



ribbon™

## PSX Policy Server

# Release Notes

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# PSX 16.01.04R001 Release Notes

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# About PSX Release Notes

This document describes new features, the latest hardware and software requirements, known limitations and other pertinent release information for the latest release of the Ribbon Policy Server (PSX).

## Note

As a key component of the Ribbon software release cadence, customer-reported software bugs on a given software release are fixed in the next available release on that software release branch. For example, Ribbon resolves issues reported against software release 16.1.3R0 post-GA in the next available software release 16.1.xR0. This principle is a key component of the Ribbon Software Release Cadence.

To view and download the latest End of Product Sale (EoPS) Policy and other notices, navigate to the **Ribbon corporate website** ( <https://ribboncommunications.com/services/support-services/customer-support-login>) and select **Resources > End of Life Notices**.

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## Associated Ribbon Announcements

There are no Ribbon announcements (formerly known as WBAs) referenced in this release note.

### To view/subscribe to announcements (Warnings, Bulletins, Alerts, or PCNs):

1. [Click here](#) to go to the "Announcements" page in the Ribbon Support Portal.
2. Enter the announcement number (last eight numbers) in the search field and click the magnifying glass icon (or press **Return**). You can alternatively use the filter tools located on the left side of the screen to narrow your search.

## Problems or Questions

For problems or questions, contact the Global Support Assistance Center:

**Ribbon Support Portal:** <https://ribboncommunications.com/services/ribbon-support-portal>

**Voice:** +1-833-RIBBON1 (1-833-742-2661)

## GETS Software

This release supports the High Probability of Completion (HPC) enhanced probability of call completion to authorized Government Emergency Telecommunication Service (GETS) and Wireless Priority Service (WPS) users during times of network stress and/or congestion. HPC features include GETS Call Routing, Office-Wide Call Queuing, and SIP Resource Priority Header.

**The use of the GETS SOFTWARE is restricted in the U.S. and U.S. TERRITORIES to NS/EP users authorized by the Office of the Manager, National Communications System (OMNCS). Telecommunications deployment of GETS SOFTWARE must be coordinated with the OMNCS at the**

**following address:**

**Office of the Manager  
National Communications System  
Attn: GETS Program Office  
701 South Courthouse Rd.  
Arlington, VA22204-2198  
Email: gets@ncs.gov**

# About PSX

The PSX provides centralized policy and call routing for the following:

- Ribbon distributed Softswitch TDM - GSX
- IP - SBC solution
- Third-party products

When deployed in the Service Provider or Enterprises networks, the PSX interfaces with these call processing nodes while processing either TDM (SS7, PRA) or SIP calls. The centralized PSX is designed to query the various databases (such as LDAP, ENUM, DNS, MSAD as well and on boarding databases) to provide the best routing based on the policies and configurations provided by network operators.

This release note provides information on PSX new features, the latest hardware and software requirements, caveats, known issues and limitations, resolved issues and other pertinent release information.

## Interoperability

### **RAMP support only**

Beginning with release 16.0, the PSX supports the Ribbon Application Management Platform (RAMP), which replaces the EMS.

However, the EMA, CLI and API will continue to include EMS-labeled parameters and screens to facilitate PSX migrations from older releases. Accordingly, any references to "EMS" in this documentation pertain to the RAMP platform.

Refer to the [PSX SWe Interoperability Matrix](#) for the latest and minimum compatible product versions supporting the 16.01.04R001 release.

## Compatibility with Ribbon Products

For complete interoperability information between the various products, including backward compatibility, refer to [Ribbon Product Interoperability](#) .

When migrating your network, be sure to migrate each product to the most current release in order to take advantage of the latest features, enhancements, and fixes.

# New Features

## New Features in 16.01.04R001 Release

The following table lists the new features in this release:

Epic ID	Feature Description
PSX-45816	Integrating SPAM Call Database in the PSX
PSX-45905	Functionality Enhanced for Reason Code and Reason Text Received from STI-VS Verification Response

For more information on the new features, refer to [New in PSX 16.01.04R001](#).

## New Features in Previous Releases

For the list of features in previous 16.01.xx releases, refer to the following release notes:

- [PSX 16.01.04R000 Release Notes](#)
- [PSX 16.01.03R001 Release Notes](#)
- [PSX 16.01.03R000 Release Notes](#)
- [PSX 16.01.02R003 Release Notes](#)
- [PSX 16.01.02R000 Release Notes](#)
- [PSX 16.01.01R000 Release Notes](#)
- [PSX 16.01.00R000 Release Notes](#)

# Hardware and Software Requirements

## SSH ECDSA Key Requirement

SSH RSA keys are not supported beginning with release 16.1.2. You must use ECDSA keys during an installation or upgrade.

For more information, refer to:

- [PSX Installation Guide](#)
- [PSX Upgrade Guide](#)
- [Obtaining PSX and RAMP SSH Key](#)

This section provides information about the software and hardware requirements:

- [PSX Software Edition \(SWe\) on RHV](#)
- [PSX Software Edition \(SWe\) on KVM](#)
- [PSX Software Edition \(SWe\) on VMware](#)
- [PSX Software Edition \(SWe\) on OpenStack Platform Requirements](#)
- [Security Patch](#)
- [ROHOS Build and Dell Firmware Versions](#)

## PSX Software Edition (SWe) on RHV

For information on hardware and software requirements for the PSX SWe on RHV, refer to [Hardware and Software Requirements for PSX SWe on RHV](#).

## PSX Software Edition (SWe) on KVM

For information on hardware and software requirements for the PSX SWe on KVM, refer to [Hardware and Software Requirements for PSX SWe on KVM](#).

## PSX Software Edition (SWe) on VMware

For information on hardware and software requirements for PSX SWe on VMware, refer to [Hardware and Software Requirements for PSX SWe on VMware](#).

## PSX Software Edition (SWe) on OpenStack Platform Requirements

For information on OpenStack platform requirements for PSX SWe, refer to [Hardware and Software Requirements for PSX SWe on OpenStack Platform](#).

### Note

The resource requirements for PSX large configuration in KVM/VMware/RHV/OpenStack is reduced to 12 vCPU and 48GB of memory.

## Security Patch

The platform versions for PSX 16.01.04R001 release are as follows:



- PSX SWe: 8.10.102

**Note**

The new platform label (8.10.102) includes a new set of Red Hat Enterprise Linux 8.10 (Ootpa) OS patches. These patches are automatically installed as part of the application install/migration.

## ROHOS Build and Dell Firmware Versions

The following are the ROHOS build and the Dell firmware versions which are compatible with PSX 16.01.xx release:

ROHOS	Dell Firmware
02.08.32 or higher <sup>1</sup>	<ul style="list-style-type: none"><li>• iDRAC: 7.00.00.173</li><li>• BIOS: 2.22.2</li><li>• Firmware: 2.13</li></ul>

<sup>1</sup> For ROHOS versions higher than 02.08.32, refer to the [ROHOS Release Notes](#) for supported iDRAC, BIOS, and Firmware versions.

# Required Software and Firmware Versions

## How to Verify Currently Installed Software/Firmware Versions

To verify currently installed software/firmware versions, refer to [Post-Upgrade Checks](#) .

## Software Bundle

This section provides information about PSX SWe Software packages. The following table lists the software packages required to install PSX SWe 16.01.04R001.

### Note

For the CNe download details, contact your designated Ribbon representative.

File	Environment					Usage
	KVM	VMware ESXi	OpenStack	RHV	AWS	
psx-V16.01.04R001-RHEL-8.10.102-12-x86_64.vmdk	NA	✓	NA	NA	NA	Instantiate the PSX SWe on VMware platform.
psx-V16.01.04R001-RHEL-8.10.102-12-x86_64.vmdk.md5	NA	✓	NA	NA	NA	Checksum file to validate VMDK image.
psx-V16.01.04R001-RHEL-8.10.102-12-x86_64.ovf	NA	✓	NA	NA	NA	Template file to create the PSX SWe OVA package.
psx-V16.01.04R001-RHEL-8.10.102-12-x86_64.ova	NA	✓	NA	NA	NA	Instantiate the PSX SWe on VMware platform.
psx-V16.01.04R001-RHEL-8.10.102-12-x86_64.ova.md5	NA	✓	NA	NA	NA	Checksum file to validate OVA image
psx-V16.01.04R001-RHEL-8.10.102-12-x86_64.qcow2	✓	NA	✓	✓	NA	Instantiate the PSX SWe on KVM, OpenStack, and RHV platforms.
psx-V16.01.04R001-RHEL-8.10.102-12-x86_64.qcow2.md5	✓	NA	✓	✓	NA	Checksum file to validate QCOW2 image

File	Environment					Usage
	KVM	VMware ESXi	OpenStack	RHV	AWS	
configDriveSweDeployment-V16.01.04R001.img	✓	✓	NA		NA	Config Drive for the PSX KVM and VMWare SWe instance parameters before instantiation.
SSGUI_V16.01.04R001_RHEL.tar	✓	✓	✓	✓	✓	Install the PSX SSGUI package on the RAMP.
PSX.V16.01.04R001_RHEL.tgz	✓	✓	✓	✓	✓	The PSX application tar to extract required validation scripts and binary files.
oraexporter-V16.01.04R001.tar.gz	✓	✓	✓	✓	✓	Package used to migrate the Oracle DB to Postgres DB.
orareplica-V16.01.04R001.tar.gz	✓	✓	✓	✓	✓	Package to install on the Oracle replicas to rehome the instance to Postgres Primary.
PreUpgradeCheckOra-V16.01.04R001.sql	✓	✓	✓	✓	NA	Validate the Oracle DB before initiating migration to Postgres.
PSX_V16.01.04R001_HEAT_TEMPLATE S.tar	NA	NA	✓		NA	Heat Templates to bring up the PSX instance on OpenStack.
PSX_V16.01.04R001_CFN.tar	NA	NA	NA	NA	✓	CFN files to bring up the PSX instance on AWS.
PSX_V16.01.04R001_CSAR.tar	NA	NA	✓	NA	NA	CSAR files to bring up the PSX instance using VNFM.
psx-Hostcheck-V16.01.04R001.tar.gz	✓	✓	✓	✓	NA	Validate host requirements to bring up the PSX instances.

## List of HEAT Templates

Refer to [Installing PSX SWe Instance using HEAT Templates](#) for list of HEAT templates.

# Documentation Notes

**Note**

Ribbon recommends entering commands manually instead of copy-pasting commands from customer documents. Copy-pasting commands from the documentation might include special characters or spaces, resulting in errors.

# Installation and Migration Recommendations

**Note**

The Shadow Database and Test Database features are not supported in this release.

## Post Install and Migration Recommendation

If you install or migrate PSX to the latest version, before you access the PSX Manager GUI from the RAMP, refer to [Launch PSX GUI](#) to verify that the migrated version of the PSX is supported on the RAMP. If the migrated version is not listed in the RAMP, refer to [Install PSX Manager on RAMP](#) to install the SSGUI package and to access the PSX Manager GUI.

**Note**

The PSX SSGUI Manager provided with RAMP 24.12 version do not support PSX 16.01.02R000, 16.01.02R001, 16.01.02R002, 16.01.03R000. Install the SSGUI package downloaded from Ribbon Support Portal to get support for mentioned PSX releases.

# Supported and Tested PSX Upgrade/Migration Paths for Linux

The following table lists all the PSX versions that support upgrades to PSX 16.01.04R001. Upgrade from releases older than 15.00.00R000 is referred to as migration, since the upgrade procedure involves migrating database from Oracle to Postgres.

## ATTENTION

This release includes all bug fixes implemented in the releases which are documented in the [Supported Upgrade/Migration Paths](#) table of this release note.

To view bug fixes in previous releases, refer to the release note(s) of interest from the [PSX documentation Home page](#).

The supported upgrade/migration paths highlighted in Bold are explicitly tested by Ribbon.

Release	Upgrade/Migration Paths
16.01.xx	16.01.00R000**, 16.01.01R000, 16.01.02R000, 16.01.02R001, 16.01.02R002, <b>16.01.02R003</b> , 16.01.03R000, 16.01.04R000
16.00.xx	16.00.00R000**
15.01.xx	15.01.01R000**, 15.01.02R000**, 15.01.03R000**, <b>15.01.04R000</b> , 15.01.04R001, 15.01.05R000
14.01.xx	14.01.00R000, 14.01.01R000, 14.01.02R000, 14.01.03R000, 14.01.04R000, 14.01.05R000, 14.01.06R000, 14.01.07R000
13.02.xx	13.02.00R000, 13.02.01R000, 13.02.02R000, 13.02.03R000, 13.02.04R000, 13.02.04R001, 13.02.05R000

Tested cloud migration paths: N/A

Tested non-cloud migration paths: N/A

Tested cloud upgrade paths: **16.01.02R003**

Tested non-cloud upgrade paths: 15.01.04R000

Tested VNFM migration path: N/A

Tested standard migration path: N/A

Tested LDM migration path: N/A

**Applicable only for PSX 15.1.x and PSX 16.1.x.**

- To perform a successful upgrade to 16.1.4, ensure the PSX network is running one of these software versions - PSX 15.1.4 (or) PSX 16.1.1 or higher.
- If upgrading to 16.1.4 from any other 15.1.x release, upgrade to 15.1.4 or 16.1.2 first before upgrading to 16.1.4.
- If upgrading to 16.1.4 from any other 16.1.x release, upgrade to 16.1.2 first before upgrading to 16.1.4.

\*\* → The PSX supports offline upgrade.

For more information, refer to:

- [Upgrading PSX SWe Offline on KVM](#)
- [Upgrading PSX SWe Offline on VMware](#)

# Supported and Tested PSX Upgrade/Migration Paths for PSX CNe

The following table lists all the PSX CNe versions that support upgrades to PSX 16.01.04R001. Upgrade from releases older than 15.00.00R000 is referred to as migration, since the upgrade procedure involves migrating database from Oracle to Postgres.

To perform the PSX CNe Migration from Oracle to Postgres (Tested version is 13.02.00R000), refer to [Migrate PSX CNe from Oracle to Postgres DB](#).

To perform the PSX CNe upgrade from the Postgres to Postgres (16.01.0x to higher), refer to [Upgrade PSX CNe from Postgres to Postgres Using Database Backup and Restore](#).

## ATTENTION

This release includes all bug fixes implemented in the releases which are documented in the [Supported Upgrade/Migration Paths](#) table of this release note.

To view bug fixes in previous releases, refer to the release note(s) of interest from the [PSX documentation Home page](#).

The Tested upgrade/migration paths highlighted in Bold are explicitly tested by Ribbon.

Release	Upgrade/Migration Paths
16.01.xx	<b>16.01.02R001, 16.01.03R000</b>
13.02.xx	13.02.00R000



## Explicitly Tested Interoperable Products

The Interoperability matrix specifies the explicitly tested versions of Ribbon Network elements that interoperate with PSX 16.01.04R001. The explicitly tested versions are in [blue](#).

Explicitly Tested Devices							
PSX	GSX 9000	SBC Core (5000/ 7000/ SWe)	SGX 4000	DSC	RAMP	ROHOS	Dell Firmware
16.01.04R001	15.01.02R000 15.01.00R000 13.02.00R000	12.01.04R000 12.01.03R000 12.01.02R003 11.01.01R000 10.01.05R003	10.00.08R000	24.01.00R000	24.12.00R001 24.12.00R000	02.08.32	iDRAC: 7.00.00.173 BIOS: 2.22.2 Firmware: 2.13

For the minimum compatible release versions of each Ribbon device that can interoperate with the PSX, refer to the [PSX SWe Interoperability Matrix](#).

### Note

The SBC versions 12.1.2R0, 12.1.2R1, and 12.1.2R2 are not compatible with PSX 16.1.4R00x.

# PSX SWe Cloud Requirements for AWS

## How to Verify Currently Installed Software/Firmware Versions

To verify the currently installed software/firmware versions, refer to [Post Install and Upgrade Checks](#).

## Installation and Migration Notes

**Note**

Resizing instances in the AWS is not supported after the installation.

## Instantiating PSX SWe on AWS

**Note**

Contact your Ribbon sales representative to access to the AMI ID.

To instantiate the PSX SWe on AWS, refer to the [Installing PSX SWe on AWS](#) procedure.

## Instance Types Supported for Amazon Web Services on PSX SWe

For the list of supported Instance Types, refer to [Installing PSX SWe on AWS](#) .

# Security Vulnerabilities

There are no addressed Security Vulnerabilities in PSX 16.01.04R001 version:

# Resolved Issues

## Release 16.01.04R001

### Severity 1 Issues

The following table lists the resolved severity 1 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45542	N/A	1	<p>Node joining failure during the upgrade.</p> <p><b>Impact:</b> Failure in bidirectional replication management leads to the following issues in the PSX:</p> <ul style="list-style-type: none"> <li>Writes ahead log build-up in the /var partition.</li> <li>Impacts the provisioning.</li> <li>The PSX node parting and joining fail.</li> </ul> <p><b>Root Cause:</b> A race condition in replication management results in a duplicate key violation in the messaging journal. The replication management messaging between the PSX nodes is blocked.</p> <p><b>Steps to Replicate:</b> This issue can occur during normal operating conditions.</p>	<p>Introduced Graceful Handling for the race condition to unblock the replication management messaging.</p> <p><b>Workaround:</b> None</p>
PSX-45874	N/A	1	<p>The 911 calls receive 400 bad requests from the PSX.</p> <p><b>Impact:</b> When the PSX runs calls with multiple invites with different routes and lengths, calls fail with 400 bad requests.</p> <p><b>Root Cause:</b> When using the Regex operation, the output variable used to find the start and end position to calculate the CIC miscalculates them in the multi-threading scenario since the variables are not protected.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>Set up a PSX 14.1.x or 16.1.x build.</li> <li>Restore the user database and use two SMM rules.</li> <li>Attach the SMM profile 3 in the Ingress SIP.</li> <li>Create SMM rule in SMM profile that stores route header in a internal message variable.</li> <li>Add actions that use regular expression to remove prefix and suffix of internal msg variable where route header is stored.</li> <li>Run call load from three different clients and make sure each call has different route header strings.</li> </ol>	<p>Replaced the shared variables with the local variables unique to the thread to ensure the other threads do not overwrite the calculation of start and end positions.</p> <p><b>Workaround:</b> None</p>

### Severity 2 and 3 Issues

The following table lists the resolved severity 2 and 3 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PLTF-4258	N/A	2	<p>The PSX displays double entries for the CPU utilization with multiple PSXs.</p> <p><b>Impact:</b> The SA collects statistics every two minutes instead of every ten minutes, similar to the RHEL7.</p> <p><b>Root Cause:</b> The removed <code>/etc/cron.d/ sysstat</code> entry causes a double entry.</p> <p><b>Steps to Replicate:</b> N/A</p>	<p>Removed <code>/etc/cron.d/sysstat</code> to resolve the issue.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Log in to the system as a <code>root</code> user.</li> <li>2. Remove redundant <code>cron.d/ sysstat</code> file.  <pre>rm -rf /etc/cron.d/ sysstat</pre> </li> <li>3. Change <code>sysstat-collect.timer</code> to two minutes instead of 10 minutes.  <pre>-&gt; mkdir /etc/systemd/system/sysstat-collect.timer.d/</pre> <pre>-&gt; echo '[Unit]</pre> <pre>Description=Run system activity accounting tool every 120 seconds</pre> <pre>[Timer]</pre> <pre>OnCalendar=</pre> <pre>OnCalendar=*:00/02</pre> <pre>' &gt; /etc/systemd/system/sysstat-collect.timer.d/override.conf</pre> <pre>-&gt; systemctl restart sysstat</pre> </li> </ol>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-46003	N/A	3	<p>The PSX displays mismatch in the sequence number between the call trace and the Standard Route Table GUI.</p> <p><b>Impact:</b> The sequence number does not match between the call trace and the database of the Standard Route Table if the sequence number increases and crosses the value of maximum unsigned int.</p> <p><b>Root Cause:</b> Format specifier used for call trace was unsigned int., which leads to truncation of value when it increases and crosses unsigned int. maximum value.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Load data in the Standard Route Table with a value greater than the unsigned int. maximum value (429497295).</li> <li>2. Observed that the created sequence number is greater than 429497295.</li> <li>3. Run a call with standard route with the sequence number greater than the maximum value and check for sequence number in call trace.</li> <li>4. Observe that the overflowed value is printed in the call trace.</li> </ol>	<p>Modified the code to use the correct format specifier for the unsigned long int.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-46103	PSX-45889 (16.1.5)	3	<p>The PSX fails to process the SMM rules after updating the sequence number through the CLI.</p> <p><b>Impact:</b> When the sequence of certain SMM rules in an SMM profile are updated using the CLI commands, a few of the rules are not implemented in the call processing, resulting in issues in the call flow.</p> <p><b>Root Cause:</b> When the UPDATE operation is performed through the CLI command, two rules in the database receive the same rule index. In the SIP stack, this operation results in the deletion of an existing row followed by an ADD/UPDATE of the requested rule. The database table utilizes the combination of the Profile ID and Rule ID as the primary key (Rule_Index is not part of the database key). In contrast, the SIP stack treats the Profile ID with the rule index as the key. The database allows multiple rules to contain the same rule index, while the SIP stack does not result in overwritten and removal of the rule entirely.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the SMM profile in a basic or proxy call flow.</li> <li>2. Attach a minimum of three rules with criteria and action to the profile.</li> <li>3. Observe that you can implement three rules on a call.</li> <li>4. Update the sequence of the rules to ensure that the third rule comes on the top of the sequence shifting and the first two to second and third rule through CLI command.</li> <li>5. Run the call again and observe that the PSX implements only the last rule and fails to implement the first two rules.</li> </ol>	<p>Modified the code to restrict the CLI UPDATE operations to prevent operations that result in accepting duplicate rule indexes as valid input commands.</p> <p><b>Workaround:</b> Use GUI to update the rule sequence.</p>

## Release 16.01.04R000

### Severity 1 Issues

The following table lists the resolved severity 1 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45525	N/A	1	<p>The PSX fails to implement Number Translation during the overlap dialing.</p> <p><b>Impact:</b> The PSX fails to implement Number Translation.</p> <p><b>Root Cause:</b> A missing closing bracket in the SQL query of the cache code is causing the issue.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run a call to the PSX with the overlap dialing feature enabled.</li> <li>2. Send only a few bits at first.</li> <li>3. Observe the results.</li> </ol>	<p>Modified the code to resolve the issue.</p> <p><b>Workaround:</b> None</p>
PSX-45526	N/A	1	<p>The PSX fails to apply the DM/PM rule while adding the carried and called number.</p> <p><b>Impact:</b> The PSX fails to apply the DM/PM rule.</p> <p><b>Root Cause:</b> The PSX did not store the CDNIS tuples other than the first tuple.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the DM/PM rule and run a call to the PSX.</li> <li>2. Observe that when the PSX reads the configuration and attempts to populate the CDNIS tuples, the match fails, and the PSX does not proceed with the route.</li> </ol>	<p>Modified the logic to ensure all Tuples are stored and populated correctly.</p> <p><b>Workaround:</b> None</p>
PSX-45534	N/A	1	<p>PSX CLI Error: (ERR_DB_OPR_FAIL) ERROR: function batch_txn_data</p> <p><b>Impact:</b> Missing SQL function batch_txn_data().</p> <p><b>Root Cause:</b> The PSX did not port the SQL function batch_txn_data() to the Postgres.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run the BEGIN/END Batch Script from the RAMP.</li> <li>2. Check the BATCH_TRANSACTIONS table.</li> </ol>	<p>Modified the code to port the SQL function batch_txn_data() to the Postgres.</p> <p><b>Workaround:</b> None</p>
PSX-45712	PSX-45609 (16.1.2)	1	<p>PES core trace files.</p> <p><b>Impact:</b> The PES process restarts, causing call failure.</p> <p><b>Root Cause:</b> The pgrresult object was declared as a static variable, causing a double-free issue, and resulting in a segmentation fault.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure multiple services that use different trigger criteria.</li> <li>2. Run the calls.</li> </ol>	<p>Changed the pgrresult object to nonstatic to resolve the issue.</p> <p><b>Workaround:</b> None</p>



Issue ID	Original Issue	Sev	Description	Resolution
PSX-45740	PSX-45733 (16.1.2)	1	<p>The call fails intermittently after upgrading a replica PSX.</p> <p><b>Impact:</b> The PSX fails to find the destination entry for a call.</p> <p><b>Root Cause:</b> A syntax error exists when forming the SQL query. An SQL query exhibits syntax error only during the following scenarios:</p> <ol style="list-style-type: none"> <li>1. If the number of entries in a destination table is more than 6000.</li> <li>2. If five or more different-length numbers with the same prefix are configured in the destination, configure a minimum of five of those number lengths (destination numbers) in the called national ID in the country table for matching.</li> </ol> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure more than 6000 destination entries.</li> <li>2. Configure five or more different length numbers with the same prefix configured in the destination, and configure a minimum of five of those lengths (destination numbers) in the called national ID in the country table for matching.</li> <li>3. Run a test call.</li> </ol>	<p>Corrected the SQL syntax error.</p> <p><b>Workaround:</b> None</p>
PSX-45872	PSX-45533 (16.1.2)	1	<p>Post 16.1 Replica Migration: S/S DNS SRV RR resolution fails.</p> <p><b>Impact:</b> The S/S DNS SRV RR resolution fails.</p> <p><b>Root Cause:</b> The PSX uses 512 bytes as the default eDNS buffer size for all zones instead of 4096. In PSX 14.1.x, the default eDNS buffer size is 4096 for all global zones. However, during the migration/upgrade from the previous releases, it was modified to 512 bytes due to introducing a new parameter, <code>edns-buffer-size</code> in <code>slwresd.conf</code>.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure a PSX 14.1 with the DNS server setup without enabling the eDNS for any IP addresses in the <code>lwresd</code> DNS server profile.</li> <li>2. Migrate the PSX from 14.1 to 16.1.2R0.</li> <li>3. Set up the DNS server to respond with more than 512 bytes.</li> <li>4. Verify the FQDN.</li> </ol>	<p>Accomplished the following:</p> <ul style="list-style-type: none"> <li>• Modified the code to set the default eDNS buffer size to 4096 in the <code>lwresd</code> profile screen.</li> <li>• Added custom transformations to update the eDNS size to 4096 when no servers are explicitly configured with the eDNS in the <code>lwresd</code> DNS server profile. This helps to set the eDNS buffer size to 4096 during the migration and upgrade from the Oracle/Postgres releases.</li> <li>• Set the <code>udpsize</code> in the bind stack to the configured eDNS buffer size in the <code>lwresd</code> profile.</li> </ul> <p><b>Workaround:</b> Manually update the eDNS buffer limit to 4096.</p>

## Severity 2 and 3 Issues

The following table lists the resolved severity 2 and 3 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PLTF-4699	N/A	3	<p>PSX CNe: The etcd Helm chart fails to remove the user while uninstalling.</p> <p><b>Impact:</b> Uninstalling the etcd Helm chart may generate an error even if the uninstall process is successful.</p> <p><b>Root Cause:</b> The main cause is that we were calling the member remove command to the local member to remove itself from etcd cluster</p> <p><b>Steps to Replicate:</b> Have a three etcd member cluster and delete one of them. Making sure the member is removed properly without any issue.</p>	<p>Instead of calling the remove command to the local member, run command on one of other etcd member. We do it by defining another member endpoint and pass it as --endpoint.</p> <p><b>Workaround:</b> Ignore the message if the member is removed from the remaining clusters.</p>
PLTF-4832	N/A	2	<p>The PSX 16.1 installation fails.</p> <p><b>Impact:</b> The Hostchecker tool fails to verify the CPU requirement mentioned in the <code>product.yaml</code> file.</p> <p><b>Root Cause:</b> The output format for <code>lscpu</code> is different in certain host environments and the regex failed to handle the differently formatted output.</p> <p><b>Steps to Replicate:</b> Check the <code>./Hostchecker -i product.yaml</code>.</p>	<p>Fixed the regex to handle the new format changes from the <code>lscpu</code> command output.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43867	N/A	2	<p>The <code>/var/log</code> reached 100% (missing entries in the <code>/etc/crontab</code>).</p> <p><b>Impact:</b> The <code>/var/log</code> directory exceeds the space utilization.</p> <p><b>Root Cause:</b> The Postgres log size grows infinitely.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Set up the PSX.</li> <li>2. Run a Postgres operation to generate the log or copy a few files with large sizes to the <code>/var/log/postgres</code> directory.</li> <li>3. Observe that disk space runs out.</li> </ol>	<p>Modified the code to ensure the oldest Postgres log files are removed if the <code>/var/log</code> space is low.</p> <p><b>Workaround:</b> Update the <code>/etc/crontab</code> as a <code>root</code> user to ensure these entries are present and correct:</p> <pre> * * * * * root /bin/bash /etc/cron.hourly/logrotate &gt; /dev/null 2&gt;&amp;1  @reboot root /bin/bash /etc/cron.hourly/logrotate &gt; /dev/null 2&gt;&amp;1  @reboot root /bin/bash /opt/rbbn/dbaas/bin/dbaas_log_mgmt --configure &gt; /dev/null 2&gt;&amp;1  2,4,6,8,12,14,16,18,22,24,26,28,32,34,36,38,42,44,46,48,52,54,56,58 * * * * root /bin/bash /opt/rbbn/dbaas/bin/dbaas_log_mgmt --monitor &gt; /dev/null 2&gt;&amp;1  */5 * * * * root /bin/bash /opt/rbbn/dbaas/bin/dbaas_log_mgmt --purge &gt; /dev/null 2&gt;&amp;1 </pre>
PSX-44374	N/A	2	<p>The REST Request Body fields contain empty or NULL values.</p> <p><b>Impact:</b> The REST Request Body fields contain empty or NULL values.</p> <p><b>Root Cause:</b> After substituting mapping variables, the PSX did not implement the Flexible REST API feature to remove the empty objects or NULL value fields from the JSON request body.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the Flexible REST API feature-related entities.</li> <li>2. Observe the REST Request Body fields contain empty or NULL values.</li> </ol>	<p>Modified the code to remove the empty objects or NULL value fields from the JSON request body after substituting mapping variables.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44895	N/A	2	<p>The REST variable setting from the STI Service IN DM/PM rule fails to work.</p> <p><b>Impact:</b> The REST variable setting from the STI Service IN DM/PM does not work.</p> <p><b>Root Cause:</b> The code that supports the manipulation of REST variables for the STI Service IN DM/PM rule is missing.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the PSX for a signing call.</li> <li>2. Create a DM/PM rule that manipulates any REST Response Variable with any source value (use a constant or variable value)</li> <li>3. Attach the created DM/PM rule to the STI Service definition (to the IN DM/PM Rule).</li> <li>4. Run a signing call.</li> <li>5. Observe the results.</li> </ol>	<p>Added the code to set the In and Out buffers for manipulating the REST variables through the STI Service IN DM/PM rule.</p> <p><b>Workaround:</b> None</p>
PSX-45253	N/A	2	<p>The PSX does not retain the OUT DM rule changes on the calling number after setting the NTSD translation order to Calling.</p> <p><b>Impact:</b> The OUT DM rule changes on the calling number are not reflected in the D+ response.</p> <p><b>Root Cause:</b> The PSX does not use the data structure that contains the DM/PM modified called number when constructing the D+ response, Calling Response AVP.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure a Number Translation Service (Local DB) with the Translation Order as Calling.</li> <li>2. Configure an OUT DM rule for the service that modifies the calling number.</li> <li>3. Check if the translated calling number is available in the billing number AVP of the D+ response.</li> <li>4. Check if the calling number modified by the DM/PM rule is available in the Calling Number AVP of the D+ response.</li> </ol>	<p>Modified code to use a data structure that contains DM/PM modified called number when constructing D+ response, Calling Response AVP.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45445	N/A	3	<p>The PSX fails to rotate various <code>/var/log/</code> files.</p> <p><b>Impact:</b> The system logs continue writing to the rotated log files.</p> <p><b>Root Cause:</b> The <code>logrotate</code> configuration sends incorrect signals.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Wait for the rotation of log files in <code>/var/log</code>.</li> <li>2. Observe the logs written to the rotated versions of <code>syslog</code>, <code>mail.info</code>, <code>mail.warn</code>, <code>mail.err</code>, <code>mail.log</code>, <code>daemon.log</code>, <code>kern.log</code>, <code>auth.log</code>, <code>user.log</code>, or <code>debug</code>.</li> </ol>	<p>Updated the <code>logrotate syslog</code> configuration to send a signal to the <code>rsyslog</code> process.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Update <code>/etc/logrotate.d/syslog</code> to send HUP signal to the <code>rsyslog</code>.</li> <li>2. Change <code>/bin/kill -HUP `cat /var/run/syslogd.pid 2&gt; /dev/null` 2&gt; /dev/null    true</code> to <code>/bin/kill -HUP `cat /var/run/rsyslogd.pid 2&gt; /dev/null` 2&gt; /dev/null    true</code></li> </ol>
PSX-45511	N/A	2	<p>PSX CNe: Maintain a defined Ephemeral storage request/limit and size limit for the emptyDir volumes.</p> <p><b>Impact:</b> The size limit is not set for each emptyDir volume.</p> <p><b>Root Cause:</b> The PSX pods do not define any size limits for the emptyDir volumes defined in the statefulsets.</p> <p><b>Steps to Replicate:</b> Refer to: <a href="https://kubernetes.io/blog/2022/09/19/local-storage-capacity-isolation-ga/#setting-requests-and-limits-for-local-ephemeral-storage">https://kubernetes.io/blog/2022/09/19/local-storage-capacity-isolation-ga/#setting-requests-and-limits-for-local-ephemeral-storage</a></p> <p>In this example, the emptyDir volume size limit is set to 5 GiB, which indicates if this pod's emptyDir consumes more local storage than 5 GiB, the pod is evicted from the node. Based on this assumption:</p> <ol style="list-style-type: none"> <li>1. Use <code>oc describe pod [pod]</code> to find the size limit of an emptyDir.</li> <li>2. Fill that directory with files that are more than the size limit.</li> <li>3. Observe that the pod is evicted.</li> </ol>	<p>Changed all emptyDir volumes defined in the <code>statefulset-primary .yaml</code> and <code>statefulset-replica .yaml</code> files and defined a size limit for it.</p> <p><b>Workaround:</b> The individual emptyDir volume capacity is not set. However, the PSX pods are capped at the total ephemeral storage defined for each pod. This size is 10 GiB for the Primary pods and 20 GiB for the Replica pods. If the pod consumes more than this size, it is evicted from the worker node and rescheduled.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45512	N/A	3	<p>PSX CNe: Add the "prometheus_scrape_interval=15m" label to the pod template.</p> <p><b>Impact:</b> Currently, the PSX CNe does not allow a user to add custom labels.</p> <p><b>Root Cause:</b> The PSX CNe supports adding labels to the pods, but the Helm charts do not allow users to add custom labels.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the "prometheus-scrape-interval: 15m" label in the values file.</li> <li>2. Check the Manifest to ensure that every pod in the PSX Primary and the PSX Replica is created with this label.</li> </ol>	<p>Provided solution to add a template to the values file that allows the user to add their labels:</p> <pre>(Global) ## @param podLabelsTemplate [object]</pre> <p>Extra labels for the pods can reference other variables through templating</p> <pre>## podLabelsTemplate: {}</pre> <p>The pods will add these labels as defined in the value file.</p> <p>Labels:</p> <pre>{{- if .Values.global.podLabelsTemplate }} {{- tpl (toYaml .Values.global.podLabelsTemplate) .   nindent 8 }} {{- end }}</pre> <p><b>Workaround:</b></p> <p>Modify each of the following files in the PSX CNe helm charts:</p> <ul style="list-style-type: none"> <li>◦ charts/rbbn-psx/templates/statefulset-primary.yaml</li> <li>◦ charts/rbbn-psx/templates/statefulset-replica.yaml</li> <li>◦ charts/etcd/templates/statefulset.yaml</li> <li>◦ charts/sdrp-operator/templates/deployment.yaml</li> </ul>

Issue ID	Original Issue	Sev	Description	Resolution
				<ul style="list-style-type: none"> <li>charts/epu/templates/ deployment.yaml</li> </ul> <p>Add the ""prometheus-scrape-interval: 15m"" label.</p> <p>For example:</p> <pre>spec:   template:     metadata:       labels:         prometheus-scrape- interval: 15m</pre>
PSX-45540	N/A	2	<p>The PSX Primary instantiation fails during the upgrade from 15.1.4R0 to 16.1.2R2.</p> <p><b>Impact:</b> The PSX Primary instantiation fails.</p> <p><b>Root Cause:</b> An action to restart the database failed to stop the database in the acceptable time.</p> <p><b>Steps to Replicate:</b> This is an occasionally observed issue.</p> <ol style="list-style-type: none"> <li>1. Perform the standard installation procedures for a PSX Primary node by joining an upstream Primary node.</li> <li>2. Check the PSXIUC.log to observe the following error: ERROR: DBaaS Log Management aborted parsing arguments. --configure 10/03-09:27:12 Error!! Cannot execute OS command cd /opt/rbbn/dbaas/bin;./ dbaas_log_mgmt --configure</li> </ol>	<p>Removed the action that demands restarting the database during the installation process. The PSX now performs the database restart before the database joins the upstream Primary node.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Part of the failed Primary node from the Provisioning Primary node: DbReplicationManager.py</li> <li>2. Rebuild the failed Primary node again.</li> </ol>
PSX-45550	SBX-133832 (12.1.4)	3	<p>The CSAR create Python script fails for the Cluster Readiness Checker tool.</p> <p><b>Impact:</b> The CNe CSAR create Python script fails for the Cluster Readiness Checker tool.</p> <p><b>Root Cause:</b> An array defined to hold the Helm chart name was hardcoded to accommodate only the SBC Core Helm chart names.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Validate the SBC Core Helm charts.</li> <li>2. Validate the Cluster-readiness charts.</li> </ol>	<p>Modified the code to add flexibility in accommodating any Helm charts.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45551	SBX-133684 (12.1.4)	3	<p>The CSAR create Python script generates incorrect TOSCA.meta file contents.</p> <p><b>Impact:</b> The CSAR create Python script generates incorrect TOSCA.meta file contents.</p> <p><b>Root Cause:</b> The TOSCA.meta file contents were incorrect due to logical error while populating images and script path, and typos "Created-By" and "Entry-Scripts".</p> <p><b>Steps to Replicate:</b> Generate CSAR and check the TOSCA.meta file contents.</p>	<p>Corrected the logical error for populating images and scripts path and typos "Created-By" and "Entry-Scripts".</p> <p><b>Workaround:</b> None</p>
PSX-45575	N/A	2	<p>The PSX Manager 16.1.3R0 does not correctly display the Replication Peer and Replication Status.</p> <p><b>Impact:</b> The Replication Peer details and Replication Status entities generate error messages on the PSX Manager GUI.</p> <p><b>Root Cause:</b> The ssuser accounts lack sufficient privileges when querying the Postgres metadata entities.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install a PSX 16.1.3R1.</li> <li>2. Open the PSX Manager from the RAMP.</li> <li>3. Access the Replication Peer and Replication Status to observe the issue.</li> </ol>	<p>Modified the code to grant permissions to the ssuser account to access the Postgres metadata entities.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Log on to the PSX as a root user.</li> <li>2. Switch to the postgres user: su - postgres</li> <li>3. Connect to the database and grant the permissions: psql -d ssdb GRANT EXECUTE ON FUNCTION bdr.local_decoder_slot_name TO ssuser; GRANT EXECUTE ON FUNCTION bdr.local_group_slot_name TO ssuser; GRANT EXECUTE ON FUNCTION bdr.node_kind_name TO ssuser; \q</li> </ol>



Issue ID	Original Issue	Sev	Description	Resolution
PSX-45582	N/A	3	<p>The PSX does not whitelist the DNS servers for the RCODEs 1 and 4.</p> <p><b>Impact:</b> When the remote DNS server is blacklisted, it remains blacklisted on the ARS response if the RCODE in response is not 0, 2, 3, or 5.</p> <p><b>Root Cause:</b> Whitelisting responses with RCODEs other than 1 and 4 is not implemented.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Set a DNS ARS Profile with the flag "Whitelist on any RCODE" set to OFF.</li> <li>2. Blacklist the remote DNS Server.</li> <li>3. Receive the response from the remote DNS Server with RCODE 1 or 4 (or any RCODE greater than 5).</li> <li>4. Observe that the remote DNS Server is blacklisted.</li> </ol>	<p>Added a new flag, "Whitelist on any RCODE," to the ARS Profile and ensured whitelisting on response with any RCODE is enabled if the ARS Profile Control flag "Whitelist on any RCODE" is on.</p> <p>For more information, refer to:</p> <ul style="list-style-type: none"> <li>• <a href="#">Address Reachability Service Profile Screen</a></li> <li>• <a href="#">Address Reachability Service (ARS) for DNS Servers</a></li> </ul> <p><b>Workaround:</b> None</p>
PSX-45587	N/A	3	<p>PSX CNe: The PSX fails to update the Kafka topic name for the Log Collection to psxConfigMap during a Helm upgrade.</p> <p><b>Impact:</b> The PSX fails to update the Kafka topic name for the Log Collection to psxConfigMap during a Helm upgrade.</p> <p><b>Root Cause:</b> The PSX statefulset files were not detecting any changes made for the psxConfigMap in the Helm chart. The Helm upgrade failed to detect any changes related to the psxConfigMap.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install a Kafka-enabled PSX.</li> <li>2. Configure a topic name in the Helm chart. Ensure that the psxConfigMap created for the PSX node uses the topic name configured in step 1.</li> <li>3. Configure a new topic name and upgrade the Helm.</li> <li>4. Observe the PSX pod is terminated and comes up again. The psxConfigMap is updated with the new topic name provided in the Helm chart.</li> </ol>	<p>Modified the code to ensure the PSX statefulSet files use the checksum annotations to detect any change in the configMaps. This helps Helm upgrade detect changes related to psxConfigMap.</p> <p><b>Workaround:</b> None</p>
PSX-45673	PSX-40038 (14.1.3)	2	<p>Copying DM/PM Rule error with ORA-01438.</p> <p><b>Impact:</b> Unable to create a new DM/PM rule by copying the existing rule.</p> <p><b>Root Cause:</b> A precision error is thrown for OPERATION_TYPE.</p> <p><b>Steps to Replicate:</b> Rename the existing DM/PM rule and save it to create a new entry.</p>	<p>The code is modified to set the default value to "0" for OPERATION_TYPE.</p> <p><b>Workaround:</b> Update the OPERATION_TYPE value to "0" for all null entries.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45710	PSX-45600 (16.1.2)	3	<p>Call Param Filter Group Display issue in Standard Route.</p> <p><b>Impact:</b> While attaching the Call Param Filter Profile Group to one of the standard route entries, the PSX reflects the Call Param Filter Profile Group to the subsequent entries of the standard route on the right side of the screen. This issue exists for the find route command in CLI as well, which shows the CPFPG for the entries to which the CPFPG entries are attached.</p> <p><b>Root Cause:</b> In the Standard Route's queryHandler, the application variables were not reset before fetching the next row from the result set.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install the PSX and register it with the RAMP.</li> <li>2. Create a minimum of two standard route entries.</li> <li>3. Attach the CPFPG to the first standard route entry.</li> <li>4. Ensure that the CPFPG is displayed only to the entry for which the CPFPG is attached in the Standard Route GUI.</li> <li>5. Ensure the other entries contain no CPFPG on the right side of the screen.</li> <li>6. Log on to the CLI and ensure the <code>find route</code> command displays CPFPG, only for the entries with the CPFPG attached.</li> </ol>	<p>Added a <code>reset()</code> call in the Standard Route's queryHandler to reset the application variables before fetching the next row from the result set.</p> <p>Added a check for indicators of each application variable before copying the column value to the respective application variables.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45711	PSX-45564 (16.1.2)	2	<p>The PSX failed to include the RCD claims due to a Policy Profile mismatch.</p> <p><b>Impact:</b> The PSX failed to include the RCD claims.</p> <p><b>Root Cause:</b> The missing <code>reset()</code> call in the <code>PGDATABASE</code> code of <code>DbPolicyProfile::getNext</code> (where the details of all the created policy profiles are available) caused the issue. The structure members used for storing the policy profile details were not reset before copying the new row details. Hence, even if the CPFPG was not attached to the policy profile in the STI MSG DEFN, it contained the CPFPG value attached to other existing policy profiles.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the PSX for a verification call.</li> <li>2. Create a CPFPG of STIR-SHAKEN Type Request and STIR-SHAKEN Type as INFO and PPT.</li> <li>3. Create a CPFPG and add the previously created CPFPG to this CPFPG group.</li> <li>4. Create a Policy Profile (do not attach any CPFPG to it).</li> <li>5. Enable the Process RCD claims flag.</li> <li>6. Create an STI MSG Definition with the Operation Code set to STI Response.</li> <li>7. Attach the created Policy Profile with this STI MSG Definition.</li> <li>8. Attach the created STI MSG Definition to the STI Service Response in the STI Service Definition for the verification service.</li> <li>9. Run a simulator script that sends the RCD claims with the STIR-SHAKEN verification response.</li> <li>10. Run a verification call.</li> </ol>	<p>Added a <code>reset()</code> call to the code that resets the application variables before copying the values from the next row fetched.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45749	PSX-44995 (14.1.74)	2	<p>After triggering the MNP service, the PSX does not include the RN in the called number.</p> <p><b>Impact:</b> When a call triggers the MNP service after a toll-free service, the PSX uses the number translated in the toll-free service for routing. The PSX does not use a modified called number received from the MNP server/SIP-SCP Service.</p> <p><b>Root Cause:</b> The PSX fails to use the modified called number received from the MNP server/SIP-SCP Service to route the call.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the toll-free service to the translated called number.</li> <li>2. Configure an OUTDM rule to prefix "0" with the translated number.</li> <li>3. Configure the MNP/SIP-SCP service (3xx script) to return the modified called number in the contact header.</li> <li>4. Observe the results.</li> </ol>	<p>Modified the code to use the modified called number received from the MNP server/SIP-SCP Service to route the call.</p> <p><b>Workaround:</b> None</p>
PSX-45792	N/A	2	<p>PSX Primary/Replica Manager 16.1.3R0: The Codec Entry table GUI freezes while selecting entity records/configuration changes.</p> <p><b>Impact:</b> The Codec Entry table GUI freezes.</p> <p><b>Root Cause:</b> Reading the maximum bit rate was missed if the Audio Encoding types are other than OPUS, SILK8, SILK12, SILK 16, and SILK 24.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the Codec Entry with the Audio Codec set to G711.</li> <li>2. Select the left search panel to view the configured codec entry.</li> </ol>	<p>Modified the code to read the maximum bit rate for the audio codecs other than OPUS, SILK8, SILK12, SILK 16, and SILK 24.</p> <p><b>Workaround:</b> Close the PSX Manager and re-open it.</p>
PSX-45828	N/A	3	<p>The SBC SWe fails to process the D+ response from the PSX.</p> <p><b>Impact:</b> The SBC SWe fails to process the D+ response from the PSX.</p> <p><b>Root Cause:</b> Call fails with D+ error during multiple routes configuration and an error in the indexing where the PSX reads data in reverse order. The SBC SWe 12.1.2 and PSX 16.1.3 are incompatible due to a bug in the diameter library.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Set up a basic call configuration with the SBC SWe.</li> <li>2. Configure multiple routes.</li> <li>3. Observe the results.</li> </ol>	<p>Modified the diameter code to correct the order of the index. To take effect of the fix, use SBC SWe 12.1.2R3 or later versions.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45841	N/A	3	<p>The SIP capitalizes the OTG value before the trunk group cache lookup.</p> <p><b>Impact:</b> The SIP converts the trunk group ID to uppercase before looking in the trunk group cache.</p> <p><b>Root Cause:</b> For any TGRP, the PSX converts it to uppercase in the fetchTrunkGroup function and fails to fetch the correct trunk group from the cache.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Open the PSX Manager GUI and configure a Feature Control Profile (FCP).</li> <li>2. Select the flag "Skip Case Conversion for Trunk Group ID of OTG".</li> <li>3. Configure a trunk group with the trunk group ID in lowercase, and attach the configured FCP.</li> <li>4. Run a proxy call and observe the SIPE logs fetch the trunk group in lowercase.</li> <li>5. Unselect the flag in the Feature Control Profile and attach it to the trunk group entity with the lowercase trunk group ID.</li> <li>6. Run the proxy call again and observe that SIPE logs fetch the TGRP in uppercase.</li> </ol>	<p>Added a checkbox in the Feature Control Profile to allow the user to choose whether to capitalize the trunk group.</p> <p><b>Workaround:</b> None</p>
PSX-45890	PSX-45566 (16.1.2)	3	<p>PSX- Custom Schema Service Profile entity: The new Single Identity field is empty.</p> <p><b>Impact:</b> The new Single Identity field is empty in the custom entry of the STI SERVICE SCHEMA PROFILE.</p> <p><b>Root Cause:</b> A new column was added in PSX 15.1.4R0, and the data transformation was only written for the seed entries and was missing for the custom entries.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Set up a PSX 14.1.2 build.</li> <li>2. Create a custom entry in the STI SERVICE SCHEMA PROFILE.</li> <li>3. Migrate the PSX to 16.1.2.</li> <li>4. Observe that the Single Identity column is empty for the custom entry while it contains the Default Value as Identity for the seed entries.</li> </ol>	<p>The data transformation is modified to apply the default value of Identity in the new column for all the entries with the Service Type as VERIFICATION.</p> <p><b>Workaround:</b> Manually set the column value to Identity for custom entries.</p>

## Release 16.01.03R000

### Severity 1 Issues

The following table lists the resolved severity 1 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45236	N/A	1	<p>PSX 16.1.2R0 Softswitch error at standard route.</p> <p><b>Impact:</b> The following issues are encountered for Route and Standard Route on the PSX Manager.</p> <ul style="list-style-type: none"> <li>• The LCR customer throws the error "Value length is incorrect."</li> <li>• The Standard Route throws the error "Database Row not found."</li> </ul> <p><b>Root Cause:</b> Data types are incompatible between the SSGUI (PSX Manager) and the Pipe process. The SSGUI uses an integer range for the sequence column for the route, so it does not support an out-of-integer range.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Create a 16.1.2 PSX and configure a route where the sequence number exceeds the integer range.</li> <li>2. Create a 16.1.2 PSX and configure an LCR customer.</li> </ol>	<p>Modified the code to align the correct data types for SSGUI (PSX Manager) and the PIPE process. The SSGUI supports long types to accommodate the sequence's out-of-integer range.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45274	N/A	1	<p>The PSX generates error messages for the PSQLODBC driver.</p> <p><b>Impact:</b> The PSX generates an incorrect error message for the PSQLODBC driver.</p> <p><b>Root Cause:</b> The root cause is the level of rollback on errors set with the new parameter "Protocol=7.4-0" in the odbc.ini file.</p> <p>As stated in "psqlODBC Configuration Options" <a href="https://odbc.postgresql.org/docs/config.html">https://odbc.postgresql.org/docs/config.html</a>:</p> <p>Level of rollback on errors: Specifies what to rollback when an error occurs.</p> <ul style="list-style-type: none"> <li>• Nop (0): Do not roll back anything and let the application handle the error.</li> <li>• Transaction (1): Roll back the entire transaction.</li> <li>• Statement (2): Roll back the Statement.</li> </ul> <p>This specification is set up with the PROTOCOL option parameter. The default value is Statement.</p> <p>PROTOCOL=7.4-(0 1 2)</p> <p>In PSX 16.01.02 and previous versions, the "Protocol" is not used. Postgres automatically rolled back the faulty Statement to the internal savepoint, which caused a conflict between the internal PG savepoint and PIPECMD.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure any entity using the GUI/ CLI.</li> <li>2. Add a primary key that already exists.</li> <li>3. Observe the results.</li> </ol>	<p>Fixed all the errors causing database queries by sending the error message to the GUI/CLI without ignoring it or validating the error-causing statements. Updated the ODBC driver to version 16.00.000.</p> <p><b>Workaround:</b> None</p>
PSX-45292	N/A	1	<p>Wal2dbrep crashed when adding a non-subscriber entry.</p> <p><b>Impact:</b> Call failures are occurring for newly provisioned entities.</p> <p><b>Root Cause:</b> The Wal2dbrep service fails when provisioning a new non-subscriber entity with a unique pair of countries and the first digit of the non-subscriber calling number.</p> <p><b>Steps to Replicate:</b> Provision a non-subscriber entity with a unique pair of countries and the first digit of the non-subscriber's calling number.</p>	<p>Updated the stored procedure causing Wal2dbrep service failure.</p> <p><b>Workaround:</b> Contact Ribbon support for a procedure to update the failing Postgres stored procedure.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45313	PSX-44797 (16.1.2)	1	<p>Memory utilization touches its threshold value, which triggers the alarm to beep.</p> <p><b>Impact:</b> Memory utilization touches its threshold value, which triggers the alarm to beep.</p> <p><b>Root Cause:</b> SIP Server FQDNs enabled with the Reverse DNS feature do not free LwresTransaction Objects when refreshing the NAPTR/SRV records after TTL expiry.</p> <p><b>Steps to Replicate:</b> Configure SIP Server FQDN and enable Reverse DNS lookup flag in SIP Server.</p>	<p>The code is modified for SIPE to free the LwresTransaction objects during the NAPTR/SRV record refresh sequence after TTL expires.</p> <p><b>Workaround:</b> Disable the Reverse DNS feature by disabling the flag "Perform DNS Query for SIP Server Selection."</p>

### Severity 2 and 3 Issues

The following table lists the resolved severity 2 and 3 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PLTF-4641	N/A	2	<p>PSX VMware installation fails through the vSphere client.</p> <p><b>Impact:</b> The PSX VMware installation through the OVA template fails.</p> <p><b>Root Cause:</b> During the installation through the vSphere client, the PSX fails to locate the ansible scripts required to configure the VMware instance.</p> <p><b>Steps to Replicate:</b> Bring up a VMware instance using the OVA template through the vSphere client.</p>	<p>Fixed the ansible script path.</p> <p><b>Workaround:</b> Use the VMDK image to bring up VMware instance.</p>
PLTF-4698	N/A	2	<p>etcd-chart: Unable to export container metrics, and an alert raised.</p> <p><b>Impact:</b> The etcd Prometheus metric endpoint reports CPU and memory isarenreachable, leading to a raised alert.</p> <p><b>Root Cause:</b> automountServiceAccountToken was disabled.</p> <p><b>Steps to Replicate:</b> Deploy the etcd-chart, monitor, and prometheus metrics and alerts.</p>	<p>Restore automountServiceAccountToken.</p> <p><b>Workaround:</b> Silence alert.</p>



Issue ID	Original Issue	Sev	Description	Resolution
LNTL-7802	N/A	2	<p>PSX CNe: The <code>system_metric.sh</code> fails to run inside any of the DBaaS container processes.</p> <p><b>Impact:</b> The system metrics exporter failed to run on the DBS, and the metrics were unavailable.</p> <p><b>Root Cause:</b> The DBS Dockerfile installs the <code>ecs-logging</code>. A newer version of the <code>ecs-logging</code> is incompatible with python 3.6.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install the PSX primary/replica CNe instance.</li> <li>2. Verify that the primary/replica CNe instances are running.</li> <li>3. Log on to the DBaaS container of the PSX primary or replica pod.</li> <li>4. Run <code>ps - eaf</code> to verify the <code>/opt/ribbon/system_metric/system_metric.py</code> displays the running status of <code>system_metric.py</code>.</li> </ol>	<p>The PSX needs to pull in the old <code>ecs-logging 2.1.0</code> version.</p> <p><b>Workaround:</b> None</p>
LNTL-7809	N/A	3	<p>PSX CNe: Numerous defunct processes are observed inside the DBaaS Container that are not related to the <code>system_metric.sh</code> container process.</p> <p><b>Impact:</b> Numerous defunct processes are observed inside the DBaaS Container that are not related to the <code>system_metric.sh</code> container process.</p> <p><b>Root Cause:</b> Incorrectly managed processes causing defunct on the node.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install the PSX primary/replica CNe instance.</li> <li>2. Verify that the primary/replica CNe instances are running.</li> <li>3. Log on to the DBaaS container of the PSX primary or replica pod.</li> <li>4. Run <code>ps - eaf   grep -i defunct</code> to observe the defunct processes are running.</li> </ol>	<p>The defunct processes are modified to resolve the issue.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
LNTL-7841	N/A	2	<p>BDR: Add SDR persistent volume to the DBS statefulset files.</p> <p><b>Impact:</b> The SDR fails to connect to the etcd after a restart when it is configured to use TLS certificates.</p> <p><b>Root Cause:</b> The SDR fails to load the CA bundles required for connecting with the etcd when it restarts and reads the configuration from the persistence.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Make a P1 and P2 primary CNe cluster.</li> <li>2. Restart the SDR pod in P1 using the following steps. <ol style="list-style-type: none"> <li>a. Push the same version of the SDR image to the artifactory repository with a new tag.</li> <li>b. Run the following command to cause the SDR container to restart with the same image with the new tag: <pre>kubectl set image pod &lt;psx P1 pod&gt; sdr=&lt;sdr image path&gt;:&lt;new tag&gt;</pre> </li> </ol> </li> <li>3. Run the following command from the P2 DBaaS container to part P1: <pre>dbaas_dep_mgr -s instance -r &lt;psx P1 pod&gt; -c role -o apply {"role\": \"none\"}</pre> </li> <li>4. Wait a few minutes and then use the <code>dbaas_rep_conf</code> command to ensure the PSX P1 pod is parted.</li> </ol>	<p>Start the SDR with the <code>--static-config</code> argument to prevent the issue.</p> <p><b>Workaround:</b> Starting the SDR with the <code>--static-config</code> argument prevents the problem.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43500	N/A	3	<p>Extend the ARS Profile "Do Not remove from Blacklist on TTL Expiry" to include NAPTR records.</p> <p><b>Impact:</b> The "Do Not remove from Blacklist on TTL Expiry" flag does not include NAPTR records.</p> <p><b>Root Cause:</b> When the TTL expires for a NAPTR record, all blacklisted endpoints are removed/whitelisted. The "Do Not remove from Blacklist on TTL Expiry" flag only applies to A/AAAA and SRV record expirations (not NAPTR).</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure an SIP Server with FQDN with Proactive ARS Profile.</li> <li>2. Keep a relatively low NAPTR TTL value (300 seconds) and higher SRV/ A/AAAA TTL values (900 seconds/ 3600 seconds).</li> <li>3. Do not respond to OPTIONS ping from the SIP Server. This blacklists the SIP Server IP.</li> <li>4. Use sipemgmt and the SIPE alarm (raised for blacklisting) to confirm the SIP Server IP is blacklisted.</li> <li>5. After the NAPTR record expires, the SIPE does not remove the SIP Server IP from the blacklist.</li> <li>6. After a NAPTR refresh, confirm that the SIPE keeps the SIP Server IP blacklisted using sipemgmt. (No whitelisting alarms should exist during the NAPTR refresh)</li> </ol>	<p>Modified SIPE to extend the ARS Profile "Do Not remove from Blacklist on TTL Expiry" to include NAPTR records.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43686	N/A	2	<p>PSX245: After deleting the VBR_COUNTRY_CAP, the PSX fails to delete the exception associated with the Vbr_Country_Cap.</p> <p><b>Impact:</b> The outdated LCR vendor's exception rules lead to issues with the LCR vendor country cap file load. This issue affects the LCR functionality where vendors or vendor/dialcode combinations are excluded from the LCR selection based on the dollar amount or minutes. These limits are uploaded into the system through the country cap loader functionality. Due to this issue, the LCR vendors will not get excluded if the limit is reached, or the excluded vendors will not get included if limits are changed.</p> <p><b>Root Cause:</b></p> <ul style="list-style-type: none"> <li>The updates in vbrcapldr.cpp were incorrectly merged from the 14.x stream into the Postgres stream and used the Oracle SQL syntax.</li> <li>The "rsync_key" was missing.</li> </ul> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>Set up the NetScore server.</li> <li>Set up the VBR Country-Cap service.</li> <li>Verify the VBR Country Cap is loaded and deleted in accordance with the specifications and test plan.</li> </ol>	<p>To resolve the issue:</p> <ul style="list-style-type: none"> <li>The updates in the vbrcapldr.cpp are merged from the 14.x stream.</li> <li>Installation and setup scripts are updated to verify that the necessary keys and the other VBR Country-Cap related files are present.</li> </ul> <p><b>Workaround:</b> Manually update the vbr_exception/table_changes tables through the SQL.</p>
PSX-43833	N/A	3	<p>The NTC table gets corrupted/hangs when users in default country 34 (Spain) try to open it from the PSX GUI.</p> <p><b>Impact:</b> The Number Translation Criteria (NTC) profile hangs when switching between entities with more than 100 thousand entries.</p> <p><b>Root Cause:</b> When interrupting one profile in the middle and attempting to open another profile, one must completely drop the interrupted entity data from the PIPE. However, the GUI did not completely drop the data. Thus, the next entity read invalid data that caused the GUI to hang.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>Restore the DB with more than 100 thousand of entries in Number Translation Criteria and Number Translation.</li> <li>Open the NTC, switch to Number Translation, and move to the NTC before Number Translation completely loads the data.</li> </ol>	<p>Updated the GUI to drop all data of the interrupted entity.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44351	N/A	2	<p>The PSX does not use the PAI SIP URI host to perform domain name checks for SHAKEN.</p> <p><b>Impact:</b> The PSX does not use the PAI SIP URI host to perform domain name checks for SHAKEN.</p> <p><b>Root Cause:</b> If the INGRESS has the PAI header in both the tel and sip schemes, the PSX receives a PAI header in two different AVPs. For the Domain Name check, the PSX does not check the PAI and URI AVPs. Ideally, the PSX should use the host in whichever AVP it is present to perform the domain name check.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Perform an INGRESS INVITE with two PAI headers, one with a tel scheme and the other with a SIP.</li> <li>2. Configure a basic STIR/SHAKEN call.</li> <li>3. Enable the flag "Perform Domain Name Check for Shaken" in STI Service Definition.</li> <li>4. Run the call.</li> </ol> <p>Observations:</p> <ul style="list-style-type: none"> <li>• The PSX does not use the host portion of the PAI SIP URI to perform the Domain Name check for SHAKEN.</li> <li>• Instead, the PSX uses the From header host portion.</li> </ul>	<p>Added a check to the code to perform a domain name check in the PAI and URI AVPs.</p> <p><b>Workaround:</b> None</p>
PSX-44353	N/A	3	<p>PSX Reverse DNS: SIP Server entity: Input Validation requested for Server FQDN field.</p> <p><b>Impact:</b> PSX Reverse DNS: SIP Server entity: Input Validation requested for Server FQDN field.</p> <p><b>Root Cause:</b> GUISEVER was not validating the FQDN field, and it was allowing invalid configuration for the field.</p> <p><b>Steps to Replicate:</b> Configure a SIPSERVER with FQDN having space at the end.</p>	<p>Added a validation check for FQDN field.</p> <p><b>Workaround:</b> Do not provide invalid configuration.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44395	N/A	2	<p>PSX Standard Route entries were unknowingly deleted.</p> <p><b>Impact:</b> PSX Standard Route entries were unknowingly deleted.</p> <p><b>Root Cause:</b> Entries for a particular Trunk Group entity in the Standard Route screen were getting deleted.</p> <p><b>Steps to Replicate:</b></p> <p>To view the fix:</p> <ol style="list-style-type: none"> <li>1. Open the GUI.</li> <li>2. Go to the Standard Route screen.</li> <li>3. Apply the Trunk group filter and select the entries to delete.</li> <li>4. Click <b>DELETE</b>. A confirmation pop-up dialog displays.</li> <li>5. Click <b>YES</b>. A second pop-up the count of selected entries to delete.</li> </ol>	<p>Added a pop-up to display the count of selected entries to delete.</p> <p><b>Workaround:</b> None</p>
PSX-44476	SBX-123130 (11.1.1)	2	<p>[IDH SIPv2 Production] Gradual increase in memory observed on both the SBCs.</p> <p><b>Impact:</b> Gradual increase in memory observed on both the SBCs.</p> <p><b>Root Cause:</b> Dialog Scope variable memory is not freed after sending 200OK.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure a SMM to use the Dialog Scope variable.</li> <li>2. Run the SIP call to use the SMM and we can observe a gradual memory increase during the call.</li> </ol>	<p>Freed the memory after sending 200OK.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44510	N/A	3	<p>SIP capitalizes the TGRP value before a TG cache lookup.</p> <p><b>Impact:</b> SIP converts the Trunk Group ID to UPPERCASE letters before looking in the TG cache.</p> <p><b>Root Cause:</b> The fetchTrunkGroup function converts any TGRP into uppercase, preventing it from fetching the correct trunk group from the cache.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Open the PSX Manager GUI, configure a Feature Control Profile (FCP), and enable the flag "Skip Case Conversion for Trunk Group ID of OTG."</li> <li>2. Configure a Trunk Group using all lowercase letters and attach the configured FCP above.</li> <li>3. By running the proxy call, the SIPE logs can fetch the TG with lowercase letters.</li> <li>4. Disable the FCP flag and attach the FCP to the Trunk Group entity with a Trunk Group ID in lowercase.</li> <li>5. Re-run the proxy call. The SIPE logs show the TG fetched with an UPPERCASE ID.</li> </ol>	<p>Added a flag to the Feature Control Profile to choose whether or not to capitalize the TG ID.</p> <p><b>Workaround:</b> None</p>
PSX-44575	N/A	2	<p>Excessive auditd logging occurs after using start.ssoftswitch.</p> <p><b>Impact:</b> A high logging rate is observed in the /var/log/audit/audit.log files.</p> <p><b>Root Cause:</b> SELinux context of application processes resulted in many alerts logged through auditd.</p> <p><b>Steps to Replicate:</b> As ssuser, stop and start the application with stop.ssoftswitch and start.ssoftswitch.</p>	<p>Modified the code to direct the start.ssoftswitch and stop.ssoftswitch scripts to start application processes using systemctl commands.</p> <p><b>Workaround:</b> As the root user, stop and start the application using 'systemctl stop ssoftswitch' and 'systemctl start ssoftswitch.'</p> <p><b>Note:</b> If the ssoftswitch.service is left in an active state by using stop.ssoftswitch directly, you may need to issue the 'systemctl stop ssoftswitch' command once before issuing 'systemctl start ssoftswitch' to start the application.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44615	PSX-44479 (14.1.6)	2	<p>Diversion URI Not Populating in Flexible Rest Request Body.</p> <p><b>Impact:</b> Diversion URI Not Populating in Flexible Rest Request Body.</p> <p><b>Root Cause:</b> The variable name displayed in the REST Service Mapping Profile for populating the Diversion URI is populated with a value from a different structure that does not include the diversion URI value.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure PSX for a basic call.</li> <li>2. Configure the REST service. <ol style="list-style-type: none"> <li>a. For Diversion URI: <ol style="list-style-type: none"> <li>i. Add Diversion headers in the SIP INVITE.</li> <li>ii. In the REST Service Mapping Profile, select the value field as Diversion URI 1- Diversion URI 5, Diversion URI 1 User-Diversion URI 5 User and Diversion URI 1 Host - Diversion URI 5 Host, and map these to some variable names by providing distinct names in the "name" field.</li> </ol> </li> <li>b. For History Info URI: <ol style="list-style-type: none"> <li>i. Add History-Info headers in the SIP INVITE.</li> <li>ii. In the REST Service Mapping Profile, select the value field as History-Info URI 1- History Info URI 5, History Info URI 1 User-History Info URI 5 User and History Info URI 1 Host - History-Info URI 5 Host, and map these to some variable names by providing distinct names in the "name" field.</li> </ol> </li> <li>c. For checking that REST service is executing "longest match" processing when a prefix-matched overlap exists in the REST request mapping variable names: <ol style="list-style-type: none"> <li>i. In the REST Service Mapping Profile, select a called number from the value field and map it to the variable name as "to" by providing "to" in the "name" field.</li> <li>ii. Select a called number without cc from the value field and map it to the variable name as "towithout_cc" by providing "towithout_cc" in the "name" field.</li> </ol> </li> </ol> </li> <li>3. Use these variable names in the rest request body of rest request body profile.</li> <li>4. Run a call.</li> </ol>	<p>Modified the REST Service Mapping Profile to include:</p> <ul style="list-style-type: none"> <li>• New variable names for populating all the diversion URIs if received (maximum of 5), and also provided a separate option for populating only the user/host part of each received diversion URI.</li> <li>• New variable names for populating all the History Info URIs if received (maximum of 5), and also provided a separate option for populating only the user/host part of each received History Info URI.</li> </ul> <p>Provided the fix for the "shortest match" processing when there is a prefix-matched overlap in the Rest request mapping variable names.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Create a DM/PM rule to copy the redirecting original number/ redirecting number (diversion) into a Flex Variable.</li> <li>2. In the REST Service Mapping Profile, add a new entry that uses Flex Variable in the 'value' field.</li> </ol>



Issue ID	Original Issue	Sev	Description	Resolution
			5. Verify each of variables is populated according to the mapping done in the REST Service Mapping Profile.	
PSX-44629	N/A	2	<p>PSX database error.</p> <p><b>Impact:</b> If more than one route is added and one or more records already exist in DB, the PIPE fails to get the next sequence number for the ROUTE record, followed by "No diagnostic available" from the ODBC.</p> <p><b>Root Cause:</b> Constrain violation raises the ODBC "HY000" error state, which causes false-positive detection of DB disconnection.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run the batch script from the RAMP with multiple routes added where one or more routes already exist.</li> <li>2. Verify no routes are added for the transaction containing duplicated route failures.</li> <li>3. Verify the transactions do not cause any sequence-related errors or ODBC "No info available" errors.</li> </ol>	<p>Modified the code to ignore an HY000 error state for DB disconnect detection.</p> <p><b>Workaround:</b> None</p>
PSX-44685	N/A	3	<p>Inserting data to the PSX using API failed.</p> <p><b>Impact:</b> When more than two consecutive failures occur in the SOAP API or batch CLI, the remaining queries fail with an internal savepoint issue:</p> <p>ERROR: savepoint "pipecmd" does not exist</p> <p><b>Root Cause:</b> A conflict between the internal savepoint by the ODBC driver and the PIPE code. Due to the conflict, the transaction aborts. When the PIPE sends the "Rollback pipecmd" query, the ODBC driver triggers the error "ERROR: savepoint "pipecmd" does not exist".</p> <p><b>Steps to Replicate:</b> Run a batch file or SOAP API containing five queries with failure cases.</p> <p>(Example: Five 'Update' queries with 'data does not exist')</p>	<p>The following updates are made:</p> <ul style="list-style-type: none"> <li>• The ODBC driver is updated to version 16.00.000.</li> <li>• The ODBC driver configuration Protocol is updated to 7.4-0. This prevents: <ul style="list-style-type: none"> <li>◦ the ODBC driver's internal savepoint, and</li> <li>◦ executing a direct query for a savepoint and rollback from the PIPE code through SQLExecDirect instead of SQLExecute.</li> </ul> </li> </ul> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44710	N/A	3	<p>The DNS server does not come out of 'unavailable' state on the PSX.</p> <p><b>Impact:</b> The PSX blacklists the DNS server when it does not receive a response from the server (e.g., DNS service manual halted, DNS offline for maintenance), but the DNS is back online, even though the DNS responds with "NOERROR" and "SERVFAIL" responses, the PSX does not move it back to the whitelisted (available) state.</p> <p><b>Root Cause:</b> When the PSX blacklists the DNS server, probe requests are sent to the DNS to check its status. When the DNS sends valid responses based on the number of responses configured in the ARS profile (Address Reachability Service), the PSX whitelists it (These should be consecutive responses).</p> <p>When the PSX receives "NXDOMAIN" responses from the DNS, it successfully whitelists the DNS; however, the "NOERROR" and "SERVFAIL" responses to the PSX probe requests were getting cached, whereby the PSX did not receive consecutive responses for them. Thus, the PSX blacklisted the DNS. This response caching was fixed long back, but only for NXDOMAIN responses.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install a PSX.</li> <li>2. Run an ENUM-DNS call successfully.</li> <li>3. Create an ARS Profile to block the DNS Server.</li> <li>4. Attach the profile to the LWRES D Profile.</li> <li>5. Stop the named service on the DNS.</li> <li>6. Run the DNS call. (Before the fix: The call fails)</li> <li>7. The DNS gets Blacklisted based on the number of timeouts configured in the ARS.</li> <li>8. Check slwresdmgmt option 7 if it is unavailable.</li> <li>9. Start the named service on the DNS.</li> <li>10. Examine the response in slwresd.log and check that the DNS is whitelisted.</li> </ol>	<p>The code is modified to prevent the "NOERROR" and "SERVFAIL" responses from getting cached (similar to the NXDOMAIN fix).</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44735	PSX-42560 (14.1.7)	2	<p>Deleting a Blocking Label Profile causes its cache to rebuild &gt; high PES latency.</p> <p><b>Impact:</b> High PES latency encountered after deleting a Blocking Label Profile caused its cache to rebuild.</p> <p><b>Root Cause:</b> When the PES process starts, the Blocking Profile Info collection hash table has a bucket size of 1024, and each bucket can hold 5 entries. For any operation (such as insert/delete/update), the table monitor checks the bucket size and number of entries in the cache. If the bucket exceeds its limits, it adjusts the size for better performance.</p> <p>Each time the bucket size is multiplied by 2, this increment is performed twice. If the entries are still full, the bucket size is readjusted for provisioning operations. The PES cache takes a long time to update while the bucket size changes because building the cache takes 250 milliseconds for every 500 records, and call processing threads need to perform database dips while adjusting the bucket size or rebuilding the cache.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the Blocking label profile with 25K entries.</li> <li>2. Make sure that the Blocking Label Profile Info table has 25k entries.</li> <li>3. Set up a call configuration that uses a Blocking Label Profile.</li> <li>4. Stop and restart the Softswitch.</li> <li>5. Run a high call load using the Blocking Label Profile and perform any provisioning operations (such as delete, insert, update) on the Blocking Label Profile entity.</li> <li>6. Watch for any retries or UDP drops.</li> </ol>	<p>Added a new collection class called the Hot Swap Static Info collection. This new class provides an active and standby map. When adjusting the table bucket size and rebuilding the cache, the standby map helps avoid locking the cache; call processing threads use the active map instead of fetching from the database.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44791	N/A	3	<p>Rehoming PSX Oracle Replica to Postgres primary failed when hostname contains a dash, such as "PSX-REPLICA1"</p> <p><b>Impact:</b> Rehoming Oracle Replica to the Postgres primary fails when the replica hostname contains a dash character ("-"), such as PSX-REPLICA1.</p> <p><b>Root Cause:</b> The Rehome script logic does not support the "-" character in the PSX hostname. Thus, when a "-" is present in the hostname, the parameter update that extracts the IP address logic fails, resulting in a rehoming failure.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Bring up a Postgres primary.</li> <li>2. Rehome the Oracle replica that contains a dash in the hostname.</li> </ol>	<p>The Rehome scripts are updated to account for a dash character in the hostname to avoid a failure.</p> <p><b>Workaround:</b> Before executing Oracle replica Rehome procedure, do the below changes.</p> <ol style="list-style-type: none"> <li>1. Log in to the Postgres PSX primary as a <code>root</code> user.</li> <li>2. Navigate to <code>cd /export/home/ssuser/SOFTSWITCH/SQL/</code>.</li> <li>3. Back up the existing script using the command <code>cp prim_rehome.py /tmp/</code>.</li> <li>4. Issue the <code>sed -i '239s/-/] -/' prim_rehome.py</code> command.</li> </ol>
PSX-44829	N/A	2	<p>Rehoming Oracle Replicas to the migrated Postgres primary PSX failed when the primary is not the BDR RAFT leader.</p> <p><b>Impact:</b> During the PSX migration, rehoming the Oracle Replicas to the migrated Postgres primary PSX fails when the primary is not the BDR RAFT leader.</p> <p><b>Root Cause:</b> This issue occurs when the current provisioning primary is not the BDR RAFT leader. The non-leader BDR primaries update the BDR consensus log table frequently and accumulate data in the replication slot. When the <code>prim_rehome</code> script is entered, it finds some data in the replication slot that was not processed. The script stops after some retries.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Set up P1 and P2, and one Oracle Replica rehomed to P1.</li> <li>2. Shut down the P1 after some time (For example, 5 minutes).</li> <li>3. Observe that the P2 becomes RAFT Leader (check through the SQL command).</li> <li>4. Restart the P1 and rehome the Oracle Replica to P2.</li> </ol>	<p>The script makes the previous primary the BDR Raft leader incase if it is not. This prevents additional consensus log to be generated and hence no lag.</p> <p><b>Workaround:</b> Use the steps below to find out who the BDR RAFT leader in the network is:</p> <ol style="list-style-type: none"> <li>1. Log in as a <code>root</code> user.</li> <li>2. Enter <code>su - postgres</code>.</li> <li>3. Run the <code>dbaas_raft_stat -a ssdb</code> command. The output summary prints who the RAFT leader is.</li> </ol> <p>If the current provisioning primary is not the BDR RAFT leader, use the below steps to make the current provisioning primary as the BDR RAFT leader.</p> <ol style="list-style-type: none"> <li>1. Log in as a <code>root</code> user.</li> <li>2. Run <code>su - postgres</code>.</li> <li>3. Run <code>psql -d ssdb</code>.</li> <li>4. Run <code>select peer_id from dbrep_peer where role = 1;</code> Use this <code>peer_id</code> value in the next command.</li> <li>5. Run <code>select bdr.raft_leadership_transfer(node_name := '&lt;peer_id&gt;', wait_for_completion := 'true');</code></li> </ol>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44835	N/A	2	<p>Unable to launch the PSX GUI after upgrading the node levels to "1".</p> <p><b>Impact:</b> The PSX GUI launch fails after the PSX is upgraded to node level "1." The PSX provisioning is unavailable during the upgrade.</p> <p><b>Root Cause:</b> This issue was caused by clearing the current free pool connections but not creating the new DB connections for the PIPE process due to a defect in the code.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Establish a base setup on a 16.1.1R0 or 16.1.0R0 PSX.</li> <li>2. Upgrade the Primary1 with 16.1.2R0.</li> <li>3. Bring up the other nodes with upgrade Level 1.</li> <li>4. Launch the GUI from all nodes except Primary1.</li> </ol>	<p>Modified the code to establish new DB connections at node level "1" so the GUI launch is successful when 16.1.2R0 is upgraded to this and future releases.</p> <p>However, we cannot fix this issue in older 16.1.1R0 and 16.1.0R0 GA releases.</p> <p><b>Workaround:</b> For nodes upgraded from releases 16.1.1R0 and 16.1.0R0, restart the PIPE process after upgrading the node to level 1.</p>
PSX-44905	N/A	3	<p>The 'su' command doesn't work due to SELinux.</p> <p><b>Impact:</b> Failed login attempts increase on Postgres account when SELinux mode is enforced.</p> <p><b>Root Cause:</b> The SPMonitor service frequently attempts to switch a user to a Postgres user. This fails due to the script's incorrect SELinux context.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Enable SELinux with mode enforcement.</li> <li>2. Monitor for failed login attempts to the Postgres account.</li> </ol>	<p>The SPMonitor service is not required and is removed.</p> <p><b>Workaround:</b> As root user, stop and disable the SPMonitor service.</p> <pre># systemctl stop spmonitor.service # systemctl disable spmonitor.service</pre>
PSX-45012	PSX-44832 (15.1.4)	3	<p>PSX Billing Information table Softswitch error.</p> <p><b>Impact:</b> In the Billing Information entity, the configured Billing Fields when deleted and saved the entity will prompt a Data response error.</p> <p><b>Root Cause:</b> This issue is caused by the EnforceReference trigger for the DeleteUpdate command, which did not migrate properly from Oracle to Postgres.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Open the Billing Information entity in the PSX Manager GUI.</li> <li>2. Configure two or more Billing Fields in the Billing Information entity.</li> <li>3. Try to delete a configured Billing Field and save the entity.</li> </ol> <p>The Billing Field is deleted and saved without prompting any error.</p>	<p>The Billing Information entity in the EnforceRefDU is modified per the Oracle code.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45081	N/A	2	<p>Ribbon PSX API Integration Test - bulkRetrieve for RLR.</p> <p><b>Impact:</b> The PSX bulkRetrieve API is failing for Routing Label Routes.</p> <p><b>Root Cause:</b> The tabcolsmap.dat file should contain the newly added column name, tag, and type for the bulkRetrieve supported entities.</p> <p>The new columns added to Routing Label Routes were not present in tabcolsmap.dat, which is why the API failed.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Generate a bulkRetrieve API request.</li> <li>2. Expected results: The requested entries are fetched successfully.</li> </ol>	<p>Added the column name, tag and type to the tabcolsmap.dat file.</p> <p><b>Workaround:</b> None</p>
PSX-45083	N/A	3	<p>PSX manager&gt;Number Translation Criteria&gt;SQL Search Criteria&gt;Element Type doesn't have an option TG with a calling number.</p> <p><b>Impact:</b> PSX manager&gt;Number Translation Criteria&gt;SQL Search Criteria&gt;Element Type doesn't have an option TG with a calling number.</p> <p><b>Root Cause:</b> The following CPE types are not added to the SQL Search Criteria.</p> <ul style="list-style-type: none"> <li>• TG with Calling Number</li> <li>• TG with GN Additional Calling</li> <li>• GN Additional Calling</li> <li>• Number Translation Service Status</li> </ul> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Launch the PSX manager.</li> <li>2. Select Number Translation Criteria under Entity.</li> </ol> <p>The new CPE types are available in the Element type of the SQL Search Criteria.</p>	<p>The code is updated to list new CPE types in the Element type under the SQL Search Criteria.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45084	N/A	3	<p>The PSX Psql drops all Oracle replica nodes.</p> <p><b>Impact:</b> Issuing the PSX Psql command drops all Oracle replica nodes.</p> <p><b>Root Cause:</b> Selected Oracle replicas are not deleted from the relevant table, such as license_profile_association. Furthermore, the system lacks a feature to bulk-select Oracle replicas to delete.</p> <p><b>Steps to Replicate:</b></p> <p>Test the new feature in the DB Replication Manager: "Bulk Un-register Replicas."</p> <ol style="list-style-type: none"> <li>1. Run "Bulk Un-register Replicas."</li> <li>2. Verify that Oracle replicas are deleted via the Oracle operation option and ensure that they are removed from all relevant tables.</li> </ol>	<p>The code is updated to ensure that selected Oracle replicas are properly deleted from all the relevant tables, including license_profile_association, dbrep_peer, and dbrep_status. A new feature was also added to allow the bulk selection of Oracle replicas for deletion.</p> <p><b>Workaround:</b> A manual script was provided as a temporary workaround. With this release, a proper code fix is implemented to resolve the issue.</p>
PSX-45097	N/A	3	<p>SDR restarts in 16.1.2.</p> <p><b>Impact:</b> The primary pod would completely come up after the install. But after ~30 minutes the 'sdr' container in the primary pod would start to go for restarts.</p> <p><b>Root Cause:</b> This was caused by an update to the etcd client, which no longer tries a dial at creation. SDR sends a watch request to the invalid etcd backend address and waits forever for an answer, and then that routine gets flagged as stale by the routine manager and sdr gets automatically restarted.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install the PSX primary CNe.</li> <li>2. Wait for 45+ minutes and ensure there are no sdr container restarts.</li> </ol>	<p>In earlier release PSX CNe solution was using sdr version 2.14.26. After upgrading the sdr version to 2.14.28, the sdr container restart issue is resolved.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45172	N/A	2	<p>PSX CNe: The <code>system_metric.sh</code> fails to run inside any of the PSX container process.</p> <p><b>Impact:</b> The system metrics exporter failed to run on the PSX application containers, and the metrics were unavailable.</p> <p><b>Root Cause:</b> The PSX application Dockerfile installs ecs-logging. A newer version of the ecs-logging is incompatible with python3.6.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install the PSX primary/replica CNe instance.</li> <li>2. Verify the primary/replica CNe instances are running.</li> <li>3. Log on to the PIPE container of the PSX primary or replica pod.</li> <li>4. Run <code>ps -eaf</code> to verify the <code>/opt/ribbon/system_metric/system_metric.py</code> displays the running status of <code>system_metric.py</code>.</li> </ol>	<p>The PSX container image needs to pull in the old ecs-logging 2.1.0 version.</p> <p><b>Workaround:</b> None</p>
PSX-45209	N/A	3	<p>The <code>psxRestoreBackup</code> generates a message at the end: "New release of pip is available"</p> <p><b>Impact:</b> The <code>psxRestoreBackup</code> process sends the message "New release of pip is available" after completing.</p> <p><b>Root Cause:</b> The code compares the current PIP version with the latest available version.</p> <p><b>Steps to Replicate:</b> Perform a <code>psxRestore</code> and check that the message does not print.</p>	<p>Suppressed this message from being printed during PIP install of python Packages.</p> <p><b>Workaround:</b> None</p>



Issue ID	Original Issue	Sev	Description	Resolution
PSX-45243	N/A	3	<p>PSX CNe: Stale admin data from an old part operation causes oc delete of Provisioning primary pod failure to join BDR Cluster.</p> <p><b>Impact:</b> The etcd has an admin state of 'none' for the primary node. When the 'kubectl delete pod' was run on the primary pod and it came back, it did not join the BDR cluster since the admin state was 'none.'</p> <p><b>Root Cause:</b> This primary node was used to restore the DB. The cnfRestoreBackup.pl file uses the Dbaas Deployment Manager (DM) to part the primary node before it restores the DB. DM commands are administrative commands that store the 'none' admin state in the etcd. When the primary pod restarts with the 'kubectl delete pod' command, it learns its admin state of 'none' from the etcd and does not join the BDR cluster.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Restore a backed-up DB.</li> <li>2. Use the 'kubectl delete pod' command on the primary node on which the cnfRestoreBackup.pl script was run.</li> <li>3. Ensure that the primary POD restarts and successfully joins the BDR cluster.</li> </ol>	<p>The cnfRestoreBackup.pl script was changed to use the DBS low-level dbaas_part_bdr_node command to partition the primary node before restoring the DB. This does not change the primary node's admin state.</p> <p><b>Workaround:</b> Update the cnfRestoreBackup.pl manually with the following changes at line 175.</p> <pre>my \$str = "\$SU - postgres -c 'dbaashome/bin/ dbaas_part_bdr_node \$hostname ssdb'";</pre>
PSX-45317	N/A	2	<p>RAMP_24_06_00R00: Using PSX GUI for Number Translation does not update user activity logs.</p> <p><b>Impact:</b> When using the PSX GUI Manager to configure the Number Translation Profile, RAMP's User Activity Logs are not populating.</p> <p><b>Root Cause:</b> The PSX GUI Manager sends a post-request to the RAMP to update the user_activity_logs; for Number Translation, this request includes angle brackets ('&lt;' and '&gt;'), which are not parsed by the RAMP.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Open the PSX GUI Manager using the RAMP.</li> <li>2. Configure the Number Translation Profile.</li> <li>3. After a successful creation, check the RAMP's User Activity Logs.</li> </ol>	<p>The code is modified to remove angle brackets before sending the request to the RAMP.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-45395	N/A	2	<p>CLI provisioning of the Range Profile is not supported.</p> <p><b>Impact:</b> CLI provisioning of the Range Profile is not supported in PSX16.01.02R002.</p> <p><b>Root Cause:</b> The code changes are needed for CLI support to be compatible with 1612R2 PSX. Also, for the RAMP update.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Bring up the 16.1.2R2 PSX along with the supported RAMP version.</li> <li>2. Attempt to provision the Range Profile routes using the RAMP CLI.</li> </ol>	<p>The code is modified to support Range Profile CLI provisioning. Also, a new RAMP version will support this CLI.</p> <p><b>Workaround:</b> Use the GUI to configure the Range Profile routes.</p>
PSX-45451	N/A	3	<p>podAntiAffinityRulePriority is not honoring other pod worker nodes Affinity when the value is set to 'Required'.</p> <p><b>Impact:</b> The Primary and Replica pods were set on the same worker node even when the anti-affinity setting was set to Required.</p> <p><b>Root Cause:</b> Required anti-affinity was honored between Replica pod to other Replica pods, and Primary pods to other Primary pods. However, anti-affinity between Replica and Primary pods was not.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure Primary and Replica CNe values files.</li> <li>2. Use 'oc get pod -w' to ensure not Primary and Replica pods get scheduled on the same worker node.</li> </ol>	<p>The anti-affinity logic was changed to include required anti-affinity between Replica and Primary pods. The logic for preferred and required was enhanced to ensure the anti-affinity was for all namespaces.</p> <p><b>Workaround:</b> None</p>
PSX-45508	N/A	2	<p>PSX CNe: Single Decoder Worker Function is disabled after a DB Restore on the Provisioning Primary Node.</p> <p><b>Impact:</b> The Single Decoder Worker (SDW) feature was enabled in 16.1.3. After issuing the DB Restore command, the SDW feature was not enabled when creating the BDR cluster.</p> <p><b>Root Cause:</b> The DB Restore <code>cnfRestoreBackup.pl</code> script does not use the SDW parameters when creating the BDR cluster.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Perform a DB Restore.</li> <li>2. After running the <code>cnfRestoreBackup.pl</code> script, run <code>dbaas_config_sdw -l ssdb</code> to ensure the SDW is enabled.</li> </ol>	<p>The code is modified so that when the <code>cnfRestoreBackup.pl</code> script creates the BDR cluster, it verifies the SDR is enabled before adding the appropriate parameters.</p> <p><b>Workaround:</b> None</p>

## Release 16.01.02R000

### Severity 1 Issues

The following table lists the resolved severity 1 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43907	N/A	1	<p>The LI lookup flaw impacts the LI trigger.</p> <p><b>Impact:</b> The LI lookup fails to function for the TEL_URI targets.</p> <p><b>Root Cause:</b> The interception logic of TEL_URI uses a static variable that fails to reset correctly if it is corrupted with unexpected values. The interception logic does not reach the TEL_URI types.</p> <p><b>Steps to Replicate:</b> You cannot reproduce this issue easily. It is observed only if the variable's value becomes different from the expected value.</p>	<p>Changed the variable from "static" to "normal".</p> <p><b>Workaround:</b> None</p>
PSX-44392	PSX-44309 (15.1.0)	1	<p>The MAP ATI timeouts are causing dialog leaks that lead to call failure.</p> <p><b>Impact:</b> During a timeout in the SCPA, the PSX fails to clean the dialogs and causes bind failure in calls when reaching the dialog limit.</p> <p><b>Root Cause:</b> For the ITU, the SSN key for the dialogue was incorrect while fetching dialog from the map, causing failure in function and dialogue clearing.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the calls for SIGTRAN for ATI calls.</li> <li>2. Observe that no response is received for the ATI request which leads to a timeout.</li> <li>3. Check scpamgmt &gt; 3 for Open TCAP Transactions Statistics.</li> <li>4. When running a load call, a few TCAP transactions are open due to the ongoing TCAP. However, the open TCAP transactions become zero once the calls are ended.</li> </ol>	<p>Provided the correct SSN key for the GSM (This resolution applies only for the ITU protocol) to ensure the "fetchdialog" function works correctly and the existing dialog is removed.</p> <p>(After resolving this issue, a subsequent issue was observed: During the first call, the dialog cleared. However, a leakage was observed during the second call because the thread was locked in the SIGTRAN. Updated the code to ensure the dialogs are correctly removed from the map.</p> <p><b>Workaround:</b> None</p>

### Severity 2 and 3 Issues

The following table lists the resolved severity 2 and 3 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PLTF-4305	PLTF-4144 (23.6)	3	<p>Deprecated SSH cryptographic ciphers.</p> <p><b>Impact:</b> The Qualys scan reports the following SSH cipher vulnerabilities:</p> <ul style="list-style-type: none"> <li>key exchange diffie-hellman-group-exchange-sha1</li> <li>key exchange diffie-hellman-group14-sha1</li> <li>host key ssh-rsa</li> <li>cipher aes256-cbc</li> <li>cipher aes128-cbc</li> <li>MAC hmac-sha1-etm@openssh.com</li> <li>MAC hmac-sha1#</li> </ul> <p><b>Root Cause:</b> When the Crypto Policy was set to DEFAULT/FIPS, the reported ciphers were enabled in the configuration files, generating vulnerabilities.</p> <p><b>Steps to Replicate:</b></p> <ul style="list-style-type: none"> <li>Using the nmap tool: <ol style="list-style-type: none"> <li>Run <code>nmap -sV -p 22 --script ssh2-enum-algos &lt;IP_ADDRESS&gt;</code>.</li> <li>Verify the output</li> </ol> </li> <li>Using SSH with weak cipher: <ol style="list-style-type: none"> <li>Run <code>ssh -c &lt;WEAK_CIPHER&gt; &lt;USERNAME&gt;@&lt;IP_ADDRESS&gt;</code>. (Example: <code>ssh -c aes128-cbc admin@172.xx.xx.xx</code>)</li> <li>Observe that an error is generated as below: ERROR: Unable to negotiate with 172.xx.xx.xx port 22: no matching cipher found.</li> <li>Offer aes256-ctr, aes128-gcm@openssh.com, aes128-ctr.</li> <li>Log in with SSH using a weak cipher and verify the output.</li> </ol> </li> <li>Using SSHD: <ol style="list-style-type: none"> <li>Run <code>sshd -T</code> (inside the server).</li> <li>Verify the results.</li> </ol> </li> </ul>	<p>Created the custom modules under <code>/etc/crypto-policies/policies/modules/</code> directory and updated the crypto-policy with the "DEFAULT:NO-SHA1:NO-CBC:NO-HMAC-SHA1" module that disables all of the aforementioned weak ciphers.</p> <p><b>Workaround:</b> None</p>
PLTF-4311 (etcd)	N/A	2	<p>The etcd Helm uninstall fails.</p> <p><b>Impact:</b> The Helm uninstall fails if the environment requires specific tolerations and nodeSelectors.</p> <p><b>Root Cause:</b> None</p> <p><b>Steps to Replicate:</b> None</p>	<p>Applied tolerations and nodeSelectors to the Helm hooks to resolve the issue.</p> <p><b>Workaround:</b> None</p>
PLTF-4534 (etcd)	N/A	2	<p>Deleting the etcd chart does not remove the member from the cluster.</p> <p><b>Impact:</b> The Helm uninstall fails when using the TLS since the Helm hooks invoked during the uninstall did not contain the security context set.</p> <p><b>Root Cause:</b> None</p> <p><b>Steps to Replicate:</b> None</p>	<p>Applied security context to the Helm hooks to resolve the issue.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PLTF-4556 (etcd)	N/A	3	<p>Set the container security context on the telemetry-agent container.</p> <p><b>Impact:</b> You cannot adjust the security context on the telemetry agent container pod using values. No impact on production.</p> <p><b>Root Cause:</b> None</p> <p><b>Steps to Replicate:</b> None</p>	<p>Set security context on the telemetry agent to resolve the issue.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43746	N/A	3	<p>The PSX fails to print the logs while using the <code>psxBackup.pl</code> and <code>psxRestoreBackup.pl</code> scripts.</p> <p><b>Impact:</b> The PSX fails to print the logs.</p> <p><b>Root Cause:</b> The logs are not printed as expected, and the scripts fail to work or incorrectly make logs for certain steps. The suggested solution involves setting a global log level variable and ensuring that all logging functions use it.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run the <code>psxBackup.pl</code> and <code>psxRestoreBackup.pl</code> scripts.</li> <li>2. Check the logs.</li> <li>3. Additionally, review the following logs: version.inf</li> </ol> <pre> 06/05-11:32:32 cd /export/home/dbadmin/ssdb/backup/psx_pg_backup;bin/tar -cvfz /export/home/dbadmin/ssdb/backup/psx_pg_backup_Jun05_11_32_30_2024.tar.gz * - ended 06/05-11:32:32 cd /export/home/dbadmin/ssdb/backup; /bin/rm -rf psx_pg_backup - started 06/05-11:32:32 cd /export/home/dbadmin/ssdb/backup; /bin/rm -rf psx_pg_backup - ended 06/05-11:32:32 ##### Finished generating tar dump of files ##### 06/05-11:32:32 ##### Finished PSX backup. ##### </pre> <p>psxRestoreBackup.pl</p> <pre> 06/05-11:22:11 ##### Finished setting sync priority ##### 06/05-11:22:11 ##### Starting softswitch ... ##### </pre>	<p>Modified the <code>psxBackup.pl</code> and <code>psxRestoreBackup.pl</code> scripts to include the log level in the logging functions.</p> <p>Added a Global Log Level Variable,</p> <pre>my \$loglevel = 1; #</pre> <p>Added log level variable</p> <p>In the doBackup function:</p> <pre> ssPrompts::PrintLog(\$LogFile, "##### Starting PSX backup. #####", \$loglevel, \$AddLogFile); ssPrompts::PrintLog(\$LogFile, "##### Removing \$backuppath/psx_pg_backup. #####", \$loglevel, \$AddLogFile); ssPrompts::PrintLog(\$LogFile, "Creating backup directory \$backuppath/psx_pg_backup", \$loglevel, \$AddLogFile); </pre> <p>----- -- 'psxRestoreBackup.pl' ----- -</p> <p>Added a Global Log Level Variable,</p> <pre>my \$loglevel = 1; #</pre> <p>Added log level variable</p> <p>In the doRestoreBackup function</p>

Issue ID	Original Issue	Sev	Description	Resolution
			<pre> 06/05-11:22:11 /bin/su ssuser -c 'cd /export/home/ssuser/ SOFTSWITCH/BIN; ./ start.ssoftswitch' - started ----- Starting SoftSwitch Process Manager ----- ----- ----- SoftSwitch Process Manager has Started ----- 06/05-11:22:13 /bin/su ssuser -c 'cd /export/home/ssuser/ SOFTSWITCH/BIN; ./ start.ssoftswitch' - ended 06/05-11:22:13 ##### Creating wal2dbrep service ##### 06/05-11:22:13 ##### Installing Pandas and other Python modules. ##### 06/05-11:22:13 cd /export/ home/dbadmin/extlibs; pip3 install ./*.whl - started WARNING: Running pip install with root privileges is generally not a good idea. Try `pip3 install --user` instead. Requirement already satisfied: numpy==1.19.5 from file:///export/home/dbadmin/ extlibs/numpy-1.19.5-cp36- cp36m-manylinux1_x86_64.whl in /usr/local/lib64/ python3.6/site-packages Requirement already satisfied: pandas==1.1.5 from file:///export/home/dbadmin/ extlibs/pandas-1.1.5-cp36- cp36m-manylinux1_x86_64.whl in /usr/local/lib64/ python3.6/site-packages </pre>	<pre> ssPrompts::PrintLog(\$log file, "Getting DbaaS BDR status ... ", \$loglevel, \$AddLogFile); ssPrompts::PrintLog(\$log file, "Try = \$tries : DbaaS BDR status : \$sdStatus ... ", \$loglevel, \$AddLogFile); ssPrompts::PrintLog(\$log file, "Cannot continue restore as node is not ready after 20 tries ... ", \$loglevel, \$AddLogFile); </pre> <p>These changes ensure that the PSX consistently uses log level in all logging functions and addresses the issue.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
			<pre> Requirement already satisfied: pyasn1==0.4.8 from file:///export/home/dbadmin/ extlibs/pyasn1-0.4.8-py2.py3- none-any.whl in /usr/local/ lib/python3.6/site-packages Requirement already satisfied: python- dateutil==2.8.2 from file:/// export/home/dbadmin/extlibs/ python_dateutil-2.8.2- py2.py3-none-any.whl in /usr/ local/lib/python3.6/site- packages Requirement already satisfied: pytz==2021.3 from file:///export/home/dbadmin/ extlibs/pytz-2021.3-py2.py3- none-any.whl in /usr/local/ lib/python3.6/site-packages Requirement already satisfied: rsa==4.9 from file:///export/home/dbadmin/ extlibs/rsa-4.9-py3-none- any.whl in /usr/local/lib/ python3.6/site-packages Requirement already satisfied: six&gt;=1.5 in /usr/ lib/python3.6/site-packages (from python-dateutil==2.8.2) 06/05-11:22:14 cd /export/ home/dbadmin/extlibs; pip3 install ./*.whl - ended 06/05-11:22:14 ##### Creating wal2dbrep service. ##### 06/05-11:22:14 /bin/cp -f / export/home/ssuser/ SOFTSWITCH/BIN/ wal2dbrep.service /etc/ systemd/system - started 06/05-11:22:14 /bin/cp -f / export/home/ssuser/ SOFTSWITCH/BIN/ wal2dbrep.service /etc/ systemd/system - ended 06/05-11:22:14 /bin/systemctl daemon-reload - started 06/05-11:22:14 /bin/systemctl daemon-reload - ended </pre>	



Issue ID	Original Issue	Sev	Description	Resolution
			<pre> 06/05-11:22:14 /bin/systemctl enable wal2dbrep.service - started Created symlink /etc/systemd/ system/multi- user.target.wants/ wal2dbrep.service → /etc/ systemd/system/ wal2dbrep.service. 06/05-11:22:14 /bin/systemctl enable wal2dbrep.service - ended 06/05-11:22:14 /bin/systemctl start wal2dbrep.service - started  platform   dbrep_changes   86 platform   dbrep_changes_sqlids   86 platform   dbrep_peer   1 platform   dbrep_tab_wclause   529 platform   master_version_info   3 platform   psx_csd_info   1 platform   psx_db_params   13 platform   sql_error_codes   240 platform   table_changes   379 platform   table_changes_data   22 platform   table_version_info   4 platform   tables_row_count   2 (181 rows)  06/05-11:22:15 ##### Finished PSX backup restore. ##### </pre>	

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43914	N/A	2	<p>Incorrect call analysis after Route Hopping.</p> <p><b>Impact:</b> The PSX fails to determine the OrigLATA after selecting the Route Hopping in the Routing label with a DM/PM rule.</p> <p><b>Root Cause:</b> The OrigLATA was not determined in the call flow and is considered here, causing the issue.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure a redirector call.</li> <li>2. Change the Routing Type to Route Hopping and apply a DM/PM rule.</li> <li>3. Check if the LATA is determined in the Preprocessor layer.</li> <li>4. Check if the LATA is determined in the Router layer.</li> <li>5. Observe that if the toll indication is IntraLATA during the first time, the PSX identifies the call as IntraLATA during the second time, after the Router layer.</li> </ol>	<p>Determined the OrigLATA to resolve the issue using the following methods:</p> <ul style="list-style-type: none"> <li>• Check if the OrigLATA carries a value. If it is empty, fill it appropriately.</li> <li>• Check if the value is already determined. If it is already present, use the pre-determined value of OrigLATA.</li> </ul> <p><b>Workaround:</b> None</p>
PSX-44016	N/A	3	<p>The PSX fails to determine the VPN subscriber's (public presence) country code.</p> <p><b>Impact:</b> The country code for the calling number for the VPN subscriber is fetched from the Ingress TG screen instead of the Business Group Subscriber screen.</p> <p><b>Root Cause:</b> The PSX fails to perform checks for the presence of a Business Group Subscriber entry.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the Business Group and Business Group Subscriber in addition to the basic call and enable Apply Business Group Services in the FCP.</li> <li>2. Trigger a call through the SSREQ to ensure the business group is present in the policy request.</li> <li>3. Check for the trace line (Fetch Calling Country Code and Original Calling Number).</li> <li>4. Ensure that the fetched country is from the BGS screen if there is a valid BGS entry or the Ingress TG per the previous functionality.</li> <li>5. If both (Use TG Country and Apply Business Group Services) are enabled, the PSX prioritizes fetching the country from TG to maintain backward compatibility.</li> </ol>	<p>Fixed the country code issue for the VPN subscriber and added the missing check.</p> <p><b>Workaround:</b> None</p>
PSX-44143	PSX-43542 (15.1.4)	3	<p>The PSX fails to trigger the MNP calls correctly when the GTT is enabled.</p> <p><b>Impact:</b> The PSX fails to trigger the calls correctly.</p> <p><b>Root Cause:</b> An invalid SGP error in the SCPA while sending the traffic , causing the issue.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run bulk calls at 100, 200, and 500 CPS.</li> <li>2. Observe the results.</li> </ol>	<p>Populated the valid target SGP for all the indexes to resolve the issue.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44291	N/A	3	<p>The PSX queries are based on the PEN testing results.</p> <p><b>Impact:</b> The PSX queries are based on PEN testing results.</p> <p><b>Root Cause:</b> The default credentials found in the <code>GuiClient.jar</code> were used in the RAMP in both the GUI and CLI.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Launch the RAMP and Standalone GUI.</li> <li>2. Run the PEN tests and observe the results.</li> </ol>	<p>Removed the hardcoded credentials in the following fields and set them to an empty string.</p> <pre> JTextFieldUsername.setText("admin");  JPasswordFieldPassword.setText("admin"); </pre> <p><b>Workaround:</b> None</p>
PSX-44373	N/A	3	<p>The PSX does not send ASP_ACTIVE to the second association.</p> <p><b>Impact:</b> The PSX fails to send ASP ACTIVE to other associations.</p> <p><b>Root Cause:</b> The Peer ID and Local ID are not received correctly from the SUA stack to the SCPA stack.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Set up a PSX 15.1.2R0 version.</li> <li>2. Verify that the PSX sends "ASP_ACTIVE" after "Application Server Inactive NTFY" is received from DSC to both DSC slots.</li> <li>3. Verify that the PSX does not send "ASP_ACTIVE" after "ASP_ACTIVE_ACK" is received from the DSC for both slots.</li> <li>4. Verify that the PSX-DSC link is restored after "ASP_ACTIVE_ACK" is received from the DSC.</li> <li>5. Verify the PSX-DSC link with 1 PSX and 4 DSC_Slots.</li> <li>6. Verify the PSX-DSC link with 2 PSXs and 4 DSC_Slots.</li> <li>7. Verify the PSX-DSC link with 3 PSXs and 4 DSC_Slots.</li> <li>8. Verify the PSX63 suite sanity.</li> </ol>	<p>Looped through all the associations and obtained the SUA connection to resolved the issue.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44438	N/A	2	<p>The PSX generates the "ERROR: Unrecognized GSM MAP Parameter Tag [0x30] Length [48] in AnyTimeInterrogationRes" errors in the scpa.log during the GSM MAP-ATI calls.</p> <p><b>Impact:</b> The ATI response decoding fails at the SCPA, irrespective of the responses.</p> <p><b>Root Cause:</b> The PSX failure to decode the ATI response caused this issue. A Coverity fix caused this failure.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run a MAP-ATI call.</li> <li>2. Check the SCPA log.</li> <li>3. Observe that the PSX generates the following error in the SCPA log under the MAP-ATI Res: "ERROR: Unrecognized GSM MAP Parameter Tag [0x30] Length [48] in AnyTimeInterrogationRes"</li> </ol>	<b>Workaround:</b> None
PSX-44449	PSX-44407 (15.1.4)	2	<p>The <code>orareplica.tar.gz</code> patch fails to permit connection on port 58888 for the HW PSXs.</p> <p><b>Impact:</b> The Rehome script on the Primary PSX fails to permit connection to the Flask server on the Oracle Replica on port 58888.</p> <p><b>Root Cause:</b> The Flask server on the Oracle Replica ran only on the first interface. If the management interface on the multi-interface PSX is not the first one, the Flask server selects an incorrect interface.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Set up an Oracle Primary PSX.</li> <li>2. Set up one or more Oracle Replica PSXs with multiple interfaces (Ensure the management interface is not the first one reported by 'hostname -l').</li> <li>3. Convert the Oracle Primary PSX to Postgres PSX.</li> <li>4. Perform Rehome on the Replica PSXs.</li> <li>5. Observe the results.</li> </ol>	<p>Ensured that the Flask server on the Oracle Replica runs on all interfaces.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Edit the <code>setup.</code> file from the Oracle Replica package.</li> <li>2. Modify the host parameter in the Flask server start command: <pre> echo ExecStart=/bin/python3 /usr/local/bin/flask run --host::: --port \$flaskport --cert=cert.pem --key=key.pem &gt;&gt; pgrehome.service </pre> </li> </ol>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44477	PSX-44366 (14.1.x)	2	<p>The PSX does not send the Identity header on the reattempt after an Invite Timeout.</p> <p><b>Impact:</b> The PSX fails to send the Identity header on the reattempt after an Invite Timeout on the SBC.</p> <p><b>Root Cause:</b> The STI service info (control bits to Egress the Identity header) is not populated for the dynamic routes created for the IP signaling peers.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the PSX to run a basic call.</li> <li>2. Configure the STI Profile and enable the "Send Identity Header in Egress" flag in the generic section.</li> <li>3. Configure a routing label and Egress Trunk Group with multiple IP signaling peers.</li> <li>4. Observe the IP signaling peer routes output data.</li> <li>5. The PSX populates the STI service info for the top route but not for the IP signaling peer routes.</li> </ol>	<p>Modified the code to populate the STI service info for the dynamically created routes.</p> <p><b>Workaround:</b> Configure individual routes in the routing label for every IP address in the IP Signaling Peer Group.</p>
PSX-44530	PSX-42705 (15.1.4)	2	<p>The PSX generates <code>sonusSoftSwitchDbrepDbErrorNotification</code> alarm even when the database replication is in synchronization after upgrading from 14.1.0 to 15.1.1.</p> <p><b>Impact:</b> False generation of <code>sonusSoftSwitchDbrepDbErrorNotification</code> alarm.</p> <p><b>Root Cause:</b> The incorrect processing logic is causing the issue.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Upgrade the PSX from 14.1.0 to 15.1.1.</li> <li>2. Observe that the PSX generates the alarm.</li> </ol>	<p>Corrected the <code>sonusSoftSwitchDbrepDbErrorNotification</code> processing logic to eliminate false alarms.</p> <p><b>Workaround:</b> None</p>
PSX-44635	PSX-44590 (15.1.5)	2	<p>The PSX truncates the last character of the FQDN.</p> <p><b>Impact:</b> The PGDATABASE reads only 46 characters from the database and fetches them into the cache.</p> <p><b>Root Cause:</b> The IPv6/FQDN data from the SRS Profile are read with the length <code>DIAMETER_MAX_IPV6ADDR_LENGTH=46</code>.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Store an FQDN name with a character count greater than 46 chars (maximum=62).</li> <li>2. Perform query.</li> <li>3. Verify the FQDN name.</li> </ol>	<p>Ensured the PSX reads the IPv6/FQDN data from the SRS Profile with the length <code>POLICY_GATEWAY_INFO_LENGTH=256</code>.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44638	N/A	2	<p>PreUpgradeCheck.sql errors.</p> <p><b>Impact:</b> The PSX generates the following error message while running the PreUpgradeCheck.sql script:</p> <pre>----- ----- error: trigger_criteria not found in tollfree_prefix table, exist in service_definition table trigger_criteria between tollfree_prefix and service_definition check passed ----- ----- error: escape_criteria not found in tollfree_prefix table, exists in service_definition escape_criteria between tollfree_prefix and service_definition check passed ----- -----</pre> <p><b>Root Cause:</b> The PSX displays messages such as invalid data, duplication, or trigger/escape criteria even when there were no values returned, when the cursor hits the SQL statement condition followed by the "Check Passed" message.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run the PreUpgradeCheck.sql script in the testing environment.</li> <li>2. Check the result in /tmp/PreUpgradeCheck.rpt.</li> </ol>	<p>Changed the logic to ensure it checks the SQL statement condition first. If it returns a value, it displays error messages. If not, it will display the "Check Passed" message.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44647	N/A	2	<p>The PSX fails to apply the STI PM Action Profile when the Diversion flag is enabled.</p> <p><b>Impact:</b> The STI PM Action Profile does not take effect.</p> <p><b>Root Cause:</b> A missing code to handle the scenario while generating an STI signing request to use the STI PM Action Profile when the Diversion flag is enabled.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Create an entry in the STI PM Action Profile with a P-Origination ID.</li> <li>2. Create a Generic Rule Profile and attach the profile created in Step 1.</li> <li>3. Create an STI Signing Service with the Diversion flag enabled and attach the IN Generic Rule created in Step 2.</li> <li>4. Run the call and check for a signing request.</li> <li>5. Observe that the signing request does not contain the P-Origination ID as configured in the STI PM Action Profile.</li> </ol>	<p>Modified the code to use the STI PM Action Profile when an IN Generic Rule with type STI PM Action Profile is attached, and the Diversion flag is enabled in STI Service Definition.</p> <p><b>Workaround:</b> None</p>
PSX-44737	PSX-44729 (13.2.4)	2	<p>The PSX fails to set the T38 Max Bit Rate flag when using the Preferred Packet Service Profile.</p> <p><b>Impact:</b> The PSX fails to set the T38 Max Bit Rate flag when using the Preferred Packet Service Profile on the Ingress Trunk group.</p> <p><b>Root Cause:</b> Code support is not available for the Preferred Packet Service Profile.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure Preferred Packet Service Profile on the Ingress Trunk Group.</li> <li>2. Run a basic call.</li> <li>3. Observe the output data for option 2 in the PES log for the Ingress Packet Service Profile response.</li> </ol>	<p>Modified the code to set the T38 Max Bit Rate flag in the policy response when using the Preferred Packet Service Profile.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44843	PSX-44285 (15.1.4)	2	<p>Rehome 13.04.02 to 16.01.0x - DBREPD 32/64 bit data decoding issue between Oracle and Postgres.</p> <p><b>Impact:</b> The database replication from the Postgres Primary to the Oracle Replicas fails due to a fetch request decoding issue.</p> <p><b>Root Cause:</b> The Postgres DBREPD utilizes 64-bit change_id values, while Oracle still uses 32-bit, causing incorrect decoding of sql_id in fetch requests and responses.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Create Oracle Primary PSX and one or more Replica PSXs.</li> <li>2. Convert Oracle Primary PSX to Postgres Primary PSX.</li> <li>3. Rehome Oracle Replicas to Postgres Primary PSX.</li> <li>4. Verify that Oracle Replicas are synchronized with Postgres Primary , and replication is performed .</li> <li>5. Verify the DB Audit and the Purge functionality.</li> </ol>	<p>Resolved the issue to ensure that:</p> <ul style="list-style-type: none"> <li>• The DBREPD process on each Replica reports the last sql_id from the REP to PRI with the "Fetch Request" every 5 seconds.</li> <li>• If no new provisioned data is on the PRI, it sends a "Fetch Response" to the REP with no data.</li> <li>• If the new data on the PRI is provisioned , the PRI sends new data with "Fetch Response," including new sql_id and change_id for each new data record.</li> <li>• The REP decodes "Fetch Response" and fills out the local SSDB with new data if the sql_id from the "Fetch Response" is greater than the MAX LOCAL sql_id.</li> <li>• As Oracle PSX uses 32-bit sql_id and change_id, the Postgres PSX also uses 32-bit sql_id and change_id to exchange with Oracle Replicas.</li> <li>• For Audit and Purge purposes, the Postgres PSXs utilize full 64-bit values SQL_ID and change_id.</li> </ul> <p><b>Note:</b> A potential issue is observed if the change_id is truncated from the PG 64-bit presentation to the Oracle 32-bit. Getting the records in dbrep_change with different sql_id and the same change_id on Oracle Replica is possible.</p> <p><b>Workaround:</b> Meet the following conditions to ensure the Rehome and Replication on the PSX 15.01.04R000 functions correctly:</p> <ul style="list-style-type: none"> <li>• Do not use more than two Postgres Primary PSXs to prevent change_id from bumping up over a maximum 32-bit value.</li> <li>• Do not part/re-join the Postgres Primary PSX.</li> </ul>



Issue ID	Original Issue	Sev	Description	Resolution
PSX-44857	N/A	3	<p>Missing Routing Label hyperlink at the LCR vendor.</p> <p><b>Impact:</b> Add Routing Label hyperlink to the LCR vendor screen.</p> <p><b>Root Cause:</b> Currently, the hyperlink for the Routing Label is not available on the LCR vendor screen.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Launch the latest <code>GuiClient.jar</code>.</li> <li>2. Select the LCR vendor entity.</li> <li>3. Check the hyperlink availability.</li> </ol>	<p>Modified the code to use a hyperlink for the Routing Label in the LCR vendor screen.</p> <p><b>Workaround:</b> None</p>
PSX-44877	N/A	3	<p>The PSX CNe PIPE container restarts during a fresh install.</p> <p><b>Impact:</b> The PIPE container restarts while registering to the RAMP during an orchestration.</p> <p><b>Root Cause:</b> During the PSX registration process with the RAMP, the sonusAgent running on the PSX occasionally fails to log in. The failure is detected in the timeout event in the login sequence. Due to network-induced delay, the login sequence consumes longer time, varying from 3 to 15 seconds.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Set up a PSX CNe instance.</li> <li>2. Register it with the RAMP.</li> <li>3. Observe the results.</li> </ol>	<p>Increased the login sequence timeout to 20 seconds to resolve the issue.</p> <p><b>Workaround:</b> None</p>
PSX-44896	PSX-44824 (15.1.5)	3	<p>The DNS Zone table incorrectly displays a warning message.</p> <p><b>Impact:</b> The DNS Zone table incorrectly displays the following warning message:</p> <p>"Information has changed."</p> <p><b>Root Cause:</b> In the validate method, a comparison was performed between the values of two different fields instead of comparing the same fields.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Open the GUI.</li> <li>2. Navigate to the DNS Zone.</li> <li>3. Configure two or more entries.</li> <li>4. Toggle between the entries.</li> <li>5. Observe the results.</li> </ol>	<p>Replaced a variable to ensure the PSX correctly performs the comparison.</p> <p><b>Workaround:</b> None</p>

## Release 16.01.01R000

### Severity 1 Issues

The following table lists the resolved severity 1 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43575	N/A	1	<p>"Privacy: id" is missing in egress INVITE with CLIR service.</p> <p><b>Impact:</b> The egress INVITE is missing "Privacy: id" header value when CLIR service is enabled on the PSX.</p> <p><b>Root Cause:</b> This is a typical copy error. When a billing number is fully copied to calling number field, the Billing Number presentation bit overwrites the Calling Number presentation bit.</p> <p><b>Steps to Replicate:</b> Enable the <b>Send billing number as calling number</b> flag in the Signaling Profile and attach it to the Egress Trunk Group and run a basic proxy call.</p>	<p>The code is updated to save the Calling Number presentation bit before copying the Billing Number to Calling Number and to copy the original Calling Number presentation bit back to Final Calling Number.</p> <p><b>Workaround:</b> None</p>
PSX-44135	PSX-44059 (15.1.4)	1	<p>PES process is generating cores in 14.1.6R0 release.</p> <p><b>Impact:</b> The PES process core dumps for "more routes" request.</p> <p><b>Root Cause:</b> The PES process responds with multiple routes with the response message size more than 20KB. This corrupts the memory and results in PES core dump.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure multiple routes for the call and ensure each policy response exceeds 20K in size.</li> <li>2. Run the call with "more routes" request.</li> </ol>	<p>The code is updated to increase the message block size for "more routes" response to 40KB.</p> <p><b>Workaround:</b> Reduce the number of available routes for the call.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44142	PSX-43534 (15.1.4)	1	<p>A PSX is experiencing a 30% call failure rate.</p> <p><b>Impact:</b> Thirty-percent of calls fails on the PSX invoking external service request via DSC.</p> <p><b>Root Cause:</b> The Admin disabled the MTP3 link manually at the DSC, which triggered the DSC to send an 'AS with Inactive Message' to the PSX. The PSX does not process this message, thus it did not take any action.</p> <p>The MTP3 link gets reactivated, and DSC returns; however, the AS at the DSC does not go back to the active state. This causes call failures. There is no automatic mechanism to recover from this situation.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. DSC and PSX are registered.</li> <li>2. De-activate the MTP3 on the DSC.</li> <li>3. Deactivating the MTP3 NA causes all links to go down that are connected to the MTP3 as well as the L4 Application connections to the MTP3, including the Signaling Gateway.</li> </ol> <p>When the Signaling Gateway loses the connection to the MTP3, it sends a Notify message to all the connected ASPs to put them in an INACTIVE state so that the PSX does not send traffic to the DSC as it has no external links up to send traffic. When the NA is reactivated, the links and L4 Application connections to the MTP3 will come back but the ASPs will remain in an Inactive state.</p>	<p>The code is updated to handle recovery mechanism by including a fix to process AS Inactive Notify message coming from DSC. After receiving AS Inactive Notify, the PSX creates a periodic timer to send ASP_ACTIVE message to the DSC. Once the DSC comes back, it sends ACK for this message. the PSX stops ASP_ACTIVE time upon receiving the ASP_ACTIVE_ACK message from the DSC. The DSC marks AS active at their end.</p> <p>The SUA, SIGTRAN and SCPA stacks/modules are updated to process AS Notify with Inactive coming from DSC. A periodic timer ASP_ACTIVE msg will be sent to DSC and once DSC comes back , it sends ASP_ACTIVE_ACK. This full process makes AS Active at DSC to start processing traffic.</p> <p><b>Workaround:</b> Restart the SCPA process at the PSX.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44179	N/A	1	<p>The PSX Cache Issue.</p> <p><b>Impact:</b> The ROUTE INFO cache does not get updated post an upgrade from 15.1.2 to 15.1.3.</p> <p><b>Root Cause:</b> The newer versions of 15.1.3 Postgres Database procedures are not updated post an upgrade. The application does not re-create all the procedures during upgrade procedure.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Bring up the base setup using 15.1.2R0 version.</li> <li>2. Upgrade to 15.1.3R0.</li> <li>3. Provision standard route and basic call configurations.</li> <li>4. Run the calls and observe call failure.</li> </ol>	<p>The code is updated to recreate all procedures, functions and triggers during the upgrade process.</p> <p><b>Workaround:</b></p> <p><b>WARNING:</b> Perform the following Method of Procedure (MOP) once all the PSX nodes are upgraded successfully.</p> <p><b>Prerequisites :</b></p> <ol style="list-style-type: none"> <li>1. Perform this procedure on every single PSX node.</li> <li>2. Stop the PSX application only on the PSX where the MOP is applied.</li> <li>3. Apply the MOP on the PSX provisioning primary first and then move to other nodes.</li> </ol> <p><b>Procedure:</b></p> <ol style="list-style-type: none"> <li>1. Log on to the PSX Provisioning primary as ssuser User.</li> <li>2. Switch to root user.</li> <li>3. Switch to postgres user.</li> <li>4. Switch to SQL directory.  <pre>cd /export/home/ssuser/SOFTSWITCH/SQL</pre> </li> <li>5. Connect to the Postgres DB using below command.  <pre>psql -d ssdb</pre> </li> </ol>

Issue ID	Original Issue	Sev	Description	Resolution
				<p>6. Run the following commands to disable the replication, re-create the procedures, and grant the permissions to the application objects. Enable the replication.</p> <pre> SET bdr.ddl_replication = off; SELECT bdr.alter_subscription_disable(); SET LOCAL bdr.xact_replication = off;  DROP FUNCTION dbimpl.upd_route_info; SET role dbadmin; \i AllProcedures.sql \i AllTriggers.sql \i AllRefTriggers.sql SET role postgres; \i UserGrants.sql SET bdr.ddl_replication = on; SELECT bdr.alter_subscription_enable(); SET LOCAL bdr.xact_replication = on; \q </pre> <p>7. Start the softswitch on the PSX node.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44370	PSX-43595 (14.1.3)	1	<p>All the new PSX replica installations reported "All Retransmissions of Transaction Fail" Error.</p> <p><b>Impact:</b> The PES process core dumps due to less allocated memory for additional routes and TG renaming which fails all the retransmissions.</p> <p><b>Root Cause:</b> There are 2 issues:</p> <ol style="list-style-type: none"> <li>1. The memory allocated to cache additional routes is less than the actual length of the routes due to large number of parameters (identity headers and so on) which results in the process to core.</li> <li>2. The Trunk Group renaming triggers the cache rebuild of all call processing processes on the PSX and which causes momentary glitch at the PSX as the cache rebuilds happens on multiple PSX replicas at the same time.</li> </ol> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure a call.</li> <li>2. Configure more than 20 routes.</li> <li>3. Run calls with multiple Identity headers which increases the packet size.</li> </ol>	<p>The memory allocated to cache additional routes is doubled.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. If additional routes (more than 10) have less data than 20KB, the process does not core dumps.</li> <li>2. Rename a Trunk Group during the maintenance window or low traffic hours.</li> </ol>

## Severity 2 and 3 Issues

The following table lists the resolved severity 2 and 3 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PSX-41134	N/A	2	<p>SIP PSX CreateLockedTCB Errors.</p> <p><b>Impact:</b> In SIP PSXs, the SIP Stack Log:Transaction CreateLockedTCB collided with existing entry errors are seen in the sipe.log.</p> <p><b>Root Cause:</b> This error occurs when the PSX SIPE contains some stale entries of SIP transaction in its memory and could not free it.</p> <p><b>Steps to Replicate:</b> This is a random scenario, when the PSX SIPE process does not get the final response for some SIP transactions.</p>	<p>The PSX SIP stack code is modified to clear the stale entries and handle this scenario.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43518	N/A	2	<p>LI PSX target lookup for call forward - missing logic.</p> <p><b>Impact:</b> The call interception fails for INVITE with Single Diversion header due to missing ENUM definitions related to TEL_URI for DIV_REDIR, HIST_REDIR in INTERCEPT_TYPE.</p> <p><b>Root Cause:</b> When the INVITE message contains a Single Diversion header mapped to DIV_REDIR, and there is no match in the LI target, the call is not intercepted.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Send an INVITE with Single Diversion header mapped to DIV_REDIR.</li> <li>2. Check if the call interception is not successful.</li> </ol>	<p>The logic to intercept a call containing a single diversion header is added.</p> <p><b>Workaround:</b> None</p>
PSX-43587	N/A	3	<p>STI Schema Service Profile entity: Display Name field disappears for Signing service type profiles.</p> <p><b>Impact:</b> The <b>Display Name</b> field disappears for Signing service type on <b>STI Schema Service Profile</b> screen in the PSX GUI.</p> <p><b>Root Cause:</b> The <b>Display Name</b> field does not show on the screen as few conditional checks were missed in the code.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. The PSX is up and running with the latest version of the 16.1.1 build.</li> <li>2. Open the PSX GUI Manager.</li> <li>3. Navigate to <b>STI Service Schema Profile</b> entity.</li> <li>4. Select <b>Signing</b> on the <b>STI Service Type</b>.</li> </ol> <p>The <b>Display Name</b> field should not appear.</p>	<p>The <b>Display Name</b> field is not required for Signing service type and it is removed from the screen.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43634	N/A	3	<p>The SLWRESD cache fails to get updated.</p> <p><b>Impact:</b> The SLWRESD process cache is not updated in the real time.</p> <p><b>Root Cause:</b> Multiple CLI commands sent from RAMP were delivered and processed separately. The SLWRESD process detects the SSDB updates multiple times and each update triggers a new config file and configuration reload (with SIGHUP signal).</p> <p>The SIGHUP delivery is blocked during the config reload. Therefore, updates from one or more CLI commands are not picked by the BIND stack.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Execute multiple CLI commands on RAMP to add more ENUM forwarders to a zone.</li> <li>2. Verify if the updated list of forwarders is used by SLWRESD.</li> </ol>	<p>New <code>configTimer</code> is added to SLWRESD with 3000ms expiration time and it is inactive by default. The <code>configTimer</code> starts when the SLWRESD config file is updated, no SIGHUP is sent during this time. The BIND stack configuration update triggers after the <code>configTimer</code> expiration (send SIGHUP signal). If new config files are updated before the <code>configTimer</code> expiration, the timer restarts.</p> <p><b>Workaround:</b> Update the SLWRESD configuration after 5 seconds when multiple CLI updates are done for ENUM configuration.</p>
PSX-43725	N/A	2	<p>CallParamFilter profile - Calling Number lookup issue.</p> <p><b>Impact:</b> When the CPE type is a Calling Number in the CFPF, it does not use the Calling Number prefixes from the Country entity.</p> <p><b>Root Cause:</b> The call processing logic does not use the Calling Number prefixes from the Country entity when the Calling Number pattern matches.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure a Calling Number pattern in CFPF to match calling numbers.</li> <li>2. Run the calls with calling number which matches the configured pattern.</li> </ol>	<p>The code is updated to use the Calling Number prefixes from the Country entity when calling number pattern matches.</p> <p><b>Workaround:</b> None</p>
PSX-43774	N/A	2	<p>The Enum Server buffer size was set to 1280 but, it sends only 512 back to the Enum Client.</p> <p><b>Impact:</b> The ENUM Client does not use eDNS buffer size configured in the LWRESD profile when the LWRESD DNS Server Profile is not attached to LWRESD profile.</p> <p><b>Root Cause:</b> The new bind stack integration to ENUM client causes this issue.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run a call where ENUM service is invoked.</li> <li>2. Check in the ENUM query, if the eDNS size is same as the configured value.</li> </ol>	<p>Added eDNS-buffer-size parameter at global level in the <code>slwresd.conf</code> file. This new parameter ensures to use the configured eDNS buffer size.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Configure the LWRESD DNS Server entity with the respective IPs.</li> <li>2. Select Yes for the server IPs that support eDNS.</li> <li>3. Attach the LWRESD DNS server entity to the LWRESD profile.</li> </ol>



Issue ID	Original Issue	Sev	Description	Resolution
PSX-43786	N/A	2	<p>The Oracle Replicas do not replicate to the Postgres Master.</p> <p><b>Impact:</b> The Postgres to Oracle hybrid replication fails after rehome of Oracle PSX Replica node to Postgres PSX Primary node.</p> <p><b>Root Cause:</b> The RESET_SLAVE parameter was set to 'N' on the Oracle replica in <code>/export/home/ssuser/SOFTSWITCH/SQL/logs/SqlArgs.sql</code> due to previous upgrades.</p> <p><b>Steps to Replicate:</b> During an Oracle to Postgres migration, set RESET_SLAVE to 'N' in Oracle Replica before starting first rehome of the Oracle Replica PSX node.</p>	<p>Set RESET_SLAVE to 'Y' during first rehome operation for each Oracle Replica. Subsequent rehome operations will set RESET_SLAVE to 'N'.</p> <p><b>Workaround:</b> Before performing rehome operation during Oracle to Postgres migration, set RESET_SLAVE to 'Y' on all Oracle Replica nodes.</p> <p>Execute the following steps on each Oracle replica PSX node as a oracle user:</p> <pre># sed -i ' RESET_SLAVE/s/.*/define RESET_SLAVE="Y"/' /export/ home/ssuser/SOFTSWITCH/SQL/ logs/SqlArgs.sql</pre>
PSX-43827	N/A	2	<p>AD calls fail when an upgrade from 15.1.3 to 16.1 is at upgrade level 2.</p> <p><b>Impact:</b> The AD calls fails during the PSX upgrade from 15.1.3R0 to 16.1R0 (during the half-stage of the upgrade when the PSX nodes are in Level 1 and Level 2 stages).</p> <p><b>Root Cause:</b> The AD data is not synced with level 2 nodes in the PSX cluster which causes the failure.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install the PSX Primaries (P1, P2, P3) and Subscribers (S1 and S2) on 15.1.3.</li> <li>2. Upgrade the PSX Primary (P1 and P3) to 16.1R0 - Level 2.</li> <li>3. Upgrade the PSX Subscriber (S1) to 16.1R0 - Level 2.</li> <li>4. Let P2 and S2 be on 15.1.3 version Level 1 stage.</li> <li>5. Run AD calls.</li> </ol> <p>The AD calls fail at this point.</p>	<p>The DB sync procedure is updated to refer to the correct DB search path during the upgrade.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Complete the upgrade of all the PSX nodes to 16.1R0. Do not perform an AD sync in the middle of Upgrade process.</li> <li>2. Ensure all the PSX nodes in the cluster are at Level 0 before performing an AD sync.</li> </ol>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43979	N/A	4	<p>PSX SIPEMGM 100+ Blacklisted Servers Displays in Infinite Loop.</p> <p><b>Impact:</b> When the PSX SIPEMGM option #30 (Address Reachability Service Menu) and sub option #1 (List Blacklisted Servers) is used to display the blacklisted SIP Servers, the output runs in to infinite loop, if more than 100 SIP servers are blacklisted.</p> <p><b>Root Cause:</b> An incorrect logic in SIPE backend function which is invoked to display blacklisted server list causes the issue, if the blacklisted server count is 100 or more.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Create the ARS profile (Address Reachability Service Profile).</li> <li>2. Create the SIP server with attaching ARS profile to it.</li> <li>3. Access SIPEMGM and execute these sub options: <ol style="list-style-type: none"> <li>a. #30 (Address Reachability Service Menu).</li> <li>b. #1 (List Blacklisted Servers).</li> </ol> </li> </ol> <p>The PSX displays the blacklisted SIP Servers.</p>	<p>Modified the SIPE and SIPEMGM code to handle higher count of blacklisted servers.</p> <p><b>Workaround:</b> None</p>
PSX-44043	PSX-43917 (15.1.4)	3	<p>Transmission medium specified in the Range Profile Routes is not stored correctly in the database.</p> <p><b>Impact:</b> The configured value for transmission medium in the Range Profile Routes is stored incorrectly in the database.</p> <p><b>Root Cause:</b> The PIPE API invokes Postgres database procedure to create the Range routes. The transmission medium value is passed to the database procedure in Hex format and ODBC API uses direct SQL which cannot convert the hex value to byte format.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure Range Profile with Range.</li> <li>2. Configure Route set in the Range Profile.</li> </ol>	<p>The code changes are performed in the DATABASE module to bind all the parameters using the <code>SQLBindParameter</code> when Postgres database procedure is invoked. The transmission medium parameter is bound using the <code>SQL_C_BINARY</code> data type.</p> <p><b>Workaround:</b> Update the correct values manually in the transmission medium column of Route table in the Postgres primary node and restart the softswitch on Primary nodes and all Replicas.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44073	PSX-44029 (15.1.4)	3	<p>PSX DB Connection issue.</p> <p><b>Impact:</b> The PSX PIPE process gets an ODBC error when pulling next SeqID.</p> <p><b>Root Cause:</b> When the DB connection is lost and recover, the application process resets the allocated ODBC handles (in addition to DB connection reset).</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Bring up PSX Primary and register the node with the RAMP.</li> <li>2. Stop and Start Postgres DB.</li> <li>3. Connect to PSX Primary node via GUI or CLI.</li> <li>4. Create, update, or delete existing routes. Note: the first operation after the Postgres restart may fail due to DB connection recovery.</li> <li>5. Verify if the route is updated.</li> </ol>	<p>The ODBC handles are reallocated on error response from the ODBC SQL API.</p> <p><b>Workaround:</b> Restart the PSX PIPE process.</p>
PSX-44086	PSX-43867 (15.1.4)	3	<p>//psx/main - /var/log reached 100% (missing entries in /etc/crontab)</p> <p>.</p> <p><b>Impact:</b> The PSX /var/log partition is 100% full.</p> <p><b>Root Cause:</b> Postgres log size grows quickly and fills the /var/log partition.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Bring up the PSX Primary node.</li> <li>2. Run the Postgres operation to generate log, or copy large size file to /var/log/postgres directory to emulate disk space running out.</li> <li>3. Rename the copied file to postgresql-&lt;Weekday&gt;-&lt;YYYY&gt;-&lt;MM&gt;-&lt;DD&gt;_0000.log, for example, postgresql-Fri-2024-01-05_0000.log.</li> <li>4. Wait for 10 seconds and verify if the older Postgres log file/s are deleted.</li> </ol>	<p>The older Postgres log files are removed when the /var/log partition reaches higher threshold.</p> <p><b>Workaround:</b> Use third-party log rotation tool to control the total size of files in /var/log/postgres directory.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-44385	PSX-43639 (15.1.4)	3	<p>Trunk Group Renaming Functionality.</p> <p><b>Impact:</b> The renaming of Trunk Group on the PSX GUI Manager does not work.</p> <p><b>Root Cause:</b> The backend code used incorrect syntax to invoke Postgres procedure for DB update.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Open the PSX GUI Manager.</li> <li>2. Navigate to <b>Trunk Group Renaming</b> profile.</li> <li>3. Configure the Trunk Group name to be renamed.</li> <li>4. Rename of Trunk group should be successful.</li> </ol>	<p>Updated the Postgres procedure call with correct syntax.</p> <p><b>Workaround:</b> None</p>
PSX-44420	N/A	3	<p>There is a typo in line 2456 of the <code>/home/admin/dbaasOperations.pm</code> script.</p> <p><b>Impact:</b> The PSX DB restore fails on the PSX OpenStack instance due to a typo in <code>dbaasOperations.pm</code>.</p> <p><b>Root Cause:</b> The DB method to restore the backup file was invoked with incorrect syntax.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Take the DB backup from the PSX instance.</li> <li>2. Restore the DB backup on the PSX OpenStack instance.</li> <li>3. Verify if the backup is restored successfully.</li> </ol>	<p>The syntax to invoke the DB method is corrected.</p> <p><b>Workaround:</b> Update the <code>dbaasOperations.pm</code> file located at the below folders and change:</p> <pre>sPrompts:: to ssPrompts::</pre> <pre> /home/ admin/ /export/ home/ssuser/SOFTSWITCH/BIN/ /export/ home/ssuser/SOFTSWITCH/SQL/ </pre>

## Release 16.01.00R000

### Severity 1 Issues

The following table lists the resolved severity 1 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43157	PSX-42537 (15.1.3)	1	<p>The pipe dumps core on Call Parameter Filter Profile with more than 400 records.</p> <p><b>Impact:</b> The pipe process dumps core on the Call Parameter Filter Profile with more than 400 records.</p> <p><b>Root Cause:</b> The total size calculation was incorrect (smaller than the expected value), causing the incorrect ace message block size value, leading to the buffer overflow.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Open the GUI and configure more than 450 entries to the Call Param Filter Profile data.</li> <li>2. Check the display from the GUI.</li> <li>3. Check the <code>PUT</code> command from the CLI.</li> </ol>	<p>Corrected the packet size by calculating the size required to send the complete CPF data.</p> <p><b>Workaround:</b> None</p>
PSX-43538	PSX-43355 (14.1.6)	1	<p>The PSX Proxy sends 503.</p> <p><b>Impact:</b> Multiple issues on the SIPE, PES, and SCPA, causing an outage or call processing failure for every call until the process is restarted.</p> <p><b>Root Cause:</b> The issue is observed in a common module that is used by the SIPE, PES, and SCPA. The common module attempts to compute the value of an internal variable, causing memory corruption when multiple threads attempt to compute the value. The processes ran into a very similar memory corruption/call processing issue.</p> <p><b>Steps to Replicate:</b> This issue is observed randomly on OpenStack in release 13.2.4R000.</p>	<p>Fixed the common module to ensure it computes the variable's value only during the process startup and reads it during call processing.</p> <p><b>Workaround:</b> None</p>
PSX-43589	PSX-41393 (14.1.6)	1	<p>The DM/PM rule in the Prefix profile is re-performed for later services even without matching with the pattern.</p> <p><b>Impact:</b> The DM/PM rule in the Prefix profile is re-performed for later services.</p> <p><b>Root Cause:</b> The Prefix profile content (including the associated DM/PM rule) does not clear if the Prefix profile match is unsuccessful, leaving the previously performed content in the Prefix profile. When the second service is performed and if the Prefix profile match is unsuccessful, the DM/PM rule is applied again since the Prefix profile content contains <code>inDmRuleId</code>.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the Prefix profile with <code>dmpmRule</code>.</li> <li>2. Check if it applies or does not apply the <code>dmpmRule</code> if the match is successful.</li> </ol>	<p>Modified the code to check the Prefix profile pattern match result during the number analysis and apply the DM/PM rules configured on the Prefix profile only if there is a pattern match.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43628	PSX-43313 (14.1.6)	1	<p>Upgrade Assurance: The PSX sends unexpected close messages on the Personal Account Codes (PAC).</p> <p><b>Impact:</b> The PSX sends unexpected close messages on the SCP-based PAC calls using the PSX 14.01.05R000 version. The close message is sent in a Response type message to the SCP to end the Send To Resource (using the CWP type) attempt to connect to the NGS resource to collect the digits.</p> <p><b>Root Cause:</b> A new functionality introduced in PSX 14.01.03R000 is causing the issue. It resets the script ID to TANDEM when no routes are in the routing label, causing call flow breakage since the script ID is changed and the conversation with SCP is terminated.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure a conversational TCAP call.</li> <li>2. Check the Script Name in OUTPUT DATA.</li> </ol>	<p>The issue-generating function is modified to not to reset the script ID.</p> <p><b>Workaround:</b> None</p>
PSX-43677	PSX-42595 (15.1.4)	1	<p>The Calltype changes from Enquiry/ Emergency to National after the NTSD implementation, and the prefix profile rechecks.</p> <p><b>Impact:</b> The call searches for LATA and REGION, which is not an expected behavior.</p> <p><b>Root Cause:</b> The numbers outside the United States and the national numbers were not configured to determine whether they need to check for the LATA and REGION.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Uncheck the Determine LATA and REGION in FCP.</li> <li>2. Run a call.</li> <li>3. Observe the results.</li> </ol>	<p>Added a condition for the Determine LATA and REGION checkbox to resolve the issue.</p> <p><b>Workaround:</b> None</p>

### Severity 2 and 3 Issues

The following table lists the resolved severity 2 and 3 issues in this release:

Issue ID	Original Issue	Sev	Description	Resolution
PSX-42491	N/A	2	<p>The extended ASCII characters were removed during the Oracle to Postgres migration.</p> <p><b>Impact:</b> The Oracle to Postgres migration silently removes non-ASCII characters from the database entries.</p> <p><b>Root Cause:</b> Encoding differences between the Oracle and the Postgres databases resulted in characters outside the standard ASCII character set dropping within the migrated entries.</p> <p><b>Steps to Replicate:</b></p> <p><b>Note:</b> This issue is difficult to reproduce without performing manual updates on the Oracle database before migration.</p> <ol style="list-style-type: none"> <li>1. Set up an Oracle PSX Primary and Replica.</li> <li>2. Provision a standard route and identify its sequence number.</li> <li>3. Run the following command as an <code>ssuser</code> to update the route manually: <pre> # echo "UPDATE dbimpl.route SET destination_national_id = UTL_RAW.CAST_TO_VARCHAR2('A 0')    '9995551111' WHERE sequence_number = '&lt;sequence_num&gt;';"   sqlplus -s / </pre> </li> <li>4. Migrate the Oracle Primary to Postgres Primary.</li> <li>5. Rehome the Oracle Replica to Postgres Primary.</li> <li>6. Provision the new standard route.</li> <li>7. Observe that the call using new standard route fails.</li> </ol>	<p>An updated <code>PreUpgradeCheckOra.sql</code> is added to manually fix the character set outside of the standard printable ASCII before migrating from Oracle to Postgres.</p> <p><b>Workaround:</b> Migrate the Oracle Replicas to Postgres.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-42492	N/A	2	<p>The PSX replication fails on the rehomed Oracle Replica for the new AD tables.</p> <p><b>Impact:</b> The following replication error is observed on the Oracle Replica when the replication message is received from the Postgres Primary:</p> <pre data-bbox="646 533 1024 632"> [REDACTED] "SQL_ID Error: ORA-06502: PL/SQL: numeric or value error" [REDACTED] </pre> <p><b>Root Cause:</b> The RDM database package in the the Oracle while processing the difference between the PSX 16.0 and 14.0 AD_PROFILE_STATUS table causing the issue.</p> <p><b>Steps to Replicate:</b></p> <ol data-bbox="656 890 1024 1037" style="list-style-type: none"> <li>1. Set up a hybrid replication between PSX 16.0 and PSX 14.0.</li> <li>2. Enable provision and make update on AD_PROFILE_STATUS.</li> <li>3. Observe the common columns between the two versions.</li> </ol>	<p>Fixed the RDM Oracle package to handle the scenario if a primary key is present on the older PSX's table.</p> <p><b>Workaround:</b> Skip the erroring replication message in the Oracle Replica. Skipping the message can cause data inconsistency in the Oracle Replica.</p>



Issue ID	Original Issue	Sev	Description	Resolution
PSX-42575	N/A	2	<p>The PSX multi Virtual Network Interface Card (VNIC) installation fails to assign the IP addresses to the respective interfaces.</p> <p><b>Impact:</b> The multi-VNIC fails to assign the IP addresses for the non-eth0 interfaces.</p> <p><b>Root Cause:</b> During the implementation of the custom cloud-init network module, all existing network configurations are removed and recreated. This operation results in an error while assigning the IP addresses to interfaces other than eth0.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Install the PSX SWe with more than one interface.</li> <li>2. Verify the configured IP addresses on all the interfaces.</li> </ol>	<p>The cloud-init LCA modules are fixed to ensure the creation and activation of VNICs before initiating the network configuration.</p> <p><b>Workaround:</b></p> <ol style="list-style-type: none"> <li>1. Add the following code in the heat template for cloud deployment and in user-data file of configDrive for KVM/VMware deployment to configure the IP address on the interfaces other than eth0.</li> </ol> <pre> runcmd: - /usr/bin/cloud-init -d single -n rbbn_configure_network </pre> <ol style="list-style-type: none"> <li>2. Install the PSX SWe with more than one interface.</li> <li>3. Verify the configured IP addresses on all the interfaces containing the IP address provided during installation.</li> </ol>
PSX-42874	N/A	3	<p>The Service Director is not operational.</p> <p><b>Impact:</b> The "Service Director Is Not Operational" alarm is raised under normal operating conditions.</p> <p><b>Root Cause:</b> Under certain working conditions, the PSX monitoring application misinterprets the DBaaS status and raises the sonusSoftSwitchPGDBPGApiRefreshPriorityNotification alarm.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run the PSX.</li> <li>2. Stop the DBaaS service.</li> <li>3. Observe the results.</li> </ol>	<p>Adjusted the PSX monitoring to align with the DBaaS status reporting mechanism to ensure no false alarms are generated.</p> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43401	PSX-42623 (14.1.6)	3	<p>PSX RCD: The CPFPP group does not work as the match criteria for the STI certificate when applied in the Policy profile.</p> <p><b>Impact:</b> The CPFPP Group fails to work as the match criteria for the STI certificate.</p> <p><b>Root Cause:</b> The CPFPP works as match criteria, while the CPFPP group does not work.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"><li>1. Configure a basic call with the STIR/SHAKEN service.</li><li>2. Create a CPFPP with the STI certificate entry.</li><li>3. Attach the CPFPP to CPFPP group.</li><li>4. Attach the CPFPP group to the Policy profile and check the "Process RCD Claims" flag.</li><li>5. Attach the Policy profile to the STI Service Response in the STI Service Definition.</li></ol>	<p>Modified the code to make the CPFPP Group work as a match criteria.</p> <p><b>Workaround:</b> Use the CPFPP to match the STI certificate.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43465	PSX-43329 (15.1.4)	3	<p>The <code>DbReplicationManager.py</code> displays an incorrect PSX version.</p> <p><b>Impact:</b> The incorrect PSX version in the <code>PSX_CSD_INFO</code> table impacts the PSX cluster upgrade in the future.</p> <p><b>Root Cause:</b> The <code>psx_csd_version</code> attribute of <code>PSX_CSD_INFO</code> table contains the database dump version on post-restore operations causing the issue.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Back up the PSX 15.01.01R000 database.</li> <li>2. Install the PSX 15.01.02R000.</li> <li>3. Restore the PSX 15.01.01R000 database backup on PSX 15.01.02R000.</li> <li>4. Run the following command as a <code>postgres</code> user to check the <code>psx_csd_version</code>:  <pre>psql -d ssdb -Aqt "SELECT psx_csd_version FROM psx_csd_info" V15.01.01R000</pre> </li> <li>5. Ensure that the <code>psx_csd_version</code> and the PSX version are the same.</li> </ol> <pre>swinfo -v</pre> <pre>PSX Version: V15.01.02R000 Common Agent Version: V23.05.00R000 OS Version: RHEL8.8.69 Build Number: 231</pre>	<p>Updated the <code>psx_csd_version</code> to match with the PSX version during the PSX restoration.</p> <p><b>Workaround:</b> Load the PSX CSD of the installed version into the <code>psx_csd_info</code> table to resolve the issue by following the steps at <a href="#">PSX-43465 Workaround Steps</a>.</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43512	PSX-43101 (13.2.5)	3	<p>STIR/SHAKEN HTTP: No connections are available.</p> <p><b>Impact:</b> No connections are available when A query times out during the DNS refresh.</p> <p><b>Root Cause:</b> During the DNS refresh, when A query (followed by the SRV request) times out, the STI server information is updated with an empty IP address, resulting in connection unavailability.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure an FQDN resolving to a particular IP.</li> <li>2. Configure a DNS refresh to result in an A query timeout.</li> <li>3. Observe the results.</li> </ol>	<p>A check is added to verify if the DNS response is empty while updating the STI server information in the connection manager.</p> <p><b>Workaround:</b> Restart the HTTP process.</p>
PSX-43525	PSX-42653 (14.1.6)	2	<p>Memory size increases for SIPE in PSX 14.01.03R000.</p> <p><b>Impact:</b> The memory size increases for the SIPE process on the PSX 14.01.03R000 when the SMM is used with the dialog scope variables.</p> <p><b>Root Cause:</b> If the advanced SMM is enabled only on one of the legs, the dialog scope structure memory is not released.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Configure the SMM profile with the advanced SMM enabled for only one of the legs.</li> <li>2. Use the dialog scope variables in the SMM.</li> <li>3. Run the calls.</li> <li>4. Observe the results.</li> </ol>	<p>Modified the code to ensure:</p> <ul style="list-style-type: none"> <li>• The Dialog Scope Variable Hash ID is populated when the advanced SMM is enabled for only one of the legs to ensure that the dialog release is removing the dialog structure from the dialog hash map.</li> <li>• The Dialog Scope Structure is released when the 18x/2xx messages are received after the dialog release.</li> </ul> <p><b>Workaround:</b> None</p>

Issue ID	Original Issue	Sev	Description	Resolution
PSX-43729	PSX-42909 (15.1.4)	2	<p>Any change in the Number Translation Service Criteria requires the PES to restart on the Replica.</p> <p><b>Impact:</b> The PES does not pick new data added to the Number Translation Criteria until a restart.</p> <p><b>Root Cause:</b> The Tollfree_prefix_info table is not updated on adding the new entries until the PSX restart due to the missing Tollfree_Prefix records counter reset.</p> <p><b>Steps to Replicate:</b></p> <ol style="list-style-type: none"> <li>1. Run the Softswitch.</li> <li>2. Add or change records in the Tollfree_Prefix (Number Translation Criteria in the GUI).</li> <li>3. Place a call to trigger new or updated Number Translation Criteria.</li> <li>4. Verify that the Number Translation is triggered.</li> <li>5. Observe the results.</li> </ol>	<p>The Tollfree_Prefix records counter is reset when new entries are created.</p> <p><b>Workaround:</b> Restart the Softswitch.</p>

#### PSX-43465 Workaround Steps:

1. Log on to the PSX as a `root` user.
2. Switch to a `postgres` user.
3. Run the following command to load the PSX application CSD of the installed version into the `psx_csd_info` table:

```
psql -d ssdb -c "insert into platform.psx_csd_info
values(0, 'V15.01.02R000', dbimpl.imp_binaryfile(encode('/export/home/ssuser/SOFTSWITCH/SQL/
PSX_CSD_V15.01.02R000.tar.gz', 'escape'))) ) ON CONFLICT ON CONSTRAINT psx_csd_info_pk DO UPDATE SET
psx_csd_version = 'V15.01.02R000', data = dbimpl.imp_binaryfile(encode('/export/home/ssuser/
SOFTSWITCH/SQL/PSX_CSD_V15.01.02R000.tar.gz', 'escape')) ;"
```

```
psql -d ssdb -Aqt "SELECT psx_csd_version FROM psx_csd_info"
```

```
V15.01.02R000
```

# Known Issues

The following table lists the known issue that exists in this release:

Issue ID	Severity	Description	Impact
LN TL-7651	2	PSX CNe: The BDR cluster does not hold a consistent view of the node's IP addresses after the worker node restart.	<b>Impact Statement:</b> If multiple nodes that are part of the DB cluster are deployed on the same worker node, those nodes are restarted, and the database nodes receive new IP addresses, they cannot join back to the cluster. <b>Workaround:</b> If the nodes are with anti-affinity and all nodes in the cluster (including Primary and Replica nodes) are on different worker nodes, it avoids this scenario unless multiple worker nodes are restarted at the same time.

# Known Limitations

The following table lists the known limitations that exist in this release:

Topics	Description
GUI multi-section panel behavior	For GUI panels with multi-selection entries with whitespace below the list (For example, the <a href="#">Class of Service</a> panel), clicking in the whitespace area may deselect your entries. Please check that your selections are accurate before saving your configuration changes.
Adaptive Congestion Control	If a larger Overload Control Interval is chosen, the CPU utilization may vary by 8% in both directions from the configured Target CPU Utilization. Also, modifying the parameter values in the profile without proper analysis can cause unexpected behavior. Contact Ribbon Support if you want us to simulate and analyze the load and determine the recommended parameter values.
PSX Manager Repaint Issue	The following memory usage issues exist for the PSX Manager: If multiple versions of the Java Runtime Environment (JRE) are installed, you might experience repaint problems with the PSX Manager. If you experience issues, and if there are multiple versions of the JRE installed under the "Add Or Remove Programs" Control Panel, uninstall all versions. Then, reinstall the JRE plug-in 1.8.0.
Business Group Identifiers	The Business Group Identifier (bg_id in the CLI; Business Group field on the PSX Manager Business Group screen) must be a number between 0 and 2147483647. Do not use leading zeroes (for example, 02).
DM/PM Rules	If the calling number is not in the IAM, you must first create it in the Ingress DM rule. After the number is created, you can modify it anywhere.
EVRC0 Codec Limitation	Silence suppression is not supported for the EVRC0 codec on an external PSX, but it is supported on an ERE.
Product Compatibility	SBX12.01.02R000, SBX12.01.02R001, SBX12.01.02R002 are not compatible with PSX16.01.03x and above versions.

## New in PSX 16.01.04R001

### Declarative Provisioning

With the new Declarative Provisioning model, Ribbon leverages the power of the CI/CD pipeline for provisioning configuration data to Ribbon devices (SBC and PSX). This allows configuration management in a version-controlled manner. Administrators using a GitOps environment with Ansible can update and validate configuration changes. This approach uses a centralized manager to track configuration data, configuration changes, and an auditable record of network updates. You can view details [here](#).

For more information, contact your Ribbon Account representative.

The Policy Server (PSX) includes the following new features in this release:

## 16.01.04R001 Release

Epic ID	Feature Description
PSX-45816	<p><b>Integrating SPAM Call Database in the PSX</b></p> <p>In the IP Multimedia Subsystem (IMS) network, the PSX acts as a SIP redirector engine to identify and portray spam calls, helping the user determine if the incoming call is from a spam caller. The PSX obtains the database containing the list of spam numbers from a third-party database using SOAP/API interfaces.</p> <p>The PSX 16.1.4R1 is reinforced with the following enhancements:</p> <ul style="list-style-type: none"> <li>• The flag, <code>Exact Match For Hosted CNAM</code> is added to the Number Translation Service Definition to match only the exact calling number.</li> <li>• The flag, <code>Support Only CNAME in Embedded PAI in Contact</code> is added to the Feature Control Profile to support only CNAME in the embedded PAI in contact.</li> <li>• The flag, <code>Always send CNAME in PAI</code> is added to the Feature Control Profile to always include the CNAME if present in the Ingress signaling or CNAME resolved by the PSX.</li> <li>• The type, <code>Generic Name</code> is added to the Call Parameter Filter Profile.</li> </ul> <p>For more information, refer to:</p> <ul style="list-style-type: none"> <li>• <a href="#">CLI Changes in This Release</a></li> <li>• <a href="#">Call_Param_Filter_Profile_Data - Enumerations</a></li> <li>• <a href="#">Feature_Control_Profile - Enumerations</a></li> <li>• <a href="#">Service_Definition - Enumerations</a></li> <li>• <a href="#">API Changes in This Release</a></li> <li>• <a href="#">CallParamFilterProfileData - Enumerations</a></li> <li>• <a href="#">FeatureControlProfile - Enumerations</a></li> <li>• <a href="#">ServiceDefinition - Enumerations</a></li> <li>• <a href="#">Call Parameter Filter Profile Screen</a></li> <li>• <a href="#">Feature Control Profile Screen</a></li> <li>• <a href="#">Number Translation Service Definition Screen</a></li> </ul>



Epic ID	Feature Description
PSX-45905	<p data-bbox="537 317 1354 365"><b>Functionality Enhanced for Reason Code and Reason Text Received from STI-VS Verification Response</b></p> <p data-bbox="537 380 1442 428">The PSX 16.1.4R1 is enhanced to process the verification response effectively. It processes and sends the reason code and reason text in the following order:</p> <ol data-bbox="537 443 1435 569" style="list-style-type: none"><li data-bbox="537 443 1435 491">1. Reason code and reason text from the Error Mapping Profile if configured and a match is found.</li><li data-bbox="537 491 1435 539">2. Reason code and reason text from the STI VS if the Error Mapping Profile is not configured or a match is not found.</li><li data-bbox="537 539 1435 569">3. Default error code and default reason text.</li></ol> <p data-bbox="537 583 1101 611">For more information, refer to <a href="#">STI Service Definition Screen</a>.</p>