CMP v8.1.1 - Product Release Note

24th January 2020

Version: 1.0

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Contents

1.0 Introduction

1.1 Scope

This document provides an overview of the CMP 8.1.1 release with specific focus on the additional functional and non-functional enhancements with respect to CMP 8.1.

1.2 Audience

This document is intended for both internal and external use for readers familiar with CMP to explain the key features of the release including any changes in how existing functions or processes are working.

2.0 Release Scope

2.1 Core CMP Modules

The following modules form the basis of the CMP 8.1.1 release:

Module	Version
agent-view	8.2.354
agent-view-interfaces-layer	8.2.877
agent-view-servlet	8.1.17
cmp-database-pkg	8.2.488
cmp-documentation-pkg	8.2.25
configuration-centre	8.2.476
dataModel	2.1.1030
login-component	8.2.3
published-interfaces-layer	8.2.138
rest-ws	2.1.601
role-extender	8.2.4
setup-utility	1.0.36
shared-services	1.2.625
soap-ws	8.2.106
sso-client	1.6.3
validation	8.2.8
wso2is-login	1.2.1
sabre-action-monitor	2.1.124
sabre-batch-error-management	2.1.15
sabre-bill-print	2.1.118
sabre-comms	2.1.507
sabre-credit-control	2.1.174
sabre-credit-reference	2.1.115
sabre-dal	2.1.1090
sabre-data-warehouse	2.1.264
sabre-debt-recovery-agency	2.1.136
sabre-edit-subscription	1.5.26
sabre-external-configuration	2.1.12
sabre-external-reference-upload	1.5.3
sabre-gdpr-purge	2.1.72
sabre-generic-activity-adapter-daemon	2.1.13
sabre-generic-postingout-daemon	2.1.41
sabre-invoice-posting	2.1.94
sabre-invoice-production	2.1.251
sabre-ledger-monitor	2.1.71
sabre-managed-number-monitor	2.1.31
sabre-managed-numbers	2.1.72

sabre-mandate-registrations	2.1.75
sabre-mandate-revisions	2.1.91
sabre-mdsledger-adapter	2.1.36
sabre-non-recurring-payments	2.1.86
sabre-provisioning	2.1.154
sabre-rated-charge	2.1.147
sabre-rated-usage	2.1.123
sabre-receipt-pdf-collection-adapter	2.1.2
sabre-receipt-print	2.1.23
sabre-recurring-payments	2.1.217
sabre-recurring-pre-payments	1.0.50
sabre-server	1.6.1074
sabre-sim-profile	2.1.61
sabre-simulator	2.1.235
sabre-statement-production	2.1.108
sabre-usage-archiving	2.1.113
sabre-workflow-monitor	2.1.77

In addition, the following third-party components are included:

Module	Version
wso2is	5.0.7-17
jboss-postgres-jdbc-driver-eap7	1.0.33
webswing	2.5.5-44

The third-party components above are dependent on the following configuration modules:

Module	Version
jboss-aviewiface-address-lookup-interface-eap7	8.2.833
jboss-aviewiface-common-eap7	8.1.687
jboss-aviewiface-configuration-eap7	1.0-33
jboss-ccentre-configuration-eap7	1.0-33
jboss-pil-configuration-eap7	1.0-33
jboss-soapws-configuration-eap7	1.0-33

2.2 Optional CMP Modules

The following modules are not part of the core CMP 8.1.1 release but are considered optional modules that can be installed if required based on the specific installation requirements:

Module	Version
sabre-analyser-extract	2.1.62
sabre-bottomline-pdf-collection-adapter	2.1.6

sabre-bulk-action-framework	1.5.58

If any of these modules are required for the installation, then they should be added to the 'additional_modules' section of the inventory file.

2.3 UK-specific Adaptors

The following modules are provided specifically for the UK market to support BACS direct debit payments and credit reference extracts to Equifax:

Module	Version
sabre-addacs-transformation-adapter	2.1.2
sabre-arucs-transformation-adapter	2.1.2
sabre-auddis-transformation-adapter	2.1.22
sabre-auddis-transformation-inbound-adapter	2.1.2
sabre-awacs-transformation-adapter	2.1.2
sabre-bacs-transformation-adapter	2.1.2
sabre-recurring-bank-payments-bacs-adapter	2.1.2
sabre-equifax-insight2001	2.1.3
sabre-experian-transformation-adapter	2.1.2

Note that these modules are not installed by default and if required should be added to the 'additional_modules' section of the inventory file.

2.4 OCS-specific Adapters

The following modules are provided specifically for a Real Time Charging environment to support use of Openet and Matrixx as external Online Charging System (OCS) integrated into CMP:

Module	Version
sabre-matrix-usage-transformation-daemon	2.1.2
sabre-openet-provisioning-adapter	2.1.13
sabre-openet-recurring-prepayment-adapter	1.0.23
sabre-openet-usage-adapter	2.1.4

Note that these modules are not installed by default and if required should be added to the 'additional_modules' section of the inventory file.

3.0 New and Changed Functionality

3.1 Introduction

The functional and non-functional changes that constitute the CMP 8.1 release are as follows:

- New and changed AgentView screens
- Admin Console changes
- New and changed Business Configuration screens
- SOAP web services changes
- RESTful web services changes
- Openet-specific adapter changes
- Non-functional changes.

3.2 AgentView Changes

3.2.1 New Screens

3.2.1.1 Adjustments Bottom Panel

CMP 8.1.1 introduces a new bottom panel, accessible through the Billing swish of the Subscriber Summary screen, that shows all allowance adjustments that have been made against subscription allowances. This will show any allowance transfers, any allowance transfers received from other subscribers and any allowance transformations made via a customer channel such as the mobile app (see section 3.6.2.2 below). The date and time of the adjustment is shown along with the details of the allowance(s) affected by the adjustment (transfer or transform) and the status of the adjustment: Complete, Error or In Progress.

3.2.2 Changed Screens

3.2.2.1 Purchase a Product Pop-up Panel

The Purchase a Product pop-up panel has been enhanced to now allow recurring bolt-ons to be purchased from a prepaid balance in addition to being purchased from a card. The default payment type is card.

In addition, it is also now possible to purchase a bolt-on package that has no associated allowances. Previously these packages did not appear in the available packages for purchase.

3.2.2.2 Features Bottom Panel

The existing Features Bottom Panel within the Subscription Summary view has been updated to add an additional column to show whether the feature is barred or not. Barring is indicated with a tick in this column.

3.2.2.3 Usage Caps Bottom Panel

The existing Usage Caps bottom panel within the Subscription Summary view has been updated to include a description column for the cap and also includes additional validation on what an agent can do if a usage cap is enabled on the OCS or not:

- A usage cap can be added if the same usage cap is not already enabled
- A usage cap can be deleted if it is enabled
- If a usage cap is enabled, then it is possible to change the usage cap amount. The new cap amount cannot be set above the configured upper cap limit.
- A postpaid subscription always has a usage cap in place for overage, implemented as a full cap. It is not possible for agent to delete this full cap. Prepaid subscription overage is managed via the prepaid balance and therefore it is not possible to provision a full usage cap against a prepaid subscriber.

3.3 Admin Console Changes

3.3.1 New Jobs

3.3.1.1 Recurring Pre-payments Job

The new Recurring Pre-payments job is responsible for taking payments for recurring bolt-on packages that have been made by prepaid subscribers using either a debit or credit card or have been made from a prepaid balance.

The job can run in one of two modes: card mode or balance mode and accepts a Processing Date parameter that is defaulted to today's date if not supplied. From this Processing Date, the job calculates a Pre-payment Due Date using a job property (recurring.prepayment.card.offset) to add a number of days (may be zero) to the Processing Date. This is the date that will be used to select payments due for processing.

Once the batch is marked as complete, then the corresponding recurring pre-payments daemon (card or balance) will create the encrypted outbound JSON file for processing by the third party (card) or OCS (balance). New JSON schemas have been created for both the recurring card pre-payments (recurringprepayments.schema) and recurring balance pre-payments (recurringprepaymentsbalance.schema).

In addition, probes are provided to allow a System Administrator to be notified if the recurring pre-payment job, or the associated daemon, encounter any issues.

3.3.1.2 Recurring Pre-payments Rejections Job

The new Recurring Pre-payments Rejections job is responsible for handling rejected payments relating to the purchase of recurring bolt-ons either from the third party (card) or from the OCS (balance).

Pre-payment rejection files received from either the third party or the OCS are handled by corresponding card rejection and balance rejection load daemons. The daemon is responsible for decrypting and uploading the card rejection details into CMP to be subsequently processed by the Recurring Pre-payments Rejections job. In the case of rejected balance pre-payments then the Balance load daemon will map the error code returned from the OCS to a corresponding error code defined in CMP.

The Recurring Pre-payments Rejection job detects batches of rejected payments and for each rejected payment, expires the associated package allowances and raises a workflow to allow a notification to the end subscriber to inform them of the rejected payment.

In addition, probes are provided to allow a System Administrator to be notified if the Recurring Pre-payment Rejections job, or the associated daemon, encounter any issues.

3.3.1.3 Data Warehouse Extract - Purchases

The Purchases extract job extracts purchase information from CMP and presents it in a format for consumption by a third party. The file format generated is CSV by default although the actual separator used can be configured differently. The job can run in two modes - full or partial. If job runs in full mode, all purchase records are included in the extract. If the job runs in partial mode then records are only be considered if they have been created or changed since the last execution of the job.

3.3.1.4 Data Warehouse Extract – Subscription Features

The Subscription Features extract job extracts subscription feature information from CMP and presents it in a format for consumption by a third party. The file format generated is CSV by default although the actual separator used can be configured differently. The job can run in two modes - full or partial. If job runs in full mode, all subscription feature records are included in the extract. If the job runs in partial mode, then records are only considered if they have been created or changed since the last execution of the job.

3.3.2 Changed Jobs

3.3.2.1 Receipt Print Job

The Receipt Print job, introduced in CMP 8.1, was previously only using the company name and company registration number on the receipt. This has been enhanced in CMP 8.1.1 to additionally include the personal ID number as well as the company details and populate in the receipt print JSON accordingly.

The associated receipt print schema (receiptprint-extract.schema) has been updated accordingly to include the personal ID type and number and company details.

In addition, a new daemon, Receipt Print PDF Collection Daemon, has be introduced in CMP 8.1.1 that collects Receipt PDF's from a configured external location and copies them into a pre-configured location on CMP from where they can be accessed by AgentView or through the Receipt REST web service (see section 3.6.1.1 below). The daemon also issues a communication to the end subscriber who has requested the receipt indicating that the PDF receipt is available to view online.

Finally, in order for a System Administrator to be notified in the event of issues with either the Receipt Print Job or the associated extract daemon, a new Receipt Print probe has been developed. The alert probe checks whether the Receipt Print job or extract daemon have run today and will generate an email notification in the either job has not run.

3.3.2.2 Bill Print Job

In CMP 8.1 the Bill Print PDF files are retrieved from the Print Bureau and deposited on a secure location on CMP where they can be viewed through AgentView and online via

REST. The Bill print PDF daemon has been modified in CMP 8.1.1 to issue a communication to the subscriber to indicate their bill is ready to view online.

3.3.2.3 Other Batch Interface Changes

The following additional minor changes have been included in the release:

- The Provisioning job outbound provisioning JSON schema has been modified as follows to support Network Features and the new Network Action Types:
    - New Network Action Types have been added: Allowance (A); Cap (C); Enable Feature (E); Disable Feature (D); Bill Cycle Change (B)
    - the defaultFeatures array has been removed
    - the following additional feature elements have been added: networkFeatureId and networkFeatureInstanceId.
- The Provisioning job inbound JSON schema has been modified as follows:
    - ocsCapId has been renamed to capId
    - Two new feature elements have been added namely featureId and networkFeatureInstanceId.

3.3.3 Batch Job Recovery

3.3.3.1 Invoice Production Recovery

The ability to recover from a server event (e.g. server crash) while running key batch jobs, without necessarily restarting processing from scratch, has been introduced in CMP 8.1.1. "Recovery Flow" functionality has been introduced into the Sabre framework which will form the basis of future batch job recovery capabilities. The basic premise of a recovery flow of a batch job is an alternative flow of execution which allows a batch job to recover from a bad run.

The first batch job that will support recovery capability is Invoice Production. When the Invoice Production job is selected within the Jobs list in the Administration Console, an additional Recovery button is presented which provides the capability to run Invoice Production in recovery mode. Recovery mode only works where the status of the Invoice Production jobs is showing as ‘In Progress’.

When run successfully, the recovery flow will attempt to recover from a failed invoice production run by marking all invoices which had been created as part of the failed run as complete and updating the associated agreements next expected invoice date. Note: The recovery flow will not complete an invoice production run for a given invoice tax date, it will only finish what was started by the failed invoice production run. The Invoice Production job will need to be re-run for the same invoice tax date in order to fully generate all remaining invoices for the given date.

Once the recovery flow has completed successfully, the job that was previously marked at ‘In Progress’, will be marked as ‘Complete’ and the record count and error count values will be updated accordingly.

3.4 Business Configuration Changes

3.4.1 New Screens

3.4.1.1 Network Features and Network Feature Defaults

Two new configuration options have been added to the Network main menu option to support the configuration of network features. Network Features are provisioned to network components such as the OCS to provide an end subscriber with additional Value Added Services, such as Voicemail, and also control access to services such as international calling or roaming.

The Network Features menu option allows a user to add new network features and optionally link them to a specific offer on the OCS that is provisioned or removed when enabling or disabling a feature through AgentView or through a customer channel such as a mobile app. Whether a feature can be enabled or disabled explicitly by the end subscriber can also be controlled through this feature configuration.

The Network Feature Defaults menu option allows a user to define a view of the initial status of network features when a subscriber is provisioned onto the network. Note that this is just a reference view of what features are enabled, disabled, barred or unbarred on the network at the point that the subscriber is provisioned. It is not used to drive the provisioning of features.

Note: Although an Edit button is available from both the Network Feature Defaults List screen the ability to edit an existing Feature Default is not supported in CMP 8.1.1.

3.4.2 Changed Screens

3.4.2.1 Action Codes

The Add and Edit Action Code screens have been updated to remove the dropdown, 'OCS Instruction Type', that was introduced in CMP 8.1 for Network Actions. This has now been replaced by additional Network Action Types as follows:

- Enable Feature
- Disable Feature
- Allowance
- Cap
- Bill Cycle Change.

These additional Network Action Types have the same configuration options as the existing ‘Other’ Network Action Type. These new Network Action Types make it explicit as to the specific action that is being performed on the network.

3.4.2.2 Tariffs

CMP 8.1.1 introduces the concept of usage caps that are defined against a tariff and control the subscriber spend on overage. For a postpaid tariff, there must always be one full cap configured against the tariff although the value can be set to a high value if capping is not required for a specific tariff.

The Add Tariff screen has been modified to include a new dropdown under the prepaid and postpaid radio selection that shows all 'full' usage caps that are defined within the system. Selection of a full usage cap is mandatory for postpaid tariffs. The dropdown is greyed out when dealing with prepaid tariffs.

NOTE: As a result of the introduction of Usage Caps, some manual configuration is required after a CMP 8.1.1 upgrade. Please contact Product Management for further details.

The View Tariff screen has also been modified to show the full usage cap for postpaid tariffs.

3.4.2.3 Tariff Usage Caps

The Tariff Subscription Caps tab within CMP 8.1 has been renamed to Tariff Usage Caps and all labels have been aligned accordingly.

3.5 SOAP Web Service Changes

3.5.1 Update Agreement Web Service

The Update Agreement SOAP web service has been updated to prevent a bill cycle change for agreements containing prepaid subscriptions only. The agreement must have at least one post-paid subscription under it to allow a bill cycle change to take place.

3.5.2 Set Feature Web Service

The SetFeature web service has been updated to modify the contents of the request. In previous versions of CMP, the FeatureActions request container contained the ActionRequired element that supported four values: Enable, Disable, Bar and Unbar. Bar and Unbar are no longer supported. In CMP 8.1.1, if a feature has been configured as a bar feature i.e. has a bar and unbar workflow defined, then the appropriate workflow will be raised in CMP when enabling or disabling a feature.

3.5.3 Query Subscription Web Service

The QuerySubscription web service has been updated to modify the contents of the Features dataset returned as part of the request. The following changes have been made:

- The FeatureCategoryCode and FeatureCategoryDescription elements have been removed
- The AllowEnable, AllowDisable, AllowBar, AllowUnbar elements have been removed and replaced with the new attribute 'Subscriber Controlled'.

3.6 RESTful Web Services Changes

3.6.1 New RESTful Web Services

3.6.1.1 Receipt Web Service

A new Receipt web service has been implemented to return a receipt in PDF format. The GET method is used to retrieve the PDF receipt based on the external reference identifier specified.

3.6.1.2 Corporates Web Service

A new Corporates web service has been implemented to support retrieval of all corporates within a group or details of a single corporate.

The GET Corporate List web service request returns a list or corporates associated with the specific group ID provided within the request. Hateoas links are provided to get the associate Posting Account and Deliver Address details of each corporate in the response.

The GET Corporate Item web service request returns details of a specific corporate provided within the request. Hateoas links are provided to get the associate Posting Account and Deliver Address details of the corporate specified in the request.

3.6.2 Changed RESTful Web Services

3.6.2.1 Purchases Web Service

The POST Purchases web service has been enhanced to remove the restriction of not being able to purchase a recurring bolt-on from a prepaid balance. The Purchases request now supports a purchase type of 'BALANCE'.

The GET Purchases web service has been enhanced to include a hateaos link for ending a recurring bolt-on. To be able to end a package, the package must be a recurring bolt-on package that has not yet been expired.

3.6.2.2 Allowances Web Service

The POST Allowances web service has been enhanced to provide two new endpoints to allow for the transfer and transformation of allowances.

The transfer allowances endpoint enables all or part of a limited non-recurring or recurring allowance to be transferred to another subscriber. The new subscriber will receive the transferred allowance amount irrespective of whether they have the allowance type already or not. The request will debit the donor subscriber and credit the recipient subscriber on the OCS. The recipient allowance will mirror the end date of the donor allowance instance.

The transform allowances endpoint enables a subscriber to convert all or part of a limited non-recurring or recurring allowance of a specific type into another type, for example data to text messages, using conversion rules defined by the calling system. The request will debit the donor allowance and credit the recipient allowance for the subscriber on the OCS.

3.6.2.3 Contact Details Web Service

The GET Contact Details web service has been updated to return the three phone numbers stored in CMP in addition to the address information currently provided.

3.7 Openet-specific Adapters

The Openet-specific adapters are optional components of the CMP deployment that are based on the licence agreement with MDS Global.

3.7.1 Openet Provisioning Adapter

The Openet Provisioning Adapter has been updated and verified against ECS 7.0.5. CMP 8.1.1 will not function correctly with earlier versions of the Openet ECS.

In addition, the Openet Provisioning Adapter has been enhanced to support the following subscriber lifecycle events towards the OCS:

- Adding a usage limit cap to a subscription on the OCS
- Update the cap amount of an existing subscription usage limit cap
- Expire a cap in order for that limit on the subscription's usage to be removed.
- Enable a network feature on the OCS
- Debit a prepaid balance for a recurring pre-payment.

3.8 Non-functional Changes

3.8.1 Auto-purge of Log File Records

In the logging options of the Admin Console, it is now possible to specify the number of days of log records to retain. By default this is set to 30 days but can be changed by an user with appropriate privilege. On server start-up, and each day at midnight, the log component will create a new partition for the following day and remove partitions for all days prior to the “Days To Retain" configuration.

3.8.2 Additional Camel Endpoints

CMP 8.1.1 now supports two additional Camel endpoints to enable adaptors to consume from these based on the specific integration required. The additional endpoints supported are Jetty and SMPP. The Jetty component provides HTTP-based endpoints for consuming and producing HTTP requests. The SMPP component provides access to an SMSC over the SMPP protocol to send and receive SMS.

4.0 Product Support Issues

4.1 Solved Issues

The following issues have been addressed within this release:

Reference	Area	Description
PS-95	Config Centre	Limitation in adding an additional rolling tariff package service record when one already exists.
PS-221	Config Centre	Limitation in adding an additional rolling tariff service record when one already exists.
PS-313	Config Centre	Default Google Chrome Locale 'en-US' displays Internal Server Error
PS-339	Admin Console	Action Monitor - Cater for inactive record in setup table.
PS-363	AgentView	Error in Worklist filter screen.
PS-392	Config Centre	Restrict global service availability at Tariff Service level.
PS-398	SABRE Jobs	Batch Job Triggers should be enabled by default.
PS-399	SABRE Jobs	Sabre Load & Extract Daemons need to use directories consistently.
PS-428	AgentView	If configured the subscription service should be applied when enabling the feature
PS-448	AgentView	Actioned Items panel right click option displaying incorrectly.
PS-452	AgentView	Add Refund & View Refunds options throw an error.
PS-456	AgentView	Constraint error when deleting a workflow action.
PS-461	AgentView	Language and Special Needs not appearing when editing a Comms Preference in Agent View.
PS-491	Admin Console	Email Server Module Properties cannot be configured through the Admin Console.
PS-493	Config Centre	Available services should be filtered when adding a Package Service.
PS-502	Config Centre	Multi-language support for letter and email templates.
PS-503	Config Centre	Comms language radio buttons displaying incorrectly.
PS-504	Config Centre	‘Subject’ shouldn’t be required for letter Comms.
PS-505	Config Centre	Unlimited allowances displayed incorrectly in Package List screen.
PS-507	Config Centre	Special characters not supported for usage classes.
PS-517	Config Centre	Can't update an existing comms default field.
PS-536	SABRE Jobs	JSON Schema – Consistent version numbers.
PS-569	AgentView	Agent View performance degredation due to incorrect SQL.
PS-591	Config Centre	Multiple issues when adding an Allowance.
PS-592	Config Centre	Multiple issues when editing an existing Allowance.
PS-593	AgentView	Incorrect information displayed for comms sent to parent subscription.

PS-603	Admin Console	Only 50 detail records are displayed for a batch that contains more
PS-612	Config Centre	Add Package Service - The services displayed in the service dropdown not sorted.
PS-614	Config Centre	Package Service List screen not showing currency of price or billing offset period.
PS-615	Config Centre	Cash allowance type filter should only be shown for top-up packages in Add Package Allowance screen.
PS-619	Config Centre	Package List table needs to handle multiple allowances.
PS-620	Config Centre	Add Package Services screen top-up package service filtering.
PS-637	Config Centre	Dropdown of services is not being populated correctly for non-Recurring Bolt-on Packages on Add Package Service screen.
PS-648	Config Centre	Adding rolling package services to a non-recurring bolt-on package should be prevented.
PS-649	Config Centre	Misleading error message when adding a prorateable service to a non-recurring Bolt-on.
PS-652	Config Centre	Recurring Duration should always be visible on the Add Package screen.
PS-654	Config Centre	Charge for enabling a Feature Service should be a one-time charge.
PS-663	DWH Extracts	Reverse VAT comment is showing invalid quantity in Sabre Spend Analyser Extract.
PS-671	Provisioning	Status of superseded serial numbers not provided in outbound request.
PS-673	Installation	Cannot deploy CMP without proxy settings.
PS-678	AgentView	Error loading serial number list when more than 50 available numbers.
PS-679	Sabre Batch Framework	Adapter framework throwing exception when passed an adapter routing message.
PS-682	OCS Integration	Openet Usage adapter needs to convert cents to pounds for display in AgentView.
PS-689	Provisioning	Non-Managed Numbers should not be supported in outbound requests.
PS-695	AgentView	Manually raising a workflow to enable/disable a feature.
PS-703	Comms	Internal Target not considered for manually raised comms.
PS-704	AgentView	Internal server error thrown when navigating to the CC Procedures page.
PS-708	Config Centre	Recurring duration when viewing a package should always be visible.
PS-709	Config Centre	Recurring Duration should always be visible on the Edit Package screen.
PS-713	Batch Jobs	Payment Amount set incorrectly for non-recurring Payments Job.
PS-725	System	JBoss lock up under load from SOAP web services.
PS-732	Web Services	CreateService error when customer level is Account

PS-744	Admin Console	Missing labels for transactions for the Receipt Print job.
PS-752	AgentView	Issue with updating long description of a subscriber's active service
PS-758	AgentView	Prepaid sub displays in AgentView as postpaid
PS-799	Admin Console	Unable to define dates for Holiday or Recurring Holiday Calendar.
PS-801	Config Centre	Creating External Comms Codes incorrectly writing Internal Target in commsCodeCommsDeliveryMethodCode table.
PS-824	OCS Integration	OCS error during an MSISDN number change
PS-825	Admin Console	Last execution date and time not updating consistently for daemons.
PS-829	Documentation	SOAP Address Service moved in the Semantics Guide.
PS-830	Admin Console	Scheduled process incorrectly ran during outage.
PS-851	Config Centre	Default Google Chrome Locale 'en-US' displays Internal Server Error.

4.2 Known Issues

The following section highlights issues that have been identified within some of the new functionality that has been introduced within CMP 8.1.1. These issues were identified late in the release process and will be addressed in CMP 8.1.2.

4.2.1 Unit of Measure for Allowance Adjustments

The new Adjustments bottom panel implemented in CMP 8.1.1 and highlighted in section 3.2.1.1 above has an issue with the display of the transferred and transformed amounts. The amounts are always shown as bytes or seconds and are not aligned to the unit of measure displayed against the value.

5.0 Documentation

5.1 Product Documentation

The product documentation is available online at https://cmp-docs.com/Content/Home.htm. This online portal requires authorised access, which can be obtained by contacting MDS Global support. The documentation is also available as downloadable PDFs as follows:

Document	Version	Status
CMP 8.1.1 Release Notes	1.0	New
CMP 8.1 Documentation Overview	1.0	New
CMP 8.1 Installation Guide	1.1	Updated
CMP 8.1 Business Configuration Overview	1.1	Updated
CMP 8.1 Extracts Guide	1.1	Updated
CMP 8.1 Technical Architecture Overview	1.1	Updated
CMP 8.1 SOAP Web Services Semantics Guide	1.2	Updated
CMP 8.1 RESTFul Web Services API Guide	1.1	Updated
CMP 8.1 Operational Overview	1.1	Updated
CMP 8.1 System Administration Guide	1.0	New

5.1.1 New Documents

5.1.1.1 Documentation Overview

The CMP release is provided with a set of documentation to enable an end user to better understand and operate the system on a day-to-day basis. The Documentation Overview provides an outline of the documentation set provided with the release including the document scope in terms of the functional, technical, integration and operational documentation provided.

5.1.1.2 System Administration Guide

The System Administration Guide provides a starting point for managing the CMP components and running them optimally. System Administration tasks covered include hardware and software maintenance, Data and Database management, user administration, network and system security, risk mitigation and system optimisation.

5.1.2 Updated Documents

5.1.2.1 Installation Guide

The installation guide has been updated to include details of how to perform an installation of a high availability system.

5.1.2.2 Business Configuration Overview

The Business Configuration Overview document has been updated to align with the changes described in section 3.3.3.

5.1.2.3 Extracts Guide

The Extracts Guide has been updated to add the Subscription Features and Purchases extracts as described in section 3.3.1.3 and section 3.3.1.4.

5.1.2.4 Technical Architecture Overview

The high availability (HA) section of the Technical Architecture Overview has had some minor updates.

5.1.2.5 SOAP Web Services Semantics Guide

The SOAP Web Services Guide has been updated to reflect the changes highlighted in section 3.5 above.

5.1.2.6 RESTFul Web Services API Guide

The REST Web Services Guide has been updated in line with the changes specified in section 3.6 as follows:

- New Receipt web service to retrieve a specific PDF purchase receipt
- New Corporates web service to support retrieval of all corporates within a group or details of a single corporate
- Updated POST Purchases web service to remove the restriction of not being able to purchase a recurring bolt-on from a prepaid balance
- Updated GET Purchases web service to include a hateaos link for ending a recurring bolt-on
- Updated POST Allowances web service to provide two new endpoints to allow for the transfer and transformation of allowances
- Updated GET Contact Details web service returning the three phone numbers stored in CMP in addition to the address information currently provided.

5.1.2.7 Operational Overview

The Operation Overview has been updated for the two new Data Warehouse Extract Jobs detailed in section 3.3.1.3 and section 3.3.1.4, and the Recurring Pre-payment and Recurring Pre-payments Rejections jobs detailed in section 3.3.1.1 and section 3.3.1.2.

5.1.2.8 Batch Jobs and JSON Schemas Guide (Online Guide Only)

The Batch Jobs and JSON Schemas Guide has been updated for the changes described in section 3.3.1 and 0 around Recurring Pre-payments and Pre-payments Rejections, the new Data Warehouse extracts, Receipt Print, Bill Print and the outbound and inbound provisioning jobs.

5.2 Online Help

The following changes have been made to the online help:

- Administration Console Help - updated to document the Servers page within the System Configuration menu option
- Business Configuration Help: updated to add Network Commands, Command Groups, Features and Feature Defaults
- AgentView Help: Updated to remove unsupported content and added new functionality introduced for CMP 8.x namely Purchases, Features, Usage Caps and Comms.

Note: The online help is best viewed in a browser other than Internet Explorer.

6.0 Release Upgrade Path

The CMP 8.1.1 installer includes the capability to upgrade a CMP 8.1 installation without the loss of configuration or customer data provided that the software, file system and database structure of the installation in question are at no point manually modified.

Note that prior to starting the upgrade the sabre-server and sabre-console modules should be stopped.

6.1 Ansible Upgrade

Prior to the upgrade to CMP 8.1.1, the ansible component needs to be upgraded to Ansible 2.8. This is also highlighted in the Installation Guide.

6.2 PostgreSQL 11.2 – 12.1 Upgrade

Prior to the upgrade to CMP 8.1.1, the version of PostgreSQL must be upgraded to version 12.1. This upgrade should be performed by a qualified Database Administrator. For simple environments such as a test environment for example, an upgrade procedure is provided in Appendix A.

Appendix A - PostgreSQL 11.2 – 12.1 Upgrade

6.2.1 PostgreSQL Upgrade Pre-Requisites

Before commencing the upgrade please ensure that a full database backup has been performed. The following are the steps needed to complete the pre-requisites prior to running the upgrade:

1) An assumption is made that PostgreSQL repositories are in place, please double check that the PostgreSQL12 repository is accessible. Navigate to /etc/yum.repos.d and check the pgdg-redhat-all.repo file for a similar definition to below:

```
[pgdg12]
name=PostgreSQL 12 for RHEL/CentOS $releasever - $basearch
baseurl=https://download.postgresql.org/pub/repos/yum/12/redhat/rhel-
$releasever-$basearch
enabled=1
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-PGDG
```

If you either have a different file or no PostgreSQL 12 definition, please follow the steps provided on the postgresql.org website to install the correct rpm package for the yum repository access. If for example “enabled=0” is defined, then it is easy / simple enough to change this to “enabled=1” in the yum config file.

2) The next step is to install the PostgreSQL12 binary packages (stating the release number to ensure 12.1 is installed and not any higher version that maybe available):

```
yum install postgresql12-12.1-1PGDG.rhel7.x86_64
yum install postgresql12-server-12.1-1PGDG.rhel7.x86_64
yum install postgresql12-contrib-12.1-1PGDG.rhel7.x86_64
```

3) Determine the locale of the existing database by executing the following SQL:

```
SHOW LC_COLLATE;
```

4) Following the binary package install it is necessary to initialise the new PostgreSQL 12 installation by running the initdb command, specifying the locale as the result obtained above:

```
 /usr/pgsql-12/bin/initdb -D /var/lib/pgsql/12/data --wal-segsize=1024 --
locale=<locale obtained above>
```

6.2.2 Upgrade Steps

5) It is necessary to make a change to the WSO2 tables to change the datatype – “abstime” as it is no longer supported. This must be done before the upgrade otherwise it will fail and manual clean-up work will need to be done prior to running another attempt at

the upgrade. Please run the following SQL within your current PostgreSQL-11 deployment on BPS database defined by the bps_db_name parameter in the installation yaml file (by default wso2bpsdb):

```
ALTER TABLE public.ode_activity_recovery ALTER COLUMN date_time TYPE
timestamp with time zone ;

ALTER TABLE public.ode_event ALTER COLUMN tstamp TYPE timestamp with time
zone;

ALTER TABLE public.ode_message_exchange ALTER COLUMN create_time TYPE
timestamp with time zone;

ALTER TABLE public.ode_process_instance ALTER COLUMN date_created TYPE
timestamp with time zone;

ALTER TABLE public.ode_process_instance ALTER COLUMN last_active_time TYPE
timestamp with time zone;

ALTER TABLE public.ode_process_instance ALTER COLUMN last_recovery_date
TYPE timestamp with time zone;

ALTER TABLE public.store_du  ALTER COLUMN deploydt TYPE timestamp with
time zone;
```

6) It is now possible to run the PostgreSQL 11 to 12 upgrade, stop the PostgreSQL11 database instance by typing the following (as a superuser):

```
systemctl stop postgresql-11
```

7) Run the PostgreSQL upgrade script (as the PostgreSQL user), please note that a significant amount of output to the screen will occur on the status of the upgrade process, if the upgrade fails then interrogate the logfiles as to the issue encountered. Please note that a recommendation for running a script is provided that recreates DB statistics that is used by the SQL optimiser – analyse_new_cluster.sh, please note the script name and location for execution later on:

```
/usr/pgsql-12/bin/pg_upgrade   --link   --old-datadir
/var/lib/pgsql/11/data/   --new-datadir /var/lib/pgsql/12/data   --old-
bindir /usr/pgsql-11/bin   --new-bindir /usr/pgsql-12/bin
```

***** Please ensure that there is enough space in the filesystem that holds the /var/lib/pgsql/12/data/wal directory as new WAL file(s) will be created *****

8) As a further check to ensure the upgrade has been successful start the PostgreSQL12 installation (please note you will only be able to connect to the DB via a local server connection), any problems check the logfiles that are in the default location (/var/lib/pgsql/12/data/log), (as superuser) run the following:

```
systemctl start postgresql-12
```

If startup successful run:

```
systemctl stop postgresql-12
```

9) After the successful completion of the previous step please copy the following files from the PostgreSQL 11 data directory to the PostgreSQL 12 data directory (as the postgres user):

```
cp /var/lib/pgsql/11/data/postgresql.auto.conf    /var/lib/pgsql/12/data
cp /var/lib/pgsql/11/data/pg_hba.conf          /var/lib/pgsql/12/data
```

10) It is also necessary to clear out the default location of the MDS defined PostgreSQL WAL file directory and replace them with the WAL file(s) created by the PostgreSQL 12 upgrade – run the following (as the postgres user)

****** BEFORE PERFORMING THIS IT IS RECOMMENED TO BACKUP THE /pg_wal DIRECTORY ****:**

```
rm -R /pg_wal/*
mv /var/lib/pgsql/12/data/pg_wal/* /pg_wal
rm -rf /var/lib/pgsql/12/data/pg_wal
ln -s /pg_wal /var/lib/pgsql/12/data/pg_wal
```

11) It is now possible to start and connect to the PostgreSQL12 installation (as superuser) run the following:

```
systemctl start postgresql-12
```

12) Your database should now be accessible, please note that a number of post-requisite tasks are ideally performed. These are:

a. Reindexing the database – new functionality in PostgreSQL12 improves btree indexes, the simplest way to do this is to run (as postgres user):

```
reindexdb
```

*** PLEASE BE AWARE THIS COULD TAKE A LONG TIME DEPENDING UPON THE SIZE OF YOUR DATABASE CARE MUST BE TAKEN IN RUNNING THIS COMMAND ***

b. Running the script that was generated in step 7 (as postgres user) and indicated at the end of the execution of initdb.

c. Remove the PostgreSQL11 data directory and installation software when 100% happy that it is no longer needed anymore by running

```
./delete_old_cluster.sh
```

followed by removing the binary packages using yum –

```
yum remove postgresql11
yum remove postgresql11-server
yum remove postgresql11-contrib
```