A MITEL
PRODUCT
GUIDE

MiVoice Business

Hospitality Solutions Guide

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Mitel
Powering connections

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Introduction 1

This chapter contains the following sections:

- MiVoice Business Hospitality Solutions
- Types of Hospitality Deployments
- Terms and Acronyms

Mitel provides hospitality options for many different kinds of deployments, and the site conditions determine the best architecture to use for each deployment. This guide describes the various hospitality deployments, and the improvements introduced with MiVoice Business Release 7.0 and later versions.

This guide also discusses the different Mitel platforms available, the phones and consoles supported, and some licensing considerations.

1.1 MiVoice Business Hospitality Solutions

From small hotels to some of the world's most famous luxury establishments, MiVoice Business provides communications solutions that are:

- Simple. Guest services are at the heart of MiVoice Business. Hospitality features are presented as an integrated part of console and telephone user interfaces to minimize training and ensure staff are always aware of guest needs.
- Integrated. Benefit from integrated capabilities focused on improving guest services and increasing staff productivity, including auto attendant, recorded announcements, voice mail, and automatic call distribution.
- Flexible. Implement traditional or IP communications with one easy-to-manage platform that integrates with commonly used property management systems, hospitality applications, and guest room telephones.
- Cost effective. Reduce costs and simplify support with a solution you can use to move between "site by site" private and public cloud solutions without having to make a major reinvestment in your communications solution.

1.2 Types of Hospitality Deployments

There are two main architectures you can use in setting up a hospitality solution for your business:

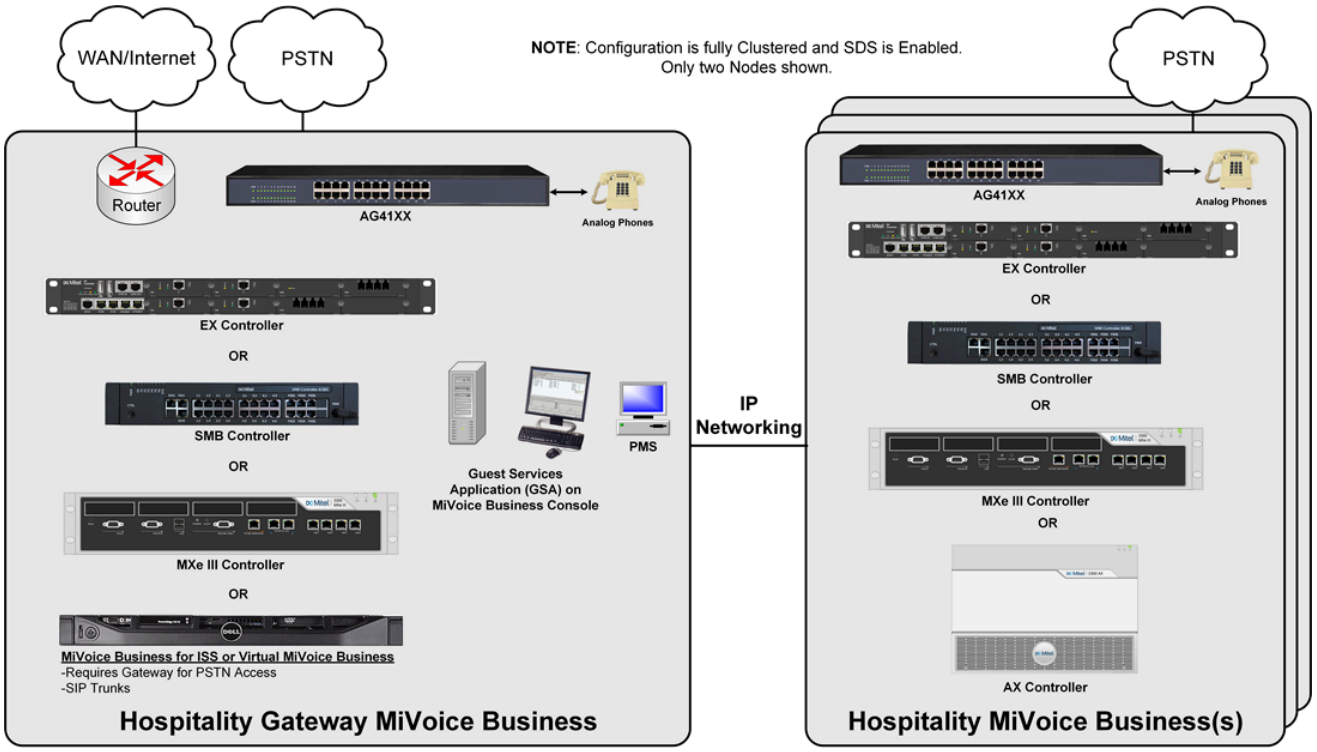
- Standalone

  In a Standalone hospitality solution, one MiVoice Business acts as the controller for the hotel or motel

  - Networked Standalone: Standalone hospitality controllers each manage their own guest and staff groups, but they can be networked to exchange information. In this configuration, each controller has its own Property Management System (PMS), and each database is kept separate from all the others; there is no sharing among them.

- Clustered

  In this configuration, the MiVoice Business controllers are clustered so that hospitality features can be offered to large hotels or hotel chains that require multiple controllers.



Note:

- MiVoice Business supports the AG4124/AG4172 Analog Gateway in Standalone and Clustered Hospitality deployments. The AG4124/AG4172 Analog Gateways are cost-effective, fully managed FXS to SIP Gateways that support 24 FXS ports for the AG4124 and 72 FXS ports for the AG4172, providing customers with a solution for connecting analog phones, fax machines, and other analog devices to MiVoice Business via their LAN.
- FXS port supports analog phones.

1.3 Terms and Acronyms

The following table defines some of the terms and acronyms used in this guide.

Table 1: Terms and Acronyms

Term	Definition / Explanation
COS	Class of Service: Options normally assigned to groups of users on the switch.

Term	Definition / Explanation
CESID	Customer Emergency Services ID: Normally associated with the phone. Used by the PSAP to get information about the caller.
DND	Do Not Disturb
EHDU	External Hot Desk User: Part of the Embedded Twinning feature (Dynamic Extension) that allows external destinations to be seen on the system as a local DN.
ESM	Embedded System Management: Also called System Administration Tool.
FAC	Feature Access Code
FIAS	A PMS Protocol developed by MICROS-Fidelio that is supported by many Hotels. MiVoice Business has implemented this as a single connection supporting MiVoice Business and Voicemail operations (EMEM).
FXS port	Foreign Exchange Station Port. FXS ports are used to connect analog devices like phones, fax machines, and modems to a digital or IP-based network by converting analog signals to digital.
GSA	Guest Services Application on the MiVoice Business Console and 5540 IP Console.
HD audio	High Definition audio
Hilton PEP	A PMS Protocol developed by Hilton Hotels that is supported by MiVoice Business Call Control and EMEM (voicemail) via a single connection.
HIS	A PMS protocol supported by EMEM (voicemail) on the MiVoice Business.
HRENIS	Hotel Room Extension not in a Suite: A guest room with a single telephone and DN that matches the guest room number.

Term	Definition / Explanation
Hyatt Encore	A PMS protocol supported by EMEM (voicemail) on the MiVoice Business.
ICP	IP Communication Platform
ISS	Industry Standard Servers
MCD	Mitel Communications Director - now called MiVoice Business
MiVB-ISS	MiVoice Business for Industry Standard Servers
MiVoice Business PMS	A proprietary Mitel PMS protocol based on the Lodgistix PMS Protocol that the MiVoice Business Call Control supports.
MWI	Message Waiting Indication
ONS	Single line telephone set. Also refers to analog ports. See FXS ports.
PMS	Property Management System
POTS	Plain Old Telephone Set. Plain Old Telephone Service
PSAP	Public Safety Answering Point: Emergency services department responsible for answering emergency calls for police, fire, and ambulance.
PSTN	Public Switched Telephone Network
RAC	Record-A-Call
RAD	Recorded Announcement Devices
SDS	System Data Synchronization
SIP	Session Initiation Protocol

Term	Definition / Explanation
SMDR	Station Message Detail Recording: Call log records generated by the switch, normally for call accounting purposes.
STS	Shared Telephone Service
Suite	A group of telephones can be configured to ring simultaneously when the guest room is dialed, allowing the call to be answered from any of the extensions in the room.
SWA	Mitel Software Assurance
UM	Unified Messaging
VIP	Very Important Person

Hospitality Design 2

This chapter contains the following sections:

- Hospitality Features and Benefits
- Recent Feature Introductions
- Hospitality Design
- Hospitality Platforms
- Phones and Consoles
- Hospitality Deployments
- High Availability in the Hospitality environment
- Third-party Integration
- Hospitality Licensing
- Migration to Mitel Hospitality
- Maintenance and Troubleshooting

This section describes the Mitel platforms you can use to set up your hospitality deployment, how to choose the best architecture, and some licensing information for hospitality installations.

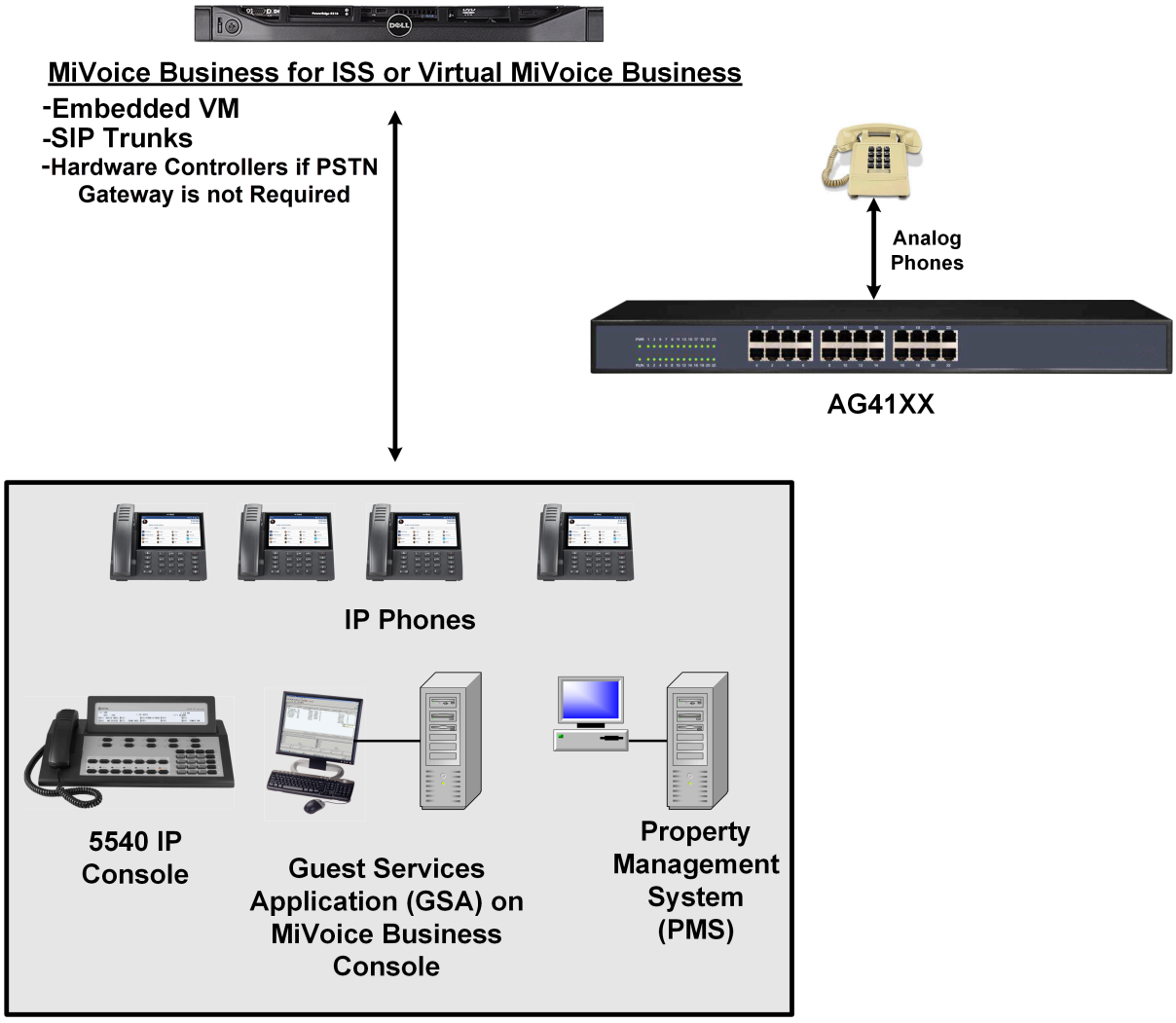


Figure 1: Hospitality Design

2.1 Hospitality Features and Benefits

Mitel Hospitality provides features for a hotel or motel environment, and can work independently, or with a Property Management System (PMS). Some of the features and benefits include:

- Room Status
- Billing and guest status
- Connection to an accounting package
- Wake-up calls with reporting
- Suite services
- Voice mail for staff and guests
- Intelligent auto-attendant

- Property Management System (PMS)
  - track room changes
  - phone use by guests
  - connection to billing
- Group Park enables staff to better handle calls among themselves
- Remote Call Pickup allows front desk staff to remotely answer calls coming in to the operator console.
- ACD call features are used for non-console answering positions, such as Mitel 69xx phones, to manage operator queues and reservation departments. ACD queuing is not available for consoles.
- MiVoice Business offers RAD message capabilities and advertisements embedded within the Music on Hold streaming. For those platforms that offer live MOH interfaces, hotels can host daily updated MOH messages as part of their corporate standard.

2.2 Recent Feature Introductions

2.2.1 MiVoice Business Release 10.5

- Introduces the Posting Simple and Posting Answer Link Record for Hilton-PEP PMS Protocol.
- Enhances the Posting Simple Link Record to add the Sales Outlet and Total Amount fields for FIAS PMS Protocol.
- The Room Status Mapping has been changed for the Hilton PEP.

2.2.2 MiVoice Business Release 10.4 SP1

Introduces Direct Billing support for FIAS and Hilton-PEP. With Direct Billing, the MiVB can calculate the total cost of calls from a Guest Room and provide a total amount to charge as a notification to the PMS.

Note: This is not related to the Call Accounting integration with the older MiVB PMS.

2.2.3 MiVoice Business Release 10.2

- Enhances Guest Move Support for Hilton-PEP to include both the PBX data and EMEM Data.
- Introduces support for the FIAS PMS Protocol, that provides a comprehensive solution designed to meet the unique needs of the hospitality industry targeting legacy MICROS-Fidelio compliant properties.

The MiVoice Business system provides a single connection to the Hilton PEP and FIAS, whereby both the MiVoice Business and Voicemail (using EMEM) Hospitality operations are supported.

It supports the following features:

- Guest Check In/Out
- Guest Change (including Guest Move of both PBX and EMEM data)
- Set/Clear Wakeup and Notifications
- Database Synchronization
- Call Billing (Telephony) Notifications
- Room Status Notifications
- MWI Notifications
- Voicemail Notifications

Data supported:

- Guest Name (First and Last)
- Room Status (occupancy/condition)
- Guest Language (English, French, German, Italian, Spanish - EU, Spanish - Latin America, Dutch, Portuguese - EU, Portuguese - Brazil, Russian, Swedish, Polish, Simplified Chinese)

> **Note**:
>
> To know the language support limitations on various devices, see ***MiVoice Business System Administration Tool Online Help***.

- Hotel Call Restriction
- Wakeups (Non-VIP, non-repeating)

2.2.4 MiVoice Business Release 10.1 SP1

- Introduces support for the Hilton PEP PMS Protocol that provides a comprehensive solution designed to meet the unique needs of the hospitality industry targeting Hilton properties. The MiVoice Business

system provides a single connection to the Hilton PMS Server, whereby both the PBX and Voicemail (when using EMEM only) hospitality operations are supported.

The following operations are supported:

- Guest Check In/Out
- Guest Change (including Guest Move of PBX data only)
- Database Synchronization
- Room Status Notifications
- MWI Notifications
- Voicemail Notifications

Data Supported:

- Guest Name (First and Last)
- Room Status (occupancy/condition)
- Guest Language (English, French, German, Italian ,Spanish - Latin America)
- Hotel Call Restriction

2.2.5 MiVoice Business Release 10.1

With MiVoice Business 10.1, embedded voicemail (EMEM) has been enhanced to address some longstanding concerns from the Hospitality sector:

- Wakeup calls can now be entered using 12 hour time with AM and PM where it previously required the use of 24-hour time.
- Up to 3 wakeups per room per day can now be set from the TUI where previously only a single one could be supported.
- Direct access has now been provided to the TUI for setting wakeup calls, to be used with the wakeup call button on the room phone.
- Improvements in the PMS-related logging file have been made, and the size of the file has been increased from 1MB to 2MB to store more historical logs. This will help with debugging when setting up the system.

2.2.6 MiVoice Business Release 6.0

- Embedded Messaging (EMEM) Enhancements:
  - Embedded Voice Mail Hebrew prompts
  - Embedded Voice Mail Remote Time Zones
  - Embedded Voice Mail available to MCD for ISS (including RAD and RAC ports)
- Direct Transfer to Voice Mail

2.2.7 MiVoice Business Release 5.0

- Introduces VIP Status against guest rooms to provide an enhanced level of service to important guests. The VIP Status can be managed via Guest Services and the MiVoice Business PBX's PMS interface.

- Introduces Personal Wakeup Calls. The Wake-up call is applied to the Wake-up Expiration Routing directory number in the **Hotel Options** form, normally an attendant or supervised extension. The attendant or hotel employee will then personally make the wake-up call.
- Introduces Language Selection. Language selection for a specific guest room can be managed from the attendant consoles MiVoice Business Console, 5540 MiVoice Business Console), as well as through the PMS interface. When a guest checks in, their language is noted and the phones in the room are changed accordingly. The phone's display prompts and applications can also be changed to display the required language. This is a common requirement for boutique and luxury hotels.
- Introduces Maid ID. To deliver enhanced quality in hotels and enforce accountability, maids can be required to identify themselves whenever there are changes to a guest room status. For example, once a room is cleaned, the maid can call in the change, but the change will be accepted only if a valid identification code is entered.
- Introduces DND. The MiVoice Business Console manages the guest room DND setting and the 5540 MiVoice Business Console. Hotels require the ability to set and cancel the guest's DND setting through the PMS interface as well. In addition to providing a tighter PMS integration for high-end hospitality customers, this enhancement overcomes the MiVoice 5540 Business Console Restriction of only managing sets on the same local switch.
- Introduces Embedded Messaging. Embedded messaging can be used for regular voice mail services or for Recorded Announcement Devices (RAD) and/or Record-a-Call features. Normal licensing rules apply.
- StreamLine Power Supply Field Replacement Unit (FRU). A field replacement power supply is available. This helps to minimize service outages due to power supply failures, because spares can be stocked for quick and easy swap-out.

2.3 Hospitality Design

This section describes the Mitel platforms you can use to set up your hospitality deployment, how to choose the best deployment, and some licensing information for hospitality installations.

2.4 Hospitality Platforms

The MiVoice Business solutions allow hoteliers to focus on managing guest experience and hotel operations. Our technology has the flexibility to adapt to guest and staff requirements with a minimum of management overhead. MiVoice Business has a unique architecture to enable support of traditional and IP communications, fixed and wireless. This approach allows hoteliers to benefit from IP communications while protecting investment in traditional telephony. There are many ways to set up your hospitality deployment, starting with the communications platform to use. You can purchase the MiVoice Business software to run on the following platforms:

2.4.1 Mitel MiVoice Business Platforms (ICP)

The Mitel MiVoice Business Controllers are a family of IP-PBXs with all services, trunks, and legacy connections integrated, for use as:

- media gateway for larger networks
- to provide connection to legacy services when running the MiVoice Business software on Industry Standard Servers
- the enterprise edge for centralized networks that require survivable solutions for their remote sites.

2.4.2 MiVoice Business on Industry Standard Servers (ISS)

MiVoice Business software runs on Industry Standard servers (ISS). Running MiVoice Business on ISS allows you to support up to 5000 users. This provides a lot of flexibility. As your network grows, you may not need additional ICP hardware.

2.4.3 MiVoice Business Virtual

MiVoice Business is available as a Virtual Appliance that runs on VMware® vSphere™, Nutanix Cluster Running AHV Hypervisor, Nutanix Cluster Running ESXi Hypervisor, Proxmox and Microsoft Hyper-V Infrastructure for businesses that want to manage communications like any other application in their data center. The additional benefit of running MiVoice Business Virtual is that you can run multiple Mitel applications on one hardware server.

For more information, see the Virtual Appliance Deployment Solutions Guide.

2.4.4 MiVoice Business EX Controller

The EX Controller is a hardware platform that supports the MiVoice Business call processing software. The EX Controller supports up to 1400 IP users and provides native analog capabilities of up to 28 Foreign Exchange Subscriber (FXS) or Foreign Exchange office (FXO) ports or 8 T1/E1 ports.

The EX Controller is shipped from the factory with the Deployment Tool installed as a virtual machine on a Kernel-based Virtual Machine (KVM) hypervisor.

For more information, see the *MiVoice Business EX Controller Installation and Administration Guide*.

2.4.5 MiVoice Business SMB Controller

The Mitel SMB Controller is a multi-service controller capable of running the MiVoice Business solution. It has been developed to meet the needs of Select Service hotels, supporting up to 300 rooms, while delivering simplified deployments for small to medium-sized hospitality environments. A single SMB Controller embeds CloudLink Gateway, MiVoice Border Gateway, MiVoice Business, Mitel Performance Analytics Probe, Initial Configuration Wizard and as such provides an all-in-one solution for the hospitality market. The SMB Controller is designed to integrate with a wide variety of legacy and IP systems, Mitel call control platforms, and management tools such as Mitel Performance Analytics and Mitel Administration. The SMB Controller provides native analog capabilities of up to 22 Foreign Exchange Subscriber (FXS) or 16 Foreign Exchange Office (FXO) ports.

For more information, see the *MiVoice Business System Manual for Mitel SMB Controller* document.

2.4.6 Mitel Analog Gateway

Mitel Analog Gateway is an analog-to-SIP gateway controller that can be added to any MiVoice Business platform, providing extended analog support to the platform.

2.5 Phones and Consoles

The following sections describe Mitel phones and consoles that are supported and recommended for use in hospitality deployments.

2.5.1 Supported Consoles/Sub-Attendants

The following consoles support call control and Guest Services features:

- MiVoice 5540 IP Business Console
- MiVoice Business Console
- 6940 Hospitality Sub-Attendant Guest Services

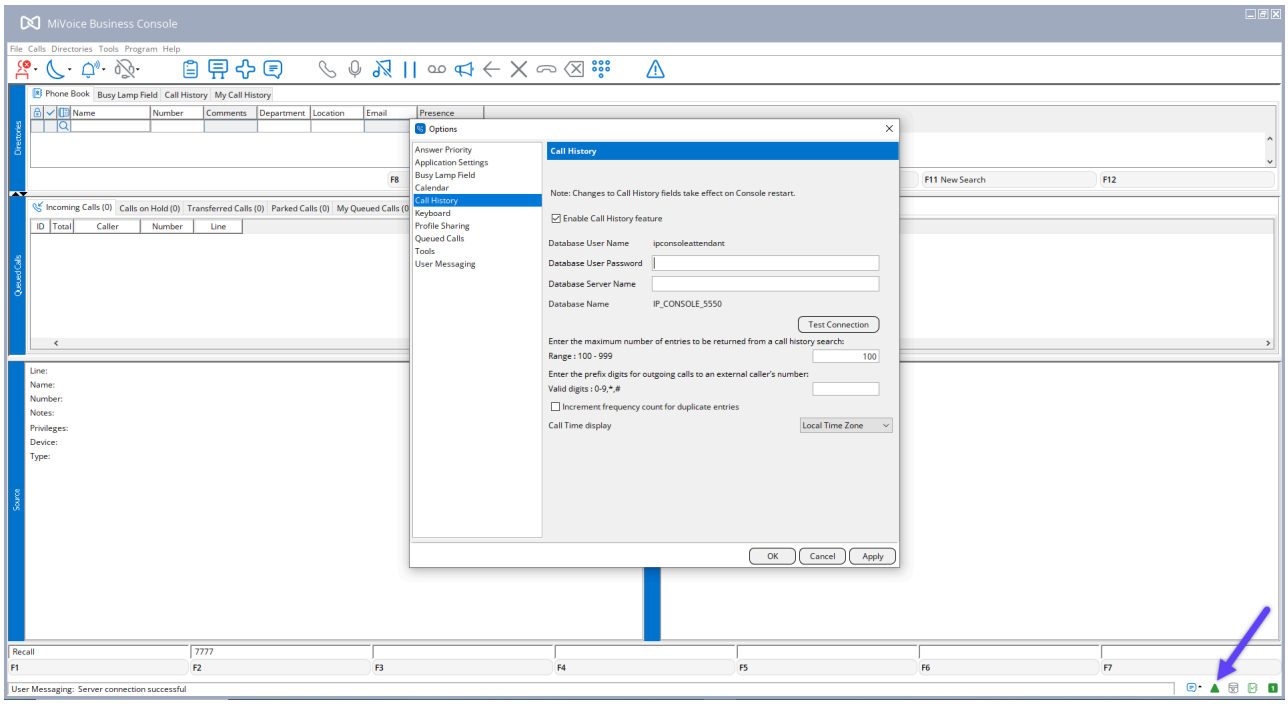
2.5.1.1 MiVoice 5540 IP Business Console

MiVoice 5540 IP Business Console is used in a standalone Hospitality deployment (or networked Standalone). It has a small footprint for an area too small for PC.

Note: Guest Services on the MiVoice 5540 console is available for guest rooms deployed on a single MiVoice Business instance.

2.5.1.2 MiVoice Business Console

MiVoice Business Console is a PC-based enterprise operator solution, used with high volume call handling environments using MiVoice Business.

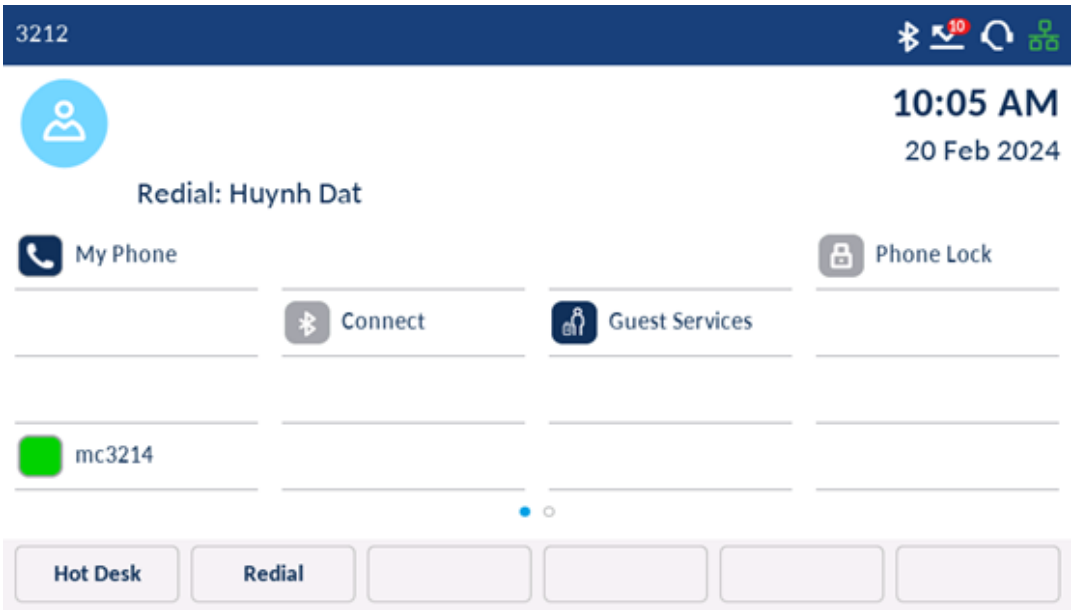


Supports the following languages:

English	French (Canadian)	French (European)	German (European)
Italian (European)	Spanish (European)	Spanish (NA)	Dutch
Portuguese (Brazil)	Swedish	Simplified Chinese	

2.5.1.3 6940 Hospitality Sub-Attendant Guest Services

6940 Hospitality Sub-Attendant Guest Services allows a user to change the Wake-up and DND status for a checked-in guest room.



The following operations can be performed:

- Set, change, and cancel wake-up features for guest rooms (either from an idle set or while talking to the guest on a room phone).
- View wake-up call activity per room (guest comes to the front desk to complain that they did not get their wake-up, staff needs to pull reports per room).
- Set and cancel DND for rooms (either from an idle set or while talking to the guest from a room phone).

2.5.2 Supported Phones

For a list of the features provided by MiVoice IP Phones, see the *Feature Support Matrix* section in the *MiVoice Business General Information Guide* located at https://www.mitel.com/document-center/business-phone-systems/mivoice-business/mivoice-business.

Note: All phones supported by MiVoice Business are also supported by Hospitality.

2.6 Hospitality Deployments

There are several ways to set up and configure hospitality solutions when using the MiVoice Business and MiVoice Business software. The best choice depends on the size and the requirements of the business.

2.6.1 Standalone Hospitality

In a Standalone configuration, there is only one MiVoice Business controller in the network that provides call control features for Staff and Guest. The same controller manages the Property Management System (PMS), guest services applications, and voicemail, with deployment options available for properties of all sizes.

2.6.1.1 Standalone Hospitality in a Network

A Networked Standalone configuration is created when multiple MiVoice Business controllers are clustered together, with each acting as an independent hospitality site, providing its own PMS, guest services access, and voicemail. In this model, each MiVoice Business operates as a separate 'hotel,' and due to the Clustered Dialing Plan, guest room DNs must be unique across controllers, meaning a room number like '100' cannot be used in more than one hotel.

A Standalone Hospitality configuration in a network is created when multiple MiVoice Business systems are clustered together, with each acting as individual hospitality sites (dual-branded property) providing their own PMS connection. In this case, there could be one group of Hotel Staff that services the multi-branded hotels.

A Standalone Hospitality configuration in a network can also be created when multiple MiVoice Business systems are clustered together to create functional controllers. For example, there could be a single controller for guest rooms only that has the PMS connection, and a controller for staff and PSTN trunks.

Note: Hospitality data is not resilient, but devices may be.

2.6.2 Clustered Hospitality

Clustered Hospitality provides hotel/motel feature functionality across a MiVoice Business cluster, supporting a single hospitality property or a resort with multiple buildings. A cluster uses a MiVoice Business operating as a hospitality gateway, along with one or more hospitality controllers. The hospitality gateway is the interface to the PMS and the Guest Services Application (GSA) on the MiVoice Business Console, and can also host guest room extensions. The graphic shows the Guest Services panel with the MiVoice Business Console in the background.

Note: The hospitality gateway hosts mailboxes for ALL guest rooms, if they are using EMEM.

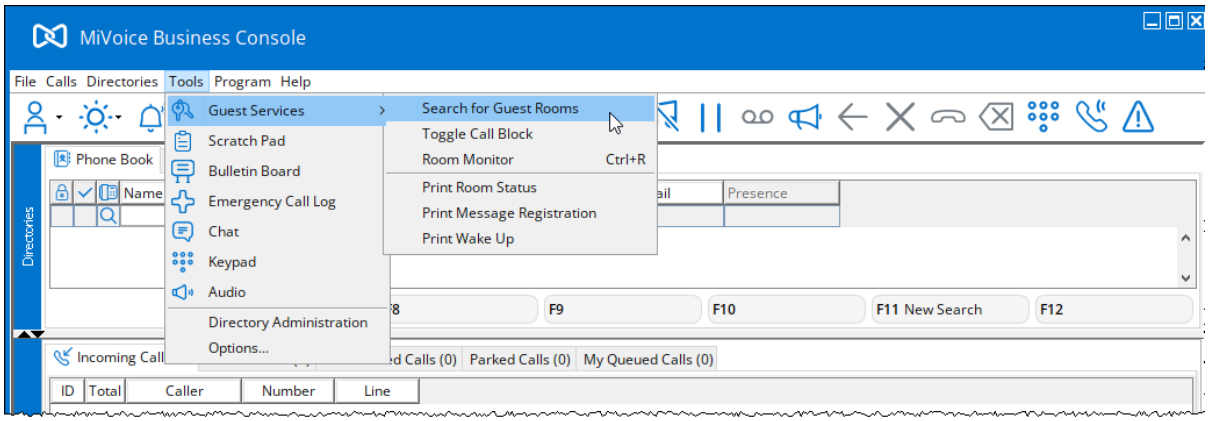


Figure 2: Guest Services panel with MiVoice Business Console

Hospitality clusters are suited to larger hotels, campus environments, and cruise ships, in which distributed processing is needed to limit the scope of any failure. The key elements in a hospitality cluster are:

- The Hospitality Gateway hosts the PMS link, Guest Services (via attendant consoles), and embedded voicemail (if required). The gateway also manages communication with other elements using System Data Synchronization (SDS).
- One or more Hospitality MiVoice Business Controller(s) deployed to support Guest Room Phones. Where traditional Analog Phones are used, the AX Controller or other applicable platforms in conjunction with the AG41XX would normally be deployed as a Hospitality MiVoice Business Controller.

Clustered Hospitality supports:

- Hotel reports, including Wake-up and Occupancy reports, through a networked printer.
- Shared Telephone Service (STS) for linked suites, available if all members reside on the Hospitality Gateway.
- Configuration of room extensions and suites from any MiVoice Business in the cluster. Suite extensions must be programmed on the same controller as the suite pilot, and the suite pilot will be used as the room number. For more information about Suite Licenses, see Migration to Mitel Hospitality.
- Resilient hotel room extensions (for IP phones).

Note:

- The extension numbers in the suite may be resilient, but the suite pilot is not. In resilient mode, you cannot dial the suite pilot, but room phones will still have dial tone.
- Wake-up calls will not work in resilient mode.

- The 5540 IP Console's hospitality integration is only available in a Standalone Hospitality deployment. In a clustered Hospitality Deployment, it can still be used as a regular console but will NOT have access to hospitality functions like checking-out a room.
- The 5540 Console can also be used to route calls to all non-guest and other phones across network.

Hospitality clusters provide:

- Ability to co-locate in a single site or distribute across multiple sites for increased resilience.
- A single Property Management System Interface.
- Scalability through distributed processing, and trunking.
- Room status and programming for every guest room, accessible from a MiVoice Business Console.
- The CX-II, CXi-II, AX controllers should not be used as a Hospitality Gateway; if another higher performing platform is available, it should be made the Hospitality Gateway. In small clusters (i.e., resilient pair) of MiVBs, it is ok to use the CX-II, CXi-II, AX as the Hospitality Gateway.
- The hospitality Gateway must host the PMS Link, Guest Services (from the Attendant Consoles), and Voicemail mailboxes for all Guest Rooms (if using EMEM).
- The MiVoice Business Console must be used for attendant console positions in a clustered configuration.
- The call accounting application should be capable of collecting records from all nodes or through the trunking gateway.

Engineering basics:

- The CX-II, CXi-II, AX controllers should not be configured as a Hospitality Gateway. If another higher-performing platform is available, it should be made the Hospitality Gateway. In small clusters (i.e., resilient pair) of MiVoice Business, it is ok to use the CX-II, CXi-II, AX as the Hospitality Gateway.

  Note: When using a CX-II, CXi-II, or AX (particularly the AX), it's recommended to increase the PMS Throttle – Delay setting.

- The hospitality Gateway must host the PMS Link, Guest Services (from the Attendant Consoles), and Voicemail mailboxes for all Guest Rooms (if using EMEM).

  - Guest Room Voicemail Mailboxes being on the hospitality gateway serve two purposes. First, for the MiVoice Business PMS protocol, it consolidates the mailboxes onto a single controller so that we have a single Voicemail PMS connection, reducing licensing costs. Secondly, it facilitates moving a guest's voicemail settings and messages when a guest moves between rooms.
- Support for up to 5000 IP phones for various MiVoice Business platforms. See the *MiVoice Business Engineering Guidelines* document for information about each platform's limitations.
- Any 6940 using the Hospitality Sub-Attendant application should be hosted on the hospitality gateway.

2.6.3 AG4124/AG4172 Analog Gateway

The AG4124/4172 are multi-functional Analog Gateways that offer seamless connectivity between IP-based telephony networks and legacy analog telephones, fax machines, and other analog devices. For Hospitality, they can be used to program Analog AG devices as Guest Rooms or Suite Members to provide Analog Guest Room support on IP-based platforms (that is, virtual MiVoice Business, ISS) or platforms where embedded analog connectivity is limited (SMBC, EX).

For information about Mitel Authorized Solutions Providers for configuring the MiVoice Business to host the Mitel AG4124/AG4172 Gateway, see the Configuring MiVoice Business for use with *Mitel AG4124/AG4172 Gateway (Single Line)* section in the AG4124/AG4172 Analog Gateway Administration Guide located at https://www.mitel.com/document-center/business-phone-systems/mivoice-business/mivoice-business/all-releases/en/ag4124-ag4172-analog-gateway-administration-guide.

For information about adding the AG4124/AG4172 Analog Gateway device from the System Administration Tool, see the *Adding an Analog Gateway Device* section in the *System Administration Tool Online Help*.

For information about the Analog Gateway Server, see the *Analog Gateway Server* form in the *System Administration Tool Online Help*.

2.7 High Availability in the Hospitality environment

High Availability (HA) is critical for hospitality. The Mitel hospitality solution provides high availability by combining MiVoice Business resiliency features and distributed processing.

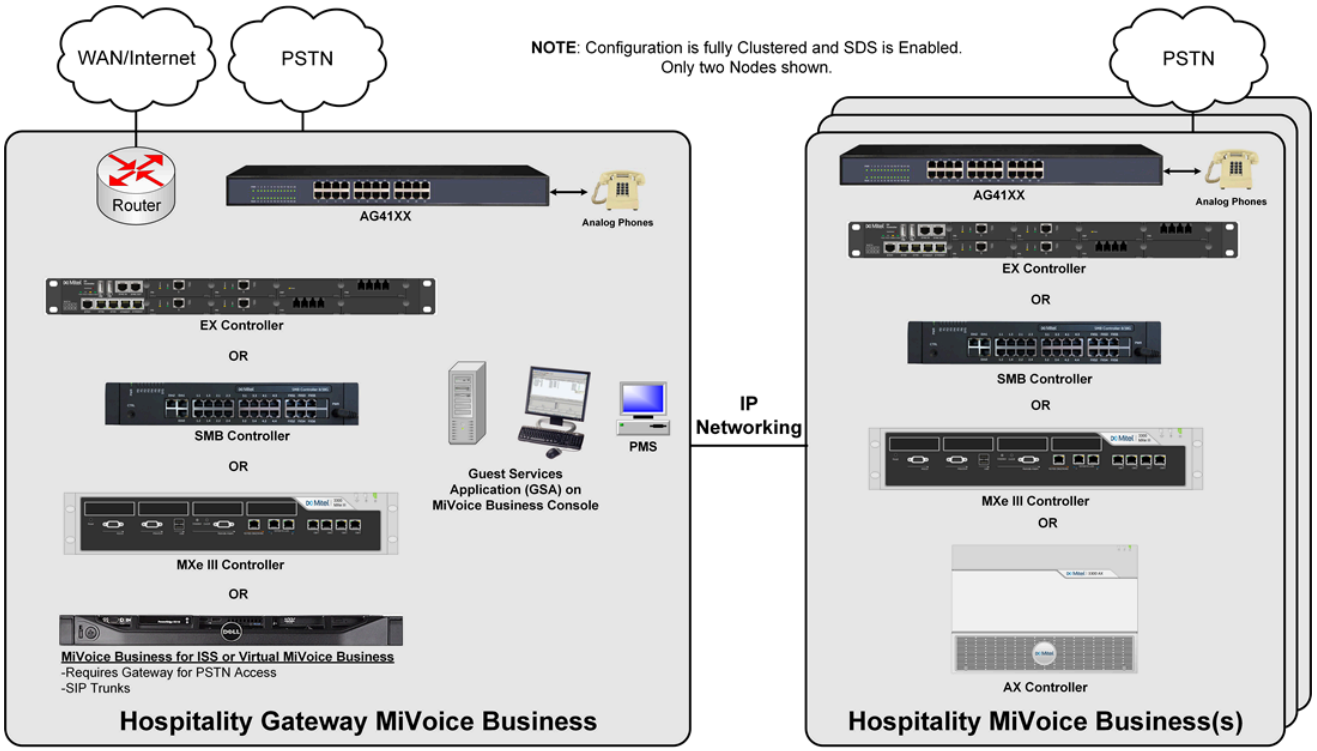


Figure 3: Clustered Hospitality solution

Resiliency and HA within the context of Hospitality is unique. Using the MiVoice Business resiliency features means that guests and staff continue to get dial tone at the phones, but hospitality services may not be operational, including suite services, wake-up calls, and console GSA features.

In a large analog system using MiVoice Business Controllers, the hospitality system should be configured in a clustered MiVoice Business Controllers Hospitality topology. In addition to the resiliency features, problems can be isolated to small groups of guest phones by distributing them across multiple AX controllers. If one MiVoice Business AX phone server goes down, only the phones hosted on the problem ICP are lost. All of the other guests and staff are unaffected. The same approach can be used for phones hosted on Analog Gateways.

2.8 Third-party Integration

Mitel Networks supports the integration of third-party applications through the Mitel Technology Network (MTN). The program helps businesses develop custom applications or features to achieve higher productivity. There are two APIs available for custom integration:

- General business API: higher productivity
- Hospitality API: details about the "MiVoice Business PMS" Protocol

2.8.1 MiVoice Business PMS Integration

A Property Management System (PMS) is third-party software running on a PC connected to MiVoice Business. The PMS provides a center for managing a Hotel business. It's also referred to as a Front of House (FOH) system and can interface with a Front Desk system to provide Reservation Control, Centralized Accounting and Billing, and Call Logging.

Property Management Systems can interface with the MiVoice Business to enable guest room telephone services based on the status of the room.

When information about a guest is changed at the front desk, messages are sent to MiVoice Business through the PMS. Similarly, when information about any guest is changed on the MiVoice Business, messages are sent to the front desk system via the PMS.

PMS Integration for Mitel MiVoice Business and EMEM systems includes the following:

- MiVoice Business PBX supports an IP interface connection to the Hotel's PMS, using a configured PMS Protocol (MiVoice Business PMS, Hilton PEP, or FIAS). This connection allows the PMS to notify the PBX when a user checks in or out, and affect the calling features available to those users.
- MiVoice Business Voicemail (EMEM) supports an IP interface connection to the hotel's PMS using a configured PMS Protocol (HIS or Hyatt Encore) or via the PBX PMS Connection (Hilton PEP or FIAS). This connection enables the PMS to notify voicemail when a guest checks in or out, affecting the behavior of the voicemail system.

Note:

Refer to the *MiVoice Business System Administration Tool Help* for information about the PMS Message Format Specification. This integration is only applicable for the "MiVoice Business PMS" protocol

2.8.2 Hilton PEP Property Management System (PMS) Integration

Mitel Hospitality Management System is a comprehensive solution designed to meet the unique needs of the hospitality industry. MiVoice Business system now includes support for the Hilton-PEP Property Management System using a single connection for both PBX and Voicemail when using EMEM.

This Single Port connection allows EMEM to respond to hospitality-related changes in real-time as they occur in Call Control. The integration with Hilton's proprietary PMS enables MiVoice Business to manage guest rooms, services, and billing with increased efficiency.

For more information on the specific Hilton-PEP version that MiVoice Business supports, see Hilton Integration Application Specification & Implementation Guide, which is managed by Hilton.

MiVoice Business supports the following operations:

- Database synchronization
- Guest Check-in
- Guest Checkout / Guest Change
- Guest Move
- Room State: PBX sends "Dirty", "To be Inspected", "Clean".
- Message Waiting Indication
- Voicemail Status Notification (Y/N)
- Posting Simple
- Posting Answer

Communication and Link Control

MiVoice Business system communicates with the Property Management System (PMS) using structured serial messages. These messages are framed using standard control characters and a specific field structure.

Each message is enclosed between:

- <STX> – Start of Text.
- <ETX> – End of Text.

For example:

```
<STX>LS|DA250501|TI063430|<ETX>
<STX>LD|DA250501|TI063430|IFPB|V#1.0.0003|<ETX>
<STX>LR|RIGI|FLDATIG#RNGSGFGNGLSF|<ETX>
<STX>LR|RIGC|FLDATIG#RNGSGFGNGLRO|<ETX>
<STX>LR|RIGO|FLDATIG#RNGSSF|<ETX>
<STX>LR|RIRE|FLRNCSMLRSVM|<ETX>
<STX>LA|DA250501|TI063430|<ETX>
<STX>LR|RIPS|FLDATIRNDDDUP#PTSOTA|<ETX>
<STX>LR|RIPA|FLDATIRNASP#SO|<ETX>
```

2.8.2.1 Hilton PEP Field Records and Description

MiVoice Business will support ASCII-based fields. Any unsupported field will be ignored.

1. Database Synchronization:

MiVoice Business supports Database Synchronization. MiVoice Business will not request Database Synchronization automatically. To request a database synchronization, enter PMS DATASWAP REQUEST as a maintenance command (available in ESM).

2. Room Move Support:

Room Move is a feature to move a guest from one room to another without losing guest data, including the Voicemail settings and messages in EMEM.

3. GI Guest Check In:

The PMS sends this record to the PBX upon Guest check-in.

MiVoice Business supports the following fields:

- **RN Room Number:** There is a maximum of one phone number per room, but there can be several terminals. All terminals will change the permission set when checked in or out and will have to adhere to the MiVoice Business dialing plan (limited to 0-9, *, or #, with a max of 7).
- **GN Guest Name and GF Guest First Name**: Guest Name will be considered the last name. Guest First Name will be considered the first name. MiVoice Business uses the existing TELDIR limitations, essentially truncating the combined "LASTNAME,FIRSTNAME" to a maximum length of 20 (21 with a comma), truncating the FIRST name to preserve as much of the LASTNAME as possible.

- **GL Guest Language**:
  - EA = English
  - FR = French
  - GE = German
  - IT = Italian
  - SP = Latin American Spanish
- **Note**: The following fields are not used by MiVoice Business:
  - G# Reservation Number
  - GS Share Flag
  - NP No Post
  - SF Swap flag
- DA Date
- TI Time

Example:

```
GI|DA100101|TI140500|RN1015|G#1234|GSN|GA100203|GD100217|GLEA|GNSmith|
GFJohn|NP|
```

4. GC Guest Data Change:

The PMS sends this record to the PBX when guest information changes.

MiVoice Business supports the following fields:

- **RN Room Number:** There is a maximum of one phone number per room, but there can be several terminals. All terminals will change the permission set when checked in or out and will have to adhere to MiVoice Business dialing plan (limited to 0-9, *, or #, with a max of 7).
- **GN Guest Name and GF Guest First Name**: Guest Name will be considered the last name. Guest First Name will be considered the first name. MiVoice Business uses the existing TELDIR limitations, essentially truncating the combined "LASTNAME,FIRSTNAME" to a maximum length of 20 (21 with a comma), truncating the FIRST name to preserve as much of the LASTNAME as possible.
- **GL Guest Language**:
  - EA = English
  - FR = French
  - GE = German
  - IT = Italian
  - SP = Latin American Spanish

- **Note**: The following fields are not used by MiVoice Business:
  - G# Reservation Number
  - GS Share Flag
  - NP No Post
  - SF Swap flag
- DA Date
- TI Time

Example:

```
GC|DA100101|TI140500|RN1015|G#1234|GSN|GA100203|GD100217|GLFR|GNSmith|
GFJohn|NP|
```

5. GC Guest Move:

The PMS sends this record to the PBX when a guest moves from one room to another.

MiVoice Business supports the following fields:

- **RN Room Number**: There is a maximum of one phone number per room, but there can be several terminals. All terminals will change the permission set when checked in or out and will have to adhere to MiVoice Business dialing plan (limited to 0-9, *, or #, with a max of 7).
- **GN Guest Name and GF Guest First Name**: Guest Name will be considered the last name. Guest First Name will be considered the first name. MiVoice Business uses the existing TELDIR limitations, essentially truncating the combined "LASTNAME,FIRSTNAME" to a maximum length of 20 (21 with a comma), truncating the FIRST name to preserve as much of the LASTNAME as possible.
- **GL Guest Language**:
  - EA = English
  - FR = French
  - GE = German
  - IT = Italian
  - SP = Latin American Spanish
- **Note**: The following fields are not used by MiVoice Business:
  - G# Reservation Number
  - GD Guest Departure Date
  - GA Guest Arrival Date
  - NP No Post
- **DA Date**
- **TI Time**

- **RO Old Room Number**
- **Guest Share Flag**: It must occur once. The new Room will be checked in with the information provided, and EMEM Voicemail settings/messages from the OLD room will be moved to the new room. The OLD room will then be checked out.

Example:

```
GC|DA100101|TI140500|RN2030|G#1234|GSN|RO1015|
```

6. GO Guest Check Out:

The PMS sends this record to the PBX upon Guest check-out.

MiVoice Business supports the following fields:

- **RN Room Number**: There is a maximum of one phone number per room, but there can be several terminals. All terminals will change the permission set when checked in or out and will have to adhere to MiVoice Business dialing plan (limited to 0-9, *, or #, with a max of 7).
-

> **Note**: The following fields are not used by MiVoice Business:
>
> - G# Reservation Number
> - GS Share Flag
> - NP No Post
> - SF Swap flag

- DA Date
- TI Time

Example:

```
GI|DA100101|TI140500|RN1015|G#1234|GSN|GA100203|GD100217|GLEA|GNSmith|
GFJohn|NP
```

7. Room Data RE Room equipment status:

The MiVoice Business supports the following fields from PMS:

- **RN Room Number**: There is a maximum of one phone number per room, but there can be several terminals. All terminals will change the permission set when checked in or out and will have to adhere to the MiVoice Business dialing plan (limited to 0-9, *, or #, with a max of 7).
- **ML Message Light Status**
- **CS Class of Service** - will be mapped to the Hotel Call Restriction.
  - 0 (Restricted) = Call Restriction (Class of Restriction) - Internal
  - 1 (Local) = Call Restriction (Class of Restriction) - Local
  - 2 (Long Distance) = Call Restriction (Class of Restriction) – Long Distance
  - 3 (Unrestricted) = Call Restriction (Class of Restriction) – Option 1

Example:

```
RE|DA100101|TI140500|RN2030|MLY|CS2|
```

MiVoice Business can send the following fields to the PMS.

- **RN Room Number**
- **RS Room Status:**
  - 1 (Occupied/Dirty) = MiVoice Business's Occupied/Not Clean (or Maid Present, or Out of Service)
  - 2 (Occupied/Clean) = MiVoice Business's Occupied/To Be Inspected
  - 3 (Occupied/Ready) = MiVoice Business's Occupied/Clean
  - 4 (Vacant/Dirty) = MiVoice Business's Vacant/Not Clean (or Maid Present, or Out of Service)
  - 5 (Vacant/Clean) = MiVoice Business's Vacant/To Be Inspected
  - 6 (Vacant/Ready) = MiVoice Business's Vacant/ Clean
- **VM VoiceMail – Y/N**

Example:

```
RE|DA100101|TI140500|RN2030|MLY|
RE|DA100101|TI140500|RN2030|VMY|
```

Note: The Hilton-PEP PMS has defined different mappings for Room Status over their different PMS Protocol versions. MiVoice Business will stick with the first mapping definition we certified with. The Hilton-PEP PMS Server has the ability to change the Room Status mapping on their side and should be updated to our mapping table accordingly.

8. Posting Simple Support:

The MiVoice Business's Hilton-PEP only supports generating Call Billing messages for ANSWERED calls made by extensions within a Guest Room that have direct access to a PSTN Trunk (i.e., not transiting via Trunking Gateway).

Note: This is NOT to be considered a replacement for true Call Accounting packages based on the MiVoice Business SMDR.

Posting Simple:

The MiVoice Business will send the PMS a notification for all calls from guest rooms using the Posting Simple message with a Direct Charge Posting Type with a Total Amount and Sales Outlet. With PMS Direct Charge Call Billing, the MiVoice Business's System Administrator can program a new PMS Call Billing ESM form that will allow for a mapping of Digits Dialed Prefix to a Connection Charge, Duration Multiplier, and Sales Outlet.

- The **Connection Charge** is a flat fee per ANSWERED call.
- The **Duration Multiplier** is a PER MINUTE fee based on the duration of the call (calculated on a PER SECOND basis).
- The **Sales Outlet** is the identifier that the PMS expects to tag the call against (i.e. 1 = LOCAL, 2 = INTRASTATE, 3 = INTERSTATE, 4 = LONG DISTANCE).

Note: all Billing notification will be done for all calls from guest rooms regardless of the room's occupancy status, as long as the room is allowed to make the trunk call (based on the Hotel Restrictions applied to the room).

The MiVoice Business supports the following fields:

- **RN Room Number**
- **Posting Type**: The MiVoice Business only supports DIRECT charge (C)
- **DA Date**: Date of the call
- **TI Time**: Start time of the call
- **Digits Dialed**: The digits dialed on the trunk
- **Duration**: The duration of the call (starting from when the call is answered to when it is cleared).
- **Sales Outlet**: The Sales Outlet Identifier associated with the Digits Dialed.
- **Total Amount**: the total amount charged to the guest.
- **Posting Sequence Number**: Incremented by one for each posting by the PBX.

Example:

```
<STX>PS|RN4412332|PTC|DU000010|DA250515|TI103336|P#13|DD964364362332|TA1020|
SO1|<ETX>
```

9. Posting Answer:

The MiVoice Business will track the Call Billing notification (based on Room Number and Posting Sequence Number) until the Posting Answer is sent by the PMS.

The MiVoice Business supports the following fields:

- **RN Room Number**
- **Answer Status**
  - OK (ASOK) – Posting Simple record was accepted. MiVB clears the notification.
  - OK (ASUR) – Posting Simple record was rejected, with no retry possible.
- **DA Date**: Ignored
- **TI Time**: Ignored
- **Sales Outlet**: Ignored
- **Posting Sequence Number**: Incremented by one for each posting by the PBX.

Example:

```
<STX>PS|RN4412332|P#13|DA250515|TI103340|ASOK|<ETX>
```

2.8.3 FIAS Integration

The Mitel Hospitality Management System is a comprehensive solution designed to meet the unique needs of the hospitality industry. MiVoice Business system now includes support for the Fidelio Interface

Application Specification (FIAS) Property Management System protocol using a single connection for both PBX and Voicemail when using EMEM.

This Single Port connection allows EMEM to respond to hospitality-related changes in real-time as they occur in Call Control. The integration with Hilton's proprietary PMS enables MiVoice Business to manage guest rooms, services, and billing with increased efficiency.

For more information on the specific FIAS version that MiVoice Business supports, see Fidelio Interface Application Specification managed by MICROS-Fidelio FIAS.

MiVoice Business supports the following operations:

- Database Synchronization
- Guest Check-In / Guest Check-out / Guest Change
- Guest Move
- Room State: PBX Sends "Dirty", "To be Inspected ", "Clean"
- Message Waiting Indication
- Voicemail Status (Unread and Read Counts)
- Wakeup Request / Wakeup Cancel / Wakeup Answer
- Room Equipment Status
- Posting Simple
- Posting Answer

Communication and Link Control

MiVoice Business system communicates with the Property Management System (PMS) using structured serial messages. These messages are framed using standard control characters and a specific field structure.

Each message is enclosed between:

- <STX> – Start of Text.
- <ETX> – End of Text.

For example:

```
<STX>LS|DA250501|TI063308|<ETX>
<STX>LD|DA250501|TI063308|IFPB|V#1.0.0000|RL500|RT52|<ETX>
<STX>LR|RIGI|FLDATIG#RNGSGAGDGFGNGLNPSFCS|<ETX>
<STX>LR|RIGC|FLDATIG#RNGSGAGDGFGNGLNPROCS|<ETX>
<STX>LR|RIGO|FLDATIG#RNGSSF|<ETX>
<STX>LR|RIRE|FLRNCSMLRSVM|<ETX>
<STX>LR|RIWR|FLDATIRN|<ETX>
<STX>LR|RIWC|FLDATIRN|<ETX>
<STX>LR|RIWA|FLDATIRNAS|<ETX>
<STX>LR|RIPS|FLDATIRNDDDUMPP#PTSOTA|<ETX>
<STX>LR|RIPA|FLDATIRNASP#|<ETX>
<STX>LA|DA250501|TI063308|<ETX>
```

2.8.3.1 FIAS Field Records and Description

MiVoice Business will support ASCII and extended ASCII (based on ISO-8859-1) for the Guest Name and Guest First Name fields. However, the extended ASCII characters will be transliterated into ASCII due to the MiVoice Business TELDIR limitations.

1. Database Synchronization:

MiVoice Business supports Database Synchronization. MiVoice Business will not request Database Synchronization automatically. To request a database synchronization, enter PMS DATASWAP REQUEST as a maintenance command (available in ESM).

2. Room Move Support:

Room Move is a feature to move a guest from one room to another without losing guest data, including the Voicemail settings and messages in EMEM.

3. GI Guest Check-in:

The PMS sends this record to the PBX upon a Guest check-in.

The MiVoice Business supports the following fields:

- **RN Room Number**: There is a maximum of one phone number per room, but there can be several terminals. All terminals will change the permission set when checked in or out and will have to adhere to the MiVoice Business dialing plan (limited to 0-9, *, or #, with a max of 7).
- **GN Guest Name and GF Guest First Name**: Guest Name will be considered the last name o Guest First Name will be considered the first name. MiVoice Business uses the existing TELDIR limitations, essentially truncating the combined "LASTNAME,FIRSTNAME" to a maximum length of 20 (21 with a comma), truncating the FIRST name to preserve as much of the LASTNAME as possible.
- **GL Guest Language**

    - EA, en, EN, en-US = English
    - FR, fr, fr-CA = French
    - GE, de = German
    - IT, it = Italian
    - SP, es = European Spanish
    - es-US = Latin American Spanish
    - NL, nl = Dutch
    - PT, pt = Portuguese
    - RU, ru = Russian
    - SV, sv = Swedish
    - PL, pl = Polish
    - ZH = Simplified Chinese
    - pt-BR = Brazilian Portuguese
    - Other languages are not supported

- **CS Class of Service**: It will be mapped to the MiVoice Business Hotel call Restriction
  - 0 (Restricted) = Call Restriction (Class of Restriction) - Internal
  - 1 (Local) = Call Restriction (Class of Restriction) - Local
  - 2 (Long Distance) = Call Restriction (Class of Restriction) – Long Distance
  - 3 (Unrestricted) = Call Restriction (Class of Restriction) – Option 1
- **DA DATE**
- **TI TIME**

> **Note**: The list of fields not used by MiVoice Business are
>
> - G# Reservation Number
> - GS Share Flag
> - GA Guest Arrival Date
> - GD Guest Departure Date
> - NP No Post

Example:

```
GC|DA100101|TI140500|RN1015|G#1234|GSN|GA100203|GD100217|GLFR|GNSmith|
GFJohn|NP|
```

4. GC Guest Move:

The PMS sends this record to the PBX upon a guest moves from one room to another.

The MiVoice Business supports the following fields:

- **RN Room Number**
- **GN Guest Name and GF Guest First Name**

- **GL Guest Language**
  - EA, en, EN, en-US = English
  - FR, fr, fr-CA = French
  - GE, de = German
  - IT, it = Italian
  - SP, es = European Spanish
  - es-US = Latin American Spanish
  - NL, nl = Dutch
  - PT, pt = Portuguese
  - RU, ru = Russian
  - SV, sv = Swedish
  - PL, pl = Polish
  - ZH = Simplified Chinese
  - pt-BR = Brazilian Portuguese
  - Other languages are not supported
- **CS Class of Service**: It will be mapped to the MiVoice Business Hotel call Restriction
  - 0 (Restricted) = Call Restriction (Class of Restriction) - Internal
  - 1 (Local) = Call Restriction (Class of Restriction) - Local
  - 2 (Long Distance) = Call Restriction (Class of Restriction) – Long Distance
  - 3 (Unrestricted) = Call Restriction (Class of Restriction) – Option 1
- **DA DATE**
- **TI TIME**
- **RO Old Room Number**
- Guest Share flag: The Guest Share flag must occur (i.e. twice) for both the OLD Room and New Room Number. The new Room will be checked in with the information provided, and EMEM Voicemail settings/messages from the OLD room will be moved to the new room. The OLD room will then be checked out.

> **Note**: The list of fields not used by MiVoice Business are
>
> - G# Reservation Number
> - GA Guest Arrival Date
> - GD Guest Departure Date
> - NP No Post

Example:

```
GC|DA100101|TI140500|G#1234|RN2030|GSN|RO1015|GSN
```

5. GI Guest Check-Out:

The PMS sends this record to the PBX upon a Guest check-out.

The MiVoice Business supports the following fields:

- **RN Room Number**
- **DA DATE**
- **TI TIME**

> **Note**: The list of fields not used by MiVoice Business are
>
> - G# Reservation Number
> - GS Share Flag
> - SF Swap Flag

Example:

```
GO|DA100101|TI140500|RN2030|G#1234|GSN|
```

6. Room Data RE Room equipment status:

The MiVoice Business supports the following fields:

- **RN Room Number**
- **ML Message Light Status**
- **CS Class of Service**

Example:`RE|DA100101|TI140500|RN2030|MLY|CS2|`

The MiVoice Business can send the following fields:

- **RN Room Number**
- **RS Room Status:**
  - 1 (Occupied/Clean) = MiVoice Business's Occupied/To Be Inspected
  - 2 (Occupied/Dirty) = MiVoice Business's Occupied/Not Clean (or Maid Present, or Out of Service)
  - 3 (Occupied/Ready) = MiVoice Business's Occupied/Clean
  - 4 (Vacant/Clean) = MiVoice Business's Vacant/To Be Inspected
  - 5 (Vacant / Dirty) = MiVoice Business's Vacant/Not Clean (or Maid Present, or Out of Service)
  - 6 (Vacant / Ready) = MiVoice Business's Vacant/ Clean
- **VM VoiceMail –** Unread / Read counts

Example:

```
RE|DA100101|TI140500|RN2030|MLY|
RE|DA100101|TI140500|RN2030|VM0100|
```

7. Wakeup Support:

While the MiVoice Business supports multiple wakeups per guest room, the FIAS protocol only supports a single wakeup per room. Requesting a new wakeup will clear the previous one. The MiVoice Business doesn't consider the date for a wakeup call.

The wakeup just expires the next time the requested time is reached. Due to the limitations on the MiVoice Business, the requested wakeup time may be "shifted" by a few minutes so that it can service all programmed wakeups. While, the MiVoice Business supports reoccurring wakeups (daily vs just once), the FIAS PMS Protocol does not. The PMS is responsible for setting the wakeup no more than 24 hours before the wakeup time, and if a reoccurring wakeup is required, setting a new wakeup for each reoccurrence.

A wakeup can be created on the MiVoice Business (via FAC, or Guest Services) or by the PMS. The MiVoice Business will provide a PMS Notification when a wakeup call has been answered (ASOK), expired (ASNR), or cannot be processed (ASUR).

8. Wakeup Request:

This message can be sent from the PMS to the PBX or from the PBX to the PMS to inform the other system that a wakeup has been set. Since the MiVoice Business supports multiple wakeups, the PMS/PBX integration will only trigger on the FIRST wakeup in the Guest Room.

For a Suite with STS OFF (where each suite member can have their own wakeups), this will be the FIRST wakeup of the FIRST Suite Member. Requesting a new wakeup will clear the previous FIRST wakeup. When a Wakeup call is programmed on the MiVoice Business, it fills in the date accordingly. This means the date will be today if the wakeup call is later in the day, else the date will be tomorrow.

The MiVoice Business supports the following fields:

- **RN Room Number**
- **DA Date**: This field is ignored
- **TI Time**: The time of the wakeup (in 24 hour format)

Example: `WR|DA100101|TI140500|RN1015|`

9. Wakeup Answer

This message is sent by the MiVoice Business when a Wakeup has matured. Since the MiVoice Business supports configurable retries (i.e. number of attempts and delay) the notification will only be sent after the LAST attempt. It informs the PMS about the status of the wakeup:

The MiVoice Business supports the following fields:

- **RN Room Number**
- **DA Date**: This field is ignored
- **TI Time**: The time of the wakeup (in 24 hour format)
- **Answer Status**
    - Wakeup has been acknowledged – Answered
    - Wakeup has not been acknowledged - No Response
    - Wakeup cannot be processed at this time - Unable to Process

Example:

```
WA|DA100101|TI140500|RN1015|ASOK|
WA|DA100101|TI140500|RN1015|ASNR|
WA|DA100101|TI140500|RN1015|ASUR|
```

10. Wakeup Clear

This message can be sent from the PMS to the PBX or from the PBX to the PMS to inform the other system that a wakeup has been cleared. In the direction towards the MiVoice Business, the value of date and time isn't important as the MiVoice Business will clear the FIRST wakeup call independently of the given date and time. In the direction to the PMS, the MiVoice Business will fill in the correct date and time.

The MiVoice Business supports the following fields:

- **RN Room Number**
- **DA Date**: Ignored
- **TI Time**: Ignored

Example: `WC|DA100101|TI140500|RN1015|`

11. Posting Simple Support:

The MiVoice Business supports generating Call Billing messages for ANSWERED calls made by extensions within a Guest Room that have direct access to a PSTN Trunk (i.e., not transiting via Trunking Gateway).

Posting Simple:

The MiVoice Business FIAS support includes two modes of Call Billing:

- Telephony Charge Billing (default)
- PMS Direct Charge Billing

With Telephony Charge Billing, the MiVoice Business will send the PMS a notification for all calls from guest rooms, using the Posting Simple message with a Telephone Posting Type. This will allow the PMS to calculate the final billing based on the Digits Dialed and the Duration of the call.

With Direct Charge Billing, the MiVoice Business will send the PMS a notification for all calls from guest rooms, using the Posting Simple message with a Direct Charge Posting Type, including the Total Amount and Sales Outlet. The MiVoice Business's System Administrator can program a new PMS Call Billing ESM Form that will allow for a mapping of: Digits Dialed Prefix to a Connection Charge, Duration Multiplier, and Sales Outlet.

- The **Connection Charge** is a flat fee per ANSWERED call.
- The **Duration Multiplier** is a PER MINUTE fee based on the duration of the call (calculated on a PER SECOND basis).
- The **Sales Outlet** is the identifier that the PMS expects to tag the call against (i.e., 1 = LOCAL, 2 = INTRASTATE, 3 = INTERSTATE, 4 = LONG DISTANCE).

Note: Call Billing notification will be done for all calls from guest rooms regardless of the room's occupancy status, as long as the room is allowed to make the trunk call (based on the Hotel Restrictions applied to the room).

The MiVoice Business supports the following fields:

Field	Telephony Charge	Direct Charge
RN Room Number	Supported	Supported
Posting Type: The MiVoice Business only supports TELEPHONE charge (T)	T – TELEPHONY CH ARGE	C – DIRECT CHARGE
DA Date: Date of the call	Supported	Supported
TI Time: Start time of the call	Supported	Supported
Digits Dialed: The digits dialed on the trunk	Supported	Supported
Duration: The duration of the call (starting from when the call is answered to when it is cleared).	Supported	Supported
Meter or Tax Pulses: If the trunk supports Metered Pulses, they will be sent to the PMS.	Supported	Not Supported
Sales Outlet: Provides the charges to the guest to the PMS.	Not Supported	Supported
Total Amount: the total amount charged to the guest.	Not Supported	Supported
Posting Sequence Number: Incremented by one for each posting by the PBX.	Supported	Supported

Example for Telephony Charge:

```
<STX>PS|RN4412332|PTT|DU000001|MP0|DA250515|TI103336|P#13|DD964364362332|
<ETX>
```

Example for Direct Charge:

```
<STX>PS|RN4412332|PTC|DU000010|DA250515|TI103336|P#13|DD964364362332|TA1020|
SO1|<ETX>
```

12. Posting Answer:

The MiVoice Business will track the Call Billing notification (based on Room Number and Posting Sequence Number) until the Posting Answer is sent by the PMS.

The MiVoice Business supports the following fields:

- **RN Room Number**
- **Answer Status**
  - OK (ASOK) – Posting Simple record was accepted.
  - RY (ASRY) – Posting Simple record was rejected and should be retried.
  - OK (ASUR) – Posting Simple record was rejected, with no retry possible.
- **DA Date**: Ignored
- **TI Time**: Ignored
- **Posting Sequence Number**: Incremented by one for each posting by the PBX.

Example:

```
<STX>PS|RN4412332|PTT|DA250515|TI103336|P#13|ASOK|<ETX>
```

2.8.4 Mitel Open Integration Gateway

The Mitel Open Integration Gateway (OIG) is an open, standards-based Web Services applications programming interface (API) development platform. Together with MiVoice Business, the OIG helps deliver seamless integration of unified communications and third-party business applications, enabling faster, more effective communications for your customers.

Note: OIG is supported only for MiVoice Business.

Application developers can rapidly construct, test, and deploy feature-rich integrated voice and data applications for Mitel business communications platforms. Through an intuitive user interface, developers are provided a single, centralized point of access to MiVoice Business API Web Services, administrative capabilities, and networked software licensing. Application developers are free to choose a programming language, a software development environment, an operating system, and a hardware platform as their applications do not need to integrate or compile in any Mitel code. The Web Service model de-couples the OIG software from the applications—only the standards-based Web Services Definition Language (WSDL) files are needed.

2.8.5 MTN Universal SDK Development Kit

Mitel provides the MTN Universal SDK Development Kit to application developers wishing to develop applications for use with MiVoice Business.

The MTN Universal Software Development Kit (SDK) is a set of software, testing tools, and documentation that provides developers with what they need to develop applications for MiVoice Business.

The SDK application contains the following software options and troubleshooting tools:

- MiTAI: enables switch-to-application server communication for multiple switches
- MiAUDIO: enables an application to process voice on multiple Mitel phones
- MiTAI Browser Tool: ensures the connection is operating correctly to make function calls and to view events from the API
- MiTAI Server Logger Tool: connects to the MiVoice Business host platform to download log files; captures all MiTAI server incoming and outgoing messages for debugging purposes
- MiTAI Client Logger Tool: enables you to access MiTAI application information, collect MiTAI API information in a log file, and capture MiTAI client data on incoming and outgoing mes- sages for debugging
- MiAUDIO Test Tool: enables you to verify that MiAUDIO has been correctly installed and that all connections allow proper communication between the MiAUDIO application and the MiVoice Business host platform

For information about the Mitel developer partner program, Mitel Solutions Alliance, refer to the Mitel Solutions Alliance portal.

2.8.6 MiVoice Business Station Message Detail Recording (SMDR) Integration

MiVoice Call Accounting is a comprehensive call costing solution that is available either as a single-site or multi-site solution, and can be integrated with MiContact Center Management, if desired. MiVoice Call Accounting enables organizations to monitor and control telecommunication costs and clearly show how much money is being spent and who is spending it. With MiVoice Call Accounting, you can:

- Monitor usage and establish call patterns for departments and work groups.
- Track, report, and control telecommunication costs.
- Track account codes in SMDR reports.
- Perform cost recovery and carrier bill reconciliation.
- Find out if costs are excessive because, for example, employees are sharing toll free lines, calling restricted numbers, or calling their friends long distance.
- Mitel Subscriber Services (optional module): Charge back departments, employees, and customers using mark-up or discount pricing.
- Mitel Traffic Analysis (optional module): Determine if the organization is using its incoming, outgoing, and bi-directional trunks efficiently.

2.9 Hospitality Licensing

MiVoice Business Theme Bundles licensing is designed to help you make the most of your Mitel Hospitality SolutionsMiVoice Business Packages and Bundles are intended to address the special needs of the Hospitality Vertical and are not available to other Business Segments. As a result, they are only available to Hospitality Resellers who are currently part of the Mitel Hospitality Specialist Partner Program.

The Hospitality configuration is performed using the Mitel's Configure/Price/Quote (CPQ) system.

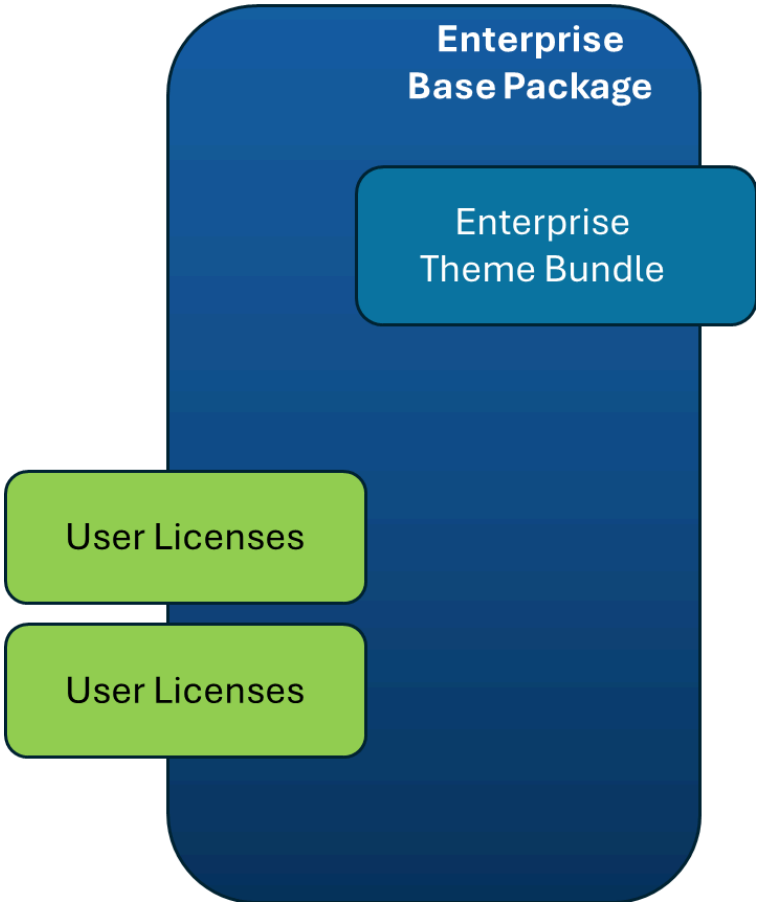


Figure 4: Hospitality licensing

2.9.1 Enterprise Base Package

When you have a cluster of MiVoice Business controllers, often called a Hospitality cluster, start with an Enterprise Base Package.

- Add the Enterprise Theme Bundle of user licenses.
- Add any other individual user licenses required.

Always take advantage of Hospitality Group Licensing, which allows you to pool all available licenses.

MiVoice Business to MiVoice Business Hospitality uplift part number is available, at no cost, to designate existing MiVoice Business records in the Mitel Licenses & Services as Hospitality. This allows hospitality-specific licenses or options to be added to existing records, and facilitates Software Assurance enlistment or renewals under the Hospitality pricing. Mitel approval is required to order the MiVoice Business to MiVoice Business Hospitality Uplift.

Table 2: Uplift to Hospitality Base Packages

PART NUMBER	DESCRIPTION	NOTES
54005901	MiVoice Base to MiVoice Hospitality Base Uplift	• Enables an existing MiVoice Business base application record to be designated as MiVoice Business Hospitality in the Mitel Licenses & Services server. This part can be ordered, under Mitel order approval, at no charge. (Contact your Mitel Engineer for more information.) • The MiVoice Business Hospitality designation against an MiVoice Business application record in the Mitel Licenses & Services enables MiVoice Business hospitality licenses or options to be attached and allows MiVoice Business hospitality software assurance to be applied. • The uplift is not dependent on MiVoice Business software revision. However, adding new licenses to the record may require the MiVoice Business software to be upgraded to the appropriate release.

With the Multi-device Suite License, there can be several phones in the guest suite, all operating on the same number, and with only one phone active at a time. If you need all phones to operate independently, you must purchase separate licenses for all the phones in the suite. Note that Hospitality Theme Bundles are not eligible to use the uplift part number, because the Hospitality pricing has already been applied.

All Enterprise MiVoice Business instances within a Hospitality Application Group in the Licenses & Services must contain the same designation, whether designated as a hospitality package or not.

There are no specific Hospitality licenses for Hospitality deployed on MiVoice Business Virtual. For instructions for licensing installations of MiVoice Business Virtual, see MiVoice Business Virtual licensing for Hospitality.

Table 3: Hospitality Base Packages

PART NUMBER	DESCRIPTION	NOTES
54005768	Hospitality License Group	Establishes a Hospitality Application Group, and a Licenses & Services Application Record is created on purchase. Hospitality Base Packages can be added to it.
54005776	ISS Enterprise Hospitality Base	Enterprise Hospitality Base Package for ISS Platform. A Licenses & Services Application Record is created on purchase.

PART NUMBER	DESCRIPTION	NOTES
54005777	MiVoice Business Enterprise Hospitality Base	Enterprise Hospitality Base Package for ICP Platform. A Licenses & Services Application Record is created on purchase.
54010352	MiVoice Business Enterprise Virtual Hospitality Base	Enterprise Hospitality Base Package for MiVoice Business. A Licenses & Services Application Record is created on purchase.

Table 4: Small Hospitality Base Packages

PART NUMBER	DESCRIPTION	NOTES
52003783	MiVoice Enterprise Small Hospitality SW Bundle	Contains the following: • Hospitality Base • Digital Link License (1) • Hospitality User Licenses (108) • Embedded Voicemail Boxes (100) • SIP Trunks (30)
52003878	MiVoice Business Enterprise Virtual Hospitality Bundle	Contains the following: • Base pack • SIP Trunk (30) • Hospitality User Licenses (108) • Embedded Voicemail Boxes (100)

Table 5: Hospitality Theme Bundles

PART NUMBER	DESCRIPTION	NOTES
54005767	MiVoice Business Centralized Hospitality Theme Bundle	Bundle of (144x) Centralized Hospitality Extension licenses. Can be applied only once to an Enterprise Hospitality Base Package, and cannot be combined with another bundle (themed or otherwise), and cannot be applied directly to the new Hospitality Application Group.

PART NUMBER	DESCRIPTION	NOTES
54005778	MiVoice Business Enterprise Analog Theme Bundle	Bundle of (150x) analog line licenses, can be applied only once to an Enterprise Hospitality Base Package, and cannot be combined with another bundle (themed or otherwise), and cannot be applied directly to the new Hospitality Application Group.
54005779	MiVoice Business Enterprise Suite Theme Bundle	Bundle of (100x) Suite licenses, can be applied only once to an Enterprise Hospitality Base Package, and cannot be combined with another bundle (themed or otherwise), and cannot be applied directly to the new Hospitality Application Group.

Table 6: Hospitality User Licenses

PART NUMBER	DESCRIPTION	NOTES
54011648	MiVoice Business Hospitality Voice Mailbox	Used to license embedded mailbox specifically for hospitality.
54005765	MiVoice Business Hospitality Enterprise User License	Used to license an IP extension for Hospitality Enterprise configurations. It can be applied only to new Enterprise Hospitality Base Packages or to the new Hospitality Application Group.
54005766	MiVoice Business Centralized Hospitality User License	Used to license a remote analog extension in Centralized Hospitality configurations. This license is used when a 5540 IP Console is used with multiple MiVoice Business controllers. It can be applied only to new Enterprise Hospitality Base Packages, or to the new Hospitality Application Group.

2.9.2 Phone Licenses

Analog phones that are connected to the AG4100 gateways or EX Controller, as is often the case for guest room phones, require a single ONS license. Analog devices that are connected to the Analog Main Board, Analog Option Board, or SMB Controller do not require an ONS license. Embedded SMB Controller does not require licenses. EX Controller and Analog Gateway devices require a Single Line license for each device.

MiVoice Business provides the following licenses:

- **Single Line Licenses:** This license is designed for individual users, providing basic call handling and voicemail features.
- **Hospitality User Licenses:** This license is tailored for hospitality staff, offering essential features like call control, guest services, and voicemail, optimized for hotel operations. This license is also used for single-line phones if a single-line license is not available.
- **Multi-device Licenses:** This license allows a single user to access their account from multiple devices, such as desk phones and mobile devices, providing flexibility in communication.
- **Multi-device Suite Licenses:** This license is a comprehensive licensing that supports multiple devices for a user, including access to advanced features across all platforms.
- **Active ACD Licenses:** This license enables Automatic Call Distribution (ACD) capabilities, ideal for managing incoming calls in a hospitality setting, enhancing customer service efficiency.
- **External Hotdesking Licenses:** This license supports temporary desk assignments for staff, allowing them to log in and use any available desk phone, suitable for dynamic work environments.
- **Dynamic Extension Licenses:** This license provides users with the ability to access their extensions from any compatible device, promoting mobility and flexibility.
- **Centralized Hospitality Licenses:** This license is designed for managing multiple properties or locations from a centralized system, facilitating consistent service and administration across the hotel chain.

2.9.3 Voice Mail License

The Hospitality Voice Mail PMS license enables the embedded voice mail to connect to a hotel's Property Management System (PMS).

Note: Embedded Voice Mail PMS is required when using embedded voicemail with hospitality systems that connect to the PMS, regardless of whether Hilton or FIAS is in use..It is also applicable to standard MiVoice Business PMS.

2.10 Migration to Mitel Hospitality

Hoteliers can combine best in class products from a variety of vendors to meet their brand standards. Mitel supports a wide range of property management systems, hotel management applications and in-room devices, both traditional and IP. Customers are not limited to a 100% Mitel solution, so they can add Mitel components and migrate in steps.

Mitel supports many third-party guest room telephones, so the telephones do not have to be replaced when moving to a Mitel solution. Hotels can keep their traditional analog guest room telephones while benefiting from IP telephony for operations, common areas, and meeting rooms. MiVoice Business can support up to 5000 users. It provides call control, embedded voice mail, auto attendant, recorded announcements, music on hold, automatic call distribution, and a property management system interface. Where additional capacity is required, MiVoice Business controllers can be clustered to create a reliable multi-node network with a single point of administration.

MiVoice Business works with any data network, so hotels can deploy MiVoice Business over any vendor's fixed or wireless data infrastructure. Customers can choose analog, digital, or SIP public network access. In many locations, SIP offers a more flexible, cost-effective way of connecting to a public network. Hotels can often save money by consolidating public network access.

Hoteliers can move among proprietary hardware, industry-standard servers, and virtualized environments. Centralization reduces complexity and simplifies support. MiVoice Business allows hotels to centralize or decentralize without purchasing new licenses or changing system behavior.

2.11 Maintenance and Troubleshooting

As with any MiVoice Business system, you should perform regular backups. For hospitality systems, a backup includes the following additional data:

- Wake-up data
- Room status data (occupancy and condition)
- Call Restriction data (internal, local, long distance, for example)
- Number of calls
- Message Registration data
- Credit Limit
- Message Waiting status

2.11.1 Software Assurance (SWA) and Support

Software Assurance is Mitel's support program for lifecycle management of Mitel Software solutions. It enables organizations to maintain operational excellence of their Mitel software by keeping these assets current, delivers and maintains operation of cloud applications, and enables entitlement to Mitel Technical Support resources to address incidents or technical issues not resolvable by themselves or their authorized Mitel Partner.

For information about the Software Assurance program and policies, please consult the latest Software Assurance Program Guide on https://powerup.mitel.com/concierge/ucm/#/ucm/1675/2370/List/0?Id=4865D805-A8DF-4E67-AB7C-39F6E987C4DA.

2.11.2 Embedded Voice Mail Logs

The Embedded Voice Mail logging functionality has been enhanced and is now included in the system diagnostics file (diag.dat), providing easily readable PMS logs. Additionally, the log file size has been increased from 1MB to 2MB, allowing a greater history of system logs to be stored.

Note: To get more information about the instructions for downloading the system diagnostics file (diag.dat) to your computer, see the *System Diagnostics Reporting form* in *MiVoice Business System Administration online help*.

The new logs include detailed information about the packets received by Embedded Voice Mail (Rx), the hex dump of the packet, whether the packet validation was successful or failed, and the reply sent by Embedded Voice Mail (Tx).

The following is an example of a "Check-in" operation PMS log captured in Embedded Voice Mail.

```
PMS: Processing Incoming Packet: Msgid=2 : Check In : Mailbox=6666
```

```
PMS: Rx {[02][33][36][36][36][36][20][20][20][20][20][20][20][20][03][30]}
PMS: Incoming packet validation successful, sending ACK
PMS: Tx {[06]}
PMS: ACK sent
```

Note: Use the tail command (tail -f diag.dat) to monitor the system diagnostic file logs for real-time diagnostics.

Appendix A - Resources 3

RESOURCE	LOCATION/LINK
MiVoice Business documentation	https://www.mitel.com/document-center/business-phone-systems/mivoice-business/mivoice-business Available docs include installation, maintenance, troubleshooting, and administration information. Also available here is the MiVoice Business System Administration Tool online help.
Mitel University	For information about Leader-led, Self-study, and Virtual training, refer to http://mitel.ca/services-support/professional-services/training For information about searching for the specific courses you need. log in to Mitel OnLine, and access the Student Guide: http://training.mitel.com/cw/WebSite/Upgrade/Docs/Student%20Quick%20Reference%20Card.pdf

Appendix B - Language Selection 4

The MiVoice Business PMS protocol, the FIAS protocol and Hilton PMS support different languages. One of 15 available languages can be assigned to each guest room phone.

Language selection for a specific guest room can be managed from the attendant consoles (MiVoice Business Console, 5540 MiVoice Business Console), as well as through the PMS interface. When a guest checks in, their language is noted and the phones in the room are changed accordingly. The phone's display prompts and applications can also be changed to display the required language. This is a common requirement for boutique and luxury hotels.

More information about language choices in hospitality applications:

- The guest can configure the phones locally, but these changes will be overridden by the PMS and console interfaces when a new language is selected.
- (For MiVoice Business PMS protocol when EMEM is connected via HIS or Hyatt Encore) Voice mail systems will continue to have their own PMS connection that applies a selected language for a guest.
- Language selection is supported resiliently. When the language of a device is changed, the language selection on the secondary will also be updated.
- SIP devices have their own language settings, and unless otherwise specified, they are not affected by general language changes.

Cruise lines, high-end hotels, and international hotels require more than three active languages. MiVoice Business supports 15 simultaneous languages, depending on set type. The languages are listed in following table. Any phones that do not support these languages default to English.

Table 7: Supported Languages in PMS Protocol

PMS Protocol	Supported Languages
MiVoice Business PMS Protocol	• English • Italian (European) • Portuguese (Brazil) • Swedish • French (Canadian) • French (European) • German (European) • Spanish (European) • Spanish (NA) • Dutch • Portuguese (European) • Romanian • Russian • Polish • Simplified Chinese
Hilton PMS Protocol	• English North America • French • German • Italian • Spanish - Latin America
FIAS PMS Protocol	• English • French • EU Spanish (Europe) • Dutch • Italian • German • Portuguese (Europe) • Portuguese (Brazil) • Russian • Swedish • Polish • Simplified Chinese