Com.X HTTP CDR and Recording Retrieval

Specification

Version 1.6, 10 June 2015

Document History

Version	Date	Description of Changes
1.0	2013/03/04	Initial
1.1	2014/04/01	Added new methods for retrieving individual call recordings
1.2	2014/04/04	Included sections on non-zipped call recording retrieval and user CSV list retrieval
1.3	2014/11/10	Added account code to index file
1.4	2014/11/17	'extended' functionality added.
1.5	2014/11/17	Ammended start date format to `yyyyMMddHHmmss`
1.6	2015/06/10	Added fields channel and destination channel under the 'extended' option

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1 Introduction

1.1 Overview

A secure CDR and recording retrieval feature is introduced for Com.X PBXs. The external specification is described here, for integration with 3rd party applications or custom scripts.

This feature is avalable from comx-gui 1.2.37 (incorporating comma-gui 1.2.124) onward.

1.2 Background

Where CDR and recording data is to be processed by 3rd party applications, it is convenenient to retrieve this data via an http web interface. This feature provides a secure and simple means of retrieving this information.

2 Specification

2.1 HTTP CDR and Recording Retrieval

2.1.1 Batch Recording Retrieval

Batch HTTP CDR and Recording retrieval is accomplished through a simple URL query string as follows:

http://pbx_ip/commagui/cdr?format=ziprec|txt[&start=YYYYMMDD[hhmm]] [&end=YYYYMMDD[hhmm]]

The parameters (in italics) are as follows:

Field	Description
pbx_ip	The ip address or name of the Com.X PBX on the local network
start (optional)	Start date/time for retrieval. If only date is provided, the time is assumed to be 00:00:00. All records from and including this time are retrieved. If not supplied, all records from the beginning of time are retrieved.
end (optional)	Start date/time for retrieval. If only date is provided, the time is assumed to be 00:00:00. All records up to but not including this time are retrieved. If not supplied, all records up until the present time are retrieved.
format	txt – the CDRs are returned with recording filenames, but not the recordings themselves ziprec – a zip file with the CDR index and all associated recordings is returned

Example Usage 1:

http://192.168.0.5/commagui/cdr?
format=ziprec&start=201301012300&end=201301020000

The above URL will cause the retrieval of CDRs and associated recording files in a zip package. All records from 23:00 on January 1 2013 to (but not including) 00:00 on January 2 2013 will be retrieved.

For testing purposes, a standard browser may be used to retrieve the data as above.

2.1.2 Individual Recording Retrieval

Retrieval CDR data and call recordings for individual phone calls is accomplished through two methods, each using a simple URL query string, as follows:

2.1.2.1 Retrieval using Unique ID:

Each call has an associated unique identifier. The unique identifier of an individual call can be obtained from a batch CDR retrieval as per Section 2.1.1.

An http string to retrieve CDR and recording data using a unique identifier takes the form of :

*http://pbx_ip/commagui/cdr?*format=ziprec|*txt[&id=xxxxxxxxx.x]*

where:

Field	Description
id	The unique identifier for a specific call recording
format	txt – the CDRs are returned with recording filenames, but not the recordings themselves ziprec – a zip file with the CDR index and all associated recordings is returned Emitting the format field – Call recording in it's original format is returned.

Example Usage 1:

http://192.168.0.5/commagui/cdr?format=ziprec&id=1396000115.1
This will retrieve a zipped folder containing the individual call recording associated with unique id 1396000115.1

Example Usage 2:

http://192.168.0.5/commagui/cdr?id=1392723066.6

This will retrieve the recording asssociated with 1392723066.6 in .wav or .gsm format.

2.1.2.2   Retrieval using Start Time:

Call recordings and CDR data for individual calls can also be retrieved if the start time of the phone call is known. The exact start time of a desired individual call can be obtained from a batch CDR retrieval as per Section 2.1.1.

An http string to retrieve CDR and recording data using an exact call start time takes the form of :

http://pbx_ip/commagui/cdr?format=ziprec[&start=YYYYMMDDhhmmss]

where:

Field	Description
start	The specific time of an individual call recording in years (Y), months (M), days (D), hours (h), minutes (m) and seconds (s)
format	txt – the CDRs are returned with recording filenames, but not the recordings themselves ziprec – a zip file with the CDR index and all associated recordings is returned Emitting the format field – Call recording in it's original format is returned.

Example Usage 1:

http://192.168.0.5/commagui/cdr?format=ziprec&start=20140328114835
This will retrieve a zipped folder containing the individual call recording which started at exactly 11:48:35 am on the 28th of March 2014

Example Usage 2:

This will retrieve the individual call recording which started at exactly 11:48:35 am on the 28th of March 2014

2.1.3 Extended fields

Extended fields allow extra useful information to be returned about the CDR.

The format of this extended functionality is as follows:

*http://pbx_ip/commagui/cdr?format=ziprec|txt[&start=YYYYMMDD[hhmm]]
[&end=YYYYMMDD[hhmm]][&extended]*

where:

Field	Description
extended	By adding '&extended' on to the end of the CDR url extra parameters will be returned. These are: • 'Friendly name' / CLID: The friendly name of the particular extension involved in the call recording. • "account code": the account code of the corresponding extension. • 'channel': The channel that was used during the call • "destination channel": The desination channel if appropriate to the call

Example Usage 1:

This will retrieve the individual call recording which started at exactly 11:48:35 am on the 28th of March 2014 with an added friendly name and account code. See File Format.

2.2 File Format

2.2.1 Zip File

The zip file is delivered if format=ziprec. This is a flat zip file with the index (see section below) as index.txt and all associated recordings in their native format.

2.2.2 Index File

The index file is delivered either as the content of the query (if format=txt) or as a file index.txt in the zip file (format=ziprec). This file is a comma-delimited file with one line per CDR entry, for example (line split for readability):

```
1362123180.67,2013/03/01/09:33:00,CALLTYPE_INBOUND,8266,,,
      CALL_ANSWERED,221,216,365211,
      g8266-20130301-093300-1362123180.67.gsm
1362125482.87,2013/03/01/10:11:31,CALLTYPE_OUTBOUND,8264,0215551111,,
      CALL_ANSWERED,60,53,98934,
      OUT8264-20130301-101131-1362125482.87.gsm
```

The fields are as follows:

Field	Description
Unique ID	Unique identifier for call
Call date and time	Date and time of call as YYYY/MM/DD/hh:mm:ss
Call type	CALLTYPE_UNKNOWN, CALLTYPE_INBOUND, CALLTYPE_OUTBOUND, CALLTYPE_INTERNAL, CALLTYPE_OTHER
Extension	Internal extension number involved in call
Dialled number	Dialled number (outbound or internal calls only)
External caller ID	Caller ID (inbound calls only)
Disposition	CALL_ANSWERED, CALL_NOANSWER
Duration	Total call duration in seconds
Billable seconds	Estimated billable duration in seconds
Recording file size	Recording file size in byte (0 if no recording)
Recording file name	Recording file name if present
Friendly name (see Extended fields)	This is the friendly name of the extension. **NB:** Note that this field requires an HTTP CDR extended license.
Account Code (see Extended fields)	The associated account code for the cdr entry
Channel (see Extended fields)	The channel that was used during the call
Destination Channel (see Extended fields)	The destination channel that was associated with the call

2.2.3 Recording Files

The recording files associated with the retrieved call records are in the top level of the zip file when format=ziprec. The recording files are delivered in the native format for recording that is configured on the platform. This is typically either gsm or A-law with WAV wrapper.

2.3   Retrieval of extension list

A CSV containing the extension number, friendly name and voicemail pin of all users on the system can be downloaded using a url of the form below :

http://pbx_ip/commagui/cdr?users

2.4   Dynamic Behaviour

The data is retrieved, packaged and delivered in a single operation resulting from the http query.

A typical client application or script will keep a record of the last end time and use that as the start time for the next query. A sample bash script is shown below. This could be run regularly, e.g. on an hourly basis, as a cron job.

```
#!/bin/bash

# Run this as a cron job on a regular basis, e.g. every hour

set -e

LASTTIMEFILE=/var/lib/cdr/lasttime

TMPFILE=/tmp/cdr.zip

URL=http://localhost/commagui/cdr

HTTPUSER=admin

HTTPPASS=C@11Me

FTPUSER=admin

FTPPASS=password

mkdir -p /var/lib/cdr/

touch $LASTTIMEFILE

LASTTIME="$(cat $LASTTIMEFILE)"

TIME="$(date +%Y%m%d%H%M)"
```

2.5   Security

The security implications of web-accessible information retrieval must be carefully considered in each particular implementation environment.

Note that this feature is DISABLED by default and must be enabled as follows:

Edit the file /etc/commagui/cdr.properties, change

`com.farsouthnet.comma.driver.cdr.CdrConfiguration.enabled = false`

to

`com.farsouthnet.comma.driver.cdr.CdrConfiguration.enabled = true`
and then restart the GUI.

2.5.1   HTTP Security

Http BASIC authorization is used for security. The authorization credentials must be separately maintained using the /etc/commagui/cdr.htpasswd file on the Com.X. This file is updated from the Com.X shell as follows:

`sudo htpasswd -b /etc/commagui/cdr.htpasswd <username> <password>`

To delete a user, use the following command:

`sudo htpasswd -D /etc/commagui/call.htpasswd <username>`

The username/password may be embedded in the call URL by adding before the pbx_ip as follows:

http://*username*:*password@pbx_ip/*...

By default, the username admin, password C@11Me which is accepted for any extension. It is advised to change this password using the above command.