstalled and reinstalled* 17
 - Issue 4: The "Failed to persist item to external data mart." alarm may be delayed for up to 15 minutes after Context Store loses connection to the EDM on Oracle, SQL Server and PostgreSQL DBs*..... 17
 - Issue 5: ContextStoreQuery is incorrectly logging an error when retrieving Customer Journey data from Context Store EDM when Oceana has routed a 'Required Resource' contact for that Customer* 18
 - Context Store: Fixed issues 19

| | |
|--|-----------|
| <i>Issue 1: ContextStoreQuery - Excessive failed connections with wrong EDM user and password details</i> | 19 |
| <i>Issue 2: The Avaya Context Store Developer Guide for the 3.5 release is missing ContextStoreTasks Error Handling changes introduced in the 3.5 release.</i> | 19 |
| <i>Issue 3: Cannot connect to the EDM database due to existing open connections</i> | 20 |
| <i>Issue 4: After unchecking the 'Override Default' checkbox for service attributes in SMGR and attempting to commit the default values, the new default values are not saved.</i> | 20 |
| Chapter 5: Certified Deployments | 22 |
| Configuration Details – Supported Features | 22 |
| Traffic Rates, Configuration Settings and Limitations | 23 |
| <i>Hard Disk Sizing For Context Store Nodes</i> | 24 |
| <i>Performance Impact when Enabling Multiple Optional Features</i> | 24 |
| <i>ContextStoreSoap Capacity Limitation</i> | 24 |
| <i>ContextStoreNotify Capacity Limitation</i> | 25 |
| <i>Context Store External Data Mart Capacity Limitation</i> | 25 |
| Appendix | 26 |
| Data-grid Configuration Settings – ContextStoreManager Attributes | 26 |
| <i>Deployment Scenario – Id 1 Lab: Core</i> | 26 |
| <i>Deployment Scenario – Id 2 Lab: HA</i> | 27 |
| <i>Deployment Scenario – Id 3 Lab: Feature</i> | 27 |
| <i>Deployment Scenario – Id 4 Prod: 16x2</i> | 28 |
| <i>Deployment Scenario – Id 5 Prod: 16x3</i> | 28 |
| <i>Deployment Scenario – Id 6 Prod: 32x3</i> | 29 |
| <i>Deployment Scenario – Id 7 Prod: 32x4</i> | 29 |
| <i>Deployment Scenario – Id 8 Prod: 32x5</i> | 30 |
| <i>Deployment Scenario – Id 9 Prod: 64x3</i> | 30 |
| <i>Deployment Scenario – Id 10 Prod: 64x5</i> | 31 |
| <i>Deployment Scenario – Id 11 Prod: 128x1</i> | 31 |
| <i>Deployment Scenario – Id 12 Prod: 128x2</i> | 32 |
| <i>Deployment Scenario – Id 13 Prod: 128x3</i> | 32 |
| Context Store Deployment in Oceana Solution | 33 |
| <i>Oceana 100-Agent Deployment</i> | 33 |
| <i>Oceana 1000-Agent Deployment</i> | 33 |
| <i>Oceana 2000-Agent Deployment</i> | 34 |
| Migrating External DataMart Data from CS 3.3 (or older) | 35 |

Chapter 1: Introduction

Purpose

The Avaya Context Store Snap-in 3.6.0.0 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] | |

Training

The following courses are available on the Avaya Learning website at www.avaya-learning.com. After logging into the website, enter the course code or the course title in the Search field and click Go to search for the course.

| Code | Course title |
|-------|--|
| 2519W | Introducing Avaya Context Store Snap-in 3.1 (Self-Paced OnDemand) |
| 4115W | Omnichannel Assisted: Avaya Breeze and Snap-ins (Part 1) (Self-Paced OnDemand) |

Avaya Mentor videos

Avaya Mentor videos are available to provide technical content on how to install, configure, and troubleshoot Avaya products.

Videos are available on the Avaya support site, listed under the video document type, and on the Avaya-run channel on YouTube.

To find videos on the Avaya support site, select the product name, and check the videos check box to see a list of available videos.

Note: Videos are not available for all products.

To find the Avaya Mentor videos on YouTube, go to <http://www.youtube.com/AvayaMentor> and perform one of the following actions:

- Enter a key word or key words in the Search Channel to search for a specific product or topic.
- Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the site.

Support

Visit the Avaya Support website at <https://support.avaya.com> for the most up-to-date documentation, product notices, and knowledge articles. You can also search for release notes, downloads, and resolutions to issues. Use the online service request system to create a service request. Chat with live agents to get answers to questions or request an agent to connect you to a support team if an issue requires additional expertise.

Chapter 2: Release Information

Changes in Avaya Context Store 3.6.0.0

This Context Store 3.6.0.0 release supports the same feature set as that of Context Store 3.5.0.0

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 ContextStoreRest service API

The ContextStoreRest interface has been updated so that the API for managing context data using an **aliasId** is aligned with performing same operations using the **contextId**. The changes are in the structure of the path for the request, and the use of path parameters rather than query parameters.

NB: Some of API changes were introduced in 3.5.0.1 release but are repeated here for clarity. The pre-existing *ContextStoreRest* APIs which have been replaced (including three that were introduced in 3.5.0.1), have been deprecated and will be removed in a future release of Context Store.

See table below for full details of all changes to the ContextStoreRest API since 3.5.0.0

For general information about this feature, refer to the *Context Store Reference Guide*.

Complete usage information and API reference for the ContextStoreRest interface can be found in the Appendix of the *Context Store Developer Guide*. The sample request collection for Context Store, available on DevConnect, has been updated to reflect the modified API also.

| Description | Path | Change Comment |
|--------------------------------------|---|---------------------------------|
| Update Context Data by aliasId | /?alias=aliasId | deprecated |
| | /alias/{aliasId}/ | replacement created in 3.5.0.1 |
| Update Context Alias list by aliasId | /aliases/?alias={aliasId} | deprecated |
| | /aliases/{aliasId}/ | replacement created in 3.6.0.0 |
| Put Value by aliasId | /keys/{key}?alias={aliasId} | deprecated |
| | /keys/alias/{aliasId}/{key}/ | deprecated (created in 3.5.0.1) |
| | /alias/{aliasId}/keys/{key} | replacement created in 3.6.0.0 |
| Upsert Context by aliasId | /upsert/?alias={aliasId} | deprecated |
| | /upsert/alias/{aliasId} | replacement created in 3.5.0.1 |
| Get Data by aliasId | /?alias={aliasId} | deprecated |

| | | |
|-----------------------------------|------------------------------|---------------------------------|
| | /alias/data/{aliasId}/ | replacement created in 3.5.0.1 |
| Get Context audit data by aliasId | /audit/?alias={aliasId} | deprecated |
| | /audit/alias/{aliasId}/ | replacement created in 3.5.0.1 |
| Get Value by aliasId | /keys/{key}?alias={aliasId} | deprecated |
| | /keys/alias/{aliasId}/{key}/ | deprecated (created in 3.5.0.1) |
| | /alias/{aliasId}/keys/{key}/ | replacement created in 3.6.0.0 |
| Get groupId by aliasId | /groupId/?alias={aliasId} | deprecated |
| | /groupId/alias/{aliasId}/ | replacement created in 3.5.0.1 |
| Get contextId by aliasId | /id/{aliasId}/ | deprecated |
| | /contextid/alias/{aliasId} | replacement created in 3.6.0.0 |
| Get aliasId by contextId | /alias/{contextId}/ | deprecated |
| | /aliasid/{contextId} | replacement created in 3.6.0.0 |
| Delete Context by aliasId | /?alias={aliasId} | deprecated |
| | /alias/{aliasId}/ | replacement created in 3.5.0.1 |
| Delete aliasId | /aliases/?alias={aliasId} | deprecated |
| | /aliases/{aliasId}/ | replacement created in 3.5.0.1 |
| Delete Value by aliasId | /keys/{key}?alias={aliasId} | deprecated |
| | /keys/alias/{aliasId}/{key}/ | deprecated (created in 3.5.0.1) |
| | /alias/{aliasId}/keys/{key}/ | replacement created in 3.6.0.0 |

Avaya Breeze™ 3.6.0.0

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™ 3.6.0.0 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 3.6*

Java 8 and SQL Server JDBC Driver (for EDM)

Breeze 3.6.0.0 (as well as 3.5.0.1, 3.5, 3.4 and 3.3) is a Java 8 environment, 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 3.6.0.0.

| Product | Version | PLDS ID & MD5 Checksum |
|--|------------------|---|
| ContextStoreManager SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000122 MD5: cde268f9b9ce11a943488650b5ff0fae |
| ContextStoreRest SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000123 MD5: bf3138f61063e41bb2074774c88ddea2 |
| ContextStoreScreenPop SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000124 MD5: 171ed0e0811727892e2814576e14cefc |
| ContextStoreNotify SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000125 MD5: 9987403f2e1ca5869b29797d439d878 |
| ContextStoreRules SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000126 MD5: cf5c57c08c2828d636411adb91f47c7d |
| Streams SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000127 MD5: 35d892eb922f1ba70bd31ee8b1178716 |
| ContextStoreSoap SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000130 MD5: c2e0ad34be3594222306b853ed4a7a1 |
| ContextStoreQuery SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000129 MD5: 8591c155602598558c79b5cf5ed9636e |
| ContextStoreTasks (for Engagement Designer) | 3.6.0.0.60110901 | PLDS ID: CS000000128 MD5: c2b84e2d64e9899811921af26254712f |
| CS PDC JAR (Pluggable Data Connector) | 3.6.0.0.110703 | MD5: ea3cb8ee4fe4c548f722bc5882de5bd6 |
| CS Java SDK ZIP | 6011.0.9 | MD5: 1811a8f34e532698c630d6b25edb0abf |
| CS JavaScript SDK (datastorejssdk package in the Client SDK) | 3.6.0.0 | MD5: 2aaa5c84292763e2364688761f04e599 |

Please note that the CS PDC JAR, CS Java SDK ZIP and CS JavaScript SDK components are available through www.devconnectprogram.com -> Products & Resources -> Context Store -> select the appropriate release number.

Additional Software required for 'Customer Journey for Workspaces on Elite'

The following software is required to enable the 'Customer Journey for Workspaces on Elite' functionality. However, it is not required for Customer Journey Visualization standalone for Context Store.

For more information about 'Customer Journey for Workspaces on Elite' including the deployment process, configuration and its usage please see the 'Customer Journey for Workspace on Elite Reference White Paper' available from www.devconnectprogram.com -> Products & Resources -> Context Store -> select the appropriate release number.

| Product | Version | PLDS ID & MD5 Checksum |
|-------------------------------|------------------|---|
| Customer Journey Service SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000131 MD5: da9d22a47109daf45f69f25f6d145781 |
| Customer Management SVAR | 3.6.0.0.60110901 | PLDS ID: CS000000132 MD5: e9451ca5eb3bfa8df0d973d8328130de |

Platform Interoperability

Context Store 3.6.0.0 release software is supported on the Avaya Breeze™ 3.6.0.1.

For System Manager line-up and installation information, see Avaya Breeze™ documentation.

Avaya Breeze™

| Product | Version | MD5 Checksum |
|-------------------------------------|-------------------------------|----------------------------------|
| Avaya Breeze™ ova | 3.6.0.1.360106 | 1ffa9620c3ab4ad0fc1626ee96a612d7 |
| Avaya Breeze™ iso (for upgrades) | 3.6.0.1.360106 | 228aed8b6281100d7e40ae8ee1b04b22 |
| Required Avaya Breeze™ patch | ce-patch-3.6.0.1.09360106.bin | c96ac269e2e1cf19558bbc1186015820 |

NB: Before installing this Context Store release, you must install (or upgrade to) Avaya Breeze™ 3.6.0.1 release and the required patch.

Answer yes to the following question during patch installation:

"Is this node intended to be used in a Customer Engagement cluster as part of an Oceana® Solution (y/n)?" y

Engagement Designer

| Product | Version | MD5 Checksum |
|-----------------------------|---------------|----------------------------------|
| Engagement Designer svar | 3.6.0.0.60010 | 2fed236273e8174093b16315142975fd |
| EngagementDesignerTasks jar | 3.6.0.0.60010 | 58961b9b58544d8244492d5ddff04662 |

Upgrading the Context Store snap-in services

Before you begin

NB: Upgrade to Avaya Breeze™ 3.6.0.1 before proceeding with this Context Store 3.6.0.0 upgrade.

Upgrade Overview

To upgrade a Context Store Snap-In service, you must install a new version of the snap-in service using the 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 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 3.6.0.0 runs on Java 8 therefore the SQL Server driver must be aligned. If are upgrading from a prior release which was a Java 7 environments, you must update this driver

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, Streams and ContextStoreTasks for Engagement Designer (see section customized upgrade instructions on pages 13 -15).*

1. Verify that the current Context Store deployment is functioning correctly before the upgrade.
2. On the System Manager Web console, click **Elements > Avaya Breeze™**
3. In the left navigation pane, click **Cluster Administration**.
4. Select cluster to be upgraded and set to **Deny New Service** state in the **Cluster State** list.
5. Upgrade to Avaya Breeze™ 3.6.0.1 before proceeding with this Context Store 3.6.0.0 upgrade.
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 (3.6.0.0), 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 3.6*

Upgrade Procedure for ContextStoreScreenPop and Streams services

1. Follow steps 1- 6 in the standard upgrade procedure on page 11.
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 `cs-pdc-plugin-x.xx.jar` file.
13. Start the Orchestration Designer Eclipse application.
14. Copy the new `cs-pdc-plugin-6011.0.9.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:
 - 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 3.6.0.0 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**.
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, select it and click **Deploy**

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**
5. To upload the new ContextStoreTasks SVAR, click on **Upload**
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, select it and click **Deploy**
9. After the ContextStoreTasks bundle has been deployed successfully, select the old version of ContextStoreTasks and click on **Delete**

Chapter 4: Known issues, fixes and workarounds

Refer to the Avaya Breeze™ release 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: High CPU Utilization for Lab 9 Deployment

Problem

For Lab 9 Deployment (64GB/8cpu/3nodes), when no of requests exceeds 1000 per second, CPU utilization for active LB and EDM active node is seen reaching/crossing threshold of 80%.

This occurs when the EDM PU is deployed on same node which is running the active load balancer. High CPU utilization can result in the node (and potentially eventually the cluster) going into 'deny state'.

Workaround

N/A

Reference

AOEC-6049

Keywords

CPU Utilization, ContextStoreManager, EDM, Load Balancer

Issue 3: *ContextStoreManager* attribute 'GEO:Target Cluster Id' needs to be reconfigured if there is only one version of ContextStoreManager installed on SMGR which is then uninstalled and reinstalled

Problem

The value of the ContextStoreManager dropdown attribute for "GEO:Target Cluster Id" is not automatically repopulated after ContextStoreManager is uninstalled and then reinstalled in the case where there is only one ContextStoreManager version installed on SMGR.

Workaround

The value of the attribute "GEO:Target Cluster Id" needs to be re-entered and saved after reinstall of ContextStoreManager on both GEO clusters.

Reference

ZEPHYR-59000

Keywords

ContextStoreManager, SMGR, attributes, GEO

Issue 4: The "Failed to persist item to external data mart." alarm may be delayed for up to 15 minutes after Context Store loses connection to the EDM on Oracle, SQL Server and PostgreSQL DBs.

Problem

After the EDM is disconnected and a context is created with 'persistToEDM' flag set to true, the alarm "Failed to persist item to external data mart." should be generated. However, the generation of this alarm may be delayed by up to 15 minutes.

Workaround

N/A

Reference

AOEC-6705

Keywords

Alarms, EDM

Issue 5: ContextStoreQuery is incorrectly logging an error when retrieving Customer Journey data from Context Store EDM when Oceana has routed a 'Required Resource' contact for that Customer**Problem**

When the *ServiceMap* in WorkRequest object written to Context Store is null, ContextStoreQuery is logging an error statement instead of a debug statement in relation to being unable to remove escape characters (because it is null and there are no escape characters to remove).

Workaround

N/A

Reference

AOEC-9731

Keywords

ContextStoreQuery, EDM, Customer Journey

Context Store: Fixed issues

Issue 1: *ContextStoreQuery* - Excessive failed connections with wrong EDM user and password details

Problem

If incorrect password or user details for EDM are configured for *ContextStoreQuery* or *ContextStoreManager*, *ContextStoreQuery* continues to attempt connections to the EDM.

Workaround

Ensure the correct EDM password and user are configured for EDM in *ContextStoreQuery* and *ContextStoreManager*.

Resolution

Context Store Reference Guide has been updated to warn users of this possibility. If the EDM feature is not being used, or is not configured with correct details, it must not be enabled.

Reference

AOEC-6938

Keywords

EDM, *ContextStoreQuery*, *ContextStoreManager*

Issue 2: The Avaya Context Store Developer Guide for the 3.5 release is missing *ContextStoreTasks* Error Handling changes introduced in the 3.5 release.

Problem

Error handling changes were introduced in the 3.5 release of Context Store however these changes were not documented in the 3.5 version of the Avaya Context Store Developer Guide document.

Note: Error handling information can be found in the online help for the *ContextStoreTasks* by clicking on the '?' symbol on the *ContextStoreTask* in the Engagement Designer Design console.

Resolution

Context Store 3.6 Developer Guide has been updated to include this information

Reference

CSSNAPIN-4906

Keywords

Documentation, error handling, ContextStoreTasks

Issue 3: Cannot connect to the EDM database due to existing open connections

Problem

The connections to the database lock up periodically. For example, on Postgres the client receives exception message "FATAL: sorry, too many clients already". Even with the connection limit set high - this is still seen to happen eventually.

Resolution

Fixed

Reference

AOEC-5967

Keywords

EDM, connections, clients

Issue 4: After unchecking the 'Override Default' checkbox for service attributes in SMGR and attempting to commit the default values, the new default values are not saved.

Problem

After Context Store service attributes have been deselected by unchecking the 'Override Default' checkbox, the default value is displayed. On committing the changes for the service attributes, the old attribute values are still seen. The default values should be seen instead.

Resolution

Fixed

Workaround

If deselecting an attribute value that has a 'Override Default' checkbox, select the default value and tick the checkbox. Commit changes.

Reference

ZEPHYR-67122, ZEPHYR-65041

Keywords

Breeze, attributes, checkbox, default

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 [Data-grid Configuration Settings – ContextStoreManager Attributes](#) 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 |

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 [Data-grid Configuration Settings – ContextStoreManager Attributes](#) of this document.

Hard Disk Sizing For Context Store Nodes

ContextStore stores all the data in-memory, rather than on disk. The hard disk is only necessary for logs files, software installed on the cluster etc. The S, M, L sizings suggested for certified deployments are guidelines only based on this usage.

The default disk size Breeze allocates on smaller node profiles, 50GB, is sufficient for the lab deployments (lab 1, 2 & 3).

Typical recommendation is 150GB for medium and 300GB for large, but this can vary depending on what the customer wants.

If logs need to be retained for long period of time (this is configurable on a per service basis), then the large 300GB disk should be used.

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 3.5.0.1.

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.

Context Store External Data Mart Capacity Limitation

When the EDM PU is deployed on the same node as an active load balancer the maximum throughput of 800 requests per second is supported in this release for the largest deployment of Context Store.

Data in the External Data Mart will need to be archived or truncated periodically, this is related to the type of database being used and how large it is. Please note; archived data cannot be returned via Context Store Query or Customer Journey.

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.

Note: The configuration values provided for the ContextStoreManager attribute ‘EDM: Mirror Service redo log size’ equates to approximately 30 minutes of data stored before reconnection of the EDM. The number provided in relation to this attribute represents the number of replication packets stored. A replication packet is either a single non-transactional “destructive” (write/take/update) operation, or a group of such operations that are done under the same transaction.

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> |

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 |
| | |

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> |

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 |

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> |

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> |

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 | 12 |
| CS Threshold: Instance Low Requests per Second | 11 |
| CS Threshold: Service High Requests per Second | 21 |
| CS Threshold: Service Low Requests per Second | 19 |
| 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 |

Oceana 2000-Agent Deployment

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 from CS 3.3 (or older)

There is no data migration required when upgrading from CS 3.4.X.X or 3.5.X.X to CS 3.6.0.0 release.

However if upgrading from CS 3.3.X.X (or older) to CS 3.6.0.0 release then there will be changes in the schema of the External DataMart which will 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 3.6.0.0

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 <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, 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> |
| PostgreSQL | 2 <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 </pre> |

| | | |
|---------------|----------|--|
| | | <pre> RETURNING d.persist_context_uid) SELECT max(persist_context_uid) INTO max_id from insertrows; RAISE NOTICE '%', max_id; 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 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> |
| MS SQL Server | 2 | <pre> 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> |