GSA **U.S. General Services Administration**
Networx PMO

Networx OSS Verification Testing
Usage Record Formats

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Document History

Status	Version	Date	Comments	Audience
Draft	various	various	Draft versions for review and comment	Limited
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Table of Contents

1. Overview

This Networx OSS Usage Record Formats document will provide the specifications for usage records to be used in Networx OSS Verification Testing for Test Case 5 (Invoice Files/Detailed Billing Files). These records will be used in testing services with a measured usage (per call, per minute) component.

1.1 Services With A Measured Usage Component

The following Networx services are either required or have the option to have a measured usage component:

- Voice
- Circuit switched data
- Toll free
- Voice over IP transport
- IP video transport
- IP telephony
- Converged IP
- Video teleconferencing
- Audio conferencing
- Web conferencing
- Unified messaging
- Paging

1.2 Record Formats

It will be necessary to use a standard record format during OSS testing in order to provide identical test data to each vendor. The records that will be used during the Networx OSS verification testing to provide usage information will be in Exchange Message Interface (EMI) format. This is a standard record format used to transfer information on the amount of service usage (number of calls, minutes used, etc.) from one entity to another. These records are used for inter-company usage information exchange throughout North America. The document delineating the standard is titled "Exchange Message Interface (EMI), Industry Support Interface, Issue 23, Revision 3", dated October 2005. The document is published by the Alliance for Telecommunications Industry Standards (ATIS), 1200 G Street N.W, Washington, DC, 20005; the document number is ATIS-0406000-2203.

EMI record formats and changes to those formats are developed in the Message Processing committee of the Ordering and Billing Forum (OBF) of ATIS. The OBF, is an industry-wide forum established in 1985 to provide a venue in which to identify, discuss, and resolve national issues affecting the ordering, billing, provisioning, and exchange of information among carriers. It has four major meetings per year in which OSS and BSS users from the US and Canada meet to discuss standard record formats and decide when new records or changes to current records are needed. Meetings of the individual committees (usually via audio conferencing) can take place more often, especially when the committees are working to resolve an issue. All issues must be resolved by consensus. A list of participating OBF members can be found at http://www.atis.org/obf/pcc.asp.

2. Record Structure and Overall Format

This section describes the general record structure and use for the EMI records. Specific records will be discussed in the next section.

2.1 EMI Record Underlying Concept and Test File Structure

US-based and Canadian-based telecommunications carriers are familiar with EMI records and use them on a daily basis to transfer information about usage and about dollar amounts due for various services. Records are available for both rated and unrated traffic, credits, carrier access usage, post billing adjustments, text, and corrections to records already exchanged, among others.

EMI records were chosen as vehicle with which to transmit usage information to contractors for the Networx OSS Verification Testing because the records are familiar to all companies and the record formats are publicly available. Nothing in this document should be construed to be specifying how a contractor's billing systems should function. Contractors should feel free to modify the EMI records to fit the format in their billing system. The value of the EMI records for Networx OSS Verification Testing is in the data they hold.

Different records have differing lengths, generally either 175, 210, 220, or 360 characters, in either fixed or variable length formats. We will use fixed length records for testing purposes; each separate testing dataset will contain only records of the same length.

Where fields are not used, they will be populated with the EMI default value. The default value for numeric fields is 0, and the default value for alphanumeric fields is a blank. Alphanumeric fields are left-justified, and numeric fields are right-justified.

Each separate dataset of usage testing data will contain a header and a trailer record. These records are defined in the ATIS document. We will use 20-21-01 header records, and 20-21-02 trailer records. The datasets will be clearly identified so that testers know which files to process at what time.

2.2 Testing with EMI Records

EMI records will be used for testing services for which billing is based on a per minute or per instance charge. In some cases, a flat rate will be billed for usage up to a stated amount per month, and per minute or per message charges will be applied to any overage. Usage records are unnecessary for services in which the monthly charge does not depend on the amount of the service that is used; for example, unlimited internet usage.

EMI records were developed when most services were billed on a per minute basis and the vast majority of services were analog. There is a wide range of voice service billing records from which to choose, and a smaller set of records for non-voice services.

None of the EMI usage records used in the test will be rated. Contractors are expected to rate the calls appropriately in their systems. We will be using unrated record types rather than rated record types wherever possible. In some cases, the only records available will be records which by definition should be rated. In these cases, the calls will be zero-rated (in other words, the rated amount will be all zeros); contractors will need to rate the calls using their contracted prices.

2.3 Record Types

2.3.1 Record Nomenclature

EMI records are classified by the first six characters in the record, all of which are numeric. The first two characters determine the record category. The category defines the larger group into which the records fall. For instance, category 01 records are billable rated records, whereas category 10 records are billable

unrated records. Category 11 records are carrier access usage records, and category 20 records are used as headers and trailers in datasets of other records passed from one entity to another.

The second set of two characters is the record group. The group designation further defines the type of record. For example, calls in group 01 are North American Numbering Plan (NANP – this includes the U.S., territories, and Canada) originated, terminated, and billable. Group 02 calls are NANP originated and billable but terminated in a non-NANP country. While the group will show whether the calls are domestic or international and which end of the call will be billed, other possibilities for the group include group 12, which designates records that originate, terminate, or pass through a packet switched network.

The third set of two characters gives the record type. Please note that the six-character field as a whole is also referred to as the record type. Whether the speaker is referring to the fifth and sixth characters of the six character field or the six character field as a whole will be clear from the context; for example, someone who refers to "the 01-01-01 record type" clearly means something different from "record type 19". The difference is not in the order of the numeric designator and the words "record type" but in the number of digits specified. Examples of specific record types are 01, for direct-dialed billable messages, 32 for directory assistance, and 19 for CLASS features.

2.3.2 Voice

Voice services are generally billed as per-minute or per-minute over a bulk threshold. Special services, such as CLASS features or operator services, have an additional charge. The records that will be used to test this service are:

- Category 10-01-xx, unrated billable messages, NANP originated, terminated, and billable. (Credit card calls are designated by a value in Indicator 23).

NUMBER	DESCRIPTION
10-01-01	Direct-dialed billable message
10-01-12	Person/collect announcement charge
10-01-16	Information provider service charge
10-01-17	Voice message service
10-01-18	Specialized service/service provider charge
10-01-19	CLASS features
10-01-31	Local or message unit charge
10-01-32	Directory assistance charge
10-01-35	Verification service charge
10-01-37	Interrupt service charge

- Category 10-02-xx, unrated billable messages, NANP originated and billable, overseas terminated

NUMBER	DESCRIPTION
10-02-01	Direct-dialed billable message
10-02-12	Person/collect announcement charge
10-02-16	Information provider service charge

10-02-18	Specialized service/service provider charge
10-02-35	Verification service charge
10-02-37	Interrupt service charge

- Category 10-03-xx, unrated billable messages, NANP originated, overseas terminated and billable (the presumption made for these calls are that the agency office responsible for payment for these calls is overseas)

NUMBER	DESCRIPTION
10-03-01	Direct-dialed billable message
10-03-16	Information provider service charge
10-03-32	Directory assistance charge

- Category 01-05-xx, Overseas originated, NANP terminated and billable (zero rated)

NUMBER	DESCRIPTION
01-05-01	Direct-dialed billable message
01-05-16	Information provider service charge
01-05-18	Specialized service/service provider charge
01-05-32	Directory assistance charge

- Category 01-07-xx, Overseas originated and terminated, NANP billable (zero rated)

NUMBER	DESCRIPTION
01-07-01	Direct-dialed billable message
01-07-18	Specialized service/service provider charge
01-07-32	Directory assistance charge

2.3.3   Circuit switched data

Circuit switched data calls terminate to data service providers. Circuit switched data calls have no operator services component.

- Category 10-01-xx, unrated billable messages, CONUS originated, terminated, and billable. (Credit card calls are designated by a value in Indicator 23).

NUMBER	DESCRIPTION
10-01-01	Billable message
10-01-19	CLASS features
10-01-62	Circuit switch digital

2.3.4   Toll free

Toll free calls are calls that are free to the calling party and paid by the terminating party. They are distinguished by NPAs of 800, 888, 877, 866, etc. Includes pay phone add-on where appropriate

- Category 10-01-xx, unrated billable messages, NANP originated and terminated

NUMBER	DESCRIPTION
10-01-04	800 service recorded at terminating location
10-01-05	800 service recorded at originating location
10-01-25	800 service recorded at the SSP
01-05-04	Overseas originated NANP terminated and billable
34-01-01	Direct-dialed coin call

2.3.5   Voice over IP transport

Voice over IP usage is charged per minute of outbound usage to off-net locations per reserved port by bandwidth of the reserved port.

- Category 10-12-xx, unrated billable messages, packet switched

NUMBER	DESCRIPTION
10-12-20	Intranetwork
10-12-21	Internetwork

2.3.6   IP video transport

IP video transport is charged per minute per reserved port

- Category 10-12-xx, unrated billable messages, packet switched

NUMBER	DESCRIPTION
10-12-20	Intranetwork
10-12-21	Internetwork

2.3.7   IP telephony

IP telephony usage is charged per minute of outbound usage to off-net locations.

- Category 10-12-xx, unrated billable messages, packet switched

NUMBER	DESCRIPTION
10-12-20	Intranetwork
10-12-21	Internetwork

2.3.8   Converged IP

Converged IP usage is charged per minute of outbound usage to off-net locations.

- Category 10-12-xx, unrated billable messages, packet switched

NUMBER	DESCRIPTION

10-12-20	Intranetwork
10-12-21	Internetwork

2.3.9   Video teleconferencing

Video teleconferencing is charged per minute per port for dial-in or dial-out ports.

- Category 10-12-xx, unrated billable messages, packet switched

NUMBER	DESCRIPTION
10-12-20	Intranetwork
10-12-21	Internetwork

2.3.10 Audio conferencing

Audio conferencing is billed per minute per bridge for basic audio conferencing, and per quarter-hour for attendant assisted conferencing.

- 10-01-xx, unrated billable messages

NUMBER	DESCRIPTION
10-01-06	Non-dial conference charge
10-01-07	Non-dial conference leg
10-01-08	Dialed conference bridge charge
10-01-09	Billable conference leg charge

2.3.11 Web conferencing

Web conferencing is billed per minute per port

- Category 10-12-xx, unrated billable messages, packet switched

NUMBER	DESCRIPTION
10-12-20	Intranetwork
10-12-21	Internetwork

  o 10-12-20, intranetwork
  o 10-12-21, internetwork

2.3.12 Unified messaging

Unified messaging is billed for overage in 6-second intervals.

- Category 10-01-xx, unrated billable messages

NUMBER	DESCRIPTION
10-01-17	Voice message service

2.3.13 Paging

Paging messages are billed per message over a monthly limit

- Category 10-01-xx, unrated billable messages

NUMBER	DESCRIPTION
10-01-18	Specialized service

3. Specific Record Formats

3.1 Format Source

All record formats referred to in this document come from Exchange Message Interface (EMI) Industry Support Interface, Issue 22 Revision 3, ATIS-0406000-2203 as referenced above. Please refer to that document for additional information on record layout and how to use these records.