NEC Integration

Integration Guide

This document looks at the configuration of QMS for NEC

Enghouse Interactive

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About This Document

Audience

This document is for the contact center system administrator who installs, configures, and integrates NEC PBX with Enghouse Interactive Quality Management Suite (QMS).

Reference materials

The content contained in this document works in combination with the information and procedures in the following documents or Help.

- Quality Management Suite System Design Guide
- Quality Management Suite Installation Guide
- Quality Management Suite High Availability Guide

Document conventions

This document uses the following text formats and notation conventions.

Text format

Bold text indicates a button, field, link, option name, or similar function requiring an action.

Italicized text indicates new terms, directory paths, or references to external documents.

Notes and cautions

Icons used throughout this document identify additional details or special conditions.

Note

Provides additional information or describes special circumstances.

Caution

Warns of user actions that may cause system failure or irreversible conditions.

Stop

Describes actions that you should only perform under the supervision of Enghouse Customer Support.

Contact information

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Solution Overview

The QMS Call Recording Service supports two general methods of recording calls for NEC. The first method of recording is accomplished through the use of port mirroring to collect call control messages (SIP or PROTIMS over IP) and RTP traffic. The second method of recording uses NEC OAI library to collect call control messages from NEC PBX. Audio is sent from each NEC phone to QMS Call Recording Service directly. This method requires phones with Built-in-bridge support.

Port Mirror Solution

Quality Management Suite
Port Mirroring Diagram
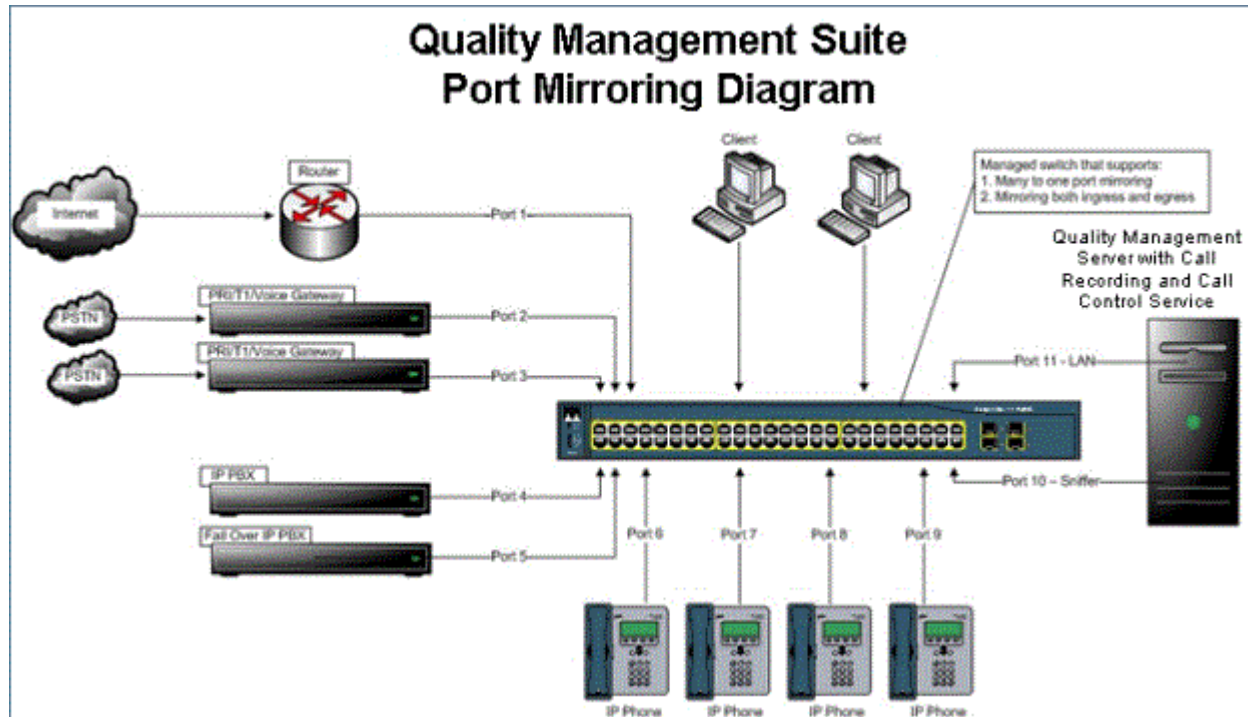
The port mirroring solution allows QMS Call Recording Service to collect call control and audio packets that traverse across the data network. Port mirroring is supported by most data switches and when enabled will send a copy of every packets destined for one port to another port. For more information about port mirroring, please refer to "Port Mirroring Configuration Guide".

NEC OAI Solution
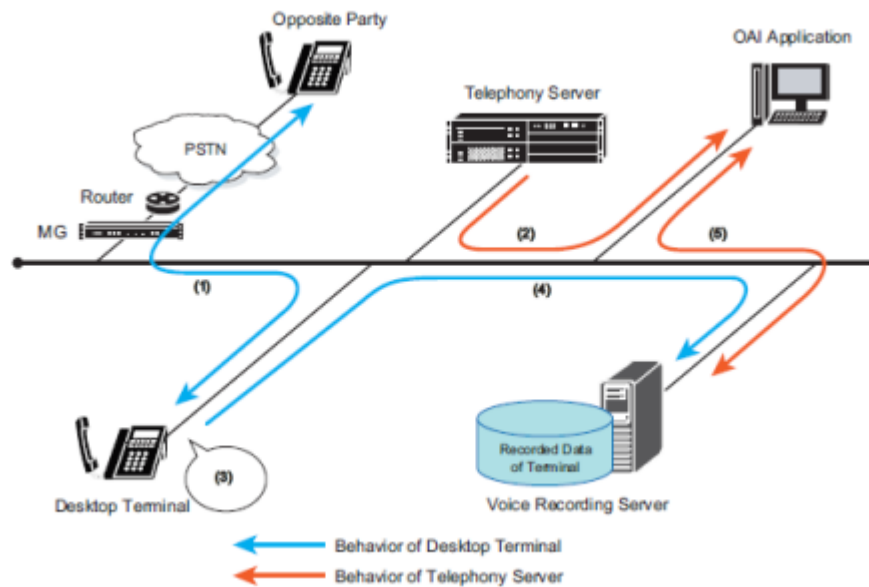
This recording method requires the use of OAI library from NEC to communicate with NEC PBX in order to get call control messages. The audio of a call is sent from an NEC IP Phone to QMS Call Recording Service directly.

Port Mirror Solution

System Requirements

An NEC PBX that supports SIP, or PROTIMS over IP (NEC Proprietary) Call Control Protocol(s).

QMS Setup

QMS provides two port mirroring solutions for NEC, NEC SV8100 and NEC SV8300/SV8500/SV9300/SV9500.

NEC SV8100 is a SIP-only setup, which should be used if all NEC phones on a site use SIP as call control protocol.

NEC SV8100 Setup

The following configurations need to be done on the Admin page of QMS web client:

- Go to <Services>
- Select the Call Recording Service to be configured
- Set PBX Type to <NEC SV8100>
- Save

When creating QMS users to be recorded, please provide the following information:

- Primary Extension – The extension of the phone to be recorded.
- Additional Extension(s) – Additional subline(s) of the phone (optional)
- Endpoint IP Address – The IP Address of the phone

NEC SV8300/SV8500/SV9300/SV9500 Setup

The following configurations need to be done on the Admin page of QMS web client:

- Go to <Services>
- Select the Call Recording Service to be configured
- Set PBX Type to <NEC 8300/8500>
- Enter the PBX IP address. If the PBX has multiple IP addresses, separate them by semicolons. Please make sure all IP addresses of the PBX is entered. Otherwise, Endpoint IP Address of QMS users may not be updated dynamically.
- Save

When creating QMS users to be recorded, please provide the following information:

- Primary Extension – The extension of the phone to be recorded.
- Additional Extension(s) – Additional subline(s) of the phone (optional)
- Endpoint IP Address – The IP Address of the phone (optional, it will be updated dynamically based on PROTIMS packets QMS receives, given that PROTIMS packets come from one of the PBX IP addresses configured on <Services> page).

OAI Solution

System Requirements

Hardware Requirements

The information provided in this section describes the hardware requirement for NEC OAI recording solution:

- NEC SV9500 PBX with firmware V5 FP95-115 or later
- NEC IP Phones with Built-In-Bridge support, including:
    - DT830 / DT830G with firmware 5.2.0.0 or later
    - DT820 with firmware 3.2.0.0 or later

Please contact NEC if you are unsure about the compatibility of other IP Phones.

Software Requirements

QMS v7.4 or above is required for NEC OAI setup.

Licensing Requirements

An NEC SV9500 Call Recording License is required for each IP Phone to be recorded. Please contact NEC for further information about the license.

Setup

PBX Call Recording Setup

The following configurations need to be completed on NEC SV9500 PBX in order for call recording to work:

- Every IP Phone that needs to be recorded must be assigned a unique Telephone Number (TELN)
- Networking commands ASPAN, ALGSN and ALGNN must be used, same node commands ASPAL, ALGSL and ALGNL will not work with this feature.
- After an IP Phone has a TELN configured assign license using ATSRN - SVN 1 set to 1. This assigns a recording service license to the phone
- A Recording button can be programmed on the phone using AKYD or AKYD_T FKY=194. This will light when recording can be used for pause/resume
- The OAI port must be accessible from QMS Call Recording Server. The default port is TCP 60030.

IP Phone Setup

The following configurations need to be completed on each IP Phone to be recorded. Please following the instruction below to set up the IP Phone. Configurations may vary on different IP Phones, the following instruction is for DT830.

1. Press <Menu> button on the phone
2. Press <0> and enter an admin username and password to enter Config Mode
3. Go to <Application Settings>
4. Go to <Voice Rec Settings> and configure:
    - Voice Recording
        - Automatic

- Recording Mode
  - Server (Dynamic)
- Rec Segments
  - Talk Segments
- Auto Rec Start
  - Enable
- Rec Tone (turning this on will add recording "beep" sound while recording)
  - Disable
- Rec Tone Level
  - Default value (24)
- Rec Icon
  - Enable
- Rec Server Settings
  - 1st Server Settings
    - IP Address: The IP Address of QMS Call Recording Server
    - Port Settings:
      - RTP (Tx): 0
      - RTP (Rx): 0
      - SIP: 5060 or the custom SIP port set in QMS Call Recording Service config file (see SIP Port Configuration)
    - Type of Service
      - RTP: Default value (A0)
      - SIP: Default value (C0)
    - TTL Settings
      - RTP: Default value (64)
      - SIP: Default value (64)
  - 2nd Server Setting
    - This should only be configured in QMS High Availability setup. The values should be the same as <1st Server Settings> except for the IP address and the SIP port. In an High Availability setup, the IP and SIP port of the primary call recording server should be set in <1st Server Settings>, the IP and SIP port of the secondary call recording server should be set in <2nd Server Settings>
  - Codec
    - G711u or G711A
  - Self Port Settings
    - Default values
  - SIP Transport Mode
    - UDP
  - SIP Session Timer

o   Default value (1800)

5.   Save and the IP Phone will reboot

QMS Setup

On QMS Call Recording Server, the following ports need to be accessible (inbound) from all IP Phones to be recorded:

- SIP port: UDP 5060 or the custom SIP port set in Call Recording Service config file (see SIP Port Configuration)
- Audio ports: UDP 16000 to 18000, or the custom audio port range set in Call Recording Service config file (see Dynamic Audio Port Configuration)

The following configurations need to be done on the Admin page of QMS web client:

- Go to <Services>
- Select the Call Recording Service to be configured
- Set PBX Type to <NEC OAI>
- Enter the PBX IP address and the OAI port
- Save

When creating QMS users to be recorded, please provide the following information:

- Primary Extension – The Telephone Number (TELN) configured on PBX, must be unique.
- Additional Extension(s) – Additional subline(s) of the IP Phone (optional)
- Endpoint IP Address – Not required, leave it blank

Advanced Call Recording Service Settings

The following settings can be configured in Callrex, Recording Section of Call Recording Service config file:

- BindRetryCount
  - Default value: 250
  - Allowed value: any positive integer
  - Usage: Set the maximum number of retries when binding a socket (for handling SIP)
- BindRetryDelay
  - Default value: 5000
  - Allowed value: any positive integer
  - Usage: A delay (in milliseconds) between each binding retry
- DynamicAudioPortBase
  - Default value: 16000
  - Allowed value: any value between 1024 and 65535
  - Usage: The base port used for audio collection. QMS will allocate 10 ports for each user starting from the base port.
- DynamicAudioPortRange
  - Default value: 2000

- Allowed value: any positive integer
- Usage: The number of ports allowed for audio collection. The ports used by QMS to collect audio is between <DynamicAudioPortBase> and <DynamicAudioPortBase + DynamicAudioPortRange>. The default value can support up to 200 QMS users (at 10 ports per user). Setting it to a larger value when there are more than 200 QMS users.

- ForkedAudioSIPPort
  - Default value: 5060
  - Allowed value: any value between 1024 and 65535
  - Usage: The port to receive SIP messages on Call Recording Server
- LogForkedAudioSIPMsgs
  - Default value: False
  - Allowed value: True / False
  - Usage: Setting it to True to log details of SIP messages, useful when debugging.

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