

Module 1 Lesson 3 IP Office Applications

Objectives

The objective of this lesson is to show you the different types of IP Office Applications, which roles each applications are responsible for and to learn the functions that serves each application.

Let's begin by going through the types of apps

Types Of Applications

The first group that we are covering are the Management Applications, then we move to those applications designed to help us maintain the system.

Management Applications

The IP Office system has two types of clients available for us to use.

The thin client management application and the Thick client management application.

Maintenance Applications

System Status Application (SSA) - In this section you learn the basic SSA management and troubleshooting elements.

System Monitor (SysMon) - Here we are going over the System Monitor's features and capabilities.

Type of Roles

In this section, let's take a look at the IP Office Applications, and how they help us do different tasks. From Designing a new IP Office system configuration, and Implement new configurations.



Management Applications - IP Office Web-Manager - Thin Client

Let's start by going over the IP Office Web-Manager application. The system makes it possible for us to use any of most popular web-browsers (IE, Firefox, Chrome, Safari, and Edge) to manage the IP Office Core configuration, and allowing the system administrator to connect, and update the system configuration through the thin client.

The following is an overview of the IP Office Server Edition

To access the IP Office Server Edition configuration through the Web-Manager through the Thin Client, all you need to do is open your web-browser of preference, then type = <https://IPOfficeIPAddress:7070>. A login webpage will appear to allow you to enter the system Administrator login and password. You will be directed to the Solutions Pane, where you can see the Server Edition Solution.

IP Office Web-Manager - Thin Client - Menu Options

From left to right you have the following menu options.

Solution, Call Management, System Settings, Security Manager, and Applications.

The following are the menu descriptions=

Solution - Displays the existing IP Office Server Edition.

Call Management - Extension, Groups, and Users are configured under this option.

System Settings - It has the rest of the features available in the IP Office Manager Thick client. From Account Codes, IP Routes, Incoming Call Routing Tables, Shortcodes, etc.

Security Manager - Use to generate/install Certificates and Service User Configuration

Applications - Allows the system administrator to download or configure File Manager, IP Office Manager, One-X Portal, Voicemail Pro - System Preferences, Voicemail Pro - Call Flow Management, WebRTC Configuration, Integrated Contact Reporter, and Web License Manager.



Management Applications - IP Office Manager - Thick Client

Now that we have learned how to access the IP Office Server Edition through the Web-Manager Application utilizing a web-browser, it is time for us to see the next IP Office Management Application. In this case, we are looking at the Avaya IP Office Manager Application, which gets installed when you download the IP Office Administration CD from the <http://support.avaya.com> website.

IP Office Manager - Thick Client - Menu / Navigation Options

There are three options for the system Administrator to open a system configuration, while having the Manager Application open.

Option one= pressing the following hot-keys in your keyboard = CTRL+O

Option two= Select the Network Icon, normally located below the menu bar.

Option Three= Through the menu option "File/Open Configuration".

It is important to know the Manager Application sends broadcast messages through the network searching for any Control Units available. And It is also important to have the IP Office Manager Application, Broadcast IP Address set to 255.255.255.255 in the Broadcast Address window located in the Open Configuration Pop-up window.

A Service User Account is needed to connect to the IP Office system.

When connecting to an IP Office system, you need to have a similar or greater version of the IP Office Manager Application.



Management Applications - IP Office Manager - Thick Client

IP Office Manager Menu Options

File - This option offers the following selection=

Open, close, save, and save configuration as.

Change Working Directory, Preferences, Offline, Advanced, Backup/Restore, Import/Export, and Exit.

The **Edit** Option provides the following options=

Cut, Copy, Paste, and Delete.

When selecting the **view option** the following features are available=

Navigation Pane, Group Pane, Details Pane, Error Pane, Simplified View, and TFTP Log.

Under the **Tools** Menu Option you have the following features=

Extension Renumbr, Line Renumbr, Connect To, SCN Service User Management, Busy on Held Validation, MSN Configuration, Print Button Labels, and License Migration.

Finally, you can find the version of the Manager Application by going through the IP Office Manager Menu/Help/About.



Maintenance Applications – SSA & SysMon

There are two main IP Office Maintenance applications are the System Status Application (SSA) and System Monitor (SysMon)

System Status Application

Once the SSA application is open, you have the options to enter the IP Office Address of the IP Office control unit, along with the SSA Service User including the password.

The “Auto reconnect” option, allows the application to reconnect automatically once it loses connectivity with the control unit.

The “Secure Connection” Option encrypts the communication between the client pc and the IP Office control unit.

System Status Application Mode of operation (Online/Offline)

Online Mode - When operating the SSA Application on this mode, you are able to monitor live events happening in the IP Office system. From Alarms, Active calls, Phone status, etc.

Offline Mode - This mode, it is mainly used whenever you are logging events, or taking a snapshot of the system’s activity.

System Status Application – Menu Options

Starting from left, to right you find the Help, Snapshot, LogOff, Exit, and About.

Once logged into the Avaya IP Office, it takes you to the System Hardware Summary pane, where you can see the control unit, modules, system version, etc.

Details, Shutdown System, Backup System, Restore System Files, and Clear Boot Flags. These options are available in the same System Hardware page.

System Status Application – Menu Tree Options

To the left of the SSA Application, you find a menu tree with the following options=

System, Alarms

Extensions

Active Calls

Resources

Voicemail, and IP Networking.



Maintenance Applications - System Monitor Application

The System Monitor or SysMon, it is very similar to the SSA App. It provides the system administrator the ability to trace and record events from the IP Office system. SSA is a full GUI Application, where the SysMon outputs text-based reports.

To connect to the Control Unit, you need to enter the IP Office IP Address with the SysMon password. Once connected to the IP Office control unit, you are going to start seeing the system events. The following are some of the events=

SysMonitor v10.0.2.0 = Displays the system monitor version

Contact made with 192.168.42.1 at 17:15:20 28/10/2017 = Self explanatory

LAW= Display the country code, either U-LAW or A-LAW

PR1= Displays how many ISDN PRI are installed

BRI= Same as PRI

ALOG= Displays the available analog ports

VCOMP= Voice Compression Channels

MDM= Internal Modem - legacy for dialup connections or PPP VPN

WAN= Legacy WAN module - for ATM WAN Topology Configuration replaced by MPLS

MODU= Modules connected

CkSRC= Clock Source connected Slot

VMAIL= Connected voicemail system and type

CALLS= Active calls

TOT = Total calls made since last reboot

FreeMem= 64388020 = the amount of Memory left in the system



System Monitor – Menu Options

From left to right = **File** - Select Unit, Reconnect, Open File, Save Screen Log as, Send to, Rollover Log, and Log Preferences are the options available.

Edit - Clear Display, Copy, Select All, Find, Find First, Find Next, Filter, and IP Calculate, are the options for you to use.

View - Log to Screen, Font, Background Colors, and Formatting.

Filters - Trace Options, and Sent To Syslog are the options available.

Status - US PRI Trunks, TCP Streams Data, SIP Tcp User Data, SRTP Sessions, Voicemail Sessions, SCN License, Outdialer Status, IPV6 Config, Small Community Networking, Partner Session, Alarms, Map Status, Conference Status, Network View, H323 Phones Status, Quarantined Phone Status, Blacklisted Extensions, Blacklisted IP Addresses, DECT Lines Status.

Help - About

System Monitor – Filters / Trace Options

To condense the trace and capture specific events, you can use the Trace Options, under the Filters option.

The available options are=

ISDN, Key/Lamp, Directory, Media, PPP,R2, Routing, Services, SIP, System, T1, VPN, WAN, SCN, Jade, ATM, Call, DTE, EConf, Frame Relay, GOD, H.323 and Interface.

System Monitor – File / Log Preferences

This option allows the system administrator to save the events logged in monitor onto a text file located in the local server/pc directory.

Management and Maintenance – Type of Roles

In this section, let's take a look at the IP Office Applications, and how they help us do different tasks. From Designing a new IP Office system configuration, and Implement new configurations.



Design - Configuration Design - IP Office Configuration Wizard

The IP Office Manager provides you with the ability to create offline configurations, through the offline / Create New Configuration option.

Under the IP Office Configuration Creation wizard, you can design any type of IP Office configuration prior to physically installing the actual IP Office system.

The Configurator allows you to assign different types of hardware, users, lines, etc. simulating an actual IP Office configuration.

Personally, I have used this option to pre-program a new system, if no hardware is available.

Once you have opened the IP Office Configurator, you notice a menu tree on the left section of the IP Office Manager application. Below the BootP and Operator, there is the System element, where you as the system administrator, can configure the following=

System - Managing Files

This is the main elements of the IP Office Configuration. It is where you get to name the Control unit through Name field, assigned TFTP/HTTP server IP Address, choose the Phone File Server Type between IP Office Manager, Embedded through the file management tool, and select a third party HTTP or TFTP Server with the “custom” option.

The “Avaya HTTP Clients Only” sends files only to Avaya Endpoints.

Enable HTTP Softphone Provisioning, allows the provision of the HTTP Server.

Selecting the “Automatic Backup” option allows the system to keep a copy of the IP Office System Configuration in the local memory SD card.

System - Managing the System Time

The IP Office system gets its time from a time server, using the Voicemail Pro Manager and SNTP options, or manually updated through the Daylight Savings Time Rules.

System - Ethernet Interfaces LAN and LAN2

These interfaces are capable of running two simultaneous networks to a single IP Office control unit, allowing the system administrator to segregate a network from the other. This comes in handy to secure networks.



System - Ethernet Interfaces LAN - DHCP Options

DHCP Mode can be set as Server (Provides IP Address to network nodes), Dial-in (Use in conjunction with the Dialin account to provide PPP IP Addresses), and the last option is “Disabled” (This option is available for those systems that are statically assigned to an existing network.).

System - Ethernet Interfaces LAN - VoIP Tab Options

Gatekeeper - The Gatekeeper provides VoIP services to IP and SIP phones. It serves registration and signaling functions through a single LAN interface.

Auto-create Extension and User - These options can be utilized for first time installations to allow the system administrator to connect the phones and enter the corresponding extension and both user and extension are created without the need to manually enter these elements into the IP Office system.

Frame Tagging for QoS - The Differentiated-Services or DiffServ

Whenever troubleshooting voice quality, it is a good practice to mark the voice data traffic to allow the network to prioritize the VoIP streams over Data.

This is possible by setting the DSCP, Video, and Signaling markings with a DiffServ values to 46.

System - Ethernet Interfaces LAN - LAN2 or WAN

The LAN2/WAN Interface has the same attributes as LAN1, both are capable of handling 100/1G MB Full duplex depending if IP500V2 or Server Ed is implemented.

System - Voicemail

The two most commonly used voicemail modes are the Embedded and Voicemail Pro modes. The Embedded voicemail mode comes as a free option with a two port voicemail system. Both support IP Office and Intuity Mode.

Visual voice is another feature that allows the system administrator to configure a one touch dial to access their mailbox from a display phone providing a player to play back, delete, forward/copy, etc. The zero-out option can be set here as a system wide feature to let the caller press zero and be transferred to a specified destination.



System - Telephony

Here you can configure the attributes related to call-handling. From hold time, Park Timeouts, Dial-delay, etc.

System - System Events

For SNMP and Email notification, the system events sends out alarms and any events configured to any SNMP or Email configured.

System - SMTP

For voicemail to email integration the SMTP option lets you configure the Email Server IP Address and authentication to allow the IP Office system to forward the voicemail as a .wav file to a programable user's email address.

System - SMDR

To collect Call Details and send it to a particular server capable of reporting those calls to readable reports, the SMDR option provides just that. Configure the IP Address of the SMDR collector and TCP port where the server will be listening.

User and Extensions

The User is a virtual element part of the IP Office that works in conjunction with a physical assigned extension for those utilizing a desk endpoint. For mailboxes and Softphone applications, the User element helps the system admin configure the login/password to the IP Office system.

The User Name represents the mailbox name, whereas the Full Name is what gets displayed when calling extension to extension.

These are some of the IP Office User features that you might need to get familiar with:

Voicemail - This is where you can configure per user basis the user temporary password, turn on/off voicemail, setup the voicemail to email configurations, and the breakout options.

DND (Do Not Disturb) - This option lets you visualize if the user has turned on/off this feature.

Shortcodes - The user shortcodes allow the sysadmin to configure User-based shortcodes to restrict or allow dialing options.



Source Numbers - This element of the User profile is used to configure mailbox ownership, out-calling, and create a trust between the voicemail and the User element. It also helps the sysadmin configure call handling functions with the NoUser.

Telephony - Call Handling is configured here. From Call-Waiting, Wrap-up time, and others.

Forwarding - In some cases, you might need to configure this feature to forward calls to a desired destination. This option also allows users to forward Hunt-Group calls.

Dial in - When configuring the Dial-In option, the IP Office can be set as a RAS Server or a remote RAS connection, for remote maintenance.

Voice Recording - Turns voice recording on/off, allowing the sysadmin to select the destination of the .wav files.

Button Programming - It is used to configure call handling features.

Hunt Groups

Hunt Groups are used to combine a group of users to serve one purpose. They can be used to route calls to a particular group of phones, Automated Attendants, and they can be set as Paging or Intercom groups, etc.

Queuing is available for those interested in setting up the Hunt Group as a Call Center group.

Overflow - This option helps the system administrator configure the Hunt Group to roll over to another existing Hunt Group. This is used for Call Coverage, and Automated Attendant Coverage.

Fallback - Very similar to the Overflow, routes callers to a Night or Out-Service Hunt Group Destination by turning features on/off, or based on a Time Profile.

Voicemail - Similar to the User element, the Hunt Group Voicemail and Voice Recording do the same.



Announcements- This tab allows you to set the threshold timers between announcements.

Shortcodes

The system comes with a set of preset codes already built for you to use them. They can be configured to standardize your system per customer or site. You can create your own Feature Access and Dial Access codes.

Automatic Route Selection (ARS)

These tables work in conjunction with the User, User Rights, and System Shortcodes. They can be set as Primary tables, Secondary in case the Primary becomes unavailable. This can be used to load balance the exiting system trunks.

Incoming Call Routing Tables (ICR)

They route calls based on destination, Caller ID, and DID numbers. The Trunk Group is the first thing that has to be associated with the Incoming Call Route Table.

The ICR can be set to route based on different schedules and destination.

ICR and MSN Configurator lets you configure a range of numbers and point them to the existing users available in the system.

Time Profiles

The Time Profile helps the sysadmin to program a set of time conditions and apply it to another element in the IP Office system. Some of the conditions are: a Calendar where you can select holidays. The Open/Close schedule is where you can configure the opening and closing time of a business.

IP Routes

These are static IP Routes that can route packets based on existing route decisions done by the Network Routers. These can be set based on LAN1 and LAN2.

License

The License is where the licenses get installed to allow features and functions to be enabled.



Auto Attendants

This element only appears whenever the Embedded voicemail is selected, and it is used to configure menu options and routing to specific destinations that already exist in the IP Office system.

The Dial by Number option lets the caller dial by extension, while the Automated Attendant is playing.

The Actions tab provides options 0 through 9, including #, *, and Fax transmission. These can be programmed to direct callers to existing IP Office elements.

*8401 - This shortcode is the default code auto-created with the first Auto Attendant to record the Main Greeting.

IP Office Rights Group

The system comes with the different types of Administrative roles that allows you to assign or create user accounts and assign them to a specific group.

These are the most common user groups and roles that you can configure in the system. These pre-existing groups can be updated based on customer preferences and can be customized based on existing options that the IP Office lets you choose from.

Some of these rolls are= Administrator, Manager, Operator, User and Hunt Group Administrator, and Read-Only.



Summary

In this lesson, you have learned the types of Applications and types of roles necessary to administer and maintain the IP Office system.

Under the Types of Applications, you learned the two different IP Office Manager, which are used to administer the system, whereas the System Monitor and System Status are used to perform maintenance in the system.

Under the Types of Roles, you saw how as the system engineer can design different solutions by creating an offline system configuration. You also learned how the Manager Application helps you implement a new system, and finally went over the different types of management groups available.

