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# Billing Data Server

Release Notes 9.0.x

3/16/2023

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# Billing Data Server 9.0.x Release Note

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

This Release Note applies to all 9.0.x releases of Billing Data Server. Links in the [Available Releases](#) section enable you to access information regarding a specific release.

## Available Releases

### [+] Note about release order

Releases are listed by version number rather than in date order. For this reason, a recent release may be listed after earlier releases, if the version number is lower. Except when otherwise noted in the information for a specific release, each release includes all of the features and corrections that were introduced for the applicable operating system at earlier dates, regardless of the version numbering.

Release 9.0.0:

Release	Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
100.0.008.0003	03/16/23	Update			X		
100.0.008.0001	01/27/23	General			X		
100.0.007.0002	12/09/22	General			X		
100.0.006.0004	10/25/22	Update			X		
100.0.006.0001	10/17/22	General			X		
100.0.005.0008	08/30/22	Hot Fix			X		
100.0.005.0008	08/18/22	Update	Unavailable		X		
100.0.005.0007	07/13/22	General			X		
100.0.004.0005	05/30/22	Update			X		
100.0.004.0005	05/06/22	Update			X		
100.0.004.0004	04/14/22	General			X		
100.0.003.0002	02/22/22	Hot Fix			X		
100.0.003.0009	09/25/22	Update			X		
100.0.003.0002	12/22/21	General			X		
100.0.002.0020	10/26/21	Update			X		
100.0.002.0009	09/30/21	General	Unavailable		X		
100.0.001.0007	07/09/21	General			X		

Release	Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
9.0.004.20	05/12/21	Hot Fix			X		
9.0.004.01	04/19/21	General	Unavailable		X		
9.0.003.01	02/16/21	General			X		
9.0.002.07	12/17/20	Update			X		
9.0.002.01	12/01/20	General			X		
9.0.001.05	08/27/20	Update			X		
9.0.001.01	07/20/20	General			X		
9.0.000.46	06/25/20	Update			X		
9.0.000.45	06/10/20	Update	Unavailable		X		
9.0.000.43	05/21/20	Update			X		
9.0.000.40	04/15/20	General			X		
9.0.000.37	03/31/20	Update			X		
9.0.000.33	01/22/20	General			X		
9.0.000.30	11/27/19	Hot Fix			X		
9.0.000.29	10/28/19	Update			X		
9.0.000.26	07/19/19	Update			X		
9.0.000.22	04/12/19	General			X		
9.0.000.18	01/22/19	General			X		
9.0.000.13	09/25/18	General			X		
9.0.000.10	07/25/18	General			X		
9.0.000.07	06/27/18	General			X		
9.0.000.01	03/28/18	General			X		

The operating systems available for use with each component release are listed in the table at a high level only. For more detailed information about the supported operating environments, including requirements, supported versions, and any conditions or limitations, see the [Billing Data Server](#) page in the *Genesys Supported Operating Environment Reference Guide*.

## Discontinued Support

### [+] Note about discontinued items

This section documents features that are no longer supported in this software. This cumulative list is in release-number order with the most recently discontinued features at the top of the list. For more information on discontinued support for operating environments and databases, see [Discontinued Support](#) in the *Genesys Supported Operating Environment Reference Guide*.

There are no discontinued items for this product.

## Known Issues

You can find a cumulative list of the Known Issues and Recommendations for all 9.0.x releases of Billing Data Server, including the issues that are specific to Localized (International) releases, at the following links:

- [Known Issues and Recommendations](#)
- [Internationalization Issues](#)

## Related Resources

For additional information about Billing Data Server, see the following documentation:

- The documentation related to this software is available from the [Billing Data Server](#) page.
- The [Billing Data Server Deployment Guide](#) provides details about installing and configuring Billing Data Server.
- The [Billing Data Server](#) page in the [Genesys Supported Operating Environment Reference Guide](#) provides detailed information about the supported operating environments, including requirements, supported versions, and any conditions or limitations for Billing Data Server components.

Release Notes for other Genesys components are available [here](#).

# Known Issues and Recommendations

## Billing Data Server

The Known Issues and Recommendations section is a cumulative list for all 9.0.x releases of Billing Data Server. This section provides the latest information on known issues and recommendations associated with this product. It includes information on when individual items were found and, if applicable, corrected. The Resolved Issues section for each release describes the corrections and may list additional issues that were corrected without first being documented as Known Issues.

See also [Internationalization Issues](#).

The special character '}' (right curly brace) in Genesys Info Mart (GIM) DB password cause issues for BDS.

**Workaround:** Genesys recommends to avoid using the curly braces in your database passwords.

ID: <b>CBILL-6877</b>	Found In: <b>100.0.008.0001</b>	Fixed In:
-----------------------	---------------------------------	-----------

In some scenarios, values are incorrectly calculated for the following metrics: seats\_inbound\_voice, seats\_outbound, and seats\_voice.

ID: <b>CBILL-3115</b>	Found In: <b>9.0.000.29</b>	Fixed In: <b>9.0.000.30</b>
-----------------------	-----------------------------	-----------------------------

In scenarios where BDS cannot access the **config.json** file for any reason (for example, the file is missing, contains invalid json, or has incorrect file permissions), BDS closes, displaying an error message in the output console, but without writing an error in the log.

ID: <b>CBILL-2558</b>	Found In: <b>9.0.000.22</b>	Fixed In: <b>9.0.000.26</b>
-----------------------	-----------------------------	-----------------------------

In scenarios where a database query is executed by BDS and subsequently terminated on the DBMS side, the BDS process sometimes stops due to an assert raised in the **pyodbc** library, and writes an entry at the end of the BDS log similar to the following:

```
Read from the server failed (20004) (SQLFetch')
Traceback (most recent call last):
  File "/vagrant/brs/connections/database.py", line 188, in execute_sql_statement
    results = db_cursor.fetchall()
  OperationalError: ('08S01', u'[08S01] [FreeTDS][SQL Server]Read from the server failed
(20004) (SQLFetch')
2019-05-22 03:12:26,715 CRITICAL 139819474491136 |
brs.extract.gim.extract_and_store_gim_dataset -
<date=2019-05-20;tenant_id=310;tenant=SuddenLink> ('08S01', u'[08S01] [FreeTDS][SQL
```

```
Server]Read from the server failed (20004) (SQLFetch)')
2019-05-22 03:12:26,771 ERROR 139819474491136 | brs.exceptions.init - GIM extract error:
('08S01', u'[08S01] [FreeTDS][SQL Server]Read from the server failed (20004) (SQLFetch)')
```

ID: **CBILL-2696**Found In: **9.0.000.18**Fixed In:

---

## Internationalization Issues

Information in this section is included for international customers. Release numbers in the **Found In** and **Fixed In** fields refer to the English (US) release of Billing Data Server unless otherwise noted in the issue description.

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There are no internationalization issues for this product.

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# Release 9.0.0

## Billing Data Server Release Notes

You can find links to Release Notes for particular 9.0.0 releases of Billing Data Server, if available, in the tree menu on the left or in the list of [Available Releases](#).

100.0.008.0001

## Billing Data Server Release Notes

### Important

The URL for this Release Note indicates Billing Data Server 9.0.020.00, however, the full release number is Billing Data Server 100.0.008.0001.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
01/27/23	General			X			

## What's New

This release contains the following new features and enhancements:

- The **mode\_settings** parameters are moved from the **config.json** file to the **bds.settings** file. The moved parameters include:
  - "**local\_cache**": **"/genesys/data"**,
  - "**local\_extract\_path**": **"extract"**,
  - "**local\_transform\_path**": **"transform"**

In the **bds.settings** file, use the following parameters to configure the local extract and transform paths:

- BDS\_OVERRIDE\_LOCAL\_CACHE\_DATA\_PATH=/genesys/data**
- BDS\_OVERRIDE\_LOCAL\_EXTRACT\_PATH=extract**
- BDS\_OVERRIDE\_LOCAL\_TRANSFORM\_PATH=transform.**

For more information, see [Environment variables](#). (CBILL-6149)

- Improved calculation of the expected number of output files during the transform stage. (CBILL-6296)
- Billing Data Server (BDS) now supports Kubernetes v1.24. (CBILL-6664)

## Helpful Links

### Releases Info

- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

### Product Documentation

- [Billing Data Server](#)

### Genesys Products

- [List of Release Notes](#)

## Resolved Issues

This release contains the following resolved issues:

---

Optimized the performance of ASR/TTS events process. (CBILL-6645)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.008.0001.

100.0.007.0001

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.019.00, however, the full release number is Billing Data Server 100.0.007.0001.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
12/12/22	General			X			

### What's New

This release includes only resolved issues.

### Resolved Issues

This release contains the following resolved issues:

---

Fixed bundle transformation with business unit enabled. (CBILL-6571)

---

Configuration wizard now disables metric joins if metrics/data sources are unavailable. (CBILL-6294)

---

### Helpful Links

#### Releases Info

- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

#### Product Documentation

- [Billing Data Server](#)

#### Genesys Products

- [List of Release Notes](#)

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.007.0001.

100.0.006.0004

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.018.00, however, the full release number is Billing Data Server 100.0.006.0004.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
10/25/22	Update			X			

### What's New

This release includes only resolved issues.

### Resolved Issues

This release contains the following resolved issues:

Running the **Brsctl.py > decrypt** command now displays the message Decryption process finished. after successfully decrypting the files. Previously, the utility displayed incorrect messages in certain scenarios.(CBILL-6525)

### Helpful Links

#### Releases Info

- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

#### Product Documentation

- [Billing Data Server](#)

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The **Brsctl.py** logs are now correctly written in the folder configured in the environment variable **BDS\_OVERRIDE\_LOG\_DIR**. Previously, the **Brsctl.py** logs were written in the default path instead of the new path configured in **BDS\_OVERRIDE\_LOG\_DIR**.(CBILL-6524)

---

BDS base image is updated with security fixes. (CBILL-6505)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.006.0004.

100.0.006.0001

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.017.00, however, the full release number is Billing Data Server 100.0.006.0001.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
10/17/22	General			X			

## What's New

This release contains the following new features and enhancements:

- Billing Data Service (BDS) now tracks the agent login sessions through **Gplus Workforce Management (WFM) Adapter**. A new metric, **seats\_gplus\_wfm**, is introduced to measure the Concurrent and Named number of agents' login sessions as registered by Gplus WFM Adapter. For more details, see [Gplus WFM Adapter Seat](#). (CBILL-6422)
- In the **Configuration Utility (Brscctl.py) > decrypt** command, if the directory to store the decrypted file is not mentioned (-fd value), the utility automatically creates a directory within the encrypted files directory (-fe value). Additionally, the decrypt command now decrypts all the files in the directory. For more details, see [Configuration Utility](#). (CBILL-6408)
- As part of the multi-tenant configuration, when a metric is enabled or disabled through the Multitenancy-specific [Configuration \(Brscctl.py\) commands](#), the same configuration is propagated to the corresponding metric in all the tenants that are part of the multi-tenant that is being configured.

## Helpful Links

### Releases Info

- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

### Product Documentation

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(CBILL-6242)

- A new metric, **seats\_unique\_agents**, is now available to measure the number of unique agent sessions. For more details, see the [Named seats metric](#) documentation. (CBILL-6087)
- The **seats\_third\_party** metric now supports a new parameter, **parameters**, to configure media types as you would configure in Intelligent Workload Distribution (IWD). You can configure media types using the **Config.json** file or through Metrics-specific [Configuration \(Brsctl.py\) commands](#). (CBILL-6086)
- A new parameter, **LOG\_JSON\_FORMAT**, is now available to enable or disable writing structured logs in the JSON format. Structured logs are written in STDOUT. By default, **LOG\_JSON\_FORMAT** is set to false. An example log for a record is as follows:

```
{
  "timestamp": "2022-08-18T11:22:20Z",
  "level": "INFO",
  "processName": "MainProcess",
  "threadName": "ThreadPoolExecutor-0_0",
  "traceId": 140145279710976,
  "component": "job_controller",
  "loggerName": "brs.job_controller.get_test_agents",
  "context": {"date": "2016-09-30", "tenant": "Tenant800", "tenantId": "800"},
  "msg": "Number of persons DBIDs: 3",
  "service": "bds"
}
```

(CBILL-6045)

- A new parameter, **port**, is now available in the **loader\_sftp** section to configure ports for transferring the SFTP files. By default, the port value is set to 22. (CBILL-6008)
- BDS now supports configuring multiple tenants with each tenant owning a dedicated Genesys Info Mart (GIM) database. You can define multiple tenants with dedicated GIM databases and configure them manually under the **multi-tenant** section in the **Config.json** file or through the multi-tenant template using the Multitenancy-specific [Configuration \(Brsctl.py\) commands](#). Refer [Provision and import multi-tenant template procedure](#) for manual configuration using templates.  
For multi-tenant configurations, the transform files and report outputs from BDS now display an additional folder for 'multi-tenant'. The 'multi-tenant' folder carries the name according to the multitenant\_name configuration and it displays the consolidated usage information of all the tenants. Refer [Understanding BDS reports](#) documentation to know changes in output folder structure. (CBILL-5899)

## Resolved Issues

This release contains the following resolved issues:

---

**Brsctl.py** now displays the correct exit code when there is an error. (CBILL-5917)

---

BDS now validates the extract watermark before getting test agents from the Configuration Server. (CBILL-6019)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.006.0001.

100.0.005.0024

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.016.00, however, the full release number is Billing Data Server 100.0.005.0024.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
08/30/22	Hot Fix			X			

## What's New

This release contains the following new features and enhancements:

- The **Tenant ID** has a new format that requires an eighteen-digit unique ID of a customer for the specific deployment type. This streamlines the billing process and generates bills pertaining to specific environments only. For more details on the new Tenant ID format, see the **Tenant ID** description. (CBILL-6153), (CBILL-6300)
- The **Tenant** configuration section now includes a new optional parameter, **gvp\_dbid\_list**, that you can use to specify the list of tenant's database ID (dbid) from a shared Genesys Voice Platform database (GVP DB). BDS uses the tenant's dbid list to retrieve sessions from GVP DB instead of searching the list from Configuration Server. By default, **gvp\_dbid\_list** is set to empty. (CBILL-5955)

## Helpful Links

### Releases Info

- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

### Product Documentation

- [Billing Data Server](#)

### Genesys Products

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## Resolved Issues

This release contains the following resolved issues:

---

BDS now correctly masks Personally Identifiable Information (PII) in the report outputs. Previously, if the dataset headers of certain databases contained uppercase characters, it prevented PII data from being masked. (CBILL-6303)

---

The GVP-detailed reports are currently unavailable. To resolve an issue, the changes introduced in the **gvp\_minutes**, **gvp\_asr\_minutes**, and **gvp\_tts\_minutes** metrics to support these reports have been reverted to their previous functionality supported in the 100.0.004.0018 release. (CBILL-6289)

---

The encrypt command in **Configuration Utility (Brsctl.py)** now correctly encrypts the password. Previously, running the encrypt command didn't encrypt the password in certain cases. (CBILL-6258)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.005.0024.

100.0.005.0016

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.015.00, however, the full release number is Billing Data Server 100.0.005.0016.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
08/18/22	Update	Unavailable		X			

### What's New

As of August 30, 2022, this release is no longer available. A critical security issue was discovered. If you have already downloaded the software, do not install it.

### Resolved Issues

This release contains no resolved issues.

### Helpful Links

#### Releases Info

- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

#### Product Documentation

- [Billing Data Server](#)

#### Genesys Products

- [List of Release Notes](#)

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.005.0016.

100.0.005.0003

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.014.00, however, the full release number is Billing Data Server 100.0.005.0003.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
07/13/22	General			X			

## What's New

This release contains the following new features and enhancements:

- The Subscription mode billing is now removed. However, there are no changes to the existing metrics and their measurement criteria to track a certain activity. Removing the Subscription mode leads to the following changes:
  - Configuration wizard no longer prompts users to select the Subscription type.
  - Subscription mode templates are no longer available. (CBILL-5614)
- Two new **brsctl.py** commands -se and -sed are introduced in the **Tenant** options.
  - -se command shows the last successful extract date from all or specific data sources such as GIM, GVP RS, and so on.

## Helpful Links

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- [List of 9.0.x Releases](#)
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- The `-sed` command along with the `-se` command sets the last successful extract date for all or specific data sources such as GIM, GVP RS, and so on.

An example command to show a specific extract date for GIM and GVP RS is as follows:

```
brsctl.py tenant -t name -se gim,gvp
```

An example command to set a specific extract date for GIM and GVP RS is as follows:

```
brsctl.py tenant -t name -se gim,gvp -sed 2022-05-05
```

(CBILL-5921)

- The `-fe` and `-fd` options in the `decrypt` command now support decrypting a batch of extract or transform files and place them in the results folder. (CBILL-5791)
- The **Named user** metrics calculation and its corresponding detailed reports are now available for resellers. (CBILL-5627)
- A new parameter namely **Vendor rules** is introduced in the **Tenant** configuration section. Using this optional parameter, you can define the ASR vendor rule such that the GVP report outputs are processed based on the rule. The default vendor rule is set to "nuance".  
For more information and sample codes, see the **Tenant parameters** description in Configuring BDS. (CBILL-5556)
- The **global variables file (gvars.py)** is now deprecated. The variables configured using **gvars.py** are modified as environment variables and are now part of the **.env** file. Additionally, includes changes to the following environment variables in the **.env** file:
  - **ENABLED\_SEATS\_DETAILED\_DIR** and **CONCURRENT\_SEATS\_DETAILED\_DIR** variables are removed.
  - **DETAILED\_REPORT\_DIR** is introduced which stores the report outputs such as **Concurrent users detailed** reports, **GVP detailed** reports, and **Named users detailed** reports. The default path is **DETAILED\_REPORT\_DIR = /genesys/data/reports**, however, customers can configure this path.
  - Log-related variables such as **LOG\_FILE\_MAIN**, **LOG\_FILE\_STATS**, **LOG\_FILE\_AUDIT**, **LOG\_FILE\_MIGRATE**, and **SBC\_BRS\_LOG\_FILE** are removed and their associated logs are available in the path configured in **BDS\_OVERRIDE\_LOG\_DIR** in the **.env** file.  
**Note:** Migration scripts are not currently available to move your existing settings from **gvars.py** to **.env**. Genesys recommends to move the settings manually. You can leave the **.env** file empty in which case BDS uses the default paths.

For more information, see **Environment variables** in the BDS deployment guide and **Understanding BDS reports** in the BDS user's guide.

(CBILL-5442), (CBILL-5780)

- The following reports are introduced to calculate GVP specific consumption in terms of milliseconds:
  - **gvp\_minutes**
  - **gvp\_asr\_minutes**
  - **gvp\_tts\_minutes**

The report outputs are stored in the path configured in the **BDS\_OVERRIDE\_DETAILED\_REPORT\_DIR** variable in the **.env** file. For more information about the reports, see the **GVP detailed** reports.

(CBILL-5407), (CBILL-5533)

- A new environment variable namely **DR\_location** is introduced in the **.env** file to manage disaster



---

recovery (DR) situations. During DR, BDS verifies the existence of **DR\_location**, if it exists, BDS verifies the existence of **primary\_location** configuration at the tenant-level. In a DR scenario, all aliases and switches from the primary location are used even if the primary location is disabled. For more information, see [Environment variables](#). (CBILL-5233)

## Resolved Issues

This release contains the following resolved issues:

---

BDS now correctly inserts new regions in the GCXI tables in the Postgres database. (CBILL-5991)

---

To improve performance in the transformation process, BDS now uses the spawn multiprocessing method instead of the fork method. (CBILL-5681)

---

BDS now validates the duplication of switches and notifies the user with appropriate duplication messages. (CBILL-5575)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.005.0003.

100.0.004.0018

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.013.00, however, the full release number is Billing Data Server 100.0.004.0018.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
05/30/2022	Update			X			

## What's New

This release contains the following new features and enhancements:

- Performance improvements have been made by adding special conditions for indexed fields in the following partitioned tables:
  - gidb\_g\_login\_session\_v
  - gidb\_gx\_session\_endpoint\_v
  - gidb\_g\_userdata\_history\_v
  - gidb\_gx\_session\_endpoint\_mm
  - gidb\_g\_login\_session\_mm
  - gidb\_g\_agent\_state\_rc\_mm
  - gidb\_g\_userdata\_history\_mm

## Helpful Links

### Releases Info

- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

### Product Documentation

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(CBILL-5960), (CBILL-5838)

- Billing Data Server (BDS) supports configuring the native network encryption by adding the following parameters in the Oracle Net's configuration file (**sqlnet.ora**) located in the mounted folder of the BDS container.
  - `SQLNET.CRYPTO_CHECKSUM_CLIENT = required`
  - `SQLNET.ENCRYPTION_CLIENT = required`

Additionally, configure the path to the configuration file (**sqlnet.ora**) in the newly added parameter named **ORA\_CFG\_FILE** in the **gvars.py** file. Example configuration is as follows:

```
ORA_CFG_FILE = '/genesys/data/sqlnet.ora'
```

**Note:** BDS supports the **sqlnet.ora** configuration file from release 100.0.004.0018 and later. If the path to **sqlnet.ora** is not configured in the **gvars.py** file, that is, if `ORA_CFG_FILE = ''`, then BDS uses the default connection property to connect to the Oracle database.

For more information about the Oracle-specific parameters, see the [Oracle Net Services Reference](#) document. (CBILL-5392)

## Resolved Issues

This release contains no resolved issues.

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.004.0018.

100.0.004.0009

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.012.00, however, the full release number is Billing Data Server 100.0.004.0009.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
05/06/22	Update			X			

## What's New

This release contains the following new features and enhancements:

- New media types such as sms, facebooksession, and twitterdirectmessage have been introduced in the corresponding metrics for filtering specific data. The modified metrics are as follows:
  - seats\_sms: 'sms'
  - seats\_facebook: 'facebook' or 'facebooksession'
  - seats\_twitter: 'twitter' or 'twitterdirectmessage'

For more information, refer to the *Billing Data Server User's Guide*. (CBILL-5574)

- The following changes have been made to improve the performance:

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- 
- Queries extracting the metrics data have been optimized.
  - The ORDER BY step is now removed from all the datasets. (CBILL-5833)
  - A new metric called **seats\_whatsapp** is introduced to measure the agents' concurrent and enabled WhatsApp interactions in their active WhatsApp sessions.  
For more information, refer to the [Genesys WhatsApp metric](#) page. (CBILL-5919)

## Resolved Issues

This release contains the following resolved issues:

---

BDS now correctly inserts new regions in the GCXI tables in the Postgres database. (CBILL-5880)

---

An input-output error (I/O) no longer occurs while writing the extracted files. (CBILL-5871)

---

BDS no longer displays an **IndexError** while processing the empty field `remote_uri` in the `gvp_cdr_db` dataset. (CBILL-5893)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.004.0009.

100.0.004.0001

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.011.00, however, the full release number is Billing Data Server 100.0.004.0001.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
04/14/22	General			X			

## What's New

This release contains the following new features and enhancements:

- Billing Data Server (BDS) now masks Personally Identifiable Information (PII) stored in the extract, transform, and final BDS reports. The PII data such as phone number, agent's name, agent's email ID, and so on are masked.  
A new parameter **anonymizer\_salt** is added to the **gvars.py** file to anonymize the PII data such as name, email ID, and so on in the extracted data.  
For more information, refer to [Global Variables](#). (CBILL-5432)
- BDS now supports Red Hat Enterprise Linux 8. See the [Billing Data Server](#) page in the [Genesys Supported Operating Environment Reference Guide](#) for more detailed information and a list of all supported operating systems. (CBILL-5619)
- BDS now supports installing software in an arbitrary directory instead of the default (**/home/genesys**) directory. For more details, refer to the [Installation procedure using the script](#). (CBILL-5773)

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## Resolved Issues

This release contains the following resolved issues:

---

The transformation of the **cim\_premise\_users** metric now correctly counts the agents logged in to the interaction sessions. (CBILL-5790)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.004.0001.

100.0.003.0021

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.010.00, however, the full release number is Billing Data Server 100.0.003.0021.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
02/22/22	Hot Fix			X			

### What's New

This release includes only resolved issues.

### Resolved Issues

This release contains the following resolved issues:

The code checksum (hashing algorithm) in BDS has been improved now to address specific scenarios where the code verification failed. (CBILL-5579)

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---

In single-tenant configurations, the multiprocessing transform process in BDS now correctly shares the reporting data to Genesys CX Insights (GCXI). (CBILL-5652)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.003.0021.

100.0.003.0009

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.009.00, however, the full release number is Billing Data Server 100.0.003.0009.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
01/25/22	Update			X			

### What's New

This release includes only resolved issues.

### Resolved Issues

This release contains the following resolved issues:

The following parameters have been removed from the **gvars.py** file:

- **asymmetric\_key\_dir**
- **DB\_FETCH\_ROWS** (CBILL-5487)

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## Upgrade Notes

No special procedure is required to upgrade to release 100.0.003.0009.

100.0.003.0001

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.008.00, however, the full release number is Billing Data Server 100.0.003.0001.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
12/22/2021	General			X			

## What's New

This release contains the following new features and enhancements:

- The rounding algorithm in Billing Data Server (BDS) is improved to group the events by **Source Unique ID** before summarizing the duration in ASR/TTR minutes. (CBILL-5366)
- BDS now supports Elasticsearch v7.0 for Genesys Interaction Recording (GIR) metrics. (CBILL-5355)
- BDS no longer supports uploading the resulting files to S3 storage. Hence, the following fields are removed from the **config.json** file:
  - S3** section and its options are removed.
  - In the **mode\_settings** section, the **subscription\_mode** field is removed.

The modified **config.json** file after removing the S3 specific fields would look like the following

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sample configuration:

```
"globals": {
  "SourceId": "GEN",
  "cfg_template_version": "100.0.003.0001",
  "mode_settings": {
    "subscription": true,
    "local_extract_path": "extract",
    "local_transform_path": "transform",
    "local_cache": "/genesys/data"
  }
}
```

For more information, see [Configuring BDS](#). (CBILL-5328)

- Performance improvements have been made in the process that extracts the **voice\_sessions** dataset from the Oracle database. (CBILL-5226)
- To improve performance, BDS now implements multithreading capability while extracting data from sources such as GIM, GVP, and so on. In the single tenant configuration for BDS, multithreading allows to have one thread for one data source which significantly reduces the data extraction time. (CBILL-5156)
- Performance improvements have been made in the transformation process of GVP ASR/TTS metrics. (CBILL-5155)
- During the Transform stage, BDS now applies a dedicated process for each metric instead of applying a single process for all metrics in order to improve the performance. (CBILL-5108)

## Resolved Issues

This release contains the following resolved issues:

---

The **Statistics.py** script no longer gives an error when encryption is enabled. Previously, an error occurred when the transform files were encrypted. To resolve this issue, a new option **-decrypt** has been added to the **Statistics.py** script to decrypt the encrypted transform files. (CBILL-5303)

---

The **cim\_premise\_places** metric no longer displays **voice media type** in the session records that are displayed in the error message. Previously, **voice media type** was included incorrectly in the error message. (CBILL-5145)

---

## Upgrade Notes

If you are migrating to BDS 100.0.003.0001 version from previous BDS releases, ensure that you manually add the following rows to the **gvars.py** file:

```
asymmetric_key_dir = '/genesys/etc/crypto'  
DB_FETCH_ROWS = 500000
```

This issue is fixed in BDS **100.0.003.0009** version. Hence, if you are migrating to BDS 100.0.003.0001 version from previous BDS releases, Genesys recommends migrating to the latest BDS version available, that is, 100.0.003.0009 or later.

100.0.002.0020

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.007.00, however, the full release number is Billing Data Server 100.0.002.0020.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
10/26/21	Update			X			

## What's New

This release contains the following new features and enhancements:

- Billing Data Server (BDS) provides values for specific metrics and attributes to the Genesys CX Insights Reporting (GCXI) tool to generate the following reports in the **GCXI > Billing Data** folder:
  - Inbound Voice report
  - IVR Usage report

The metrics shared are:

  - Seats Voice Concurrent
  - Seats Voice
  - GVP Minutes
  - GVP Ports

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The attributes shared are:

- Business Unit
- Metric
- Region
- Start Date Time Key

To enable BDS to share values with GCXI, you must specify the Database Access Point (DAP) name in the `dap` parameter in the `gimdb` section as part of the Tenant Parameters configuration. For more details, see [Tenant Parameters](#)

For more details, see the [Genesys CX Insights 9.0 Projects Reference Guide](#). (CBILL-4361, CBILL-4563)

- A new configuration parameter (optional) **hostkey** is introduced in the **loader\_sftp** section to specify a public key available for the SFTP server. The public key provides extra authorization for the SFTP server. The public keys are available in the SFTP server in the following location:  
'/etc/ssh/\*'

The **hostkey** parameter value consists of two sections separated by a space, where:

- The first section requires the public key type. Supported key types are:
  - `ecdsa-sha2-nistp256`
  - `ecdsa-sha2-nistp384`
  - `ecdsa-sha2-nistp521`
  - `ssh-ed25519`
  - `ssh-rsa`
  - `ssh-dss`
- The second section requires the actual value of the public key.

The following example shows the **hostkey** configuration:

```
"hostkey": "ecdsa-sha2-nistp256
AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBP/
4CF00hQPL1L5SVpU8Y1H6SWaAQUCGieAWbC6/RqY1lX/
2XyoE39owQgWPjFzEPatAoD5rSq6GoLbBCCManzE="
```

For more information, see the [Configuration guide](#). (CBILL-4875)

- BDS uses code checksum to protect the code from ineligible changes. (CBILL-5081)
- Datasets are removed from the configuration file, and are now read directly from the template files. (CBILL-4986)
- The BDS Control utility (**Brsctl.py**) now prints the actual BDS version when the following command is executed:  
`brsctl.py -v` (CBILL-4930)



---

## Resolved Issues

This release contains the following resolved issues:

---

The BDS configuration wizard by default configures the **Subscription mode** as **offline** for the subscription types **extended** and **subscription**. (CBILL-5223)

---

An incorrect calculation, which was caused by a false expectation of the incoming media type values, is now resolved in the following metrics: **chatbot\_interactions**, **voicebot\_minutes**, and **voicebot\_interactions**. (CBILL-5314)

---

A runtime error no longer occurs in BDS when there is no data for one of the GVP regions in the `gvp_cdrs_db_asr_tts` dataset. (CBILL-5240)

---

The **statistic.py** script now correctly generates the Daily summary report. Previously, an error similar to the following appeared: `TypeError: '<=' not supported between instances of 'NoneType' and 'NoneType'`. (CBILL-5159)

---

The **date** field in the **TerminatedTS** field in the **sm\_fact** dataset is now modified to apply the end of transformation date as its value. Previously, a future date was set by default in the date field in **TerminatedTS**. (CBILL-5097)

---

BDS now correctly extracts the user properties received from GWS, for example, the voicemail properties for an Agent Group. (CBILL-5074)

---

The **gtr\_interactions** metric is now updated to support the **Business Unit** attribute. Previously, an error similar to the following appeared while running the metric.  
`AttributeError: 'GTRTransformer' object has no attribute 'folder_df'`. (CBILL-5048)

---

Placeholders are no longer used as default values in configuration templates in on-premises deployments. (CBILL-5022)

---

## Upgrade Notes

No special procedure is required to upgrade to release 100.0.002.0020.

100.0.002.0001

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

The URL for this Release Note indicates Billing Data Server 9.0.006.00, however, the full release number is Billing Data Server 100.0.002.0001.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
09/30/21	General	Unavailable		X			

### What's New

As of September 30, 2021, this release is no longer available. A critical issue was discovered. If you have already downloaded the software, do not install it.

### Resolved Issues

This release contains no resolved issues.

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## Upgrade Notes

No special procedure is required to upgrade to release 100.0.002.0001.

100.0.001.0001

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

### Important

This Release Note describes Billing Data Server (BDS) 9.0.005.02, which is released as BDS 100.0.001.0001. The last 9.0 release is 9.0.004.20; subsequent releases have the prefix 100.0 beginning with release 100.0.001.0001.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
07/09/21	General			X			

## What's New

This release contains the following new features and enhancements:

- The BDS Control utility (**Brsctl.py**) now supports a new key, **--force-yes** for the migration command. When set (`brsctl.py migration --force-yes`), this key suppresses the migration confirmation prompt. (CBILL-4894)

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---

## Resolved Issues

This release contains the following resolved issues:

---

The BDS Control utility (**Brsctl.py**) restore command now correctly restores configuration files that do not include the global > GWS section (the **gws** parameter in the config\_template now has **optional=True**). Previously, the restore command always created the GWS section, regardless of whether it was needed. (CBILL-5005)

---

The global configuration parameter **rate\_table\_path** is no longer mandatory for on-premises deployment modes. (CBILL-4850)

---

BDS now uses symmetric encryption to encrypt and decrypt extraction and transformation files. Symmetric encryption is always enabled for on-premises deployments. (CBILL-4829)

---

The BDS Control utility (**Brsctl.py**) migration command no longer requires that the **version\_to** attribute be specified. (CBILL-4767)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.005.02.

9.0.004.20

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
05/12/21	Hot Fix			X			

### What's New

This release contains the following new features and enhancements:

- **SFTP enhancements** — The **premise\_loader\_sftp** section to the **config.json** file is renamed as **loader\_sftp**. For more information, see [Configuring BDS](#). (CBILL-4749)

### Resolved Issues

This release contains the following resolved issues:

---

BDS now correctly generates hashes of datasets for each Premise mode. (CBILL-4777)

---

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## Upgrade Notes

No special procedure is required to upgrade to release 9.0.004.20.



9.0.004.01

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
04/19/21	General	Unavailable		X			

### What's New

As of April 22, 2021, this release is no longer available. A critical issue was discovered. If you have already downloaded the software, do not install it.

### Resolved Issues

This release contains no resolved issues.

### Upgrade Notes

No special procedure is required to upgrade to release 9.0.004.01.

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9.0.003.01

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Mac	Solaris	Windows
02/16/21	General			X			

### What's New

This release contains the following new features and enhancements:

- **Enhanced configuration migration support** — The BDS Control utility supports a new command, **migrate**, which will enable you to migrate configuration information when you upgrade to future releases from release 9.0.003.01 or later. For more information, see [Configuration: the Control utility](#). (CBILL-4264)  
To support this change:
  - **gvars.py** is updated to include support for the new migration API. (CBILL-4318)
  - A new parameter, **cfg\_template\_version**, is added to the **global** section, to provide support for migration between BDS releases. See [Configuring BDS](#). (CBILL-4275)
- **Configuration enhancements** — In addition to configuration enhancements associated with migration, the following changes are introduced:
  - BDS now stores a backup of the configuration file, in the path **/genesys/brs/timestamp\_config\_name.json**. (CBILL-4262)
  - The configuration wizard now validates watermarks to ensure they match the pattern **yyyy-mm-dd**.
  - The configuration wizard now performs additional error-checking, and prompts the user to correct any misconfigurations.

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- The configuration wizard now consistently displays the name of the section and subsection in the middle of the display, and each question is cleared before the next one appears. For information about the configuration wizard, see [Configuring BDS](#). (CBILL-4347)

## Resolved Issues

This release contains the following resolved issues:

---

BDS now decrypts only encrypted transform files. Previously, BDS attempted to decrypt non-encrypted files, such as reports. (CBILL-4326)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.003.01.

9.0.002.07

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
12/17/20	Update			X		

### What's New

This release contains the following new features and enhancements:

- **Bot reporting enhancements** — Three new metrics provide reporting on chatbot and voicebot usage:
  - [Designer-based Chatbot interactions](#)
  - [Designer-based Voicebot interactions](#)
  - [Designer-based Voicebot minutes](#)(CBILL-4259)
- **Multi-tenant configuration enhancements** — A new parameter, **cme\_credentials**, is added to the **tenant** and to **gvp** configuration sections. Populate these values in multi-tenant deployments where each tenant has unique credentials/endpoints. In single-tenant scenarios, leave them blank, which causes BDS to use the credentials defined in the **globals** section. (CBILL-4089)
- **Tenant template updates** — The fields **seat\_model** and **elasticsearch\_host** are removed from tenant generation and sample templates. (CBILL-4195)

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## Resolved Issues

This release contains the following resolved issues:

---

Test sessions are now filtered out for the metrics **seats\_call\_recording**, **seats\_screen\_recording** and **seats\_quality\_management** (Active Call Recording / Screen Recording / Quality Management). Previously, **test\_voice\_interactions\_df** was missing for these metrics. (CBILL-4291)

---

The Genesys Task Routing metric (**gtr\_interactions**) is now successfully calculated. Previously in BDS release 9.0.002.01, this metric failed to populate correctly, and contained errors. (CBILL-4285)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.002.07.

9.0.002.01

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
12/01/20	General			X		

### What's New

This release includes the following new features:

- **Installation and Configuration enhancements** — BDS now provides enhanced deployment and configuration methods that reduce the complexity and time required to deploy and set up the software.
  - **Deployment script** — A new deployment script, **deploy\_prem\_install.sh**, automates the installation of BDS on the premise host. (CBILL-4015)
  - **Configuration wizard** — A new option (**brsctl.py setup**), enables you to easily create new BDS configurations. (CBILL-3815)

For more information, see [Installing BDS](#) and [Configuring BDS](#). (CBILL-4072)

- When generating the **global** template, BDS now automatically adds only appropriate attributes in the **mode\_settings** section. (CBILL-3786)
- **Logging Enhancements:**
  - BDS now logs an error when the Configuration Server returns an empty list of test agents. BDS repeats the request up to three times, logging an error each time. (CBILL-4059)
  - BDS now logs an error if it cannot create a cursor object from the connection, and makes a new connection to the database server. (CBILL-4143)

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## Resolved Issues

This release contains the following resolved issues:

---

BDS now uses version 8.0.1 of the cx\_Oracle library when connecting to an Oracle database. Previously, BDS used older versions of the library which in some scenarios, interfered with data extraction and caused BDS to log errors containing a string similar to the following:

```
UnicodeDecodeError: 'utf-16-le' codec can't decode bytes in position 344-345: illegal encoding  
(CBILL-4126)
```

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.002.01.

9.0.001.05

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
08/27/20	Update			X		

### What's New

This release contains the following new features and enhancements:

- **Data encryption enhancements** — Extract and transform files are now encrypted using a new BDSCrypto class. (CBILL-3845, CBILL-3846)
  - The Billing Data Server (BDS) Control utility (**Brsctl.py**) now accepts a command, decrypt, that you can use to decrypt extract or transform files. For more information, see [Configuration: the Control utility](#). (CBILL-3876)
  - BDS now allows you to use the **premise\_loader\_sftp** parameter to upload decrypted transform files to a configured SFTP server. For information about **premise\_loader\_sftp**, see [Initial configuration of BDS for on-premise deployments](#). (CBILL-3847)
  - The Statistic utility (brs/bds\_statistic/statistic.py) now works with encrypted extract or transform files. (CBILL-3896)
- **Daily enabled seat reporting** — BDS now generates a 'daily' version of the Enabled seats detailed report. See the [Billing Data Server User's Guide](#) for more information. (CBILL-3892)
- **Configuration enhancements** —Several parameters are renamed for clarity in the **globals.json** and **configuration.json** files:
  - The 'globals/premise' section is renamed as 'globals/mode\_settings'.
  - The parameter 'premise\_transform\_path' is renamed as 'local\_transform\_path'.

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- The parameter 'premise\_extract\_path' is renamed as 'local\_extract\_path'.

For more information about configuration parameters, see [Initial configuration of BDS for on-premise deployments](#) and [Global variables](#) in the *Billing Data Server Deployment Guide*.

If you are upgrading from an older BDS release, you must update your configuration to account for these changes. (CBILL-3785)

- **Operating Mode control** — A new environment variable, **BDS\_OPERATING\_MODE**, now controls the current operating mode (CLOUD, MULTICLOUD, PREMISE). For more information, see [Global variables](#). (CBILL-3784)
- **Record filtering enhancements** — In scenarios where a tenant configuration has IVR usage profiles set to the default location ("ivr\_usage\_profiles":"000"), BDS now filters out records that have an empty value for LOCAL\_URI. It does not filter out records that have **media-service=treatment**, or that have a populated LOCAL\_URI, but an empty value for **media-service**.

When a record is filtered out, BDS logs a message similar to the following:

```
Default IVR profile, discarded media services: {'media': 1, 'record': 3}, discarded  
IVR: ['1665'].
```

(CBILL-3708)

- **Error logging enhancements** — BDS now creates log entries to track the number of *regular* error messages and *critical* error messages. (CBILL-3940)

## Resolved Issues

This release contains no resolved issues.

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.001.05.

9.0.001.01

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
07/20/20	General			X		

### What's New

This release contains the following new features and enhancements:

- **SFTP configuration enhancements** — A new section, **premise\_loader\_sftp**, in the **config.json** file, defines the SFTP server to which transformed files are automatically uploaded. When this optional section is present, BDS uploads files to the location specified. For more information, see the *Billing Data Server Deployment Guide*. (CBILL-3741)
- **Usage statistics** — BDS now provides the ability to aggregate peak usage data over configurable reporting intervals. New parameters in **statistic.py** control the reporting interval over which this data is aggregated; for more information, see the *Billing Data Server User's Guide*. (CBILL-3749)
- **Dataset enhancements:**
  - Two new fields, **gvm\_mailbox\_terminatedts** and **infra\_class\_terminatedts**, are added to the **dn** dataset.
  - A new field, **gvm\_mailbox\_terminatedts**, is added to the **agent\_login** and **agent\_group** datasets.
  - The following datasets are now version 9.0.001.01: **voice\_session**, **mm\_sessions**, **dn**, **agent\_login**, and **agent\_group**. (CBILL-3797, CBILL-3793)
- **Extraction performance enhancements:**

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- Co-browse logins are now correctly joined with corresponding user data in the co-browse section of the voice\_session and mm\_sessions datasets.
- ORDER BY is removed from the voice\_session, mm\_sessions, and sm\_fact datasets.
- RESOURCE\_TYPE\_CODE is now used (instead of RESOURCE\_TYPE) to filter AGENTS in the voice\_session and mm\_sessions datasets. (CBILL-3793)
- **Version-checking enhancements** — A new configuration parameter, **source\_version** in the **primary\_statements** section, specifies the minimum required release of the data source (such as Genesys Info Mart). BDS uses this information to ensure that it executes a compatible SQL statement. BDS executes the primary statement, unless the installed data source version is earlier than the value specified in this parameter, in which case it executes an alternative secondary statement. (CBILL-3760)

## Resolved Issues

This release contains no resolved issues.

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.001.01.

9.0.000.46

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
06/25/20	Update			X		

### What's New

This release contains the following new features and enhancements:

- **Configuration template enhancements:**
  - The following enhancements improve usability of the region template:
    - the **location\_name** parameter is renamed as **region\_name**
    - the **put\_location\_name\_here** placeholder is renamed as **put\_region\_label\_here** (CBILL-3498)
  - The following enhancements improve usability of the location template:
    - The deprecated **dc\_name** parameter is removed from the location configuration template. (CBILL-3489)
- **Configuration validation enhancements** — BDS now validates values provided for the **dc\_aliases** parameter to ensure that each tenant has unique aliases (including global configuration) only in enabled locations. (CBILL-3621)
- **Error handling enhancements** — Error handling was rewritten to provide clearer, more concise logging, and now provides complete details about errors that cause the transformation process to stop. (CBILL-3542)

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## Resolved Issues

This release contains the following resolved issues:

---

The scope of the Genesys CIM Premise Places metric is now correctly set as **global**. Previously, it was incorrectly set as **regional**. (CBILL-3757)

---

The Genesys CIM Premise Users metric now uses the correct method, **get\_region\_data**. (CBILL-3752)

---

The **endpoint\_place** metric dataset, which is used in the Genesys CIM Premise Places metric, now correctly converts values in merged dataframes. (CBILL-3751)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.46.

9.0.000.45

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
06/10/20	Update	Unavailable		X		

### What's New

As of June 15, 2020, this release is no longer available. A critical issue was discovered. If you have already downloaded the software, do not install it.

### Resolved Issues

This release contains no resolved issues.

### Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.45.

### Helpful Links

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9.0.000.43

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
05/21/20	Update			X		

### What's New

This release contains the following new features and enhancements:

- BDS now checks to ensure that metrics are used only in appropriate modes, and logs error messages for both of the following scenarios:
  - A user attempts to enable a metric that cannot be used in the current mode. For example when a metric that is intended for extended usage measuring is being enabled in subscription mode.
  - The transformation job attempts to transform a metric that cannot be used in the current mode. (CBILL-3635)
- A new configuration option, **check\_gim\_data\_availability**, in the **gvars.py** file controls whether BDS checks for available data in the Genesys Info Mart database before processing. The default value is `False`; to enable checking, change the value to `True`. Previously, BDS always queried Info Mart's database control tables, however, this sometimes produced false negative results in scenarios where there was no new activity, but Info Mart processing was moving ahead without delays. (CBILL-3632)
- A new metric, Genesys SIP Interaction, counts the number of agents with voice sessions registered on switches of type 72 (SIP Switch or SIP Cluster), and who handle interactions during the reporting period. For more information, see [Genesys SIP Interaction](#). (CBILL-3565)
- The scope of the metric [Genesys CIM Premise Users](#) has changed to *global*. This means that BDS now produces one file for each tenant for a given metric, regardless of how many regions are defined for the tenant. (CBILL-3533)

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- BDS now performs filtering to exclude non-agent login sessions — such as sessions of IVR ports configured as agents — in the following metrics:
  - seats\_voice
  - seats\_inbound\_voice
  - seats\_outbound
  - seats\_callback
  - seats\_webrtc
  - seats\_supervisor(CBILL-3532)

## Resolved Issues

This release contains no resolved issues.

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.43.



9.0.000.40

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
04/15/20	General			X		

### What's New

This release contains the following new features and enhancements:

- **CIM Platform billing enhancements:**
  - A new metric, **Genesys CIM Premise Users** (**cim\_platform\_users**), tracks the number of unique agents having active sessions.  
This metric replaces the Genesys Customer Interaction Management Platform (**seats\_CIM**) metric, which is discontinued. The new metric provides enhanced filtration and checking. (CBILL-3155)
  - A new metric, **Genesys CIM Premise Places** (**cim\_platform\_places**), tracks the number of unique agent places in the deployment. (CBILL-3325)  
The following dataset changes support the **cim\_platform\_places** metric:
    - New fields, (EndPointType, PlaceID, and IVRPortID) are added to the **mm\_sessions** and **voice\_sessions** (secondary\_statements) datasets.
    - A new DN type (type 2, ACDPosition) is added to the **dn** dataset. (CBILL-3324)
- **Enabled-seat calculation enhancements** — Whenever possible, BDS now uses the enabled seats detailed report for the previous day to calculate enabled seats metric for the processing date. Enabled seats detailed reports are stored in a local folder, as configured in the `enabled_seats_detailed_dir` variable in **gvars.py**. If the detailed report for the previous day is not available, BDS concludes that the metric was just enabled, and uses the files for the processed date only. Previously, to calculate enabled

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seats for any seats metric, BDS used all relevant datasets extracted since the first day of the month, which sometimes impacted BDS performance. (CBILL-3396)

- **Error management enhancement** — A new configurable parameter, **raise\_error\_DC\_aliases** in **gvars.py**, permits you to control the outcome of scenarios where BDS uses a location **dc\_aliases** list to process a metric, and the list includes a dataset containing a value that is not defined in any tenant location:
  - If **True**, BDS stops processing the metric and raises the following error: `DC aliases in dataset, not configured for customer`.
  - If **False**, BDS continues transformation. This is the default behavior.

(CBILL-3504)

## Resolved Issues

This release contains no resolved issues.

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.40.

9.0.000.37

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
03/31/20	Update			X		

### What's New

This release contains the following new features and enhancements:

- **Enhanced agent location tracking** — BDS now leverages functionality introduced in [Genesys Info Mart release 8.5.014.19](#) to more accurately associate agent seat counts with regions. BDS now compares values that correspond to an agent session in the Genesys Info Mart AGENT\_LOCATION table with values in the **dc\_aliases** lists of locations defined in the BDS configuration. If any of the values match, the agent session is attributed to the region to which the location belongs. If this method is not successful, BDS assigns a location based on the switch names and default locations, as it did in earlier releases. For more information, see the [Billing Data Server Deployment Guide](#). (CBILL-3075)
- **Control Utility enhancements** — The BDS Control utility (**Brsctl.py**) now supports deletion of metrics defined in the BDS configuration. For more information, see [Billing Data Server User's Guide](#). (CBILL-3286)
- **Enhanced error checking** — In scenarios where BDS detects that a Data Center (DC) alias encountered in a dataset is not present in any of **dc\_aliases** lists of locations defined in the BDS configuration, BDS now stops processing the current metric and logs an error. (GCXI-3458)
- **Miscellaneous enhancements** — The BDS container now runs Python 3.6. Previous releases ran Python 2.7. (CBILL-3249)

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## Resolved Issues

This release contains the following resolved issues:

---

When counting peak values, BDS now includes only results that occurred on the target date. Previously, when sessions began on one day and ended on another, peaks were sometimes associated with the wrong day. (CBILL-3312)

---

BDS now derives country information from a new mandatory parameter, **country**, which is defined for each location present in the BDS configuration. The parameter accepts country code values in the **ISO 3166-1 alpha-2 format**. Previously, BDS derived a country value from a subset of hard-coded values, which did not permit new countries to be added to the configuration, and produced a runtime error similar to the following:

```
2019-12-17 18:40:16,221 ERROR    139948824983296 | brs.transform.gvp.process_gvp -
<date=2019-12-14;tenant_id=1;tenant=Environment> GVP transform exception
Traceback (most recent call last):
  File "/vagrant/brs/transform/gvp.py", line 73, in process_gvp
    self.transform_gvp()
  File "/vagrant/brs/logging_facilities.py", line 238, in wrapper
    res = func(*args, **kwargs)
  File "/vagrant/brs/transform/gvp.py", line 961, in transform_gvp
    event_list, total_calls, total_duration = self.get_csv_call_events_for_day()
  File "/vagrant/brs/transform/gvp.py", line 664, in get_csv_call_events_for_day
    csv_file_paths, ivr_profiles, stats)
  File "/vagrant/brs/transform/gvp.py", line 616, in process_cdrs_for_tenant
    event_list_all.extend(self._get_event_list(cdr_data, test_sessions, stats))
  File "/vagrant/brs/transform/gvp.py", line 507, in _get_event_list
    valid_dn, remote_dn = self.e123_format(call['remote_party'], self.region)
  File "/vagrant/brs/transform/transform_utils.py", line 424, in e123_format
    dn_info = phonenumbers.parse(dialed_number, PHONE_REGION_MAP[region])
KeyError:
```

(CBILL-3204)

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.37.

9.0.000.33

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
01/22/20	General			X		

### What's New

This release contains the following new features and enhancements:

- **Social media reporting enhancements** — The following enhancements are introduced:
  - The metrics **seats\_twitter\_public** and **seats\_twitter\_messenger** are now merged into a single metric, **seats\_twitter**, with RMS\_SERVICE\_CLASS 24. (CBILL-3131)
  - The metrics **seats\_facebook\_public** and **seats\_facebook\_messenger** are now merged into a single metric, **seats\_facebook**, with RMS\_SERVICE\_CLASS 22. (CBILL-3130)

See the *Billing Data Server User's Guide* for more information.

- **Chat reporting enhancements** — The metric **seats\_chat\_nexus** is removed. Instead, Genesys Chat Seats for NEXUS now uses the metric **seats\_chat**. The metric **seats\_chat** is enhanced so that it now correctly measures chat agent seats in Nexus deployments. (CBILL-3129)
- **Genesys Task Routing enhancements** — The following enhancements are introduced:
  - The metric configuration template was updated.
  - The **gtr\_interactions** metric is now calculated without test sessions dataset. See the *Billing Data Server User's Guide* for more information. (CBILL-3017)

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- **Delivery package enhancements** — BDS software is now distributed using two delivery packages—one containing the software image, and one for scripts and control files—where previous releases used only one package. For more information, see the [Billing Data Server Deployment Guide](#). (CBILL-3665)
- **Miscellaneous performance enhancements** — The following enhancements are introduced:
  - BDS now produces both concurrent and enabled reports on a daily basis, where the number of enabled seats is calculated as a running total since the first day of the month. Previously, BDS produced a file each day with the peak concurrent seats number, but produced a file only once a month to capture the number of unique seats during the month. (CBILL-3134)
  - The query used in the **sm\_fact** dataset is enhanced to improve performance. (CBILL-3147)
  - In Nexus deployments where SMS interactions are handled by agents who are logged in to the chat media channel, BDS now uses a new field, **SMS**, in the **sm\_fact** query, to calculate the **seats\_sms** metric. (CBILL-3167)

## Resolved Issues

This release contains the following resolved issues:

---

BDS now uses an absolute path (**/vagrant/etc/crypto/key**) to store crypto keys. Previously, a relative path to the crypto keys was defined in the **gvas.py** file, which could cause BDS to save keys to a folder other than **/vagrant/etc/crypto/key**, which caused default keys to be used to encrypt and decrypt passwords. (CBILL-3173)

---

A new parameter (**TDS\_Version=auto**) in the connection string enables BDS to connect correctly to Microsoft SQL Server databases that use FreeTDS. Previously in such scenarios, BDS could fail when connecting to Microsoft SQL Server, producing a version mismatch error. (CBILL-3160)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.33.

9.0.000.30

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
11/27/19	Hot Fix			X		

### What's New

This release contains the following new features and enhancements:

- **Extraction Optimization** — Logic for Configuration Management Environment (CME) data extraction is optimized, resulting in an estimated 70% decrease in extraction time. (CBILL-3095)

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### Resolved Issues

This release contains the following resolved issues:

Values are now correctly calculated for the following metrics: seats\_inbound\_voice, seats\_outbound, and seats\_voice. Previously in some scenarios, an incorrect value was recorded for these metrics. (CBILL-3115)

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.30.



9.0.000.29

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
10/28/19	Update			X		

### What's New

This release contains the following new features and enhancements:

- **General Datasets template enhancements** — Two new fields are introduced:
  - **version** — shows the version of the template creation, or last update. Default value: 9.0.000.28.
  - **scope** — indicates the scope of the dataset (global | location | region), where:
    - **global** — a single dataset is extracted for the day.
    - **location** — a separate dataset is extracted for each location that is defined for the tenant.
    - **region** — a separate dataset is extracted for each region that is defined for the tenant.
- (CBILL-2952)
- **Genesys SMS metric enhancement** — The **seats\_sms** metric now tracks whether sessions include any interactions in which the corresponding media type was handled by an agent who was logged into the **sms** or **smssession** channel, and the metric count includes only those sessions where at least one such interaction was handled. (CBILL-2924)
- **Configuration enhancements** — During startup, BDS now checks for the the configuration file specified in **gvars.pym**. If the configuration file does not exist, BDS now automatically creates it as **brs/config.json**. (CBILL-2980)

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- **GIR Elastic Search enhancements** — BDS now supports extracting data from GIR Elastic Search v3 index schemas. (CBILL-2778)
  - **Improved Peak Usage reporting** — In metrics that show peak usage, the column **\_StartTime\_** in the output CSV file is now populated with the actual peak time value. If the peak usage is null, the column is populated with the last second of the reported day, as it was in all scenarios for previous releases. (CBILL-2863)
  - **GIR metric enhancements** — If there is no requirement to break down data based on business unit, BDS now generates GIR metrics (Active Call Recording, Screen Recording, and Quality Management) even when Genesys Info Mart datasets are not available. As a result, test datasets (test\_voice\_interactions) are no longer required, and are removed from these metrics. (CBILL-2753)

## Resolved Issues

This release contains the following resolved issues:

---

In premise deployments, the BDS extraction process no longer updates test agents from the Configuration Server. Previously, in deployments where no test agents were configured, BDS produced an error during extraction, similar to the following:

```
2019-10-11 08:56:42,001 ERROR    139819394664256 | brs.extract.extract.extract -  
<date=2016-09-29;tenant_id=550;tenant=ExtractGIMTenant550> GIM extract error: gim filter  
"TEST-AGENTS-DBIDS" is empty
```

(CBILL-3008)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.29.

9.0.000.26

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
07/19/19	Update			X		

### What's New

This release contains the following new features and enhancements:

- **GIM Voicemail Reporting Enhancements** — BDS now generates detailed reports for each GIM-based voicemail (voicemail\_boxes\_gim) transformation, and stores them in the following path:

<concurrent\_seats\_detailed\_dir>/<tenant\_name>/voicemail\_boxes\_gim/

where:

<concurrent\_seats\_detailed\_dir> is the path defined in the **gvars.py** file.

<tenant\_name> is the name of the tenant as defined in **BDS configuration**.

Each report consists of a CSV file having the following fields:

- DBID — The DBID of the DN, Agent Login, or Agent Group object.
- name — The name of the Agent Group, DN, or a code of the Agent Login object.

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- **type** — A flag that indicates whether the report describes an Agent Login (15), Agent Group (5), or a DN (2).
- **gvm\_mailbox** — The value of the **gvm\_mailbox** option.
- **path** — The path to the object within the CME folder structure.
- **createdTS** — The timestamp of the object creation.
- **terminated TS** — The timestamp of the object deletion, if applicable.

(CBILL-2617)

- **Voicemail Reporting Enhancements** —BDS now generates detailed reports for each SIP voicemail (voicemail\_boxes) transformation, and stores them in the following path:

`<concurrent_seats_detailed_dir>/<TENANT_NAME>/voicemail_boxes/`,

where:

`<concurrent_seats_detailed_dir>` is the path defined in the **gvars.py** file.

`<tenant_name>` is the name of the tenant as defined in **BDS configuration**.

Each report consists of a CSV file having the following fields:

- **tenant\_name** — The name of the tenant as defined in **BDS configuration**.
- **DBID** — The Data Base Identifier (DBID) of the DN, Agent Login, or Agent Group object.
- **name** — The name of the Agent Group, DN, or a code of the Agent Login object.
- **type** — A flag that indicates whether the report describes an Agent Login (15), Agent Group (5), or a DN (2).
- **gvm\_mailbox** — The value of the **gvm\_mailbox** option.
- **path** — The path to the object within the CME folder structure.

(CBILL-2602)

- **Genesys Task Routing tracking** — A new metric, **Genesys Task Routing interactions**, tracks the daily volume of Genesys Task Routing interactions.

See **The Billing Data Server User's Guide** for more information. (CBILL-2630)

- **Enhanced tracking of sessions without interaction** — BDS now logs additional statistics to track whether sessions include any interactions, in the following metrics:

- The Genesys E-mail metric now keeps track of whether sessions include any interaction, and the metric count includes only those sessions where at least one email interaction was handled.
- The Genesys Voice metric now keeps track of whether sessions include any voice interactions. This change does not impact the metric value.

For example:

```
"EXPERIMENTAL, metric="seats_voice", before checking an interaction flag,
sessions_number={}" and "EXPERIMENTAL, metric="seats_voice" after checking an
interaction flag, sessions_number={}"
```

(CBILL-2621)

- **Miscellaneous Enhancements** —

- The **agent\_login** dataset is expanded to include a new column, **switchname**. (CBILL-2617)

- 
- Several usability and user experience improvements are introduced for the command-line Control Utility (brsctl.py), including many new or improved output messages. (CBILL-2796)
  - BDS now supports S3 connections with or without credentials:
    - If user credentials are present in the file **/home/%username%/.aws/credentials**, BDS uses them for S3 authorization.
    - If there is no file with credentials in that location, BDS connects to S3 without credentials, using IAM mode. (CBILL-2743)
  - BDS no longer uses Zookeeper in BDS premise installations, and no longer uses configuration locks when running in premise mode. Genesys recommends that you always start BDS with a Docker container, and does not support the operation of a parallel second BDS instance within the container. (CBILL-2655)
  - Logging Enhancements:
    - BDS logging of events peak calculation is enhanced by the addition of peak timestamp information. (CBILL-2662)
    - BDS now logs more detailed information about the causes of failed initialization of the configuration object. (CBILL-2584)

## Resolved Issues

This release contains the following resolved issues:

---

BDS now correctly discards objects having an empty gvm\_mailbox option value. Previously, such objects were included in reports and counted in the metric value. (CBILL-2651)

---

BDS now writes an error to the log in scenarios where the **config.json** file is not accessible for any reason (for example, the file is missing, contains invalid json, or has incorrect file permissions). Previously in such scenarios, BDS closed, displaying an error message in the output console, but without writing an error in the log. (CBILL-2558)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.26.

9.0.000.22

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
04/12/19	General			X		

### What's New

This release contains the following new features and enhancements:

- **New data handling options** — BDS now offers enhanced options to more easily control how data is handled in premise (subscription) mode (whether it is uploaded to S3, or only stored locally), and to allow a wide range of usage metrics to be tracked. A new **Premise** section in the configuration .json file provides parameters to enable these options. For more information, see the [Billing Data Server Deployment Guide](#). (CBILL-2510)
- **Genesys Chat configured (enabled) seats** — The **Genesys Chat** metric now checks the **interaction** flag in the sm\_fact dataset, and counts only sessions where at least one chat interaction was handled. (CBILL-2427)
- **Third-party work items metric enhancements** — The **Third-party work items** metric now checks the **interaction** flag in the sm\_fact dataset, and counts only sessions where at least one work item interaction was handled. (CBILL-2465)
- **Oracle support is now optional** — Oracle support is no longer automatically installed with BDS. For information about how to add Oracle support, see the [Billing Data Server Deployment Guide](#). (CBILL-2563)

### Helpful Links

#### Releases Info

- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

#### Product Documentation

- [\[\[Documentation/|\]\]](#)

#### Genesys Products

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## Resolved Issues

This release contains the following resolved issues:

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In scenarios where a **gvm\_mailbox** is defined on more than one object, the **voicemail\_boxes** metric now correctly represents the number of enabled voicemail boxes. Previously, BDS could double-report in scenarios where a **gvm\_mailbox** was defined on more than one object, and both objects were of the same type with the same name, for example when a given agent login was defined on two switches for DR purposes, and had the same **gvm\_mailbox** option value. (CBILL-2544)

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## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.22.

9.0.000.18

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
01/22/19	General			X		

### What's New

This release contains the following new features and enhancements:

- **GIM-based voicemail support** — BDS now supports tracking of SIP voicemail usage based on data supplied by Genesys Info Mart. The following changes support this feature:
  - Two new datasets are added: agent\_login and agent\_group.
  - The *DN* dataset is updated.
  - A new metric, voicemail\_boxes\_gim, is added.

For more information, see **GIM-based voicemail** in the **Billing Data Server User's Guide**.

- **Security Enhancements:**

- BDS now supports authentication through Web Services and Applications (GWS).
- BDS now performs server-server GWS authorization.

- **Logging Enhancements:**

- BDS now generates AUDIT log-records in the **Bds.log** file, for all manual CRUD operations.
- BDS logger now supports a new severity level, AUDIT. AUDIT log-records are written to the main log file ( **Bds.log** ), and also into a new **bds-audit.log** file.
- BDS logger now excludes sensitive data from all logs.

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- **Miscellaneous Enhancements:**

- A new statistic, *peak\_time*, is now added to the statistics log file for all applicable metrics.
- In the tenant configuration, the **tenant\_name** parameter is no longer required, and is removed from the tenant template.
- You can now define a *blacklist* for business unit names. Business units that are added to the blacklist cannot be added or imported; this prevents errors during business unit name detection. For more information about this feature, see the *Billing Data Server User's Guide*.

## Resolved Issues

This release contains the following resolved issues:

---

On premise deployments, if there is no requirement to break down data based on business unit, BDS now generates GVP metrics (such as GVP Ports, GVP ASR Ports, and GVP TTS Ports) even when Genesys Info Mart datasets are not available. As a result, test datasets (test\_voice\_interactions) are removed from the GVP ASR minutes / GVP TTS minutes, and GVP Minutes metrics. (CBILL-2255)

---

The transformation process is optimized to more quickly handle GVP data in scenarios where business unit billing is required. (CBILL-2237)

---

During tenant processing in scenarios where business unit billing is used, BDS now creates a statistic record in the statistics log in the file for each business unit, with the following metric value:

```
_2018-09-24 13:15:26,951:
metric=gvp_minutes;stat_type=business_units_breakdown;business_unit=WF01;value=2_
```

For each business unit, the **business\_unit** field is populated with the unique name assigned to that unit, and:

- The **business\_unit** field in the 'total value' file is populated with the tier3\_name, which is a tenant name.
- For tenants who do not use business unit breakdown, the **business\_unit** field is always populated with the tier3\_name, which is a tenant name.

(CBILL-2096)

---

The extraction process is optimized to more quickly handle the extraction of voice\_sessions and mm\_sessions datasets. Previously, extraction queries used the LIKE operator, which slowed processing. (CBILL-2067)

---

BDS now works correctly with new versions of Python packages (numpy, pandas, and dateutils) , and the new versions of the Python packages are now included in the BDS container.

Previously, BDS was unable to work with new versions of numpy, pandas, and dateutils Python

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packages, and logged errors similar to the following:

```
RuntimeWarning: numpy.dtype size changed, may indicate binary incompatibility.  
Expected 96, got 88 from pandas._libs
```

(CBILL-2014)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.18.

9.0.000.13

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
09/25/18	General			X		

### What's New

This release contains the following new feature:

- Billing Data Server (BDS) now includes the Business Units breakout functionality for metrics that apply to Genesys Engage Premise.

### Resolved Issues

This release contains no resolved issues.

### Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.13.

### Helpful Links

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- [List of 9.0.x Releases](#)
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9.0.000.10

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
07/25/18	General			X		

### What's New

This release includes only resolved issues.

### Resolved Issues

This release contains the following resolved issues:

---

In Billing Data Server (BDS), the Pycrypto module is now resilient. PyCrypto is upgraded to 2.7.1a, which successfully passed the Black Duck's security scan. Previously, a vulnerability of PyCrypto 2.6.1 module was detected during the security scan. (CBILL-1934)

---

BDS now performs an explicit conversion to UTF-8 when saving extracted data into CSV files. Previously, the extraction of Genesys Info Mart data failed with the following exception: 'ascii' codec can't encode character u'\u2019' in position 2: ordinal not in range(128) (CBILL-1862)

---

BDS no longer incorrectly assumes a specific order of ASR/TTS events. Previously, BDS did so, and the ASR/TTS metrics transformation failed with the following exception: Traceback (most recent call last):

---

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```
File "/vagrant/brs/transform/transformer.py", line 320, in process_gvp
gvp.transform_gvp(self.params)
File "/vagrant/brs/logging_facilities.py", line 169, in wrapper
res = func(*args, **kwargs)
File "/vagrant/brs/transform/gvp.py", line 464, in transform_gvp
error, event_list, total_calls, total_duration = get_csv_call_events_for_day(params)
File "/vagrant/brs/transform/gvp.py", line 395, in get_csv_call_events_for_day
error, cdr_data = get_csv_cdr_data(params, ivr_profiles[tenant], gvp_dataset_path,
events_dataset_path)
File "/vagrant/brs/transform/gvp.py", line 251, in get_csv_cdr_data
folded_events_dataset = fold_events_dataset(events_dataset[1:])
File "/vagrant/brs/transform/gvp.py", line 72, in fold_events_dataset
end_line = events_dataset[rownum + 1]
IndexError: list index out of range (CBILL-1859)
```

---

BDS logs now correctly record the date when log events are processed. Previously, BDS logs recorded the date when the log events were launched instead of the date when they were processed. (CBILL-1501)

---

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.10.

9.0.000.07

## Billing Data Server Release Notes

**9.x Billing Data Server** is part of 9.x starting in **9.0.000.01**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
06/27/18	General			X		

### What's New

This release contains the following new features and enhancements:

- Billing Data Server (BDS) now has the detailed concurrent and enabled seats report functionality. For audit purposes, BDS stores the following information:
  - Details of the agent activity that contributed to the calculated peak
  - The number of the unique agents active during the month. These data are a record of the various agent seat metrics calculations.
- BDS now unifies the native python logging approach. With this enhancement, BDS creates a separate general log file and a log with statistical information on data processing.
- OpenSSL in the BDS docker container is updated to 1.0.2o with FIPS 2.0.16. Additionally, the TLS v1.0 support has been removed.

### Helpful Links

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- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

#### Product Documentation

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### Resolved Issues

This release contains the following resolved issues:

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BDS no longer fails with an exception when it receives from Configuration Server configuration objects that contain a new line symbol in their options. (CBILL-1625)

---

BDS now transforms GIR-based seat metrics even when an underlying data set is empty. Previously, the transformation of GIR-based seat metrics (seats\_call\_recording, seats\_screen\_recording, and seats\_quality\_managment) failed with the following exception if any of the underlying data sets were empty:

TypeError: Only valid with DatetimeIndex, TimedeltaIndex or PeriodIndex, but got an instance of 'Int64Index' (CBILL-1617)

---

When a default location is present in the tenant's configuration, BDS now correctly attributes to that default location all activities related to a switch that is not present within that tenant's configuration. Previously, BDS threw a ValueError exception during the transformation of a seat's metric if a processed tenant had a default location present in its configuration, that is, a location that had an empty list of switches defined under the switches parameter on a tenant configuration. (CBILL-1612)

---

BDS now processes empty configuration folders correctly when extracting data from the Configuration Server. Previously, BDS threw an exception when it encountered an empty configuration folder when extracting data from the Configuration Server:

"File "/vagrant/brs/extract/cme.py", line 208, in get\_objects\_from\_folder for object in cfg\_folder.objectIDs: TypeError: 'NoneType' object is not iterable" (CBILL-1578)

---

BDS now processes all of the Genesys Voice Platform (GVP) activity. Previously, in a multi-tenant configuration environment, BDS extracted only the GVP activity records for the default **Environment** tenant. (CBILL-1571)

---

BDS now processes all relevant configuration objects regardless of their location in a multi-tenant configuration environment configuration folder structure. That is:

- If there is only one default tenant in the configuration, BDS gets data from the **Environment** tenant.
- If there are multi-tenants, BDS gets data from the **Environment** tenant and all other tenants.

Previously, during SIP Voicemail metric calculation in a multi-tenant configuration environment, BDS processed only the configuration objects that were located under the **Environment** tenant. (CBILL-1570)

---

BDS now performs continually the metrics transformation, discards problematic records, and adds additional statistics about the discarded records to the log. Previously, ASR/TTS metrics transformation failed if the transform process encountered inconsistencies in the underlying extracted GVP data. (CBILL-1499)

---

BDS now correctly validates the presence of a **gvm\_mailbox** option configured in the **[TServer]** section of an Agent Login object, when processing the SIP Voicemail billing metric. Subsequently, SIP

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Voicemail boxes can be defined on a Directory Number (DN), Agent Login, or Agent Group configuration objects. Previously, when calculating the SIP Voicemail billing metric, BDS skipped the Agent Login objects, looking at the Persons configuration objects instead. (CBILL-1498)

---

Following are the updates made to the BDS Dependency packages:

- The dependency issue caused by update in upstream python modules has been resolved.
  - The missing dependency has been added for Oracle client. (CBILL-1456)
- 

BDS datasets that are used for various GIM-based agent seats metrics are now simplified. The login session's media channel information is stored in a single **MediaType** field. The **InboundVoice**, **Chat**, **Email**, and **OpenMedia** fields in queries have been replaced with the single field **MediaType**. (CBILL-1455)

---

BDS now opens a connection to a PostgreSQL database with a password containing special symbols. Previously, an attempt to connect with such a password failed. (CBILL-1346)

---

BDS now includes in the SIP Voicemail billing metric the SIP Voicemail boxes that are configured at a DN configuration object level. Previously, BDS did not account in the SIP Voicemail billing metric the presence of a **gvm\_mailbox** option configured in the **[TServer]** section of a DN object. (CBILL-1174)

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## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.07.



9.0.000.01

## Billing Data Server Release Notes

**9.x** This is the first 9.x release of **Billing Data Server**.

Release Date	Release Type	Restrictions	AIX	Linux	Solaris	Windows
03/28/18	General			X		

### What's New

This is the initial release of Billing Data Server (BDS).

BDS deployed on customer premises is designed to provide the data required for the Genesys financial organization to bill customers for subscription services. The main functions of BDS are:

- Daily extraction of historical reporting and configuration data needed for billing
- Aggregation of that data into daily and monthly summary files
- Automated transmission of daily and monthly files back to Genesys for invoicing for online configuration
- Local storage of billing files as backup or other uses

### Helpful Links

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- [List of 9.0.x Releases](#)
- [9.0.x Known Issues](#)

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### Resolved Issues

This release contains no resolved issues.

## Upgrade Notes

No special procedure is required to upgrade to release 9.0.000.01.