InfoPlus

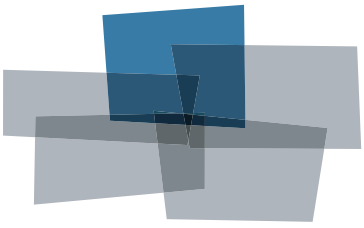
# Site Survey

*"What are my Communication Server assets?"*

Produced For

**IP Office Server Edition Demo**

Customer Number: **1234321**
Reflecting information from: **1/8/2018**



**Inventory**
Configuration
Performance
Security
Backup

## DISCLAIMER

The information contained in this document is based upon data retrieved remotely from a Communication Server. Some of the information presented may be derived, in whole or in part, from this data. Inconsistent and/or incorrect programming of the Communication Server may cause these derivations to be inaccurate. For the sake of consistency in these reports, there may be cases in which a best-effort attempt is made to derive particular information based upon related data in the Communication Server. As the reporting facilities of the Communication Server's hardware and software improve, the enhanced data will lead to more accurate InfoPlus reports. Technical errors encountered during the remote transfer of data from the Communication Server may cause spurious results in the report. Bristol Capital, Inc. does not guarantee the accuracy of the information presented, although reasonable attempts have been and will continue to be made to ensure InfoPlus reports are as accurate as possible.

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# Communications Management with InfoPlus

Regardless of the size or type of organization, there are a few basic concerns of every communications manager. InfoPlus services help address those various concerns through an integrated suite of reports and analyses.


**Inventory** – This document, the InfoPlus Site Survey, is a detailed accounting of each of the major hardware and software components of a Communication Server. Concise and detailed, the Site Survey not only provides a knowledgebase of purchased resources, it also allows for effective asset management by specifying spare as well as used and total resources available.

Of increasing importance to communications managers, the Site Survey also lists the manufacturer's then current support rating (including "End-of-Life" equipment) on each major component. Awareness of potential liabilities in the support of this equipment will enable communications managers to make plans for the maintenance or replacement of obsolete parts.

While the Site Survey is a logical starting point in gaining additional control over your telecommunications, one may quickly realize the need for an InfoPlus SourceBook. The SourceBook defines all the system programming that makes your communications system uniquely yours. Graphics of each set, identification of each software group (Call Pick-up, Intercom, etc.), Trunk Groups, call routing and even our service improving Action Items are assembled uniquely for your system.

Other services in the InfoPlus suite include:

**Configuration – InfoPlus SourceBook**
- Details a Communication Server's programming
- Graphics of each set and each button's feature or line assignment
- Lists of each defined group (Intercom, Call Pick-up, etc.)
- Clearly defines Trunking, Call Routing, and even Calling Privileges
- Service-improving Action Items are uniquely determined for your system

**Performance – InfoPlus Traffic Study**
- Consultative Report, not a "data dump"
- Supported by graphical representation of the "important" data
- Analyzes Networks, Trunks, Consoles and even Processors
- Clear recommendations supported by factual data

**Security – InfoPlus Security Audit**
- Detailed, computerized review of the system's programming
- Analyses of 83 separate features with security implications
- Each analysis consists of a Feature Description, Security Concerns, and the Findings
- One hour of personal consultation is included

**Backup – InfoPlus Backup Service**
- Off-site backup of your Communication Server's configuration
- Available at any time for restoration through the Internet

Please contact your telecommunications vendor for additional information about these services.

# Table of Contents

# 1. Solution Overview

*This section presents basic IP Office information that is useful for a high-level understanding of the overall solution. This includes the type of hardware and software installed, overall counts of fundamental system elements, and port counts for various facilities. This information may be used to ensure the accuracy of a maintenance contract covering this IP Office solution.*

**Customer Name:** IP Office Server Edition Demo
**Customer Number:** 1234321
**Date of Survey:** 3/1/2017

**IP Office Solution Type:** Server Edition Network
**Edition:** Server (standard)
**# of Nodes in Server Edition Network:** 3
**Deployment Model:** Multi-Location - IP, Analog & Digital capable (with Resilience)
**Secondary Server Present:** Yes
**Voicemail Type:** Centralized Voicemail Pro (with failover to backup VM Pro on Secondary Server)

## Control Units

| Role | Type | Name | Software Release | Users | Extensions |
|---|---|---|---|---|---|
| Primary Server | Linux Server (physical) | IPO Demo Prim | 9.1.5 | 19 | 16 |
| Secondary Server | Linux Server (physical) | IPO Demo Sec | 9.1.5 | 1 | 0 |
| Expansion System | IP500 V2 Control Unit | IPO Demo Exp | 9.1.5 | 47 | 45 |
| **Totals** | **3 Control Units** | | **-** | **67** | **61** |

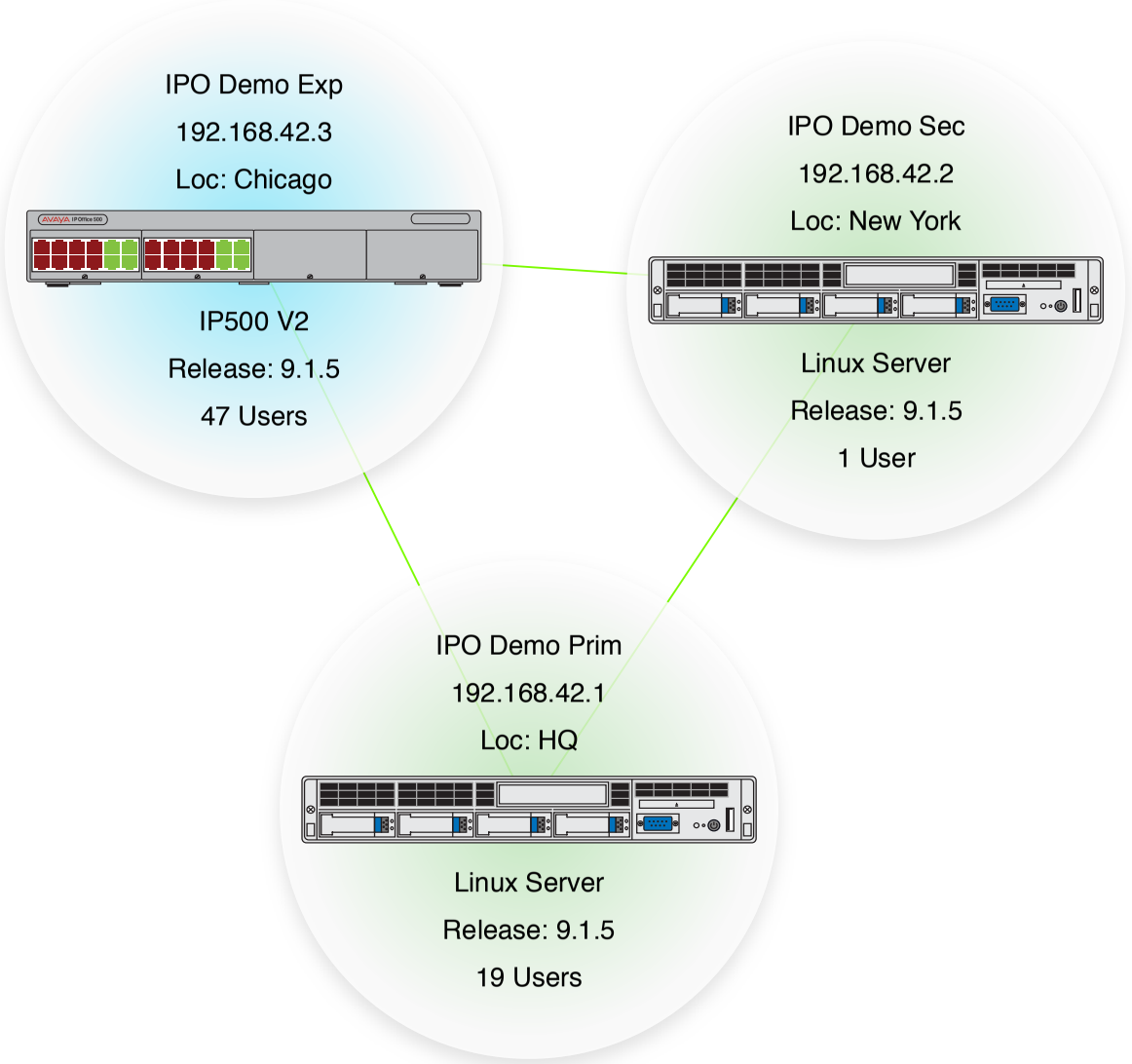
## Total Solution Port Counts

| Port Type | Equipped / Defined | Used | Spare |
|---|---|---|---|
| Analog Station | 10 | 10 | 0 |
| Digital Station | 30 | 23 | 7 |
| IP Station | 21 | 20 | 1 |
| Analog Line | 24 | 8 | 16 |
| Digital Line (PRI) | 23 | 16 | 7 |
| IP Line | 75 | 65 | 10 |
| VCM | 74 | 74 | 0 |
| Expansion Port | 8 | 2 | 6 |
| **Totals** | **265** | **218** | **47** |

# IP Office Network Graph

**IP Office Server Edition Demo**
**Customer Number:** 1234321
**Date of Information:** 3/1/2017

| | Enforced Security | Best Effort Security | Disabled/ Unavailable Security |
|---|---|---|---|
| Bidirectional Lines | ——— | ——— | ——— |
| Unidirectional Lines | – – – | – – – | – – – |



# 2. System Details

*The following sections provide key details of each of the IP Office Systems included in the overall solution.*

## System: IPO Demo Prim

**Role:** Primary Server
**Control Unit:** Linux Server
**Virtualized on VMware?:** No
(View Equipment Map)

**Location:** HQ
**Serial Number:** 000ccf45eff0
**IP Address:** 192.168.42.1
**System ID:** cbbb24318e5cd61bb2f1267fcba0f8a25de68000

**Total Users:** 19
**Total Extensions:** 16
**Total Lines:** 3 (30 trunk channels)

### System Software

**Software Edition:** Server (standard)
**Software Version:** 9.1.5.0 build 145
**Description:** IP Office Release 9.1 Service Pack 5
**Release Date:** 12/10/2015

#### Software Version by Application:

| Application Name | Software Version |
|---|---|
| IP Office | 9.1.5.0 build 145 |
| Authentication Module | 9.1.5.0 build 145 |
| Contact Recorder | 9.1.5.0 build 1 |
| Media Server | 9.1.5.0 build 145 |
| one-X Portal | 9.1.5.0 build 19 |
| Voicemail Pro | 9.1.5.0 build 2 |
| Web Collaboration | 9.1.0.0 build 145 |
| Web RTC Gateway | 9.1.2.0 build 1020 |
| WebLM Server | 9.1.5.0 build 145 |

### System Port Counts

| Port Type | Equipped / Defined | Used | Spare |
|---|---|---|---|
| Analog Station | 0 | 0 | 0 |
| Digital Station | 0 | 0 | 0 |
| IP Station | 16 | 15 | 1 |
| Analog Line | 0 | 0 | 0 |
| Digital Line (PRI) | 0 | 0 | 0 |
| IP Line | 30 | 30 | 0 |
| **Totals** | **46** | **45** | **1** |

# System: IPO Demo Sec

**Role:** Secondary Server
**Control Unit:** Linux Server
**Virtualized on VMware?:** No
(View Equipment Map)

**Location:** New York
**Serial Number:** 000d27490df0
**IP Address:** 192.168.42.2
**System ID:** cbbb24318e5cd61bb2f1267fcba0f8a25de68001

**Total Users:** 1
**Total Extensions:** 0
**Total Lines:** 3 (20 trunk channels)

## System Software

**Software Edition:** Server (standard)
**Software Version:** 9.1.5.0 build 145
**Description:** IP Office Release 9.1 Service Pack 5
**Release Date:** 12/10/2015

### Software Version by Application:

| Application Name | Software Version |
|---|---|
| IP Office | 9.1.5.0 build 145 |
| Media Server | 9.1.5.0 build 145 |
| one-X Portal | 9.1.5.0 build 19 |
| Voicemail Pro | 9.1.5.0 build 2 |
| Web RTC Gateway | 9.1.2.0 build 1020 |
| WebLM Server | 9.1.5.0 build 145 |

## System Port Counts

| Port Type | Equipped / Defined | Used | Spare |
|---|---|---|---|
| Analog Station | 0 | 0 | 0 |
| Digital Station | 0 | 0 | 0 |
| IP Station | 0 | 0 | 0 |
| Analog Line | 0 | 0 | 0 |
| Digital Line (PRI) | 0 | 0 | 0 |
| IP Line | 20 | 10 | 10 |
| **Totals** | **20** | **10** | **10** |

# System: IPO Demo Exp

**Role:** Expansion System
**Control Unit:** IP500 V2
**# of Base Cards Installed:** 4
**# of Trunk Cards Installed:** 2
**# of Expansion Modules:** 2
(View Equipment Map)

**Location:** Chicago
**Serial Number:** 000cd123eff0
**IP Address:** 192.168.42.3
**Feature Key Serial Number:** 1234567890

**Total Users:** 47
**Total Extensions:** 45*
**Total Lines:** 28 (72 trunk channels)

**__NOTE:__ 8 additional Extensions are present in the configuration of this System, but are not included in this report because there is no physical hardware present to enable them. See Section 9, "Action Items" for further details.*

## System Software

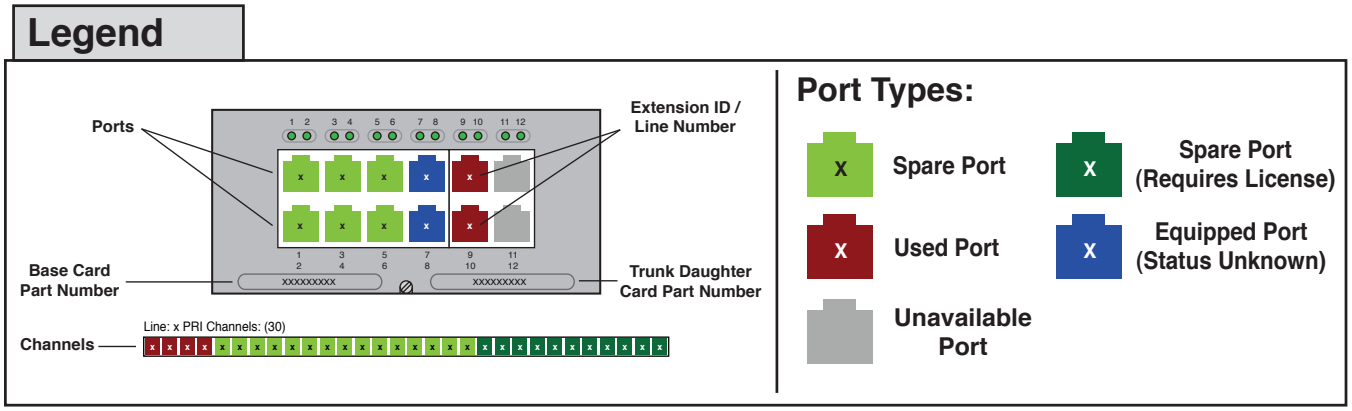
**Software Edition:** Server (standard)
**Software Version:** 9.1.5.0 build 145
**Description:** IP Office Release 9.1 Service Pack 5
**Release Date:** 12/10/2015

## System Port Counts

| Port Type | Equipped / Defined | Used | Spare |
|---|---|---|---|
| Analog Station | 10 | 10 | 0 |
| Digital Station | 30 | 23 | 7 |
| IP Station | 5 | 5 | 0 |
| Analog Line | 24 | 8 | 16 |
| Digital Line (PRI) | 23 | 16 | 7 |
| IP Line | 25 | 25 | 0 |
| VCM | 74 | 74 | 0 |
| Expansion Port | 8 | 2 | 6 |
| **Totals** | **199** | **163** | **36** |

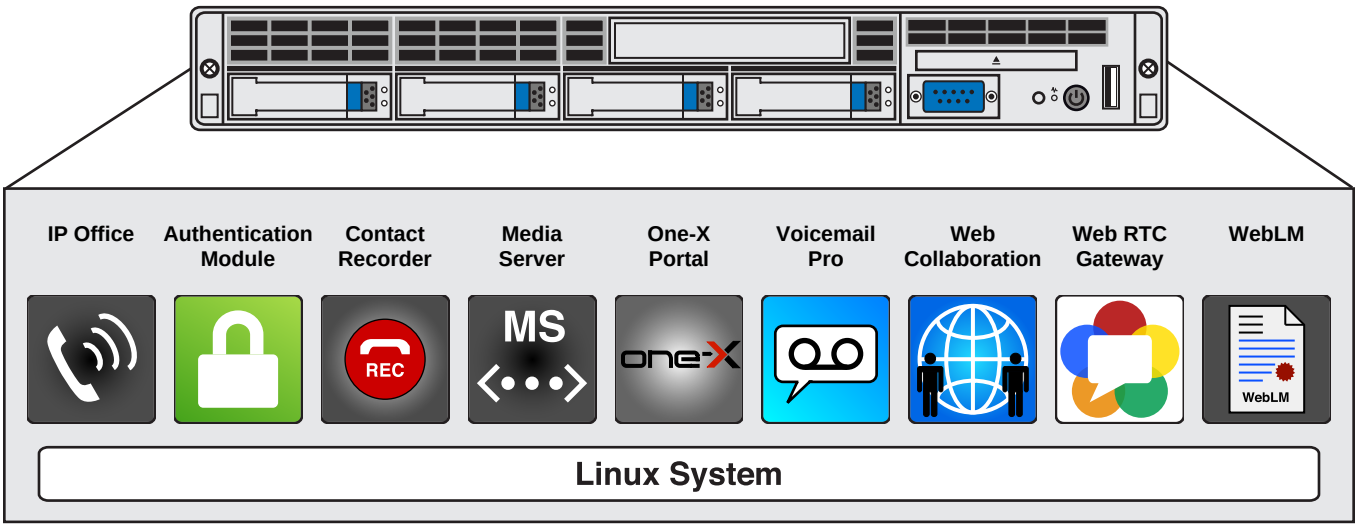
# 3. Equipment Maps

*The following diagrams depict the various hardware elements that make up this IP Office solution, showing the status of individual ports and channels. The hardware is organized into Servers, Control Units, Base Cards, and Expansion Modules. The Equipment Maps are commonly used for hardware and software upgrades, business expansions, multi-site inventory control, and basic troubleshooting.*



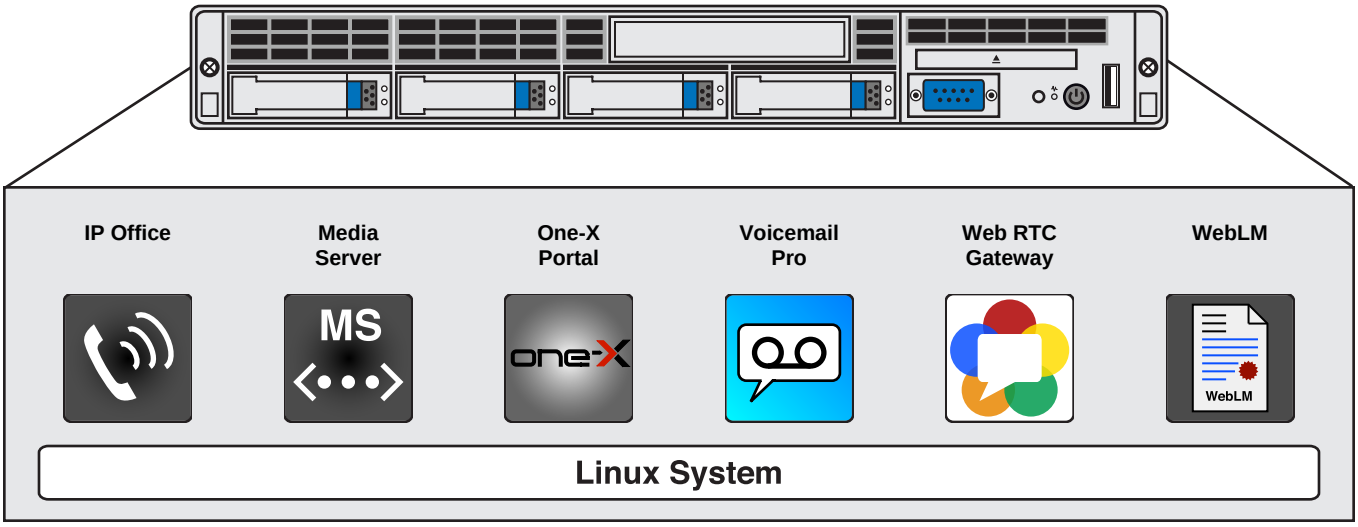

## System: IPO Demo Prim

### Linux Server Control Unit (Primary Server)



# System: IPO Demo Sec

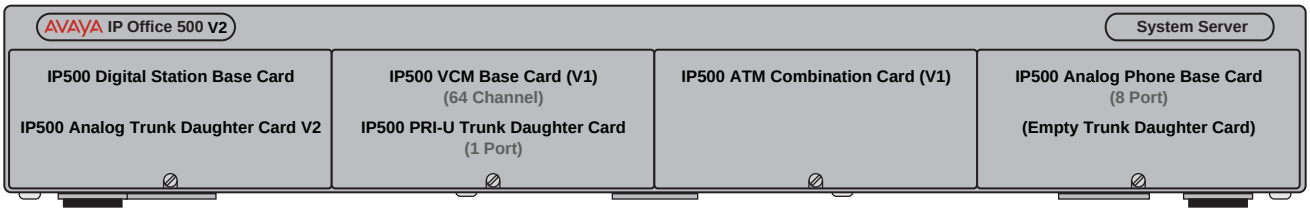
### Linux Server Control Unit (Secondary Server)




# System: IPO Demo Exp

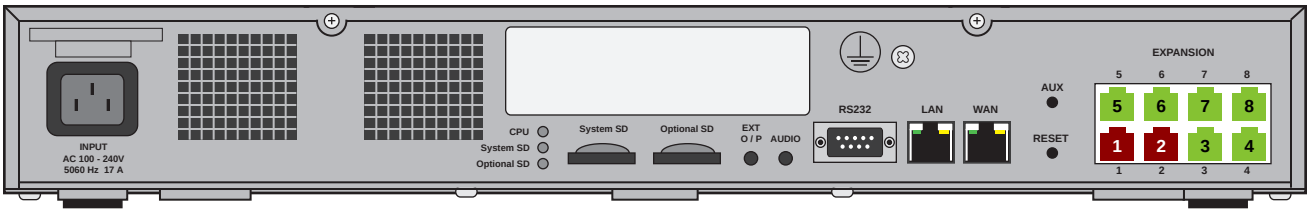
### IP500 V2 Control Unit

Front

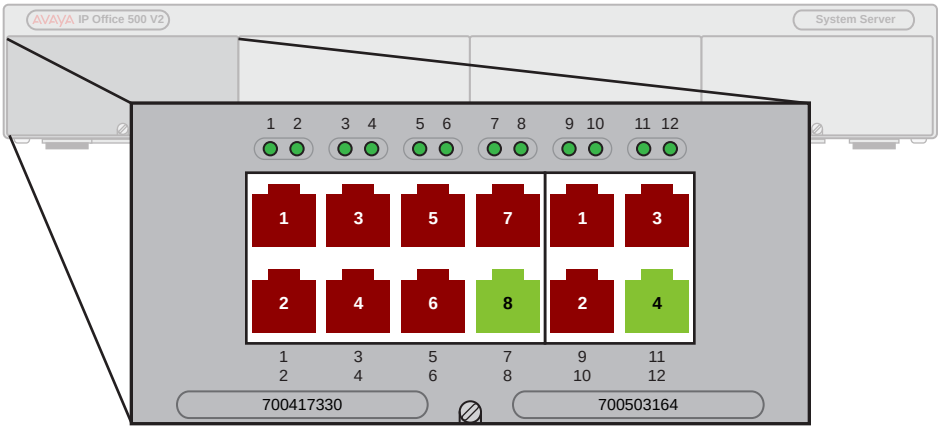



**Part Number: 700476005**

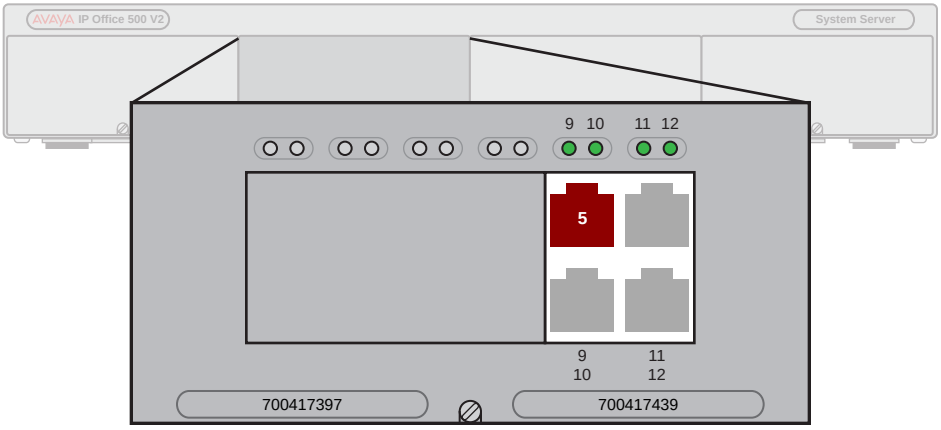
Back



### Base Card 1: IP500 Digital Station Base Card / Analog Trunk Daughter Card V2




### Base Card 2: IP500 VCM Base Card (V1) - 64 Channel / PRI-U Trunk Daughter Card




#### Channels on this component:

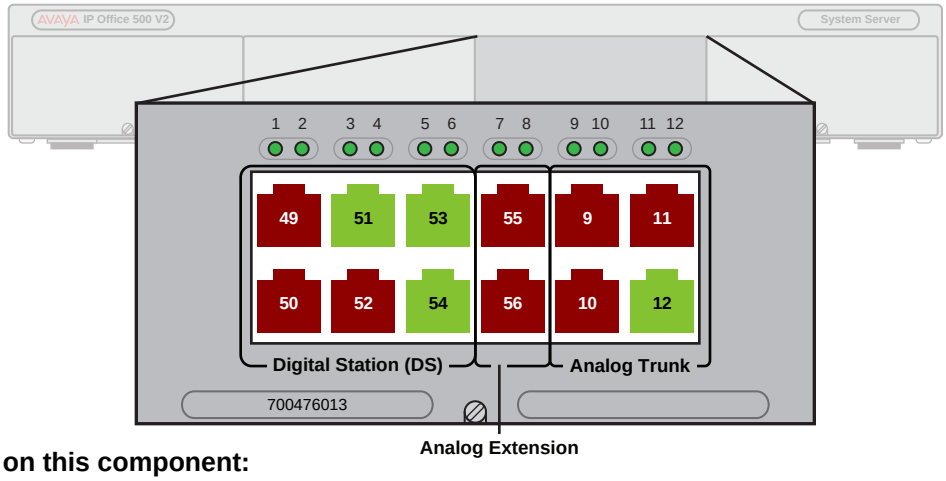
IP500 VCM Base Card (V1), VCM Channels: (64)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |

Line:5 PRI Channels: (23)

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |

## Base Card 3: IP500 ATM Combination Card (V1)

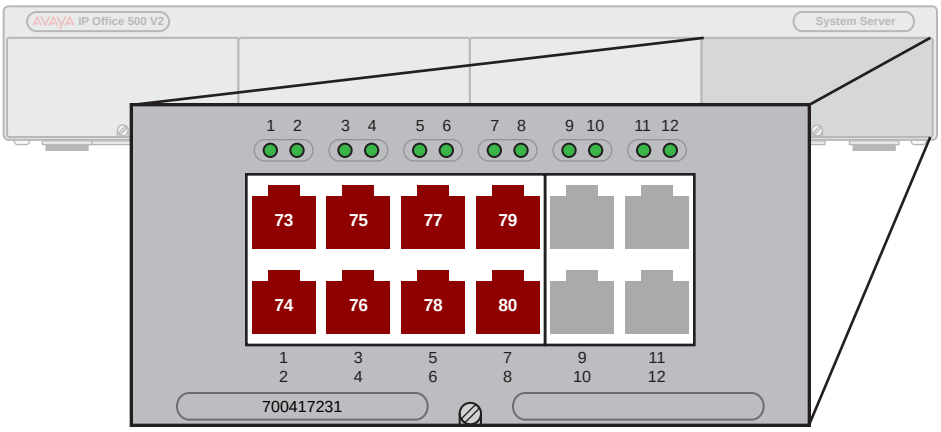



### Channels on this component:

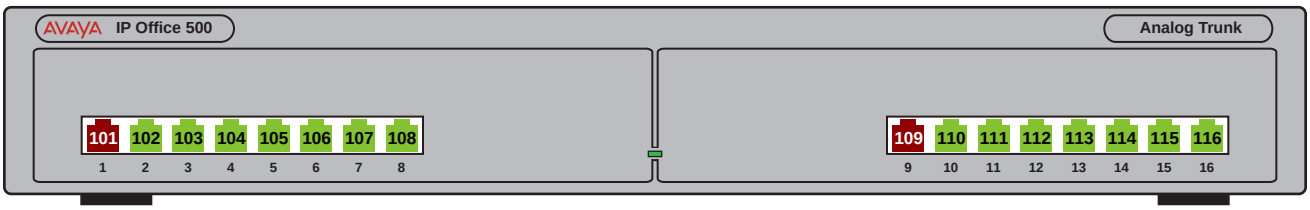
IP500 ATM Combination Card (V1), VCM Channels: (10)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|

## Base Card 4: IP500 Analog Phone Base Card - 8 Port

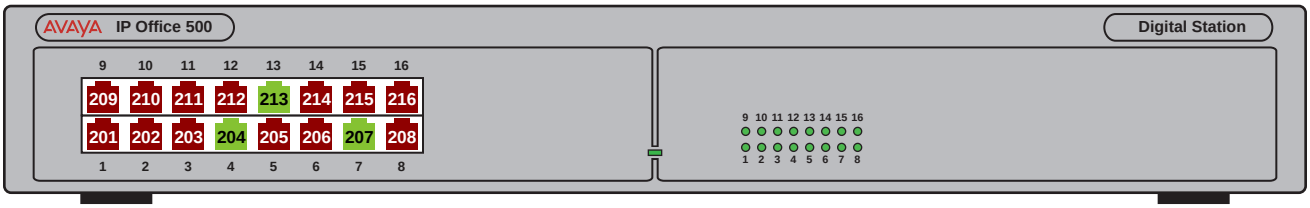



## IP500 V2, Expansion Module 1: IP500 Analog Trunk Module




**Part Number: 700449473**

## IP500 V2, Expansion Module 2: IP500 Digital Station B Module - 16 Port




**Part Number: 700501585**

# 4. Hardware Inventory

*The Hardware Inventory section summarizes each of the various pieces of equipment that compose this IP Office solution, including Linux Servers, Control Units, Base Cards, Trunk Cards, Expansion Modules, and Stations. This information is particularly useful for accounting and inventory control across a large installed base of IP Office systems.*

## Linux Servers

*In an IP Office Server Edition network, Linux Servers provide core telephony, routing, administration, and processing functionality - similar to proprietary hardware Control Units like the IP500 V2. Linux Servers directly support only IP-based stations and lines, and are deployed in one of three roles in the Server Edition network:*

- *a single Primary Server is required*
- *a single Secondary Server is optional, and provides increased capacity and resiliency*
- *multiple Expansion Servers can be added to provide geographic distribution and increased capacity*

*Smaller IP Office deployments may use a single Linux Server to provide all the necessary features and services, while a more complex or geographically disbursed deployment may require multiple Linux Servers and/or Control Units working together as part of the overall solution.*

| Role | Description | Quantity |
|---|---|---|
| Primary Server | Linux Server (physical) | 1 |
| Secondary Server | Linux Server (physical) | 1 |

### List of Linux Servers

| Name | Role | Description | Location | IP Address |
|---|---|---|---|---|
| IPO Demo Prim | Primary Server | Linux Server (physical) | HQ | 192.168.42.1 |
| IPO Demo Sec | Secondary Server | Linux Server (physical) | New York | 192.168.42.2 |

## Control Units

*Control Units provide core telephony, routing, administration, and processing functionality in an IP Office solution. Smaller IP Office deployments may use a single Control Unit to provide all the necessary features and services, while a more complex or geographically disbursed deployment may require multiple Control Units working together in a network. Control Units can directly support both traditional (non-IP) and IP-based telephony components, and provide ports and/or card slots for connecting additional hardware to the System.*

| Part Number | Description | Quantity | Ports / Slots | | |
|---|---|---|---|---|---|
| | | | Total | Used | Spare |
| 700476005 | IP500 V2 Control Unit | 1 | | | |
| | *IP500 Base Card Slots* | | *4* | *4* | *0* |
| | *Expansion Module Ports* | | *8* | *2* | *6* |

### List of Control Units

| Name | Role | Description | Location | IP Address |
|---|---|---|---|---|
| IPO Demo Exp | Expansion System | IP500 V2 Control Unit | Chicago | 192.168.42.3 |

# Base Cards

*Up to four separate Base Cards can be installed in a Control Unit to provide the appropriate telephony resources to the System. Base Cards can be used to add Digital Station ports, Analog Station Ports, VCM channels, and Expansion ports to a Control Unit. In addition, most Base Cards allow a Trunk Daughter Card to be installed within them, providing trunking resources to the Control Unit as well.*

Below is an inventory of the Base Cards installed in the solution, together with an accounting of the various ports that are supplied. Base cards that supply more than one type of port are shown using multiple rows. Any removable Trunk Daughter Cards that are currently installed in a Base Card are shown in a separate section below for a more detailed inventory.

| Part Number | Description | Quantity | Total Ports | Used Ports | Spare Ports |
|---|---|---|---|---|---|
| 700417231 | IP500 Analog Phone Base Card (8 Port) | 1 | 8 | 8 | 0 |
| 700417330 | IP500 Digital Station Base Card | 1 | 8 | 7 | 1 |
| 700417397 | IP500 VCM Base Card (V1) (64 Channel) | 1 | 64 | - | - |
| 700476013 | IP500 ATM Combination Card (V1) | 1 | | | |
| | *Analog Station (PHONE/POT)* | | *2* | *2* | *0* |
| | *Analog Trunk* | | *4* | *3* | *1* |
| | *Digital Station (DS)* | | *6* | *3* | *3* |
| | *VCM Channel* | | *10* | *-* | *-* |

# Trunk Cards

*Trunks are the resources within IP Office which allow internal users to communicate with external individuals, including via the Public Switched Telephone Network (PSTN) for example. The traditional trunking capabilities of an IP Office System can be expanded through the use of Trunk Cards, which are installed either directly in the Control Unit, or in an appropriate Base Card depending on the Control Unit being used. Trunk Cards are used to add both Analog and Digital (PRI or BRI) trunking facilities to the IP Office. The addition of newer SIP Trunks does not require the use of a Trunk Card, but may require additional licensing or Voice Compression channels.*

Below is an inventory of the Trunk Cards installed in the solution, together with an accounting of the various ports/channels that are supplied. Note that non-removable Trunk Daughter Cards that are part of a 'combination' Base Card are not listed here, but rather are included in the Base Cards section above for a more accurate inventory.

| Part Number | Description | Quantity | Total Ports | Used Ports | Spare Ports |
|---|---|---|---|---|---|
| 700417439 | IP500 PRI-U Trunk Daughter Card (1 Port) | 1 | 23 | 16 | 7* |
| | *PRI* | | *23* | *16* | *7* |
| 700503164 | IP500 Analog Trunk Daughter Card V2 | 1 | 4 | 3 | 1 |

**NOTE:** *Some of the Spare Ports for a PRI Digital Trunk require a License to use.*

# Expansion Modules

*Expansion Modules provide another way to extend the telephony resources of an IP Office solution. Each Expansion Module supplies either Digital Station ports, Analog Station ports, BRI Station ports, Analog Trunk ports, or WAN ports depending on the model. Up to 12 such modules can be connected to a single Control Unit (depending on the model), significantly increasing the number of available ports and thus supported users.*

Below is an inventory of the Expansion Modules installed in the solution, together with an accounting of the various ports that are supplied by each type of module.

| Part Number | Description | Quantity | Total Ports | Used Ports | Spare Ports |
|---|---|---|---|---|---|
| 700449473 | IP500 Analog Trunk Module | 1 | 16 | 2 | 14 |
| 700501585 | IP500 Digital Station B Module (16 Port) | 1 | 16 | 13 | 3 |
| | *Digital Station (DS)* | | *16* | *13* | *3* |

# Stations

*Whether analog, digital, or IP-based, hardware stations are often the aspect of the IP Office solution that users have the most direct contact with. Therefore, properly selecting the particular models used is an important aspect of the solution's design. Even as the telecommunications world moves toward employees using software-based clients for some scenarios, physical stations still represent a major portion of a system's initial purchase price and future investment in most cases.*

Below is an inventory of the hardware Stations installed with the solution, organized by both station model (9620, 9630, etc.) and station type (analog, digital, IP, etc.)

## Stations by Model

| Part Number | Station Model | Port Type | Quantity |
|---|---|---|---|
| | Analog Station * | Analog Station (PHONE/POT) | 10 |
| | *Paging Speaker* | | *2* |
| | *Quiet Headset* | | *2* |
| | *Standard Telephone* | | *6* |
| | Unknown SIP Station * | IP Station (SIP) | 1 |
| 700381627 | 5420D | Digital Station (DS) | 7 |
| 700381965 | 5610SW | IP Station (H.323) | 4 |
| 700469869 | 1416 | Digital Station (DS) | 7 |
| 700504740 | B179 | IP Station (SIP) | 1 |
| 700504845 | 9611G | IP Station (H.323) | 14 |
| 700508197 | 9504 | Digital Station (DS) | 9 |
| **Total Used Stations: 53** | | | |

**__NOTE:__ This is a generic identifier which could encompass several distinct models. The exact model of station present may be different.*

## Stations by Port Type

| Port Type | Quantity |
|---|---|
| Analog Station (PHONE/POT) | 10 |
| Digital Station (DS) | 23 |
| IP Station (H.323) | 18 |
| IP Station (SIP) | 2 |
| **Total Used Stations: 53** | |

# Station Add-On Modules

*On certain station models, the number of physical keys available can be expanded by the addition of one or more add-on modules. These additional keys can help improve the efficiency of Users with significant telecommunication needs.*

Below is an inventory of the station add-on modules detected in the solution.

| Part Number | Station Add-On Model | Quantity |
|---|---|---|
| 700469968 | DBM32 | 1 |

# 5. Feature Licensing

*The features available in the core IP Office software can be expanded through the installation of software licenses. Collections of significant features are grouped together into licensed 'Editions' of IP Office, such as 'Essential Edition', 'Preferred Edition', and 'Server Edition'. Specific features may also require individual licensing, regardless of the Edition. The licenses used in IP Office are tied to the unique Feature Key or System ID associated with the System, and are only valid for that particular unit.*

*The licensing model of IP Office can be rather complex, with individual features being licensed in a variety of ways ('User Profile' licenses, 'legacy' licenses, implicit licenses, installed hardware, etc.). To help clarify the situation, the table below describes the **features** of IP Office that are affected by licensing, and takes into account all of the various ways each of the features is licensed. Some types of licenses are purchased with a specified quantity, usually indicating the number of simultaneous uses of the particular feature, or the number of Users which can be assigned the feature. The total licensed capacity of each feature is presented, along with the number of instances used and spare when available.*

*Due to the complex licensing rules of IP Office, the numbers below may not be identical to the raw license counts as reported by the system, which are included in an appendix for reference.*

**Primary Server System ID:** cbbb24318e5cd61bb2f1267fcba0f8a25de68000

## Licensed Features

| Licensed Feature | Description | | Total | Used | Spare |
|---|---|---|---|---|---|
| | **Software Edition** | | | | |
| Server Edition | A scalable, Linux-based version of IP Office designed for the Midsize Enterprise. Provides Unified Communications support through Voicemail Pro, and offers enhanced redundancy and expansion for larger deployments. | | 3 | 3 | 0 |
| | *IPO Demo Prim (Primary Server)* | *(3 Centralized Licenses installed)* | ✓ | - | - |
| | *IPO Demo Sec* | *(Allocated from Primary)* | ✓ | - | - |
| | *IPO Demo Exp* | *(Allocated from Primary)* | ✓ | - | - |
| | **Trunking / Networking** | | | | |
| Universal PRI Channels | Only the first 8 channels of the IP500 Universal PRI trunk daughter cards are enabled by default. Additional licensing is required to use the remaining channels up to the capacity of the cards installed and the type of PRI lines configured. | | 16 | 16 | 0 |
| | *IPO Demo Exp* | | *16* | *16* | *0* |
| SIP Trunk Channels | SIP Trunking can provide advanced capabilities and lower costs compared to traditional PSTN trunking. Each simultaneous call over a SIP Trunk channel requires licensing. | | 55 | 45* | 20 |
| | *IPO Demo Prim (Primary Server)* | | *40* | *20* | *20†* |
| | *IPO Demo Sec* | | *0* | *10** | *0* |
| | *IPO Demo Exp* | | *15* | *15* | *0* |
| | **IP Endpoints** | | | | |
| Avaya IP Endpoints | Each physical Avaya IP Phone requires licensing to use. In Server Edition, these licenses are consumed whenever an Avaya IP Phone is configured in IP Office, and can be 'reserved' by select phones to ensure a license is always available. | | 37 | 20 | 17 |
| | *IPO Demo Prim (Primary Server)* | | *25* | *15* | *10†* |
| | *IPO Demo Exp* | | *12* | *5* | *7* |

| Licensed Feature | Description | | Total | Used | Spare |
|---|---|---|---|---|---|
| 3rd Party IP Endpoints | Each non-Avaya IP Phone, including third-party softphones, requires separate licensing to use. These licenses are consumed when any third-party IP Phone registers to IP Office, or can be 'reserved' by select phones (in later releases) to ensure a license is always available. | | 5 | 1 | 4 |
| | *IPO Demo Prim (Primary Server)* | | *5* | *1* | *4†* |
| **User Profiles** | | | | | |
| Office Worker | Provides a collection of enhanced capabilities for select Users working in a traditional office environment. Allows Users to control and manage their communications via PC-based applications including one-X Portal and a standard email client. | | 20 | 15 | 5 |
| | *IPO Demo Prim (Primary Server)* | *(20-7 allocated to others)* | *13* | *8* | *5†* |
| | *IPO Demo Exp* | *(0+7 allocated from Primary)* | *7* | *7* | *0* |
| Power User | Provides a collection of enhanced capabilities for select Users that may need to work from any location - in the office, at home, or on the road using a mobile device. Allows Users to control and manage their communications via PC-based applications, allows the remote use of an Avaya IP Phone and/or softphone, and enables features allowing the User's mobile device to function like a standard office phone. | | 25 | 18 | 7 |
| | *IPO Demo Prim (Primary Server)* | *(25-13 allocated to others)* | *12* | *5* | *7†* |
| | *IPO Demo Exp* | *(0+13 allocated from Primary)* | *13* | *13* | *0* |
| **User Features** | | | | | |
| Flare Communicator / Experience | Flare Communicator (a.k.a Avaya Communicator) is an advanced communications client which can be used on a variety of devices running Windows, Android, or iOS. It provides audio, video, and messaging capabilities with a modern user interface. Each User enabled for Flare Communicator requires an appropriate User Profile or speciality license. | | 45 | 25 | 20 |
| | *IPO Demo Prim (Primary Server)* | | *25* | *8* | *17* |
| | *IPO Demo Exp* | | *20* | *17* | *3* |
| one-X Portal services | Provides a browser-based interface for Users to view and manage their communications, including call control, call history, contact directories, call recording, and message access. | | 45 | 32 | 13 |
| | *IPO Demo Prim (Primary Server)* | | *25* | *13* | *12* |
| | *IPO Demo Exp* | | *20* | *19* | *1* |
| one-X Portal Telecommuter mode | Allows Users to use any dialable phone at a remote location as if it were their traditional desk phone. Incoming calls are redirected to the telecommute number, and outgoing calls are initiated via the one-X Portal interface, calling back the telecommute number before connecting. | | 25 | 9 | 16 |
| | *IPO Demo Prim (Primary Server)* | | *12* | *3* | *9* |
| | *IPO Demo Exp* | | *13* | *6* | *7* |
| one-X Mobile Preferred - Callback mode | Allows Users to use the one-X Mobile Preferred smartphone client in 'callback' mode (as opposed to VoIP mode). Incoming calls are directed to the mobile number, and outgoing calls initiated via the one-X Mobile Preferred client call back the mobile number before connecting. Uses the phone's 'voice plan' rather than its 'data plan'. | | 25 | - | - |
| | *IPO Demo Prim (Primary Server)* | | *12* | *-* | *-* |
| | *IPO Demo Exp* | | *13* | *-* | *-* |
| one-X Mobile Preferred - VoIP mode | Allows Users to use the one-X Mobile Preferred smartphone client in 'VoIP' mode (as opposed to 'callback' mode). If WiFi or a sufficient | | 25 | 11 | 14 |

| Licensed Feature | Description | Total | Used | Spare |
|---|---|---|---|---|
| | data connection (3G/4G) is available, the one-X Mobile Preferred client will register to the IP Office as a standard IP phone, acting as an office extension. Uses the phone's 'data plan' rather than its 'voice plan'. | | | |
| | *IPO Demo Prim (Primary Server)* | *12* | *5* | *7* |
| | *IPO Demo Exp* | *13* | *6* | *7* |
| Text to Speech for Email Reading | Allows Users to hear their new emails read to them over the phone, along with their new voicemail messages. | 25 | - | - |
| | *IPO Demo Prim (Primary Server)* | *12* | *-* | *-* |
| | *IPO Demo Exp* | *13* | *-* | *-* |
| Receptionist | Enables the use of the SoftConsole application, allowing operators or receptionists to monitor and transfer incoming calls from their PC. | 2 | 3* | 1 |
| | *IPO Demo Prim (Primary Server)* | *2* | *1* | *1* |
| | *IPO Demo Exp* | *0* | *2** | *0* |
| Web Collaboration | Web Collaboration provides an integrated suite of audio conferencing, desktop/application sharing, document collaboration, and white-boarding capabilities for IP Office users. | 3 | 3 | 0 |
| | *IPO Demo Exp* | *3* | *3* | *0* |
| | **Voicemail / Messaging** | | | |
| Voicemail Pro Ports | Voicemail Pro is a licensed messaging system providing more advanced features than IP Office Embedded Voicemail. These include increased storage and concurrent use, support for centralized and distributed deployments, advanced Unified Messaging features, and call recording. The number of simultaneous users able to access Voicemail Pro is determined by licensing. | 22 | - | - |
| | *IPO Demo Prim (Primary Server)* | *22* | *-* | *-* |
| UMS Web Services | Unified Messaging Service provides enhanced integration between Voicemail Pro and a user's email account. This includes synchronization of message status, and access to voicemail messages via a standard email client or a separate web interface. Licensing determines the total number of Users which can be configured for UMS integration. | 45 | 32 | 13 |
| | *IPO Demo Prim (Primary Server)* | *25* | *12* | *13* |
| | *IPO Demo Exp* | *20* | *20* | *0* |

**NOTE:* *Some licensed features have more instances configured than there are licenses available. The number of simultaneous uses of the feature will be limited to the total license count.*

†***NOTE:*** *Spare 'Centralized' licenses installed on the Primary Server can be used by* ***any*** *system in the IP Office Server Edition network.*

# 6. Core Telephony

*The primary purpose of the IP Office solution is to enable individuals to communicate with one another, whether they're within the same organization or not. Traditionally, this has been via voice (i.e. a phone call), but today there are alternative forms such as video. This basic communication involves the interaction of a few different elements within the IP Office configuration:*

- ***Users** are the individuals within an organization that need to communicate with other people*
- ***Extensions** are the devices (or software) that facilitate this communication*
- ***Lines** (aka Trunks) are the resources that connect one organization to others, allowing Users to communicate with external individuals*

*The quantity and types of these three elements within the IP Office configuration determine the basic communication capabilities of the system. For example, if there are fewer Lines than there are Extensions, not everyone can be making an external phone call at the same time. Similarly, if there are more Users defined than Extensions, not every employee has access to a device (e.g. a phone) at the same time. The appropriate ratio and mixture of these resources is a function of the organization, its communications needs, and its work culture.*

*This section will provide a high-level overview of these basic communication resources, and what they indicate about the current and future needs of the organization.*

## Users

*Users in IP Office represent the individuals who are provided communication services by the system. The number of Users defined in the system may be different than the number of physical Extensions when using capabilities like Hot Desking, which allows multiple Users to share the same physical Extension. In addition, a number of Users are often defined in the system for special purposes such as RAS dial-in access, WAN or Intranet Services, and applying settings to logged-out Extensions.*

### Extension Number Summary

*Most Users have a unique extension number assigned to them, and that extension number follows the User regardless of which physical Extension they may log in to.*

The following ranges of extension numbers have been assigned to Users:

20X - 21X
222 - 227
229
23X
25X
260 - 267
270
272
275 - 277
300 - 304

In addition, the following range(s) of extension numbers are assigned to **inactive users**, including Disabled Users and default Users automatically created during system initialization:

220 - 221
240

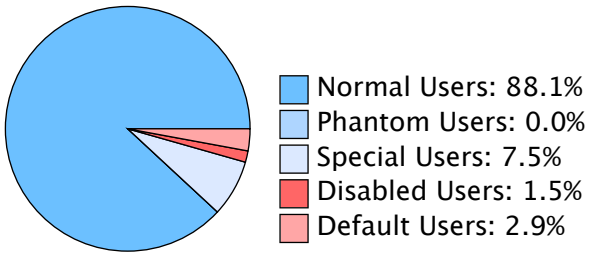
## User Counts by Type

*While a User is typically defined in the solution for each employee supported by IP Office, there are other reasons a User record may be configured as well. The table and chart below differentiate the various types of Users that are often defined, providing a more accurate accounting than just the total number of User records in the solution. Users were classified into the following categories based on the given criteria:*

- *Normal User – A User that does not fall into one of the following categories, and most likely represents an actual, individual user of the system.*
- *Phantom User – A User record that is created for the sole purpose of unconditionally forwarding a unique Extension Number to another, potentially external, number. Phantom Users often do not represent actual employees, but are rather a programming convenience to define new Extension Numbers that terminate somewhere else.*
- *Special User – A User record that supports a specific function within IP Office, such as a WAN / Intranet Service, Remote Dial-Up Service, or the 'NoUser' record that specifies default settings for logged-out phones. This category includes any User without an Extension Number, any Non-licensed User, and Users associated with non-station equipment such as FAX machines and paging speakers.*
- *Disabled User – A User whose 'Account Status' has been changed to 'Disabled', likely indicating that the User is no longer active within the system.*
- *Default User – A User record that was defined automatically during system initialization for detected hardware, and which has never been fully configured with an individual's name or settings.*

The table and chart below display the number of defined Users in each of the above categories:

| User Type | Count |
|---|---|
| Normal Users | 59 |
| Phantom Users | 0 |
| Special Users | 5 |
| Disabled Users | 1 |
| Default Users | 2 |
| **Total Users** | **67** |

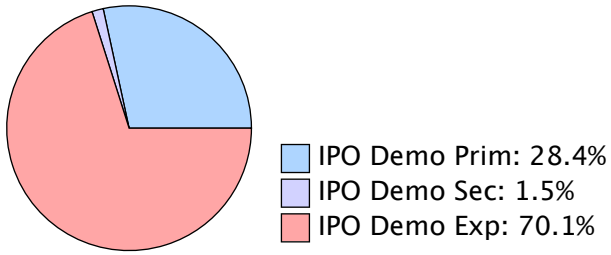



## User Counts by System

*In a multiple-System IP Office solution, each User is configured on a specific System. This is typically the System local to where the User spends the majority of their time. The maximum number of Users that can be configured on any one System is a function of the Control Unit's hardware and software version. User records are shared among the entire IP Office network to allow dialing Users in other Systems by extension number, and to enable features like Hot Desking. However, changes to an individual User's record are performed on the unique System they are defined in.*

The table and chart below display the number of defined Users in each of the Systems in the IP Office solution:

| System Name | Role | User Count |
|---|---|---|
| IPO Demo Prim | Primary Server | 19 |
| IPO Demo Sec | Secondary Server | 1 |
| IPO Demo Exp | Expansion System | 47 |
| **Total Users** | | **67** |



## User Counts by Profile

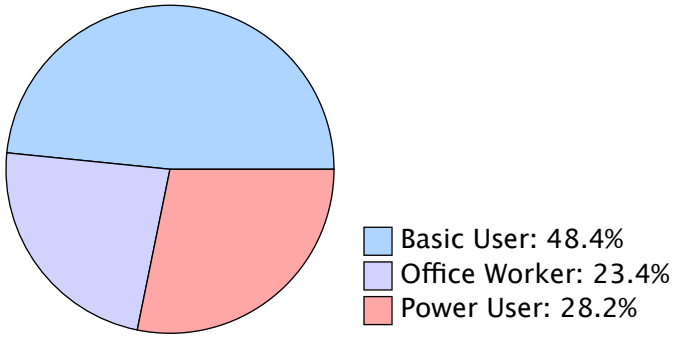
*The capabilities of individual Users are controlled partly by the 'Profile' they're assigned. The 'Basic User' profile is assigned to all Users by default, and provides the essential features necessary for an employee to use IP Office. The use of more advanced features, such as Avaya Softphones and 'Communicator', remote Extensions, and text-to-speech email reading, can be enabled for a particular User by assigning them an appropriate Profile. These advanced Profiles are license-limited, and must be purchased individually for each User you wish to assign.*

*Since User Profile licenses are a purchased, limited resource, they must be appropriately managed. The table below summarizes the use of the various User Profiles, including the number of Users assigned to each Profile, and the licensing details for those Profiles that must be purchased. If a non-basic Profile is assigned to a User that is currently not in use (i.e. a 'Disabled' or 'Spare' User), the count will be shown in red to highlight the possible waste of a license.*

### Types of Users (by Profile)

| Profile | Licenses Installed | User Count | | Spare Licenses |
|---|---|---|---|---|
| | | In Use | Not In Use | |
| Basic User | - | 31 | 3 | - |
| Office Worker | 20 | 15 | 0 | 5 |
| Power User | 25 | 18 | 0 | 7 |
| **Totals** | **45** | **64** | **3** | **12** |

### Distribution of 'In Use' Users by Profile




## User Hot Desking

*The relationship between Users and physical Extensions (i.e. stations) can be quite sophisticated when using the 'Hot Desking' feature of IP Office. This feature allows an individual User to no longer be dedicated to a single station, and vice versa. Instead, Users can 'log in' and 'log out' of physical stations while keeping their distinct User profile, including their unique Extension Number and custom button programming. This opens a wide variety of use cases such as allowing an individual employee to work from different physical locations, or allowing multiple shifts of workers to use a shared pool of physical stations.*

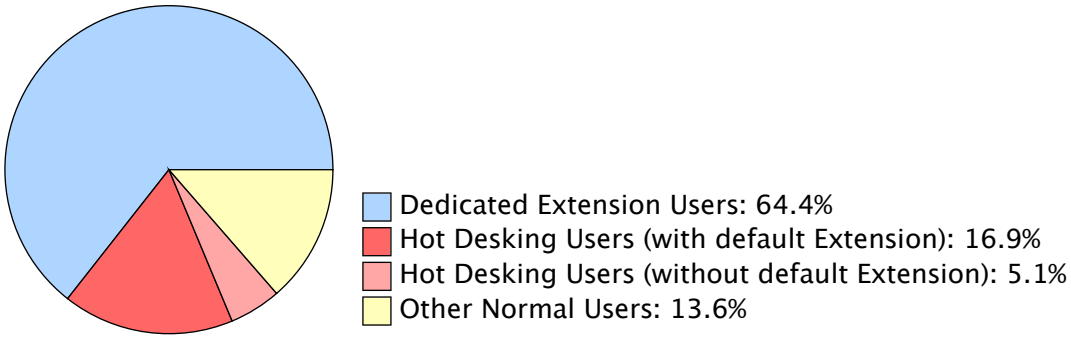
*The use of Hot Desking therefore makes understanding the overall 'size' of an IP Office solution more complex. The solution may support many more Users than there are physical Extensions, and/or there may be multiple physical Extensions for any one User. To help clarify the various scenarios, the relationship between Users and physical Extensions is summarized in the graphs below.*

*The chart below shows the distribution of Users with respect to the Hot Desking Feature. The 'Normal' Users have been divided into the following categories:*

- *Dedicated Extension Users - do not have Hot Desking available, and thus are dedicated to their assigned station only.*

- *Hot Desking Users (with default Extension) - can log in to an available station, but have a 'default' physical Extension that is likely their primary station.*
- *Hot Desking Users (without default Extension) - no physical Extension defaults to the User, so they must log in to an available station to use it.*
- *Other Normal Users - do not have Hot Desking enabled, but also do not have a physical Extension assigned.*

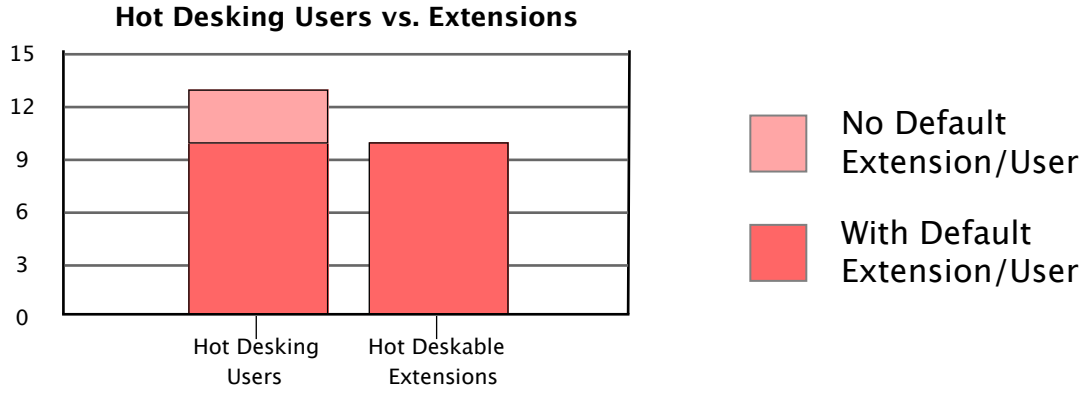
*The relative distribution of these categories provides a high-level view of the extent to which Hot Desking is being utilized, as shown below:*




*Another interesting metric to look at with regard to Hot Desking is the ratio of Users to Extensions. For example, if Users work in three distinct shifts, and share a common pool of available physical Extensions, there would be three times as many Users as there are Extensions.*

*The graph below shows the relationship between the total count of Hot Desking Users (on the left) and the total count of 'Hot Deskable' Extensions (on the right). A 'Hot Deskable' Extension is any Extension that is not dedicated to a single User. The relative counts show the extent to which Users may be sharing the same pool of Extensions.*

*The counts below are further divided into 'pure' Hot Desking Users (those without **any** associated Extension by default), and 'pure' Hot Desking Extensions (those not assigned to **any** User by default). Without a default associated Extension, these Users **must** 'log in' to some available Extension to use it. These numbers may present a more accurate analysis of Hot Desking use if Users are assigned Login Codes for purposes other than Hot Desking.*




## User Feature Summary

There are numerous features that can be enabled on a User-by-User basis, some of which require additional licensing. The table below highlights a subset of these capabilities, and provides a high-level overview of the extent to which they're utilized by this IP Office solution.

| Feature | Description | User Count | % of Users |
|---|---|---|---|
| Receptionist | Allows the use of the SoftConsole application, for efficiently handling large call volumes by an Attendant | 3 | 4% |
| IP Office Softphone | Allows the use of the Avaya IP Office (Video) Softphone application | 0 | 0% |
| Avaya Communicator | Allows the use of Avaya Communicator for IP Office as a client application | 25 | 37% |
| Mobility Features | Allows the use of mobility features like Mobile Twinning, one-X Mobile Client, and Mobile Call Control | 12 | 18% |
| Remote Worker | Enables the use of an H.323 or SIP Remote Extension by the User, allowing them to work from home or a remote office | 23 | 34% |
| one-X Portal Services | Allows the use of one-X Portal for controlling phone settings and managing phone calls | 32 | 48% |
| Web Self Administration | Allows the User to log in to the Web Self Administration interface to update their personal settings | 1 | 1% |
| Voicemail Answers | Voicemail answers the User's unanswered calls, or calls when the User's extension is busy | 64 | 96% |
| UMS Web Services | Allows Users to access their voicemail messages via a standard email client or a separate web interface | 32 | 48% |
| Web Collaboration | Allows the use of web-based collaboration features including audio conferencing, desktop/application sharing, document sharing, and white boarding | 3 | 4% |
| IPOCC Agent | Enables the User as an IP Office Contact Center agent, allowing the IPOCC application to monitor the User's performance | 0 | 0% |
| System Phone Rights | Allows the use of system administrative functions from a User's phone, such as setting the date/time and shutting down the system | 0 | 0% |
| Dial In Access | Allows the User dial in access to the IP Office network via Remote Access Service (RAS) | 1 | 1% |

# Extensions

*Extensions are defined in the IP Office configuration to represent the various devices that Users use to communicate. Most often these are traditional, physical stations, but Extensions can also represent devices such as fax machines, paging speakers, video devices, or software-based clients.*

*Extensions can be broadly classified as either Analog, Digital, or IP, depending on the underlying technology of the connected device. Both Analog and Digital Extensions require a physical port on the IP Office hardware to connect to, while IP Extensions are connected to a shared data network instead. Therefore, the capacity and growth opportunities for Analog and Digital Extensions are functions of the physical hardware present on the IP Office control units, while the capacity and growth of IP Extensions are governed mainly by software licensing.*

*This topic will provide an overview of the Extensions defined in the solution, and the hardware and licensing that supports them.*

# Extension Counts by Type

## Traditional (non-IP) Extensions

The following traditional (non-IP) Extension ports are present in the solution:

| Port Type | Equipped | Used | Spare |
|---|---|---|---|
| Analog Station (PHONE/POT) | 10 | 10 | 0 |
| *Paging Speaker* | *2* | *2* | *0* |
| *Quiet Headset* | *2* | *2* | *0* |
| *Standard Telephone* | *6* | *6* | *0* |
| Digital Station (DS) | 30 | 23 | 7 |
| **Totals** | **40** | **33** | **7** |

## IP-based Extensions

The following IP-based Extensions are defined in the solution:

| IP Extension Type | Total | Registered | Unregistered | |
|---|---|---|---|---|
| | | | Reserving / Consuming* License(s) | No License Reserved |
| IP Station (H.323) | 18 | 18 | 0 | 0 |
| IP Station (SIP) | 3 | 2 | 1 | 0 |
| **Totals** | **21** | **20** | **1** | **0** |

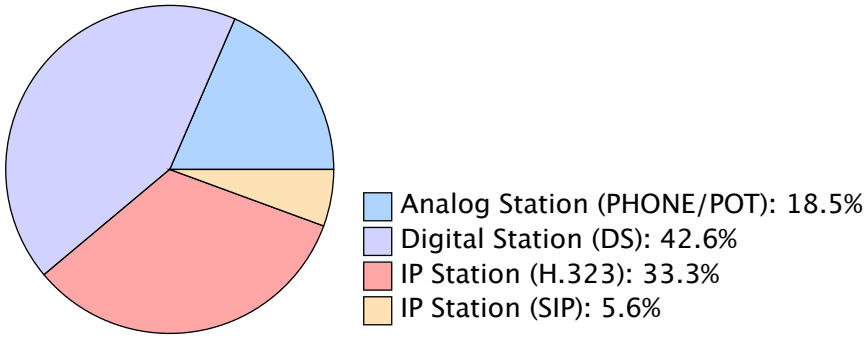
**__NOTE:__ In Server Edition, IP Extensions consume an Avaya IP Endpoint license even when unregistered.*

IP-based Extension capacity is also determined by the licenses and/or hardware installed in the solution. The following table summarizes the IP-based Extension capacity. See the section called "IP Extension Licensing" for additional details.

| IP Extension License Type | Total Licensed Capacity | Licenses Consumed | Licenses Available |
|---|---|---|---|
| Avaya IP Phones | 37 | 20 | 17 |
| Non-Avaya (3rd Party) phones | 5 | 1 | 4 |
| Avaya Communicator / Flare | 45 | 25 | 20 |
| *via Office Worker* | *20* | *10* | *10* |
| *via Power User* | *25* | *15* | *10* |
| **Totals** | **87** | **46** | **41** |

### Extension Type Graph

For reference, the following chart shows the relative usage of the various Extension types within this solution:

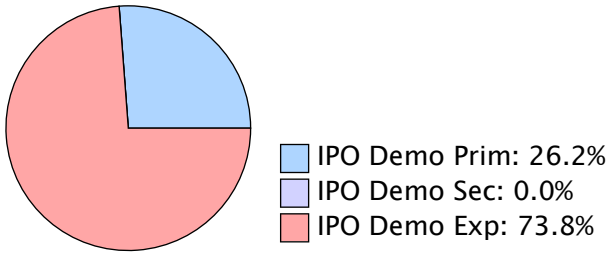



## Extension Counts by System

*In a multiple-System IP Office solution, each Extension is configured on a specific System. For traditional (non-IP) Extensions, the Control Unit's hardware, installed cards, and connected Expansion Modules determine the Extensions that can be configured on it. IP-based Extensions can be configured on any System, and are typically built on the System nearest the stations that will register to it.*

*The table and chart below display the number of defined Extensions in each of the Systems in the IP Office solution:*

| System Name | Role | Extension Count |
|---|---|---|
| IPO Demo Prim | Primary Server | 16 |
| IPO Demo Sec | Secondary Server | 0 |
| IPO Demo Exp | Expansion System | 45 |
| **Total Extensions** | | **61** |



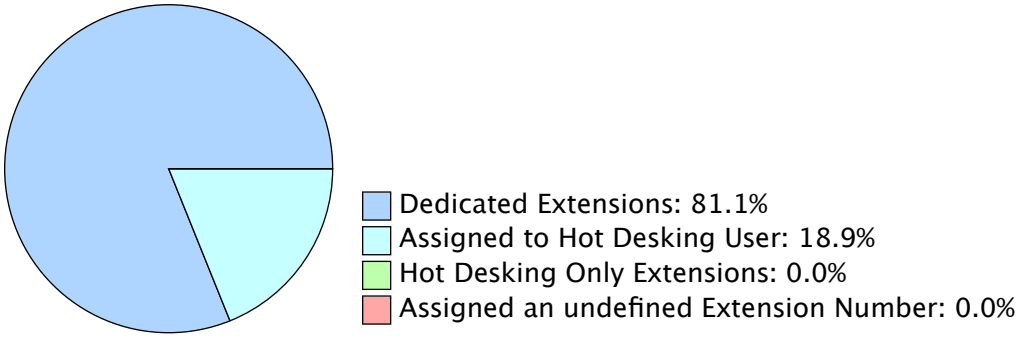

## Extensions Assigned to Users

*In an IP Office solution, each Extension (i.e. station) can be associated with a default User. In addition, the Hot Desking feature can be enabled for select Users, allowing them to use alternate stations as necessary. If only one individual regularly uses a particular station, in a private office for example, that individual should be defined as the default User of the Extension. If, on the other hand, a station is shared by any number of different Users, it may make sense to **not** assign any default User to the Extension. For example, a station in a 'floater' or temporary office may not be associated with any one individual. In this case, each User must log in to the station when they need to use it, and log out when they are finished.*

*If an Extension is associated with a User who is **no longer defined** in the solution, it may indicate stale programming. In addition, an E911 emergency call from an Extension may reference its associated User for identification purposes. Thus, it is not recommended to have an Extension associated with a User that does not exist.*

*The chart below provides an overall view of how the used Extensions are assigned to Users (dedicated to one individual or shared by several). It depicts the ratio of Extensions that are:*

- *Dedicated to an individual User (one who cannot Hot Desk to an alternate Extension)*
- *Assigned to a Hot Desking User, who may log out and use an alternate Extension*
- *Not assigned to **any** User (a 'Hot Desking Only' Extension)*
- *Assigned an Extension Number that does not exist*




# Lines (Trunks)

*The Lines configured in an IP Office solution provide the communication links to other entities, whether the local 'Central Office' of the Public Switched Telephone Network, a VoIP service provider, or another IP Office in a networked environment. They enable the local IP Office Users to communicate with other individuals, often throughout the entire world.*

*Lines can be broadly classified as either Analog, Digital, or IP, depending on the underlying technology of the connection. Both Analog and Digital Lines require a physical port on the IP Office hardware to connect to, while IP Lines are connected to a shared data network instead. The capacity and growth opportunities for Analog and Digital Lines are functions of the physical hardware present on the IP Office System, while the capacity and growth of IP Lines are governed mainly by software licensing.*

*This topic will provide an overview of the Lines defined in the solution, and the hardware and licensing that support them. Please note that certain types of Lines, namely Digital and IP Lines, can support **multiple calls per configured Line**. In the descriptions below, the terms 'channels' and 'capacity' refer to the number of simultaneous calls which can be handled by the Lines configured.*

## Trunking (Lines) by Type

### Traditional (non-IP) Lines

The following traditional (non-IP) Lines are present in the solution:

| Line Type | Quantity | Max Channels per Line | Total Equipped Channels | Used Channels | Spare Channels |
|---|---|---|---|---|---|
| Analog Line | 24 | - | 24 | 8 | 16 |
| Digital Line (PRI) | 1 | 23 | 23 | 16 | 7* |
| *PRI* | *1* | | *23* | *16* | *7** |
| **Totals** | **25** | | **47** | **24** | **23** |

**NOTE:** *7 of the spare Digital Lines shown above require the purchase of additional licensing to use.*

### IP-based Lines

The following IP Lines are present in the solution for carrying calls:

| Line Type | Quantity | Call Capacity | |
|---|---|---|---|
| | | Usable | Unusable |
| IP Office Line | 6 | 30 | 0 |
| SIP Line | 3 | 35* | 10 |
| **Totals** | **9** | **65** | **10** |

**NOTE:* *The number of Usable Channels is limited by the number of available licenses.*

The simultaneous use of the Lines shown above is also limited by the following installed licenses:

| License Type | Quantity Installed | Provides |
|---|---|---|
| SIP Trunk Channels | 55 | SIP Trunking can provide advanced capabilities and lower costs compared to traditional PSTN trunking. Each simultaneous call over a SIP Trunk channel requires licensing. |

## Call-Carrying Capacity by System

*In a multiple-System IP Office solution, each Line is configured on a specific System. For traditional (non-IP) Lines, the Control Unit's hardware, installed cards, and connected Expansion Modules determine the Lines that can be configured on it. IP-based Lines can be configured on any System, and are used to network multiple Systems together, as well as provide local and/or centralized internet-based trunking.*

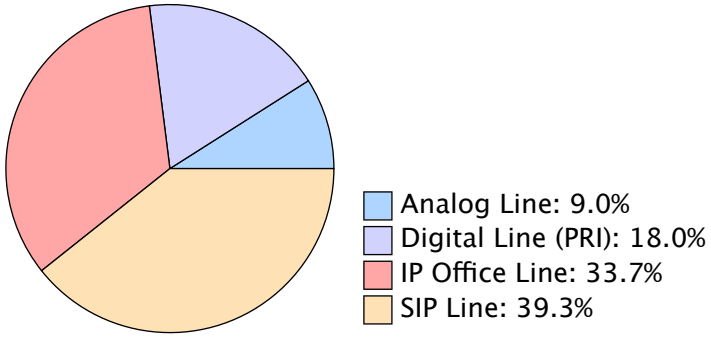
*The table below displays the number of defined Lines in each of the systems in the IP Office solution:*

| System Name | Role | Analog Line | Digital Line (PRI) | IP Office Line | SIP Line |
|---|---|---|---|---|---|
| IPO Demo Prim | Primary Server | 0 | 0 | 10 | 20 |
| IPO Demo Sec | Secondary Server | 0 | 0 | 10 | 0* |
| IPO Demo Exp | Expansion System | 8 | 16 | 10 | 15 |
| **Totals** | | **8** | **16** | **30** | **35** |

**NOTE:* *The number of Channels is limited by the number of available licenses.*

## Overall Call-Carrying Capacity by Line Type

The following chart summarizes the relative use of the various call-carrying Line types:



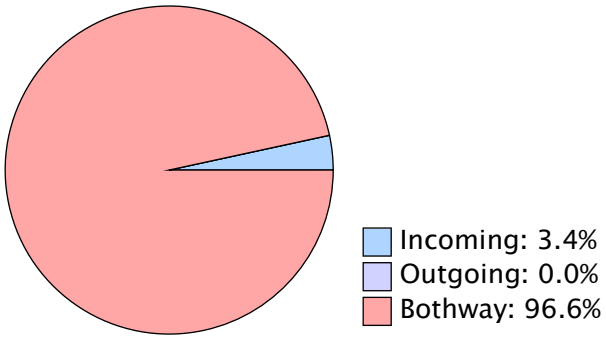

## Overall Call-Carrying Capacity by Line Direction

The following table provides a breakdown of the directionality for call-carrying Line types:

| Line Type | Total | Incoming | Outgoing | Bothway |
|---|---|---|---|---|
| Analog Line | 8 | 0 | 0 | 8 |
| Digital Line (PRI) | 16 | 3 | 0 | 13 |
| IP Office Line | 30 | 0 | 0 | 30 |
| SIP Line | 35 | 0 | 0 | 35* |
| **Totals** | **89** | **3** | **0** | **86** |

**NOTE:* *The number of Channels is limited by the number of available licenses.*

The following chart summarizes the data in the table above:



# 7. IP Telephony Summary

*IP Telephony, also known as Voice over IP (VoIP), provides the opportunity to reduce costs and deploy advanced communications solutions by utilizing the same technologies that underlie conventional data networks. Both Extensions (stations) and Lines (trunks) can use IP Telephony, taking advantage of both local and wide-area data networks for communications. Unlike managing traditional Analog and Digital resources which require dedicated hardware, managing IP Telephony resources relies on software configuration and licensing.*

*Currently, most solutions are not using 100% IP-based communications. They are either in the process of transitioning to VoIP, or are keeping legacy Analog and Digital resources for fallback coverage during network outages. However, more and more systems are making their way toward being primarily VoIP solutions. Managing this evolution requires understanding how heavily the system is relying on IP protocols such as SIP and H.323, compared to traditional Analog and Digital resources.*

*This section summarizes the extent to which IP Telephony is being used for both Extensions and Lines, and provides an analysis of the required software licensing as well. This information allows an administrator to understand what licenses are installed, how they are being consumed, and how many are available for immediate use.*

## IP Telephony Profile

*Below we compare the current use of IP Telephony technologies to the use of traditional Analog and Digital technologies, providing a view of where this IP Office solution sits in the spectrum of pure Analog/Digital systems at one end, to pure VoIP systems at the other. The use of IP technologies for both Extensions and Trunks/Lines is covered individually, as organizations may choose to migrate these elements to VoIP at different times.*

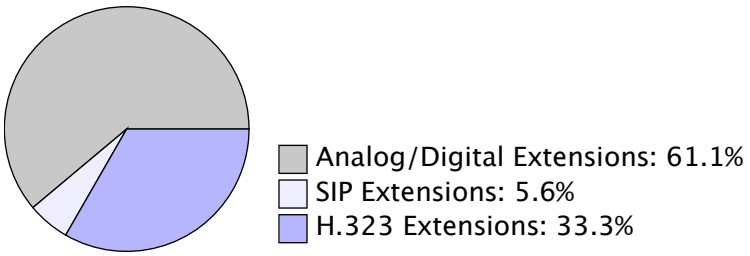
### Extension Profile

The following illustrates the relative use of IP technologies for Extensions:

| | | |
|---|---|---|
| | **33** | Analog/Digital Extensions |
| **+** | **3** | SIP Extensions |
| **+** | **18** | H.323 Extensions |
| **=** | **54** | Total |

**39**% IP, **61**% non-IP

Extensions: IP vs. Analog/Digital



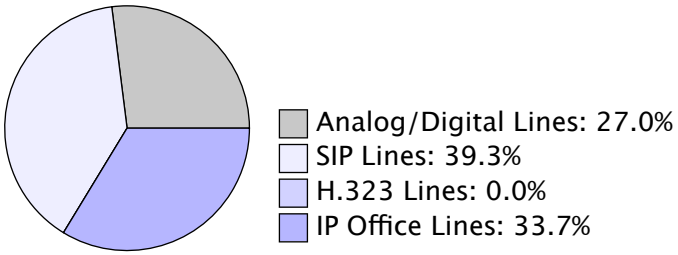

### Trunking Profile

The following illustrates the relative use of IP technologies for Trunking:

| | | |
|---|---|---|
| | **24** | Analog/Digital Lines |
| **+** | **35** | SIP Lines |
| **+** | **0** | H.323 Lines |
| **+** | **30** | IP Office Lines |
| **=** | **89** | Total |

**73**% IP, **27**% non-IP

Trunking: IP vs. Analog/Digital



## Voice Compression Modules (VCM)

*VCM resources are used to transcode analog and digital audio to IP-packetized audio. Any time a call or system feature involves IP and non-IP participants, VCM resources are needed. This includes IP to non-IP Extension calls, IP trunking with non-IP Extensions, and possibly Conferencing, Music on Hold, Paging, and Voicemail features. The number of VCM channels required for a System is a function of the quantity and duration of these types of calls.*

This calculation provides an analysis of the VCM resources available within your IP Office solution in terms of the type of hardware which provides them.

| | |
|---|---|
| | **64** IP 500 VCM Channels |
| **+** | **10** Combo Card VCM Channels |
| **=** | **74** Total VCM Channels |

***NOTE:*** *Linux-based IP Office Control Units supply additional, software-based VCM resources to this solution.*

# IP Extension Licensing

*The ability to use IP-based Extensions is limited by the licensing that is available to the solution. Certain legacy hardware may also augment this licensed capacity. Depending on the Edition of IP Office, these licenses are consumed either when a new IP phone is built in the configuration, or when an IP phone actually registers to the System. In addition, Extensions may reserve a license even when unregistered, to ensure one is always available.*

*The sections below summarize the licensing available to enable both Avaya and non-Avaya (3rd Party) IP phones, which are licensed separately. For each category, the total licensed capacity is calculated, along with the amount consumed, and amount available for use.*

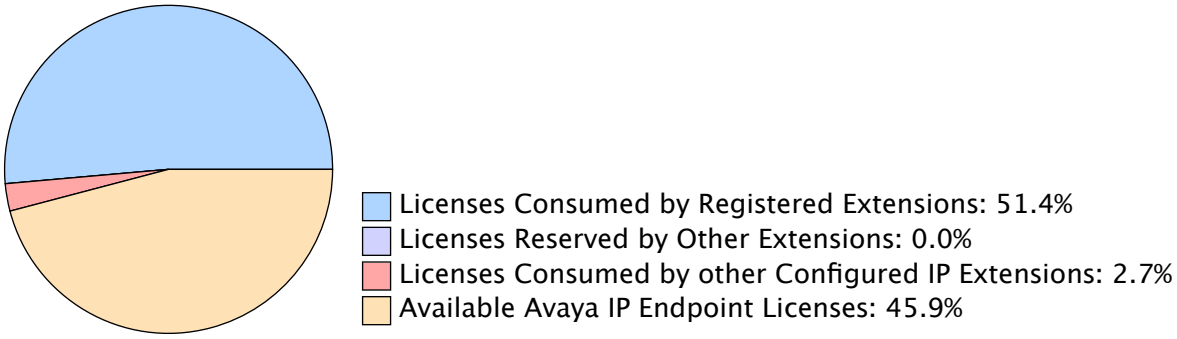
## Avaya IP Phone Licensing

| | |
|---|---|
| | **25** Avaya IP Endpoint Licenses installed |
| **+** | **12** for the 1 VCM 32/64 cards installed (each provides 12 licenses) |
| **=** | **37** Avaya IP Endpoints licensed |

The following licenses were consumed and/or reserved at the time the data was collected:

| | |
|---|---|
| | **37** Avaya IP Endpoints licensed |
| **-** | **19** Avaya IP Phones registered |
| **-** | **0** Other Extensions reserving an Avaya IP Endpoint license |
| **-** | **1** Other configured IP Extensions |
| **=** | **17** Available Avaya IP Endpoint licenses |

### Avaya IP Endpoint License Usage



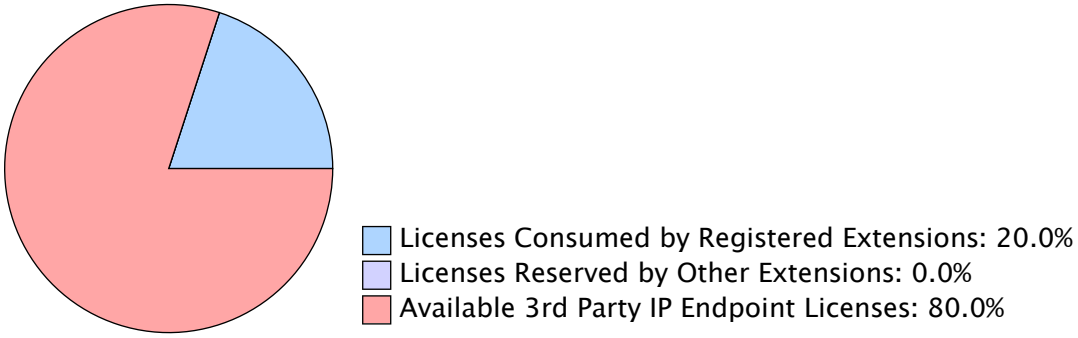
## Non-Avaya (3rd Party) IP Phone Licensing

**3rd Party IP Endpoint Licenses:** 5

The following licenses were consumed and/or reserved at the time the data was collected:

| | | |
|---|---|---|
| | **5** | 3rd Party IP Endpoints licensed |
| - | **1** | 3rd Party IP Phones Registered |
| - | **0** | Other Extensions reserving a 3rd Party IP Endpoint license |
| = | **4** | Available 3rd Party IP Endpoint licenses |

### 3rd Party IP Endpoint License Usage




# IP Trunk Licensing

*The ability to use IP-based Trunks/Channels is limited by installed software licenses. These licenses are consumed when an IP Trunk Channel is seized by the system to handle a call.*

*The sections below summarize the licensing available to enable IP Lines, which use either the H.323 or SIP protocols. For each applicable category, the total licensed capacity is calculated, along with the amount consumed, and amount available for use.*

## SIP Trunk Licensing

*A 'SIP Trunk Channels' license is consumed for each simultaneous call handled on a SIP Line.*

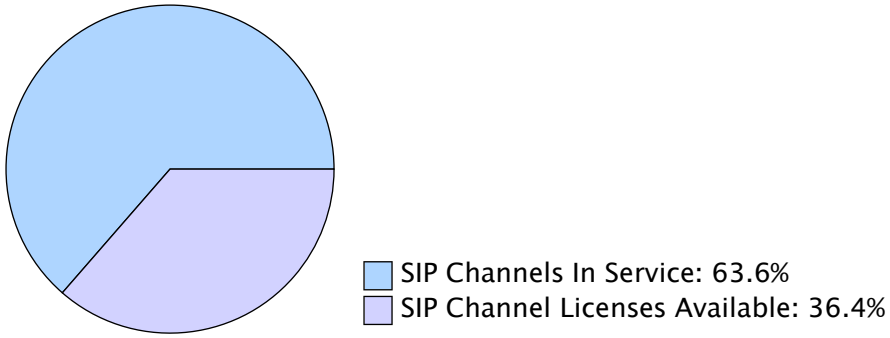
| | | |
|---|---|---|
| | **55** | SIP Channel licenses |
| - | **45** | SIP Channels In Service |
| | **20** | Available & **10** Needed SIP Trunk Channel licenses* |

**NOTE:* In this solution, some Systems have an **excess** of licenses while others have a **shortage**. Licenses are allocated per-System, and an excess of licenses available to one System cannot be used to satisfy the requirements of another.*

The table below lists how many additional SIP Trunk Channel licenses must be installed per system to ensure that every channel requiring a license will have one available.

| System Name | Role | Licenses Needed |
|---|---|---|
| IPO Demo Sec | Secondary Server | 10 |
| **Total Licenses Needed** | | **10** |

SIP Channel License Usage




***NOTE:*** *The values shown in the chart above are capped to the number of available licenses per System.*

## Session Manager Trunk Licensing

*'SM Trunk Channels' licenses are used to enable Session Manager (SM) lines for connecting to an Avaya Aura network.*

**This solution is not using Session Manager Trunking**

# 8. Manufacturer Support Analysis

*When communications hardware fails, or the system software is not functioning correctly, any resulting downtime can have a significant impact on your organization. Replacing a Control Unit, Expansion Module, Base Card, or other component which is no longer sold or supported by the manufacturer can prolong the difficulties. Similarly, resolving a software problem without adequate support from the manufacturer may be difficult, if not impossible. Understanding the level of support you can expect for each of these system components is a key aspect of preventing unnecessary periods of extended downtime.*

The following analysis reviews these critical components and provides a detailed summary of their current support status, along with the impact their loss may have on your organization.

## Support Analysis Summary

The Support Analysis Summary provides an overall Impact Rating that summarizes the level of Manufacturer Support for your most critical system components. The result is an easy-to-understand risk assessment, from Low, to Medium, to High, with an explanation of the reason for the rating.

| System Name | Role | Impact Rating |
|---|---|---|
| IPO Demo Prim | Primary Server | Low |
| IPO Demo Sec | Secondary Server | None |
| IPO Demo Exp | Expansion System | Low |

### Impact Rating Explanations

#### None

The critical components of this system will be supported by Avaya when covered by a current support contract.

#### Low

Either currently or within the next nine months, the Control Unit or System Software will be classified as 'Manufacturer Support', or some Expansion Modules, Base Cards, or Trunk Cards will be classified as 'Extended Services Support', or some Station hardware will be classified 'Remote Only Support' at best.

## System Software

| Software Version | Release Date | # of Systems | Support Status |
|---|---|---|---|
| 9.1.x | 12/22/2014 | 3 | General Availability |

### Impact

#### General Availability

- The product is currently offered for sale and has full manufacturer support.
- Both new systems and existing system expansions are available for sale.
- Support contracts covering the product may be purchased and/or renewed.
- Full technical support, troubleshooting, and bug fixes are available with a current support contract.
- Troubleshooting may require an upgrade to the latest Software Patch, Service Pack, or Feature Pack.

# Control Units

| Part Number | Description | Quantity | Used Ports | Support Status |
|---|---|---|---|---|
| 700476005 | IP500 V2 Control Unit | 1 | 163 | General Availability |

## Impact

### General Availability

- The product is currently offered for sale and has full manufacturer support.
- Both new systems and existing system expansions are available for sale.
- Support contracts covering the product may be purchased and/or renewed.
- Full technical support, troubleshooting, and bug fixes are available with a current support contract.
- Parts coverage is available with a current support contract.

# Base Cards

| Part Number | Description | Quantity | Used Ports | Support Status |
|---|---|---|---|---|
| 700417231 | IP500 Analog Phone Base Card (8 Port) | 1 | 8 | General Availability |
| 700417330 | IP500 Digital Station Base Card | 1 | 7 | General Availability |
| 700417397 | IP500 VCM Base Card (V1) (64 Channel) | 1 | - | Extended Services Support<br>Will be 'Remote Only Support' on 12/9/2019 |
| 700476013 | IP500 ATM Combination Card (V1) | 1 | 8 | Extended Services Support<br>Will be 'Remote Only Support' on 12/9/2019 |

## Impact

### General Availability

- The product is currently offered for sale and has full manufacturer support.
- Both new systems and existing system expansions are available for sale.
- Support contracts covering the product may be purchased and/or renewed.
- Full technical support, troubleshooting, and bug fixes are available with a current support contract.
- Parts coverage is available with a current support contract.

### Extended Services Support

- The product is no longer offered for new system sales, but is still supported.
- Options for existing system expansions (if available) are specified in the applicable 'End of Sale' notification.
- Support contracts covering the product may still be purchased and/or renewed.
- Customers without an Avaya support contract are not eligible for Per Incident (T&M) support.
- Technical support (Tier I - Tier III Backbone only) is available with a current support contract.
- Tier IV technical support and Vulnerability Threat Management are no longer provided.
- No new corrective content will be issued. Only existing bug fixes and workarounds are available.
- Parts coverage is available with a current support contract.
- Replacement Parts are limited to available inventory. Repairs may be delayed or require upgrades.
- Extended Services Support for hardware is generally available for three years following the 'End of Manufacturer Support' date.

### Remote Only Support

- The product is no longer available for sale - neither for new systems, nor existing system expansions.
- New support contracts covering the product can no longer be purchased, although existing contracts may be renewed.
- Remote Technical support (Tier I - Tier III Backbone only) is available with a current support contract.
- Tier IV technical support and Vulnerability Threat Management are no longer provided.
- No new corrective content will be issued. Only existing bug fixes and workarounds are available.
- Parts coverage and onsite dispatch are available only via paid Per Incident (T&M) support.
- Replacement Parts are limited to available inventory. Repairs may be delayed or require upgrades.
- Remote Only Support is generally available for three years following the 'End of Services Parts Support' date, at Avaya's discretion.

## Trunk Cards

| Part Number | Description | Quantity | Used Ports | Support Status |
|---|---|---|---|---|
| 700417439 | IP500 PRI-U Trunk Daughter Card (1 Port) | 1 | 16 | General Availability |
| 700503164 | IP500 Analog Trunk Daughter Card V2 | 1 | 3 | General Availability |

### Impact

#### General Availability

- The product is currently offered for sale and has full manufacturer support.
- Both new systems and existing system expansions are available for sale.
- Support contracts covering the product may be purchased and/or renewed.
- Full technical support, troubleshooting, and bug fixes are available with a current support contract.
- Parts coverage is available with a current support contract.

## Expansion Modules

| Part Number | Description | Quantity | Used Ports | Support Status |
|---|---|---|---|---|
| 700449473 | IP500 Analog Trunk Module | 1 | 2 | General Availability |
| 700501585 | IP500 Digital Station B Module (16 Port) | 1 | 13 | General Availability |

### Impact

#### General Availability

- The product is currently offered for sale and has full manufacturer support.
- Both new systems and existing system expansions are available for sale.
- Support contracts covering the product may be purchased and/or renewed.
- Full technical support, troubleshooting, and bug fixes are available with a current support contract.
- Parts coverage is available with a current support contract.

## Stations

| Part Number | Station Model | Quantity | Support Status |
|---|---|---|---|
| | Analog Station | 10 | Not Rated |

| Part Number | Station Model | Quantity | Support Status |
|---|---|---|---|
| | Unknown SIP Station | 1 | Not Rated |
| 700381627 | 5420D | 7 | Extended Services Support<br>Will be 'Remote Only Support' on 8/1/2017 |
| 700381965 | 5610SW | 4 | Remote Only Support<br>According to Avaya's product lifecycle policy, projected to be 'Indefinite Access' on 12/13/2018 |
| 700469869 | 1416 | 7 | Manufacturer Support<br>Will be 'Extended Services Support' on 12/8/2017 |
| 700504740 | B179 | 1 | General Availability |
| 700504845 | 9611G | 14 | General Availability |
| 700508197 | 9504 | 9 | General Availability |

# Impact

## General Availability

- The product is currently offered for sale and has full manufacturer support.
- Both new systems and existing system expansions are available for sale.
- Support contracts covering the product may be purchased and/or renewed.
- Full technical support, troubleshooting, and bug fixes are available with a current support contract.
- Parts coverage is available with a current support contract.

## Manufacturer Support

- The product is no longer offered for new system sales, but is still fully supported.
- Options for existing system expansions are specified in the applicable 'End of Sale' notification.
- Support contracts covering the product may be purchased and/or renewed.
- Full technical support (all tiers) and troubleshooting are available with a current support contract.
- Customers without an Avaya support contract are not eligible for Per Incident (T&M) support.
- Parts coverage is available with a current support contract.
- Manufacturer Support for hardware is generally available for at least three years following the announced 'End of Sale' date.

## Extended Services Support

- The product is no longer offered for new system sales, but is still supported.
- Options for existing system expansions (if available) are specified in the applicable 'End of Sale' notification.
- Support contracts covering the product may still be purchased and/or renewed.
- Customers without an Avaya support contract are not eligible for Per Incident (T&M) support.
- Technical support (Tier I - Tier III Backbone only) is available with a current support contract.
- Tier IV technical support and Vulnerability Threat Management are no longer provided.
- No new corrective content will be issued. Only existing bug fixes and workarounds are available.
- Parts coverage is available with a current support contract.
- Replacement Parts are limited to available inventory. Repairs may be delayed or require upgrades.
- Extended Services Support for hardware is generally available for three years following the 'End of Manufacturer Support' date.

## Remote Only Support

- The product is no longer available for sale - neither for new systems, nor existing system expansions.
- New support contracts covering the product can no longer be purchased, although existing contracts may be renewed.
- Remote Technical support (Tier I - Tier III Backbone only) is available with a current support contract.

- Tier IV technical support and Vulnerability Threat Management are no longer provided.
- No new corrective content will be issued. Only existing bug fixes and workarounds are available.
- Parts coverage and onsite dispatch are available only via paid Per Incident (T&M) support.
- Replacement Parts are limited to available inventory. Repairs may be delayed or require upgrades.
- Remote Only Support is generally available for three years following the 'End of Services Parts Support' date, at Avaya's discretion.

### Indefinite Access

- The product is no longer available for sale - neither for new systems, nor existing system expansions.
- New support contracts covering the product can no longer be purchased, although existing contracts may be renewed.
- All technical support is available only via paid Per Incident (T&M) support.
- No new corrective content will be issued. Only existing bug fixes and workarounds are available.
- Replacement Parts and repairs are no longer available.

## Station Add-On Modules

| Part Number | Station Add-On Model | Quantity | Support Status |
|---|---|---|---|
| 700469968 | DBM32 | 1 | General Availability |

## Impact

### General Availability

- The product is currently offered for sale and has full manufacturer support.
- Both new systems and existing system expansions are available for sale.
- Support contracts covering the product may be purchased and/or renewed.
- Full technical support, troubleshooting, and bug fixes are available with a current support contract.
- Parts coverage is available with a current support contract.

# 9. Action Items

*The Action Items section highlights potential configuration issues and upgrade opportunities related to both software and hardware. It summarizes the critical findings of the report that may require changes to address the identified issues. The Action Items presented below are broadly grouped into those that may be service affecting, and those which highlight suggested expansion or upgrade improvements. This information should help you plan for future growth, and avoid unanticipated delays and costs due to lack of sufficient spare capacity in the event of a hardware failure.*

*Addressing these issues now will lead to better service, fewer user complaints, a better utilization of system resources, and an easier solution to manage. Periodic updates to the Site Survey will help ensure continued functionality of this IP Office solution before these issues affect system performance.*

## Service Affecting Action Items

The following may be service-affecting issues in the configuration of the IP Office:

### 'Not Present' Devices

The following devices are reporting as 'Not Present' in the solution's configuration:

| System Name | Device Number | Device Type |
|---|---|---|
| IPO Demo Exp | 8 | IP400 Phone Module V2 (8 Port) |

In addition, the following Extensions are configured in the solution, but are supported by these missing devices:

#### Extensions on 'Not Present' Devices

| System Name | Extension ID | Base Extension | User Name |
|---|---|---|---|
| IPO Demo Exp | 301 | 275 | Test User 1 |
| IPO Demo Exp | 302 | 276 | Shannon Baker |
| IPO Demo Exp | 303 | 277 | Jessica Smith |
| IPO Demo Exp | 304 | 278 | |
| IPO Demo Exp | 305 | 279 | |
| IPO Demo Exp | 306 | 280 | |
| IPO Demo Exp | 307 | 281 | |
| IPO Demo Exp | 308 | 282 | |

Any resources provided by these devices are not available to the system, which could lead to undesired behavior. Either the necessary hardware should be properly connected to the system, or the configuration should be updated to remove any entries associated with these devices.

### Insufficient Universal PRI Licenses

There are insufficient Universal PRI licenses installed to use the following PRI Channels, although they are configured as being 'In Service':

| System Name | Line Number | Channel Number |
|---|---|---|
| IPO Demo Exp | 5 | 17 |
| IPO Demo Exp | 5 | 18 |
| IPO Demo Exp | 5 | 19 |
| IPO Demo Exp | 5 | 20 |
| IPO Demo Exp | 5 | 21 |

| System Name | Line Number | Channel Number |
|---|---|---|
| **Total Unlicensed PRI Channels: 5** | | |

To avoid possible call failures, either add sufficient Universal PRI licenses for these Channels, or take them 'Out of Service'.

# Expansion/Upgrade Opportunity Action Items

The following are capacity expansion and upgrade opportunities:

## Excess Hardware Capacity

There is more than 15% spare hardware capacity in the following port types, which is already a very conservative approach to spares planning. If you do not intend to use this excess hardware capacity in the near future, you may wish to consolidate the system programming and eliminate one or more ports. Excess hardware could be moved to a location where additional resources are needed, or sold to offset other communications expenses - either way potentially lowering your recurring communications costs.

### System: IPO Demo Exp

- An excess of 14 Analog Line ports were detected

## Low Hardware Growth Capacity

Additional ports are needed to maintain a 3% growth capacity. If future growth is anticipated, you may wish to purchase the following ports:

### System: IPO Demo Exp

- 1 additional Analog Station port is needed for 3% growth

## Unsupported Stations

**4** of this system's stations have been classified either **'Remote Only Support'** or **'Indefinite Access'** support by Avaya. Only limited replacement hardware and technical support (if any) will be provided by the manufacturer. Using unsupported hardware in an enterprise environment can expose the organization to significant liabilities. Upgrading unsupported stations to a current model ensures continued technical support and availability of replacement hardware from Avaya.

*See the section called "Stations" for additional details.*

# Appendix: Installed Licenses

*The following table displays the raw licenses that are installed in this IP Office solution. For a more sophisticated explanation of the licensing, which takes into account the multiple ways a particular feature can be licensed and the interactions of those licenses, refer to the Feature Licensing section.*

## System: IPO Demo Prim

**System ID:** cbbb24318e5cd61bb2f1267fcba0f8a25de68000

| License Type / Key | Status | Quantity | Expires | Source |
|---|---|---|---|---|
| 3rd Party IP Endpoints | Valid | 5 | | |
| *6OKIqpvlgs2k0JLHFrHEkMorBT8odbOt* | | *5* | | *ADI Nodal* |
| Avaya IP endpoints | Valid | 25 | | |
| *v2eLRThfQK7ov9PYZ4gIz@ZdirosSeOh* | | *20* | | *ADI Nodal* |
| *3@HZ7voEEVOKliBsm013rxjdFFFvPTjg* | | *5* | | *ADI Nodal* |
| IP500 Voice Networking Channels | Valid | 8 | | |
| *2ZVsZrBBAtaSbnw8L@Q1QE7vb6DdGyjv* | | *4* | | *ADI Nodal* |
| *zbti0sLvVIJ8UG7ADF19ew6Y67lns2uu* | | *4* | | *ADI Nodal* |
| Office Worker | Valid | 20 | | |
| *@O5OT3VPSIuwlos9b5BpC3dAk_m9d5Nf* | | *20* | | *ADI Nodal* |
| Power User | Valid | 25 | | |
| *QV@czg6lAth2XNXcLQwXfJAD6k2jUgjd* | | *20* | | *ADI Nodal* |
| *INaB@EBXQXlk28OVOJJbk4AUos2SYyce* | | *5* | | *ADI Nodal* |
| Preferred Edition Additional Voicemail Ports | Valid | 16 | | |
| *bSldmz9fVUJUler2E3JouZ76JTM8jUVk* | | *4* | | *ADI Nodal* |
| *odDd@WvBtsnPl6faVeJFWZjN2NoXYIzl* | | *4* | | *ADI Nodal* |
| *LKtRfm9DMdcynI8H9t1Xu8OtW1iwAyOm* | | *2* | | *ADI Nodal* |
| *ZG1vqtVm5SGJZECTDd5eeDWDF6NTA@Lp* | | *2* | | *ADI Nodal* |
| *qGMiZdyeVGUsX2H9pDQgzmWB8i@nU2Lq* | | *2* | | *ADI Nodal* |
| *qGOZql@H9sEtKWJXjZ5r7R5FiZVrS0po* | | *2* | | *ADI Nodal* |
| Receptionist | Valid | 2 | | |
| *GSW0xLgWEdFDnJHJN0BdwEJo7Gj3dt@j* | | *1* | | *ADI Nodal* |
| *RV1HTt@dvvxljaB9DlQ@kl0hu2E1vAFi* | | *1* | | *ADI Nodal* |
| Server Edition R9 | Valid | 3 | | |
| *9DxN8o51PSQHvi46DIBE5GyxhdLzSa2c* | | *1* | | *ADI Nodal* |
| *@dmhn@yaPVmw44IwEiWbg0NMahmTj3Sb* | | *1* | | *ADI Nodal* |
| *yS0EBV@edIuOqIOodB5jx1twZR7FAsMa* | | *1* | | *ADI Nodal* |
| SIP Trunk Channels | Valid | 40 | | |
| *m0ONWI5vdd5K0bYplsHjpgRbyQLDv1Mw* | | *20* | | *ADI Nodal* |
| *niIcn6@8gOfLqD94_OkZMSAZ6w0udrdr* | | *20* | | *ADI Nodal* |
| Wave User | Valid | 4 | | |
| *nSmGmugs9IGXq0QuE5g0MCvy3je5UaFs* | | *4* | | *ADI Nodal* |

# System: IPO Demo Sec

**System ID:** cbbb24318e5cd61bb2f1267fcba0f8a25de68001

| License Type / Key | Status | Quantity | Expires | Source |
|---|---|---|---|---|
| No Licenses exist in this System | | | | |

# System: IPO Demo Exp

**License Feature Key Serial Number:** 1234567890

| License Type / Key | Status | Quantity | Expires | Source |
|---|---|---|---|---|
| IP500 Universal PRI (Additional channels) | Valid | 8 | | |
| *I0t0q@9vPjvhUFPfJhkYuGDNyJVyEOic* | | *8* | | *ADI Nodal* |
| SIP Trunk Channels | Valid | 15 | | |
| *u4nw33y4vdrXZtxSyPwjCitZbGmzLa7b* | | *10* | | *ADI Nodal* |
| *elurZ39v5Ks1DK7rmmHwxPrj6cLSrq_a* | | *5* | | *ADI Nodal* |
| Web Collaboration | Valid | 3 | | |
| *B0l407ymdNShNFj4bMPHxwV346OmGsLf* | | *1* | | *ADI Nodal* |
| *K@ztWBg8VNx6tGAP0CCr6HV8JiMzLb0d* | | *1* | | *ADI Nodal* |
| *alaoxg5ydVfIaftdiW6lLQWcJr01saDe* | | *1* | | *ADI Nodal* |

# Glossary

**ACD (Automatic Call Distribution) Queue**
Automatic Call Distribution is a feature by which incoming calls are presented to a select group of individuals (agents) to be answered. An agent within the group might be selected based on their availability, workload, and/or skill set. An ACD queue refers to the series of calls that are waiting to be answered by the agents.

**ARP (Address Resolution Protocol)**
ARP is a network protocol used to translate an IP address to an Ethernet (MAC) address. IP Office can respond to ARP requests for select IP Addresses, indicating that any data destined for those addresses should be sent to the IP Office.

**ATM (Analog Trunk Module)**
An IP Office component which provides the ability to connect one or more Analog phone lines for communicating with other devices, often via the Public Switched Telephone Network.

**AVPP (Avaya Voice Priority Processor)**
A device which resides on the local area network (LAN), and implements Quality of Service policies for Avaya IP wireless handsets.

**BRI (Basic Rate Interface)**
A digital trunking protocol which provides two 'bearer' channels for carrying voice and/or data, along with a 'data' channel for signaling. BRI service is a popular choice for providing residential and/or small business connectivity in some countries.

**BRI ISDN Device**
A telephone, video unit, or other device which interfaces to the IP Office via a BRI Line.

**Call Capacity**
The number of simultaneous voice calls which can be handled by a specific Line defined in the IP Office. For example, a single PRI Line may carry up to 30 simultaneous calls over an E1 circuit.

**CRM (Customer Relationship Management)**
Any system used by an organization to help manage, track, and document its interactions with customers (e.g. for sales, support, and marketing purposes).

**CTI (Computer Telephony Integration) Link**
CTI Link provides an application programming interface (API) for communicating with and controlling Extensions on the IP Office system, allowing tight integration between users' telephony and computer interactions.

**DECT (Digital Enhanced Cordless Telecommunications)**
DECT is a standard for implementing wireless telephony devices, such as the cordless phones used in residential and business applications.

**DHCP (Dynamic Host Configuration Protocol)**
The DHCP protocol allows a device to automatically retrieve IP configuration parameters from an authoritative source on the network, eliminating the need for manual configuration of every device.

**DNS (Domain Name System)**
The Domain Name System (DNS) is a hierarchical, distributed naming system used to organize and interconnect computers within an IP network. Each Domain name can be mapped to an IP address that identifies a specific 'device' by querying a Domain Name Service.

**ETSI**
Also known as 'Euro-ISDN', ETSI refers to a European variant of the ISDN protocol developed by the European Telecommunications Standards Institute (ETSI).

**File Writer**
This address is the IP address of the PC that is allowed to push files to the SD or Memory Card for IP500/4xx systems. For Server Based systems the IP address will be allowed to push files to the /opt/ipoffice directory. The IP Address of 255.255.255.255 allows all IP addresses to push files.

**Flare (Communicator)**
Flare Communicator (a.k.a. Avaya Communicator) is an advanced communications client which can be used on a variety of devices running Windows, Android, or iOS. It provides audio, video, and messaging capabilities with a modern user interface.

**H.323**

H.323 is a specification that defines a set of protocols to provide audio and visual communication sessions on a packet switched network (e.g. a local IP network).

**Hot Desking**

Hot Desking is a feature by which Users defined in the IP Office system can make use of any available physical Extension, allowing them to change their location as necessary. When a Hot Desking User logs into an available station, that station acquires all of the User's settings and button programming.

**HTTP (HyperText Transfer Protocol)**

HTTP is the protocol used for exchanging much of the content on the World Wide Web. IP Office uses the HTTP protocol to transfer files and settings to devices which cannot use the TFTP protocol. For example, the 1100, 1200, 1600, and 9600 series IP phones use the HTTP protocol to receive their configuration.

**Hunt Group**

A group of Extensions to which a call can be directed for answering. In a typical scenario, all member Extensions of a Hunt Group may ring simultaneously, or sequentially until a call is answered.

**Incoming CLI (Calling Line Identification)**

The identifying number and/or name from which an incoming call originates. Also known as 'Caller ID'.

**IP Lines**

Any Line configured in the IP Office whose traffic is carried over a packet-switched IP network, as opposed to traditional Analog and Digital Lines. H.323, SIP, and SM (Session Manager) are all types of IP Lines which can be configured in IP Office.

**IP Stations**

Any station (Extension) configured in the IP Office whose traffic is carried over a packet-switched IP network, as opposed to traditional Analog and Digital stations. Any Extension using the H.323 or SIP protocols is an IP Station.

**IPSec (Internet Protocol Security)**

IPSec is a protocol used to encrypt and authenticate data so that it may be sent over unprotected, public facilities without the data being intercepted or modified by third parties.

**ISDN (Integrated Services for Digital Network)**

ISDN is a set of communication standards for digital transmission of voice, video, and data over the traditional circuits of the public switched telephone network (PSTN).

**L2TP (Layer 2 Tunneling Protocol)**

L2TP is a protocol used to establish an authenticated 'tunnel' through which any data can be encapsulated and transmitted. By itself, L2TP does not provide any encryption or confidentiality. Because of this, L2TP is often used in conjunction with IPSec to transmit encrypted, encapsulated data - the requirements of a Virtual Private Network.

**LAN (Local Area Network)**

A LAN is a data network that connects multiple devices within a limited physical area such as an office or home. This is in contrast to a Wide Area Network (WAN), which covers a larger geographic area and may include resources leased from a network service provider.

**LDAP (Lightweight Directory Access Protocol)**

LDAP is a protocol for maintaining and transmitting directory information over an IP network. For example, an organization might maintain an LDAP database of employees' names, email addresses, and extension numbers. IP Office can import User directory records from an LDAP source.

**NAT (Network Address Translation)**

Network Address Translation (NAT) is a process by which IP addresses from one network can be dynamically mapped to those in another network during data transmission. The most common use of NAT is to allow the various hosts on a Local Area Network (LAN) to use 'private' IP addresses internally, but share one or more 'public' IP addresses when communicating with other hosts on the Internet.

**POT (Analog station)**

IP Office ports which support Analog Stations may be labeled either 'PHONE' or 'POT' depending on the specific component.

**PRI (Primary Rate Interface)**

A digital trunking protocol which provides multiple 'bearer' channels for carrying voice and/or data, along with one or more 'data' channels for signaling. PRI service is most often supplied by either a T1 circuit (23 bearer channels)

or an E1 circuit (30 bearer channels), depending on the locale. PRI service is a popular choice for providing network connectivity for businesses in many countries.

**PSTN (Public Switched Telephone Network)**

The Public Switched Telephone Network refers to the global network of circuit-switched facilities that carries traditional telephony services based on analog and digital technologies. Before the Internet, the PSTN was the primary network that allowed any two individuals throughout the world to communicate with one another.

**QSIG**

QSIG is a standards-based signaling protocol which allows communications equipment from various manufacturers to communicate with each other. QSIG is commonly used to connect multiple proprietary communication networks in a large, heterogeneous environment.

**RAS (Remote Access Service / Server)**

Remote Access Service refers to the hardware and software that provides remote users access to the various services on a network. Traditionally, this access was provided via a dial-up modem connection between a remote client and a Remote Access Server residing on the network.

**RIP (Routing Information Protocol)**

RIP is a protocol by which multiple routing devices can exchange their knowledge of local network topologies, thus distributing the combined routing rules throughout a network.

**SAP Code**

A term often used by Avaya to refer to the various material codes and/or part numbers for IP Office components.

**SCN (Small Community Network)**

For deployments with a large number of Users or Extensions, multiple IP Office Control Units can be connected via H.323 trunks to form a Small Community Network. This feature allows the entire network to be managed as a single entity, and common configuration data is automatically shared among the individual systems.

**SES (SIP Enablement Services)**

An Avaya application which provides organizations a migration path to SIP-based communications including SIP trunking, SIP stations, Presence, and SIP-based messaging systems. The functionality of SES has been migrated to Session Manager (SM) for most cases.

**Session Manager (SM)**

Session Manager is a SIP-based software session management and routing application. It provides a centralized point to define enterprise-wide routing. This enables converged communications, and improvements in scalability and redundancy.

**SIP (Session Initiation Protocol)**

SIP defines a set of protocols to provide call setup, tear down, and modification for multimedia communication sessions on an IP network.

**SIP URI**

A SIP URI is the address used to contact a user via the SIP protocol, similar to a phone number or email address. For example, sip:john.smith@somecompany.com

**SMDR (Station Message Detail Recording)**

A facility for capturing and recording detailed information about the calls handled by a communications system, for billing and accounting purposes for example.

**SMTP (Simple Mail Transfer Protocol)**

The SMTP protocol is a widely-supported Internet standard for the transmission and exchange of electronic mail (e-mail).

**SNMP (Simple Network Management Protocol)**

SNMP is a widely-supported standard protocol for managing devices on an IP network, such as routers, switches, computers, printers, etc. Properties and configuration information of supported devices can be queried and possibly set via an SNMP management application.

**SNTP (Simple Network Time Protocol)**

A simple version of the Network Time Protocol, which allows devices to accurately set and synchronize their clocks over an IP network.

**Solution**

The term 'solution' refers to the entire installation of IP Office equipment and software providing communication services for an organization. This may consist of a single System for small deployments, or a network of multiple

Systems acting as a distributed resource in the case of an IP Office Small Community Network or Server Edition deployment.

**STUN (Simple Traversal of UDP through NATs / Session Traversal Utilities for NAT)**

STUN is a protocol which allows devices to detect and possibly correct for the effects of data passing through a router using Network Address Translation (NAT). For example, STUN may be used by a device to determine its public IP address and/or the type of NAT its data passes through.

**Syslog**

Syslog is a standard facility for collecting, storing, and managing computer-generated messages. It allows multiple devices to send messages to a central collection server for storage and analysis.

**System**

When written with a capital 'S', the term 'System' refers to the collection of hardware, software, and configuration data associated with a single Control Unit (as shown in IP Office Manager, for example). Thus, a Small Community Network or Server Edition network consists of multiple IP Office Systems networked together to provide a distributed communications solution.

**TDM (Time-Division Multiplexing)**

A process by which multiple signals can be transmitted on the same medium by alternating the individual signals in a pattern over time. This is commonly referred to as 'Digital' technology, as opposed to Analog or IP-based technologies.

**TFTP (Trivial File Transfer Protocol)**

TFTP is a network protocol which enables the transmission of files between a 'server' and a 'client'. IP Office uses the TFTP protocol to provide access to an SD / memory card, and for sending configuration files to IP stations.

**VCM (Voice Compression Modules)**

VCM resources are used to transcode analog and digital audio to IP-packetized audio. Any time a call or system feature involves IP and non-IP participants, VCM resources are needed. This includes IP to non-IP Extension calls, IP trunking with non-IP Extensions, and possibly Conferencing, Music on Hold, Paging, and Voicemail features.

**VoIP (Voice over IP)**

The transmission of voice communications over IP networks. Speech is encoded into IP packets using a codec, and transmitted over an IP network instead of a conventional, dedicated telecommunications network. The IP network may simultaneously be carrying non-voice data as well, resulting in a Converged Network.

**VPN (Virtual Private Network)**

The use of encryption and/or tunneling protocols to extend a private network across public facilities, including the Internet. VPNs allow remote users to access a private, local network as if they were directly connected to the network. IP Office supports the use of IPSec and L2TP protocols to establish virtual private networks.

**WAN (Wide Area Network)**

A WAN is a data network that covers a large geographic area, often using resources leased from a network service provider. This is in contrast to a Local Area Network (LAN), which covers a limited area and uses privately owned facilities.

**WINS (Windows Internet Name Service)**

WINS is a Microsoft implementation of a service for mapping computer host names to network addresses, much like DNS does for domain names.