Mitel Open Integration Gateway

DEVELOPER GUIDE – DATA ACCESS SERVICE

Release 4.2 SP4

May 2023

Mitel®

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Mitel Open Integration Gateway

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Introduction

The Mitel Open Integration Gateway (OIG) is a web server that provides each Mitel OIG application with a single point of access to web services available in a Mitel communication system.

The Mitel OIG uses a services-oriented architecture. A Mitel OIG application opens a communication session with a Mitel OIG by logging in (sending a service operation per request to the Mitel OIG, for example). After the Mitel OIG application is authenticated and authorized, the application can use this communication session to access all Mitel OIG web services the application is authorized to use.

The Mitel OIG allows applications to access features and functionality offered by a Mitel MiVoice Business system cluster.

Note: The Mitel OIG can communicate with a single MiVoice Business or a cluster of MiVoice Business instances. When there are two or more MiVoice Business instances, the MiVoice Business instances must be configured in a cluster. Mitel Open Integration Gateway cannot communicate with more than one MiVoice Business cluster. The Mitel OIG assumes that the directory number (DN) of a Mitel phone is unique in the MiVoice Business system cluster; two Mitel phones in the system cannot have the same DN.

Figure 1: Mitel OIG system configuration
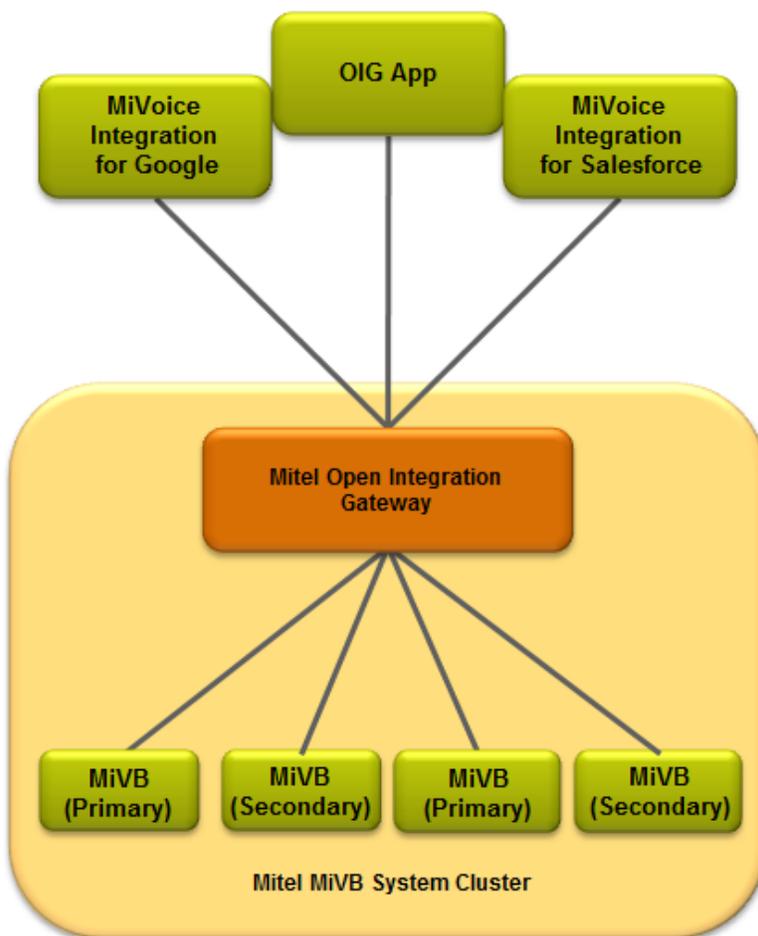
Mitel OIG Web Services

The Mitel OIG supports the following web services:

- Session Management service - Open communication session with Mitel OIG for services
- Call Control service - Control and monitor CTI behavior in Mitel communication system
- Data Access service - Register for MiVoice Business configuration data change notifications and read MiVoice Business configuration data.

Mitel also offers applications that use the Mitel OIG:

- MiVoice Integration for Salesforce
- MiVoice Integration for Google

Figure 2: Mitel OIG application, server, and services relationship
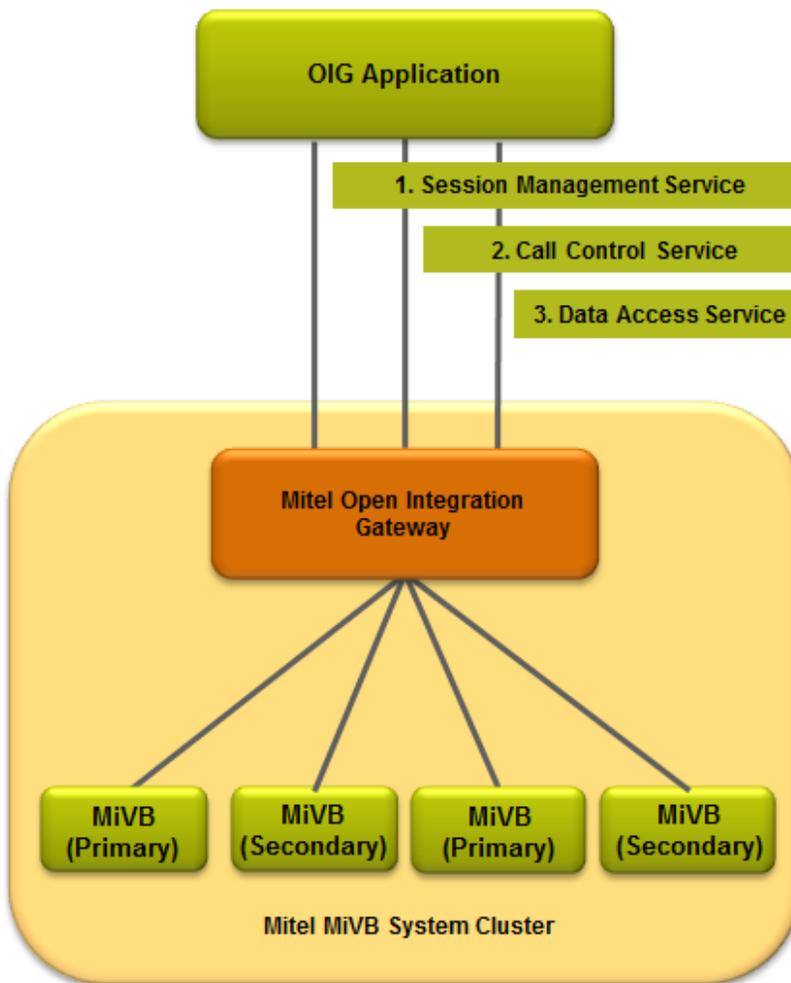
Mitel OIG Documentation

This developer's guide is specific to the Mitel OIG Data Access service. The following Mitel OIG documents are also available.

Mitel OIG Installation and Maintenance Guide

This document provides details and instructions for installing the Mitel OIG and licensing it for applications and services, including MiVoice Integration applications.

Mitel OIG Engineering Guidelines

The Engineering Guidelines provides guidance on network and system level requirements and performance.

Mitel OIG Developer Guide - Fundamentals

The fundamentals guide introduces the Mitel OIG application developer environment and general information that applies to developing applications relative for any of the Mitel OIG web services.

> **Note**: Mitel recommends that you become familiar with the content of the *Mitel OIG Developer Guide - Fundamentals* before attempting to create Mitel OIG applications.

Mitel OIG Developer Guide - Session Management Service

This developer guide provides application developers detailed requirements for working with the Session Management Service.

Mitel OIG Developer Guide - Call Control Service

This developer guide describes the Call Control Service details needed for creating telephony control applications.

Web Service Messaging Formats (SOAP & REST)

The *Mitel OIG Developer Guide - Fundamentals* provides an introduction to Web Service Messaging.

Recent Changes Affecting Mitel OIG Applications

The *Mitel OIG Developers Guide - Fundamentals* provides a summary of the changes introduced as part of this release.

Mitel OIG Data Access Service Overview

The Mitel OIG Data Access Service provides a generic SQL-like interface to the Mitel OIG postgreSQL database using a REST/JSON messaging interface. Views are read-only except for the following:

OIG VIEW ALLOWING READ/WRITE	MIVOICE BUSINESS FORM	OPERATIONS ALLOWED
phone_info_view	Independent Account Code System Speed Calls	Insert, Update, Delete
telephone_directory_view	Telephone Directory	Insert, Update, Delete
phone_view	User and Device Configuration	Update (COS, COR)

The data in the Mitel OIG postgreSQL database is provided by the MiVoice Business nodes in the Mitel MiVoice Business communication system. To receive the MiVoice Business data, the Mitel OIG server must be added as a network element to one of the MiVoice Business nodes in the Mitel MiVoice Business communication system.

> 📝 **Note**: One OIG Server instance can sync with one MiVB or one MiVB cluster only. Once Mitel OIG Sever is added and synced to a MiVB or MiVB cluster, a different MiVB or MiVB cluster (with a different Network Element name) cannot be synced with the same OIG Server.

The administrator of the MiVoice Business system must also initiate a data sync using the MiVoice Business management interface; the MiVoice Business system controllers must sync their configuration data with the Mitel OIG server.

> 📝 **Note**: Mitel OIG 4.2 SP4 uses MiVoice Business 10.0 SP1 and MSL 11.0.106.0. MiVoice Business 10.0 SP1 is recommended.

The Mitel OIG Data Access Service provides the following service for applications.

Data Access service

Allows applications to read and get change notifications on MiVoice Business configuration data related to Mitel physical and logical devices (devices programmed or configured in Mitel MiVoice Business instances) including IP phones, Personal Ring Groups, and line appearances on multi-line phones. The Mitel OIG Data Access Service allows applications to retrieve MiVoice Business data that is needed when using other Mitel OIG services. For example, the application needs to know the DN of a MiVoice Business phone to create a monitor using the Mitel OIG call control service.

OIG uses System Data Synchronization (SDS) to synchronize updates made between the OIG and MiVoice Business system databases. The following data is synchronized:

- Users and Services Data

- ACD

- Hospitality

- Class of Restriction Groups

- Class of Service Options

- Independent Account Codes

- System Speed Call (S/C)

- Call Rerouting and Call Rerouting Alternatives

- Associated Directory Numbers

- Local-only Directory Number List

Data Access Service Messaging

The Mitel OIG Data Access service is provided using REST and JSON over HTTPS. Applications must use HTTPS when accessing the Data Access Service using REST / JSON. Applications do not require software from Mitel to communicate with a Mitel OIG. An application does not need to integrate or compile in any Mitel code. Application developers are free to choose a programming language, a software development environment, an operating system, and a hardware platform for their application. The web service model decouples the Mitel OIG software from the application.

The Mitel OIG Data Access service is defined using a request, a response, and then an event model. An application sends a request to activate a service operation and the Mitel OIG responds with success or failure and the return data. The application must check for the success or failure of each operation. Operations trigger changes in the Mitel OIG and the Mitel MiVoice Business system. The changes are reported back to the application using events. An application needs to check and process the events returned when registering for change notifications on the Mitel OIG server database. An application must poll the Mitel OIG for events related to data change notifications.

Poll Mitel OIG for Data Change Notifications

This operation returns the changed data in a specific Mitel OIG server database view.

http(s)://<oigIPAddress>/mitel/oig/rest/resources/v1/ databases/views/events

Where: oigIPaddress can be the FQDN of the Mitel OIG server; especially when the Mitel OIG server has been configured with a CA certificate.

Get Operation
- Returns an Update event.

HTTP Header Parameters:
- "Authorization" string – sessionId

Query Parameters:
- "databaseId" string
- "viewName" string

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Return Parameters:

- result – Boolean indicating operation success or failure

- error – If operation failed

- columns – If operation successful, JSON array of definitions
(eventType = dbTriggerEvent, action: UPDATE, DELETE, INSERT, dbId: database ID,
viewName, oldRecord - for updates and deletes, newRecord - for add, update)

Applications read Mitel OIG server data (configuration data collected from the MiVoice Business communication system) and then request data change notifications. For example, if an application reads phone view data and requests data change notifications on this view, the application will receive events when data in the phone view changes.

When requesting configuration data using Mitel OIG, the Mitel OIG must connect to and be configured in the MiVoice Business system to be able to retrieve the configuration data in that MiVoice Business node. Specifically, the Mitel OIG must be added to the MiVoice Business SDS sharing network. An administrator must configure a MiVoice Business Controller, and then initiate a data sync from the MiVoice Business controller management interface.

Adding Mitel OIG Server to MiVoice Business network

1. Log in to a MiVoice Business node using a web browser and click **System Administration Tool**.
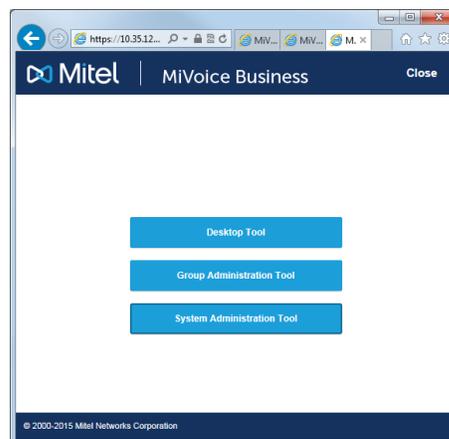
2. Go to the **Network Elements Form** page to add the Mitel OIG server.
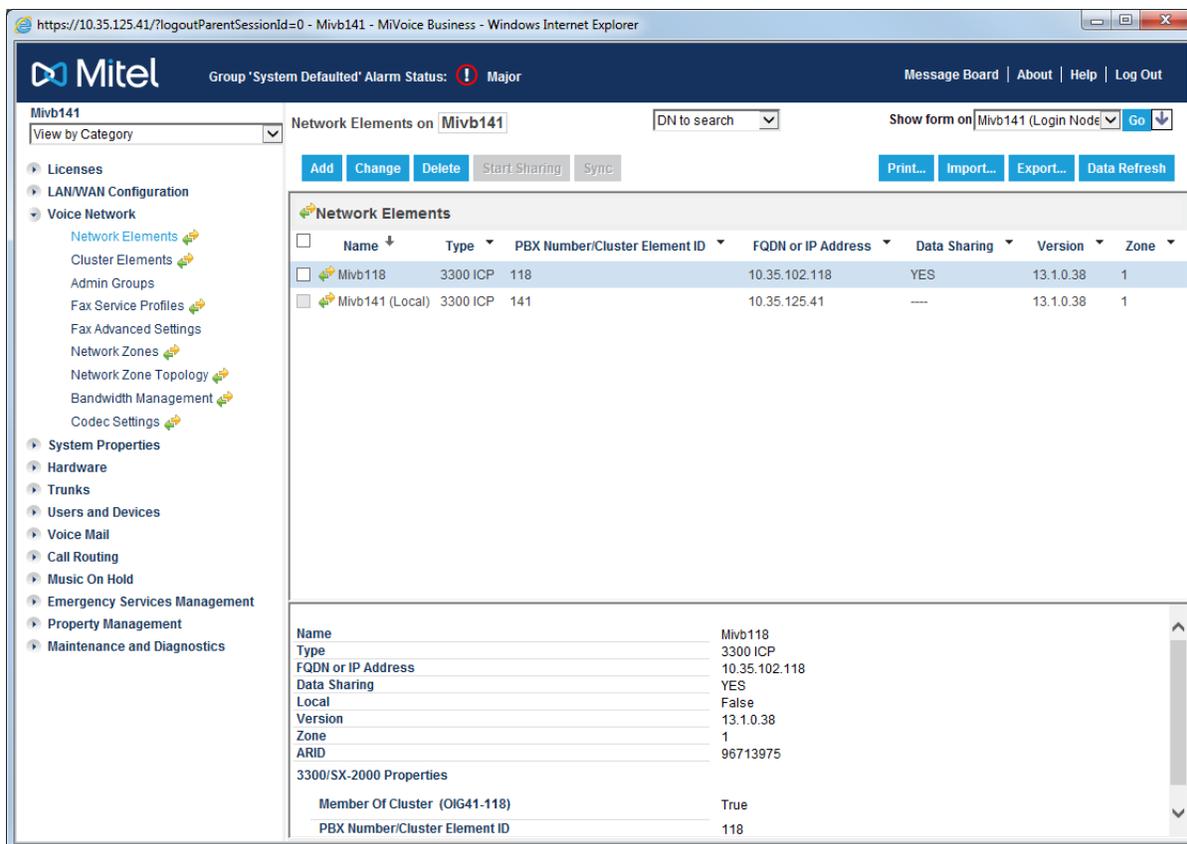
3. Click **Add**. A window appears, asking for the information about the Mitel OIG server.

Note: Before synchronization, the MiVoice Business must be part of a cluster for the Mitel OIG Data Access Service to work correctly.

4. Configure the **Type** by selecting **MSL Server**.

5. Enter the name and the IP Address of the Mitel OIG server and click **Save**. The Mitel OIG server appears in the Network Elements list.

6. Select the newly added Mitel OIG server and click **Start Sharing**.

7. When sharing is complete, select the newly added Mitel OIG server again, and click **Sync**.

8. Select all the shared forms that need to be synchronized, and **OK**. This operation takes a few minutes. It completes the sync and populates the database on the Mitel OIG server.

The Mitel OIG server has now been added to the MiVoice Business communication system for data sharing.
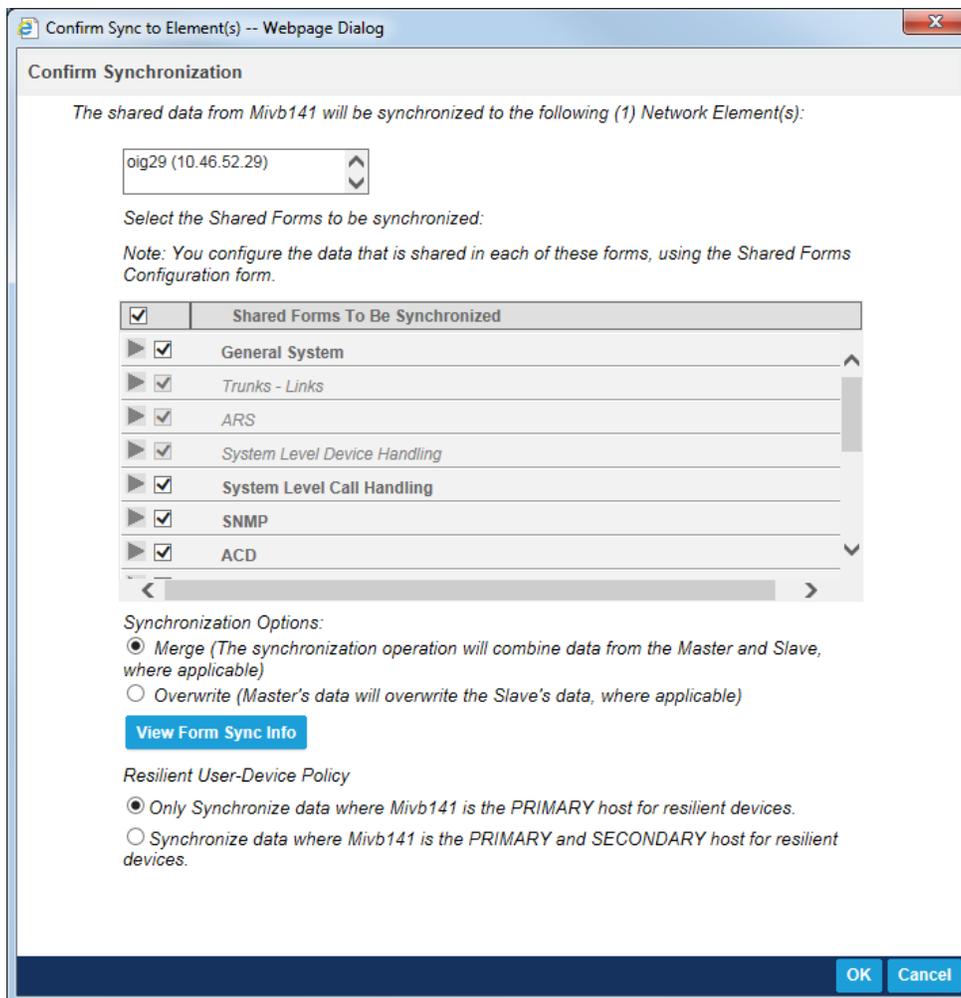
Removing Mitel OIG from MiVoice Business network

Use the MiVoice Business Foreign DEI Registration form.

- In Maintenance and Diagnostics, click **SDS Debug** > **SDS** to remove a Mitel OIG from the SDS sharing network.

- OR: Use the Maintenance Command **RemoveNE OIG** where OIG is the Mitel OIG server name.

Do not delete the Mitel OIG from the **Network Element** Assignment form and then re-add the Mitel OIG. Such action does not remove the associated FDEI Registration, and the Mitel OIG will have stale data records.

Mitel OIG Data Access Service Database

The Mitel OIG provides a postgreSQL database with up-to-date configuration data from the MiVoice Business communication system. The Mitel OIG server database is mitel_mcd_data. There are several

databases in the Mitel OIG server and the application must request a specific database to use Mitel OIG data access service; specifically, mitel_mcd_data.

The Mitel OIG postgreSQL database contains MiVoice Business data specific to a single node, as well as data common to all nodes (shared between MiVoice Business nodes). The Mitel OIG Data Access Service allows an application to read the stored data and request change notifications on the data. The Mitel OIG Data Access Service provides abstracted views on the MiVoice Business database tables so that the application developer is decoupled from the MiVoice Business database schema.

> **Note:** When the Mitel OIG is connected to a large MiVoice Business cluster (many MiVoice Business controllers) the Mitel OIG data access service may not be ready for many hours after the Mitel OIG starts up. When an application requests a database using Mitel OIG Data Access service, the request will be successful, but subsequent requests to get DEIs or call notifications will fail if the Mitel OIG has not finished collecting all the necessary MiVoice Business configuration data from the cluster. In the case where the Data Access service request fails, the application should wait five minutes and then try again.

When an application tries to get data or register for call notifications following a Mitel OIG startup, the Application may receive the error below:

Result: False

Error Message: MiVoice Business Data Synchronization In Progress.

In the Mitel OIG server tomcat log, the following information is generated when the data sync has completed:

INFO - Design - Multi_DEIs.registerDeisForNotification(): Starting DEI registration.
INFO - Design - Multi_DEIs.registerDeisForNotification(): Completed DEI registration.
INFO - Design - Multi_DEIs.registerDeisForNotification(): Sync Required.
INFO - Design - ForeignDEI.syncForeignDEIs(): Sync in Progress...
INFO - Design - Multi_DEIs.registerDeisForNotification(): Syncing for notification Completed

INFO - Design - DataAccessInfo.setupDataAccessService(): Completed Setting up Data Access Service.

REST API Resources

Data Access information is passed to the Mitel OIG server using REST / JSON messaging with the following APIs. For more information, refer to the *OIG Fundamentals Guide*.

> **Note**: Mitel does not support the ability to write to the Mitel OIG server.

Get the Mitel OIG Database

The following URL is used to get the Mitel OIG database. The Mitel OIG server database is mitel_mcd_data. There are several databases in the Mitel OIG server and the application must request a specific database to use Mitel OIG data access service; specifically mitel_mcd_data.

http(s):// <OIG-FQDN>/mitel/oig/rest/resources/v1/databases

> **Note**: **<OIG-FQDN>** is the FQDN assigned to a specific Mitel OIG server (Mitel recommends that the server has a CA certificate). OIG-FQDN can also be the IP address of a specific Mitel OIG server.

Get Operation

This operation returns the available Mitel OIG server database. The sessionId is returned to the application when the application opens a communication session (logs in) with the Mitel OIG server.

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- None.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed
- database – If operation is successful, JSON array of definition (databaseName, databaseIdentifier). The name of the Mitel OIG Data Access service's database is mitel_mcd_data. The database identifier is a number, usually 1.

Get all Mitel OIG Views

The following URL is used to get the Mitel OIG database views.

http(s):// <OIG-FQDN>/mitel/oig/rest/resources/v1/ databases/views

> **Note**: **<OIG-FQDN>** is the FQDN assigned to a specific Mitel OIG server. Mitel

recommends that the server have a CA certificate. OIG-FQDN can also be the IP address of a specific Mitel OIG server.

Get Operation

This operation returns the available Mitel OIG server database views. The sessionId is returned to the application when the application opens a communication session (logs in) with the Mitel OIG server.

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed
- views – If operation successful JSON array of definitions (viewName)

Get all Mitel OIG Columns in a View

This operation returns the list of columns available in a specific Mitel OIG server database view.

http(s)://<OIG-FQDN>/mitel/oig/rest/resources/v1/ databases/views/columns

Get Operation

Returns list of columns.

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string
- "viewName" string

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed
- columns – If operation successful JSON array of definitions (columnName, column data type, is null able, and is key)

Read Data from Mitel OIG Views using SQL

This operation allows an application to read data from a specific Mitel OIG database view.

http(s)://<OIG-FQDN>/mitel/oig/rest/resources/v1/ databases/sql

> 📝 **Note**: The Mitel OIG Data Access service validates whether an operation is supported.
>
> - If an application attempts an operation other than a "SELECT" on the Mitel OIG views, an error is returned.
> - If an application attempts to access an unsupported view, an error is returned.

Get Operation

Returns result from sql select operation.

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string
- "sql" string

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed
- rows – If operation successful JSON array of definitions (columnName)

Request Mitel OIG Data Change Notifications (Triggers)

This operation allows an application to request data change notifications on Mitel OIG server data the application needs. The application must poll the Mitel OIG sever for events related to change notifications. The application can use a get operation (View Event resource) to retrieve the change.

http(s)://OIG-FQDN/mitel/oig/rest/resources/v1/ databases/views/triggers

An application only requests change notifications on one view at a time. If change notification is needed for multiple views, then a request is needed for each view.

Get Operation

- Returns an Update event.

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string
- "viewName" string

Return Parameters:

- result – Boolean indicating operation success or failure

- error – If operation failed

- columns – If operation successful JSON array of definitions (eventType = dbTriggerEvent, action: UPDATE, DELETE, INSERT, dbId: database ID, viewName, oldRecord - for updates and deletes, newRecord - for add, update)

Post Operation

Returns result from an application requesting change notification on a specific Mitel OIG view.

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string

- "viewName" string

Return Parameters:

- result – Boolean indicating operation success or failure

- error – If operation failed

Delete Operation

Returns result from application requesting that change notification be removed on a specific Mitel OIG view.

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string

- "viewName" string

Return Parameters:

- result – Boolean indicating operation success or failure

- error – If operation failed

Get Mitel OIG Change Notification Events

Use the following URL and the Get operations defined below to receive Mitel OIG data access service data change notifications.

http(s)://OIG-FQDN/mitel/oig/rest/resources/v1/databases/views/events

Get Operation

This Get is a blocking operation that waits 15 seconds for a change notification event. If an event does not occur within 15 seconds, the operation returns the result set to false and an error set to "Timeout no db event message available". If a database change notification event is available or generated during the 15 seconds, the operation returns with a result set to true and the parameters as documented below.

HTTP Header Parameters:

- "Authorization" string – sessionId

Return Parameters:

- result – Boolean indicating operation success or failure

- error – If operation failed (a common error is "Timeout no db event message available.")

Data change notification events return the following:

- dbId – String identifying the database where the event occurred

- viewName – String identifying the view which generated the event

- action – String identifying the operation caused the event, including:
  - DELETE
  - INSERT
  - UPDATE

- JSONObject – oldRecord returned for delete and update

- JSONObject – newRecord returned for insert and update

Update OIG Database (PUT operations)

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/ databases/views/

Put COR

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/ databases/views/phone/

URL: (URL + cor/)

Updates COR for the given extension

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)

- "extension" string (*)

- "corDay" string

- "corNight1" string

- "corNight2" string

- "neName" string – optional

> 📝 **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – oldRecord returned
- JSONObject – newRecord returned

Put COS

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/ databases/views/phone/

URL: (URL + cos/)

Updates COS for given extension

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)
- "extension" string (*)
- "cosDay" string
- "cosNight1" string
- "cosNight2" string
- "neName" string – optional

> 📝 **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – oldRecord returned
- JSONObject – newRecord returned

Put Independent Account Code

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/phoneinfo/

URL: (URL + independentaccountcode/)

Updates Independent Account Code COS or COR for given Account Code Number

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)
- "number" string (*)
- "cos" string
- "cor" string
- ""neName" string – optional

> 📝 **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – oldRecord returned
- JSONObject – newRecord returned

Put System Speed Call

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/phoneinfo/

URL: (URL + systemspeedcall/)

Updates Actual Number, Overrides Toll Control or Type on System Speed Call for given Speed Call Number

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)

- "number" string (*)

- "directoryNumber" string

- "overridesTollControl" string

- "type" string

- "neName" string – optional

- "comment" string

> **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure

- error – If operation failed

If successful:

- JSONObject – oldRecord returned

- JSONObject – newRecord returned

Put Telephone Directory

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/telephonedirectory

Updates Telephone Directory given extension and name

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)

- "number" string (*)

- "name" string (*)

- "newNumber string

- "newName" string

- "primeName" boolean

- "privacy" boolean

- "department" string

- "location" string

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- ""neName" string – optional

> 📝 **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – oldRecord returned
- JSONObject – newRecord returned

Put HotDesk PIN

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/phone/hotdeskpin

Updates the PIN of a Hot Desk User/Agent configured on MiVB, where the PIN must be only digits (0-9)

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)
- "number" string (*)
- "pin" string (*)
- "neName" string – optional

> 📝 **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – oldRecord returned
- JSONObject – newRecord returned

Put Voicemail Mailbox PIN

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/phone/vmpin

Updates the PIN (passcode) for Voicemail Mailbox of a device configured on MIVB, where the PIN must be only digits (0-9).

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)

- "number" string (*)

- "pin" string (*)

- "neName" string – optional

> **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure

- error – If operation failed

If successful:

- JSONObject – oldRecord returned

- JSONObject – newRecord returned

Insert data into OIG Database (POST operations)

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/ databases/views/

Post Independent Account Code

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/phoneinfo/independentaccountcode/

Inserts Independent Account Code

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)

- "number" string (*)
- "cos" string
- "cor" string
- "neName" string – optional

> **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – newRecord returned

Post System Speed Call

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/phoneinfo/systemspeedcall/

Inserts new System speed Call

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)
- "number" string (*)
- "directoryNumber" string
- "overridesTollControl" string
- "type" string
- "neName" string – optional
- "comment" string

  NOTE: "neName" is an optional parameter that contains the name of the Network Element on which the operation is required to be executed. This parameter is expected ONLY when the ESM form is shared with Mitel OIG ONLY and not with other network elements in cluster, i.e., for System Speed Call, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – newRecord returned

Post Telephone Directory

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/ databases/views/telephonedirectory/

Inserts new Telephone Directory

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)
- "number" string (*)
- "name" string (*)
- "primeName" boolean
- "privacy" boolean
- "department" string
- "location" string
- "neName" string – optional

> **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – newRecord returned

Delete information from OIG Database (DELETE operations)

Delete Independent Account Code

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/phoneinfo/independentaccountcode/

Deletes Independent Account Code given Account Code Number

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)
- "number" string (*)
- "neName" string – optional

> 📝 **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – oldRecord returned

Delete System Speed Call

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/databases/views/phoneinfo/systemspeedcall/

Deletes System speed Call for given Speed Call Number

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)
- "number" string (*)
- "neName" string – optional

> 📝 **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – oldRecord returned

Delete Telephone Directory

URL: http(s)://oigIPAddress/mitel/oig/rest/resources/v1/ databases/views/telephonedirectory/

Deletes Telephone Directory with given extension

HTTP Header Parameters:

- "Authorization" string – sessionId

Query Parameters:

- "databaseId" string(*)
- "number" string (*)
- "name" string (*)
- ""neName" string – optional

> **Note**: "neName" is an optional parameter that contains the name of the Network Element on which the operation is to be executed. This parameter is expected **only** when the ESM form is shared with Mitel OIG and not with other network elements in cluster, i.e., for Class of Restriction, the "Share Records" field is set to "None" in the "SDS form Sharing" ESM form.

Return Parameters:

- result – Boolean indicating operation success or failure
- error – If operation failed

If successful:

- JSONObject – oldRecord returned

Mitel OIG Data Access Service Views

The Mitel OIG provides views that abstract the MiVoice Business configuration data stored in the Mitel OIG. This section describes the data in each view. There is a brief description about the view and a description of each column in the view. Boolean values are "t" and "f" for true and false, respectively.

> 📝 **Note**: When executing SQL get operation on any Mitel OIG view that has a Boolean value in the column data, the Boolean value returned will be as a string "f" or "t" instead of Boolean "true" or "false".

1. In the ring group call queued timer field there is one extra field ring_group_call_queued timer value that is always 20.

2. For Call Queued Timer- Minute, Call Queued Timer- Seconds Predictive Overflow Average Call Duration- Minutes, Predictive Overflow Average Call Duration- Seconds, the Mitel OIG delivers a value that is +1 greater than the actual added value (i.e., if entered 34, the result will be 35 for all the mentioned fields)

icp_view

This view contains the configuration of network elements (MiVoice Business nodes and MSL servers). This view provides MiVoice Business information and MiVoice Business system cluster information.

ICP_VIEW	DESCRIPTION OF COLUMN
network_element_id	Unique ID of the network element
network_element_name	Name of the network element
type	Type of Network element (i.e., 18 = MSL Server, 3 = 3300 ICP, etc.)
ip_address	IP Address of Network element
time_zone	Time Zone of Network element
day_light_saving	Day Light Savings of Network element (i.e., True or False)
dns_name	DNS Name of Network element if it has one otherwise blank
version	Version of Network element (i.e., version of MSL, version of MiVoice Business)
zone	The zone specified for the IP voice media stream originating or terminating at the selected MiVoice Business system.
cluster_id	Unique Cluster ID of the Cluster
cluster_name	Name of the Cluster the Network element is part of
nominated_master	Unique ID of the Network element which is the main MiVoice Business

user_view

This view has information about MiVoice Business users. The view can be mapped to the phone view (to find user device) by looking at the primary_phone_service_id_ref and secondary_phone_service_id_ref.

USER_VIEW	DESCRIPTION OF COLUMN
user_id	Unique ID of the User
language	Preferred language for the User
department_id_ref	Department of the User
location_id_ref	Location of the User
first_name	First Name of the User
last_name	Last Name of the User
role_id	Unique Role ID the user is assigned to
role_name	Name of the Role the user is assigned to
note	Note on the Role
template	Type of Role Template
ids_manageable	Enabled or Disable IDS Management (Integrated Directory Services)
distinguished_name	Distinguished Name of the User
email	Email address of the User
primary_phone_service_id_ref	Unique ID of the primary phone service that the user is attached to (map to phone_view [hosted_user_service_guid])
secondary_phone_service_id_ref	Unique ID of the secondary phone service that the user is attached to (map to phone_view [hosted_user_service_guid])
user_pin	User's PIN Number
login_id	Login ID
password	Password

phone_view

This view has the configuration of each phone configured on a specific MiVoice Business node. To get the user associated with a specific phone use hosted_user_service_guid that matches primary_phone_service_id_ref or the secondary_phone_service_id_ref in the user_view.

PHONE_VIEW	DESCRIPTION OF COLUMN
Number	Directory Number of the Phone
non_busy_ext	1 to indicate Set is Non-Busy Extension, 0 otherwise
tenant_number	Sets Tenant Number 1-64
acd_enabled	1 to indicate ACD enabled Set, 0 otherwise
language	Language
login_pin	Login PIN
softkey_appearance	
mac_address	Mac Address of device
class_of_service_day	COS Assigned to the User when the system is in Day
class_of_service_night1	COS Assigned to the User when the system is in Night1
class_of_service_night2	COS Assigned to the User when the system is in Night2
class_of_restriction_day	COR Assigned to the User when the system is in Day
class_of_restriction_night1	COR Assigned to the User when the system is in Night1
class_of_restriction_night2	COR Assigned to the User when the system is in Night2
default_acct_code	
zone_id	Zone ID for the associated IP Device DN
zone_assignment_method	
sip_device_capabilities_index	Sip Device Capabilities assigned to Device (1 - 71)
hosted_user_service_guid	Unique ID of the user service that the user is attached to (map to user_view[primary_phone_service_id_ref] or user_view[secondary_phone_service_id_ref])
primary_host_network_element_guid_ref	Unique ID of the primary network element the device is attached to(map to mcd_view [network_element_id])
secondary_host_network_element_guid_ref	Unique ID of the secondary network element the device is attached to (map to mcd_view [network_element_id])
hot_desk_user_external_dialing_prefix	Prefix Number to dial out to the external hot desk device
hot_desk_user_external_number	Number of the external hot desk device
external_hot_desking_license	EHDU license
html_infrastructure_license	HTML infrastructure license

PHONE_VIEW	DESCRIPTION OF COLUMN
service_level	Level of Service for the Directory Number
remote_group_pilot_number	
call_coverage_service_number	Call Coverage Service Number
pin_security_status	PIN is set or not
personal_speed_calls_allocated	Number of Personal Speed Calls Allocated
call_rerouting1st_alt	Call Rerouting First Alternative
call_rerouting2nd_alt	Call Rerouting Second Alternative
call_rerouting_day	Call Rerouting Day
call_rerouting_night1	Call Rerouting Night 1
call_rerouting_night2	Call Rerouting Night 2
sip_device_capabilities	Sip Device Capabilities assigned to Device (1 - 71)
personal_ring_group	Personal Ring Group Number this device is a member of
local_only_dn	local Only DN - true or false

phone_info_view

This view contains information about rerouting and speed call configuration of each phone. Information such as call rerouting, call rerouting first, second and always alternative, speed call information.

PHONE_INFO_VIEW	DESCRIPTION OF COLUMN
info_type	Type of Routing (i.e., Speed Call, Call Rerouting First Alternative, Independent Account Code, System Speed Call.)
number	Number of the routing
directory_number	Phone number Routed To(map to phone_view [number])
class_of_restriction	The COR associated with the account code (1 – 110)
class_of_service	The COS associated with account code (1 – 110)
overrides_toll_control	Indicate whether speed call number is allowed to override ARS toll control.
system_speed_call_type	For systems that are standalone type (S/C) or clustered system (Int) (set to 1 for S/C or 2 for Int)

call_rerouting_day	Always alternative number for Day Mode
call_rerouting_night1	Always alternative number for Night1 Mode
call_rerouting_night2	Always alternative number for Night2 Mode
call_rerouting_dnd_type	Do Not Disturb Type (i.e., Internal, Int-Ext, or All)
call_rerouting1st_alt	First alternative number
call_rerouting2nd_alt	Second alternative number
busy_dnd_did	Set the call routing when the called DID number is busy or has DND (i.e.: Normal, This, Last)
busy_dnd_tie	Set the call routing when the called TIE Trunk number is busy or has DND (i.e.: Normal, This, Last)
busy_dnd_co	Set the call routing when the called CO Trunk number is busy or has DND (i.e.: Normal, This, Last)
busy_dnd_int	Set the call routing when the called Internal number is busy or has DND (i.e.: Normal, This, Last)
no_answer_did	Set the call routing when the called DID number does not answer (i.e.: Normal, This, Last)
no_answer_tie	Set the call routing when the called TIE Trunk number does not answer (i.e.: Normal, This, Last)
no_answer_co	Set the call routing when the called CO Trunk number does not answer (i.e.: Normal, This, Last)
no_answer_int	Set the call routing when the called Internal number does not answer (i.e.: Normal, This, Last)
originating_device_did	Route DID calls to the Directory Number or Permit the Call to be completed(i.e., Reroute, No Reroute)
originating_device_tie	Route the TIE Trunk calls to the Directory Number or Permit the Call to be completed(i.e., Reroute, No Reroute)
originating_device_co	Route the CO Trunk calls to the Directory Number or Permit the Call to be completed(i.e., Reroute, No Reroute)
originating_device_int	Route the Internal calls to the Directory Number or Permit the Call to be completed(i.e., Reroute, No Reroute)
speed_call_entries_allocated	Number of Speed call entries allocated
speed_call_entries_used	Number of Speed call entries used

associated_type	Associated Type(i.e., Hot Line, CPN Substitution)

telephone_directory_view

This view contains information about the telephone directory.

TELEPHONE_DIRECTORY_ VIEW	DESCRIPTION OF COLUMN
name	Last name, First name
number	Directory number
prime_name	Indicator whether name is prime name or not (value 0 or 1)
privacy	Indicator whether number is to be private or not (value 0 or 1)
department	Department the user belongs to
location	Location of the user

cos_view

This view defines the class of service definitions configured in a MiVoice Business node.

COS_VIEW	DESCRIPTION OF COLUMN
class_of_service_number	Class of Service Number(map to phone_view [class_of_service_day], [class_of_service_night1], or [class_of_service_night2])
comment	Meaningful Comment to describe COS
account_code_verified	1 if account code is verified and have the system to dial tone or reorder tone. 0 Otherwise.
acd_silent_monitor_accept	1 means monitor the associated directory number.
acd_silent_monitor_allowed	1 means allow silent monitoring.
acd_silent_monitor_notification	1 means display the name or directory number of the monitoring supervisor on the IP telephone being monitored.
ani_dnis_isdn_number_delivery_tru nk	1 means allow the reception of ANI/DNIS digits.
auto_answer_allowed	1 means auto answer allowed
brokers_call	1 to prevent two parties from being connected when the station that has placed one of them on hold goes on-hook.
busy_override_security	Enable/Disable Busy Override

COS_VIEW	DESCRIPTION OF COLUMN
call_announce_line	1 means allow secretary with any type of telephone to talk to a manager to announce important incoming calls when the manager's SUPERSET 4 prime line is busy.
call_forwarding_accept	1 means allow a station to receive forwarded calls from another station.
call_forwarding_external_destination	1 means allow a station to forward calls to external numbers.
call_forwarding_internal_destination	1 means allow a station to forward calls to internal numbers.
call_forward_override	1 means allow a station to override any call forwarding on the destination set, when the relevant access code is dialed.
call_hold	1 allows a station to place a call on hold.
call_hold_remote_retrieve	1 allows a station to retrieve calls placed on hold at other stations by dialing the remote retrieve code followed by the station number where the call is on hold.
call_hold_retrieve_with_hold_key	1 allows the HOLD on a multiline set to retrieve the last held call.
call_pickup_dialed_accept	1 allows a set to retrieve calls ringing other sets in its pickup group.
call_pickup_directed_accept	1 allows a set to retrieve calls ringing at other stations by dialing the directed call pickup access code followed by the number ringing station.
call_privacy	1 allows the extension user to invoke the Call Privacy which block any audible camp-on tones and prevents intrusion of any kind.
call_reroute_after_cffm_to_busy_destination	1 means to reroute if your calls are always forwarded to a particular destination and it is busy.
call_waiting_swap	1 allows a user, upon hearing camp on tone, to place the current call on hold and connect to the camp-on caller by flashing the switch hook. The user may shuttle between the two callers by again flashing the switch hook.
calling_name_display_internal_ons	1 means allow ONS CLASS/CLIP sets to display the caller's name and time and date of the call.
calling_number_display_internal_ons	1 means allow ONS CLASS/CLIP sets to display the caller's number and time and date of the call.
campon_tone_security	1 means prevent camp-on from being presented to a station.
check_cor_after_pstn_dial_tone	1 means perform COR validation on the digits that a caller dials after receiving secondary dial tone from PSTN.
clear_all_features_remote	1 means allow a station user to dial a Clear All Access Code to remove the following activated features on a remote station: all call forwarding, do not disturb, displayed advisory messages, call backs to other users, timed reminders, and auto answer.
conference_call	1 means allow a station to initiate conference calls by dialing, in turn, the station or external numbers of all conferees, flashing the switch hook and dialing the conference call code or by pressing the Trans/Conf Soft Key between each call completion.
cov_ons_e_m_voice_mail_port	1 means permit the voice mail system to uniquely identify the party that is receiving a message. The called party's display will be include the forwarding type followed by the directory number.
dass_ii_oli_tli_provided	1 means allow the transmission and reception of device identity via DASSII trunks. Display of DASS OLI/TLI information requires that the ANI/DNIS field be enabled.

COS_VIEW	DESCRIPTION OF COLUMN
dialled_night_service	1 means permit a person other than an attendant to control the DAY/Night mode operation of the system.
disable_call_reroute_chaining_on_diversion	1 means disable call reroute chaining on diversion
disable_send_message	1 means restrict IP telephones from sending Call Me Back messages. The "Leave a Msg" soft prompt is not displayed and/or the message LED on the set initiating the call does not flash; this informs the user that Call Me Back messages are disabled.
display_ani_isdn_calling_number_only	1 means display only ANI information. 0 means to display DNIS digits when the set is called, and ANI digits once the call is answered.
display_ani_dnis_isdn_calling_called_number	1 means display ANI and DNIS information on Mitel display telephones and attendant consoles. 0 means to inhibit the display information. The ANI/DNIS information must be enabled.
display_caller_id_on_multicall_keylines	1 means display calling line identification on multicall and keyline appearances of directory numbers for SUPERSET display telephones. 0 means no information is displayed.
display_dnis_called_number_before_digit_modification	1 means send DNIS information to DID trunk programmed as an ANI/DNIS delivery trunk. 0 means DNIS digits are displayed in their modified form.
display_dialed_digits_during_outgoing_calls	1 means retain dialed digits on the LCD display of Mitel display telephones and attendant consoles after an outgoing call is connected. If the call is transferred or placed on hold and retrieved from another telephone, the dialed digits appear on the display telephone.
display_held_call_id_on_transfer	1 means transfer a call and have the name and/or number of the help call delivered.
do_not_disturb	1 means allow users to change the DND status. When enabled, DND prevents the station from ringing on incoming calls. The caller is presented the DND tone.
do_not_disturb_access_to_remote_phones	1 means allow a user to set/cancel DND on other phones in their local or remote network.
do_not_disturb_permanent	1 means allow a station to be permanently set in DND. It eliminates the need to dial the DND feature access code.
emergency_call_notification_audio	1 means present an emergency tone to an attendant console, digital display set, or ONS display set each time and emergency call occurs. "Emergency Call Notification - Visual" must also be set to 1 to enable this option.
emergency_call_notification_visual	1 means present a visual display to an attendant console, digital display set, or ONS display set each time an emergency call occurs.
enable_call_duration_limit_on_external_calls	1 means restrict the duration of a call on external calls.
enable_call_duration_limit_on_internal_calls	1 means restrict the duration of a call on internal calls.
executive_busy_override	1 means allow a station to override busy stations which do not have the busy override security in their COS. This feature is activated by dialing the override access code on reception of busy tone during a station-to-station call.
external_trunk_standard_ringback	1 means return a single ring cadence on a trunk. Enable this feature when a trunk is used for modem dial-in access as the external double ring cadence is often detected as a busy by the modem.

COS_VIEW	DESCRIPTION OF COLUMN
flexible_answer_point	1 means allow an alternate answer point for all DID trunks, from a station or console for which the feature is enabled.
follow2nd_alternate_reroute_for_recall_to_busy_acd_agent	1 means allow recall to the ACD Agent is rerouted if a busy condition is encountered.
forced_verified_account_code	1 means force the station user to input an independent account code before any call processing functions are performed. Independent account codes are verified by the system before resource access is granted.
forced_non_verified_account_code	
group_call_forward_follow_me_accept	1 means allow a third party to forward a Directory Number
group_call_forward_follow_me_allow	1 means allow you to invoke Call Forward - Follow Me - Third Party from a prime or non-prime line.
group_page_accept	1 means allow the reception of a Group Page.
group_page_allow	1 means allow the initiation of a Group Page.
handset_volume_adjustment_saved	1 means allow users to save the handset volume on their sets
handsfree_answerback_allowed	1 means allow hands free answer back
hci_cti_tapi_call_control_allowed	1 means permit the user's station to be controlled by the host computer.
hci_cti_tapi_monitor_allowed	1 means permit the initiation of an HCI monitor against a user's station.
head_set_switch_mute	1 means allow the user to mute their headset.
hot_desk_remote_logout_enabled	1 means enable Hot Desk remote logout on a device.
hot_desk_login_accept	1 means enable Hot Desk login on a device.
hotel_room_extension	1 means allow
hotel_room_monitor_setup_allowed	1 means allow a guest room industry-standard telephone to be used as a room monitor extension. The monitor provides a one-way audio call path from the guest room handset microphone to listener device.
hotel_room_monitoring_allowed	1 means allow a line, trunk, or attendant console to listen to a hotel room monitor extension.
hotel_motel_room_personal_wakeup_call_allowed	1 means allow users to set or cancel a personal wake-up call using feature access codes.
hotel_motel_room_remote_wakeup_call_allowed	1 means allow users to remotely set or cancel a wake-up call using feature access codes.
individual_trunk_access	1 means allow a person to directly seize a trunk from any station that has this option enabled. All toll control, COR and ARS checking is bypassed.
keep_teldir_entry_on_check_out	1 means keep teldir entry on check out
local_music_on_hold_source	1 means allow local music on hold source
loudspeaker_pager_override	1 means allow a station user to interrupt loudspeaker page user, forcing the current user off the system after they receive an override warning tone. The main purpose of providing such a facility is to deal with emergency situations.
loudspeaker_pager_equivalent_zone_override_security	1 means prevent another user from overriding a station currently using a loudspeaker pager. This option does not prevent an all-zone page from

COS_VIEW	DESCRIPTION OF COLUMN
	overriding an individual-zone page.
message_waiting	1 means allow a station to enable and disable message waiting notification on another station.
message_waiting_audible_tone_not ification	1 means cause message waiting notification to take the form of a tone every time the station goes off-hook while message notification is in effect.
message_waiting_deactivate_on_of f_hook	1 means deactivate message waiting on off-hook
message_waiting_inquire	1 means allow any attendant console to find out the message waiting status of any station.
multiline_set_loop_test	1 means permit a member of the site communications management team to invoke test procedures for an IP telephone.
multiline_set_message_center_rem ote_read_allowed	1 means allow the user of a IP display telephone to read message center and call-me-back messages for any of the telephones listed above. A message center password may be assigned to the telephone set if the user wishes the messages to remain private.
multiline_set_music	1 means allow the user of an IP display telephone to listen to music on the sets speaker when the set is idle. Music On Hold must be provided for this feature to be activated.
multiline_set_on_hook_dialing	1 means allow the user of an IP multiline telephone to dial numbers from the keypad without going off-hook.
multiline_set_phonebook_allowed	1 means permit users of the 5020 ,5212,5215,5220,5224,5312,5324,5230,5320,5320e,5330,5330e,5340,5 340e,5360 IP Phones and Navigator to access the Phonebook feature.
multiline_set_voice_mail_callback_ message_erasure_allowed	1 means allow erasure of a voice mail "call me back" message.
name_suppression_on_outgoing_tr unk_call	1 means allow name suppression on outgoing trunk call.
non_did_extension	1 means ensure the station cannot receive a call directly from a DID trunk.
non_prime_public_network_identity	1 means send the caller ID to the public network when an ISDN/DPNSS call is made from a non-prime line.
non_verified_account_code	1 means enable the use of the non-verified account code feature access code. This permits the entry of an account code from 2 to 12 digits that may be used for billing purposes. This account code is not verified by the system when it is entered.
off_hook_voice_announce_allowed	1 means allow the paged telephone to accept an Off_hook Voice Announce call.
ons_class_clip_message_waiting_a ctivate_deactivate	1 means allow you to activate or deactivate the message waiting lamp on an ONS CLASS set.
ons_class_clip_set	1 means allow the designation of ONS CLASS set.
ons_class_clip_visual_call_waiting	1 means allow ONS CLASS sets that are on-hook to display CLID information. As well some ONS CLASS sets support Visual Call Waiting while in a talking state with a waiting call.
ons_ops_internal_ring_cadence_for _external_callers	1 means allow programming of ONS lines to provide internal ringing for incoming external calls.
override_interconnect_restriction_o	1 means remove restrictions defined in the interconnect restrictions form

COS_VIEW	DESCRIPTION OF COLUMN
n_transfer	when a transfer is initiated by the device.
pager_access_all_zones	1 means allow access to all 16 paging zones.
pager_access_individual_zones	1 means permit the station user to access the loudspeaker pager on a zone-by-zone basis.
privacy_released	1 means permit any other set in the same key system group to enter a conversation on a key line. Multi-line set users join the call by pressing the flashing line key. Single line sets must be the prime member of the key system group and join the call by going off-hook. This feature applies to MiVoice IP Phones and 2500 sets only.
public_network_access_via_dpnss	1 means permit devices to originate calls via DPNSS trunks to CO trunks. 0 means disable network access.
public_network_identity_provided	1 means permit the identity of the called or calling party to be passed across digital public network links.
public_network_to_public_network_ connection_allowed	1 means allow public network to public network connection
public_trunk	1 means the trunk is connected to the Public Network. All trunks with 1 are recognized as Public Network Trunks.
r2_call_progress_tone	1 means allow all DS1 T1/D4 trunks that are connected to an R2 node, so the system does not send any call progress tones over the DS1 T1/D4 trunk.
record_a_call_active	1 means enable the Record-A-Call feature on a supported device.
record_a_call_start_automatic_inco ming_call_recording	1 means automatically start a recording every time the telephone is answered. This COS option applies to trunk calls only.
record_a_call_save_recording_on_ hang_up	1 means automatically save the recording on hang-up. 0 means you must press the Save soft key prior to hanging up or the message is erased upon termination of the call.
recorded_announcement_device	1 means allow recorded messages for one-way, outgoing audio.
recorded_announcement_device_a dvanced	1 means enable RAD greetings.
redial_facilities	1 means permit the user to access the various redial features such as last number redial and repeat last number saved.
ringing_line_select	1 means permit a person using a Mitel display telephone to answer a ringing, non-prime line appearance at their set by going off-hook.
sc1000_attendant_basic_function_k ey	1 means change the attendant Function Key to toggle operator present/absent feature key.
smdr_external	1 means activate trunking SMDR. External SMDR is given precedence over internal SMDR when the feature is enabled for the trunk in the call.
smdr_internal	1 means activate station to station (internal) SMDR.
voice_dial_preferred	1 means voice dial preferred
suite_services_enabled	1 means enable suite service.
suppress_simulated_ccm_after_isd n_progress	1 means if a call is made to the Central Office (CO) on an ISDN trunk, the CO responds by sending the call progress message.
third_party_call_forward_follow_me _accept	1 means allow you to invoke Call Forward - Follow Me - Third Party from a prime or non-prime line.

COS_VIEW	DESCRIPTION OF COLUMN
third_party_call_forward_follow_me _allow	1 means allow a third party to forward a Directory Number
timed_reminder_allowed	1 means allow the user of Mitel display telephone to establish a timed reminder that rings the telephone once at a prearranged time and displays the prompt "Timed Reminder".
trunk_calling_party_identification	1 means allow trunks to use trunk calling party identification feature access codes to permit the out-pulsing call origination information on the trunk.
trunk_flash_allowed	1 means allow the station user to use the Trunk Flash feature on the trunk.
use_held_party_device_for_call_re_ routing	1 means call rerouting occurs based on a held party's device type.
use_called_party_call_hold_timer	1 means the time used is the one in the holding device's COS. 0 means the call Hold Timer in the held party's COS is used.
voice_mail_softkey	1 means enable the Voice mail soft keys feature.
account_code_length	Number between 2 and 12 which will define the fixed length of the account code.
after_answer_display_time	The length of time(0-60 sec) a call path or hunt group name is displayed on a Mitel display telephone after an ACD agent answers or the length of time a ring group name/number displays after a member of the group answers.
answer_plus_delay_to_message_ti mer	Value in the range of 0 - 300 seconds to apply to MiVoice Business RADs. The timer has two functions; time to first message and time between messages.
answer_plus_expected_off_hook_ti mer	Value in the range of 0 - 255 seconds to apply to MiVoice Business RADs. If a RAD has failed to clear down, then it is placed into an internal do not disturb state when the timer expires.
answer_plus_message_length_time r	Value in the range of 0 - 120 seconds to apply to MiVoice Business RADs. The timer is set to equal the actual time it takes to run the message.
answer_plus_system_reroute_timer	Value in the range of 0 - 720 seconds. This timer operates similarly to the Call Forward No Answer timer, but controls second level rerouting.
attendant_busy_out_timer	This timer defines the length of time in minutes for which call will be queued at all attendant consoles before switching the console to Absent mode (busy out).
auto_campon_timer	The Length of time while listening to a ring back (or ringing) tone before system performs an auto camp-on to the busy line.
busy_tone_timer	Value in the range of 10 - 120 seconds in increments of one second. This timer defines the length of time busy tone is presented to a station.
call_duration	Length of time that a call can take place before the caller receives a warning tone: Allowable values are from 2 - 120 minutes.
call_duration_forced_cleardown_tim er	Value in that range of 0 - 10 minutes in increments of one minute. This timer governs the length of time that a call can continue after the initial Call Duration warning tone has sounded.
call_forward_delay	Value in the range of 0 - 125 seconds in increments on one second. This field defines the length of time a call can camp on to a busy station before it is either answered of forwarded to a Call Forward No Answer point.

COS_VIEW	DESCRIPTION OF COLUMN
call_forward_no_answer_timer	This timer defines the length of time a station rings before the call is forwarded or the length of time a hunt group or answering point rings before the call is rerouted to the Call Rerouting First Alternative point.
call_hold_timer	This timer defines the length of time a station is placed on hold before a recall to the holding station is attempted.
campon_recall_timer	This timer defines the length of time a trunk is allowed to camp on before a recall to the transferring station is attempted.
delay_ring_timer	The length of the time delay after an incoming call seizes a device until ringing is applied to the set.
dialing_conflict_timer	This timer defines the length of time the system waits for a dialed digit when the digits dialed to that point do not form a unique number.
display_caller_id_on_multicall_keylines_timer	The length of time to display the caller ID on multicall/keylines.
emergency_call_audio_level_for_set	Set the audio level for an emergency call. Ringer, Medium or High.
first_digit_timer	This timer defines the length of time the system waits for the first dialed digit on off-hook before presenting the station with reorder tone.
inter_digit_timer	This timer defines the length of time the system waits between dialed digits before presenting the station with reorder tone.
lockout_timer	This timer defines the length of time reorder tone is presented to a station before it is locked out by the system.
acd_agent_no_answer_timer	This timer automatically logs out the agent or makes the agent absent from all its ACD groups.
message_waiting_ringing_start_time_hour	Indicates at what time to start ringing stations with message waiting ringing feature. (00 - 23 hour)
message_waiting_ringing_start_time_minute	Indicates at what time to start ringing stations with message waiting ringing feature. (00 - 59 minute)
message_waiting_ringing_stop_time_hour	Indicates at what time to stop ringing stations with message waiting ringing feature. (00 - 23 hour)
message_waiting_ringing_stop_time_minute	Indicates at what time to stop ringing stations with message waiting ringing feature. (00 - 59 minute)
no_answer_recall_timer	This timer defines the length of time a transferred call rings another station before a recall to the transferring station, attendant console, or embedded voice mail Auto Attendant is attempted.
ons_vmail_delay_dial_tone_timer	This timer defines the length of time that the system waits before it returns dial tone to an ONS port.
ringing_timer	This timer defines the length of time a station rings another station or external number.
work_timer	This timer applies to ACD extensions only. It is activated after an agent has completed a hunt group call.
key_a	Digit string up to 7 digits long to the first key in the row of 4 keys on certain ONS stations.
key_b	Digit string up to 7 digits long to the first key in the row of 4 keys on certain ONS stations.
key_c	Digit string up to 7 digits long to the first key in the row of 4 keys on certain ONS stations.

COS_VIEW	DESCRIPTION OF COLUMN
key_d	Digit string up to 7 digits long to the first key in the row of 4 keys on certain ONS stations.
autovon_auto_preemption	
autovon_trunk	
autovon_precedence	
acd_make_busy_on_login	1 means allow agents, either traditional ACD agents or hot desk ACD agents, to log in without being presented ACD calls.
call_park_allowed_to_park	1 means allow to park.
call_park_timer	This timer defines the length of time a call stays parked before it recalls the parking station.
two_b_channel_transfer_allowed	1 means allow a station user to transfer an external call to another external destination and have the two external parties connected through the trunks at the Central Office.
calling_party_name_substitution	1 means replace the extension user's name on PSTN-bound calls with the contents of the Department field in the Telephone Directory form.
disable_conference_join_tone	1 means disables the tone that users hear when a conference call is established.
disable_executive_busy_override_t one	1 means disables the tone that the parties in a call would normally hear when a user performs Executive Busy Override.
return_disconnect_tone_when_far_ end_party_clears	1 means return busy tone instead of dial tone when the far end hangs up.
suppress_redial_display	1 means keep the last number dialed from appearing on telephones that support Redial number display.
call_forwarding_reminder_ring_cffm _and_cfiah_only	1 means provide "splash" ringing of 500ms duration on sets called while Call Forward - Follow Me or Call Forward - I Am Here is active.
suppress_delivery_of_caller_id_disp lay_between_sets	1 means make the extension number and name private so that neither display on other telephones during call processing.
suppress_delivery_of_caller_id_disp lay_between_sets_override	1 means ignore the Suppress Delivery of Call ID Display between Sets COS option in an extension's Class of Service.
recall_if_transferred_to_original_call _destination	1 means recall if transferred to original call destination.
allow_directed_call_pickup_of_atten dant_call	1 means allow directed call pickup of attendant Call.
suppress_display_of_account_code _numbers	1 means allow suppress display of account code numbers.
maintain_ringing_party_during_reca ll	1 means the console and extension will keep ringing until one of them answers the call. 0 means the extensions is released immediately after the recall timer expires.
display_transfer_destination_on_rec all	1 means display the call transfer destination name when a recall of an unsupervised transfer occurs.
originator_s_display_update_in_call _forwarding_rerouting	1 means allow the called party information on a display phone to be updated with the name or number of the destination whenever a call originating from the phone is forwarded or rerouted to a new destination.
called_party_features_override	1 means allow calls from an extension to override any call redirection features, such as call forwarding, that are enabled on the destination

COS_VIEW	DESCRIPTION OF COLUMN
	extension.
message_waiting_disable_ringing_lamp_notification	1 means prevent the Ring/Message Waiting indicator lamp that is located at the top of the set from flashing when a user has a message.
music_on_hold_on_transfer	1 means apply Music on Hold instead of ring back to inbound trunk calls that are transferred.
phonebook_lookup_default_to_user_location	1 means limit the Phonebook Lookup results to directory names that share the user's location.
phonebook_lookup_display_user_location	1 means display the user's location after the phonebook search function displays the user's directory number and name.
phone_lock	1 means support Phone Lock feature.
group_presence_control	1 means allow users to change their Group Presence status.
group_presence_third_party_control	1 means give a user control over the Group Presence status of other users.
hot_desk_external_user_permanent_login	1 means allow an external hot desk user to remain permanently logged in.
hot_desk_external_user_answer_confirmation	1 means force an external hot desk user to press a DTMF key to answer incoming calls.
direct_voice_call_accept	1 means allow the extension user to receive a call placed using the Directed Voice Call feature.
direct_voice_call_allow	1 means allow the extension user or console attendant to initiate a call using the Directed Voice Call feature.
direct_voice_call_maximize_volume	1 means present calls placed using the Directed Voice Call feature to the terminating extension at maximum volume. 0 means it uses the current volume setting.
record_a_call_start_automatic_outgoing_external_call_recording	1 means automatically record outgoing calls that are made from system extensions to destinations on the Public Switched Telephone Network (PSTN).
pc_port_on_ip_device_disable	1 means disable PC port on IP device.
hot_desk_external_user_display_internal_calling_id	1 means display the extension user's name and extension number on calls to an external hot desk user. 0 means display the public identity of the outgoing trunk.
multi_color_led_support_disable	1 means disable the multi-color line status of a line key.
green_blf_lamp_for_logged_in_hotdesk_user	1 means disable green Busy Lamp Field (BLF) lamp flashing for logged out hot desk users.
force_device_busy_if_any_line_in_use	1 means prevent phones from receiving calls when they are already engaged in a call.
hot_desk_external_user_reseize_timer	Length of time to re-seize EHDUs.
hot_desk_external_user_allow_mid_call_features	1 means allow an external hot desk user to have access to mid-call features.
hot_desk_external_user_dial_tone_on_call_complete	1 means allow an external hot desk user to receive dial tone when the other party hangs up. 0 to disconnect the call and clear the trunk.
display_vip	1 means display the VIP status of a guest room while engaged in a call.
hot_desk_external_user_remote_m	The Feature access codes to enable message waiting indication (MWI)

COS_VIEW	DESCRIPTION OF COLUMN
wi_enable_feature_access_code	for EHDUs.
hot_desk_external_user_remote_mwi_disable_feature_access_code	The Feature access codes to disable message waiting indication (MWI) for EHDUs.
display_caller_id_on_single_line_displays_for_forwarded_calls	1 means display the original caller ID on a single line display set when it receives a forwarded/rerouted call. 0 means it displays the forwarding/rerouting party in the form.
user_inactivity_timer	Locks the phone if idle longer than the timer value to protect against unauthorized use. Value from 1 - 60 minutes or 0 to disable the timer and keep from locking due to inactivity. The timer also turns off or dims the phone's backlight.
auto_release_on_key_select	1 means allow the user to disconnect a call in progress by selecting another ringing line on the set. The option applies to multi-line devices only.
fax_capable	1 means a Fax machine Is connected to this port or uses this trunk.
use_default_billable_number_for_trunk_calls	1 means assign trunk call charges to the device's Default Billing Number in the network Zones form instead of the user's public number, when both are configured.
backlighting_enabled	1 means enable dimming on the device. 0 means disable the dimming feature on the display, which occurs when either the User Inactivity COS Timer or the Screen Saver timer programmed from the set expires.
acd_agent_behavior_on_no_answer	Provides options when you want to take certain actions for agents who do not answer ACD calls. 1 means Logout, where Agent automatically logs out 2 means Absent, where Group Presence of the agent from all groups is set to Absent 3 means MakeBusy, where Agent automatically goes to MakeBusy State

cor_view

This view defines the class of restriction group configured on a specific MiVoice Business node. When using the "Change All" feature in the MiVoice Business management ESM COR form and modifying more than one COR, the last change is going to have a duplicate update event.

COR_VIEW	DESCRIPTION OF COLUMN
number	System-generated, protected field. Lists a COR number in the range 1 - 75. (map to phone_view [class_of_restriction_day], [class_of_restriction_night1], or [class_of_restriction_night2])
classes_of_restriction_for_group	Group number COR is associated with.

group_view

This view contains information about all the groups on a specific MiVoice Business node such as Hunt Groups, Pickup Groups, Ring Groups, Page Groups, Multi Device User Groups and Personal Ring Groups and each of their members.

GROUP_VIEW	DESCRIPTION OF COLUMN

GROUP_VIEW	DESCRIPTION OF COLUMN
group_type	Type of Group (i.e., Hunt Group, Ring Group, etc.)
group_id	Group Number
group_mode	Group Mode
hunt_group_first_rad	Directory Number of the RAD containing the first message to be given to callers when members of the hunt group are busy, DND mode, or do not answer.
hunt_group_second_rad	Directory Number of the RAD containing the second message to be given to callers when members of the hunt group are busy, DND mode, or do not answer.
hunt_group_night_answer_rad	Directory Number of the RAD containing the message given to callers when the phone is in Night mode
hunt_group_type	Hunt Group Type (i.e., Voice, RAD, Phantom, etc.)
ring_group_call_queued_timer	In the ring group call queued timer there is 1 extra field value that is always 20.
ring_group_call_ringing_timer	Timer used to time the duration a caller is ringing a ring group. When this timer expires, the caller is redirected away from the ring group.
ring_group_cascade_ring_timer	Time used to time the duration each available member of a terminal Cascade or Circular Cascade ring group is rung.
ring_group_overflow_point	If the ring group is unavailable, or the Call ringing or call queued timer expires, the caller will be redirected to the Overflow Point.
one_busy_all_busy	If this option is enabled, busy is returned if one member is busy . If the option is disabled, then all members of the group are rung if one or more members are busy.
class_of_service_day	The COS to use when the system is in Day Service Mode.
class_of_service_night1	The COS to use when the system is in Night1 Service Mode.
class_of_service_night2	The COS to use when the system is in Night2 Service Mode.
home_element	Displays the name of the primary element for the group.
secondary_element	Displays the name of the Secondary element for the group. Allows to enable/disable resiliency for the group.
service_id_guid	
ring_group_type	Ring Group Type (i.e., Emergency Response)
pickup_group_guid	Unique Id for Pickup Group
auto_pickup	1 to Indicate a call to the Pickup Group will be directed to the first member of the group to go off hook. 0 to indicate a call to the pickup group is directed to o the first member of the group to go off hook and dial the Call Pickup feature access code or press the Call Pickup Key.
pickup_comment	A meaningful name to describe the pickup group.
pickup_cluster_enabled	1 means cluster call pickup is enabled. 0 means its disabled.

GROUP_VIEW	DESCRIPTION OF COLUMN
pickup_ne_guid_list	List of Unique Id of the Network Element the pickup group is associated with.
member_index	The Index number of the member of a group. member_index for "Multi Device User Group" and "Personal Ring Group" will be null.
member_number	The phone number the member is associated with.
member_presence	Displays if the member is present or absent to receive calls to its group.
page_group_defaultField	1 to indicate the page group is the directory numbers default/primary page group.

Data Access Service Errors

Assume in the following scenarios that the correct URI is passed and there are no JSON/REST errors.

Databases

If the database configuration does not have any databases configured

result = true
databaseName = ""
databaseId = ""

Database Id

Missing databaseId

Result = false

Error Message = Database Id must be provided.

Invalid databaseId

Result = false

Error Messge = Unknown Database Id.

View

Invalid Database ID

result = false
error message: Unknown database Id: <dbId>

Config file does not have any views configured

result = false
error message: No views in DB: <databaseName>

If MiVoice Business connection was not established

Result = false
error message: MiVoice Business is down. Data not available

Columns

Invalid Database ID:

result = false
error message: Unknown database Id: <dbId>

Invalid Schema Name:

result = false
error message : Unknown schema: <schemaName>

Invalid View Name:

result = false
error message : Unknown view: <viewName> in schema : <schemaName>

Invalid schema/view format:

result = false
error message : Must specify schema name and view name (schema.view).

If MiVoice Business connection was not established

Result = false
error message: MiVoice Business is down. Data not available

SQL Operations

Invalid Database ID:

result = false
error message: Unknown database Id: <dbId>

Invalid Operation(Update, Delete, Insert)

result = false
error message: Invalid request

Invalid view Name or schema/view format:

result = false
error message: Invalid request

Any Invalid SQL Select Operation:

result = false
error message: org.postgresql.util.PSQLException:<postgresql error message>

If MiVoice Business connection was not established

Result = false
error message: MiVoice Business is down. Data not available

Triggers

Adding Trigger on View

Invalid Session ID:

result = false
error message: Unknown sessionId: <sessionId>

Invalid Database ID:

result = false
error message: Unknown database Id: <dbId>

Invalid view Name or schema/view format:

result = false
error message: Unknown view: <schemaName.viewName>

View already has trigger for the sessionId:

result = false
error message: Already monitoring view: <schemaName.viewName>

Removing Trigger on View

Invalid Session ID:

result = false
error message: Unknown sessionId: <sessionId>

Invalid Database ID:

result = false
error message: Unknown database Id: <dbId>

Invalid Schema Name:

result = false
error message = Unknown schema: <schemaName>

Invalid View Name:

result = false
error message = Unknown view: <viewName> in schema : <schemaName>

Invalid schema/view format:

result = false
error message = Must specify schema name and view name (schema.view).

View does not have a trigger:

result = false
error message = No trigger on view: <schemaName.viewName>

If MiVoice Business connection was not established

Result = false
error message: MiVoice Business is down. Data not available

Events

No Events to report after 15 secs:

result = false
error message : Timeout no db event message available.

If Mitel OIG server is removed from the MiVoice Business system

Result = false
error message: MiVoice Business is down. Data not available.

Sessions

Invalid Session Id

Result = false

Error Message = Unknown SessionId: <sessionId>

Required Fields

Required Field is Null or an Empty String

Result = false

Error Message = xxxxxxx was not provided.

Incorrect Required Field

Result = false

Error Message = Unknown xxxxxxx.

Glossary

ACD	Automatic Call Distribution
ACL	Access Control List
AMC	Applications Management Center (licensing server)
API	Application Programming Interface
CCS	Call Control Service
COS	Class of Service
DLL	Dynamic Link Library
DMZ	De-Militarized Zone
DNS	Domain Name Server
ICP	IP Communications Platform
IP	Internet Protocol
IVR	Interactive Voice Response
LAN	Local Area Network
MCS	Mitel Certificate Server
MICD	Multi-instance Communications Director
MiTAI MiVB	Mitel Telephony Application Interface Mitel MiVoice Business
MOL	Mitel OnLine
MSA	Mitel Solutions Alliance (Mitel developer partner program)
MSL	Mitel Standard Linux (operating system)
MSP	Media Service Provider
Mitel OIG	Open Integration Gateway
PBX	Private Branch Exchange
PSTN	Public Switched Telephone Network
TDM	Time Division Multiplexing
VOIP	Voice over IP
vLAN	Virtual Local Area Network
WAN	Wide Area Network
WSDL	Web Service Description Language