

PortaOne, Inc.

PortaBilling Maintenance Release 69

TM Forum Framework 17.5 Certification

Business Process Framework (eTOM) Release 17.5

Self-Assessment Process Mapping Report

Service Domain

May 2018

Version 1.0

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1.4.8 - Service Guiding & Mediation

Version 1 Review 1

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1.4.8.1.1 Validate Service Usage Record

Conformance	Full
Level	4

Description

Validate service usage records collected from the resource layer.**A**

Mandatory

The purpose of Validate Service Usage Record process is to validate service usage records collected from the resource layer. This process is responsible for collecting the Service Usage Records, filtering out of non-billing relevant Service Usage Records and validating the Service Usage Records and their integrity.**A**

Supporting Description

The xDR Mediation utility allows usage records from various external sources to be imported into PortaBilling®, which then bills them, as if they were, for example, regular calls or messages sent by a remote gateway. Any validation rules can be defined in the custom Data Transformation module of xDR Mediation Extraction component, e.g. check for invalid field length, check for integrity, etc.

Supporting References

1. [xDR mediation and import](#), pp.292-295
2. [Data Transformation module](#)

1.4.8.1.2 Normalize Service Usage Record

Conformance	Full
Level	4

Description

Normalize service usage records to specific expression format. **A**

Mandatory

The purpose of Normalize Service Usage Record process is to normalize Service Usage Records to specific expression format. Service Usage Records generated by different systems are used distinct expressions for same record data. This process is responsible for unifying all Service Usage Records to specific expression manner. **A**

Supporting Description

The xDR Mediation utility allows usage records from various external sources to be imported into PortaBilling®. The Data Transformation module of Extraction component performs the required data manipulation on the parsed record according to the rules defined by the operations manager. Eventually, it produces a normalized record meeting specific expression format, ready to be rated via RADIUS as if it was, for example, a regular call or message sent by a remote gateway.

Supporting References

1. [xDR mediation and import, pp.292-295](#)
2. [Mandatory Attributes and their specific expression format](#)

1.4.8.1.3 Convert Service Usage Record

Conformance	Full
Level	4

Description

Convert service usage records to specific record format.A

Mandatory

The purpose of Convert Service Usage Record process is to convert Service Usage Records to specific record format. This process is responsible for identifying the data formats of collected Service Usage Records and changing them to specific common data format for downstream system using. This process is also responsible for consolidating multiple Service Usage Records and producing more than one records from single Service Usage Record for varied billing requirements.A

Supporting Description

The xDR Mediation utility allows usage records from various external sources to be imported into PortaBilling®. The Extraction component performs the required data manipulation on the parsed records according to the rules defined by the operations manager. This converts service usage records into specific record format, ready to be rated via RADIUS as if it was, for example, a regular call or message sent by a remote gateway. Several partial records can be merged into a single logical record. Alternatively, one record can be split into several (e.g. to create separate call records for calling and called parties when calls are made within the same IP Centrex).

Supporting References

1. [xDR mediation and import](#), pp.292-295
2. [Data Transformation module](#)
3. [How to consolidate multiple records](#)

1.4.8.1.4 Correlate Service Usage Record

Conformance	Full
Level	4

Description

Correlate collected service usage records.▲

Mandatory

The purpose of Correlate Service Usage Record process is to correlate collected service usage records. In order to resolve this case, this process is responsible for identifying the correlative Service Usage Records and associating them together for downstream system use.▲

Supporting Description

The xDR Mediation utility allows usage records from various external sources to be imported into PortaBilling®. The Extraction component performs the required data manipulation on the parsed records according to the rules defined by the operations manager. The Extraction utility checks whether any records have the same aggregation key, and if so, correlates these records.

Supporting References

1. [xDR mediation and import, pp.292-295](#)
2. [Data Transformation module](#)
3. [How to correlate multiple records](#)

1.4.8.1.5 Remove Duplicate Service Usage Record

Conformance	Full
Level	4

Description

Remove service usage records.A

Mandatory

The purpose of Remove Service Usage Record process is to remove any duplicate usage records that have already been processed or to achieve service usage records according to Service Provider's policy. This process includes detect duplicate records and removing them from billing process.A

Supporting Description

The xDR Mediation utility allows usage records from various external sources to be imported into PortaBilling®. The Extraction component performs the required data manipulation on the parsed records according to the rules defined by the operations manager. The Extraction utility checks whether any records have the same key fields (with combined criteria - via aggregation keys), and if so, it can drop these records to avoid duplicates.

Supporting References

1. [xDR mediation and import](#), pp.292-295
2. [Data Transformation module](#)
3. [How to avoid duplicates](#)

1.4.8.2 Report Service Usage Records

Conformance	Full
Level	3

Description

Generate reports on usage records based on requests from other processes.**AM**

Extended Description

The purpose of the Report Service Usage Record processes is to generate reports on service usage records based on requests from other processes. These processes produce reports that may identify abnormalities, which may be caused by fraudulent activity or related to customer complaints.**AM**

Supporting Description

PortaBilling stores service usage records in a number of storages:

- ready-to-import xDRs collection in big data backend
- guided and rated xDRs with service usage details in the primary DB
- CSV files archive with old records

Reports can be generated on demand using WEB UI (e.g. xDR Browser tool), API services (reporting API app) and DB access.

In addition, PortaBilling runs built-in processes to identify abnormalities like too many calls to specific destinations (e.g. Toll Fraud Prevention), etc.

Supporting References

1. [PortaBilling WEB GUI Help on Mediation](#)
2. [WEB GUI: xDR Browser](#)
3. [WEB GUI: CSV Archive](#)
4. [Toll Fraud Prevention process relies on usage records reports, pp.246-248](#)

1.4.8.3 Guide Resource Usage Records

Conformance	Full
Level	3

Description

Relates the usage record to the appropriate service. **A**

Extended Description

The Guide Resource Usage Records process converts/relates the record to the appropriate service. In many cases, this process is performed by a resource such as a network element. **A**

Supporting Description

Typically network elements help PortaBilling matching the right service automatically by providing special attributes along with resource usage records. For example, usage may be reported online to PortaBilling RADIUS/DCCA server by a service/resource providing gateway. By design, both RADIUS and DCCA have special service identifiers to guide the usage real-time.

When usage is guided offline, PortaBilling uses xDR Mediation utility to identify the service during validation, normalizing and converting the records.

Supporting References

1. [Real-time charging via RADIUS/Diameter](#), pp.13-15, p.392
2. [xDR mediation and import](#), pp.292-295