IP Office

System Status Application

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System Status Application

1. System Status Application

The System Status Application (SSA) is a diagnostic tool for system managers and administrators, in order to monitor and check the status of IP Office systems. SSA shows both the current state of an IP Office system and details of problems that have occurred.

To assist with fault finding and diagnosis, the information reported is a combination of real-time and historical events as well as status and configuration data. SSA provides real-time status, historic utilization and alarm information for ports, modules and expansion cards on the system.

SSA connects to all variants of running IP Office 4.0 and higher software, using an IP connection that can be remote or local.

SSA provides information on the following:

- **Alarms**
  SSA displays all alarms which are recorded within IP Office for each device in error. The number of occurrences and the date and time of the last occurrence are recorded.
- **Call Details**
  Information on incoming and outgoing calls; including call length, call reference and routing information.
- **Extensions**
  SSA details all extensions (including device type and port location) on the IP Office system. Information on the current status of a device is also displayed.
- **Trunks**
  IP Office trunks and connections (VoIP, analog and digital) and their current status are displayed.
- **System Resources**
  IP Office includes central resources that are utilized to perform various functions. Diagnosing these resources is often critical to the successful operation of the system. Those resources include:
  - Voicemail Channels
  - Conference Channels
  - Data Channels
  - VCM Channels
  - Modem Channels

Notes

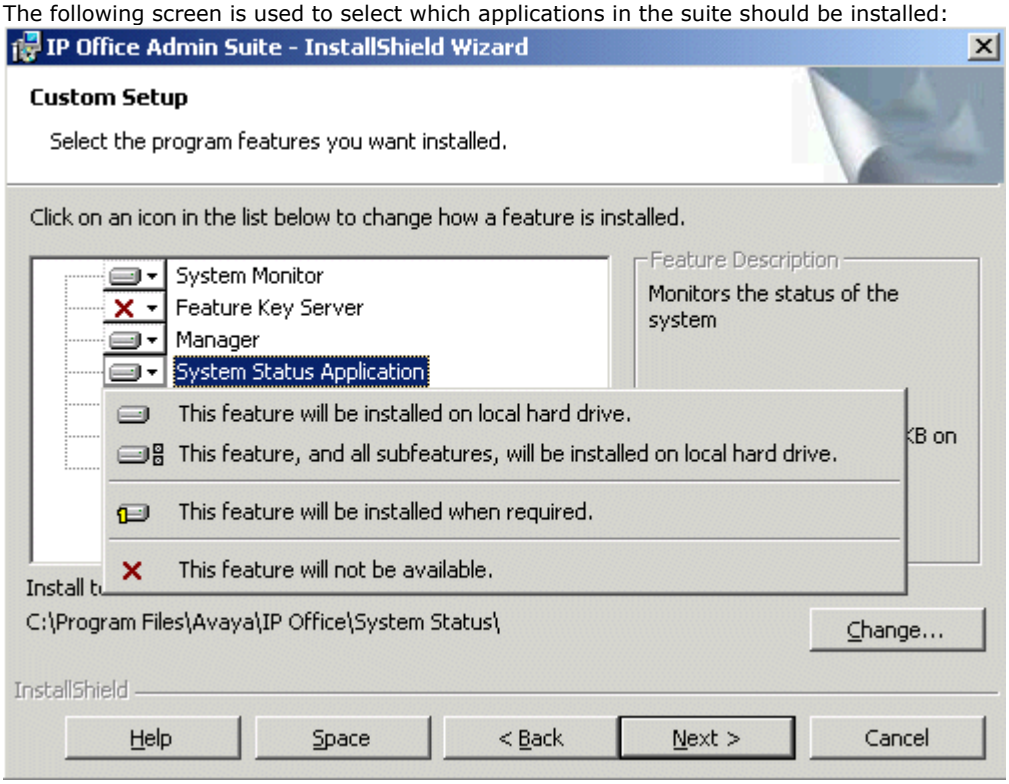
- **System Configuration**
  SSA is not a configuration tool for IP Office systems. For information on configuration, refer to IP Office Manager.
- **Maximum 2 SSA Connections**
  There can be up to two SSA clients connected to an IP Office unit at one time. Only one connection is allowed from each IP address. Note that the IP Office Customer Reporter application uses the same interface to the IP Office control unit as SSA and so counts as a used SSA connection.
- **Running SSA and Customer Call Reported from the same PC**
  CCR and SSA can be run from the same PC if each uses a different source IP address, ie. the PC supports more than one LAN interface. The IP address that SSA should use can be selected when starting SSA 12.

1.1 Installing the Application

SSA is a component of the IP Office 4.0+ suite of applications. This suite is supplied on the IP Office Applications DVD. For IP500 V2 systems, it can also be launched by browsing to the systems IP address without needing to install the application.

To install SSA:

1. If a pre-4.0 version of the IP Office Admin suite is installed, it must be removed. To do this:
   - From the Windows **Control Panel**, click **Add or Remove Programs**.
   - Click **IP Office Admin Suite** and then click **Remove**.
2. Insert the CD. The installation process should auto start. If it does not auto start, open the CD contents and double-click **setup.exe**.
3. Select the language you want to use for the installation process and click **Next**.
4. Select whether only the current Windows logon account should be able to run the Admin suite applications or whether they will be available to all users of the PC. Click **Next**.
5. If required, select the destination to which the applications should be installed. Avaya recommends that you accept the default destination. Click **Next**.
6. The following screen is used to select which applications in the suite should be installed:

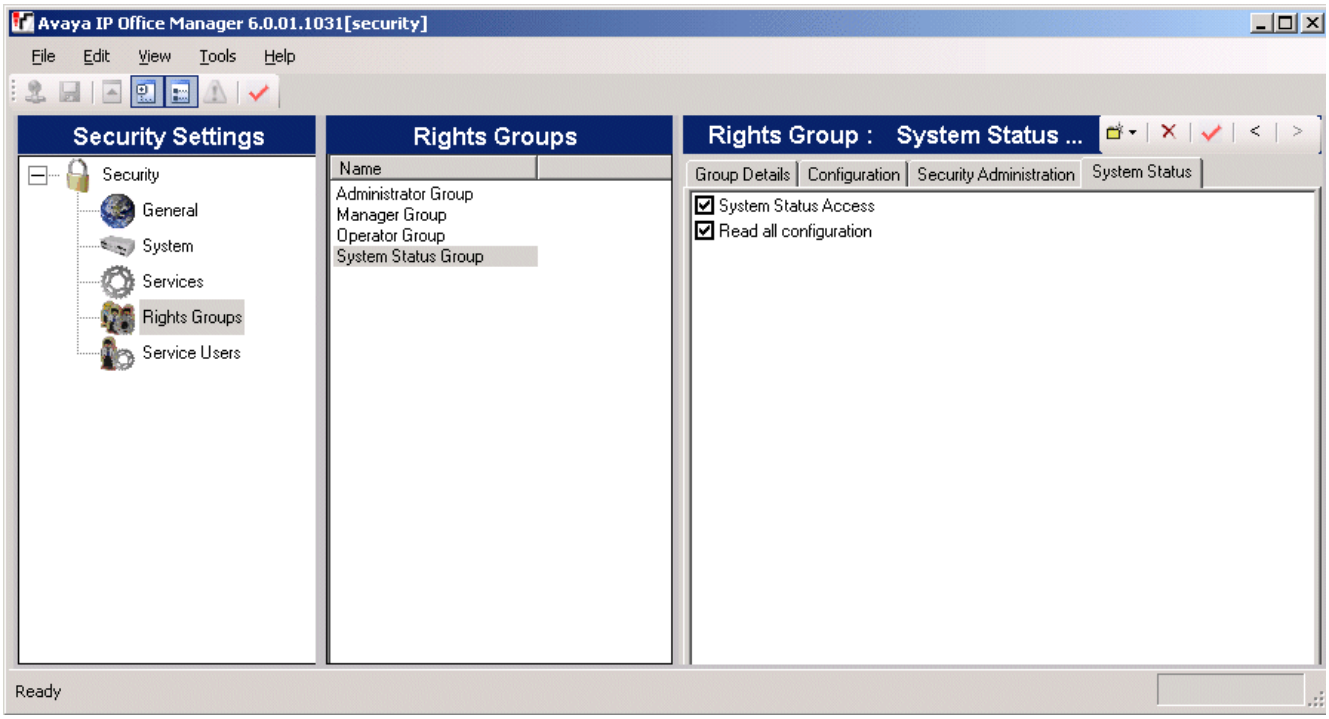


   Clicking on each application will display a description. To change the installation selection, click ▼ next to each application. When you have selected the installations required, click **Next**.
7. Click **Install**.
8. Following installation, you will be prompted whether you want to run the IP Office Admin Suite. To run the suite, click **Yes**.

1.2 Assigning Security Settings

For new IP Office installations or where the security settings have been defaulted, then the default IP Office service users (Administrator, Manager and Operator) l all have SSA access rights. For full details of security settings refer to the IP Office Manager application documentation or help.

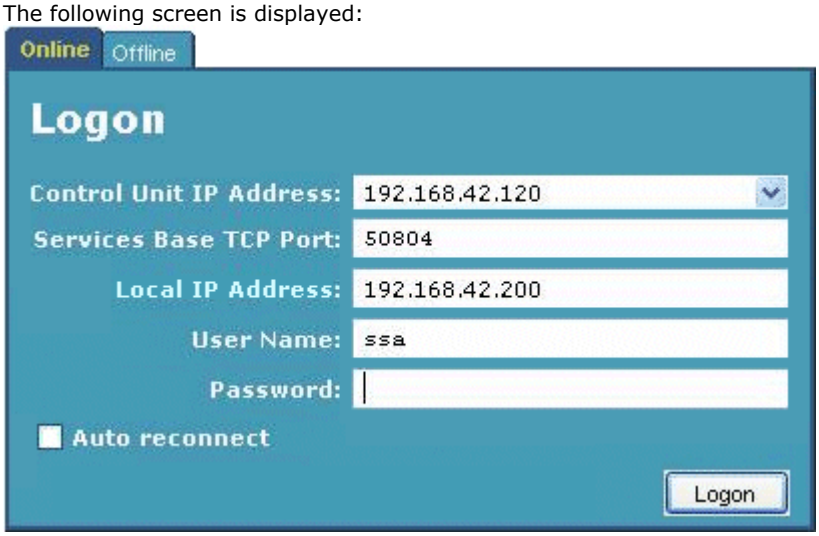
For an IP Office service user to be able to use SSA to logon to a system, they must belong to a Rights Group on that system that has System Status Access enabled. In addition if they want to take snap shots that include a copy of the system configuration Read all configuration must be enabled.



1.3 Starting SSA

SSA can be launched independently or via Manager. For IP500 V2 systems, it can also be launched by browsing to the systems IP address without needing to install the application.

1. Use one of the following methods to start SSA:
   - Click the Windows **Start** icon and select **Programs | IP Office | System Status**.
   - From within the IP Office Manager application, select **File | Advanced | System Status**.
   - Using a browser, enter the IP address of the IP Office IP500 V2 control unit, for example **http://192.168.42.1.** The web page should show details of the IP Office system and a number of links. Select the **System Status** link.
2. The following screen is displayed:



   - **Control Unit IP Address**
     Enter the IP address of the IP Office control units LAN interface or use the drop down to select a previously used address.
   - **Services Base TCP Port**
     This should match the Services Base TCP Port setting of the IP Office system, set in that systems security settings. The default is 50804.
   - **Local IP Address:** *Default = Automatic*
     If the PC has more than one IP address assigned to its network card or multiple network cards, the address to use can be selected if necessary. This allows SSA to be run on a PC that is already running an SSI connection to the IP Office for the IP Office Customer Call Reporter application.
   - **User Name/Password**
     Enter a user name and password that has been provided for SSA usage. This must be the name of an IP Office service user name that has been configured for system status access in the IP Office's security settings. See Assigning Security Settings 11.
   - **Auto Reconnect**
     If selected, SSA will attempt to reconnect using the same settings if connection to the IP Office is lost.
3. Once all the details are set, click **Logon**.

Note

- If SSA fails to start up on Windows 2000 Advanced Server, run CMD and select the directory in which the SSA components are installed (by default this will be C:\Program Files\Avaya\IP Office\System Status). Then run the following command: *java -Dsun.java2d.noddraw=true -jar ssaviewer.jar*

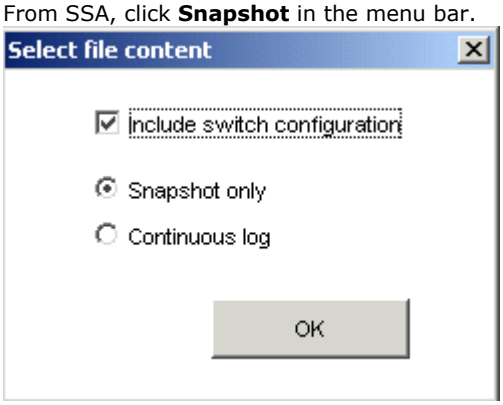
  This disables the use of DirectX from Java. If SSA starts up, this suggests your system has a DirectX problem. Possible reasons for DirectX problems:
  - DirectX is not properly installed (e.g. an installation or a de-installation of a program has corrupted one or more DirectX files). Test the DirectX setup by calling the dxdiag tool from the command line. Re-install DirectX or the latest service pack for your system.
  - The driver of the graphics card is not fully compatible with the installed DirectX version. Update to the latest driver version.

1.4 Snapshot

Snapshot allows the IP Office system status to be captured and saved. The snapshot can then be viewed offline at a later time.

To take a snapshot

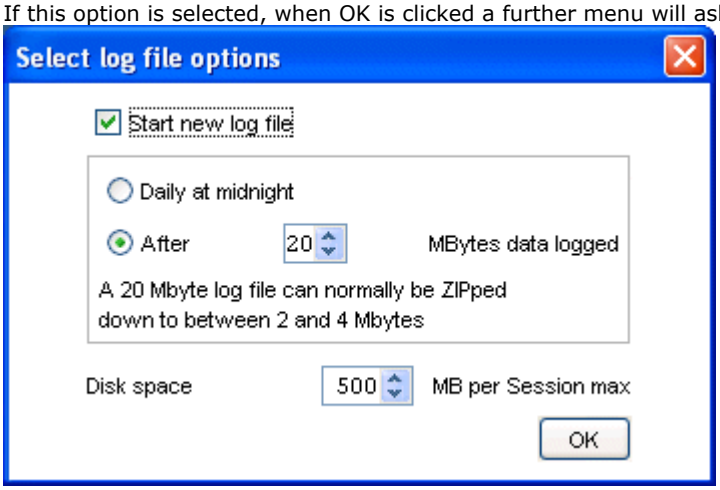
1. From SSA, click **Snapshot** in the menu bar.



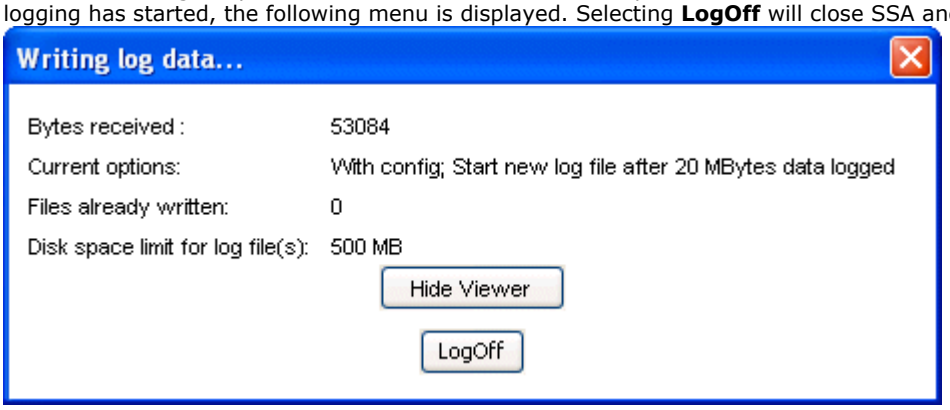
2. The options include switch configuration and Snapshot only are selected by default.

- **Include switch configuration**
  The user must have Read All Configuration enabled in the System Status Rights Groups (see Assigning Security Settings 11). The same snapshot file can be opened in SSA (to examine the status of the system at the time of the snapshot) and in Manager (to examine the configuration of the system at the time of the snapshot).
- **Snapshot only/Continuous log**
  Select either a single snapshot of the current status or a continuous log of the status until logging is stopped. Note that with continuous logging, SSA must be left running and cannot be used for other activities without first stopping the logging.
  - **Snapshot only**
    If this option is selected, when OK is clicked, SSA will request where you want to save the snapshot .ssh file. A default file name that includes the system name, date and time is shown but this can be replaced if required.

- **Continuous log**
  If this option is selected, when OK is clicked a further menu will ask for the logging settings to be used.



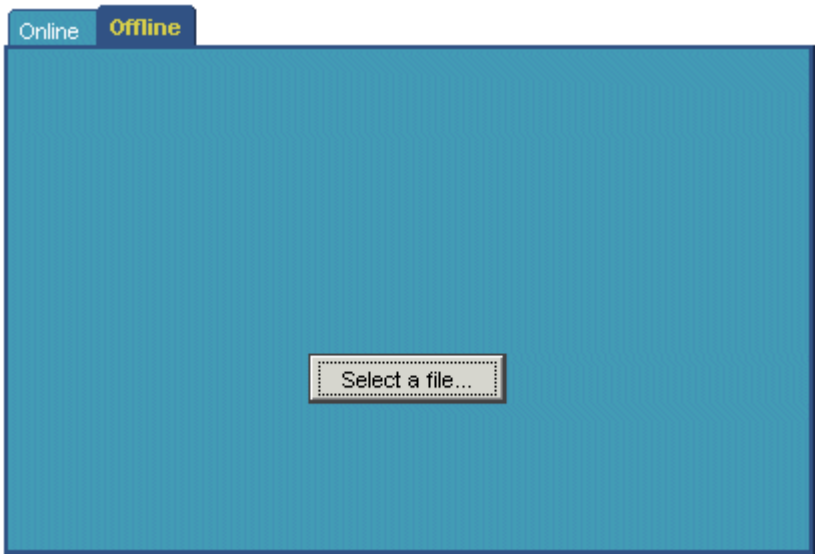
Select the settings required and click **OK**. SSA will then request where the **.slo** file should be saved. Once logging has started, the following menu is displayed. Selecting **LogOff** will close SSA and end the logging.



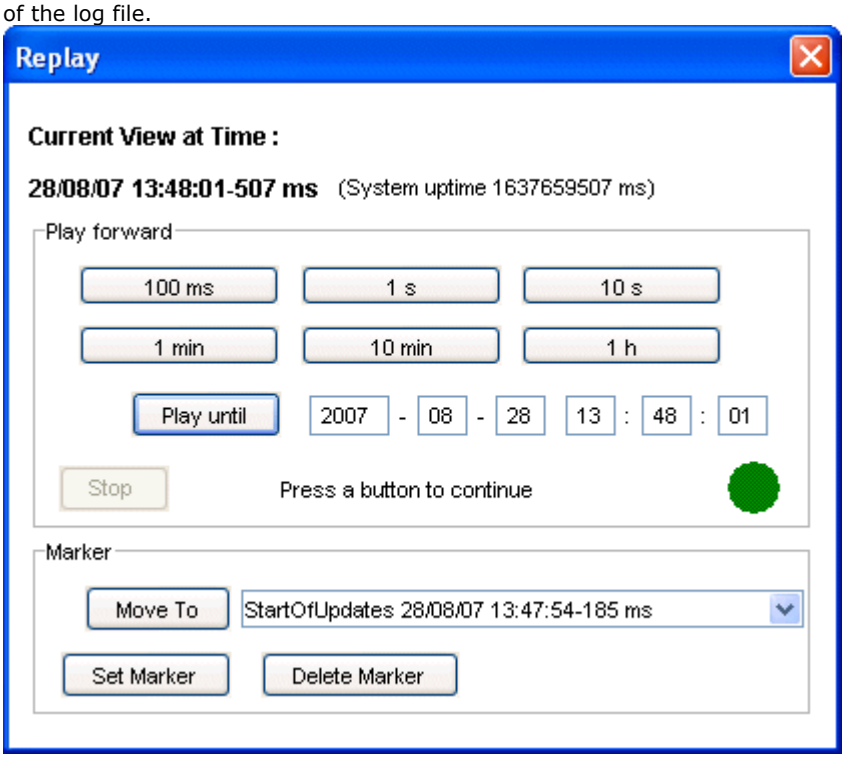
To open a snapshot

The menu options and buttons that relate to live information capture (such as **Refresh**) or that alter the IP Office state (such as Clear Alarms) are not available. The menu options **Snapshot** and **LogOff** are replaced by **Properties** and **Close**. Properties shows when the snapshot was taken and by whom.

1. From the Logon screen, click the **Offline** tab:

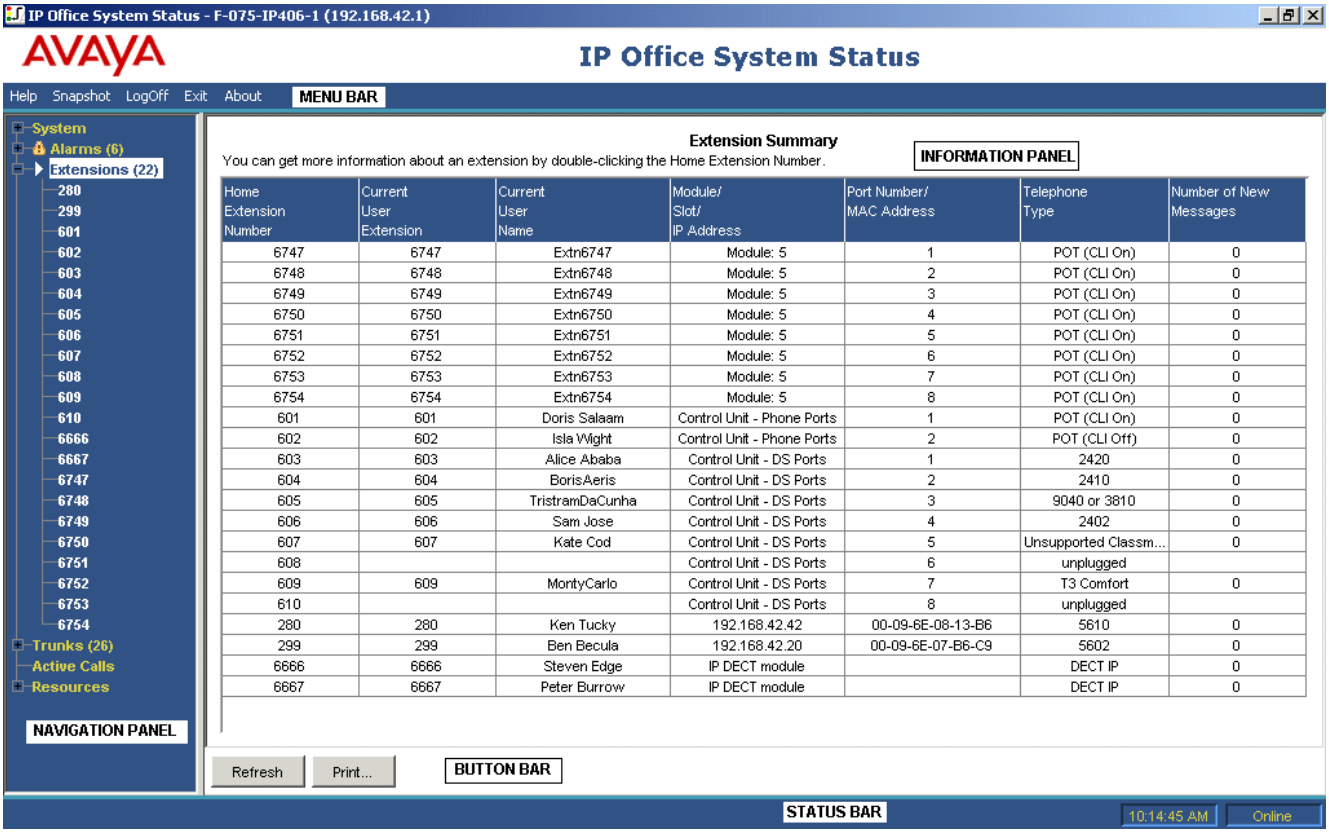


2. Click **Select a file...**
3. Locate the saved snapshot **.ssh** or **.slo** file and click **Open** to display the file.
4. For .slo continuous log files, the menu bar option **Replay** can be used to display a menu for controlling the playback of the log file.



1.5 Using The Application

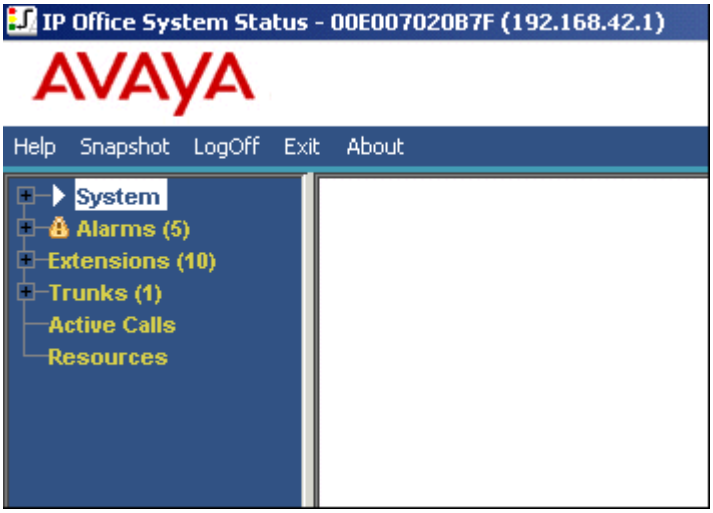
This section describes how to navigate and access the features available in SSA. The following screen shows the layout of the application:



Home Extension Number	Current User Extension	Current User Name	Module/ Slot/ IP Address	Port Number/ MAC Address	Telephone Type	Number of New Messages
6747	6747	Extn6747	Module: 5	1	POT (CLI On)	0
6748	6748	Extn6748	Module: 5	2	POT (CLI On)	0
6749	6749	Extn6749	Module: 5	3	POT (CLI On)	0
6750	6750	Extn6750	Module: 5	4	POT (CLI On)	0
6751	6751	Extn6751	Module: 5	5	POT (CLI On)	0
6752	6752	Extn6752	Module: 5	6	POT (CLI On)	0
6753	6753	Extn6753	Module: 5	7	POT (CLI On)	0
6754	6754	Extn6754	Module: 5	8	POT (CLI On)	0
601	601	Doris Salaam	Control Unit - Phone Ports	1	POT (CLI On)	0
602	602	Isla Wight	Control Unit - Phone Ports	2	POT (CLI Off)	0
603	603	Alice Ababa	Control Unit - DS Ports	1	2420	0
604	604	BorisAeris	Control Unit - DS Ports	2	2410	0
605	605	TristramDaCunha	Control Unit - DS Ports	3	9040 or 3810	0
606	606	Sam Jose	Control Unit - DS Ports	4	2402	0
607	607	Kate Cod	Control Unit - DS Ports	5	Unsupported Classm...	0
608			Control Unit - DS Ports	6	unplugged	
609	609	MontyCarlo	Control Unit - DS Ports	7	T3 Comfort	0
610			Control Unit - DS Ports	8	unplugged	
280	280	Ken Tucky	192.168.42.42	00-09-6E-08-13-B6	5610	0
299	299	Ben Becula	192.168.42.20	00-09-6E-07-B6-C9	5602	0
6666	6666	Steven Edge	IP DECT module		DECT IP	0
6667	6667	Peter Burrow	IP DECT module		DECT IP	0

1.5.1 Navigation Panel

The Navigation Panel displays a list of items on which information can be selected and displayed in the information panel.



To view more options, expand the structure by clicking + next to the feature.

To view summary and specific details in the **Information Panel**:

- **Summary**
  To view summary information, click a feature in the navigation panel. For example; click **Extensions** and the **Extension Summary** screen is displayed.
- **Specific**
  To view detailed information, double-click a feature in the navigation panel to display a list of items and then click an item to view specific details in the information panel. For example; double-click **Extensions** to display a list of extensions and then click an extension to view the **Extension Status** screen.

1.5.2 The Menu Bar

From the menu bar, you can select the following options:

- **Help**
  Opens the SSA help system.
- **LogOff**
  Logs off of the control unit and returns to the login screen.
- **Exit**
  Closes the SSA application.
- **About**
  Displays the SSA version number and copyright information. To close, click **OK**.
- **Snapshot** 13
  Captures the complete status of an IP Office system at a particular time and saves this to file. SSA can then be used offline to browse this information.

1.5.3 Button Bar

Depending on the screen, the following options may appear in the button bar:

- **Abandoned Calls**
  The Active Calls screen splits to display a list of incoming calls on a trunk where the caller disconnected before the call was first answered.
- **Absolute Time**
  Applies to the 24 Hour Performance History. Each line shows the absolute time at which the reported 15 minute period started (HH:MM in 24 hour clock format).
- **Alarm History**
  Display alarm history details 41.
- **Back**
  Returns to the previous screen.
- **Backup System Files** *(IP500 V2 and IP Office Linux PC only)*
  Backup the files currently being used by the control unit to the backup folder on the System SD card.
- **Call Details**
  Displays call details 81 for the selected call.
- **Clear**
  Clears all the alarms that have been selected. Any alarm still active will remain with the count of 1.
- **Clear Abandoned Calls**
  Clears all listed abandoned calls, updates the date and time and enables further abandoned calls to be logged.
- **Clear Alarm History**
  Clear the historical alarms displayed.
- **Clear All**
  Clears all listed alarms. Any alarm still active will remain with the count of 1.
- **Clear Boot Flags** *(IP500 V2 only)*
  During system booting various flags are set indicating from which source the system booted, etc. Occasionally it may be required to clear those flags.
- **Clear In Fallback**
  Clear the currently selected SSL VPN service's fallback status.
- **Conference Details**
  Available for call details when the call is connected to a conference. Press to display the conference details 83.
- **Conflicts**
  Displays any conflicts with directory entries on other systems if in a multi-site network.
- **Copy System Card**
  This option is available for IP500 V2 control units fitted with a System SD and Optional SD card. When selected, the contents of the System SD card are copied to the Optional SD card. Note that this process can take several hours as it is done as a low priority task so as to not affect normal IP Office operation.
- **Details** *(IP500, IP500 V2 and IP Office Linux PC only)*
  This button allows additional information to be displayed. See System Hardware Details 25.
- **Disconnect**
  Clears the current call. The **Disconnect** button cannot be used to stop alerting calls for calls on Loop Start, T1 Loop Start and T1 Ground Start lines.

- **Format**
  This option is available for IP500 V2 control unit memory cards. When selected, the card is formatted. All contents of the card are erased by this process.
- **Full Details**
  Applies to Active Calls. Resumes the full display.
- **Membership**
  Display the users who are members of the selected hunt group.
- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Ping**
  Perform a Ping action from the selected interface (system, line or extension) and display the results. See Ping 104.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.
- **Relative Time**
  Applies to the 24 Hour Performance History. Indicates how far into the 15 minute interval the line is (e.g. 3 minutes will show as 00:03). The times following that will be displayed in relationship to the current time as HH:MM (e.g. subtract 15 minutes from the current interval to get the next one).
- **Reregister**
  This option can be used to force Avaya H.323 IP phones to both reregister with the IP Office and to restart, including checking their current firmware against that available on the configured TFTP or HTTP file server. Since this process is monitored in real-time by the SSA, it is recommended that only small groups, up to 15 phones, are forced to reregister at any time. Attempting to reregister larger numbers of phones will cause SSA to appear to be paused.
- **Reset**
  Applies to the Utilization Summary. Resets all counters and timers to 0.
- **Restores System Files** *(IP500 V2 and IP Office Linux PC only)*
  Restore the files from the backup folder on the System SD card. A system shutdown will be required for the restored files to be used following the system restart.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.
- **Select**
  Show details for the currently selected item.
- **Set In Fallback**
  Set the currently selected SSL VPN service into fallback status.
- **Show Blanks**
  Applies to 24 Hour Performance History. 0 error values for each line appear as blanks.
- **Show Zeros**
  Applies to 24 Hour Performance History. 0 error values for each line are displayed.
- **Shutdown**
  This command can be used to shutdown the service provided by the memory card, including embedded voicemail if being used. Once shutdown, the card LED on the control unit is extinguished and the card can be safely removed from the control unit.
- **Shutdown System**
  This command can be used to shutdown the IP Office for a period of time after which it will automatically restart. Alternately it can be shutdown until power is removed and then reapplied.
- **Start Up**
  If the memory card has been shutdown, this command can be used to re-enable operation of the card.
- **Summary**
  Return to the System Hardware Summary 24.
- **Trace**
  Starts a trace of the rows selected. The trace is displayed for each call associated with the selected trunk ports or extension button. See Trace 69.

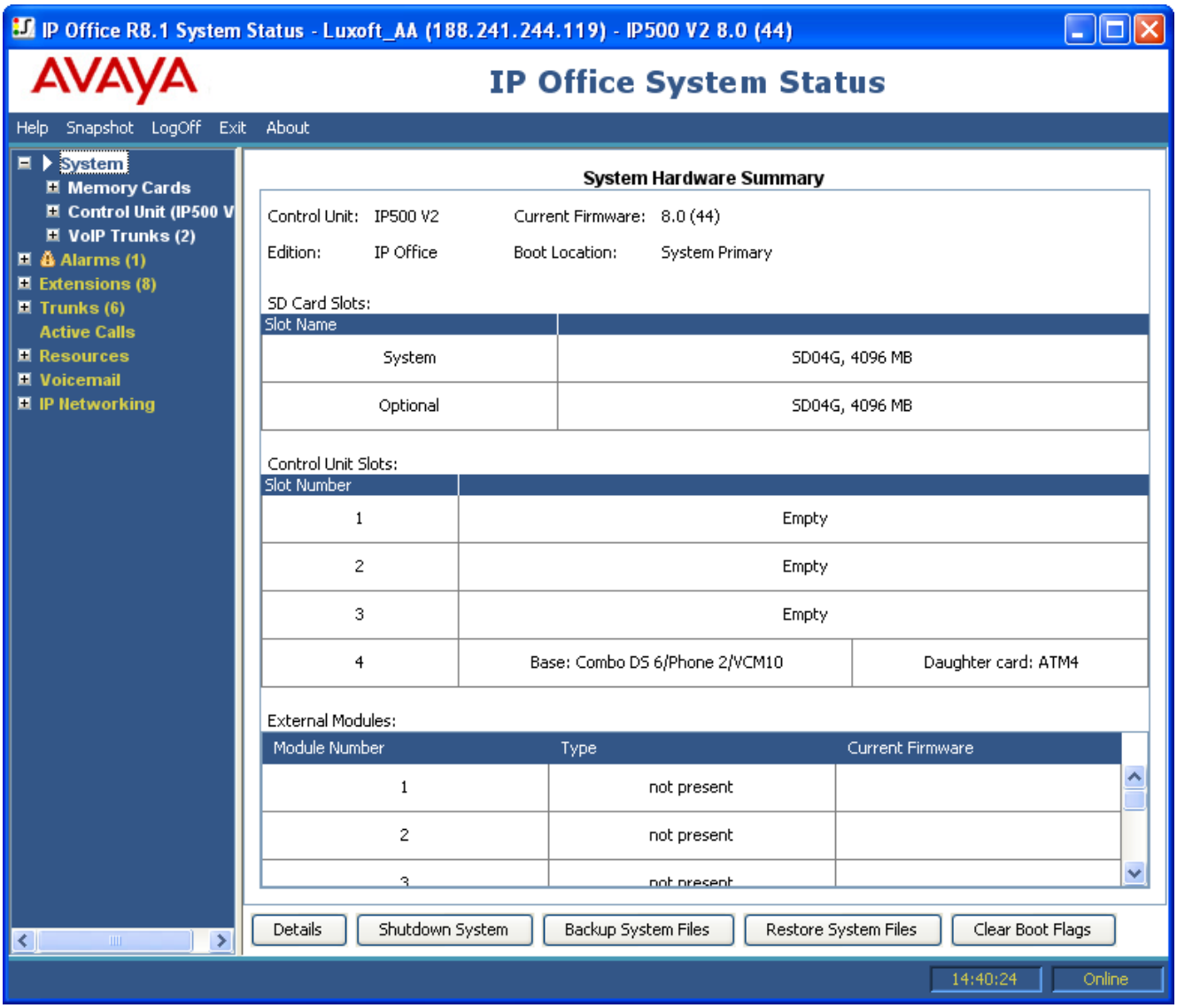
- **Trace All**
  Starts a trace for the whole trunk group or extension. The trace is displayed for all calls associated with the trunk or extension. See Trace 69.
- **Trace Clear**
  Clears the trace and continues tracing.

Chapter 2.
Screens

2. Screens

2.1 System

When you first log on to SSA, the **System Hardware Summary** screen is displayed, detailing information about the system modules. The format and layout of the screen will vary according to the type of IP Office control unit.

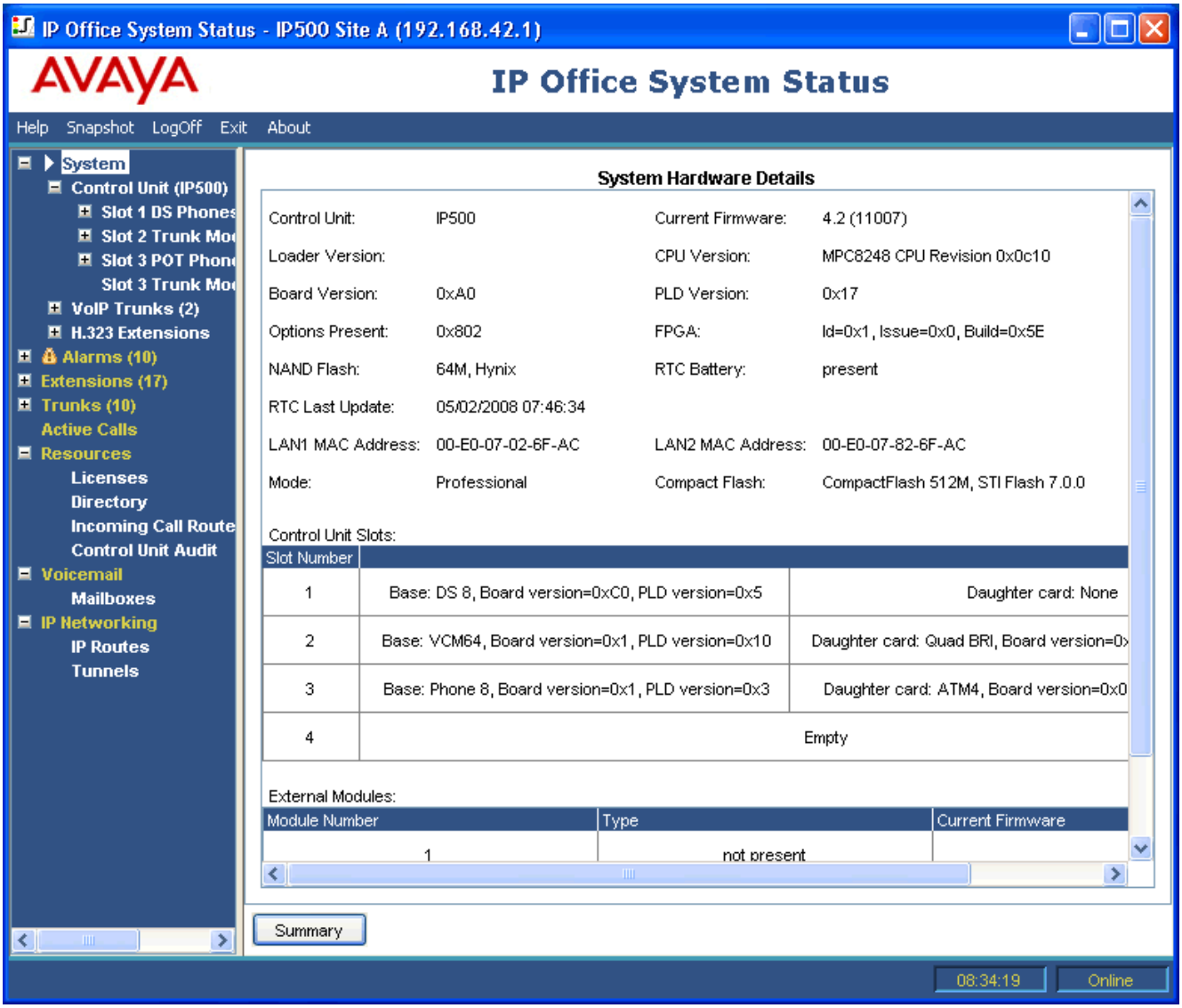


Buttons

The following buttons can appear on this screen:

- **Details** *(IP500, IP500 V2 and IP Office Linux PC only)*
  This button allows additional information to be displayed. See System Hardware Details 25.
- **Shutdown System**
  This command can be used to shutdown the IP Office for a period of time after which it will automatically restart. Alternately it can be shutdown until power is removed and then reapplied.
- **Backup System Files** *(IP500 V2 and IP Office Linux PC only)*
  Backup the files currently being used by the control unit to the backup folder on the System SD card.
- **Restores System Files** *(IP500 V2 and IP Office Linux PC only)*
  Restore the files from the backup folder on the System SD card. A system shutdown will be required for the restored files to be used following the system restart.
- **Clear Boot Flags** *(IP500 V2 only)*
  During system booting various flags are set indicating from which source the system booted, etc. Occasionally it may be required to clear those flags.

2.1.1 System Hardware Details



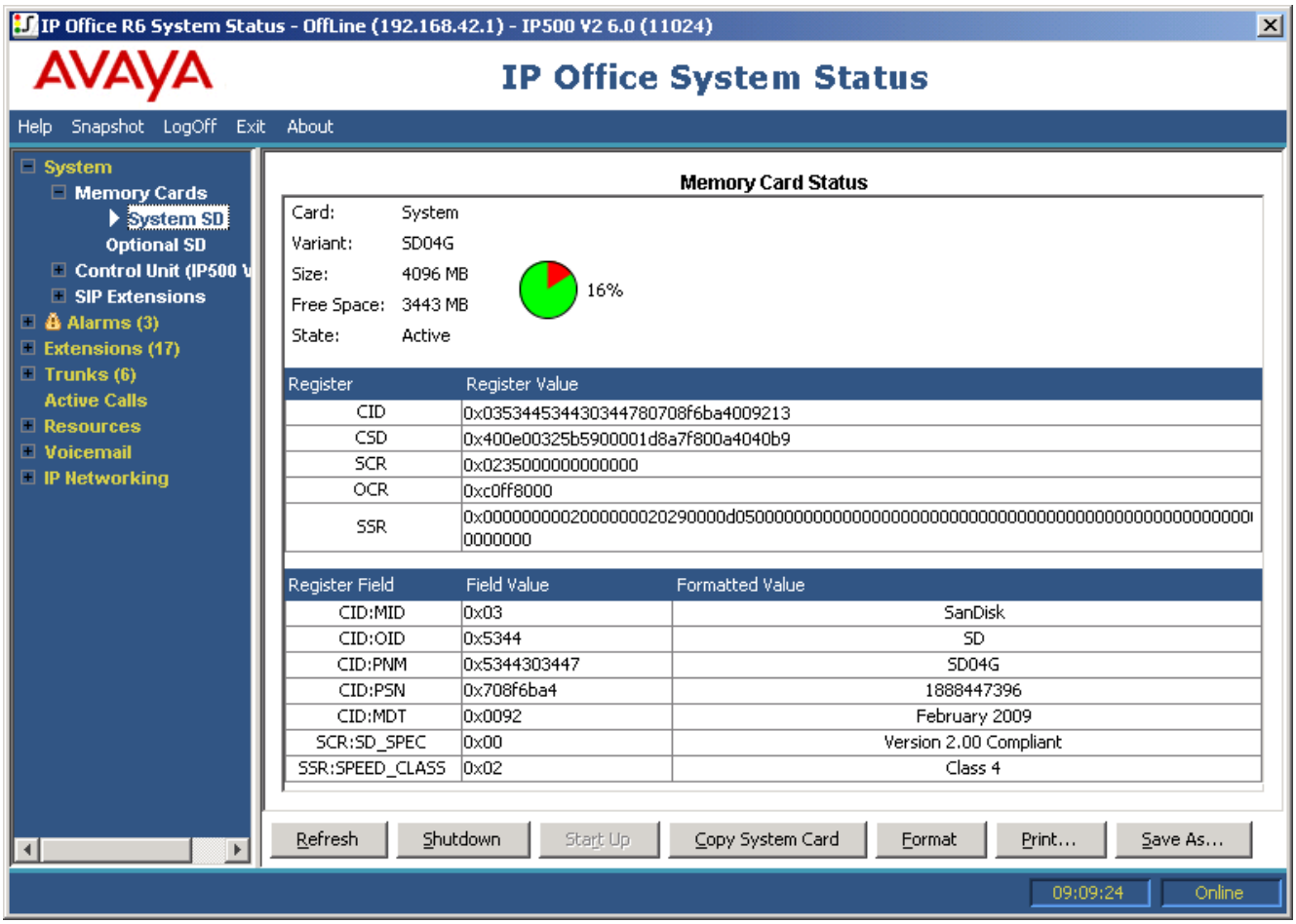
Buttons

The following buttons can appear on this screen:

- **Summary**
  Return to the System Hardware Summary 24.

2.1.2 Memory Cards

For IP Office Release 6, this option is shown for IP Office systems where the control unit is fitted with an additional memory card. The memory card can be selected and its details viewed within SSA.



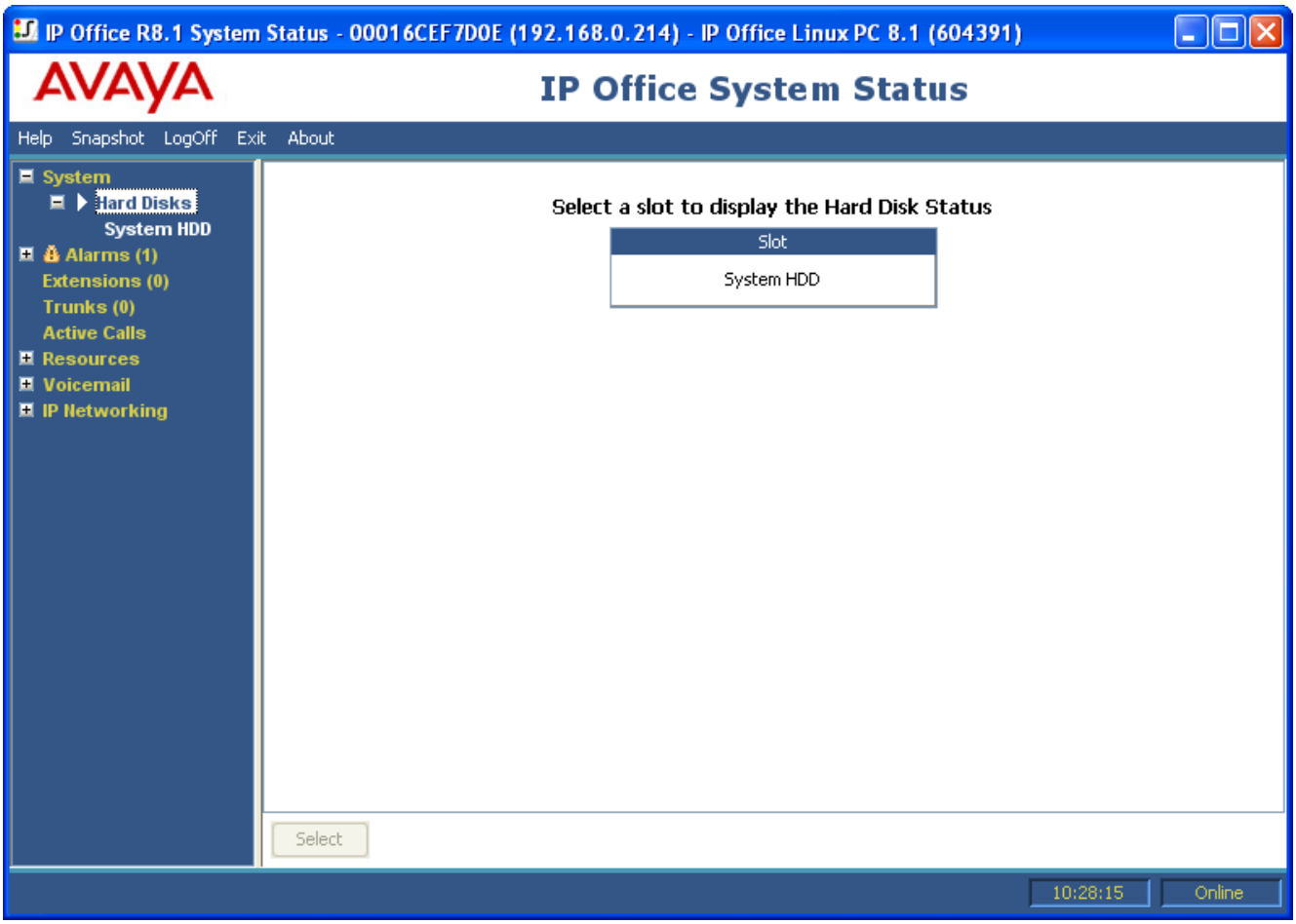
Buttons

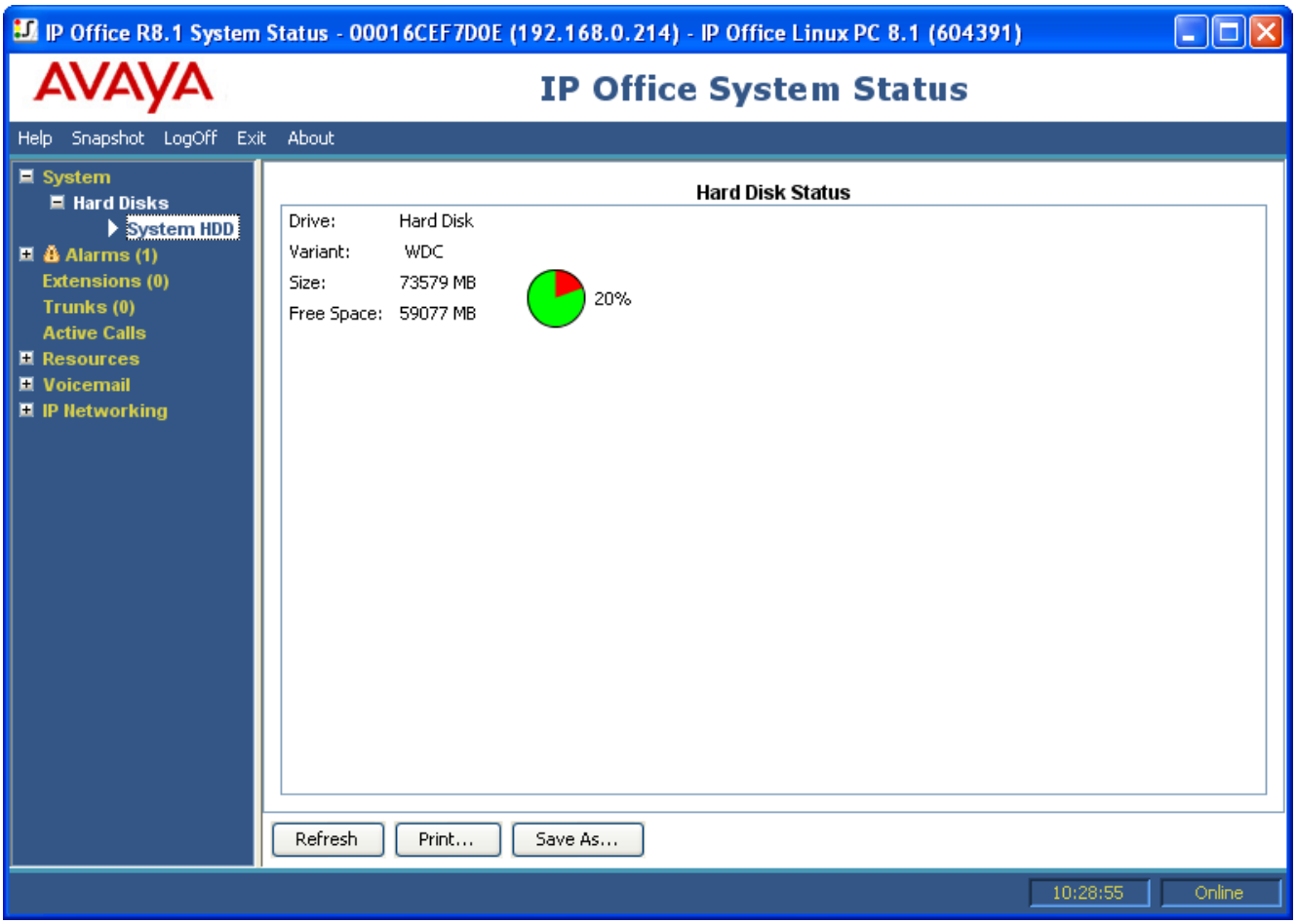
The commands at the bottom of the screen will depend on the type of control unit and the security settings of the account used to login to System Status. The possible commands are:

- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.
- **Shutdown**
  This command can be used to shutdown the service provided by the memory card, including embedded voicemail if being used. Once shutdown, the card LED on the control unit is extinguished and the card can be safely removed from the control unit.
- **Start Up**
  If the memory card has been shutdown, this command can be used to re-enable operation of the card.
- **Copy System Card**
  This option is available for IP500 V2 control units fitted with a System SD and Optional SD card. When selected, the contents of the System SD card are copied to the Optional SD card. Note that this process can take several hours as it is done as a low priority task so as to not affect normal IP Office operation.
- **Format**
  This option is available for IP500 V2 control unit memory cards. When selected, the card is formatted. All contents of the card are erased by this process.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.1.3 Hard Disks

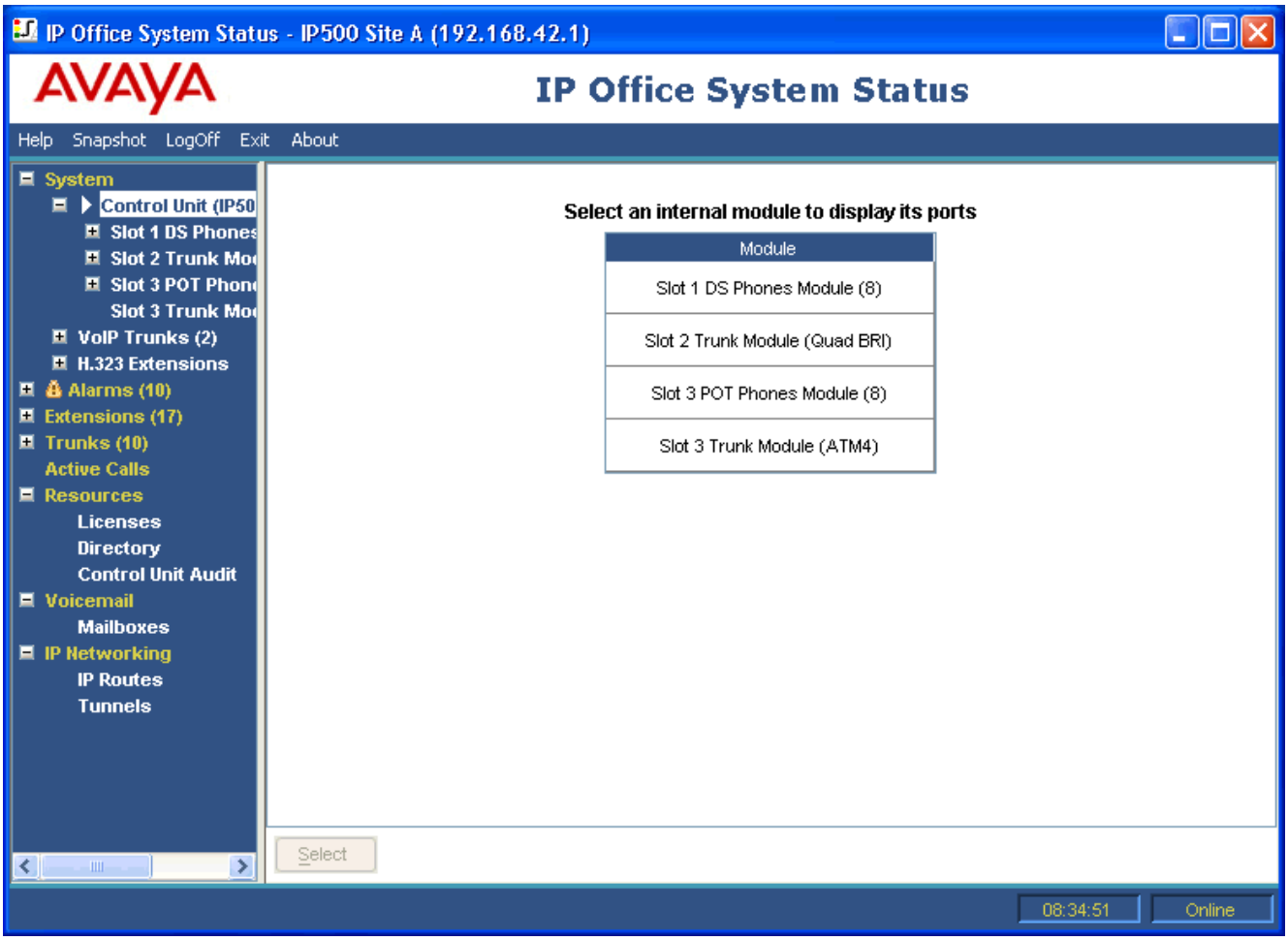
This option is shown for IP Office Linux PC based systems. It allows selection of a system hard disk to display details of that disk.




IP Office R8.1 System Status - 00016CEF7D0E (192.168.0.214) - IP Office Linux PC 8.1 (604391)
AVAYA
IP Office System Status
Help
Snapshot
LogOff
Exit
About
System
Hard Disks
System HDD
Alarms (1)
Extensions (0)
Trunks (0)
Active Calls
Resources
Voicemail
IP Networking
Hard Disk Status
Drive: Hard Disk
Variant: WDC
Size: 73579 MB
Free Space: 59077 MB
20%
Refresh
Print...
Save As...
10:28:55
Online

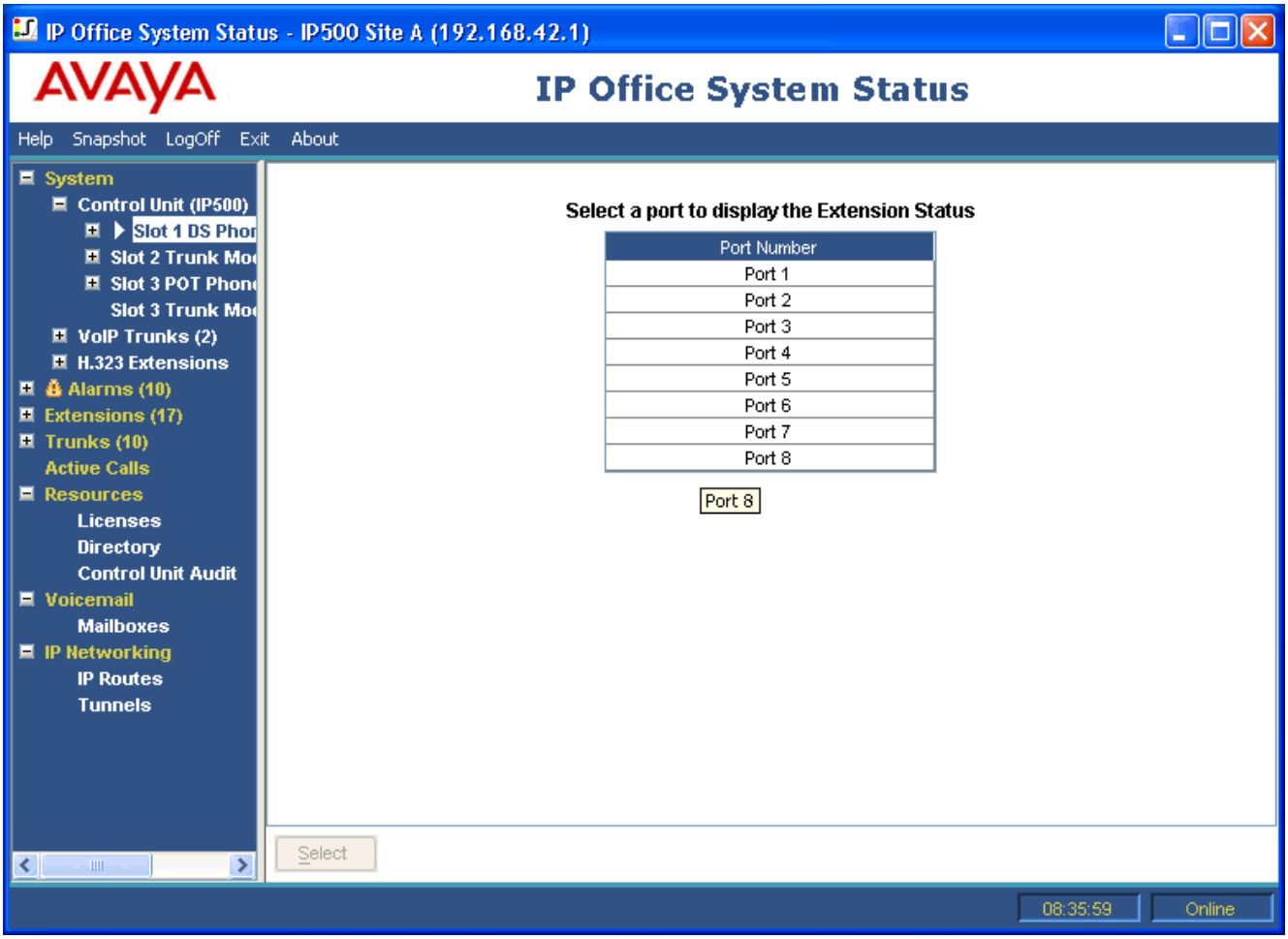
2.1.4 Control Unit

This screen shows the devices installed in the control unit ports. The number of available ports and the types of devices will vary according to the type of control unit. Select a device to display information on it.



2.1.4.1 Extension Ports

This screen shows the individual ports on the selected device in a control unit slot. The number of available ports and the types of devices will vary according to the type of control unit.



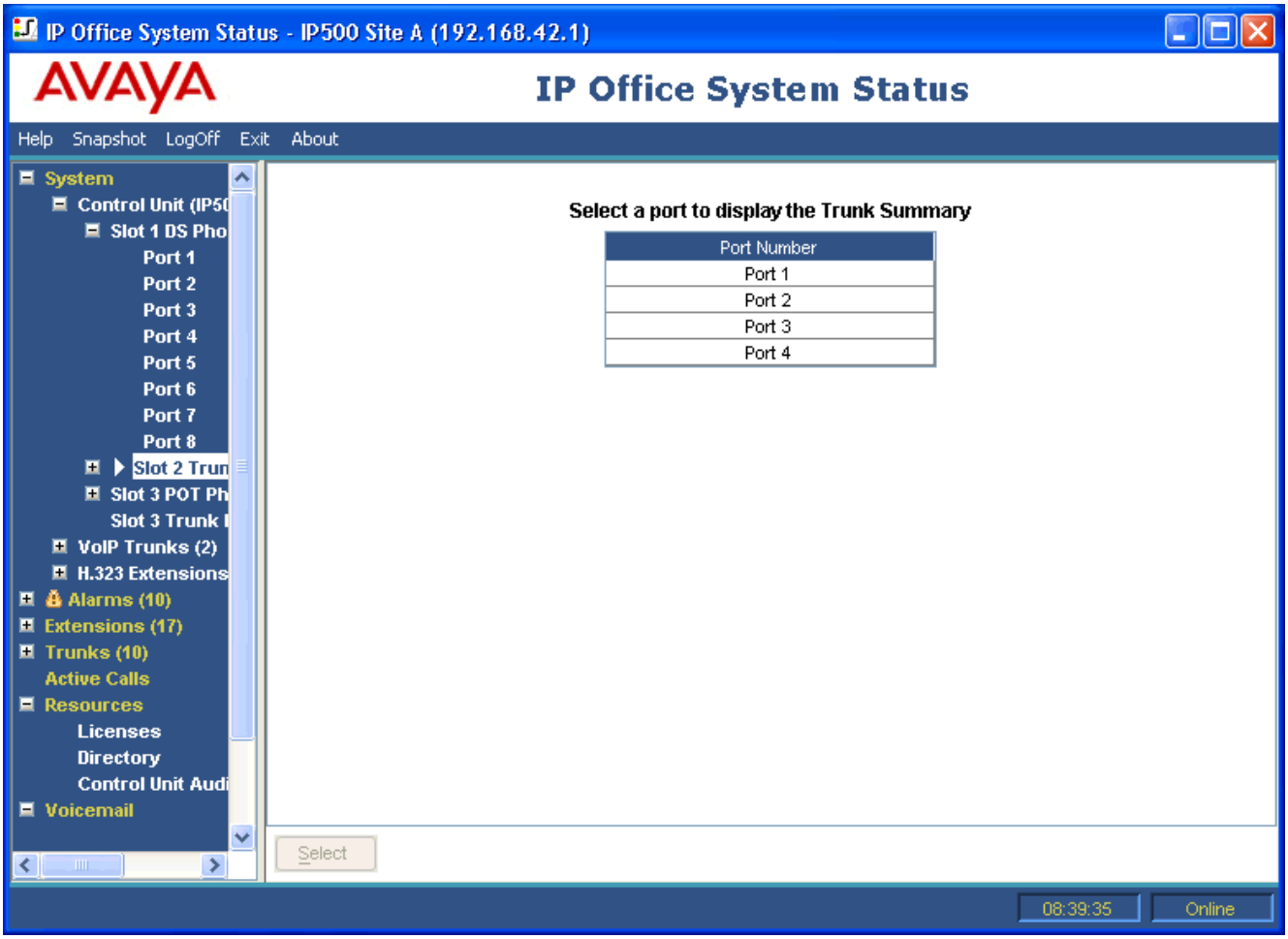
Buttons

The following buttons can appear on this screen:

- **Select**
  Show details for the currently selected item.

2.1.4.2 Trunk Ports

Select a port to display data for digital trunks. The number of available ports and the types of devices will vary according to the type of control unit.



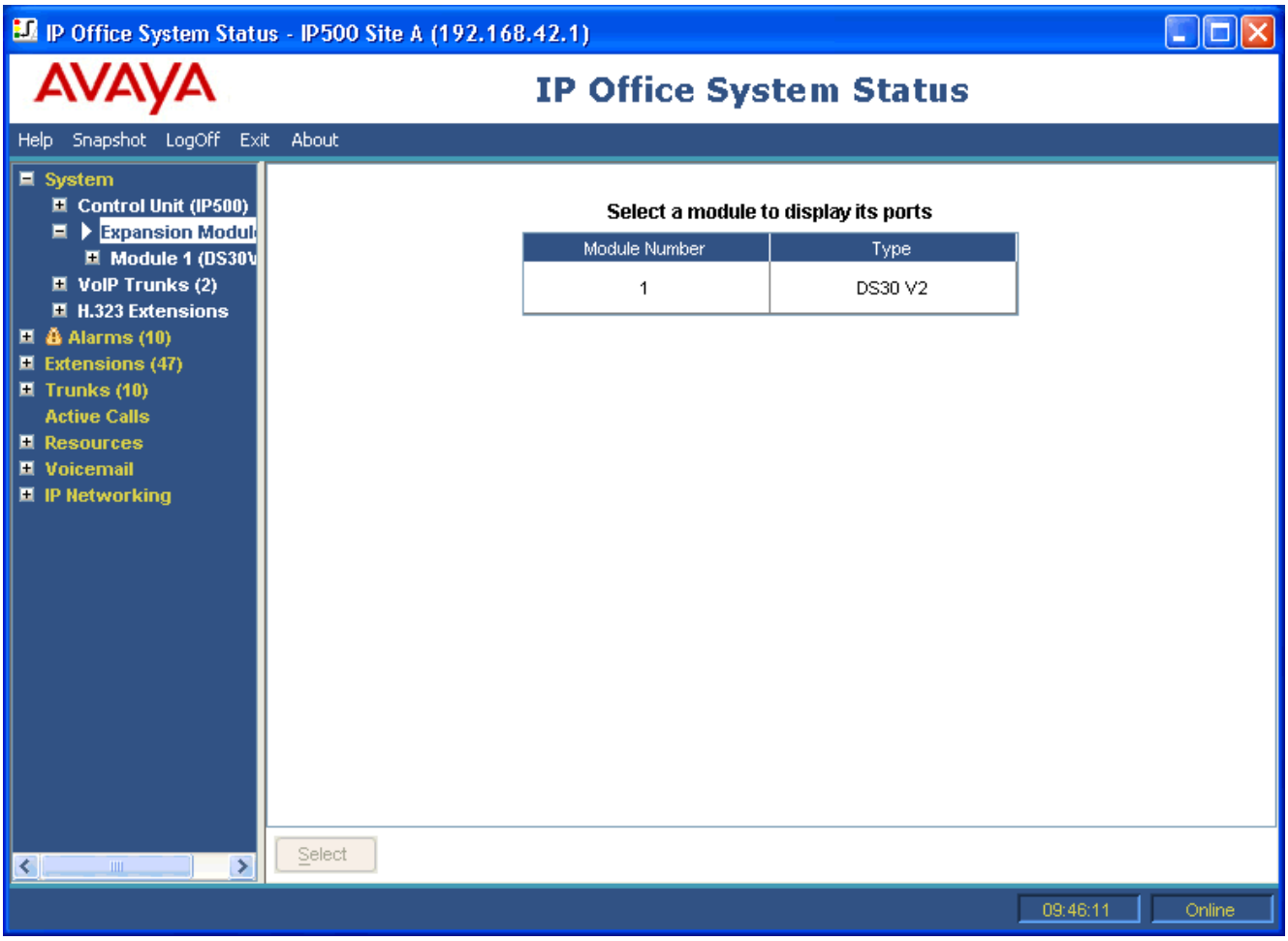
Buttons

The following buttons can appear on this screen:

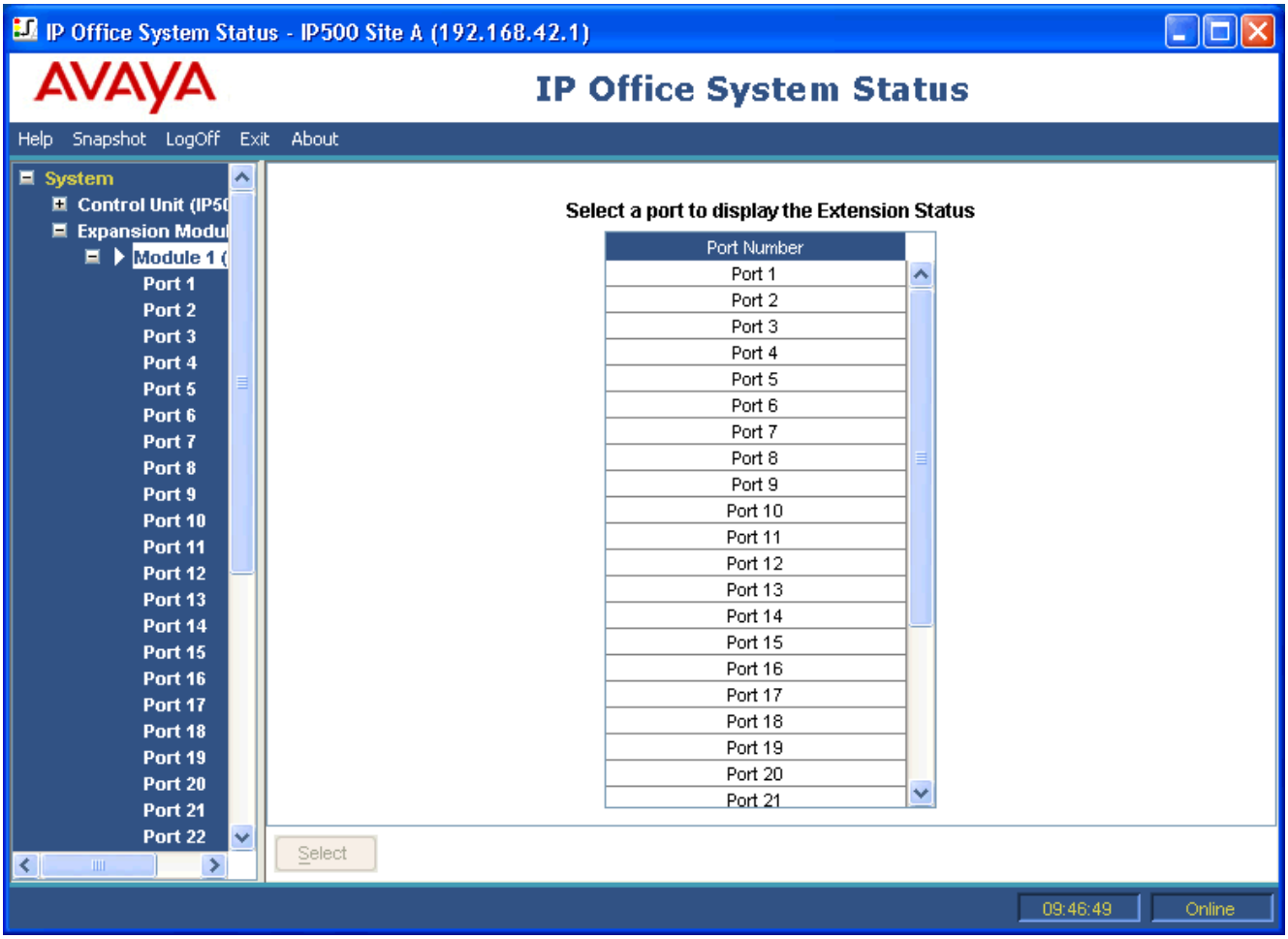
- **Select**
  Show details for the currently selected item.
  - Select a device to display information on it. For each trunk, the information displayed consists of a number of tabs.
    - Analog Trunk 60
    - Digital Trunk 62
    - H.323 Trunk 64
    - SIP Trunk 67

2.1.5 Expansion Modules

This screen lists the external expansion modules installed in the system. To view details of an individual port, use the navigation pane or select the port and click **Select**.



Module Information



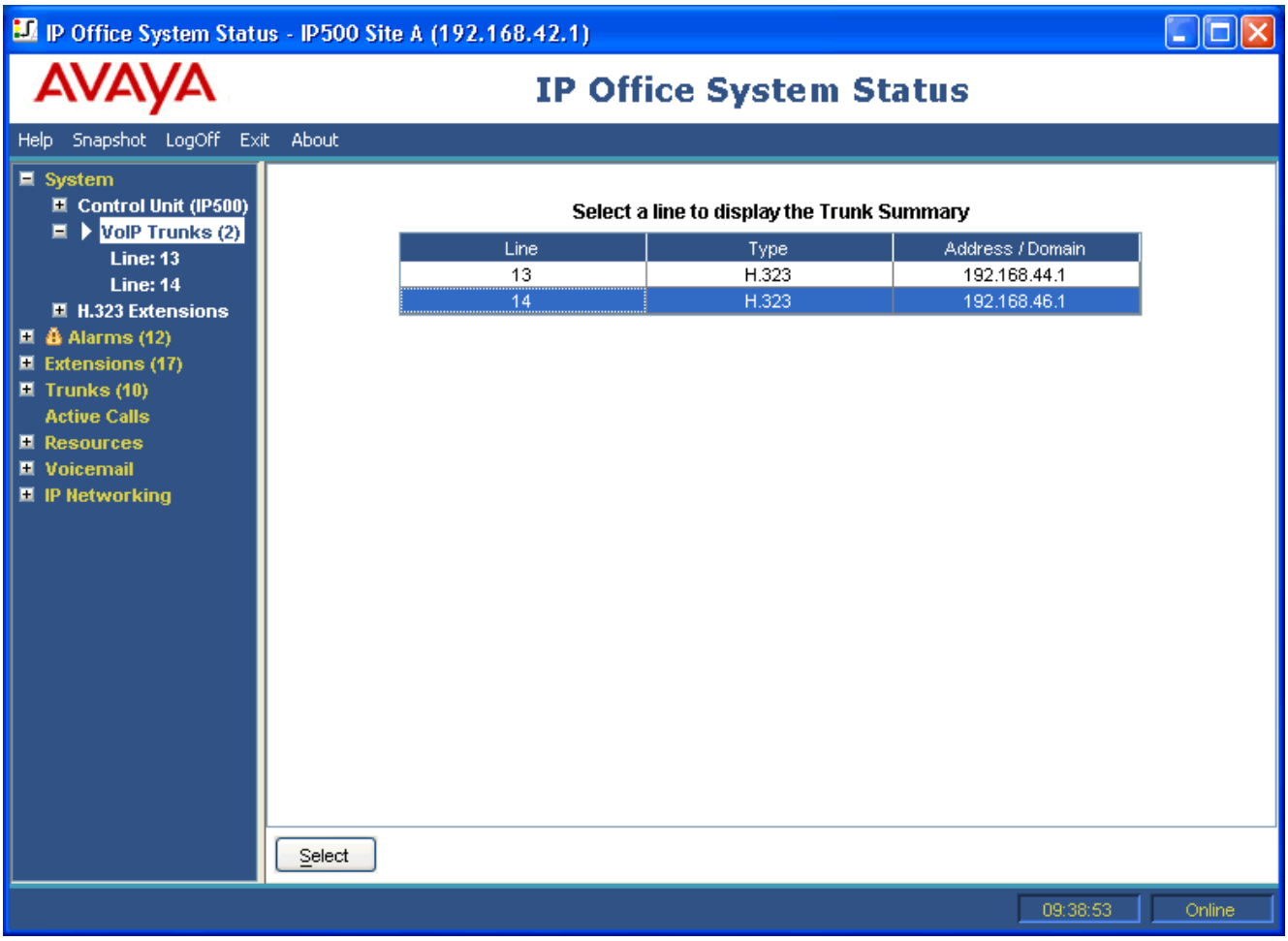
Buttons

The following buttons can appear on this screen:

- **Select**
  Show details for the currently selected item.

2.1.6 VoIP Trunks

This screen lists the VoIP trunks configured within the system. To view details of an individual trunk, use the navigation pane or select the port and click **Select**. See Status (H.323 Trunk) 64 or Status (SIP Trunk) 67.



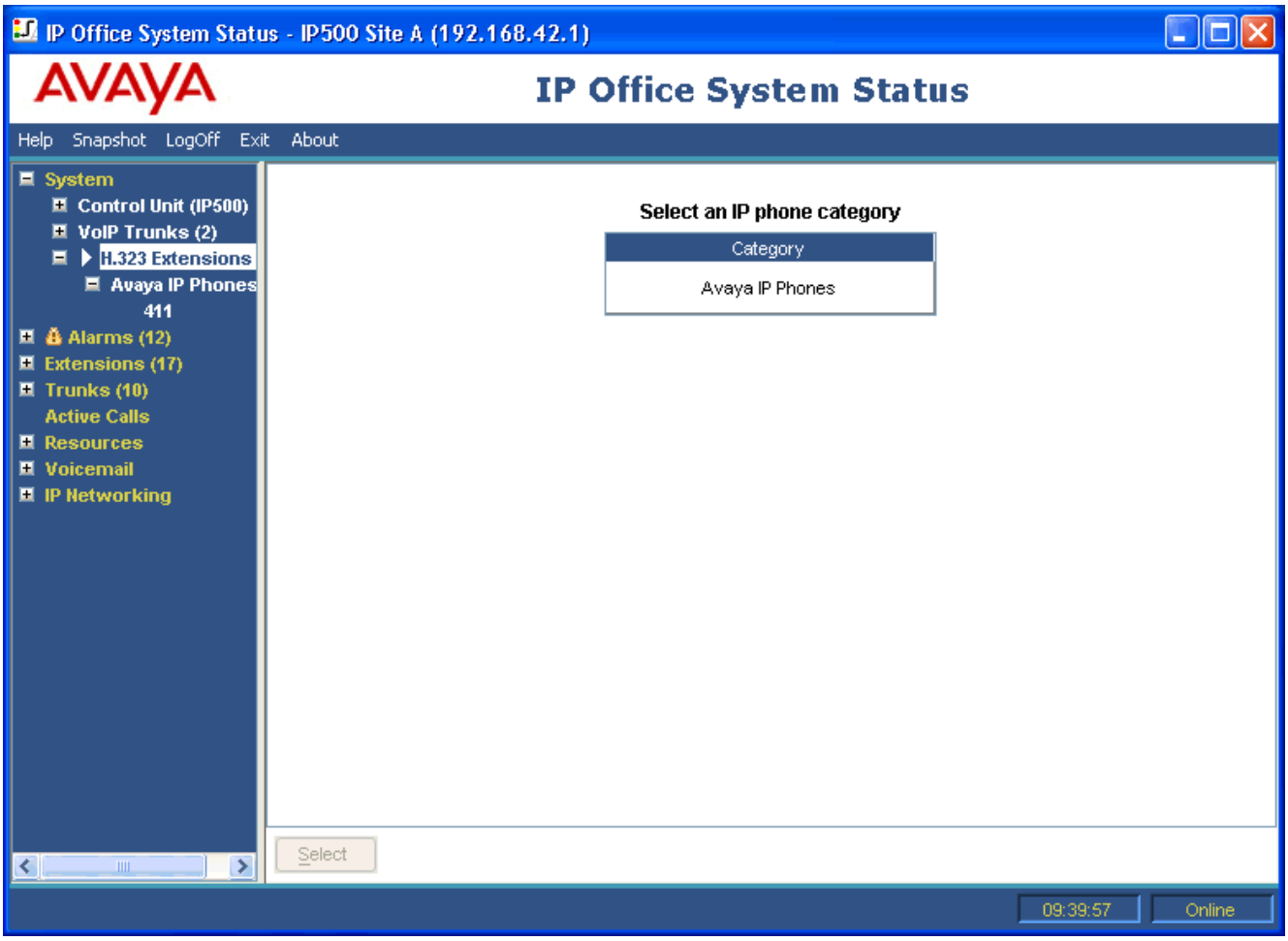
Buttons

The following buttons can appear on this screen:

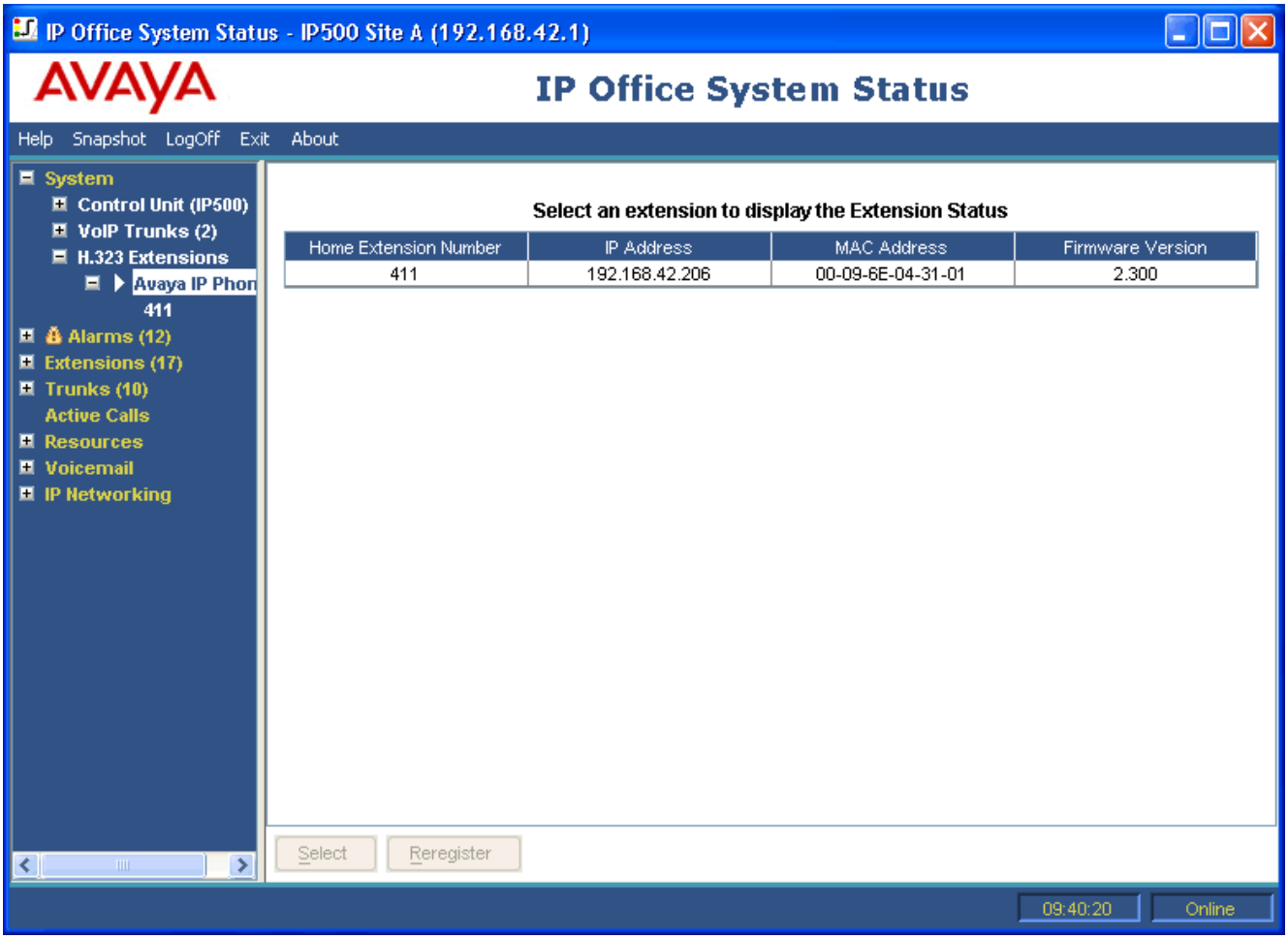
- **Select**
  Show details for the currently selected item.

2.1.7 H.323 Extensions

This screen will list the different types of IP phone devices being supported by the IP Office. To see further detail use the navigation pane or select the type of phones required and click **Select**.



Extension Information



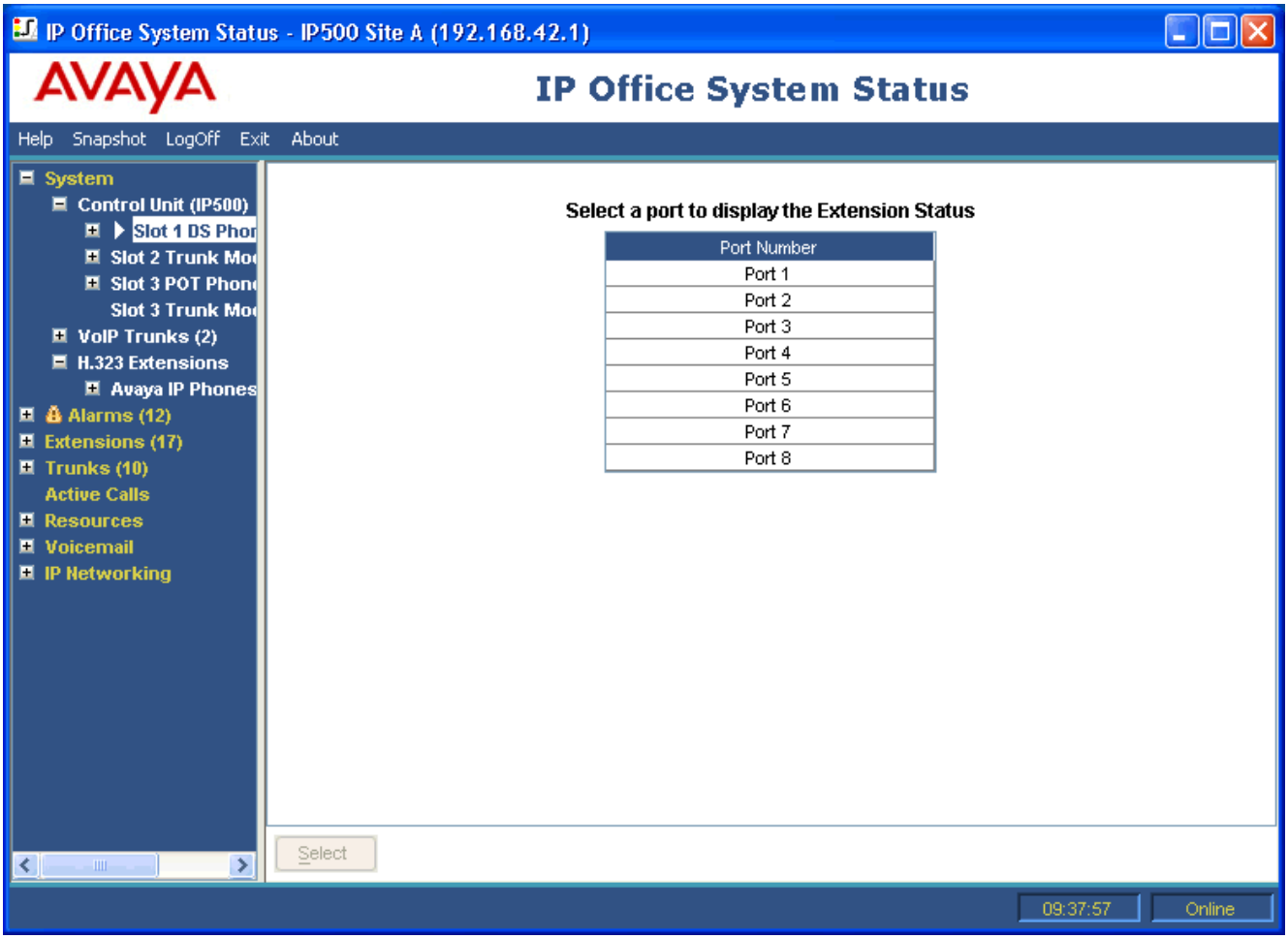
Buttons

The following buttons can appear on this screen:

- **Select**
  Show details for the currently selected item.
- **Reregister**
  This option can be used to force Avaya H.323 IP phones to both reregister with the IP Office and to restart, including checking their current firmware against that available on the configured TFTP or HTTP file server. Since this process is monitored in real-time by the SSA, it is recommended that only small groups, up to 15 phones, are forced to reregister at any time. Attempting to reregister larger numbers of phones will cause SSA to appear to be paused.

2.1.7.1 Extension Selection

This screen will show extension provided by a control unit (see Expansion Modules to access extension ports provided by an external expansion module). To view details of an individual extension port, use the navigation pane or select the port and click Select. See Extension Status 56.



Buttons

The following buttons can appear on this screen:

- **Select**
  Show details for the currently selected item.

2.2 Alarms

Alarms are recorded within IP Office for each device in error. The number of occurrences and the date and time of the last occurrence is recorded. Alarms are listed on the display, by category and by trunk. Trunk alarms have a separate count for each alarm that happens on a particular trunk.

SSA distinguishes between the following alarm types:

- **Active**
  Current alarms are displayed in red with a  symbol. If an alarm is no longer active, the alarm changes to black but the count will remain the same. When an alarm goes from historical to active, the count is increased by one.
- **Historic**
  Alarms which are no longer occurring or which are instantaneous events are displayed in black. IP Office will hold at least 50 historic alarms. If historic alarms are discarded due to memory limitations, IP Office keeps a count of the number of discards and the corresponding number of occurrences. This is represented as 'Lost Alarms', which is displayed as a configuration alarm that is never automatically discarded.

Notes

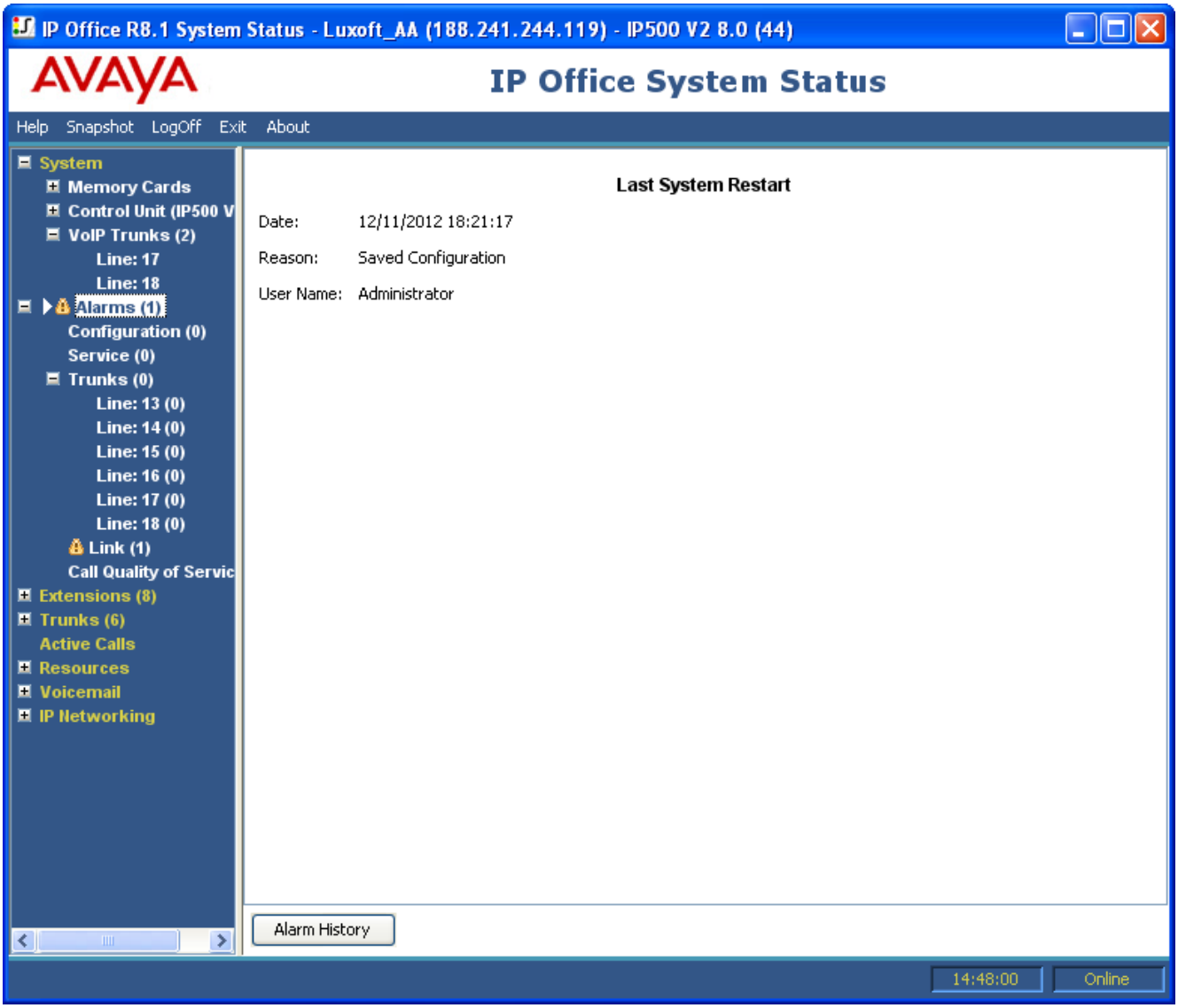
- Alarms can be cleared using the **Clear** or **Clear All** buttons. If an alarm is still active, it will remain in the list with an occurrence count of 1.
- Alarms are not preserved after a control unit reboot.

To view the alarms in a specific category:

1. In the navigation panel, click **+** next to **Alarms**.
2. The alarm categories are displayed followed by the number of alarms (in brackets).
   - **Last System Restart** 39
   - **Configuration** 42 (IP Office 4.2+)
     Shows alarms caused by potential problems with the IP Office configuration.
   - **Service** 42
     Shows alarms for internal services such as licenses, music on hold, network clock, etc.
   - **Trunks** 46
     Shows a summary table of the trunks and any trunk alarms. Trunk alarms can be further expanded to display alarms for individual trunks.
   - **Link** 50
     Shows alarms for non-trunk links to IP Office such as extensions and expansion modules.
3. To view a specific alarm, click the alarm or trunk type. The alarm details are displayed in the information panel.

2.2.1 Last System Restart

This screen list details of the last system restart. The **Alarm History** button can be pressed to display further alarms.



Information Displayed

- **Date**
  Date and time the system was last restarted.
- **Reason**
  Why the system restarted. The reasons may be:
  - **User Initiated**
    The user has selected **File | Advanced | Reboot** in Manager. The Manager operator name is displayed.
  - **Saved Configuration**
    A configuration save has required a reboot. The Manager operator name is displayed.
  - **Software Upgrade**
    The software upgrade has caused a reboot.
  - **Normal Power-up**
    The switch has restarted after power outage.
  - **Abnormal Termination**
    The switch has restarted for any other reason. The stack trace is displayed.

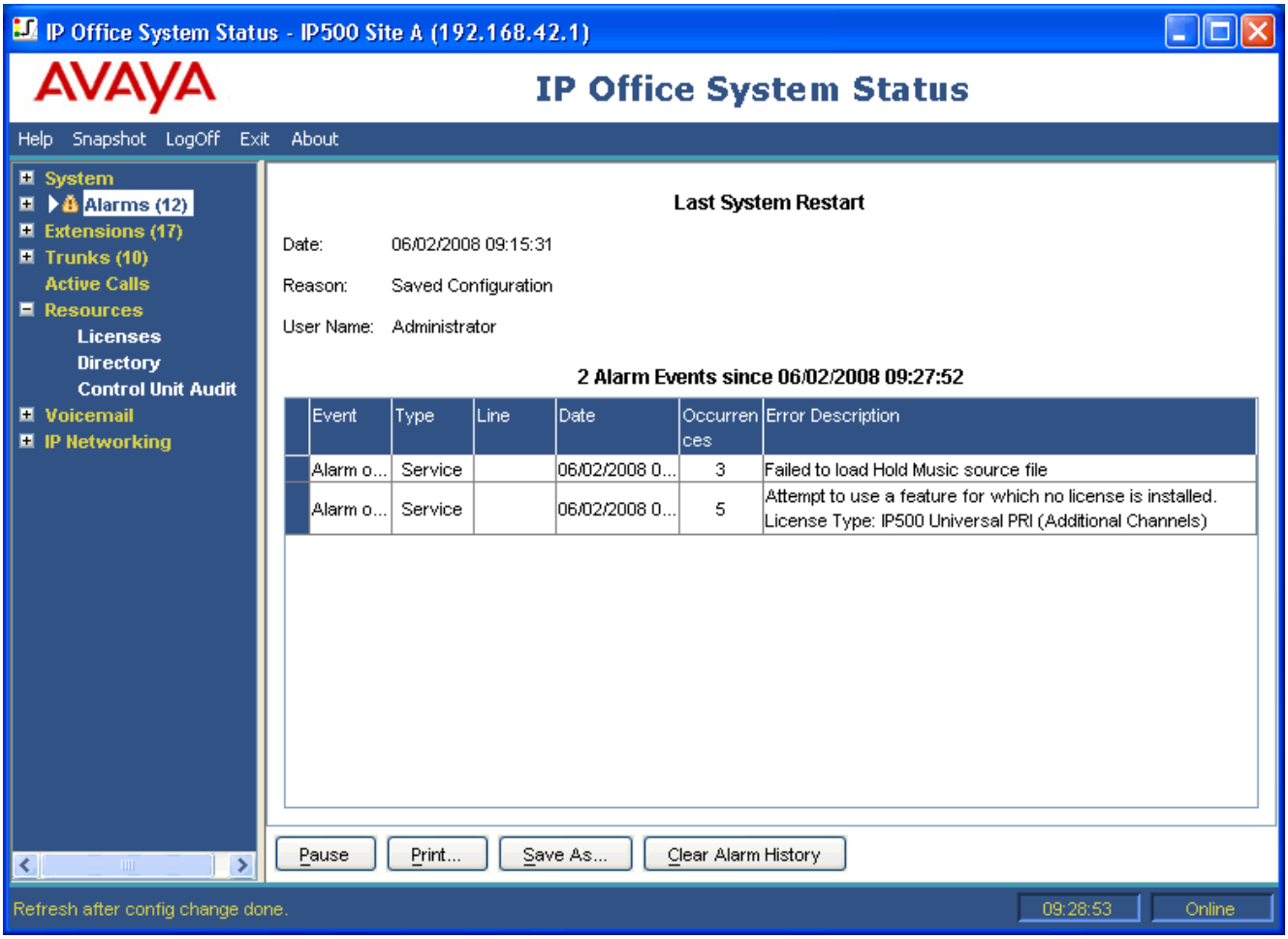
Buttons

The following buttons can appear on this screen:

- **Alarm History**
  Display alarm history details 41.

2.2.1.1 Alarm History

This screen is displayed if the **Alarm History** button is pressed.



Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.
- **Clear Alarm History**
  Clear the historical alarms displayed.

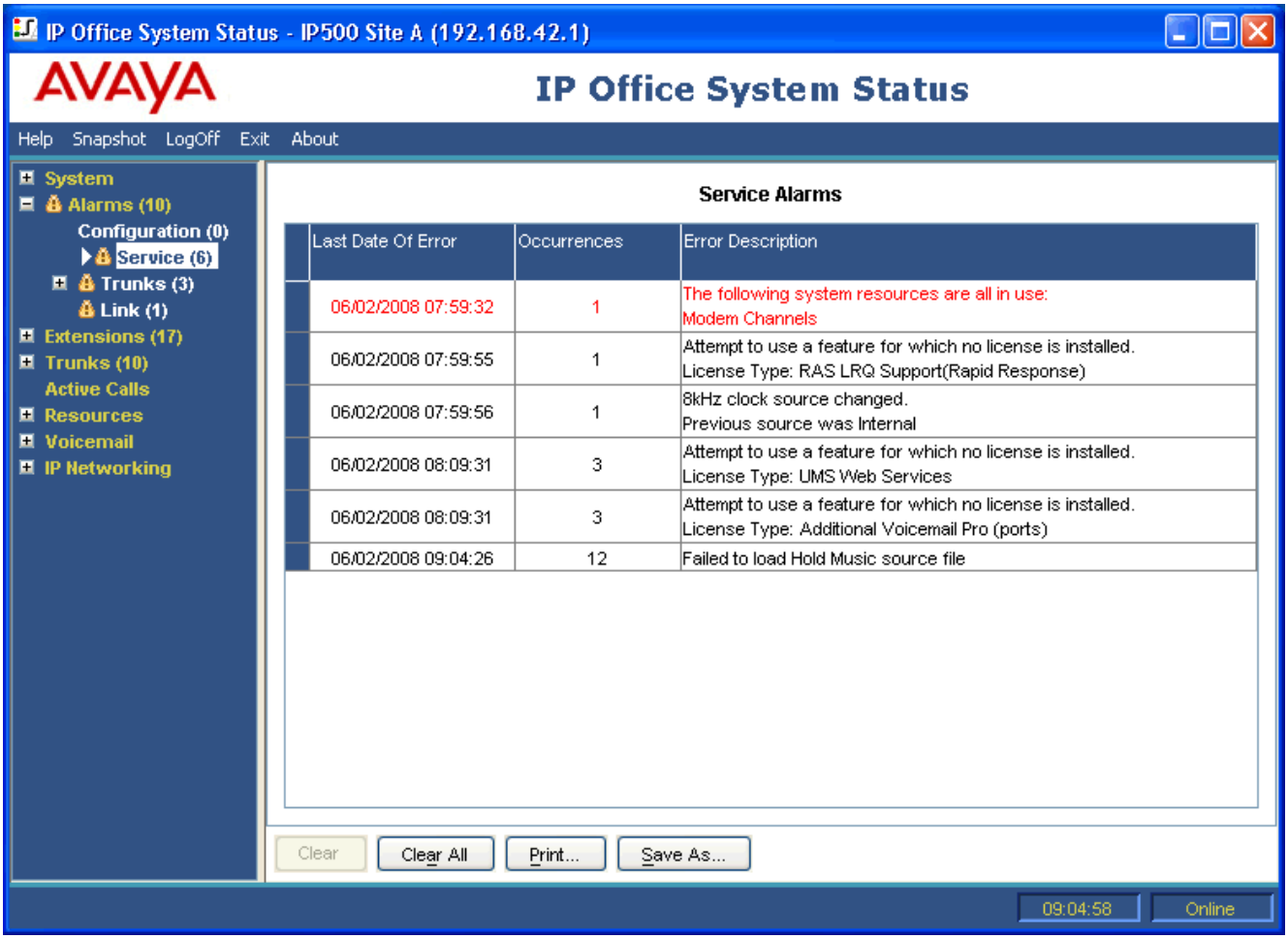
2.2.2 Configuration Alarms

This screen display configuration alarms. These do not necessarily match errors listed by the IP Office Manager application when that application is used to view and edit the system configuration. They are configuration errors that arise during operation of the system. For example:

- Incoming call routes to a Voicemail Pro start point that does not exist.
- Small Community Network duplicate numbers.
- Calls arriving on a line for which no valid routing has been configured.

2.2.3 Service Alarms

The Service Alarm screen contains an entry for each service error. Alarms that are a current problem are displayed in red. If an alarm is no longer active, it is displayed in black. Service alarms are updated in real time.



Information Displayed

- **Last Date of Error**
  The last time the error that caused a particular alarm occurred.
- **Occurrences**
  How many times the alarm has occurred since the control unit was last restarted or the alarm was last cleared.
- **Error Description**
  A description of the error that caused the alarm.

Buttons

The following buttons can appear on this screen:

- **Clear**
  Clears all the alarms that have been selected. Any alarm still active will remain with the count of 1.
- **Clear All**
  Clears all listed alarms. Any alarm still active will remain with the count of 1.
    - Some service alarms are also shown in the System Resources screen. Clearing the alarms from this screen will also clear them in the System Resources screen.

- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.2.3.1 Logon Failure Due to User ID/Password

An alarm is displayed when attempted access has failed:

- **Manager**
  A login has been attempted from Manager to the control unit with an invalid user ID or password.
- **Monitor**
  A login has been attempted from Monitor to the control unit with an invalid password.
- **User**
  The user has attempted to login with the wrong code.
- **Voicemail Box**
  The user has attempted to access their voicemail box with the wrong code.
- **Voicemail System**
  VoiceMail Pro/Lite has failed to connect to the control unit due to invalid passcode.
- **SNMP**
  A management system has attempted to execute an SNMP request with the wrong community string.
- **H.323 Extension**
  An invalid extension or passcode has been entered on the telephone.
- **RAS**
  A dial-in user attempted to connect with the wrong password.
- **SSA**
  A login has been attempted from SSA with an invalid user ID or password.

If an alarm has additional information, the following is displayed:

Logon failed due to incorrect userId/password.

Application: YYYYYYYY

Additional information

The following table lists what is displayed as additional information:

Logon Failure	Information
Manager	Operator name and the IP address of the PC running Manager
Monitor	IP address of the PC running Monitor
User	User number and name
Voicemail Box	User number and name
Voicemail System	IP address of PC running voicemail
SNMP	IP address of the host attempting SNMP access
H.323 Extension	User and extension number attempted
RAS	RAS user name
SSA	User name and the IP address of the host running SSA

2.2.3.2 Feature Key Server Connection Failure

If the system cannot connect to the Feature Key Server, the following is displayed:

"The system was unable to connect to the Feature Key Server."

Feature Key Server IP Address: XXX.XXX.XXX.XXX

2.2.3.3 Resources Not Available

This alarm is generated when a request is made to access a resource and is denied because there are no resources available. The following is displayed:

"The following system resources are all in use"

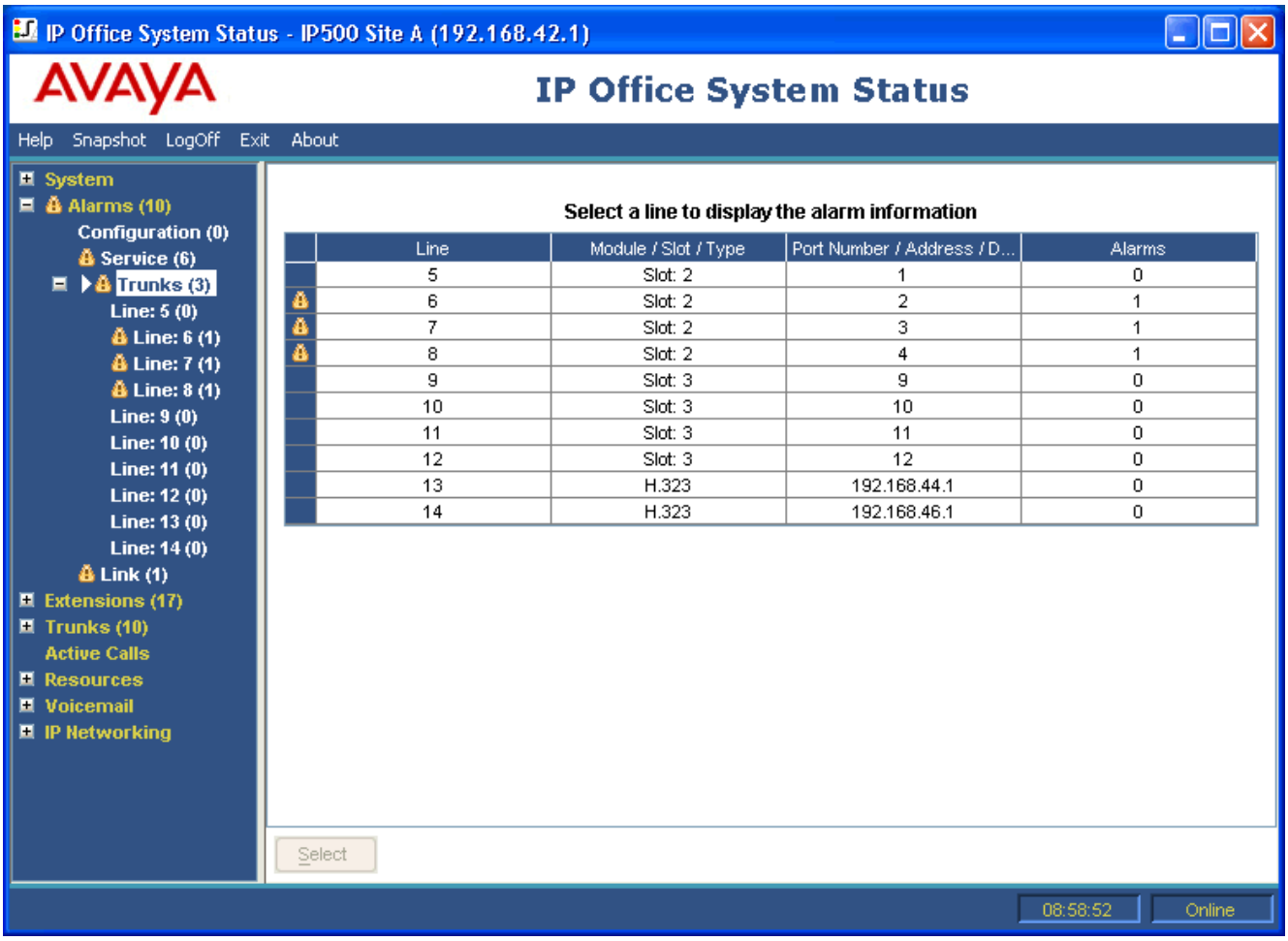
The following table lists what is displayed as additional information:

Resource	Data Line
VCM	
Modem Channels	
Data Channels	
Conference Channels	
Outgoing Trunk Group*	Outgoing Group ID: XX (XX will indicate the Outgoing Group ID)
Voicemail Channels	
Voicemail Storage	"Voicemail Storage Nearly Full" or "Voicemail Storage Full"

* This occurs when all the lines associated with a particular short code have calls on them.

2.2.4 Trunk Alarms Summary

This screen displays a summary of the trunks in the system and the number of alarms for each. Double-click a line to display its individual trunk alarms 72.

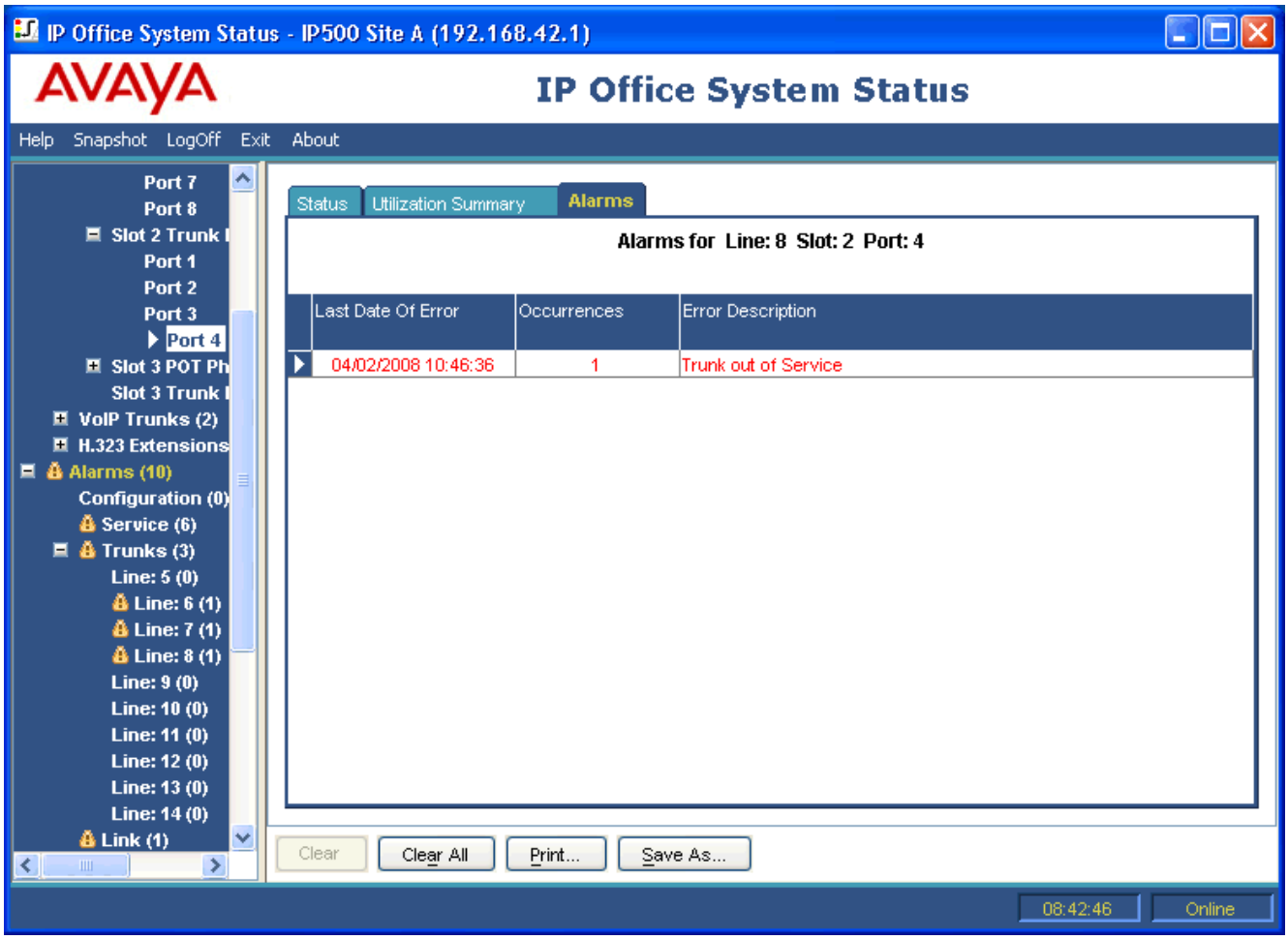


Buttons

The following buttons can appear on this screen:

- **Select**
  Show details for the currently selected item.
  - The screen displays two tabs for digital trunks:
    - **Alarms** 38
      Any current alarms are reported in red on the Alarm tab. If an alarm is no longer active, the alarm changes to black but the count will remain the same. When an alarm goes from historical to active, the count is increased by one.
    - **24 Hour Performance History** 49
      This tab provides a 24 hour view of errors that occur on the line. If no errors have occurred within the last 24 hours, the table displays zero or blank values.

2.2.4.1 Alarms



Information Displayed

- **Last Date of Error**
  The last time the error that caused a particular alarm occurred.
- **Occurrences**
  How many times the alarm has occurred since the control unit was last restarted or the alarm was last cleared.
- **Error Description**
  The table below details a description of the error that caused the alarm:

Error	Description
Insufficient DID Digits	A user can administer routes based on DID digits by using the MSN routing form. On this form, the user administers how many digits are expected (the Presentation Digits field). If a call is received and the number of digits received do not match the number in the Presentation Digits field, the following is displayed: There was a mismatch in the number of DID digits Expected number of digits: XX Digits Received: YYYYY
Incoming Call on Outgoing Trunk	On T1/PRI and analog lines, the direction for each channel can be administered to be incoming, outgoing or both. If the channel is outgoing and an incoming call arrives on the channel, the following is displayed: An incoming call arrived on the channel that is administered for Outgoing calls. Channel Number: XX (for digital lines) Port Number: XX (for analog lines)
Trunk Went Out of Service	If the trunk is not administered to be out of service but goes down, the following is displayed: Trunk out of service.
Red Alarm Active on Trunk	When a red alarm is reported on a T1/PRI trunk, the following is displayed: ***Red Alarm***. A red alarm indicates lost synchronization.
Blue Alarm Active on Trunk	When a blue alarm is reported on a T1/PRI trunk, the following is displayed: ***Blue Alarm***. A blue alarm indicates a signal failure has occurred.

Error	Description
Yellow Alarm Active on Trunk	When a yellow alarm is reported on a T1/PRI trunk, the following is displayed: ***Yellow Alarm***. A yellow alarm indicates a transmission problem.
Loss of Signal on Trunk	When a loss of signal is reported, the following is displayed: Loss of Signal.
Caller ID not received	For analog loop start trunks administered with ICLID.
Seize Failure	When there is no loop current detected when trying to seize the trunk.
Response Failure	This alarm is generated when IP Office sends a TCP Sync to the remote end of an H.323 trunk and fails to receive an acknowledgement from the remote end, also when IP Office sends an INVITE over a SIP trunk and times out on no response. No response to IP trunk call request. IP Trunk Line Number: xxx Remote end IP address: yyy.yyy.yyy.yyy

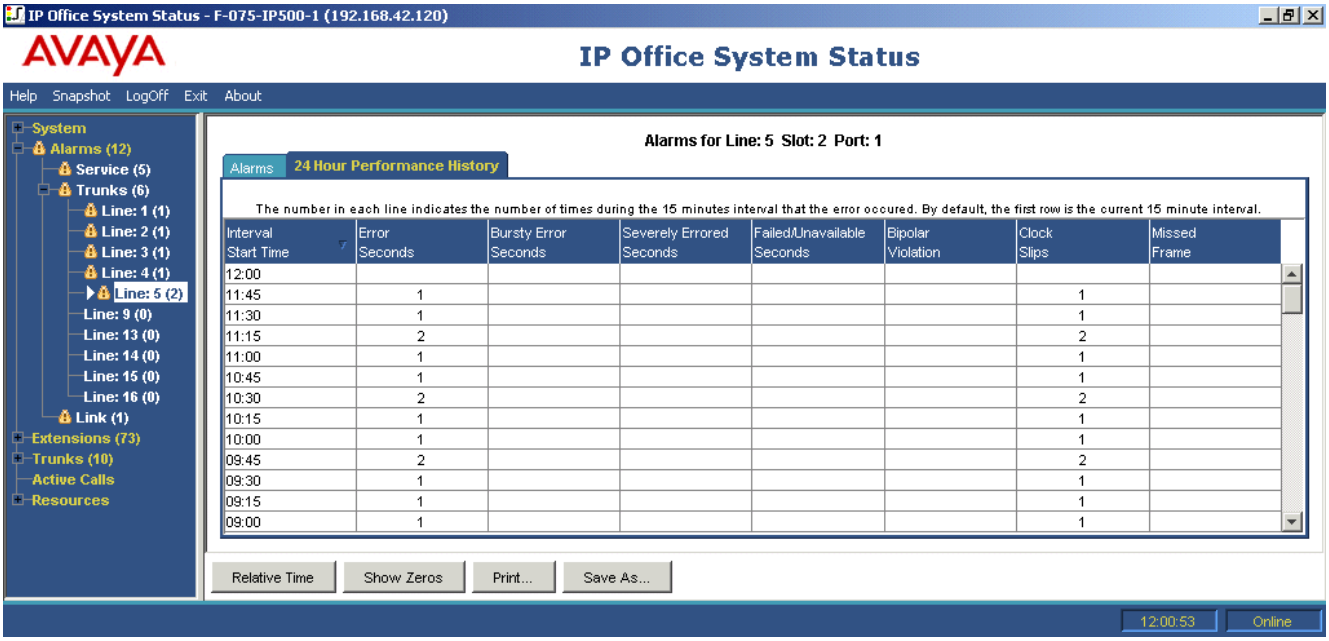
Buttons

The following buttons can appear on this screen:

- **Clear**
  Clears all the alarms that have been selected. Any alarm still active will remain with the count of 1.
- **Clear All**
  Clears all listed alarms. Any alarm still active will remain with the count of 1.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.2.4.2 24 Hour Performance History

The first line in the table displays the current 15 minute interval and represents 0-15 minutes worth of data. Subsequent lines display the last 24 hours divided in to 15 minute intervals (fewer lines will be shown if the system has been running for less than 24 hours). The table is displayed regardless of whether there are errors on the trunk.



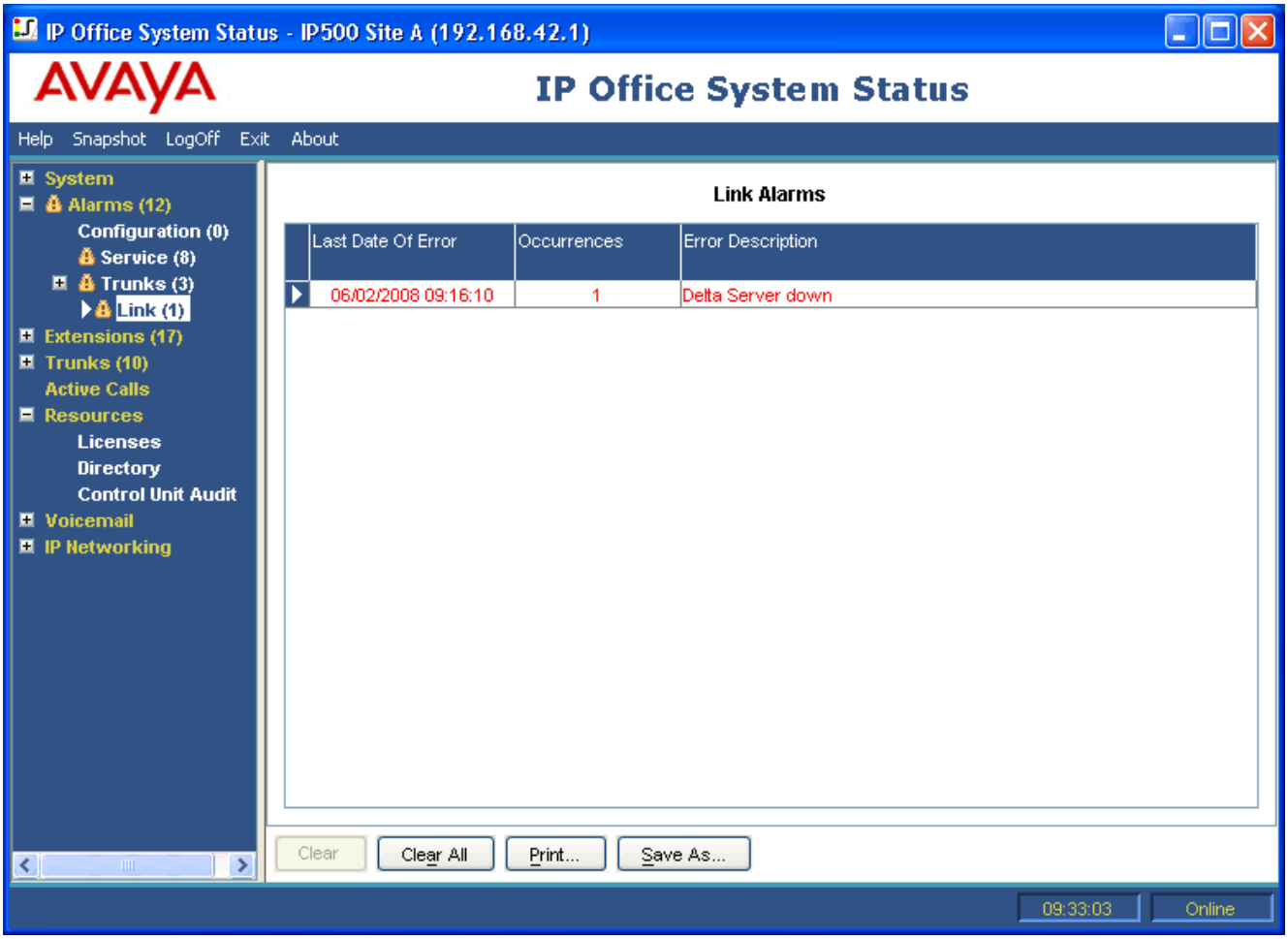
Buttons

The following buttons can appear on this screen:

- **Absolute Time**
  Applies to the 24 Hour Performance History. Each line shows the absolute time at which the reported 15 minute period started (HH:MM in 24 hour clock format).
- **Relative Time**
  Applies to the 24 Hour Performance History. Indicates how far into the 15 minute interval the line is (e.g. 3 minutes will show as 00:03). The times following that will be displayed in relationship to the current time as HH:MM (e.g. subtract 15 minutes from the current interval to get the next one).
- **Show Blanks**
  Applies to 24 Hour Performance History. 0 error values for each line appear as blanks.
- **Show Zeros**
  Applies to 24 Hour Performance History. 0 error values for each line are displayed.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.2.5 Link Alarms

The Link Alarms screen contains an entry for devices linked to the IP Office contril unit such as expansion modules and extension devices. Alarms that are a current problem are displayed in red. If an alarm is no longer active, it is displayed in black. Link Alarms are updated in real time.



Information Displayed

- **Last Date of Error**
  The last time the error that caused a particular alarm occurred.
- **Occurrences**
  How many times the alarm has occurred since the control unit was last restarted.
- **Error Description**
  A description of the error that caused the alarm.

Buttons

The following buttons can appear on this screen:

- **Clear**
  Clears all the alarms that have been selected. Any alarm still active will remain with the count of 1.
- **Clear All**
  Clears all listed alarms. Any alarm still active will remain with the count of 1.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

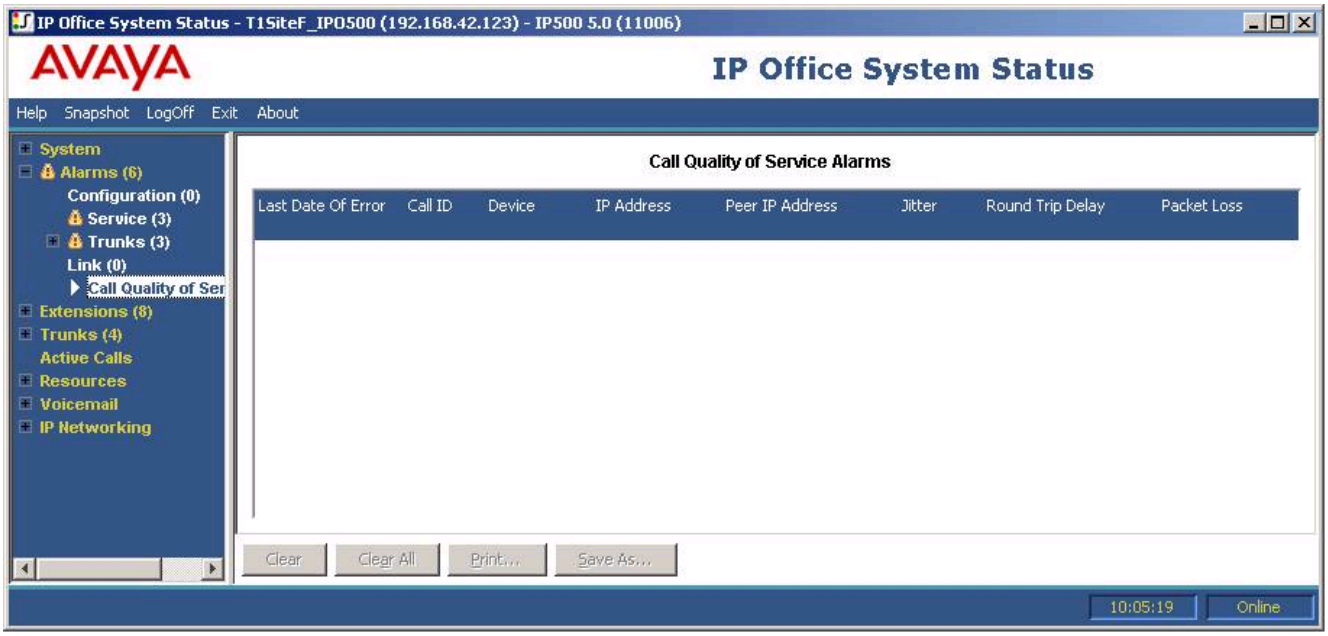
2.2.6 Call Quality of Service

Previous SSA only displayed QoS measurements for calls on IP trunks (H323, SIP, SES). IP Office 5.0 systems can be enabled to provide QoS reporting for extensions and also QoS alarms. This is configured by enabling the Enable RTCP Monitoring on Port 5005 within the IP Office configuration.

Once enabled, the SSA application will display QoS statistics for calls made by H323 IP extensions (1600 Series, 4600 Series and 5600 Series) registered to the IP Office. It will also display QoS statistics other extension types when the call being made by the extension involves an IP Office VCM channel. The QoS information for the extensions current call is displayed by SSA in the Extension Status 56 screen.

Within the IP Office configuration, alarm thresholds can be configured for jitter (default 20ms), round trip delay (default 350ms) and packet loss (default 0.5%). If any of the thresholds is exceeded during a call segment, an alarm is generated reporting the device and call involved and the maximum values of the QoS measurements during the call.

- **Round Trip Delay** (msec): Default = 350.
  Less than 160ms is high quality. Less than 350ms is good quality. Any higher delay will be noticeable by those involved in the call. Note that, depending on the compression codec being used, some delay stems from the signal processing and cannot be removed: G711 = 40ms, G723a = 160ms, G729 = 80ms.
- **Jitter** (msec): Default =20.
  Jitter is a measure of the variance in the time for different voice packets in the same call to reach the destination. Excessive jitter will become audible as echo.
- **Packet Loss** (%): Default = 0.5.
  Excessive packet loss will be audible as clipped words and may also cause call setup delays.



- If the call involves another IP Office extension, separate alarms may occur for both extensions.
- No alarms are generated for QoS measurements during the first 5 seconds of a call.
- Alarms are output at the end of a call segment in which a threshold is exceeded. For example, if a call is held and then unheld, each part of the call is treated as a separate call segment.
- Only one alarm is generated, even if more than one threshold is exceeded. The alarm contains the maximum value of all 3 measured QoS values.

Buttons

The following buttons can appear on this screen:

- **Clear**
  Clears all the alarms that have been selected. Any alarm still active will remain with the count of 1.
- **Clear All**
  Clears all listed alarms. Any alarm still active will remain with the count of 1.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.2.6.1 Quality of Service Alarms

IP Office 5.0+ supports Quality of Service (QoS) monitoring for IP Office extensions. This is enabled through the **Enable RTCP Monitoring on Port 5005** (***System | LAN1 | VoIP***) setting within the IP Office configuration.

The current quality of service information for a call is displayed within SSA on the extension's **Extension Status** 56 form. That information is displayed for Avaya H323 IP phones registered with the IP Office. It is also displayed for other extension when they are on a call involving an IP Office VCM channel.

The thresholds for quality of service alarms are set within the IP Office configuration (***System | System Events | QoS Parameters***). Separate thresholds are set for **Round Trip Delay** (default 350ms), **Jitter** (default 20ms) and **Packet Loss** (0.5%). At the end of a call where any one of the thresholds has been exceeded, the IP Office will output an QoS alarm containing details of the call and the maximum value of each of the QoS measures during the call.

Call Quality of Service Alarms

Last Date Of Error	Occurrences	Error Description
23/01/2009 10:05:21	1	Call Id: 1, IP Address: 192.168.42.111, Peer IP Address: 192.168.42.8, Extension Number: 293, Jitter: 2500, Round Trip Delay: 789000, Packet Loss: 1230
23/01/2009 10:05:21	1	Call Id: 1, IP Address: 192.168.42.8, Peer IP Address: 192.168.42.111, Extension Number: 300, Jitter: 0, Round Trip Delay: 789000, Packet Loss:

For calls that are held or parked and then resumed, separate QoS alarms may be output for each segment of the call. If the call involves several extension, separate alarms may also be output for each extension.

2.3 Extensions

Information on the status of a specific extension can be accessed from the navigation panel either:

- Via a port that is associated with an analog or digital extension.
- By selecting an H.323 extension.
- By double-clicking **Extensions** and then selecting a specific extension from the navigation panel.

Alternatively, double-click an extension from the **Extension Summary** screen.

The following is used to indicate an analog or digital extension:

- If the extension is on the control unit (except IP Office 500), the designation is Control Unit followed by either Phone Port X (where X is the port number) or DS Port X (where X is the port number 1-8).
- If the extension is on a module in an IP Office 500 slot, the designation is Slot: [1-4], followed by Port X (where X is the port number 1-8).
- If the extension is on an expansion module, the designation is Module XX (where XX is the port number 1-12) followed by Port X (where X is the port number 1-30).

For example:

Extension: 201	Control Unit	DS Port: 1
Extension: 231	Slot: 4	Port: 7
Extension: 271	Module: 4	Port: 1

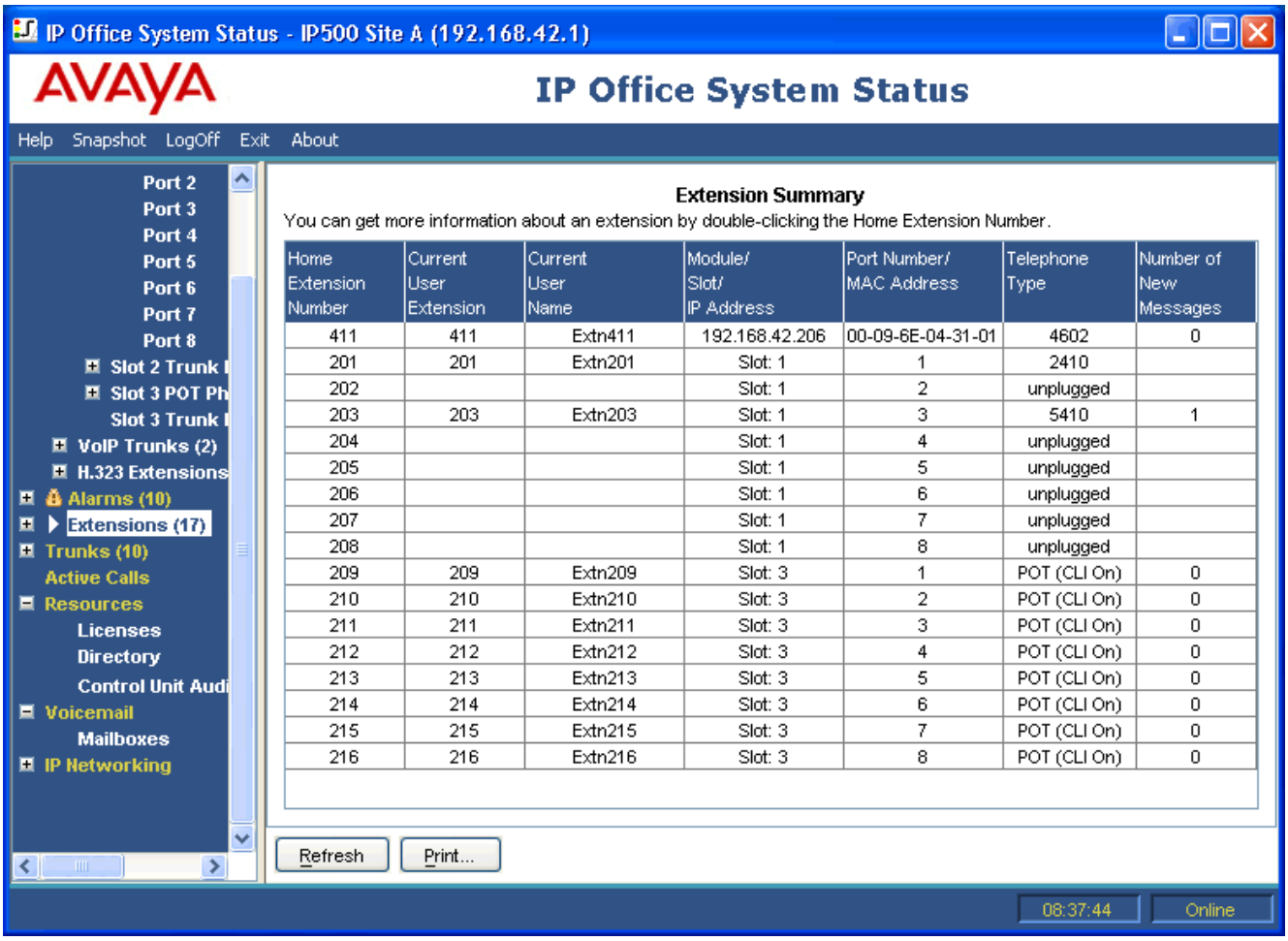
The port number will always match any number printed against the physical port connector.

For H.323 extensions, the designation is the home user's extension number, the IP address of the extension and the MAC address (only shown if IP Office and the phone are on the same subnet). For example:

Extension:	**IP Address:**	**MAC Address:**
371	192.168.44.2	AA:AA:AA:AA:AA:AA

2.3.1 Extension Summary

The Extension Summary screen displays all extensions in the system. For detailed information about an extension, double-click a specific extension number to display the Extension Status 56 screen.



Home Extension Number	Current User Extension	Current User Name	Module/ Slot/ IP Address	Port Number/ MAC Address	Telephone Type	Number of New Messages
411	411	Extn411	192.168.42.206	00-09-6E-04-31-01	4602	0
201	201	Extn201	Slot: 1	1	2410	
202			Slot: 1	2	unplugged	
203	203	Extn203	Slot: 1	3	5410	1
204			Slot: 1	4	unplugged	
205			Slot: 1	5	unplugged	
206			Slot: 1	6	unplugged	
207			Slot: 1	7	unplugged	
208			Slot: 1	8	unplugged	
209	209	Extn209	Slot: 3	1	POT (CLI On)	0
210	210	Extn210	Slot: 3	2	POT (CLI On)	0
211	211	Extn211	Slot: 3	3	POT (CLI On)	0
212	212	Extn212	Slot: 3	4	POT (CLI On)	0
213	213	Extn213	Slot: 3	5	POT (CLI On)	0
214	214	Extn214	Slot: 3	6	POT (CLI On)	0
215	215	Extn215	Slot: 3	7	POT (CLI On)	0
216	216	Extn216	Slot: 3	8	POT (CLI On)	0

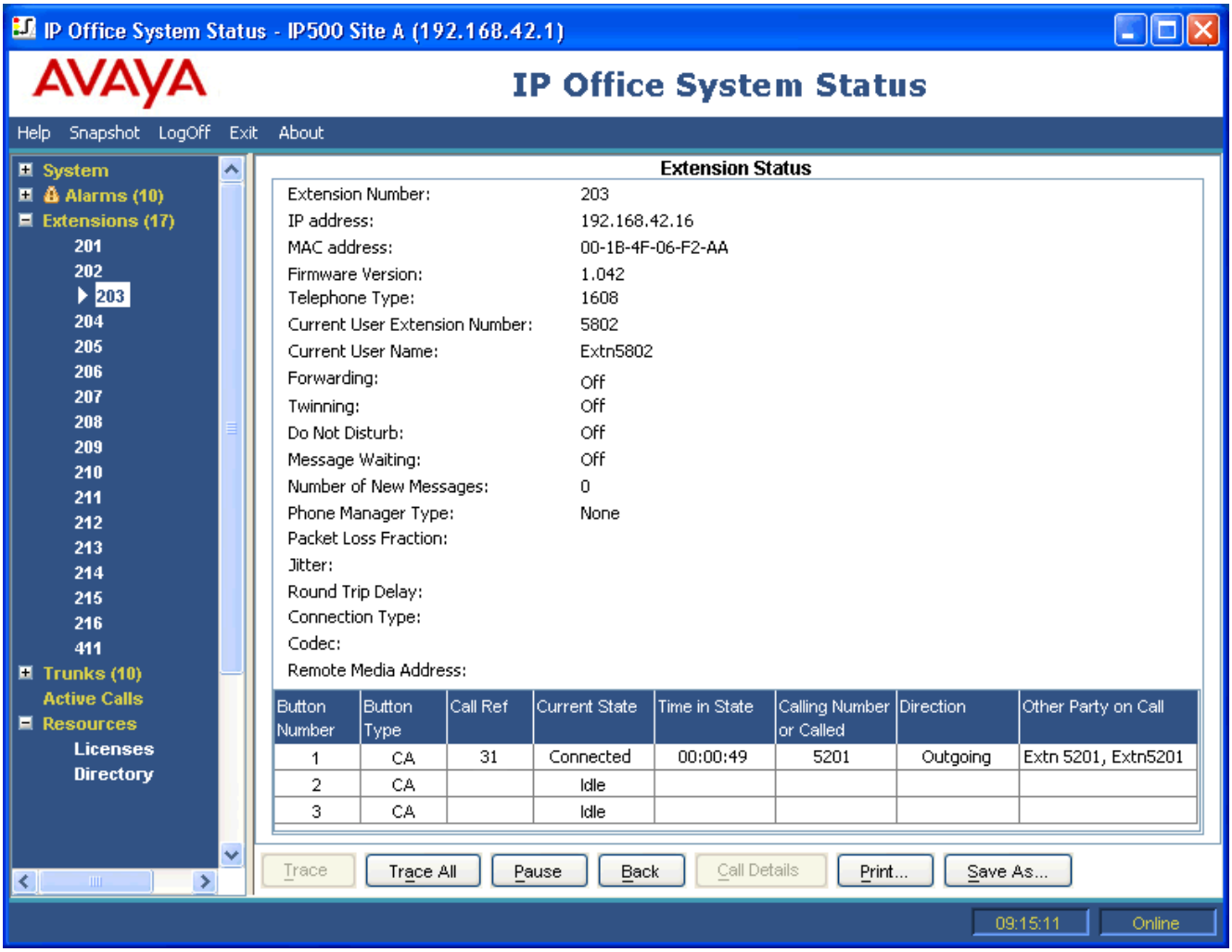
Buttons

The following buttons can appear on this screen:

- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).

2.3.2 Extension Status

The Extension Status screen provides specific details on an extension, depending on its configuration.



Information Displayed

- **Extension Number**
  The default extension number for this telephone.
- **Module/Slot/IP Address**
  Module number, slot details or IP address.
- **Port/MAC Address**
  Port number or MAC address of the control unit.
- **Telephone Type**
  The telephone model.
- **Current User Extension Number**
  The extension of the user currently logged into the telephone.
- **Current User Name**
  The name of the user currently logged into the telephone.
- **Forwarding**
  Set to ***Off*** or one or more of the following options:
  - ***Forward Unconditional*** + Number
  - ***Forward On Busy*** + Number
  - ***Forward On No Answer*** + Number
  - ***Follow Me*** + Number
- **Twinning**
  Set as ***Off*** or to one of the following options:
  - ***Twinned as Primary with*** + Secondary User Name/Number

- ***Twinned as Secondary with*** + Primary User Name/Number
- ***Twinned to External Number*** + External Number

- **Do Not Disturb**
  Either ***On*** or ***Off***.
- **Message Waiting**
  If the user has an unread message, this will be On. If the personal messages have been read, this will be ***Off***.
- **Number of New Messages**
  The number of new messages for the current user. This does not include hunt group messages.
- **Phone Manager Type**
  Lite, ***Pro***, ***IP*** or ***None*** - the Phone Manager type that is currently being used.
- **Quality of Service Fields**
  The following addition items are available for calls by H323 phones. They are also available for other extension types when the current call is using an IP Office VCM channel. The values required the **Enable RTCP Monitoring on Port 5005** option to be selected in the IP Office 5.0+ configuration.
  - **Packet Loss Fraction**
  - **Jitter**
  - **Round Trip Delay**
  - **Connection Type**
  - **Codec**
  - **Remote Media Address**
- **Call Information Table**
  The information displayed in the table depends on whether the extension has call appearances. For an extension without call appearances (e.g. T3, softphone, third party H.323 or analog), the table shows as many rows as there are currently calls, or a single row if the phone is idle. The following appears for a telephone with call appearances:
  - **Button Number**
    The number associated with the button on the telephone, if applicable.
  - **Button Type**
    Call, Line, Bridged or Cover Appearance button, if applicable.
  - **Call Ref**
    Call reference, assigned by IP Office and associated with the line in use. When a trace is in progress, any calls on the trunk will show **(i)** next to the Call Ref. If you select Call Details while a trace is in progress, the screen remains unchanged and a pop-up window appears which contains details about the selected call. The pop-up shows the state of the call at the time of selection and does not update. See Trace 69.
  - **Current State**
    The state is defined when there is a call associated with a button. See Call States 88.
  - **Time in State**
    Reset to zero each time there is a state change.
  - **Caller ID or Dialed Digits**
    The information displayed depends on the call direction.
    - **Incoming Calls**
      The Caller ID name and number. If there is no Caller ID, ***None*** is displayed.
    - **Outgoing Calls**
      The digits that are sent to the central office.
  - **Other Party on Call**
    Contains one of the following:

Where Call was Originated/Answered	Displayed Value
User	User name and number
VoiceMail Call flow	Start Point name
Voicemail Box	Voicemail - user name or hunt group name of the mailbox
Data Service	RAS - service name
Conference	Conference name
Trunk	Line ID/URI Group/Channel number
Park Slot	Park Slot - when the other end has parked the call

Announcement	Announcement - the hunt group associated with the announcement number
Hunt Group	Hunt Group - name and number when a call is in a hunt group queue (not alerting)

- **Direction of Call**
  Displays the call as either ***Incoming*** or ***Outgoing***.

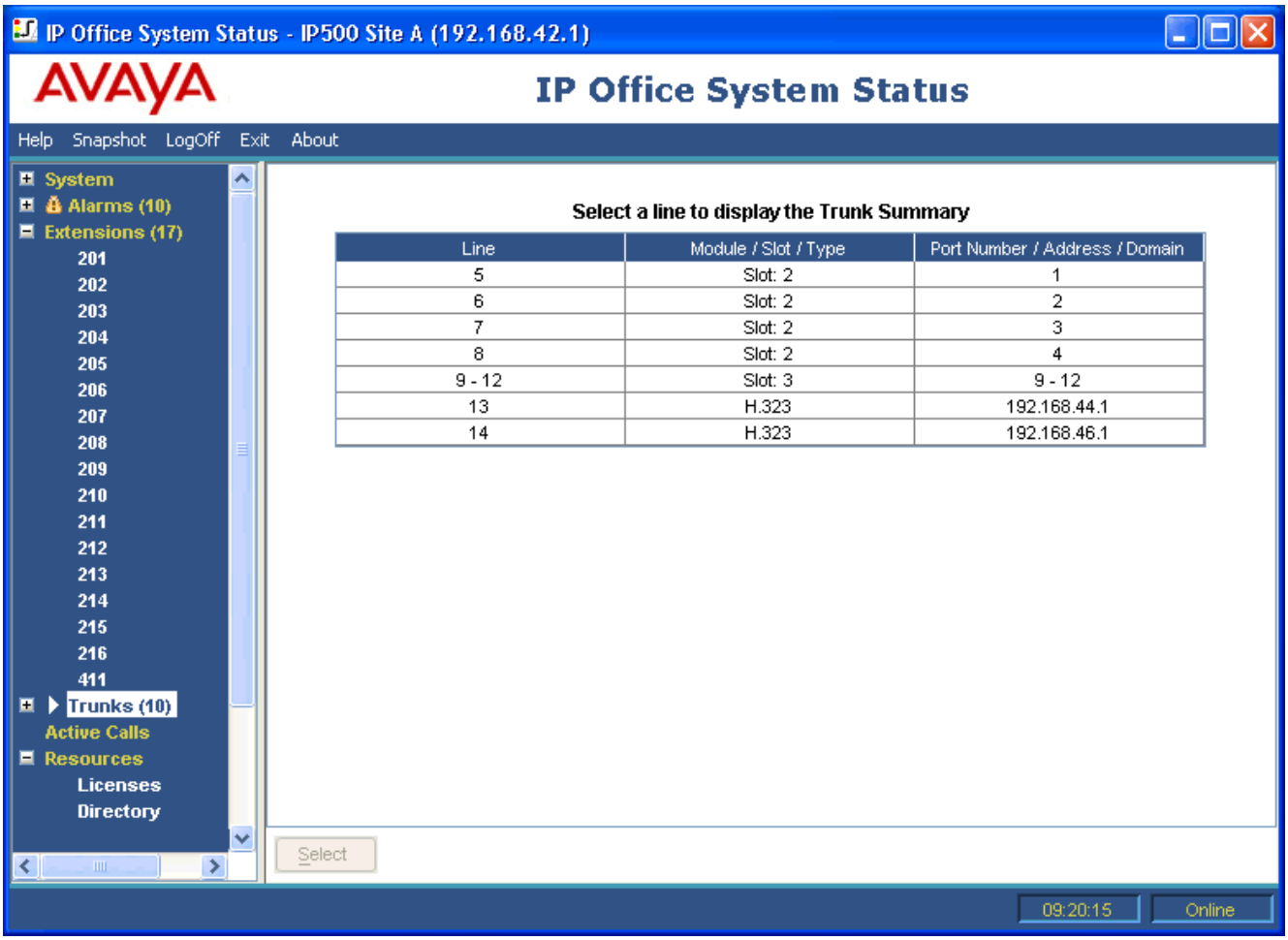
Buttons

The following buttons can appear on this screen:

- **Trace**
  Starts a trace of the rows selected. The trace is displayed for each call associated with the selected trunk ports or extension button. See Trace 69.
- **Trace All**
  Starts a trace for the whole trunk group or extension. The trace is displayed for all calls associated with the trunk or extension. See Trace 69.
- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Back**
  Returns to the previous screen.
- **Call Details**
  Displays call details 81 for the selected call.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.4 Trunks

This screen shows a list of the trunks installed and configured in the system.



Buttons

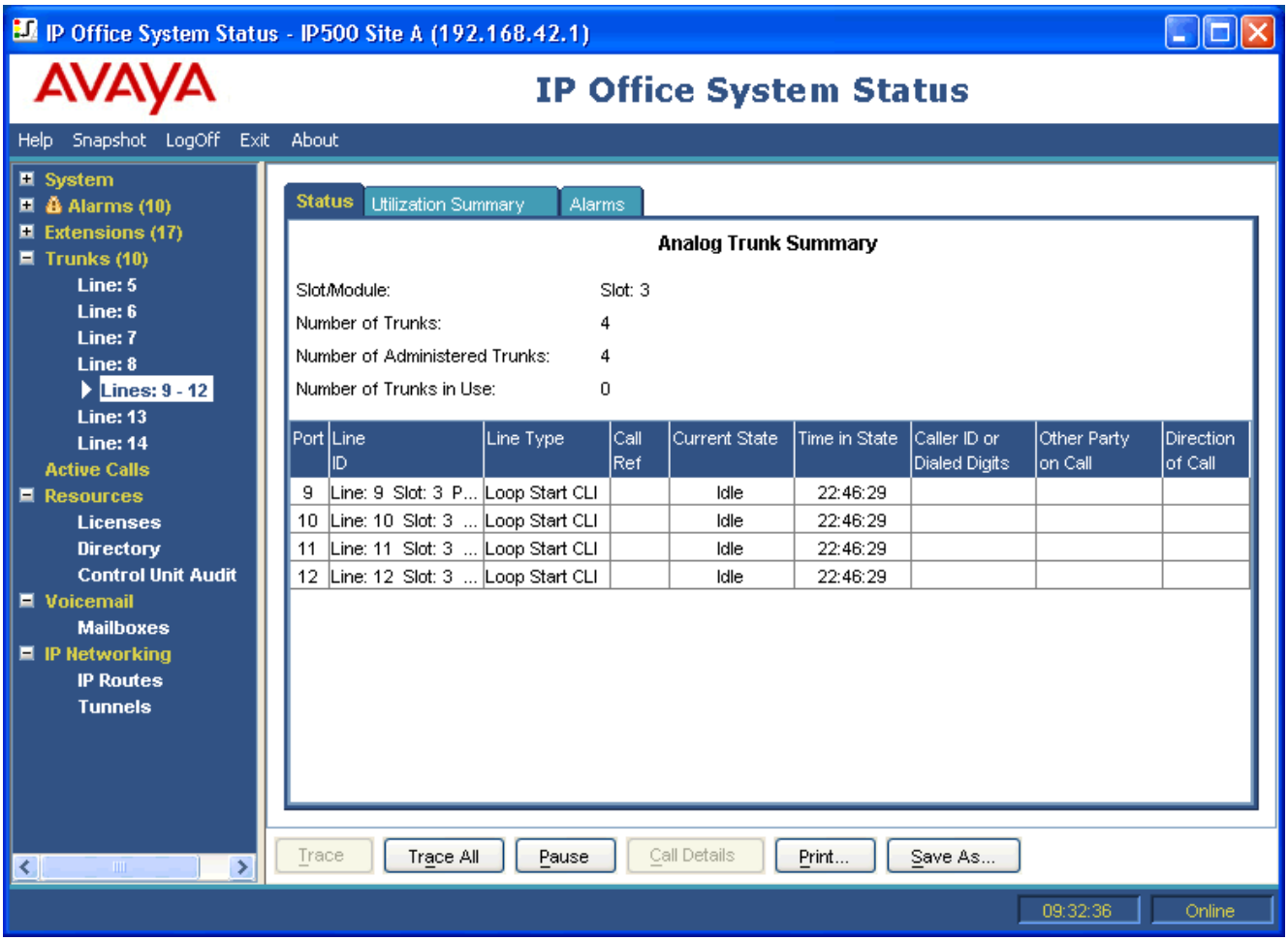
The following buttons can appear on this screen:

- **Select**
  Show details for the currently selected item.
  - Select a device to display information on it. For each trunk, the information displayed consists of a number of tabs.
    - Analog Trunk 60
    - Digital Trunk 62
    - H.323 Trunk 64
    - SIP Trunk 67

2.4.1 Status (Analog Trunk)

The Analog Trunk Summary is accessed by clicking Trunks on the navigation panel and is displayed under the Status tab. Alternatively, click System and then Control Unit and click on a row to show the call details.

Analog trunks are displayed by card or module. Therefore, the number of trunks on a card is reported.



Information Displayed

The following information is displayed under the Status tab:

- **Slot/Module**
  Slot or module number.
- **Number of Trunks**
  Total number of trunks.
- **Number of Administered Trunks**
  Number of channels from the line form that are administered to be in service.
- **Number of Trunks in Use**
- **Ports Table**
  This table displays the following details:
  - **Port**
    The port number.
  - **Line ID**
    The line, module and port number.
  - **Line Type**
    The type of line protocol. See Line Protocols.
  - **Call Ref**
    Call reference, assigned by IP Office and associated with the line in use. When a trace is in progress, any calls on the trunk will show **(i)** next to the Call Ref. If you select Call Details while a trace is in progress, the screen remains unchanged and a pop-up window appears which contains details about the selected call. The pop-up shows the state of the call at the time of selection and does not update. See Trace 69.
  - **Current State**
    The state is defined when there is a call associated with a button. See Call States 88.

- **Time in State**
  Reset to zero each time there is a state change.
- **Caller ID or Dialed Digits**
  The information displayed depends on the call direction.
  - **Incoming Calls**
    The Caller ID name and number. If there is no Caller ID, ***None*** is displayed.
  - **Outgoing Calls**
    The digits that are sent to the central office.
- **Other Party on Call**
  Contains one of the following:

Where Call was Originated/Answered	Displayed Value
User	User name and number
VoiceMail Call flow	Start Point name
Voicemail Box	Voicemail - user name or hunt group name of the mailbox
Data Service	RAS - service name
Conference	Conference name
Trunk	Line ID/URI Group/Channel number
Park Slot	Park Slot - when the other end has parked the call
Announcement	Announcement - the hunt group associated with the announcement number
Hunt Group	Hunt Group - name and number when a call is in a hunt group queue (not alerting)

- **Direction of Call**
  Displays the call as either ***Incoming*** or ***Outgoing***.

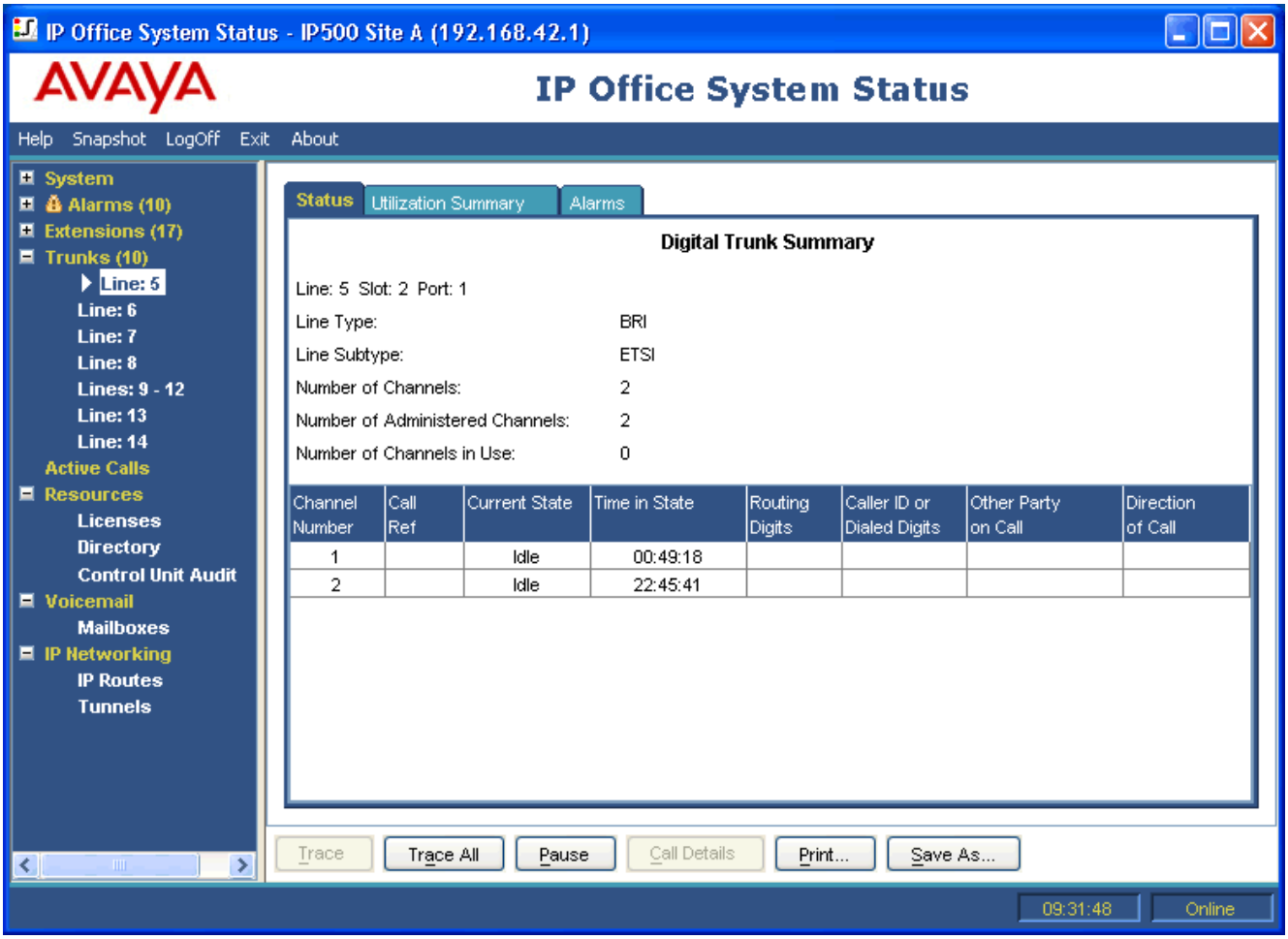
Buttons

The following buttons can appear on this screen:

- **Trace**
  Starts a trace of the rows selected. The trace is displayed for each call associated with the selected trunk ports or extension button. See Trace 69.
- **Trace All**
  Starts a trace for the whole trunk group or extension. The trace is displayed for all calls associated with the trunk or extension. See Trace 69.
- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Call Details**
  Displays call details 81 for the selected call.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.4.2 Status (Digital Trunk)

The Digital Trunk Summary can be accessed by clicking **Trunks** on the navigation panel and is displayed under the Status tab. Alternatively, click **System** and then **Control Unit** and double-click the line. Digital trunks are reported on a per line basis.



Information Displayed

- **Line/Slot/Port**
  The line, slot and port number.
- **Line Type**
  See Line Protocols.
- **Line Subtype**
  See Line Protocols.
- **Number of Channels**
  The number of channels that can be supported with a digital trunk.
- **Number of Administered Channels**
  Number of channels from the line form that are administered to be in service.
- **Number of Channels in Use**
  The total number of channels currently in use.
- **Channels Table**
  This table displays the following details:
  - **Channel Number**
    To view details of the call, click on the row.
  - **Call Ref**
    Call reference, assigned by IP Office and associated with the line in use. When a trace is in progress, any calls on the trunk will show **(i)** next to the Call Ref. If you select Call Details while a trace is in progress, the screen remains unchanged and a pop-up window appears which contains details about the selected call. The pop-up shows the state of the call at the time of selection and does not update. See Trace 69.
  - **Current State**
    The state is defined when there is a call associated with a button. See Call States 88.

- **Time in State**
  Reset to zero each time there is a state change.
- **Routing Digits**
  The directed inward dialed digits that are sent by the central office.
- **Caller ID or Dialed Digits**
  The information displayed depends on the call direction.
  - **Incoming Calls**
    The Caller ID name and number. If there is no Caller ID, ***None*** is displayed.
  - **Outgoing Calls**
    The digits that are sent to the central office.
- **Other Party on Call**
  Contains one of the following:

Where Call was Originated/Answered	Displayed Value
User	User name and number
VoiceMail Call flow	Start Point name
Voicemail Box	Voicemail - user name or hunt group name of the mailbox
Data Service	RAS - service name
Conference	Conference name
Trunk	Line ID/URI Group/Channel number
Park Slot	Park Slot - when the other end has parked the call
Announcement	Announcement - the hunt group associated with the announcement number
Hunt Group	Hunt Group - name and number when a call is in a hunt group queue (not alerting)

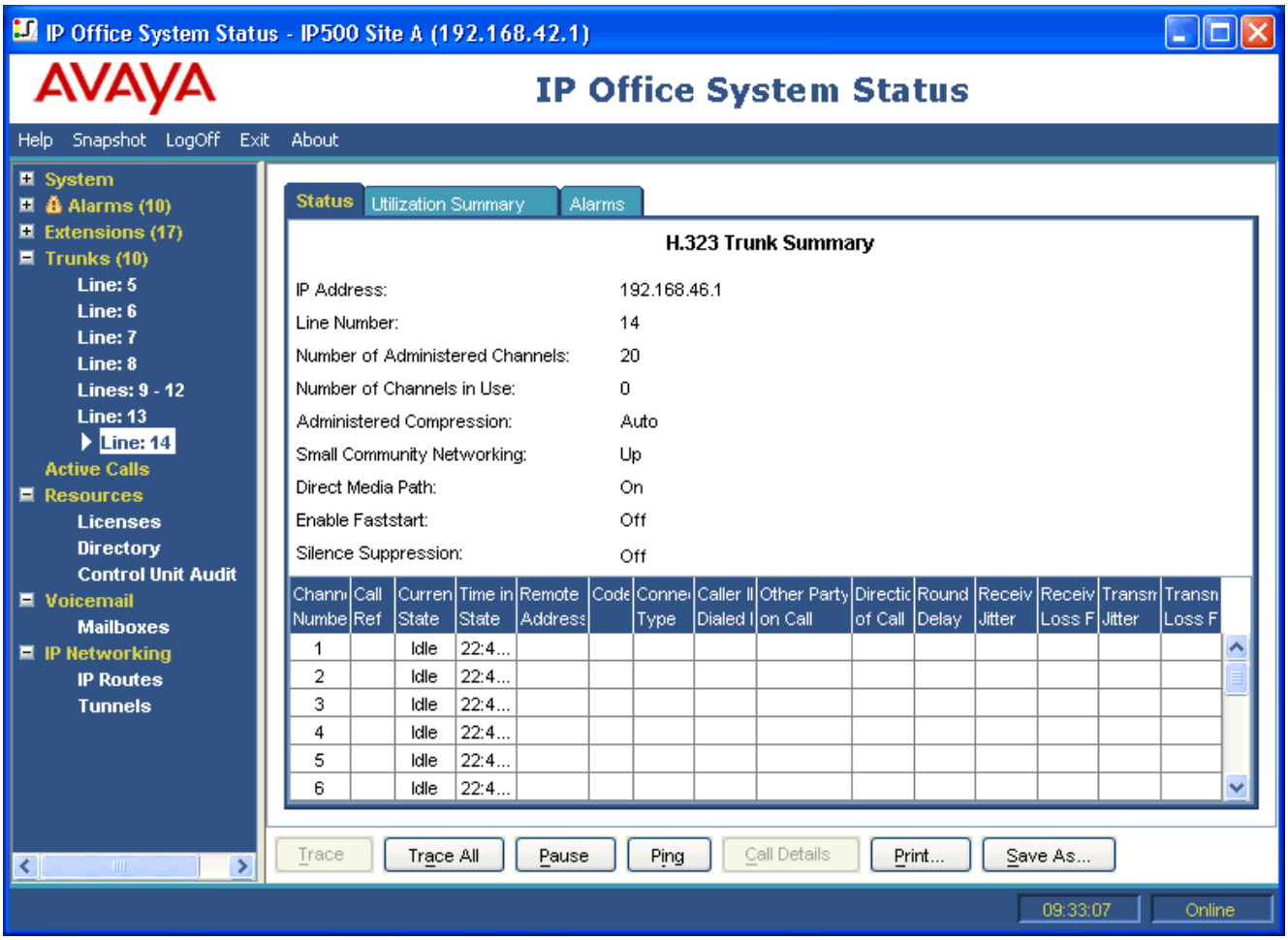
- **Direction of Call**
  Displays the call as either ***Incoming*** or ***Outgoing***.

Buttons

The following buttons can appear on this screen:

- **Trace**
  Starts a trace of the rows selected. The trace is displayed for each call associated with the selected trunk ports or extension button. See Trace 69.
- **Trace All**
  Starts a trace for the whole trunk group or extension. The trace is displayed for all calls associated with the trunk or extension. See Trace 69.
- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Call Details**
  Displays call details 81 for the selected call.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.4.3 Status (H.323 Trunk)



Information Displayed

- **IP Address**
  The gateway IP address from the VoIP form.
- **Line Number**
  Fixed line number, defined by the user.
- **Number of Administered Channels**
  Number of channels from the VoIP line tab.
- **Total Channels in Use**
  Total of all the channels that have associated call references.
- **Administered Compression**
  The compression mode from the VoIP form.
- **Small Community Networking**
  One of the following is displayed:
  - If this feature is not administered in Manager, (Voice Networking option on the VoIP form is off), ***Disabled*** is displayed.
  - If the feature is administered and the other end is responding, ***Up*** is displayed.
  - If the feature is administered and the other end is not responding, ***Down*** is displayed.
- **Direct Media Path**
  Either ***On*** or ***Off***.
- **Enable Faststart**
  Either ***On*** or ***Off***.
- **Silence Suppression**
  Either ***On*** or ***Off***.
- **Channels Table**
  This table displays the following details:

- **Channel Number**
  Click on the row to view details of the call.
- **Call Ref**
  Call reference, assigned by IP Office and associated with the line in use. When a trace is in progress, any calls on the trunk will show **(i)** next to the Call Ref. If you select Call Details while a trace is in progress, the screen remains unchanged and a pop-up window appears which contains details about the selected call. The pop-up shows the state of the call at the time of selection and does not update. See Trace 69.
- **Current State**
  The state is defined when there is a call associated with a button. See Call States 88.
- **Time in State**
  Reset to zero each time there is a state change.
- **RTP IP Address from Connection**
  IP address of the remote end of the RTP Media Stream.
- **CODEC**
  Available via H.323 message and may change throughout the call.
- **Connection Type**
  Either ***DirectMedia***, ***RTP Relay*** or ***VCMs***.
- **Caller ID or Dialed Digits**
  The information displayed depends on the call direction.
  - **Incoming Calls**
    The Caller ID name and number. If there is no Caller ID, ***None*** is displayed.
  - **Outgoing Calls**
    The digits that are sent to the central office.
- **Other Party on Call**
  Contains one of the following:

Where Call was Originated/Answered	Displayed Value
User	User name and number
VoiceMail Call flow	Start Point name
Voicemail Box	Voicemail - user name or hunt group name of the mailbox
Data Service	RAS - service name
Conference	Conference name
Trunk	Line ID/URI Group/Channel number
Park Slot	Park Slot - when the other end has parked the call
Announcement	Announcement - the hunt group associated with the announcement number
Hunt Group	Hunt Group - name and number when a call is in a hunt group queue (not alerting)

- **Direction of Call**
  Displays the call as either ***Incoming*** or ***Outgoing***.
- **Quality of Service** (QoS)
  Normal data packets can prevent or delay voice data from getting across the link, causing unacceptable speech quality. SSA provides the following information about the VoIP connection and how it is being impacted by other traffic. These statistics are calculated as defined in RFC 1889.
  - **Round Trip Delay**
  - **Receive Jitter**
  - **Transmit Jitter**
  - **Receive Packet Loss**
  - **Transmit Packet Loss**

Buttons

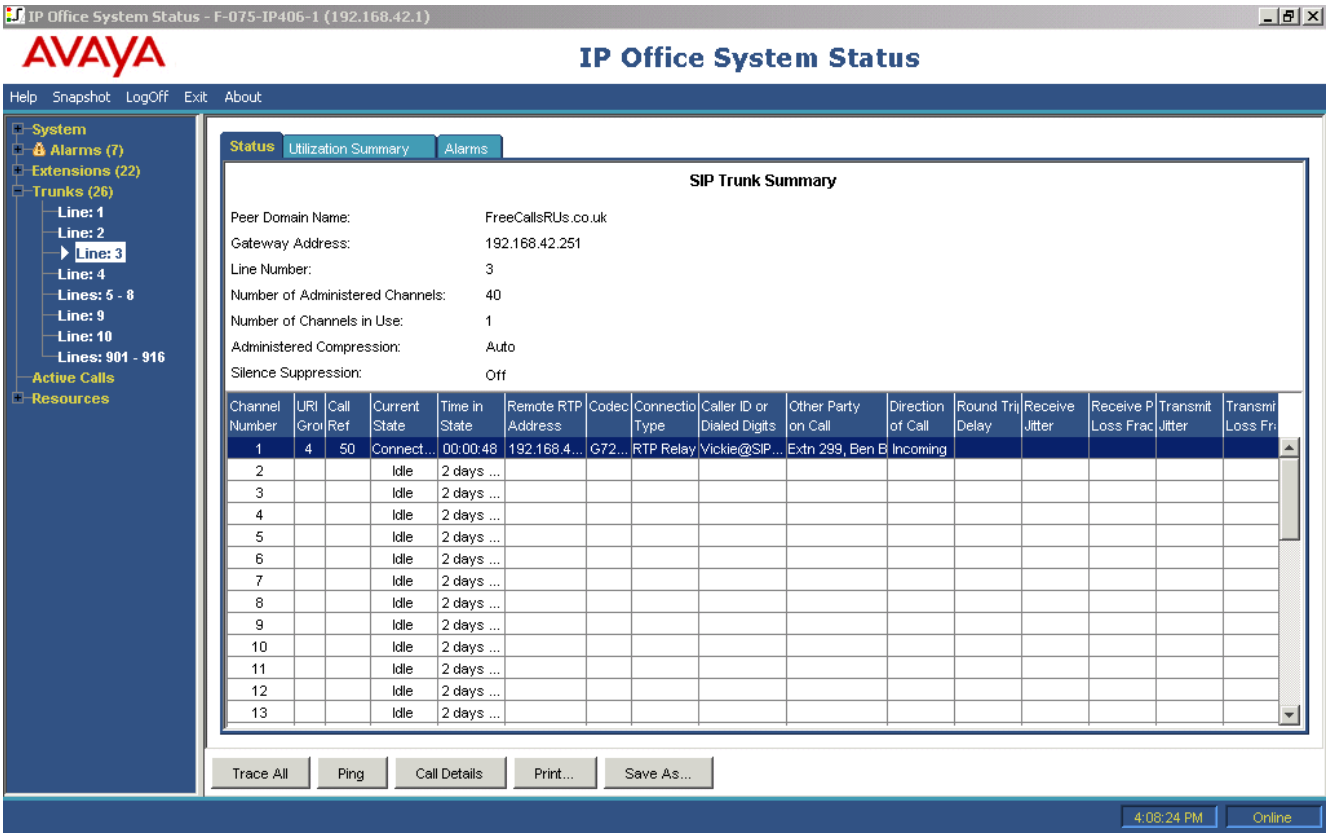
The following buttons can appear on this screen:

- **Trace**
  Starts a trace of the rows selected. The trace is displayed for each call associated with the selected trunk ports or extension button. See Trace 69.

- **Trace All**
  Starts a trace for the whole trunk group or extension. The trace is displayed for all calls associated with the trunk or extension. See Trace 69.
- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Ping**
  Perform a Ping action from the selected interface (system, line or extension) and display the results. See Ping 104.
- **Call Details**
  Displays call details 81 for the selected call.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.4.4 Status (SIP Trunk)

For SSA and IP Office 5.0, SSA will display the configured and free SIP Channel license count in the top of the SIP trunk screen. Also where the SIP Trunk requires registration, the status of the Primary and secondary registration will also be displayed in the top/summary section of the Trunk Status Screen for the SIP trunk.



Information Displayed

- **Peer Domain Name**
  The name of the service from the line form.
- **Gateway Address**
  Gateway IP address from the VoIP form.
- **Line Number**
  Fixed line number, defined by the user.
- **Number of Administered Channels**
  The number of channels from the line form.
- **Total Channels in Use**
  The total number of channels that have associated call references.
- **Administered Compression**
  The compression mode from the VoIP form.
- **Silence Suppression**
  Either On or Off.
- **Channels Table**
  This table displays the following details:
  - **Channel Number**
    Click on the row to view details of the call.
  - **URI Group**
    The URI Group via which the call was routed in or out of the trunk. If there is no **Call Ref**, the URI Group is blank.
  - **Call Ref**
    Call reference, assigned by IP Office and associated with the line in use. When a trace is in progress, any calls on the trunk will show **(i)** next to the Call Ref. If you select Call Details while a trace is in progress, the screen remains unchanged and a pop-up window appears which contains details about the selected call. The pop-up shows the state of the call at the time of selection and does not update. See Trace 69.
  - **Current State**
    The state is defined when there is a call associated with a button. See Call States 88.

- **Time in State**
  Reset to zero each time there is a state change.
- **IP Address from Connection**
  DirectMedia (H.323 only), ***RTP Relay*** or ***VCMs***.
- **CODEC**
  Available via SIP message and may change throughout the call.
- **Connection Type**
  Either ***RTP Relay*** or ***VCM***.
- **Caller ID or Dialed Digits**
  The information displayed depends on the call direction.
  - **Incoming Calls**
    The Caller ID name and number. If there is no Caller ID, ***None*** is displayed.
  - **Outgoing Calls**
    The digits that are sent to the central office.
- **Other Party on Call**
  Contains one of the following:

Where Call was Originated/Answered	Displayed Value
User	User name and number
VoiceMail Call flow	Start Point name
Voicemail Box	Voicemail - user name or hunt group name of the mailbox
Data Service	RAS - service name
Conference	Conference name
Trunk	Line ID/URI Group/Channel number
Park Slot	Park Slot - when the other end has parked the call
Announcement	Announcement - the hunt group associated with the announcement number
Hunt Group	Hunt Group - name and number when a call is in a hunt group queue (not alerting)

- **Direction of Call**
  Displays the call as either ***Incoming*** or ***Outgoing***.
- **Quality of Service** (QoS)
  Normal data packets can prevent or delay voice data from getting across the link, causing unacceptable speech quality. SSA provides the following information about the VoIP connection and how it is being impacted by other traffic. These statistics are calculated as defined in RFC 1889.
  - **Round Trip Delay**
  - **Receive Jitter**
  - **Transmit Jitter**
  - **Receive Packet Loss**
  - **Transmit Packet Loss**

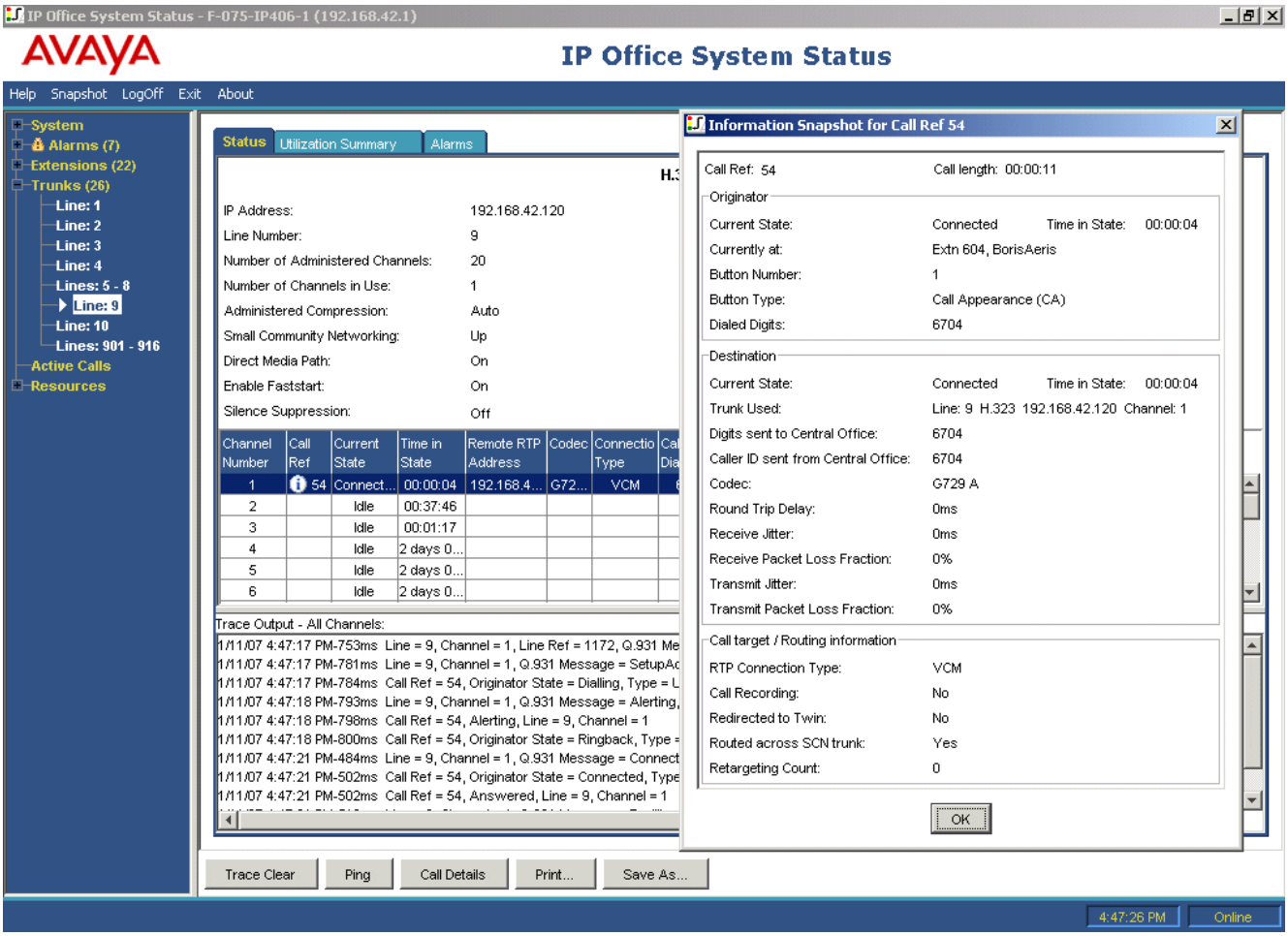
Buttons

The following buttons can appear on this screen:

- **Trace All**
  Starts a trace for the whole trunk group or extension. The trace is displayed for all calls associated with the trunk or extension. See Trace 69.
- **Ping**
  Perform a Ping action from the selected interface (system, line or extension) and display the results. See Ping 104.
- **Call Details**
  Displays call details 81 for the selected call.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.4.5 Trace

When a trace is in progress, any calls on the trunk show ***(i)*** next to its **Call Ref**. If you select **Call Details** while a trace is in progress, the screen remains unchanged and a pop-up window appears which contains details about the selected call. The pop-up shows the state of the call at the time of selection and does not update.



Buttons

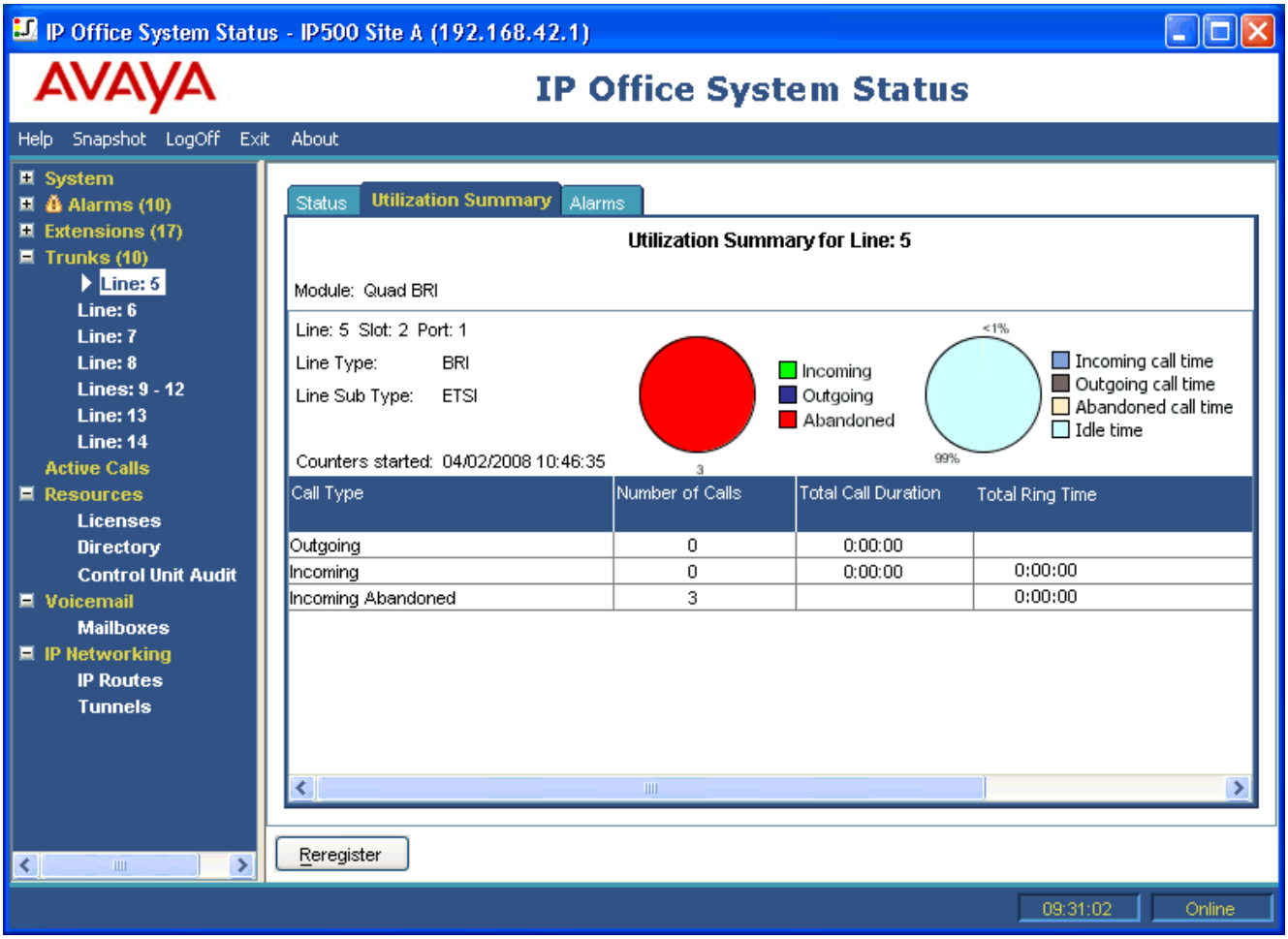
The following buttons can appear on this screen:

- **Clear**
  Clears all the alarms that have been selected. Any alarm still active will remain with the count of 1.
- **Call Details**
  Displays call details 81 for the selected call.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.
- **Trace All**
  Starts a trace for the whole trunk group or extension. The trace is displayed for all calls associated with the trunk or extension. See Trace 69.
- **Ping**
  Perform a Ping action from the selected interface (system, line or extension) and display the results. See Ping 104.
- **Call Details**
  Displays call details 81 for the selected call.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.4.6 Utilization Summary

The Utilization Summary tab is accessed by clicking Trunks on the navigation panel. Alternatively, click System and then Control Unit and double-click an expansion module or VoIP trunk.

The Utilization Summary provides a usage history for each trunk. The counts are reset either when the Reset button is clicked (at which point all values are reset to zero) or when the system reboots.



Information Displayed

- **Module**
  Type of trunk module.
- **Line**
  Line ID.
- **Line Type**
  See Line Protocols.
- **Line Sub Type**
  See Line Protocols.
- **Counters Started**
  Date and time the counts began.
- **Calls Table**
  - **Call Type**
    - **Outgoing**
      The count of all Outgoing calls.
    - **Incoming**
      The count of Incoming calls, excludes Incoming Abandoned calls.

    - **Incoming Abandoned**
      Calls where the caller disconnected before the call was answered. **Total Call Duration** is blank for Incoming Abandoned calls.

- **Number of Calls**
  Total number of calls by Call Type.
- **Total Call Duration**
  Hours, minutes and seconds format. For Outgoing calls, measured from the start of the call. For Incoming calls, measured from when the call was answered.
- **Total Ring Time**
  Hours, minutes and seconds format.

Buttons

The following buttons can appear on this screen:

- **Reregister**
  This option can be used to force Avaya H.323 IP phones to both reregister with the IP Office and to restart, including checking their current firmware against that available on the configured TFTP or HTTP file server. Since this process is monitored in real-time by the SSA, it is recommended that only small groups, up to 15 phones, are forced to reregister at any time. Attempting to reregister larger numbers of phones will cause SSA to appear to be paused.

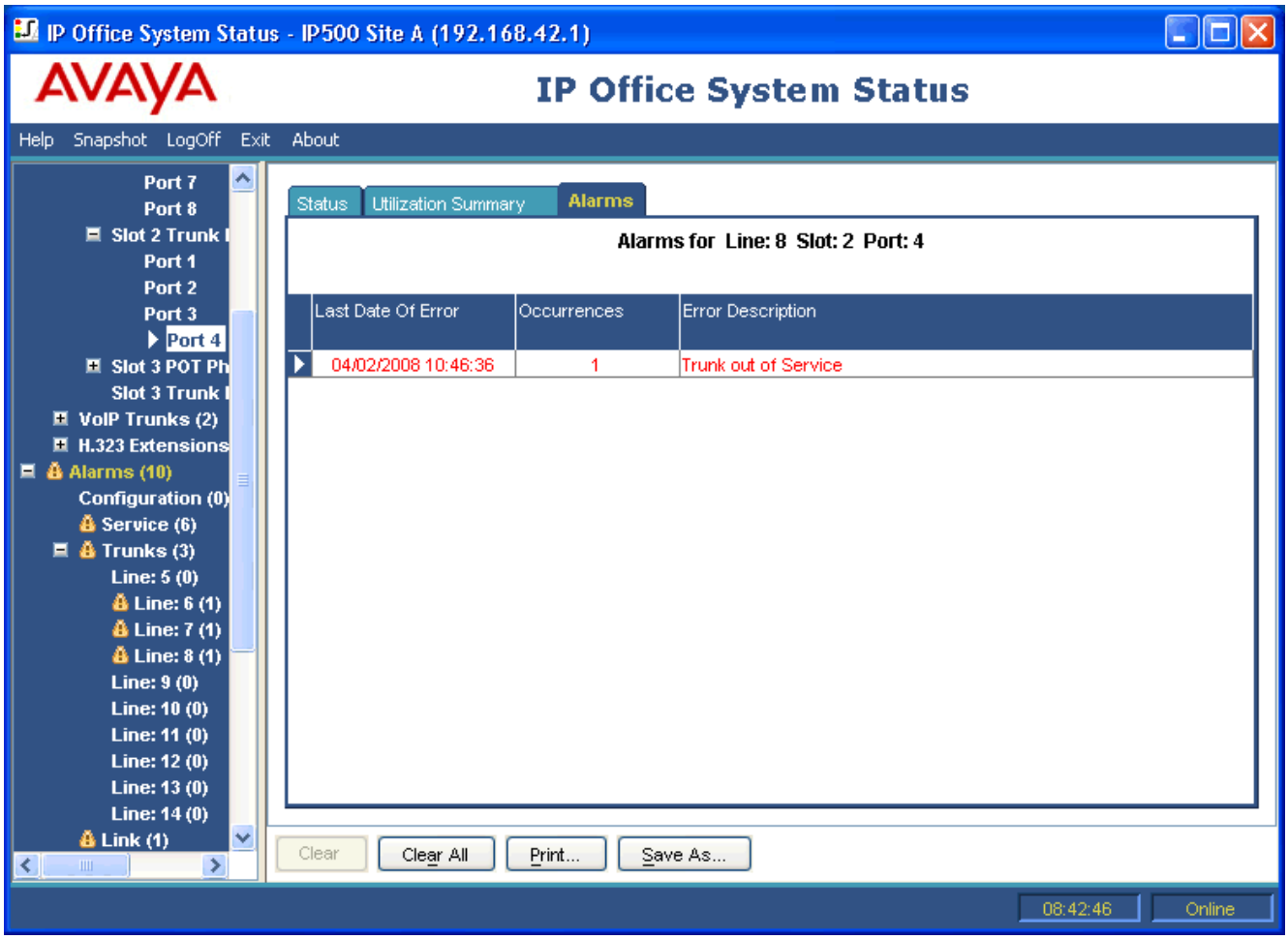
2.4.7 Alarms

The Trunk Alarm screen contains an entry for each trunk. There is always an entry in the navigation panel for each trunk regardless of whether it has alarms. Trunk alarms are updated in real time.

The screen displays two tabs for digital trunks:

- **Alarms** 38
  Any current alarms are reported in red on the Alarm tab. If an alarm is no longer active, the alarm changes to black but the count will remain the same. When an alarm goes from historical to active, the count is increased by one.
- **24 Hour Performance History** 49
  This tab provides a 24 hour view of errors that occur on the line. If no errors have occurred within the last 24 hours, the table displays zero or blank values.

2.4.7.1 Alarms



Information Displayed

- **Last Date of Error**
  The last time the error that caused a particular alarm occurred.
- **Occurrences**
  How many times the alarm has occurred since the control unit was last restarted or the alarm was last cleared.
- **Error Description**
  The table below details a description of the error that caused the alarm:

Error	Description
Insufficient DID Digits	A user can administer routes based on DID digits by using the MSN routing form. On this form, the user administers how many digits are expected (the Presentation Digits field). If a call is received and the number of digits received do not match the number in the Presentation Digits field, the following is displayed: There was a mismatch in the number of DID digits Expected number of digits: XX Digits Received: YYYYY
Incoming Call on Outgoing Trunk	On T1/PRI and analog lines, the direction for each channel can be administered to be incoming, outgoing or both. If the channel is outgoing and an incoming call arrives on the channel, the following is displayed: An incoming call arrived on the channel that is administered for Outgoing calls. Channel Number: XX (for digital lines) Port Number: XX (for analog lines)
Trunk Went Out of Service	If the trunk is not administered to be out of service but goes down, the following is displayed: Trunk out of service.
Red Alarm Active on Trunk	When a red alarm is reported on a T1/PRI trunk, the following is displayed: ***Red Alarm***. A red alarm indicates lost synchronization.
Blue Alarm Active on Trunk	When a blue alarm is reported on a T1/PRI trunk, the following is displayed: ***Blue Alarm***. A blue alarm indicates a signal failure has occurred.

Error	Description
Yellow Alarm Active on Trunk	When a yellow alarm is reported on a T1/PRI trunk, the following is displayed: ***Yellow Alarm***. A yellow alarm indicates a transmission problem.
Loss of Signal on Trunk	When a loss of signal is reported, the following is displayed: Loss of Signal.
Caller ID not received	For analog loop start trunks administered with ICLID.
Seize Failure	When there is no loop current detected when trying to seize the trunk.
Response Failure	This alarm is generated when IP Office sends a TCP Sync to the remote end of an H.323 trunk and fails to receive an acknowledgement from the remote end, also when IP Office sends an INVITE over a SIP trunk and times out on no response. No response to IP trunk call request. IP Trunk Line Number: xxx Remote end IP address: yyy.yyy.yyy.yyy

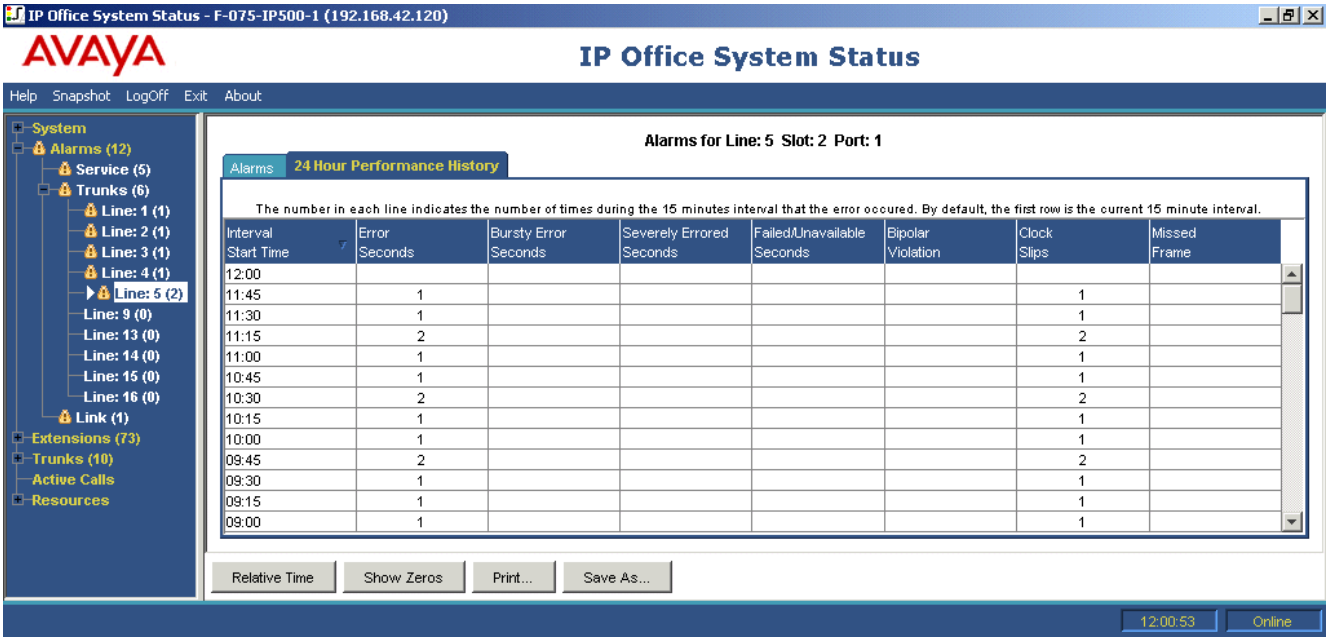
Buttons

The following buttons can appear on this screen:

- **Clear**
  Clears all the alarms that have been selected. Any alarm still active will remain with the count of 1.
- **Clear All**
  Clears all listed alarms. Any alarm still active will remain with the count of 1.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.4.7.2 24 Hour Performance History

The first line in the table displays the current 15 minute interval and represents 0-15 minutes worth of data. Subsequent lines display the last 24 hours divided in to 15 minute intervals (fewer lines will be shown if the system has been running for less than 24 hours). The table is displayed regardless of whether there are errors on the trunk.



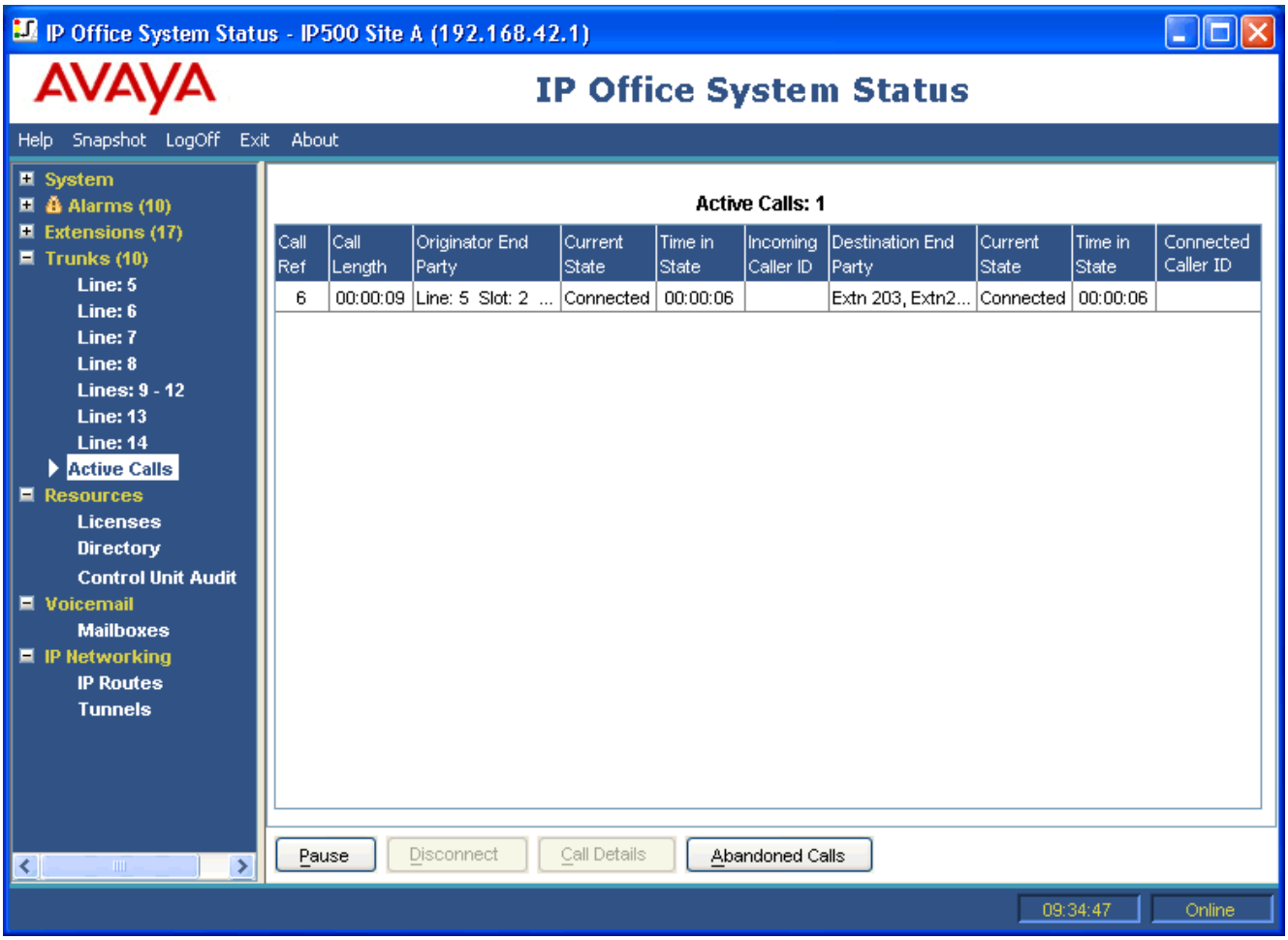
Buttons

The following buttons can appear on this screen:

- **Absolute Time**
  Applies to the 24 Hour Performance History. Each line shows the absolute time at which the reported 15 minute period started (HH:MM in 24 hour clock format).
- **Relative Time**
  Applies to the 24 Hour Performance History. Indicates how far into the 15 minute interval the line is (e.g. 3 minutes will show as 00:03). The times following that will be displayed in relationship to the current time as HH:MM (e.g. subtract 15 minutes from the current interval to get the next one).
- **Show Blanks**
  Applies to 24 Hour Performance History. 0 error values for each line appear as blanks.
- **Show Zeros**
  Applies to 24 Hour Performance History. 0 error values for each line are displayed.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.5 Active Calls

The Active Calls screen provides a summary of all the calls in the system. From the navigation panel, click Active Calls:



Information Displayed

- **Call Ref**
  Call reference for incoming trunks, assigned by IP Office and associated with the line in use.
- **Call Length**
  Total length of the call.
- **Originator End Party**
  Trunk or 'Currently At' information. See Call Details 81.
  - **Current State**
    The originator's current state. See Call States 88.
  - **Time in State**
    The originator's time in state. Reset to zero every time there is a state change.
  - **Incoming Caller ID**
    The caller name and number.
- **Destination End Party**
  Trunk or 'Currently At' information. See Call Details 81.
  - **Current State**
    The destination's current state. See Call States 88.
  - **Time in State**
    The destination's time in state. Reset to zero every time there is a state change.
  - **Connected Caller ID**
    For outgoing trunks only. The connected caller name and number.

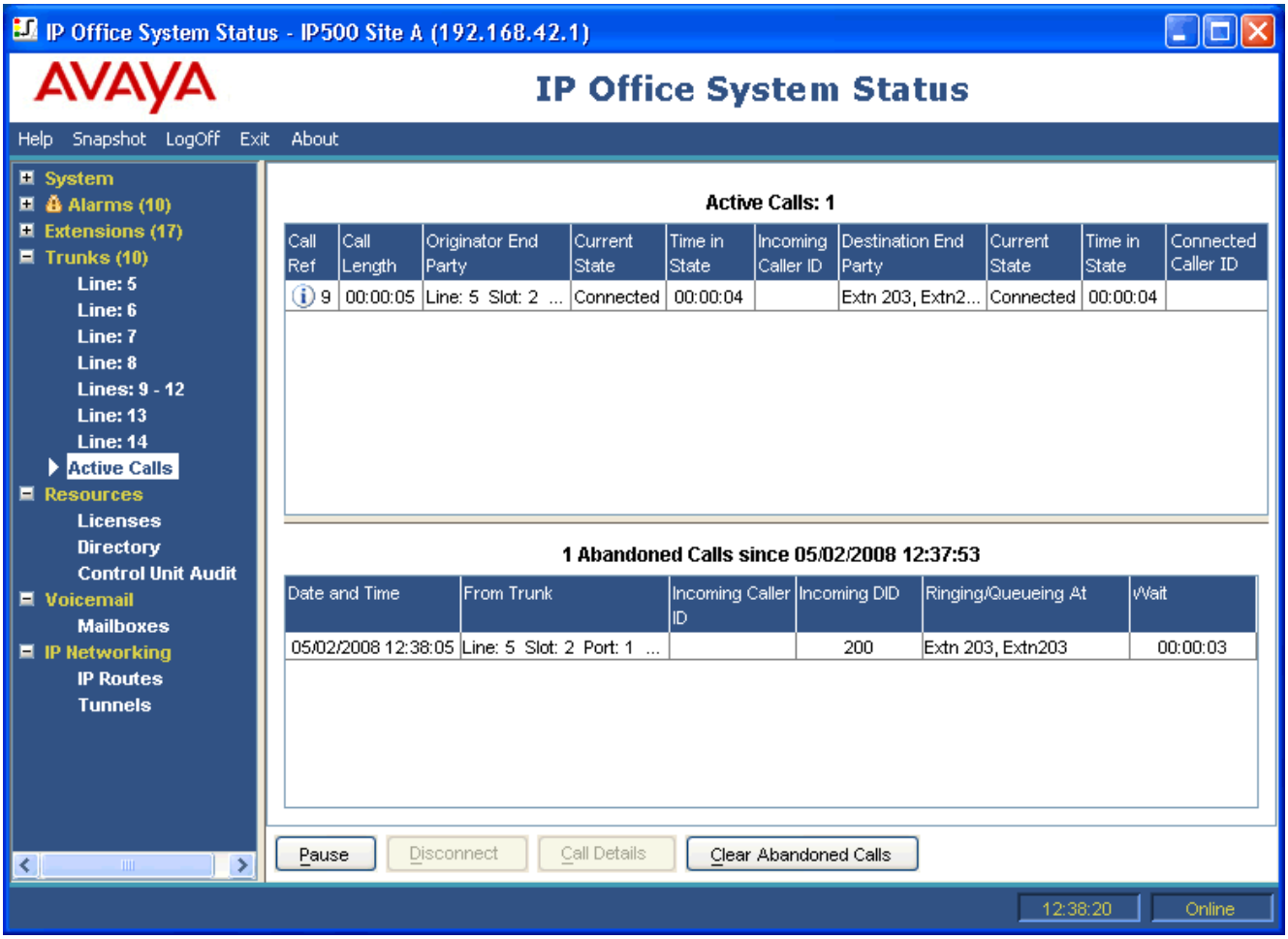
Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Disconnect**
  Clears the current call. The **Disconnect** button cannot be used to stop alerting calls for calls on Loop Start, T1 Loop Start and T1 Ground Start lines.
- **Call Details**
  Displays call details 81 for the selected call.
- **Abandoned Calls**
  The Active Calls screen splits to display a list of incoming calls on a trunk where the caller disconnected before the call was first answered.

2.5.1 Abandoned Calls

If, while viewing the Active Calls 76 screen, the **Abandoned Calls** button is selected, the screen is split to include a list of abandoned calls below the active calls list. The abandoned calls table lists incoming calls on a trunk where the caller disconnected before the call was first answered.



Information Displayed

The following information is displayed for disconnections that have occurred since the time the Abandoned Calls button was selected. If the viewer restarts whilst an Abandoned Calls list is displayed, the list is cleared. After the restart, the viewer updates the time in the header to indicate that the list displays Abandoned Calls since the time of the restart.

- **Date and Time**
  Date and time the call started.
- **From Trunk**
  The line/channel information about the calling party.
- **Incoming Caller ID**
  The name and/or number as shown in the Active Calls list.
- **Incoming DID**
  The number as displayed in the Call Details screen. See Call Details 81.
- **Ringing/Queuing At**
  The alerting parties (if any) on the call at the time of disconnection. Otherwise (if the call was in a queue), the hunt group name.
- **Wait**
  The call duration until disconnection occurred.

Buttons

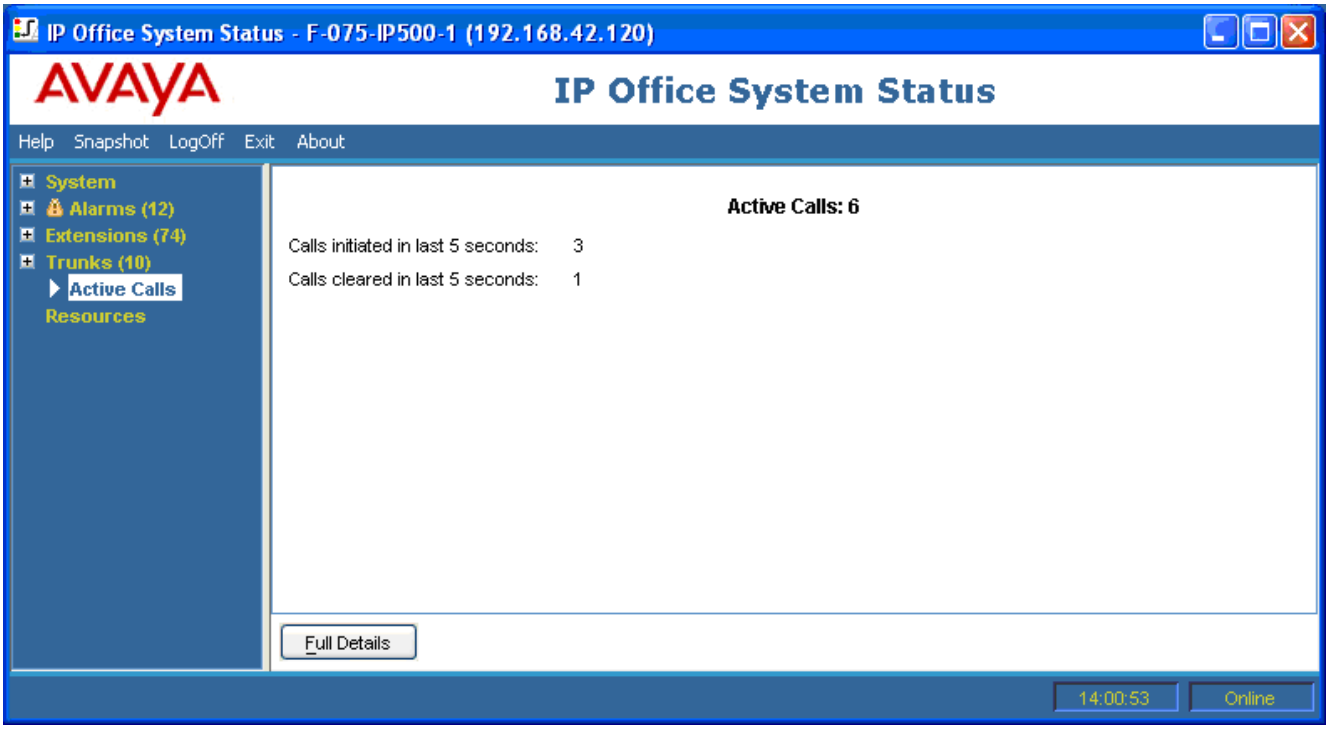
The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.

- **Disconnect**
  Clears the current call. The **Disconnect** button cannot be used to stop alerting calls for calls on Loop Start, T1 Loop Start and T1 Ground Start lines.
- **Call Details**
  Displays call details 81 for the selected call.
- **Clear Abandoned Calls**
  Clears all listed abandoned calls, updates the date and time and enables further abandoned calls to be logged.

2.5.2 Reduced Active Calls

If you are viewing the Active Calls 76 information for a heavily loaded IP Office (using a communications link with insufficient bandwidth or running SSA with insufficient CPU power), SSA will automatically reduce the amount of information displayed, to accommodate the high call rate.



When the call initiation/setup rate has reduced, the **Full Details** button can be selected to resume the full display. If you want to view IP Office activity during the high load, the snapshot facility can be used to obtain a complete instantaneous view of the system.

Buttons

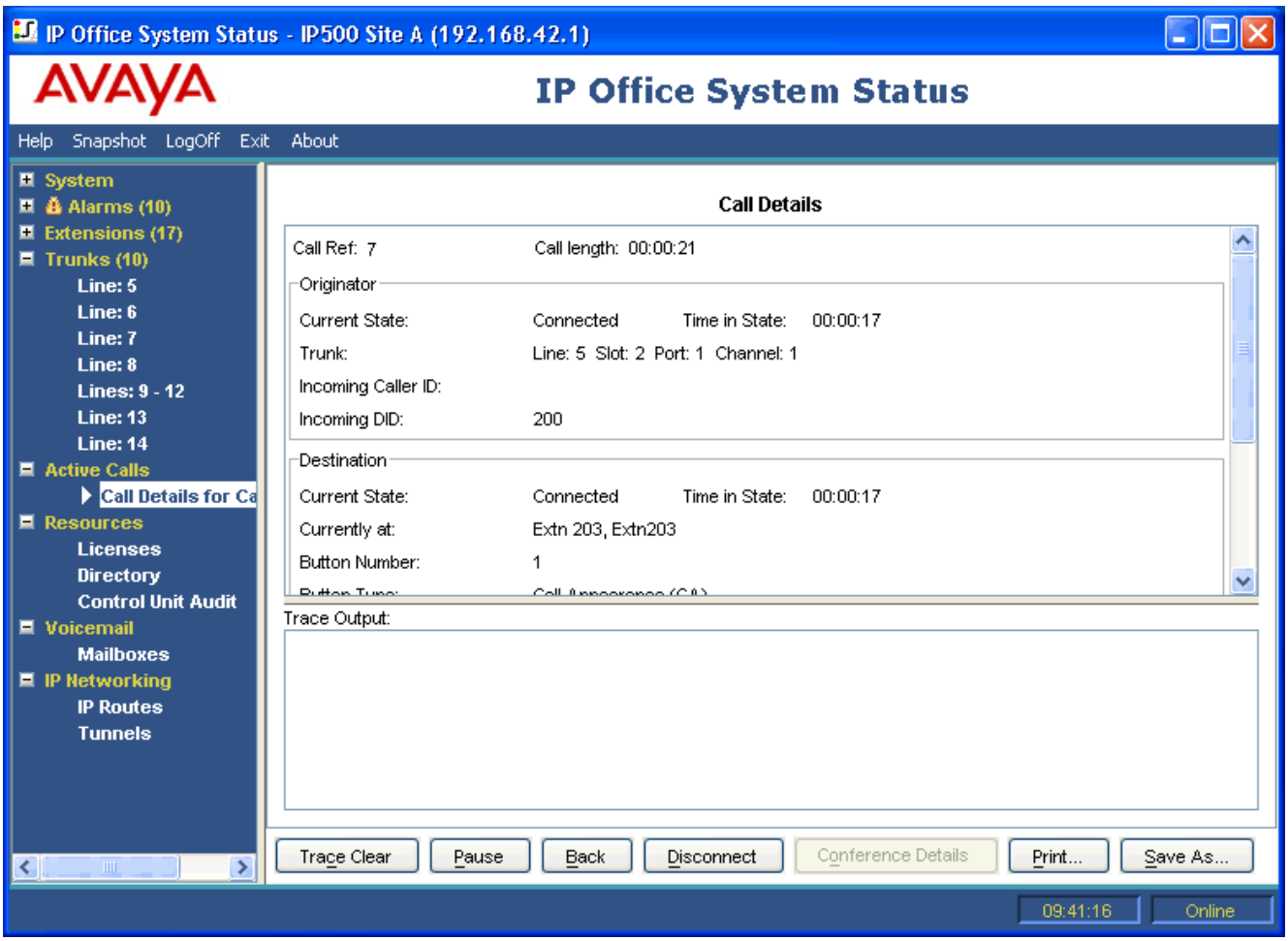
The following buttons can appear on this screen:

- **Full Details**
  Applies to Active Calls. Resumes the full display.

2.5.3 Call Details

The Call Details screen is only displayed if a call is active. The Call Details screen can be accessed as follows:

- Select a current call in the **Active Calls** screen.
- Click **Extensions** and then click the relevant extension.
- Click **System** and then **Control Unit** and double-click a line.



Information Displayed

- **Call Ref**
  Call reference assigned by IP Office and associated with the line in use.
- **Call Length**
  Total length of the call.
- For further details see the following sections:
  - **Originator Information** 84.
  - **Destination Information** 85.
  - **Call Target Information** 87.
  - **Conference Details** 83.
  - **Call States (Extension Ports)** 88.
  - **Call States (Trunk Ports)** 90.
  - **Callback and Returning Calls** 91.
- **Trace Output**
  The bottom section of the screen contains trace information and a scroll bar, enabling you to view the trace. Tracing enables you to view details of specific calls and is useful for problem solving. For more information, see Tracing 108.

Notes

- The names shown for voicemail destinations are those supplied by IP Office to voicemail, when the connection is made. Any subsequent activities within voicemail, for example logging in to an alternative mailbox, will not be reflected in the information shown for the destination.
- A call that is both alerting/queuing and listening to an announcement will indicate information about both.

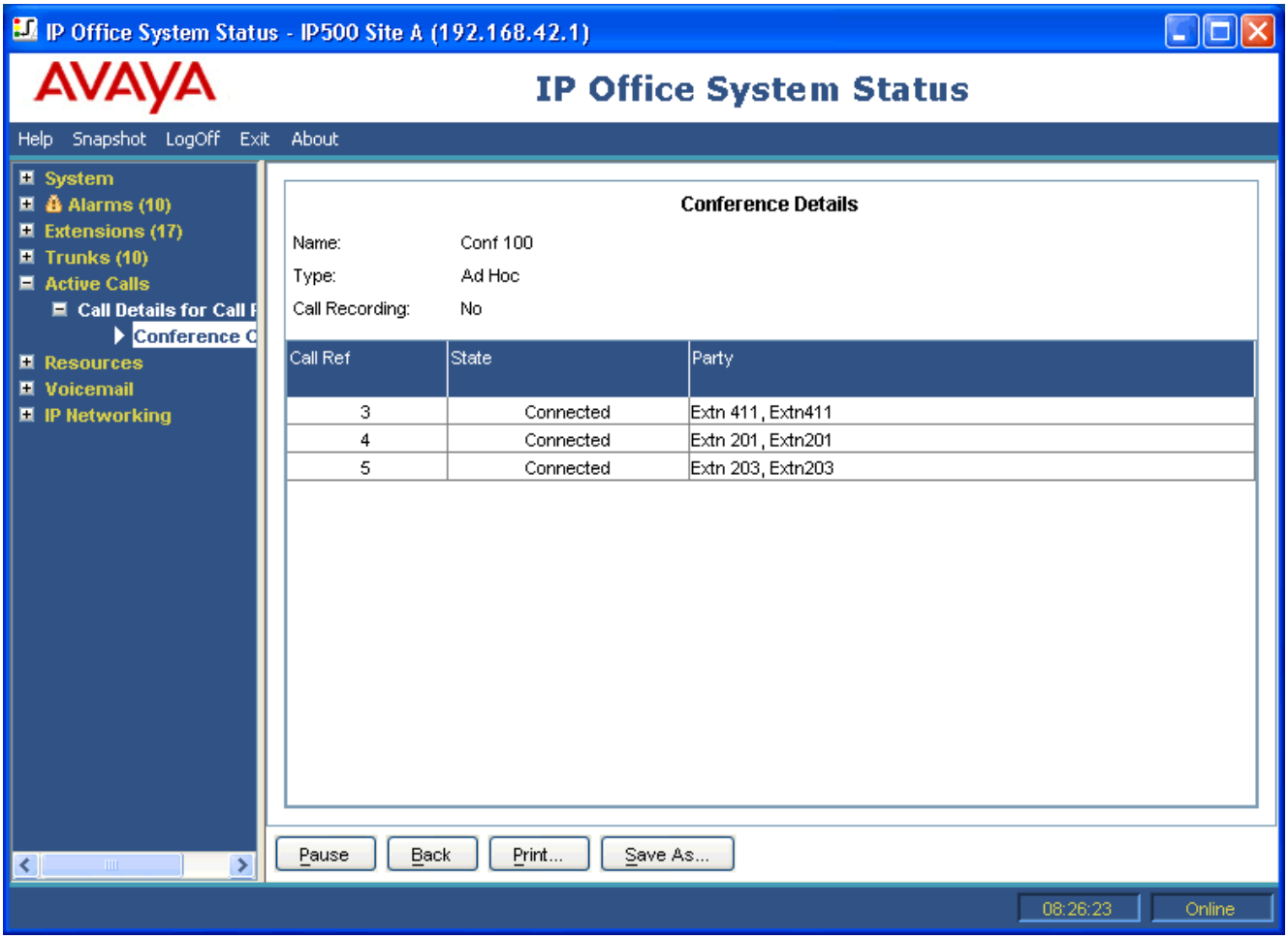
Buttons

The following buttons can appear on this screen:

- **Trace Clear**
  Clears the trace and continues tracing.
- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Back**
  Returns to the previous screen.
- **Disconnect**
  Clears the current call. The **Disconnect** button cannot be used to stop alerting calls for calls on Loop Start, T1 Loop Start and T1 Ground Start lines.
- **Conference Details**
  Available for call details when the call is connected to a conference. Press to display the conference details 83.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.5.4 Conference Details

When a call is connected to a conference, an additional Conference Details button shows all connected calls on the conference. The screen also displays whether the conference is a Conferencing Center or ad-hoc type and whether the conference is being recorded.



Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.
- **Back**
  Returns to the previous screen.
- **Print**
  Prints all information available in the current screen (including any information currently scrolled off).
- **Save As**
  Saves all information that is available on the screen. By default, the information is saved as a .txt file. For screens that include traces, the trace only can be saved as a .csv file.

2.5.5 Call Information

2.5.5.1 Originator Information

The following information displayed is based on whether the originating end is a trunk or not.

Originating End is a Trunk

Includes all incoming calls on analog, dialog or VoIP trunks. The following is reported for the **Originator** (trunk):

- **Trunk**
  Includes fixed line number, URI group (SIP lines) and channel (for digital and VoIP lines).
- **Current State and Time in State**
  See Call States 88.
- **Incoming Caller ID**
  The caller ID name and number.
- **Incoming DID**
  The incoming DID digits (when applicable).
- **Codec**
  Selected via H.323/SIP messages and may change during the call.
- **VoIP Trunk (H.323, SCN or SIP)**
  Normal data packets can prevent or delay voice data from getting across the link, causing unacceptable speech quality. SSA provides the following information about the VoIP connection and how it is being impacted by other traffic. These statistics are calculated as defined in RFC 1889.
  - Round Trip Delay
  - Receive Jitter
  - Transmit Jitter
  - Receive Packet Loss
  - Transmit Packet Loss

Originating End is not a Trunk

The following information is reported for the Originator:

- **Current State and Time in State**
  The state is defined when there is a call associated with a button.
- **Currently At**:
  - **Users**
    The user name and number is listed. For multi-line sets, the button number and button type (Call, Line and Bridged Appearance or Call Coverage) are displayed.
  - **Voicemail Call flow**
    When voicemail is the originator end, no call flow name will be shown.
  - **Data Service**
    The service name.
  - **Park Slot**
    The park slot number.
  - **Conference**
    The conference number.
  - **Multicast**
    Multicast.
  - **Dialed Digits**
    The digits that were dialed by the user.
- **Codec** (if applicable)
  Selected via H.323/SIP messages and may change during the call.

2.5.5.2 Destination Information

The information displayed is based on whether the destination end is a trunk or not.

Destination End is a Trunk

Includes the following types of calls that involve trunks:

- Call to an outside number from the switch
- VoiceMail Pro calling an outside number (for a callback)
- External forwarding
- SCN call

The following information is reported for the **Destination**:

- **Trunk Used**
  Includes fixed line number, URI group (SIP lines) and channel (for digital and VoIP lines).
- **Current State and Time of State**
  The state is defined when there is a call associated with a button.
- **Digits sent to Central Office**
  These are the digits that IP Office has sent to the central office or the To: URL, sent in the INVITE for a SIP trunk.
- **Caller ID sent from Central Office**
  Some central offices send the connected Caller ID (versus who was called).
- **Codec**
  Selected via H.323/SIP messages and may change during the call.
- **VoIP Trunk (H.323, SCN or SIP)**
  Normal data packets can prevent or delay voice data from getting across the link, causing unacceptable speech quality. SSA provides the following information about the VoIP connection and how it is being impacted by other traffic. These statistics are calculated as defined in RFC 1889.
  - Round Trip Delay
  - Receive Jitter
  - Transmit Jitter
  - Receive Packet Loss
  - Transmit Packet Loss

Destination End is not a Trunk

The following information is reported for the Destination:

- **Current State and Time in State**
  The state is defined when there is a call associated with a button.
- **Currently At**
  One of the following:
  - **Group of Users**
    For paging and some hunt group calls, listed by user name and number. If the call is alerting/connected for both users and SCN trunks, all will be listed.
  - **User**
    The user name and number are listed. For multi-line sets the button number and button type (Call, Line and Bridged Appearance and Call Coverage) are displayed.
  - **Voicemail Call flow**
    The call flow name.
  - **AutoAttendant**
    The string Automated Attendant followed by the Automated Attendant number is listed.
  - **Park Slot**
    The park slot and park slot number/name.
  - **Mailbox**
    The mailbox and mailbox name.
  - **Voicemail Announcement**
    This will be Announcement plus the group/username and the announcement number.
  - **Conference**
    The conference name. See Conference Details 83.
  - **RAS**
    The user name.
  - **Hunt Group Queue**
    The hunt group name and number when a call is in a hunt group queue but not alerting.
- **Codec**
  Selected via H.323/SIP messages and may change during the call.

2.5.5.3 Call Target/Routing Information

- **RTP Connection Type** (if applicable)
  DirectMedia, RTPRelay or VCM.
- **Shortcode Matched** (if applicable)
  Includes the shortcode name, feature and the type (System, User, LCR, Line).
- **Original Target** (if applicable)
  One of the following:
  - **Destination is a User**
    The user name or extension number is listed.
  - **Destination is a Hunt Group**
    The hunt group name or extension number is listed.
  - **Destination is a shortcode**
    The shortcode and feature are listed along with the type (System, User, LCR, Line).
  - **Destination is an embedded Automated Attendant**
    The string Automated Attendant, followed by the Automated Attendant number is listed.
- **Call Recording**
  Call recording in progress (Yes or No).
- **Call was Redirected to a Twin**
  Yes or No.
- **Call Routed Across SCN Trunk**
  Yes or No. Set to Yes only when the call becomes connected.
- **Retargeting Count**
  The number of times the call has been retargeted. A call is retargeted, for example; on expiry of a no answer timeout. Retargeting means that the current destination(s) stop alerting and a new destination is selected instead.
- **Transfer Count** (if appropriate)
  The number of times a call has been transferred.
- **Redirecting Station** (if appropriate)
  The station from which a call was re-directed on Forwarding, Follow Me, coverage or twinning.

2.5.5.4 Call States (Extension)

Call States are shown for both ends of a call. The valid states for extension ports are listed in the following table:

State	Extension
Idle	There is no call or call attempt on this extension or button.
Connected	A call is connected on this port.
Held	The call is on regular hold. This could be the result of pressing the Hold button, or a flash hook.
Held for Transfer/Conference	The call is on hold as the result of a user pressing the fixed Transfer or Conference button.
Parked	The call has been parked at a park slot.
Seized	A call is being originated, the port has been seized but the call is not yet connected. No digits have been dialed.
Dialling	A call is being originated, the port has been seized but the call is not yet connected. At least one digit has been dialed.
WrapUp	The user on this port is in the Wrapup state. This might be the automatic call time or set for call center agent.
In Use Elsewhere	This means that another person is active on a Call or Bridged Appearance. For Line Appearance, this means that another user is active on the call.
On Hold Elsewhere	This means that another person has placed a call on hold at a Call or Bridged Appearance. For Line Appearance, this means another user has placed a call on hold.
In Use Inaccessible	This means that the Call or Bridged Appearance cannot be accessed. For example: • The Call Appearance on the chain is associated with a user who is not logged in. • The longest internal member on the call has Cannot Be Intruded active. • The Call Appearance on the chain is on a button that has no LEDs. A Line Appearance cannot be accessed. For example: • The longest internal member on the call has Cannot Be Intruded active. • The line associated with the Line Appearance is Out of Service.
Alerting	When a call is visually or audibly alerting on a telephone.
Ringback*	For outgoing calls, this is the state after the user has completed dialling and is listening to ringback.
Call Listen	Indicates the call is listening to this extension
Paging	Indicates one or more output points of a paging call.
Recording	A surrogate call is being used to record the call whose ID is indicated.
Hold Reminder	Extension is alerting with a hold reminder notification.
Park Reminder	Extension is alerting with a park reminder notification.
Transfer Return	Extension is alerting with a transfer return call notification.
Voicemail Ringback	Extension is alerting with a voicemail ringback notification.
Auto Callback	Extension is alerting with a callback/reminder notification.
Held at Central Office	For European ISDN lines, the central office has the call on hold. It will free the B-channel which will be seen as idle in SSA.
Holding	Indicates that the other party on the call is in one of the Held states: Held, Held for Transfer, Held for Conference, Held at Central Office, Hold Reminder.
Connected Blind	Indicates that this end of the call is connected and that the other party on the call is alerting with either a blind transferred call or a transfer return.
Queuing	Indicates that the call is held in a hunt group queue and is not alerting at any extension. The other end will be in Ringback/Incoming Alerting or Connected Announcement state.
Alerting Announcement	Indicates that the call is alerting at one or more extensions or trunks and is also currently connected to voicemail for a queuing announcement.
Queuing Announcement	Indicates that the call is held in a hunt group queue, is not alerting at any extension and is currently connected to voicemail for a queuing announcement.
Connected Announcement	Indicates that this end of the call is connected because the call is or has been listening to a queuing announcement.
Number Unobtainable	States that an extension can be left in by a failed/cleared call.
Busy	States that an extension can be left in by a failed/cleared call.

Disconnected	States that an extension can be left in by a failed/cleared call.

* When a call is alerting, one endpoint will be in the alerting state and the other will be in the ringback state. From the view of the call model, Ringback and Incoming Alerting are equivalent states. Also, Alerting and Outgoing Alerting are equivalent states.

Trunk Summary and Extension Status screens will show a direction for each call. For a trunk, the call is shown as outgoing (if IP Office initiated the call) and incoming (if the central office or network initiated the call). For an extension, the call is shown as outgoing (if the extension initiated the call) and incoming (if another party initiated the call).

For examples of call sequences that include announcements, see Tracing 108.

2.5.5.5 Call States (Trunk)

Call States are shown for both ends of a call. The valid states for trunk ports are listed in the following table:

State	Trunk
Idle	There is no call or call attempt on this port or channel.
Out of Service	The port has been set to Out of Service or the digital circuit (that this channel is on) is down.
Connected	A call is connected on this port.
Connected WAN	This time slot in use to deliver WAN interface - digital trunks only.
Parked	The call has been parked at a park slot.
Seized	A call is being made and the system selects a particular line.
Dialling	A call is being originated from this port, the trunk has been seized but the call is not yet connected. On analog trunks, 'connected' may be an implied state based on a timeout.
Clearing	The call is in the process of terminating or is in the post call timeout period.
Pre-Alert	This is when an incoming call arrives on a trunk and the system is waiting for Caller ID.
Outgoing Alerting	When an outgoing call is being made and the far end is alerting.
Incoming Alerting	When an incoming trunk call is visually or audibly alerting or is in a hunt group queue.
Paging	Indicates one or more output points of a paging call.
Recording	A surrogate call is being used to record the call whose ID is indicated.
Held at Central Office	For European ISDN lines, the central office has the call on hold. It will free the B-channel which will be seen as idle in SSA.
Holding	Indicates that the other party on the call is in one of the Held states: Held, Held for Transfer, Held for Conference, Held at Central Office, Hold Reminder.
Connected Blind	Indicates that this end of the call is connected and that the other party on the call is alerting with either a blind transferred call or a transfer return.
Queuing	Indicates that the call is held in a hunt group queue and is not alerting at any extension. The other end will be in Ringback/Incoming Alerting or Connected Announcement state.
Alerting Announcement	Indicates that the call is alerting at one or more extensions or trunks and is also currently connected to voicemail for a queuing announcement.
Queuing Announcement	Indicates that the call is held in a hunt group queue, is not alerting at any extension and is currently connected to voicemail for a queuing announcement.
Connected Announcement	Indicates that this end of the call is connected because the call is or has been listening to a queuing announcement.

* When a call is alerting, one endpoint will be in the alerting state and the other will be in the ringback state. From the view of the call model, Ringback and Incoming Alerting are equivalent states. Also, Alerting and Outgoing Alerting are equivalent states.

Trunk Summary and Extension Status screens will show a direction for each call. For a trunk, the call is shown as outgoing (if IP Office initiated the call) and incoming (if the central office or network initiated the call). For an extension, the call is shown as outgoing (if the extension initiated the call) and incoming (if another party initiated the call).

For examples of call sequences that include announcements, see Tracing 108.

2.5.5.6 Callback and Returning Calls

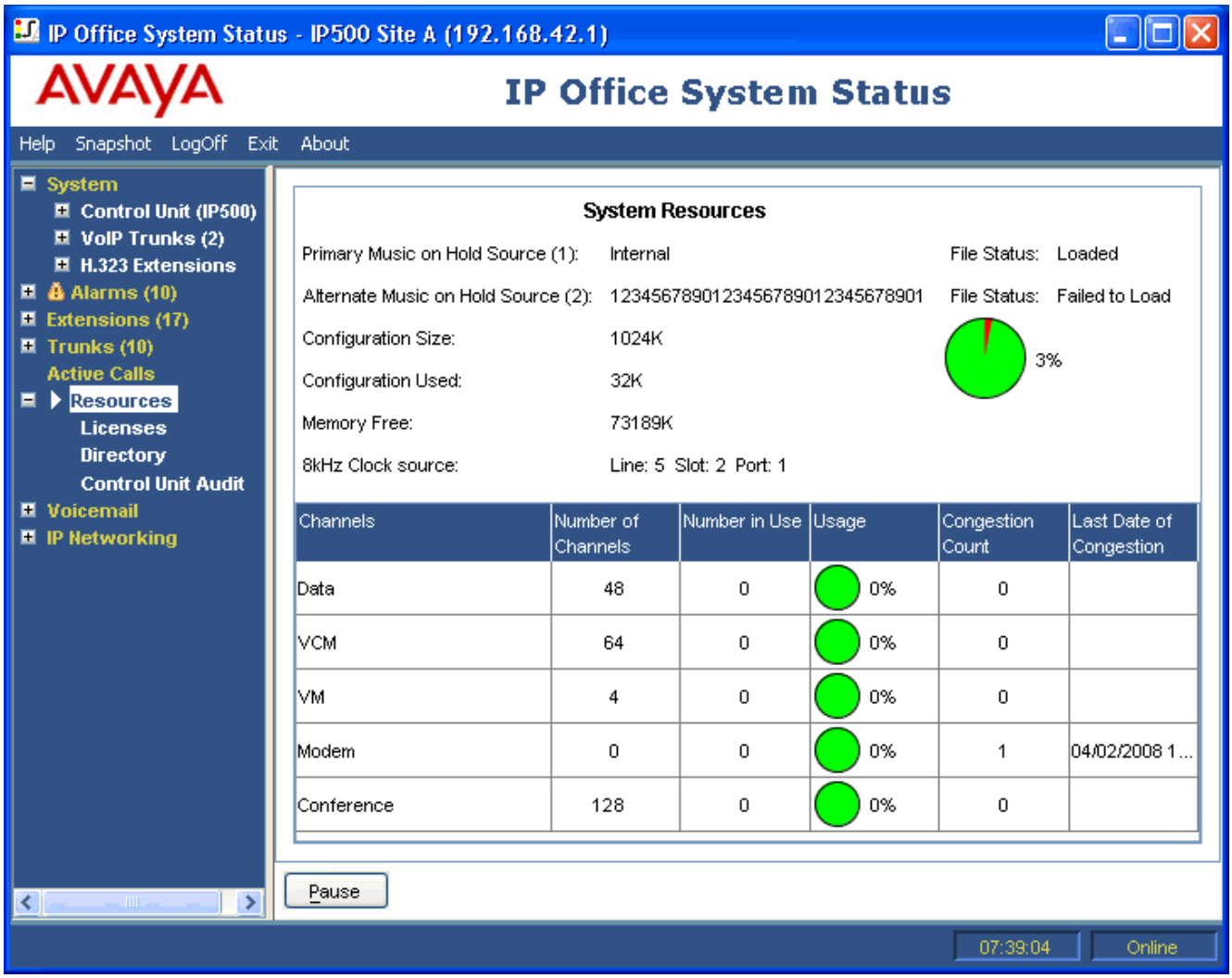
The following table shows what is reported as the originator:

Call Type	Originator
Transfer Return	Transferee
Hold Reminder	The party that was the originator before the hold was initiated.
Park Reminder	The park slot. The reminder is a new call. If the reminded party picks this call up, parked and new calls will combine in the same way as a transfer completion.
Automatic Callback*	The party that requested the callback.
Voicemail Ringback	The party receiving the callback.

* While alerting at the telephone who originated the callback.

2.6 Resources

The **System Resources** screen provides a summary of key resources and their current usage in the system.



Information Displayed

- **Music on Hold Source**
  Music on Hold (MOH) is provided by IP Office as either an internally stored file or an externally connected audio input. For IP Office 4.2+ details of the configured alternate music on hold sources are also shown.
- **Configuration Size**
  The maximum available Kbytes size available for a configuration file. This varies depending on the control unit.
- **Configuration Used**
  The total number of Kbytes that have been used in the configuration file.
- **Memory Free**
  The number of free Kbytes in IP Office.
- **8kHz Clock Source**
  For systems with digital trunks this will indicate the trunk being used as the clock source for the IP Office system. If no clock source has been configured the IP Office will default to using its own clock.
- **Channels Table**
  This table lists details of various resource channels available to be used by the system.
  - **Channels**
    One of the following:
    - **VCM Channels**
      Voice compression channels are used for calls between IP and non-IP devices (trunks and or extensions). For most control units, voice compression channels are provided by the installation of VCM cards.

- **Data Channels**
  Data Channels is used for Remote Access (RAS), Internet Access, and Voicemail sessions. A data channel is an internal signaling resource used whenever a call is made from the IP network to an exchange line (Central Office). For example, four people surfing the Internet will use a single data channel since they all share the same line to the ISP. Two people remotely accessing the Office LAN from home will use two data channels since they have dialed in on separate lines. IP extensions do not use data channels.
- **Modem Channels**
  This is the internal IP400 modem card. The 'private' modem in a Small Office Edition base unit or an ATM4 card is not included in these channels.
- **Conference Channels**
  The number of channels available for conference members (parties) varies with the IP Office control unit type. These channels are used for conference calls and for features such as call intrusion and call recording.
- **VM Channels**
  The number of voicemail channels available and the number in use. For Voicemail Pro, the number available is based on the voicemail licenses installed.

- **Number of Channels**
  The total number of resources available in the system.
- **Number in Use**
  The number of resources that are currently in use.
- **Usage**
  The percentage of the resource currently being used.
- **Congestion Count**
  The total number of times that all of the resources were in use. For example; if there are 4 voicemail channels and there has been an attempt to access a fifth channel, the congestion count will display 1.
- **Last Date of Congestion**
  When a request for a resource has failed.

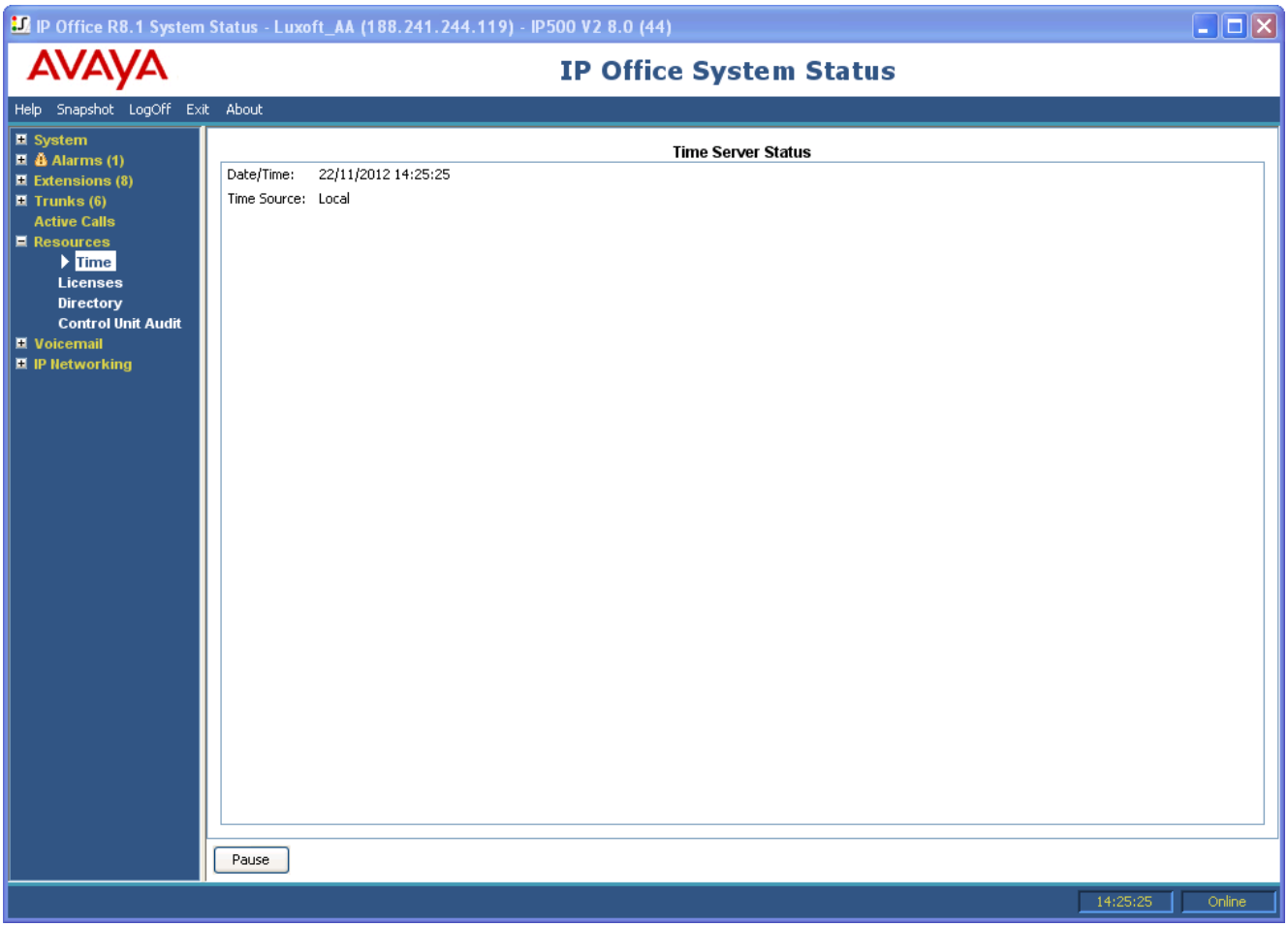
Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.

2.6.1 Time

This screen displays the current date and time set on the system and details about the source the system is using for that time plus any daylight savings settings.



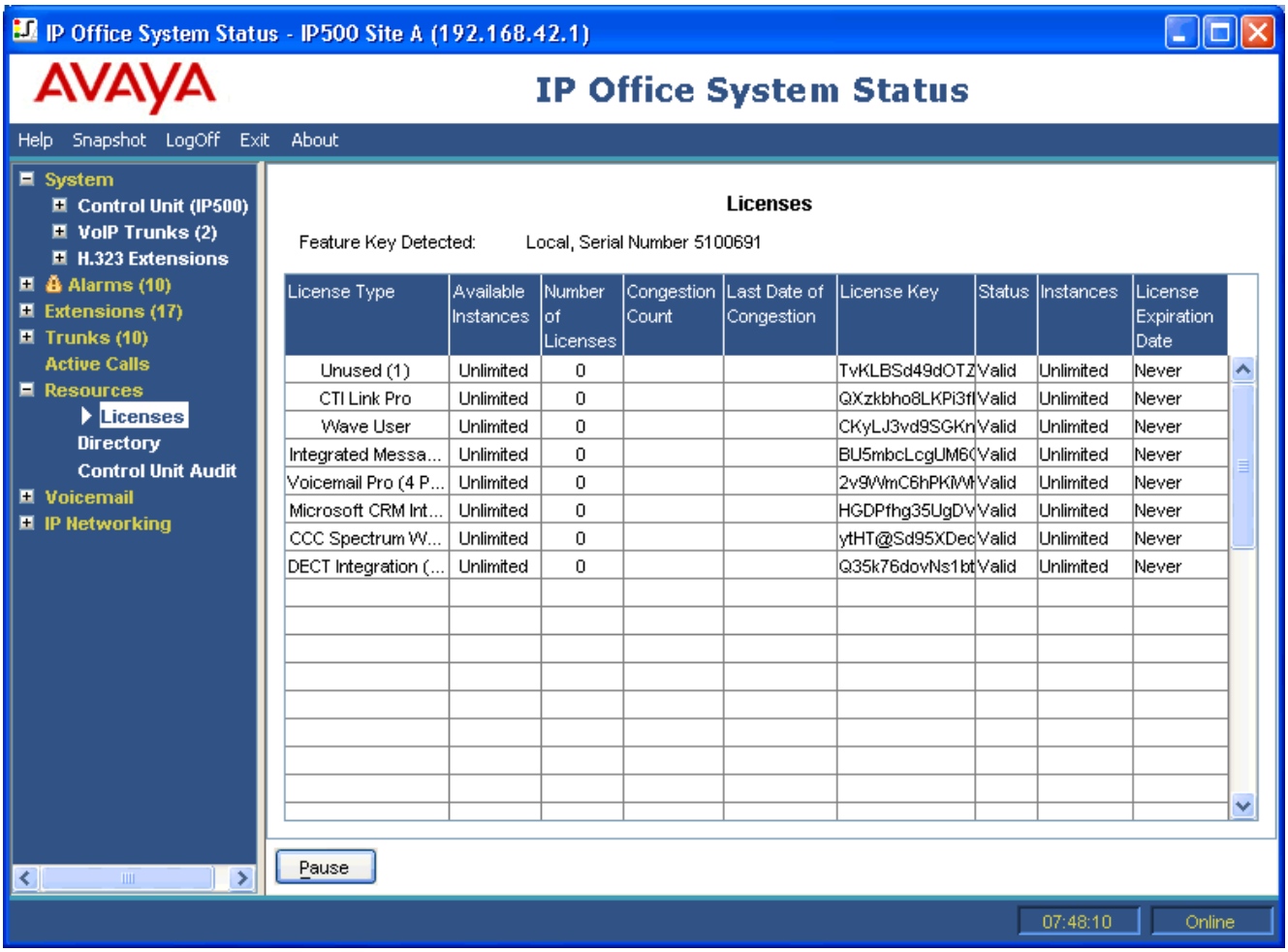
Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.

2.6.2 Licenses

IP Office 4.2+. This screen shows the current installed licenses and the status of those licenses. The type and serial number of the Feature Key Dongle is also shown.



- Note that the consumption of some licenses, that is the difference between and **Available Instances** and **Instances**, is not controlled by the IP Office itself. For example CCC licenses. In those cases the **Available Instances** and congestion events are not know.

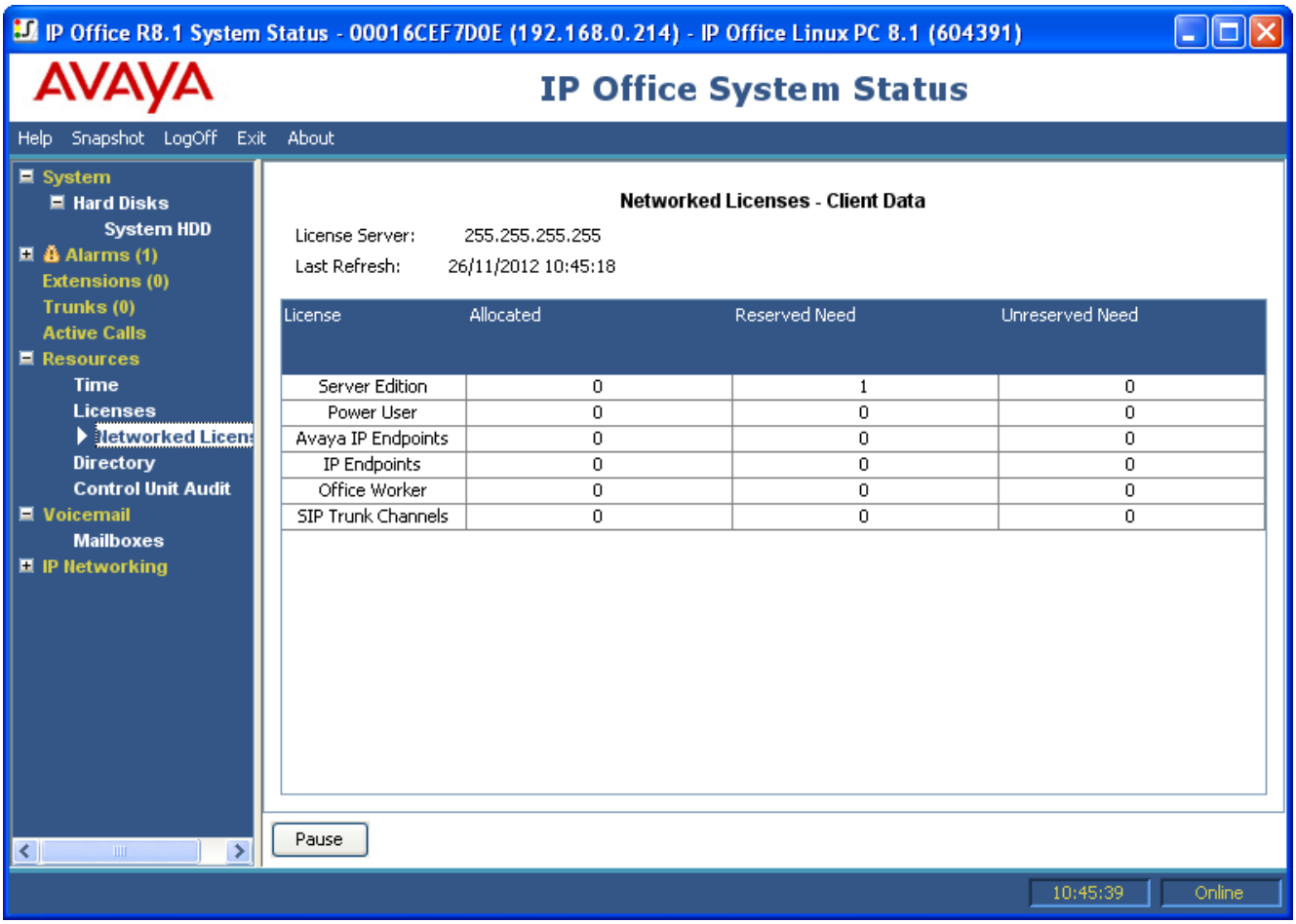
Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.

2.6.3 Networked Licenses

For a system in a Server Edition multi-site network, this screen lists the licenses granted to the system from the network's primary server. This differs from licenses held in the system's own configuration shown on the Licenses 95 screen.



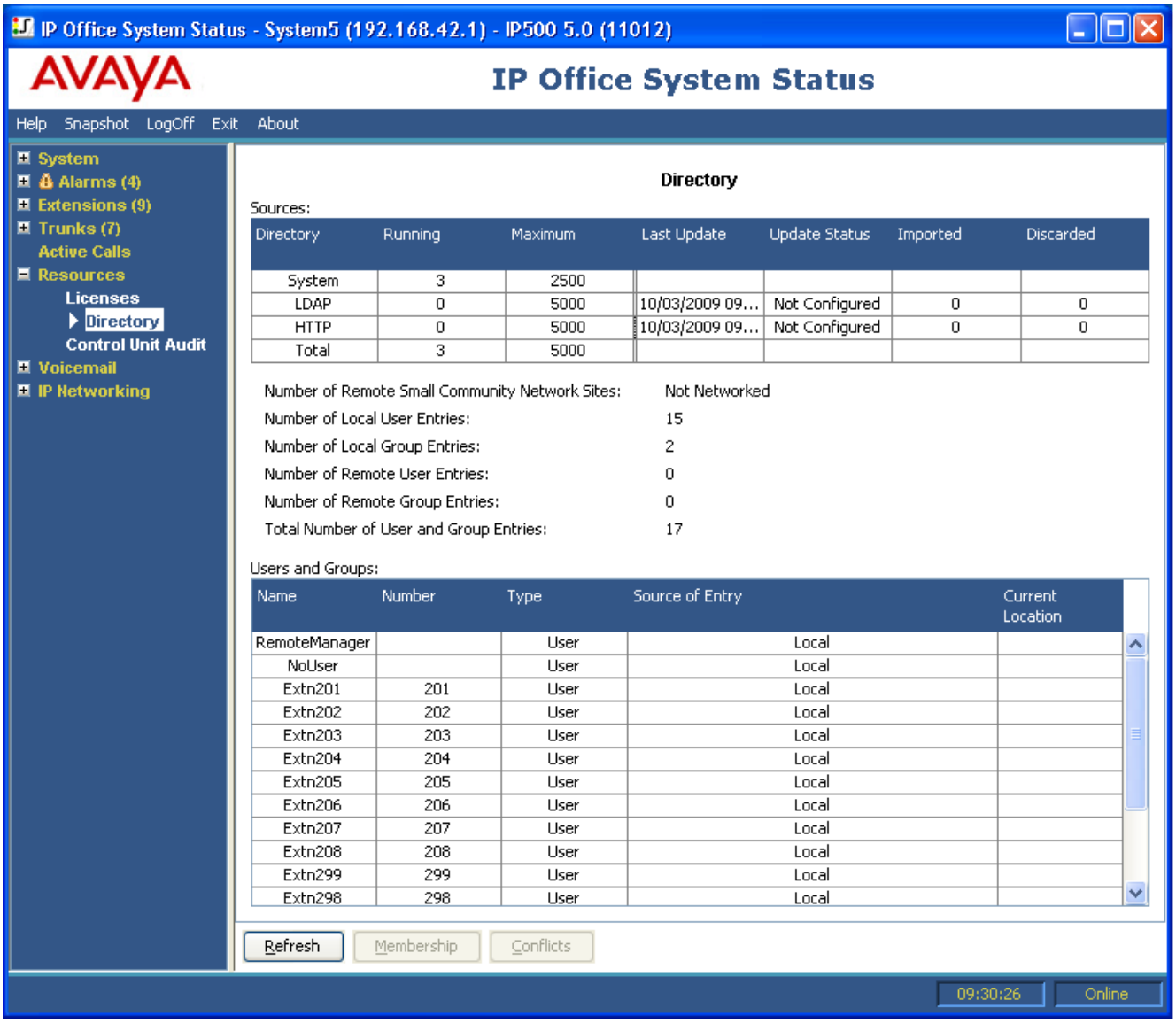
Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.

2.6.4 Directory

This screen shows information about the directory entries held by the system including imported directory entries. Available for IP Office Release 5.0 and higher systems.



Information Displayed

- **Sources**
  The first part is a table indicating the system directory number sources being used by the IP Office.
  - **System**
    Directory entries stored as part of the IP Office configuration. These are entered and edited using IP Office Manager. They can also be edited by a system phone user using a 1608/1616 phone
  - **LDAP**
    Directory entries imported using LDAP from an LDAP server. The IP Office needs to be configured to use LDAP Directory Services and how often to import using LDAP.
  - **HTTP**
    Directory entries imported using HTTP from another IP Office. The IP Office needs to be configured to use HTTP Directory Services and how often to import using HTTP.
  - **Total**
    The total number of current directory entries and the overall system maximum.
- **Running**
  The number of directory entries.
- **Maximum**
  The maximum capacity of such directory records that the system will allow. Note that System source entries have priority over imported LDAP/HTTP entries.
- **Last Update**
  The last time the Update Status was changed. LDAP and HTTP sources only.

- **Update Status**
  The status or result of the last update. LDAP and HTTP sources only.
  - ***Success***
    The last update was successful.
  - ***Success with Overflow***
    The last update was successful but some entries were not imported because the maximum was exceeded.
  - ***Failure***
    The last update attempt was not successful.
  - ***In Progress***
    The IP Office is currently importing records.
  - ***Not Configured***
    The IP Office does not have an import source configured.
- **Imported**
  The number of entries imported during the last successful update. LDAP and HTTP sources only.
- **Discard**
  The number of entries discarded, due to being invalid or duplicate, during the last successful update. Records are discarded if they have a blank name or number, match an existing record or exceed the total capacity of the IP Office system. LDAP and HTTP sources only.

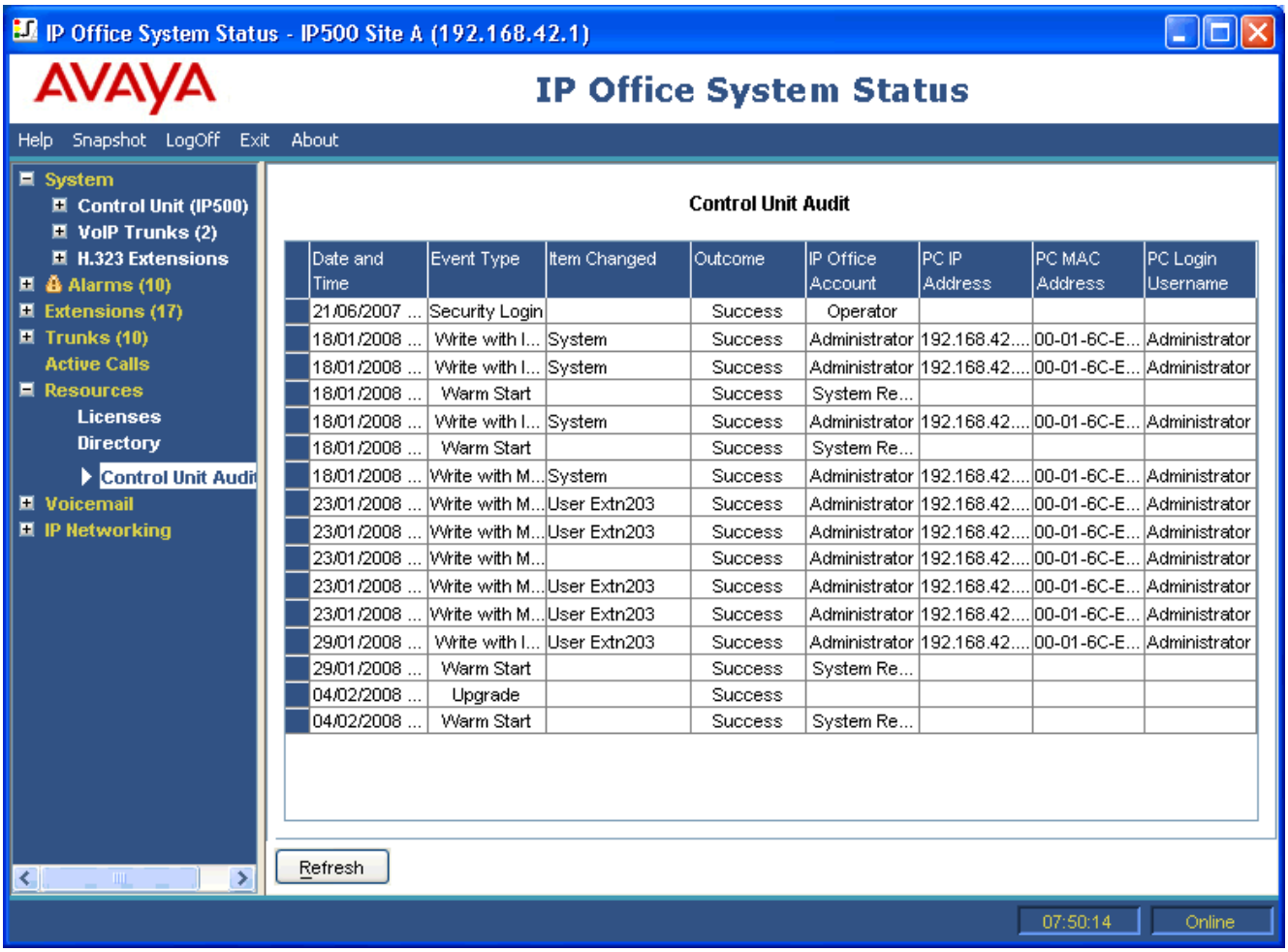
Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.
- **Membership**
  Display the users who are members of the selected hunt group.
- **Conflicts**
  Displays any conflicts with directory entries on other systems if in a multi-site network.

2.6.5 Control Unit Audit

IP Office 4.2+. This screen displays the control unit audit trail. It shows who has accessed the system configuration and the type of actions they have been performing.



Date and Time	Event Type	Item Changed	Outcome	IP Office Account	PC IP Address	PC MAC Address	PC Login Username
21/06/2007 ...	Security Login		Success	Operator			
18/01/2008 ...	Write with I...	System	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
18/01/2008 ...	Write with I...	System	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
18/01/2008 ...	Warm Start		Success	System Re...			
18/01/2008 ...	Write with I...	System	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
18/01/2008 ...	Warm Start		Success	System Re...			
18/01/2008 ...	Write with M...	System	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
23/01/2008 ...	Write with M...	User Extn203	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
23/01/2008 ...	Write with M...	User Extn203	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
23/01/2008 ...	Write with M...		Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
23/01/2008 ...	Write with M...	User Extn203	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
23/01/2008 ...	Write with M...	User Extn203	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
29/01/2008 ...	Write with I...	User Extn203	Success	Administrator	192.168.42....	00-01-6C-E...	Administrator
29/01/2008 ...	Warm Start		Success	System Re...			
04/02/2008 ...	Upgrade		Success				
04/02/2008 ...	Warm Start		Success	System Re...			

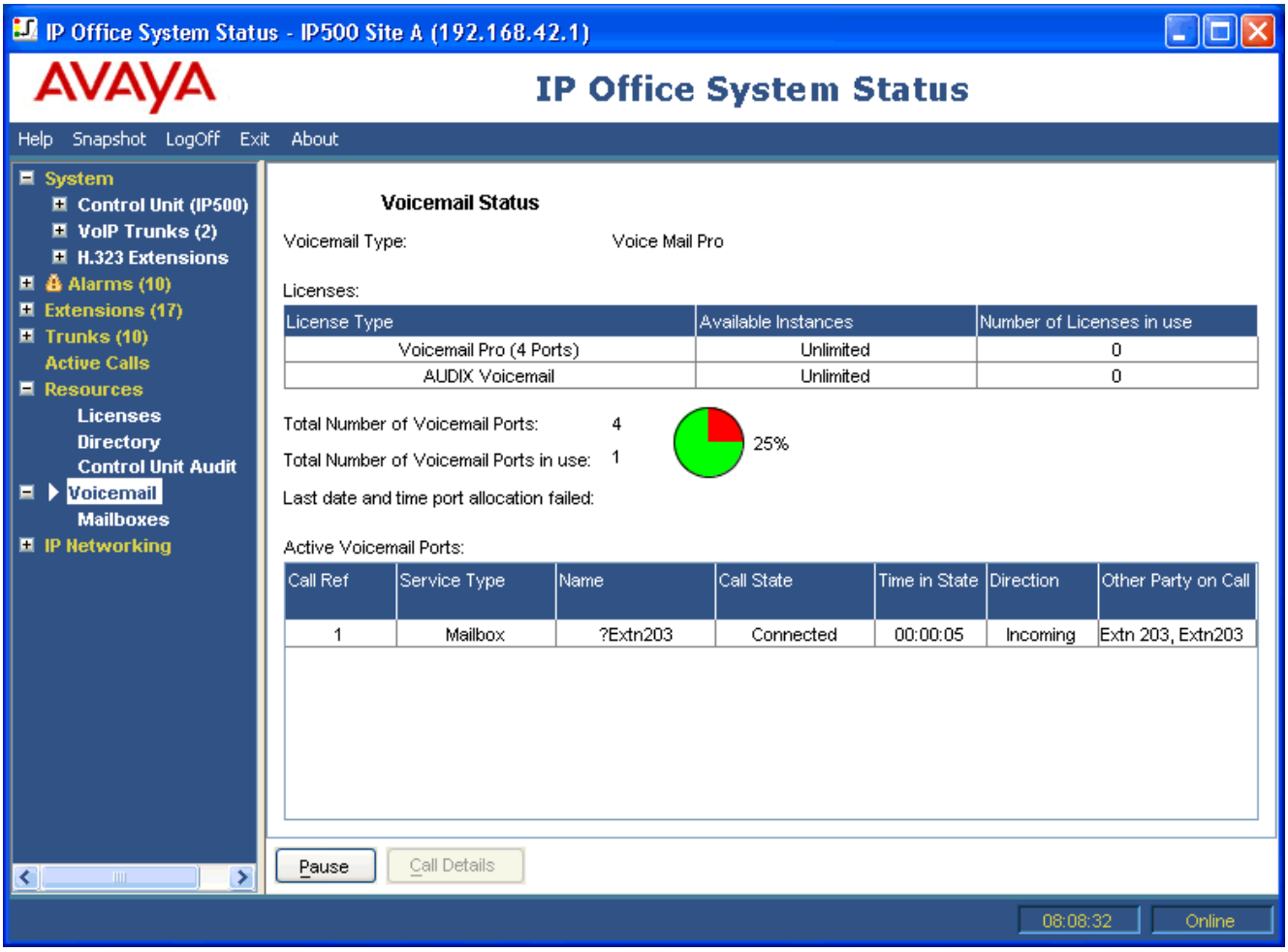
Buttons

The following buttons can appear on this screen:

- **Refresh**
  Updates the screen. This button appears on screens that do not update automatically.

2.7 Voicemail

IP Office 4.2+. This screen displays the status of the voicemail server configured for the IP Office. The details shown will vary according to the type of voicemail server.



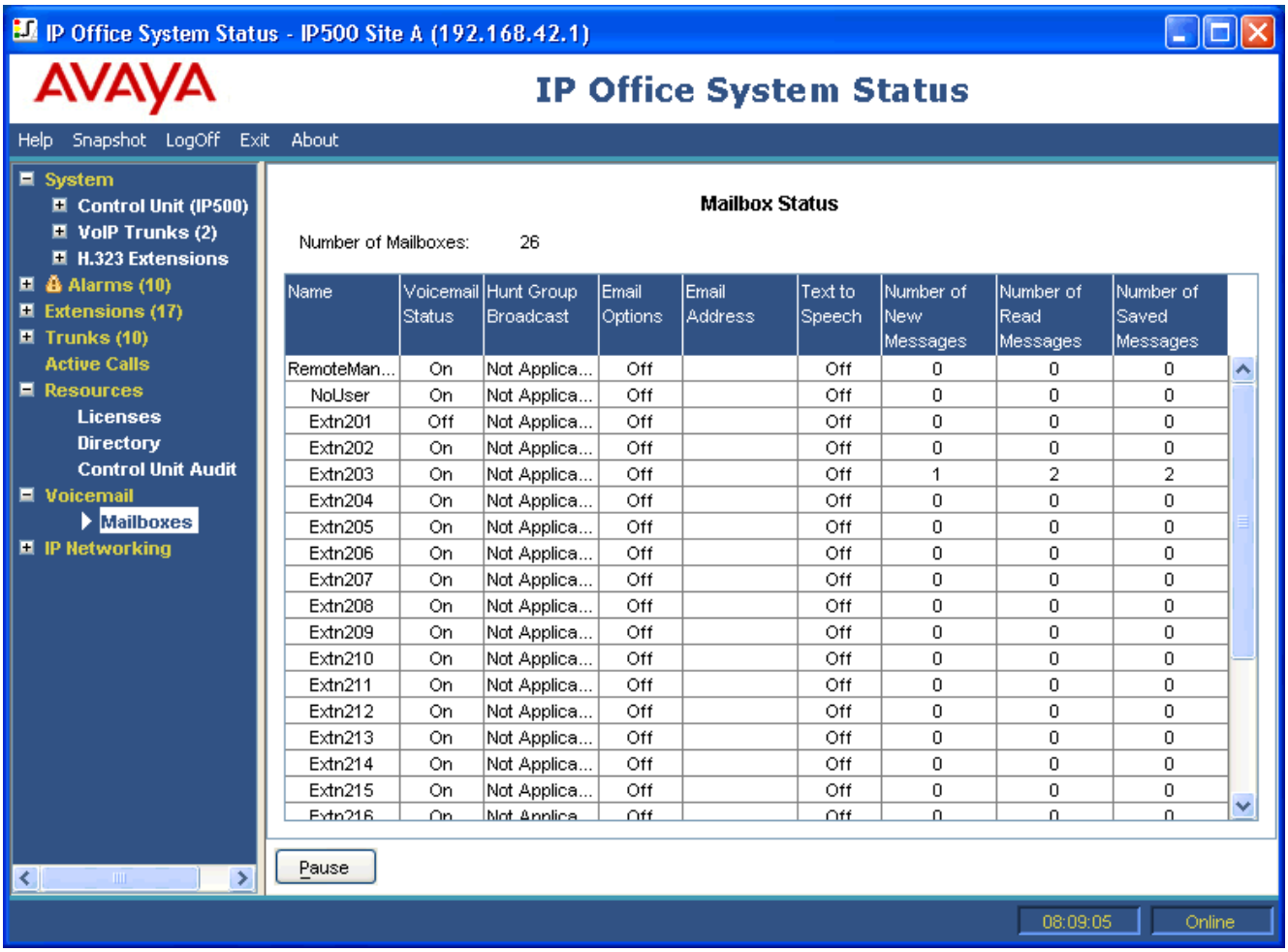
Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Call Details**
  Displays call details 81 for the selected call.

2.7.1 Mailboxes

IP Office 4.2+. This screen displays details of the voicemail mailboxes on the voicemail server. It includes the number of messages and the current status of basic voicemail settings for the associated mailbox user or hunt group.



Buttons

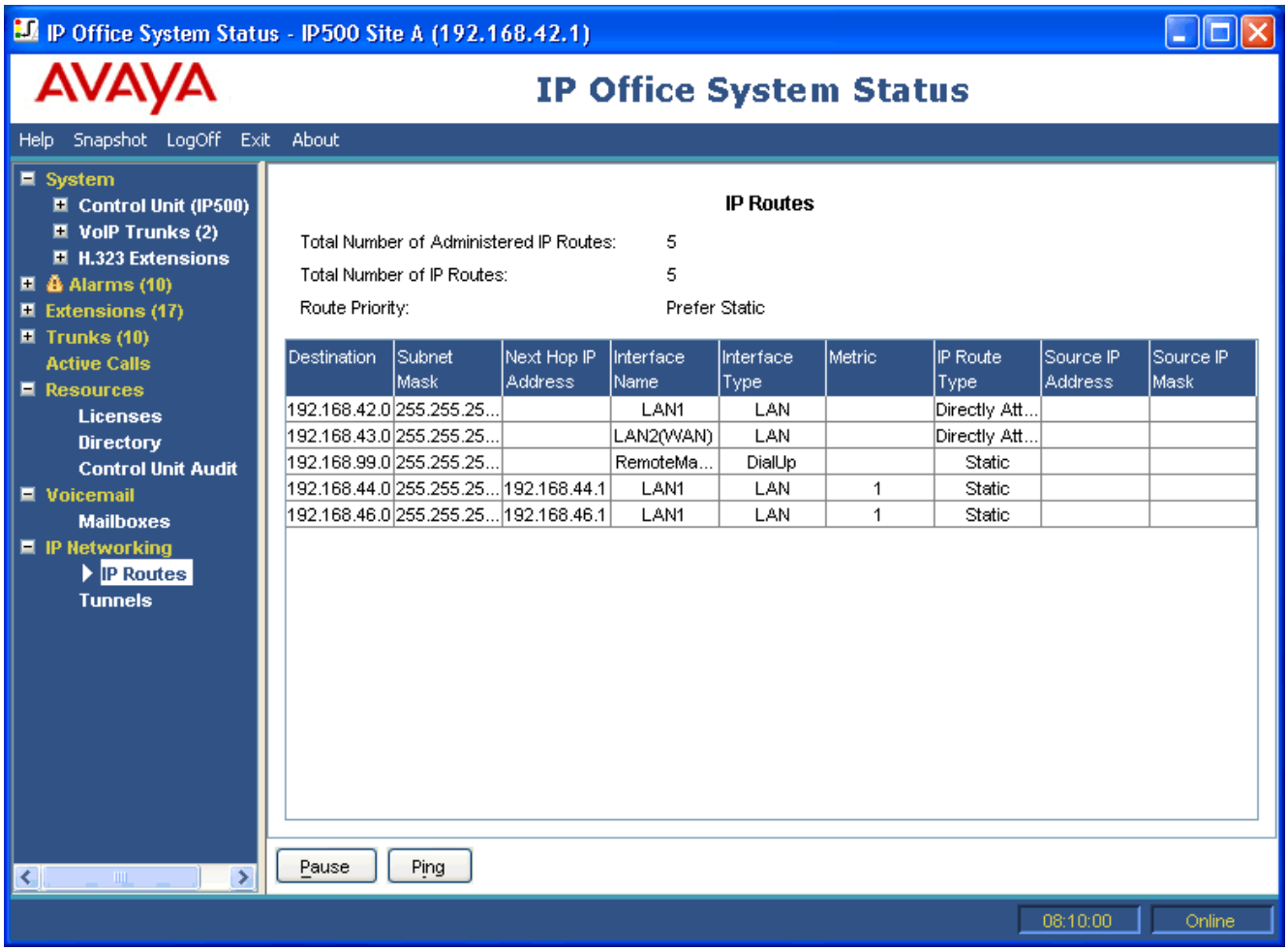
The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.

2.8 IP Networking

2.8.1 IP Routes

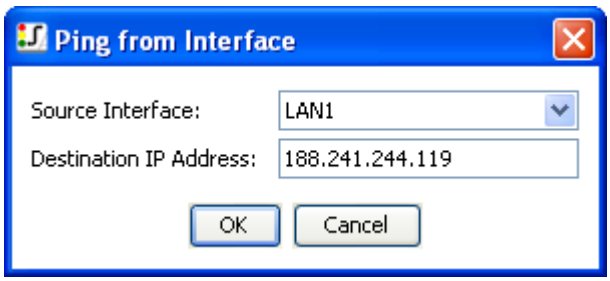
IP Office 4.2+: This screen shows the IP routes known by the IP Office. This includes both configured static routes and routes learnt through RIP if enabled.



Buttons

The following buttons can appear on this screen:

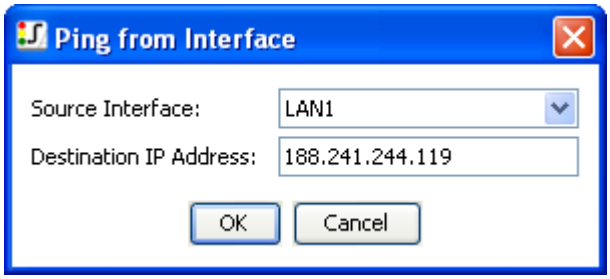
- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Ping**
  Perform a Ping action from the selected interface (system, line or extension) and display the results. See Ping 104.




Ping Results
IP Address
Target: 188.241.244.246
Source (used by IP Office): 188.241.244.119
Packets
Sent: 3
Lost: 0
Round trip times in milliseconds
Minimum: 1
Maximum: 2
Average: 1
OK

2.8.1.1 Ping

The Ping button can be used to perform a Ping action. When selected from the line details screen of an IP line, the ping is performed from the IP Office to the configured destination gateway of the line. When selected from the IP routes screen, Ping is from the selected system interface (***LAN1***, ***LAN2*** or ***Remote Manager***) to the address entered.

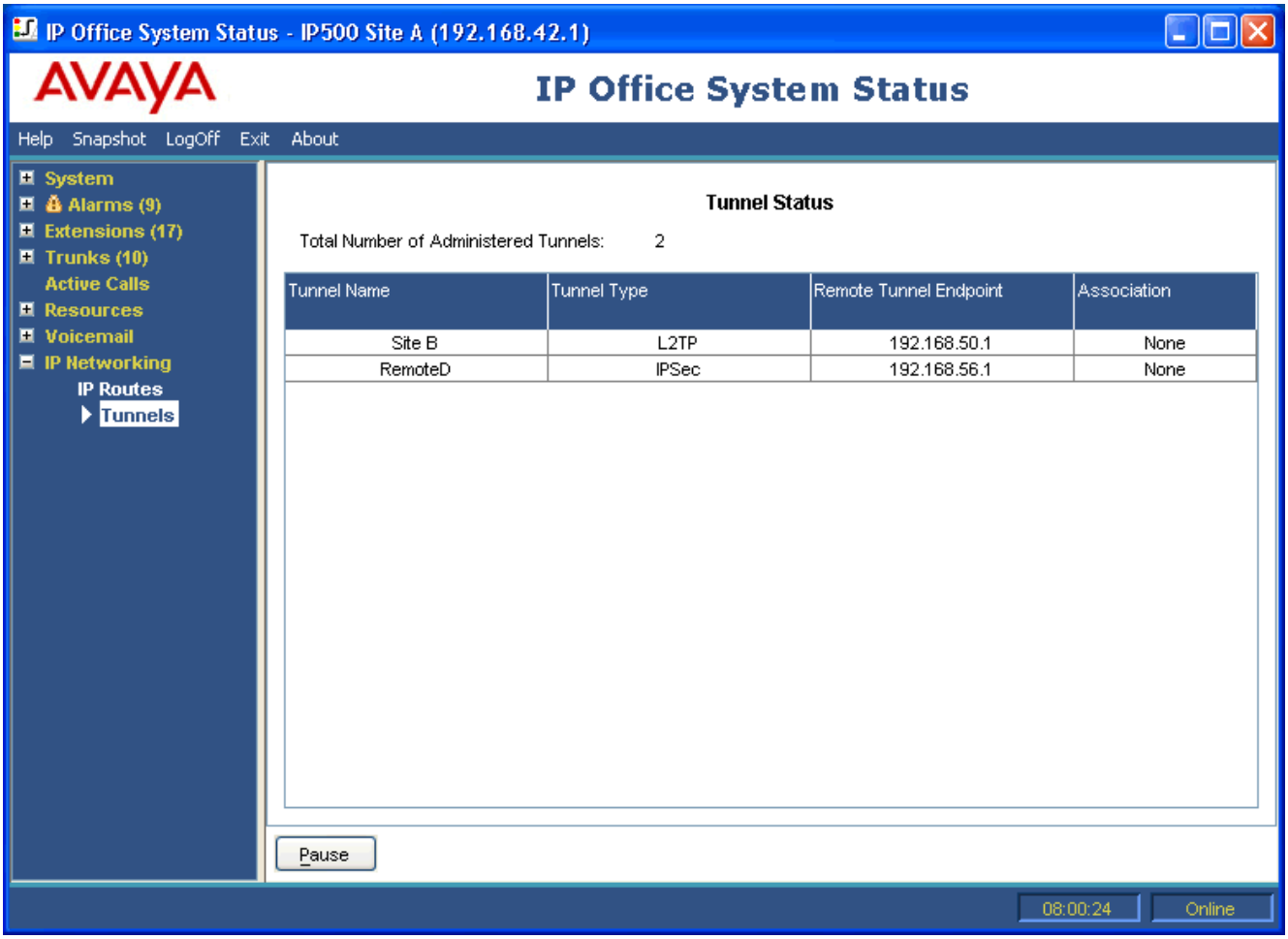


Ping Settings

Ping Results

2.8.2 Tunnels

This screen display details of the VPN tunnels (IPSec and L2TP) configured on the IP Office. Available for IP Office Release 4.2 and higher systems.



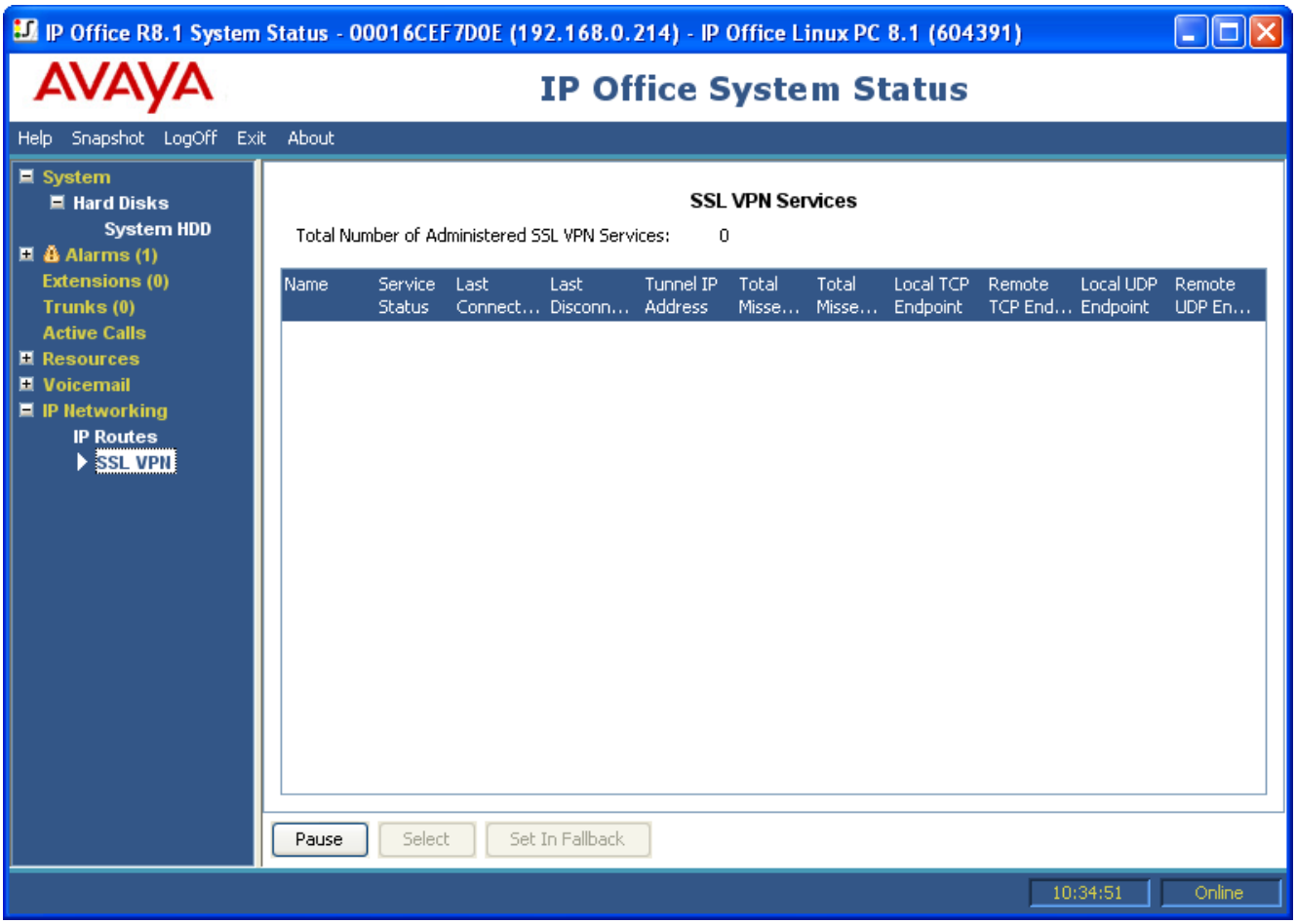
Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.

2.8.3 SSL VPN

This menu lists the SSL VPN services configured on the system. SSL VPN Services are supported by IP500 V2 and Linux based IP Office systems only. IP Office Release 8.1 and higher.



Buttons

The following buttons can appear on this screen:

- **Pause**
  Stops the screen from updating. Applies to screens that are continually updated. The button label and function changes to Resume when the screen is paused.
- **Resume**
  Resumes updating screen in real time. The button label and function changes to Pause when the screen is updating automatically.
- **Select**
  Show details for the currently selected item.
- **Set In Fallback**
  Set the currently selected SSL VPN service into fallback status.
- **Clear In Fallback**
  Clear the currently selected SSL VPN service's fallback status.

Chapter 3.
Tracing

3. Tracing

SSA enables traces to be generated for calls, lines and extensions.

Trace information is presented at the bottom of the screen. The Pause button and scroll bar enable you to view the information whilst the application continues to record new trace events. The Resume button displays all the events recorded when a trace is paused, as well as further new events as they occur.

When a trace is displayed, the option to Print and/or Save As are available. A trace can be saved to file either as a .txt or . csv file. If the trace is paused, only the information currently displayed will be saved and/or printed.

This section provides examples and descriptions of traces generated for calls, lines and extensions.

- If the viewer restarts whilst a trace is being generated and the trunk/channel/extension/buttons being traced are still valid, the viewer retains the trace before loss of connection. A line is added to the trace as follows: [time and date] Connection to the Control Unit restarted. The trace continues to generate.

3.1 Using Traces for Troubleshooting

To diagnose problems with a call, it is generally best to trace the source of the call; e.g. trace the trunk for an incoming call or the extension for an outgoing call. By following this guideline, you will see all trace information from the very start of the call. The initial events often contain the most important diagnostic information. Since a trace also shows events relating to parties that are on the same call as the trunk or extension, a trace from a trunk or extension will allow you to see the whole history of the call.

3.2 Call Traces

You can trace a call from the Call Details screen. The trace of a call will show changes of state for that call and events relating to both ends of the call. For example; it will indicate if a button is pressed on an extension that is on the call or if a protocol message is sent or received for a trunk channel that is on the call. These events will be shown for as long as the extension/trunk is associated with the call. For example; if one extension transfers a call to another, you will see the transfer being carried out by the first extension; events relating to the second extension will then be shown.

3.3 Extension Traces

You can trace all or any selection of appearance buttons on an extension. For extensions without appearance buttons, you can trace all or any calls currently associated with the extension.

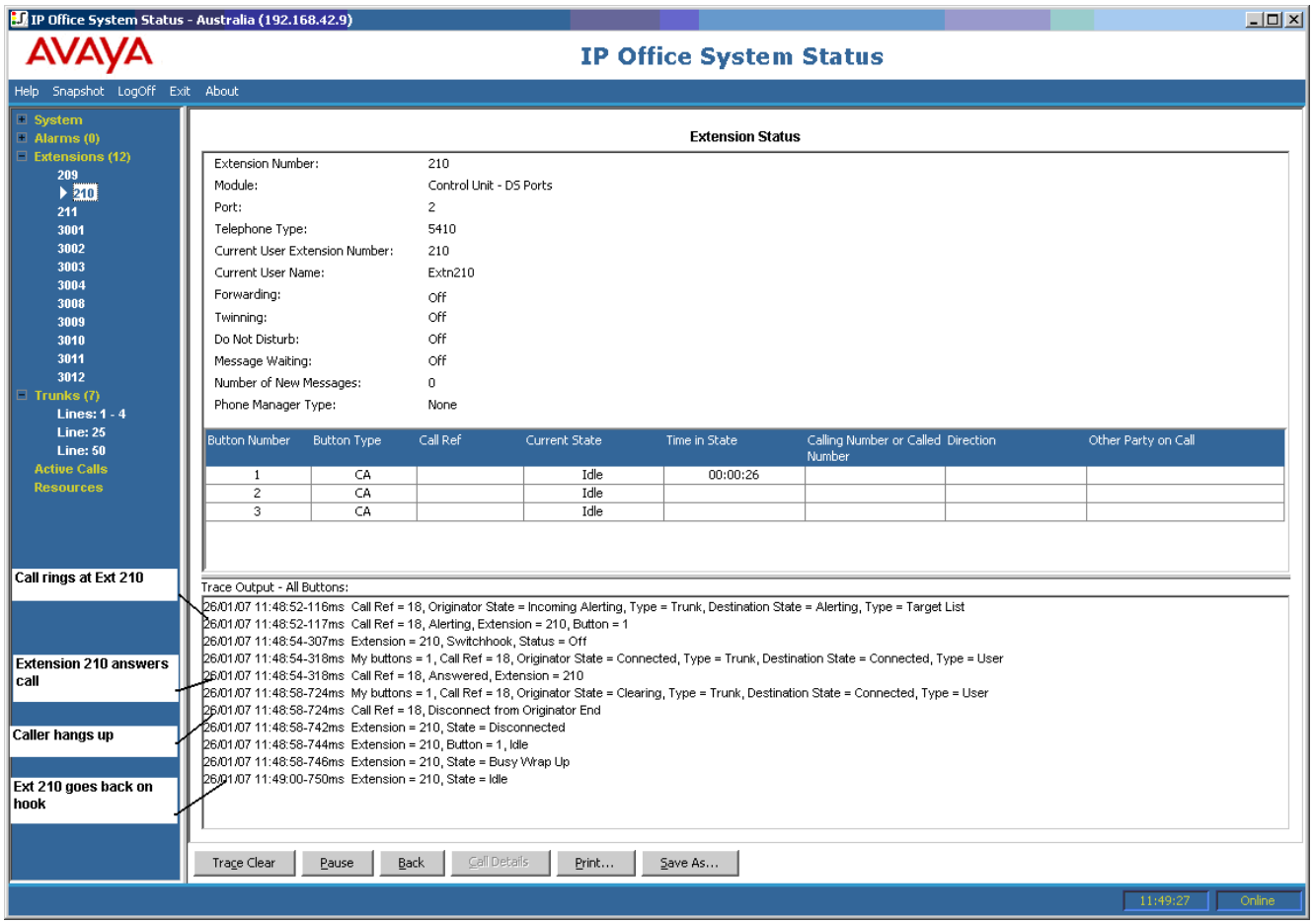
The trace for an extension will show events relating to that extension (e.g. button presses) and traces of all calls associated with the selected buttons, for as long as they are associated.

The trace information for a call which is associated with an extension button will show the same information as for a call traced from the Call Details screen. In other words, it will show changes of state for that call and events relating to both ends of the call.

3.3.1 Incoming Outside Call

Disconnected by Outside Caller

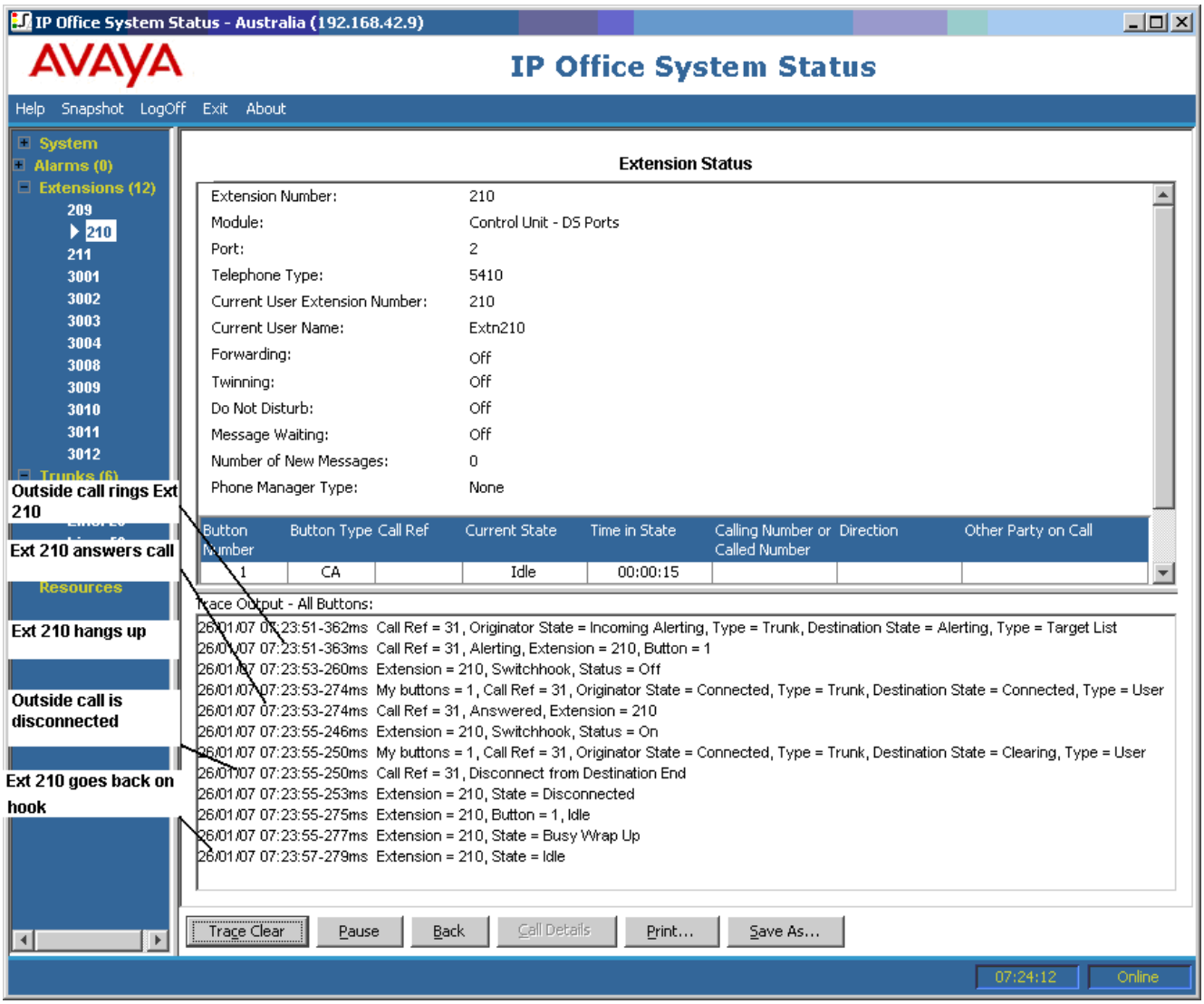
The following example details an incoming call that has been answered and then dropped by the outside caller:



1. The outside call rings at extension 210.
2. Extension 210 answers the call.
3. The outside call (originator of the call) hangs up.
4. Extension 210 goes back on hook.

Disconnected by IP Office User

The following example details an incoming call that has been dropped by extension 210:

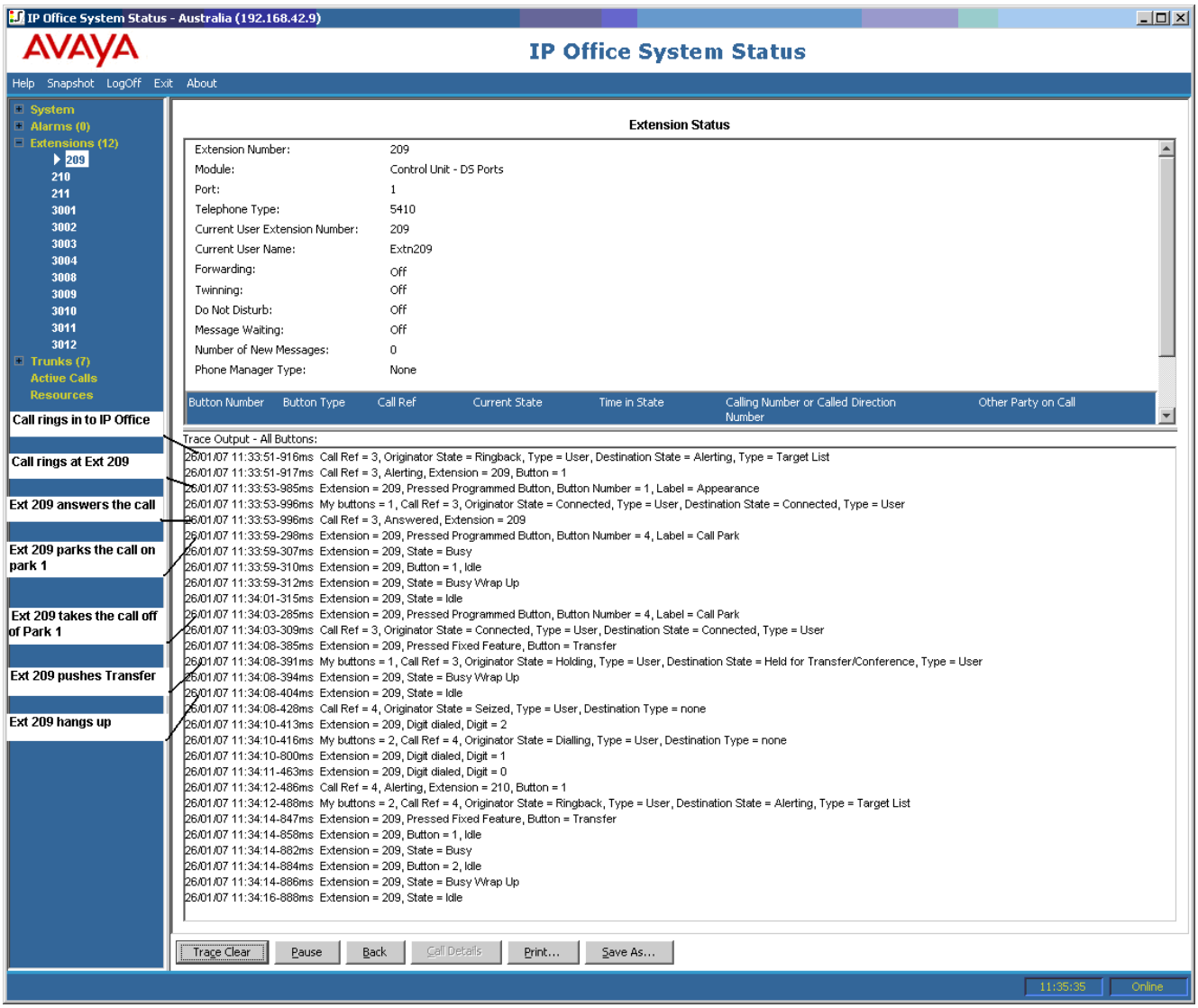


1. The outside call (originator) rings at extension 210.
2. Extension 210 (destination end) answers the call.
3. Extension 210 hangs up.
4. The outside call is disconnected.
5. Extension 210 goes back on hook.

3.3.2 Extension Button Selection

SSA is useful in tracing buttons that are pressed at a particular extension.

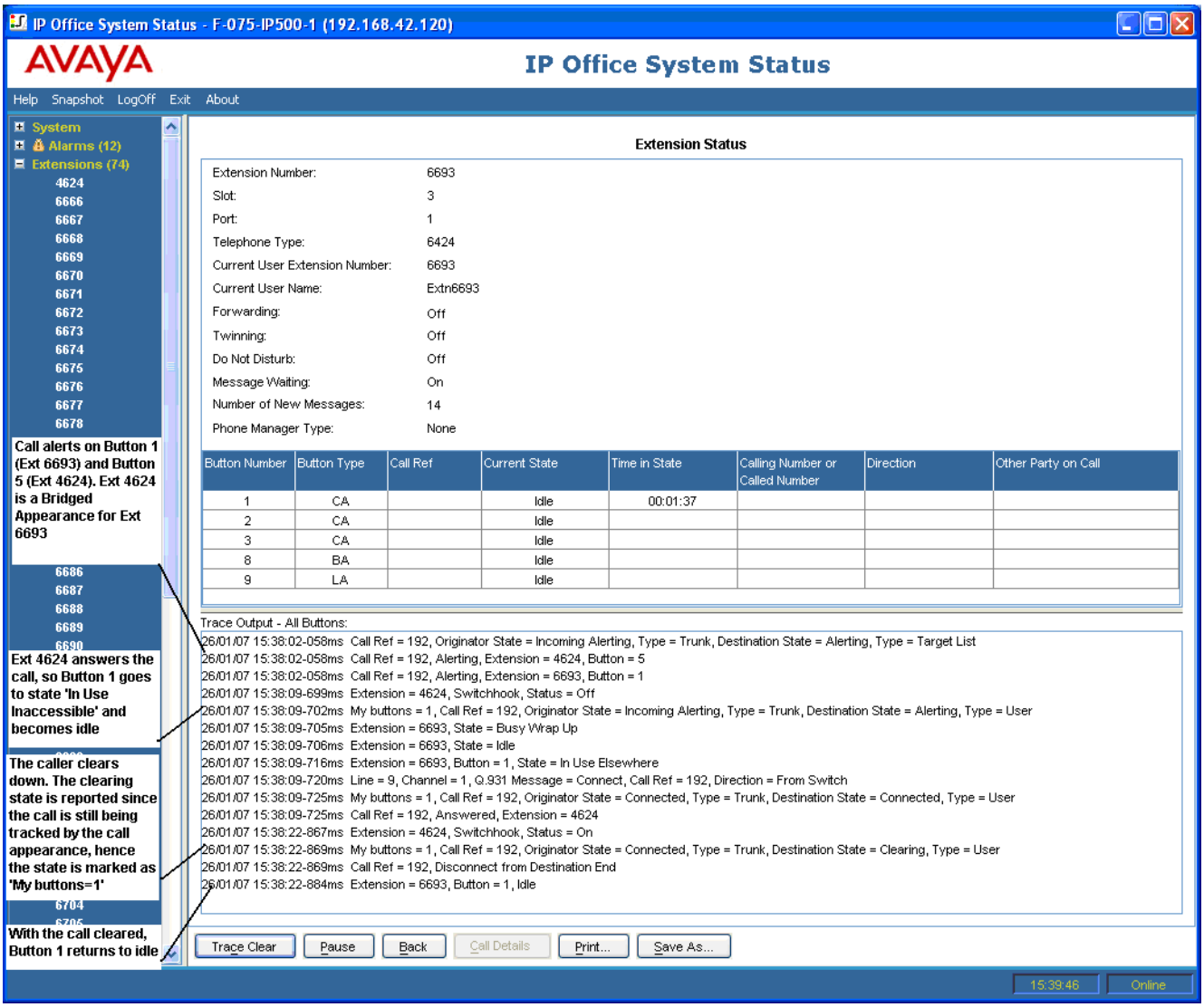
The following example details a trace of button activity at an extension:



1. A call rings at extension 209.
2. Extension 209 answers by pressing a call appearance.
3. Extension 209 parks the call on Park 1.
4. Extension 209 takes the call off Park 1.
5. Extension 209 selects the Transfer button.
6. Extension 209 dials extension 210 and selects the Transfer button again.
7. Extension 209 hangs up.

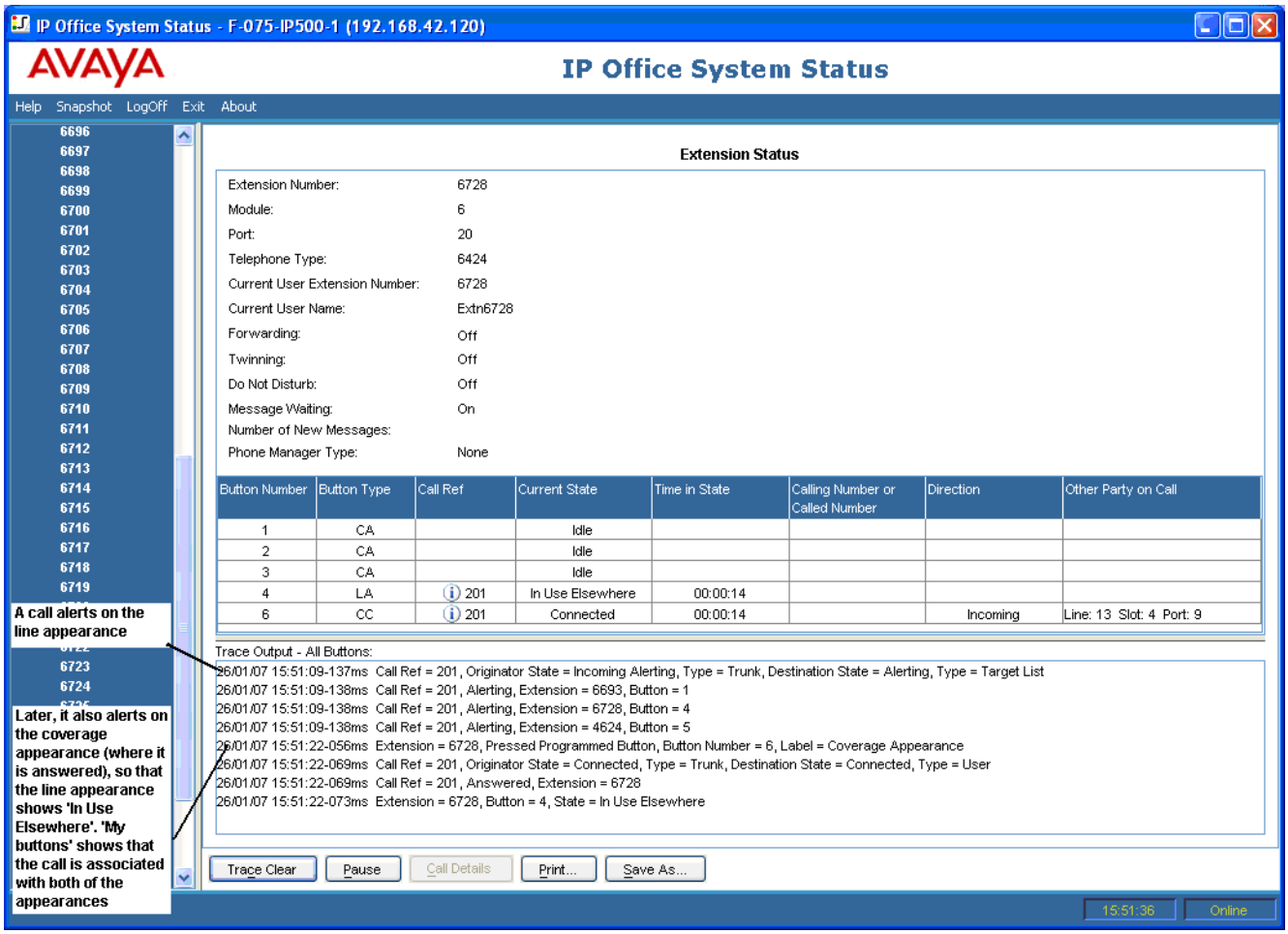
Many trace events relating to an extension that has appearance buttons, will indicate a button number against the event. When troubleshooting, this allows you to understand why, for example; a call alerted on a particular extension.

If you are tracing from the Extension Status screen, you will also see My buttons marked against call state changes. This allows you to understand why this call is being reported in the trace:



In some cases, a call may alert on more than one button on the same extension. For example; the extension might have a line appearance for the line originating the call and a coverage appearance for the destination of the call. In this case, only the first alerting button will be shown.

The states of all the buttons on the extension can be examined in the top half of the Extension Status screen.



3.4 Trunk Traces

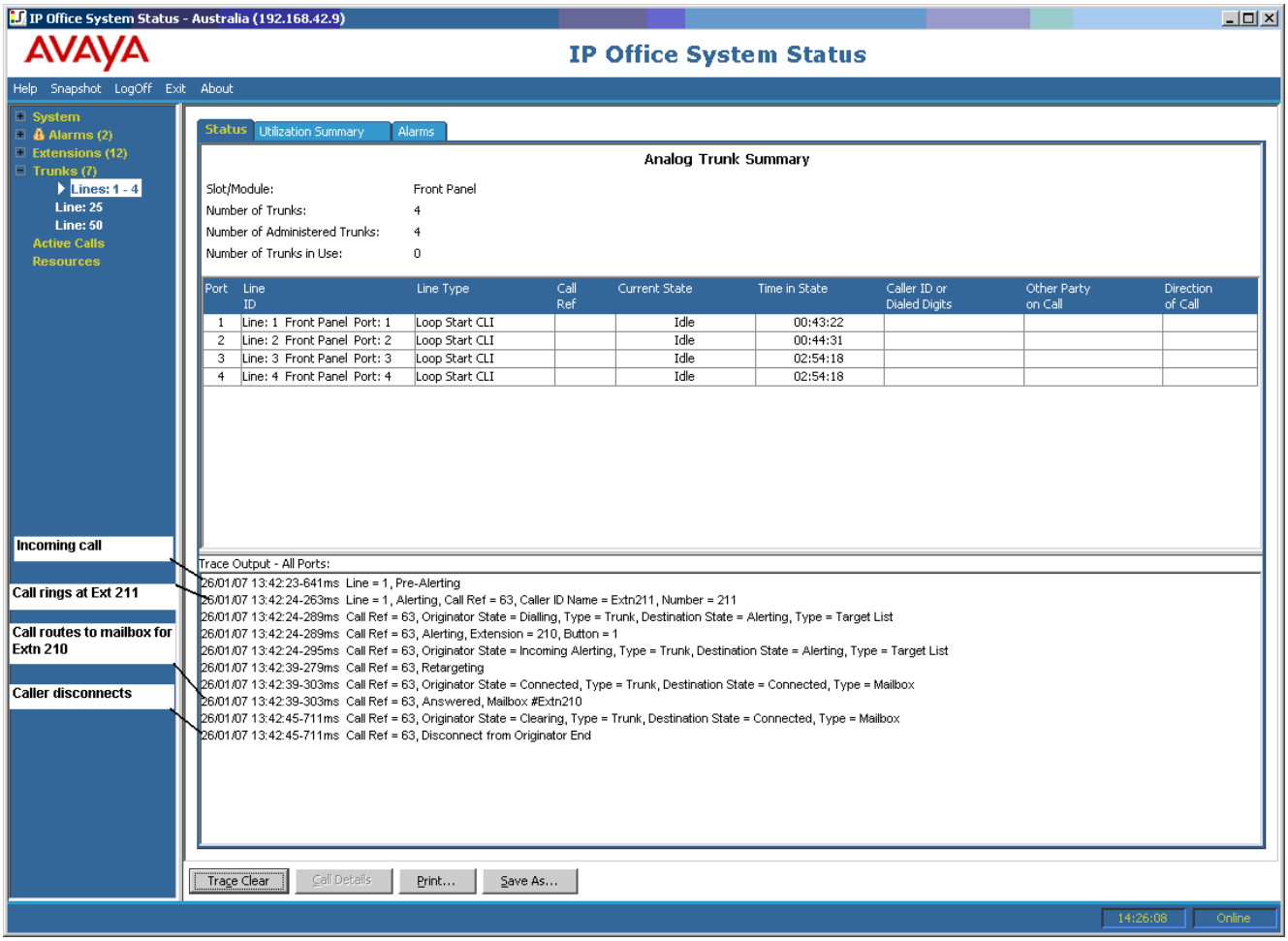
You can trace all or any selection of channels on a trunk. The trace will show events relating to these channels (such as protocol messages), plus traces of all calls associated with these channels, for as long as they are associated.

The trace information for a call which is associated with a trunk channel will show the same information as a call traced from the Call Details screen. In other words, it will show changes of state for that call, plus events relating to both ends of the call.

In some territories, a call can be held at the central office rather than IP Office. In such cases, the call stops being associated with a particular channel; it may then be un-held and become associated with the same or a different channel. If such a call is initially associated with a trunk channel that is being traced, it will continue to be shown in the trace for as long as it is associated with the trunk, even if it is re-associated with a different channel or is associated with no channel at all.

3.4.1 Tracing Incoming Calls on Analog Lines

SSA can be used to troubleshoot calls that are being disconnected. The following example shows how SSA traces an incoming call which rings at an extension and then transfers to voicemail:

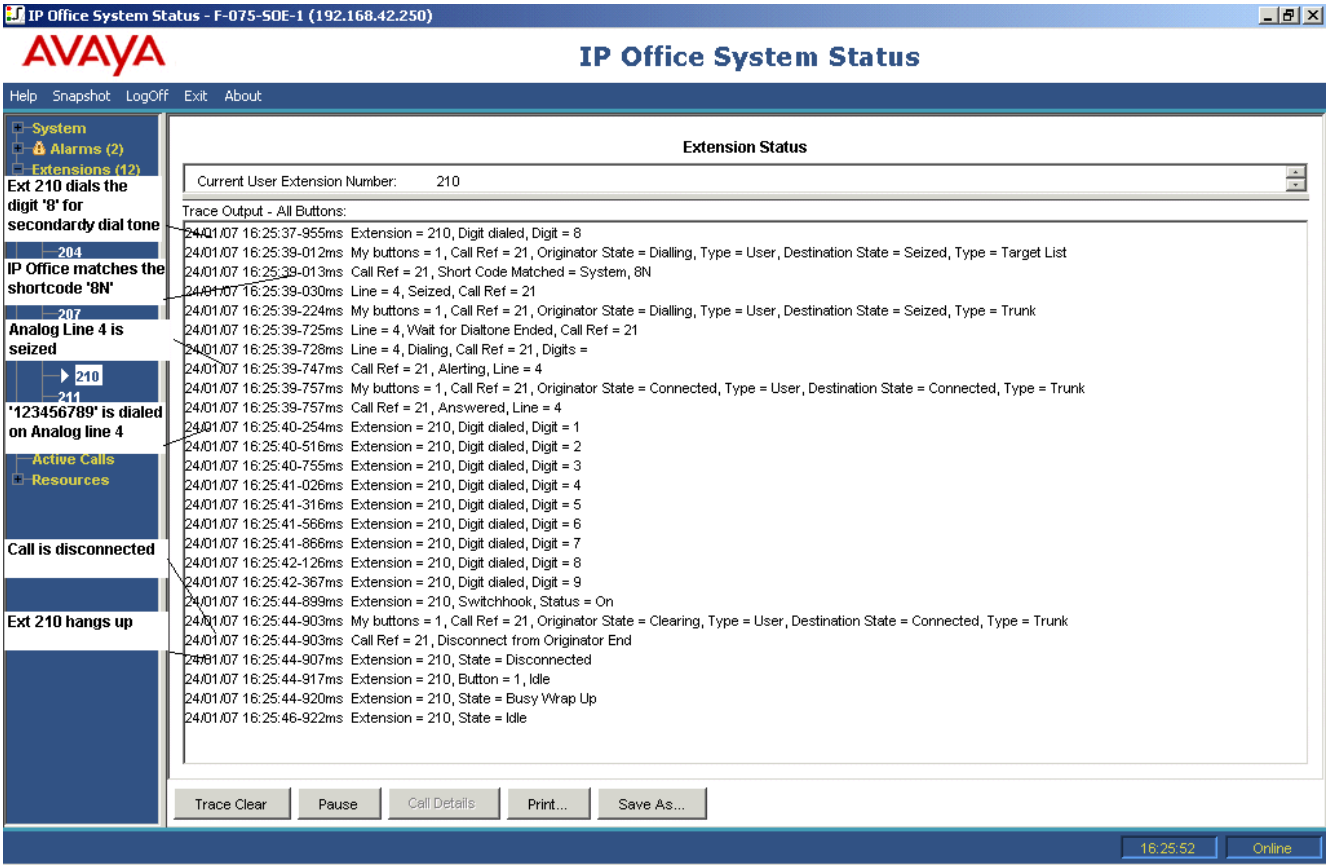


1. The call rings in to IP Office.
2. The call is assigned a Call Ref of 63.
3. The call rings at extension 211.
4. The call is redirected to the user's voicemail box.
5. The call is then disconnected by the outside caller (originator) of the call.

3.4.2 Tracing Outgoing Call

3.4.2.1 Call Disconnected by the IP Office User

Call Disconnected by the IP Office User. The following example shows an extension dialling out on an analog trunk:



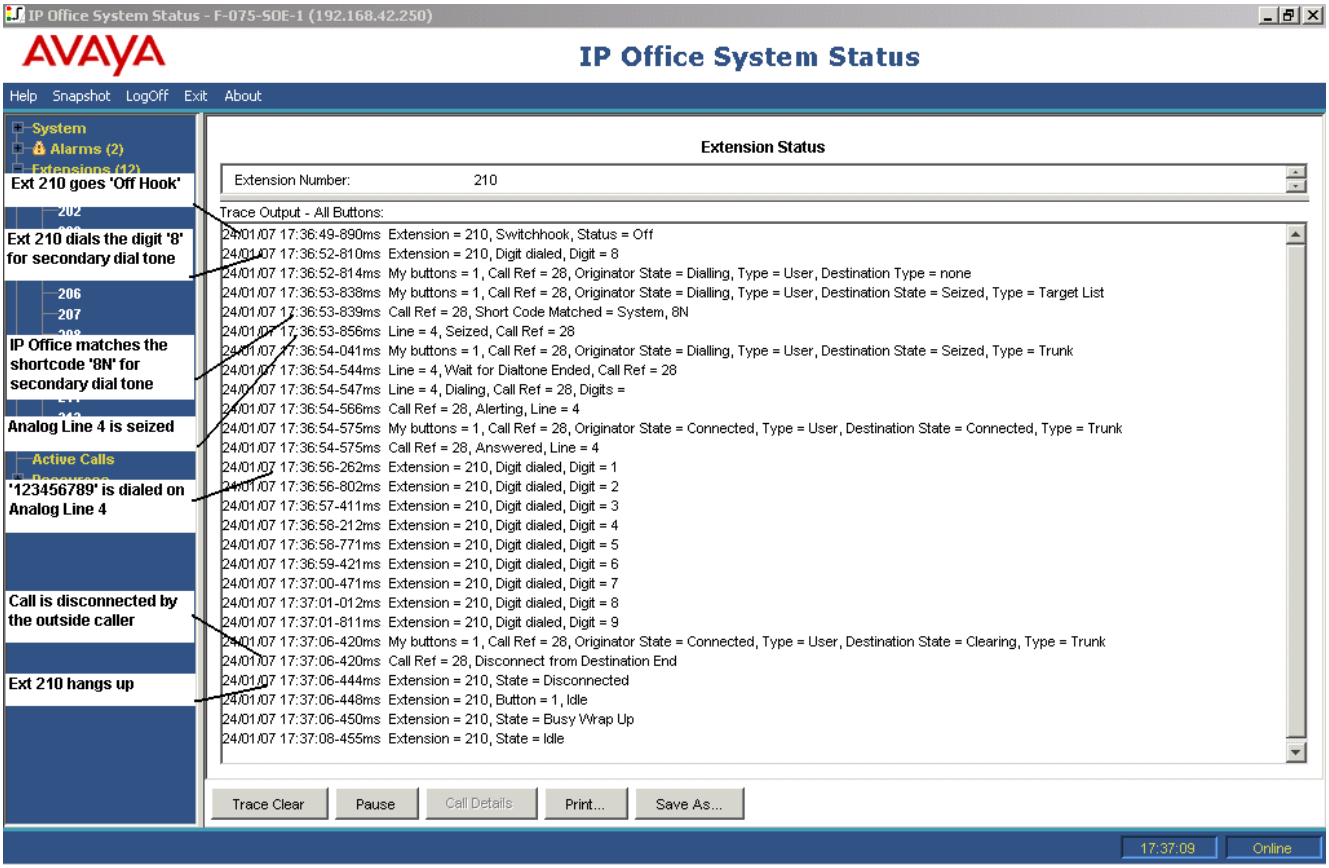
1. Extension 210 dials **8123456789**.
2. The trace shows **Extension = 210, Digit dialed, digit = 8.**
3. IP Office matches the dialed 8, to the system short code 8N.
4. The trace shows that the analog line 4 is seized and **123456789** is dialed on the line.
5. The trace shows that extension 210 goes back on hook.
6. The call is then disconnected by IP Office (Originator).

Notes

- Analog lines will go directly from a 'seized' state to a 'connected' state, since the line provides no call progress signalling to IP Office.
- The trace will not show the digits dialled on an analog trunk after short code matching, if the pause between digits dialled exceeds an 'inter-digit' timeout.

3.4.2.2 Call Disconnected by Outside Caller

This type of trace is useful when customer report calls are being disconnected. The following example describes an outgoing call on an analog line, where the call is disconnected by an outside caller:



1. Extension 210 dials **8123456789**.
2. The trace shows **Extension = 210, Digit dialed, digit = 8**.
3. IP Office matches the dialed 8, to the system shortcode 8N.
4. The trace shows that the analog line 4 is seized and **123456789** is dialed on the line.
5. The trace shows that the call is disconnected by the outside caller (Destination End).
6. Extension 210 is disconnected.

Notes

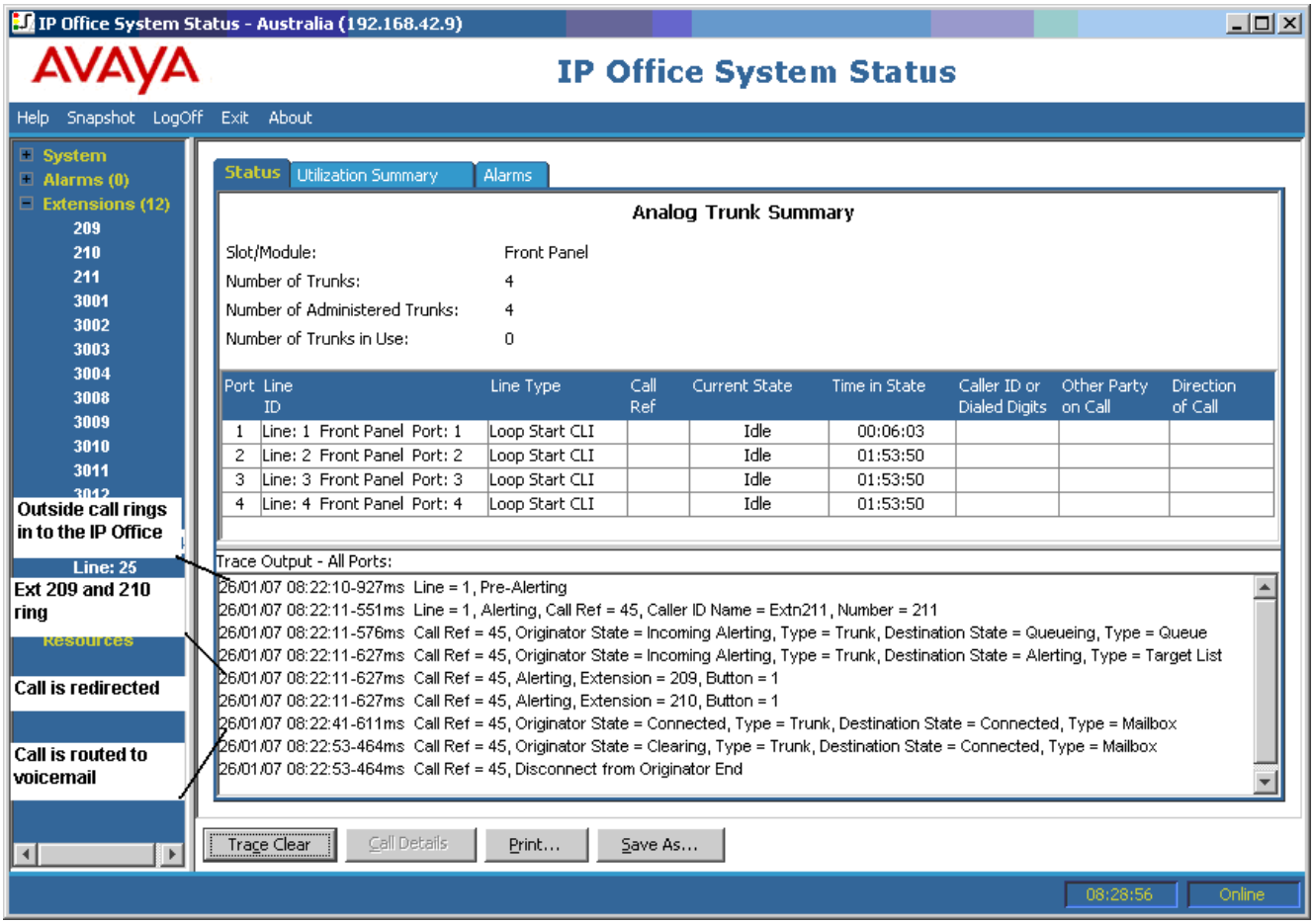
- Extension 210 is the 'Originator' of the call, the extension dialed out and the outside party is the 'Destination End'.
- The trace does not display what occurs to digits collected after extension 210 dials 8.
- The trace does not display calls answered on analog lines.

3.5 Hunt Group

The trace examples in this section, show which extensions are ringing but not the call being delivered to the hunt group 'Main'. To view details on the call (including the name of the targeted hunt group), see Call Details 81.

3.5.1 Hunt Group Calls Sent to Voicemail

The following example details a call received on IP Office and re-directed to voicemail:

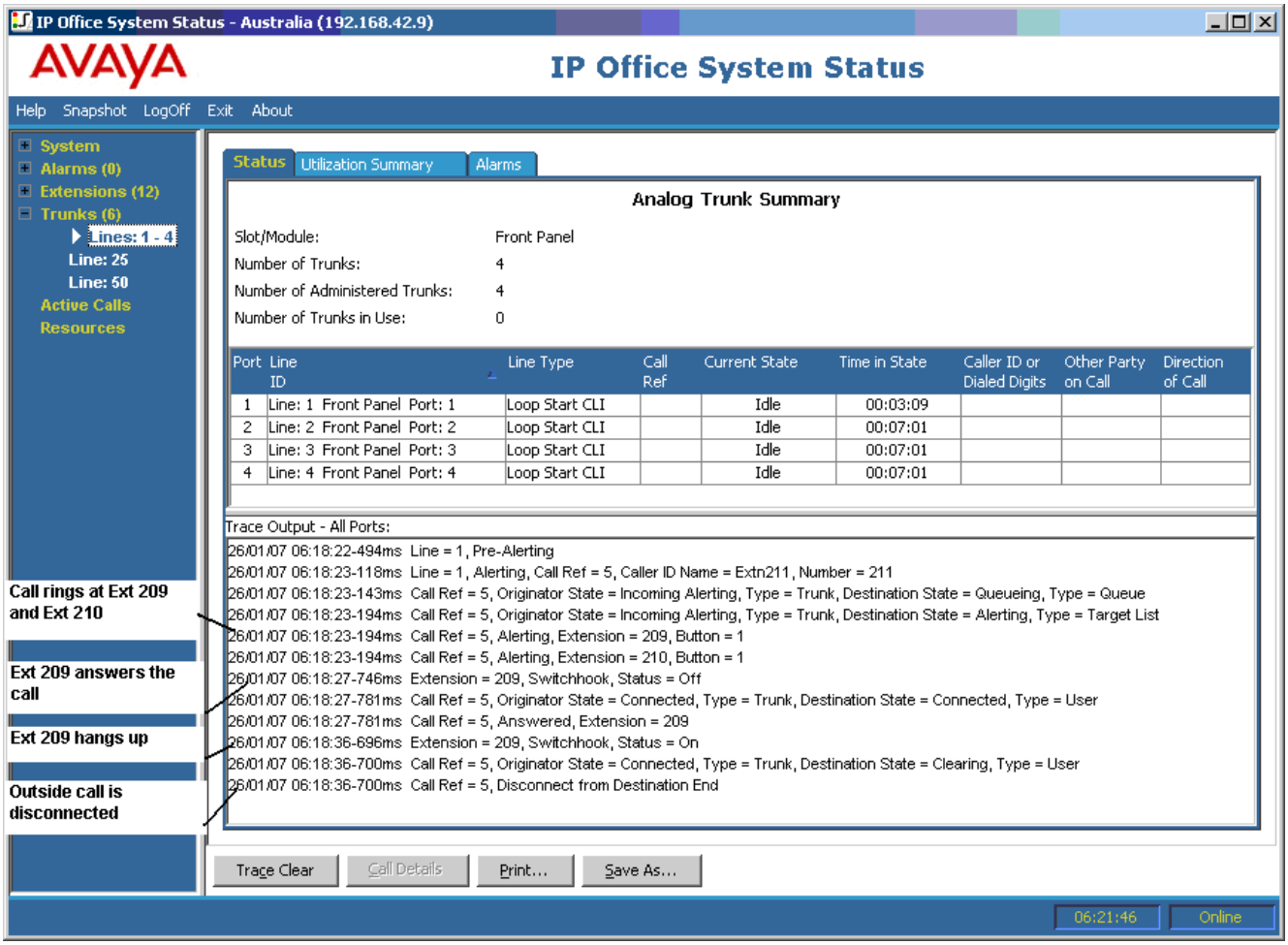


Hunt group calls sent to voicemail after ringing hunt group members:

1. An outside call is received on IP Office.
2. The call rings at extension 209 and extension 210.
3. The call is re-directed and answered by voicemail.

3.5.2 Answered Hunt Group Call

The following example details a call received on IP Office and answered by a hunt group member:

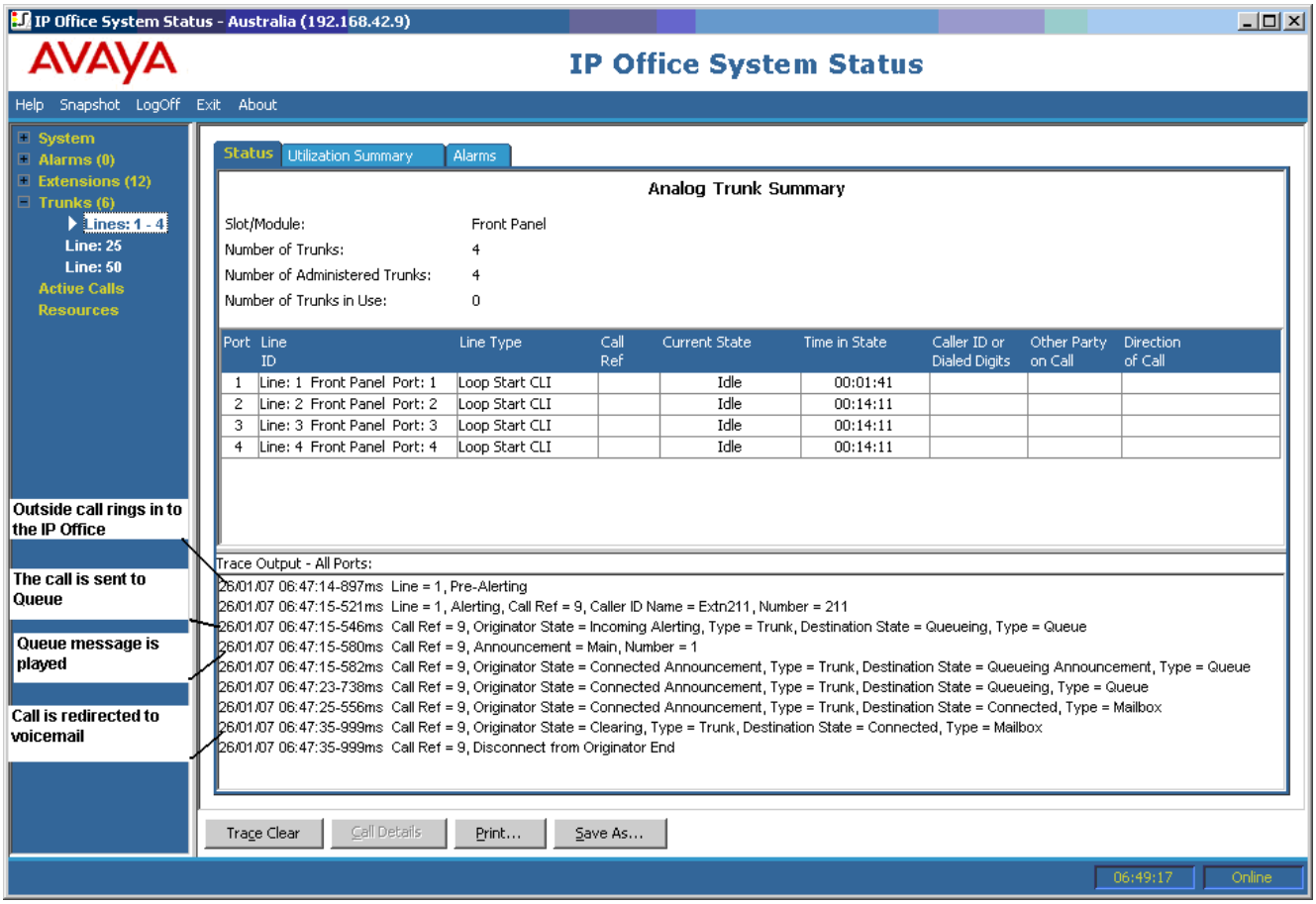


Hunt group calls being answered by hunt group members:

1. An outside call (originator) rings at extension 209 and extension 210.
2. Extension 209 (destination end) answers the call.
3. Extension 209 hangs up the call.
4. The outside caller is disconnected.

3.5.3 Hunt Group Queued Call Sent to Voicemail

The following example details an incoming call to IP Office, sent to the hunt group's queue and then re-directed to voicemail:

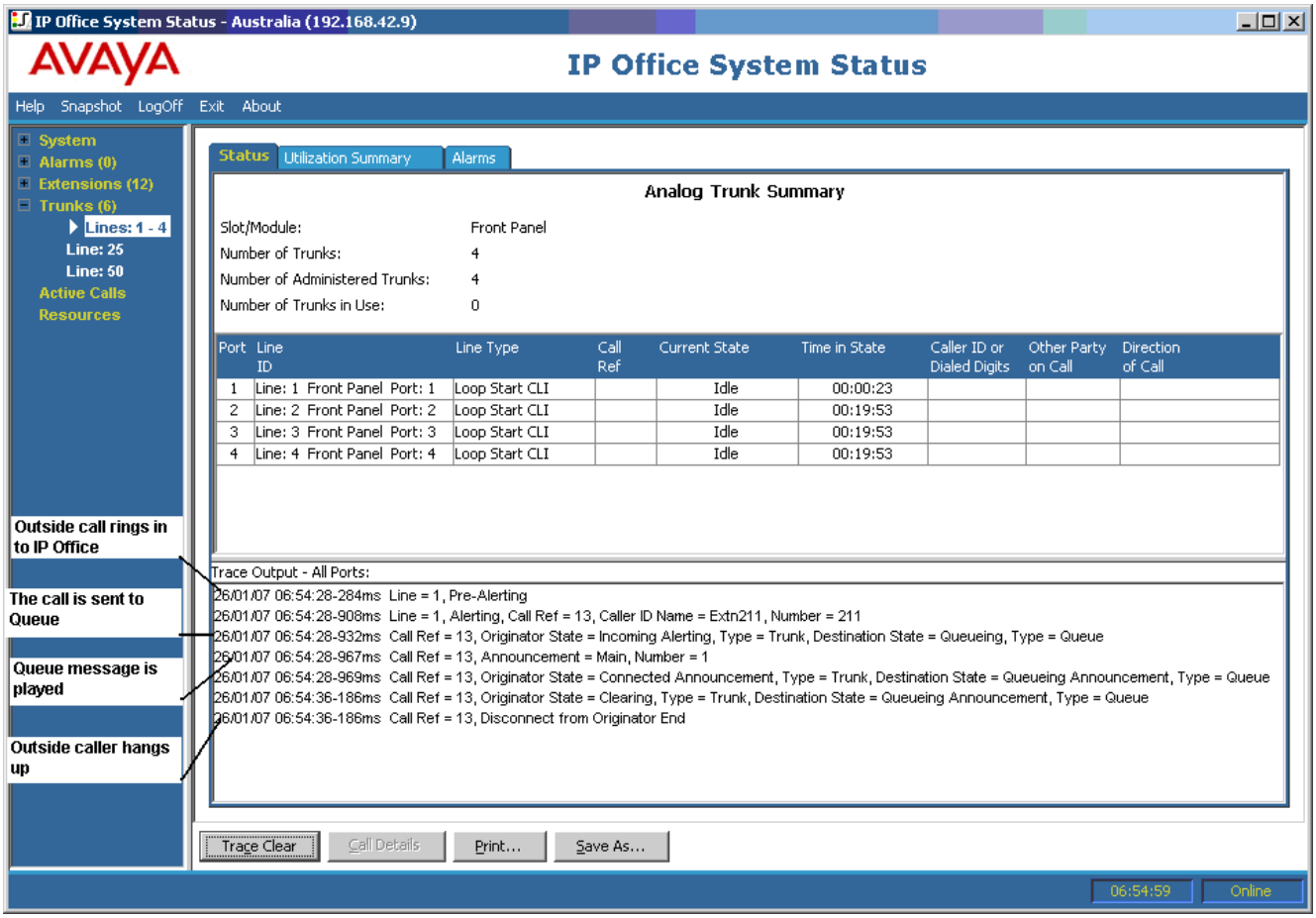


Hunt group call being directed into a hunt group's queue and then sent to Voicemail:

1. An outside call is received on IP Office.
2. The call is sent to the hunt group's queue.
3. The queue message is played.
4. The call is re-directed to voicemail.

3.5.4 Call Being Abandoned

The following example details an incoming call to IP Office, sent to the hunt group's queue and then disconnected by the outside caller (Originator):

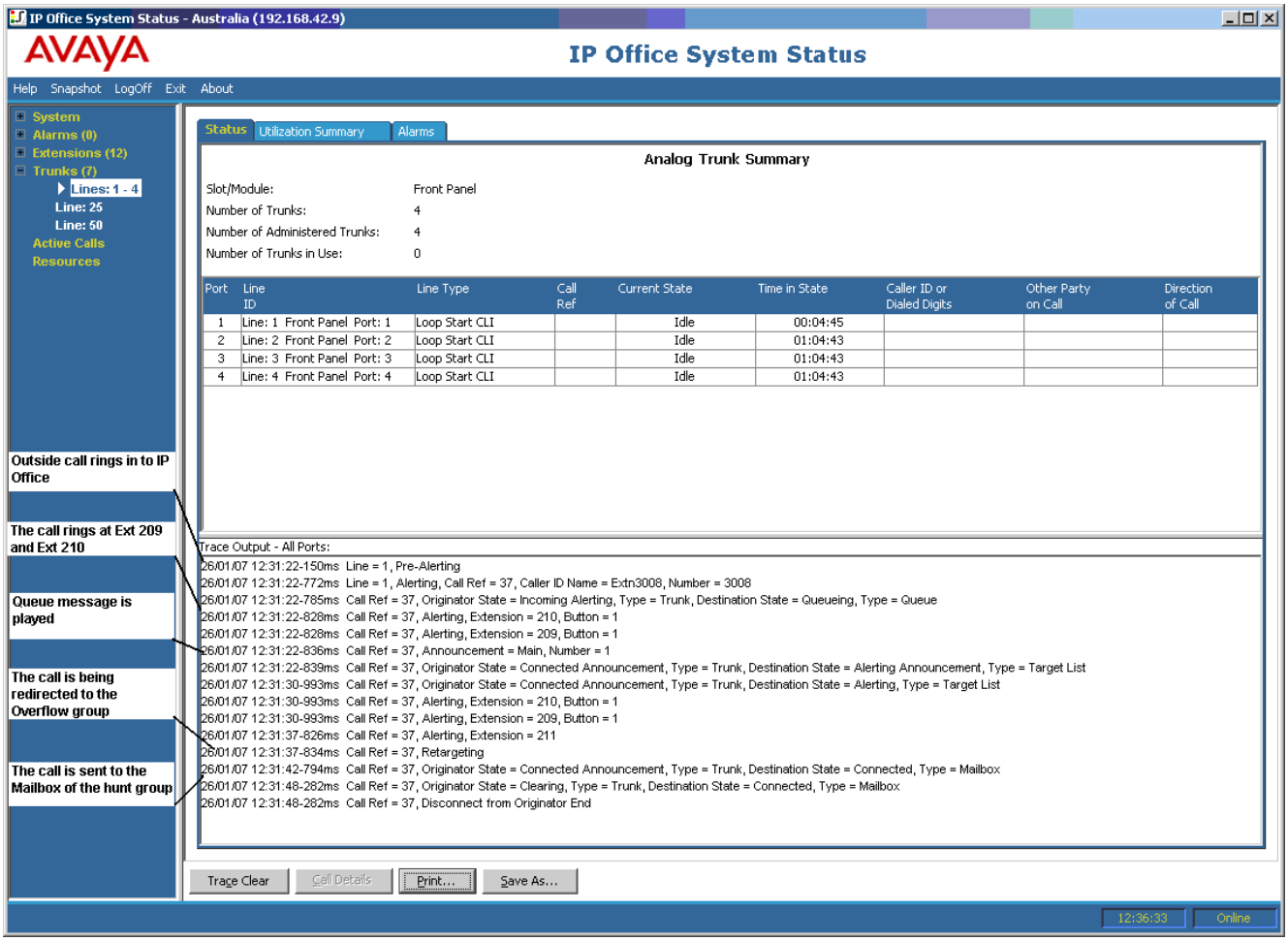


Call being abandoned while in a hunt group's queue:

1. An outside call is received on IP Office.
2. The call is sent to the hunt group's queue.
3. The queue message is played.
4. The call is disconnected by the outside caller.

3.5.5 Hunt Group Call Overflowing

The following example details a call received at one hunt group, re-directed to a second hunt group and then re-directed to voicemail:



Hunt group call overflowing to a second hunt group and then answered by Voicemail:

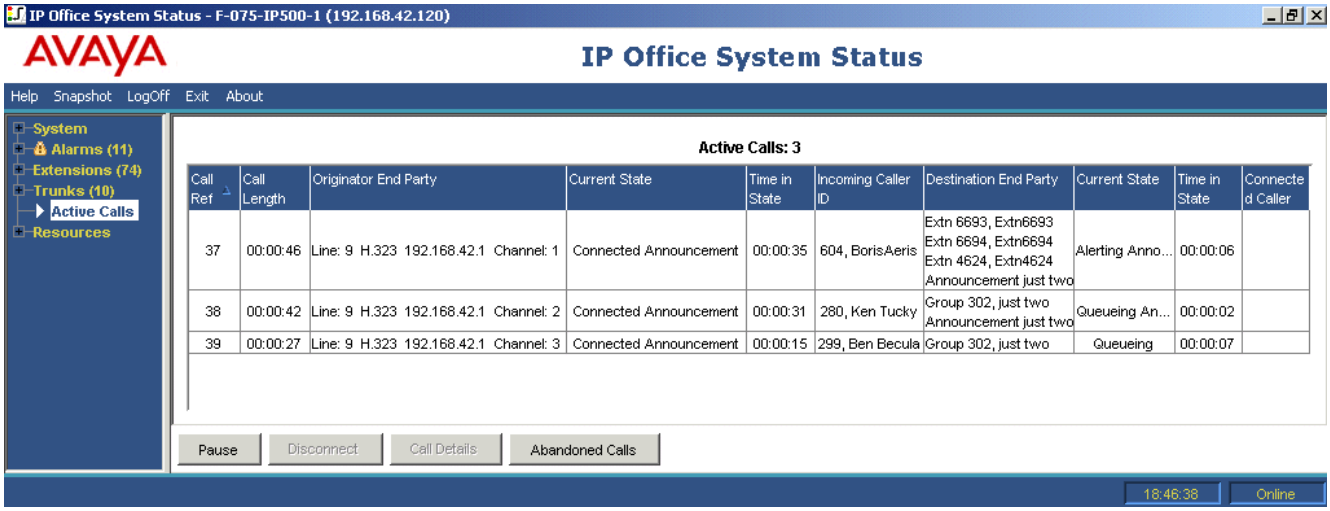
1. A outside call is received on IP Office.
2. The call rings at extension 209 and extension 210.
3. The queue message is played.
4. The call is re-directed to an overflow hunt group.
5. The call rings at extension 211 (a member of the overflow hunt group).
6. The call is then re-directed to the original hunt group's voicemail.

3.6 Announcements

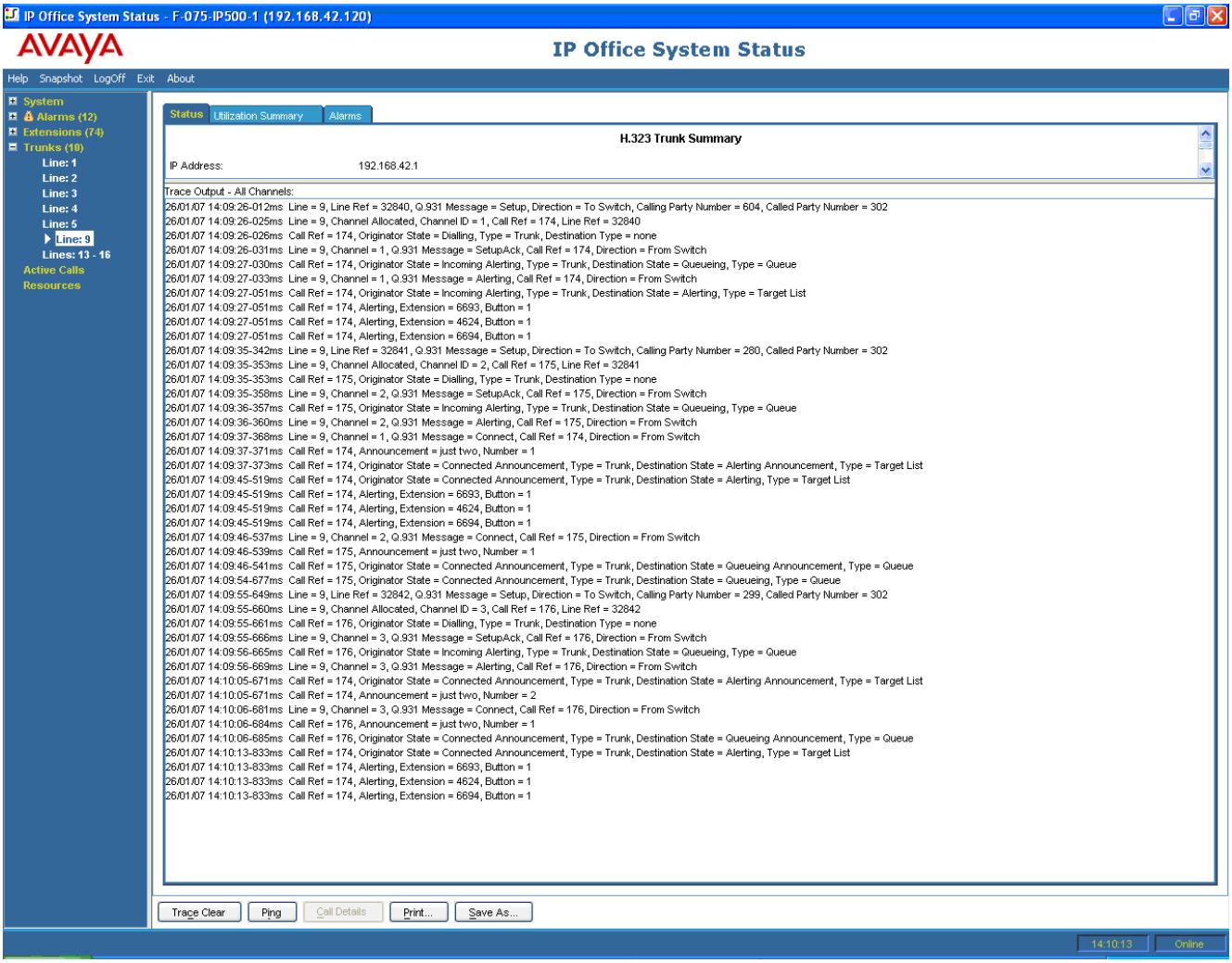
IP Office 4.0 allows calls that are either queuing or alerting, to be played announcements in a pattern that is configured using Manager. When an announcement is heard on a call, the current state is displayed as Connected Announcement and this state will remain until the call is either answered or cleared. SSA displays the type of announcement as well as details of the queue or alerting parties.

Example:

1. Call 37 is alerting at two extensions, as well as listening to Announcement 2 for the hunt group 'just two'.
2. Call 38 is queuing for the hunt group 'just two', as well as listening to Announcement 2 for the hunt group 'just two'.
3. Call 39 is queuing for the hunt group 'just two'. The originator state is Connected Announcement because an announcement has played to this call but at present no announcement is being played.



The following trace shows the same call sequence, traced from the trunk from which the call originated:



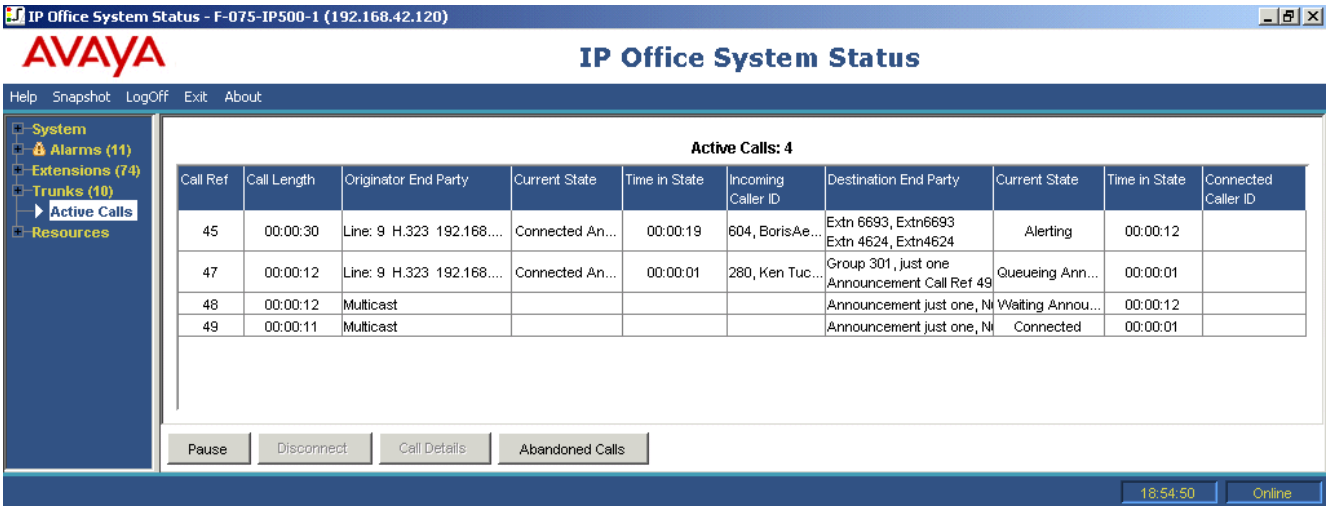
IP Office 4.0 supports both synchronous and asynchronous announcements. The examples in this section are typical of asynchronous announcements. For synchronous announcements, IP Office sets up a call between voicemail and a multicasting point. Each call that is listening to the same announcement connects to the same multicasting point.

The multicasting call is set up as soon as there is a call that will require it, even if it is not yet time to play the announcement. A multicasting call that is currently playing an announcement will show the announcement details and a state of 'Connected'. A multicasting call that is waiting to play an announcement will show the announcement details and a state of 'Waiting Announcement'.

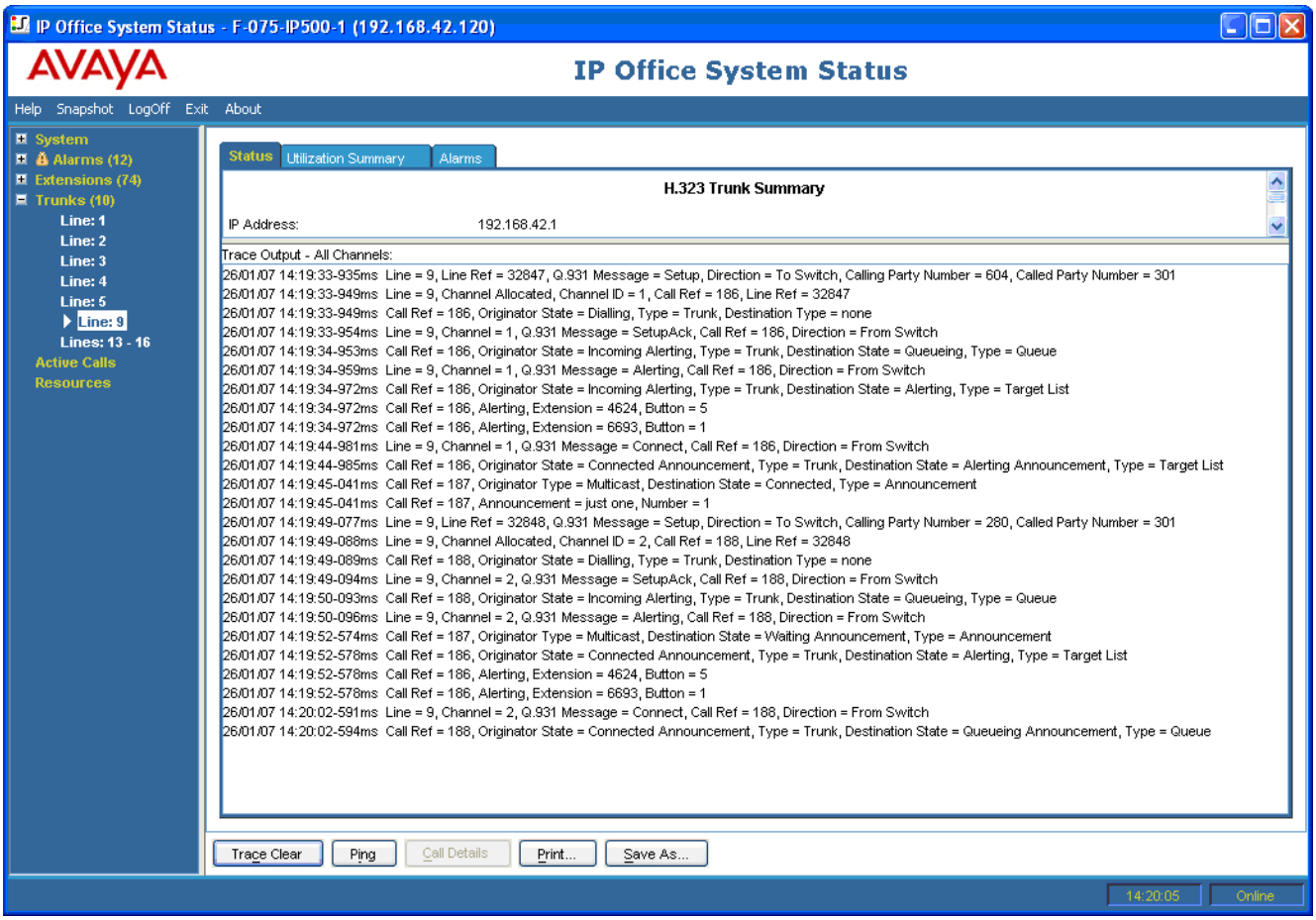
A call that is listening to an announcement will indicate the call reference of the multicasting call to which it is linked.

Example:

1. Call 47 is the multicasting call for Announcement 1 of the hunt group 'just one'. This announcement is being played on call 49, which is queuing for hunt group 'just one'.
2. Call 49 is the multicasting call for Announcement 2 of the hunt group 'just two'. It has been created in readiness to play to call 45. Call 45 is alerting at two extensions. Announcement 1 of the hunt group 'just one' has already been played to it and it is waiting for Announcement 2 to begin.



The following trace shows the same call sequence, traced from the trunk from which the calls originated:



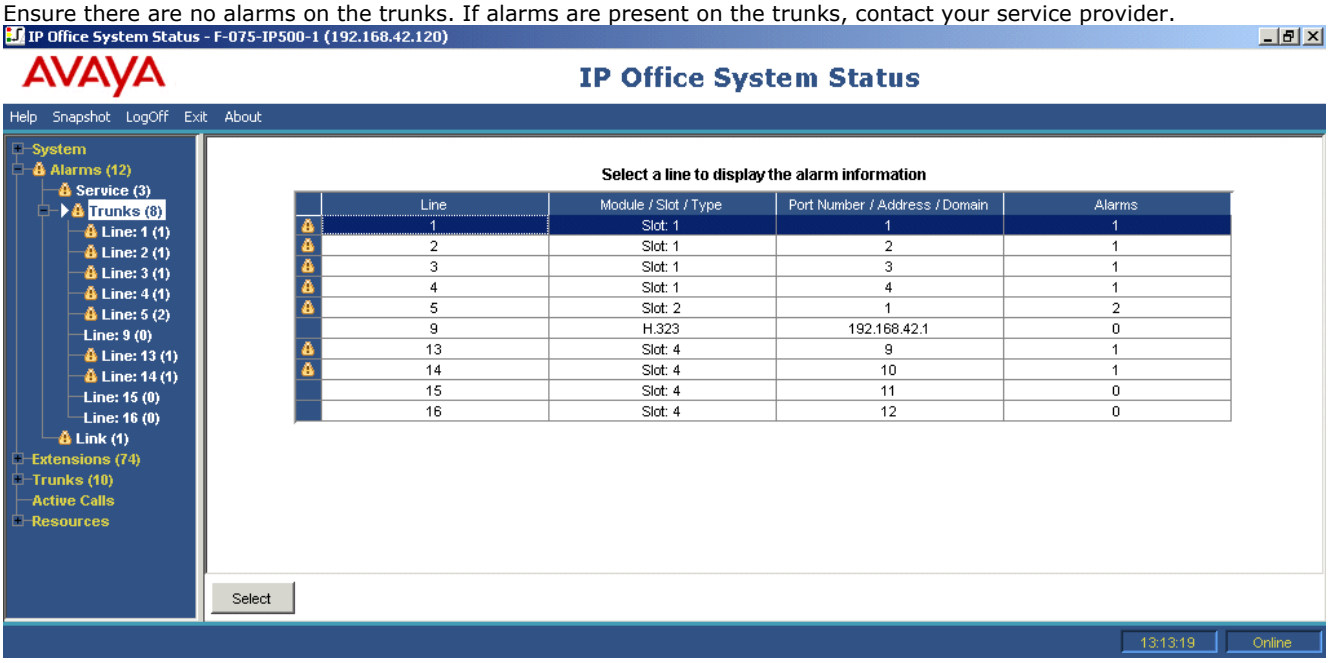
Chapter 4.
Troubleshooting Examples

4. Troubleshooting Examples
4.1 ISDN Calls Cutting Off

Issue
User experiences their calls being cut off.

Action
Check the IP Office configuration in Manager to make sure that all trunk parameters are correct. Ensure the parameters match those provided by the central office/network provider.

Procedure
1. Ensure there are no alarms on the trunks. If alarms are present on the trunks, contact your service provider.



2. If no alarms are present, click **Trace All** to establish why the calls are being cut off.

   Performing a trace should enable you to view the reason why the calls are cutting off.

   For example:

   In the following screen, the call was set up on Line 1, Channel 1 and the direction was to the switch (originating party):

```
26/01/07 12:31:38-156ms  Line = 1, Channel = 1, Q.931 Message = Setup, Direction = To Switch, Calling Party Number = 909, Called Party Number = 2211
26/01/07 12:31:38-204ms  Call Ref = 9, Alerting, Extension = 603, Button = 1
26/01/07 12:31:38-206ms  Call Ref = 9, Originator State = Incoming Alerting, Type = Trunk, Destination State = Alerting, Type = Target List
```

   In the following screen, the disconnect direction is to the switch (Cause Code 16 - call was cleared from the originator):

```
26/01/07 12:31:43-270ms  Call Ref = 9, Answered, Extension = 603
26/01/07 12:31:49-760ms  Line = 1, Channel = 1, Q.931 Message = Disconnect, Call Ref = 9, Direction = To Switch, Cause Code = 16
26/01/07 12:31:49-763ms  Line = 1, Channel = 1, Q.931 Message = Release, Call Ref = 9, Direction = From Switch
26/01/07 12:31:49-959ms  Line = 1, Channel = 1, Q.931 Message = ReleaseComplete, Call Ref = 9, Direction = To Switch
26/01/07 12:31:49-964ms  Call Ref = 9, Originator State = Clearing, Type = Trunk, Destination State = Connected, Type = User
26/01/07 12:31:49-964ms  Call Ref = 9, Disconnect from Originator End
26/01/07 12:31:49-985ms  Line = 1, Idle, Channel ID = 1
```

   If another cause code is shown, it indicates that there is an error condition on the line.

4.2 Delay Between Analog Line and Extension

Issue

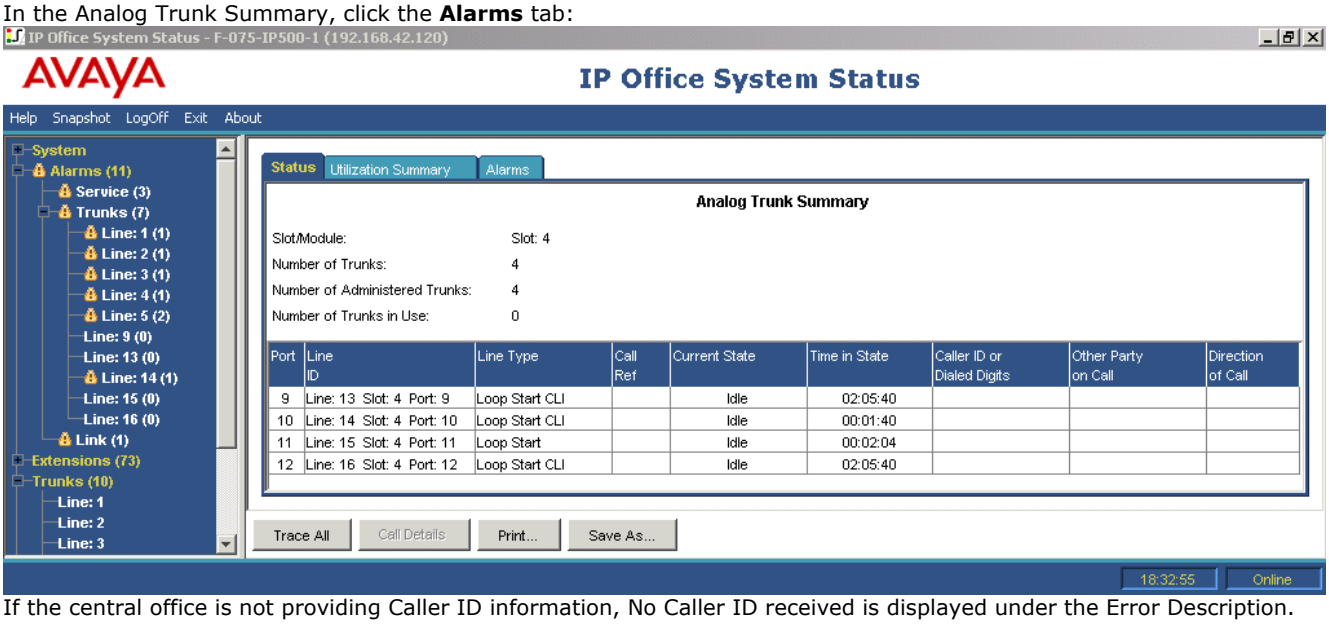
Incoming analog line rings several times before the call is presented to the extension.

Actions

1. If the analog trunk is configured to wait for caller ID (CLI/ICLID) information from the central office and the information is not being provided, there will be a delay between the time the line/trunk rings and the call being presented to the extensions.
2. Check the IP Office configuration in Manager and ensure the analog trunk parameters are correct and that they match those provided by the central office.

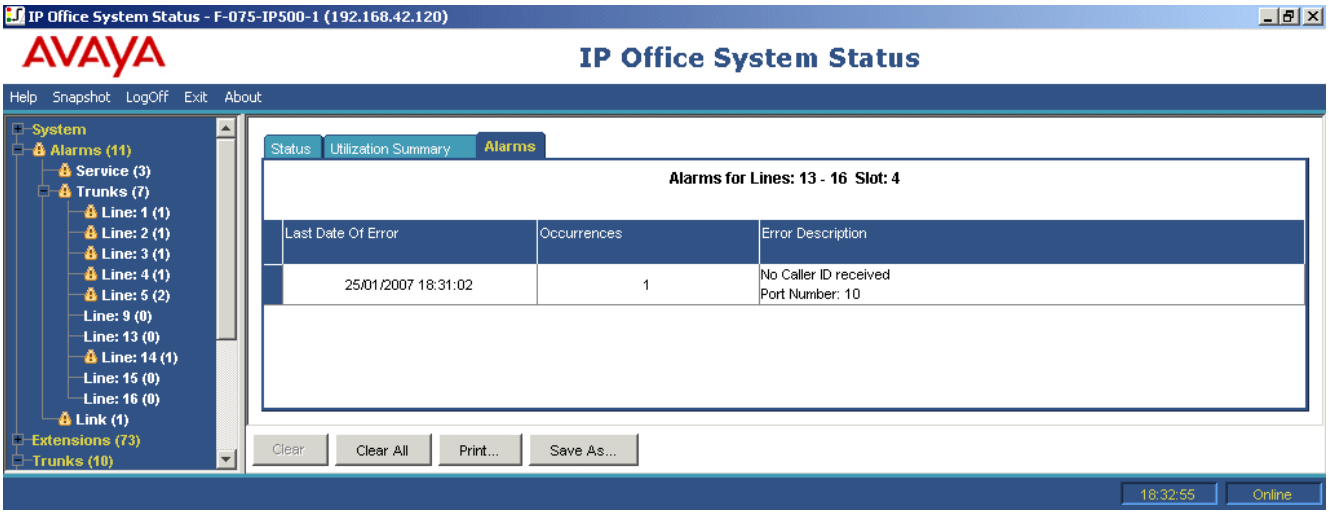
Procedure

1. In the Analog Trunk Summary, click the **Alarms** tab:



If the central office is not providing Caller ID information, No Caller ID received is displayed under the Error Description.

2. From Manager, change the configuration to Loop Start only, as follows:
   a) Log on to Manager and open the IP Office configuration.
   b) From the configuration tree, select **Line** and double-click the analog trunk in question.
   c) On the **Line** tab, change **Line SubType** to **Loop Start**.



Alternatively, have the central office enable CLI/ICLID on the trunks.

4.3 Expansion Units Constantly Rebooting

Issue

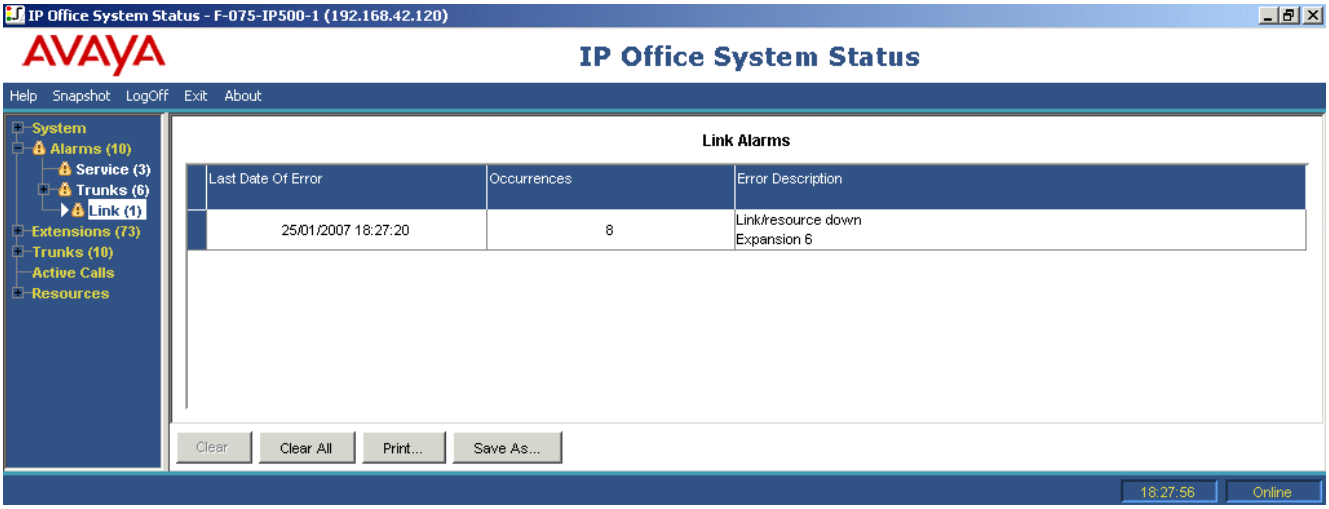
IP Office expansion units constantly reboot.

Action

1. Check the power supply for failure or faulty power bricks.
2. As a precaution, replace the power brick.
3. Check that the blue TDM cable is correctly connected at the rear of both the IP Office Control Unit and the module that is resetting.
4. Change the module with another module or plug the TDM cable in to another spare slot.

Procedure

1. View error messages by clicking **Alarms** and then the link.



The total number of times that IP Office has lost contact with the module is displayed in the Occurrences column.

4.4 User Receives Busy When Calling

Issue

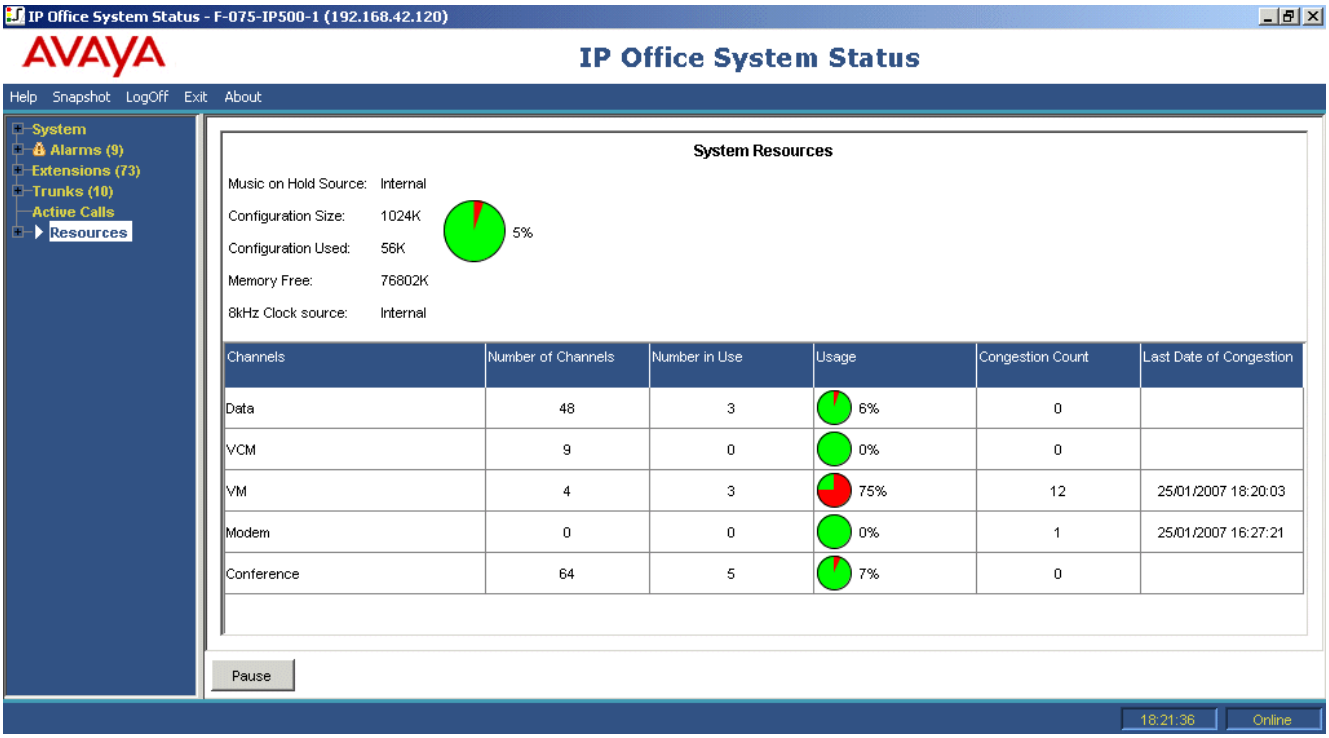
User receives Busy when calling voicemail (internal and external).

Action

1. Check that Voicemail Pro/Lite/Embedded is running.
2. If you are running Voicemail Pro, check that you have correctly configured Voicemail Channel Reservation:

Procedure

1. To view the number of times all voicemail channels have been in use, click **Resources**:



2. When all voicemail channels are in use, the system returns Busy to the caller.
3. Inform the user that they need to purchase more voicemail channels.

4.5 SCN VoIP Calls Echo or Have Poor Speech Quality

Issue

Calls over Small Community Network (SCN) VoIP trunks, echo or have poor speech quality.

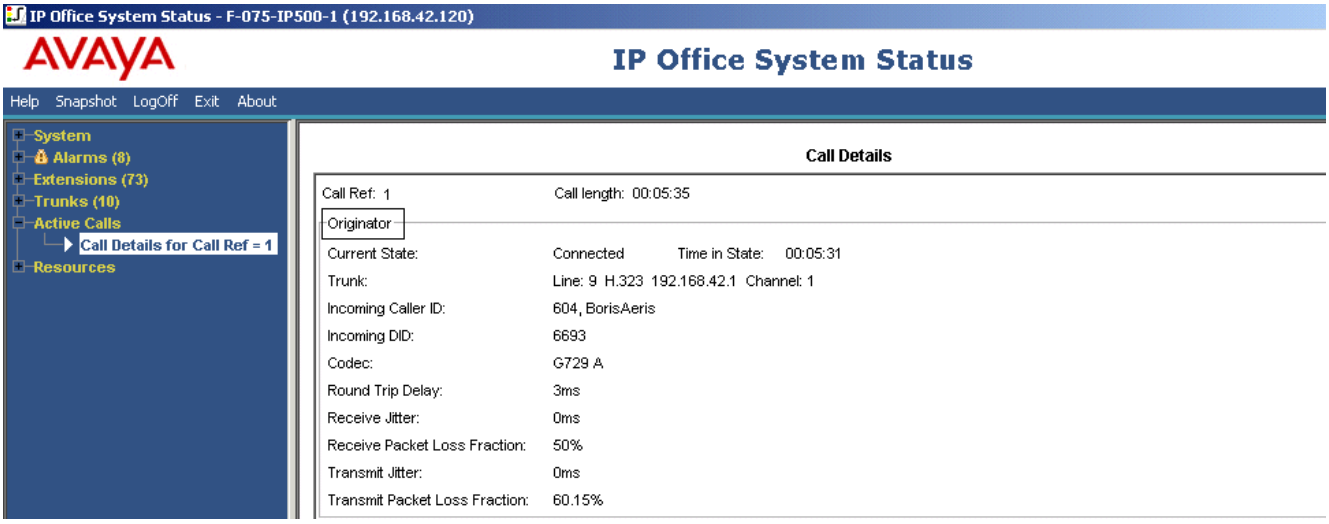
Action

Check the IP Office configuration in Manager and make sure all VoIP trunk parameters are correct and that they match the remote end of the SCN.

Procedure

1. Click **System** and then **VoIP Trunks**.

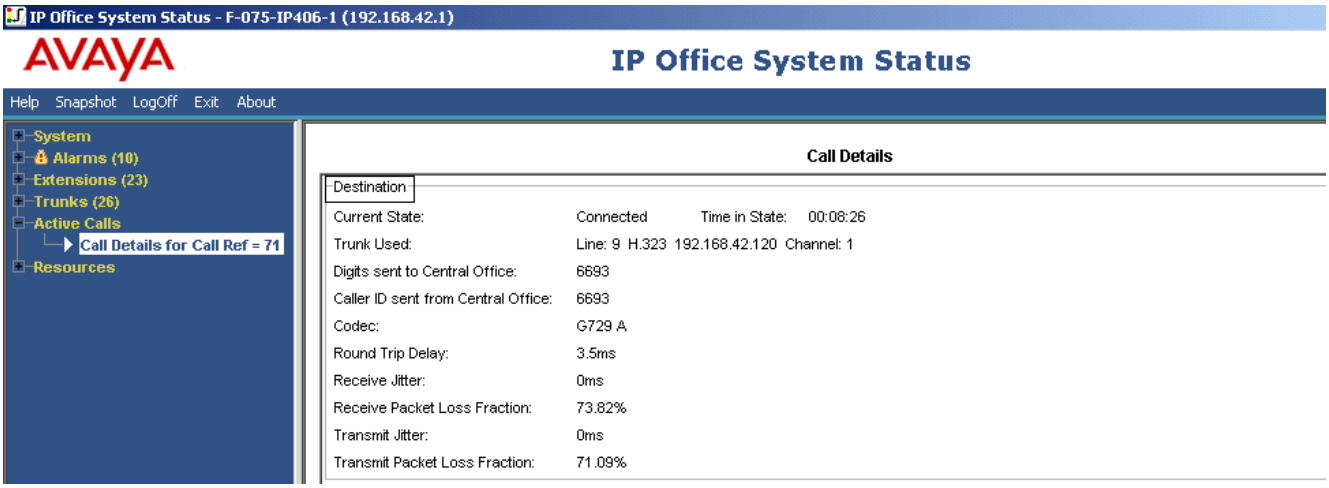
2. To view the details of the call, click one of the channels:



3. Check the **Originator** figures for the following:

   - Round Trip Delay
   - Receive Jitter
   - Receive Packet Loss
   - Transmit Jitter
   - Transmit Packet Loss

4. Open another System Status Application and click on the channel to monitor the **Destination** figures:



5. If the figures are high, consult your network administrator to make the necessary changes to the network to improve the situation.

4.6 Phone User Unable to Dial Out

Issue

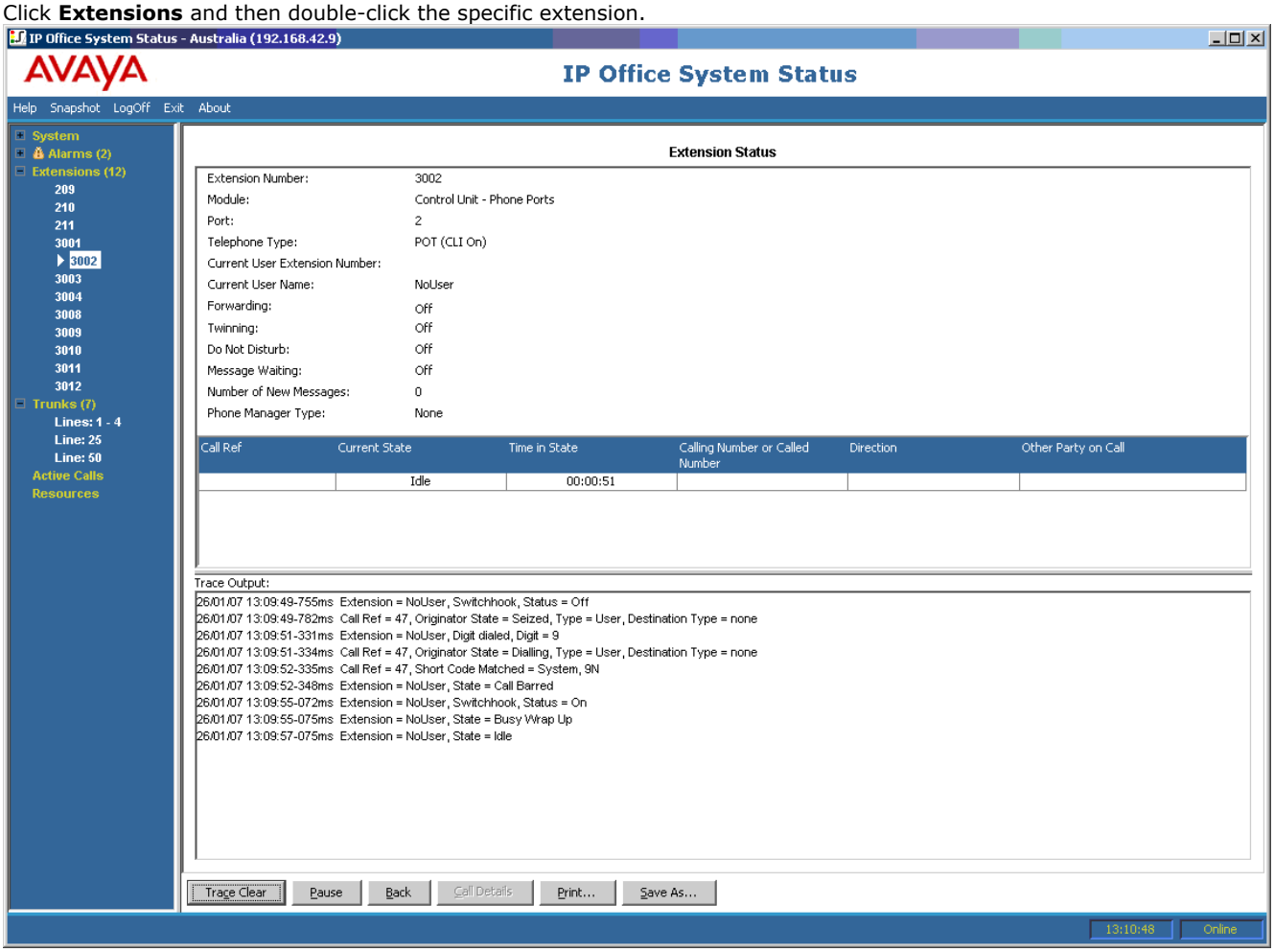
Phone user without caller display is unable to dial out.

Action

From Manager, check that the user is not barred from making outside calls.

Procedure

1. Click **Extensions** and then double-click the specific extension.



This Extension Status screen shows that the user has not logged on and this is reason the user cannot dial out.

4.7 PRI Line is Out of Service

Issue

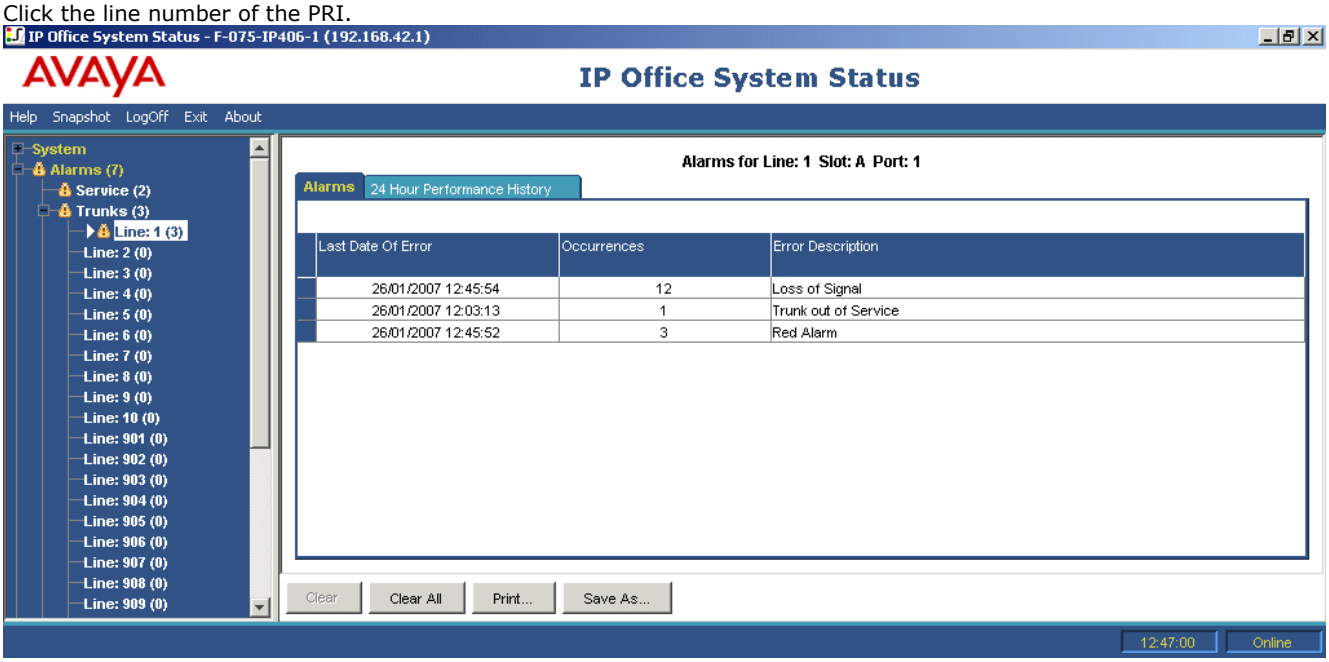
IP Office PRI lines (set for N12 protocol) experience out of service and callers are unable to dial out or place a call into IP Office.

Action

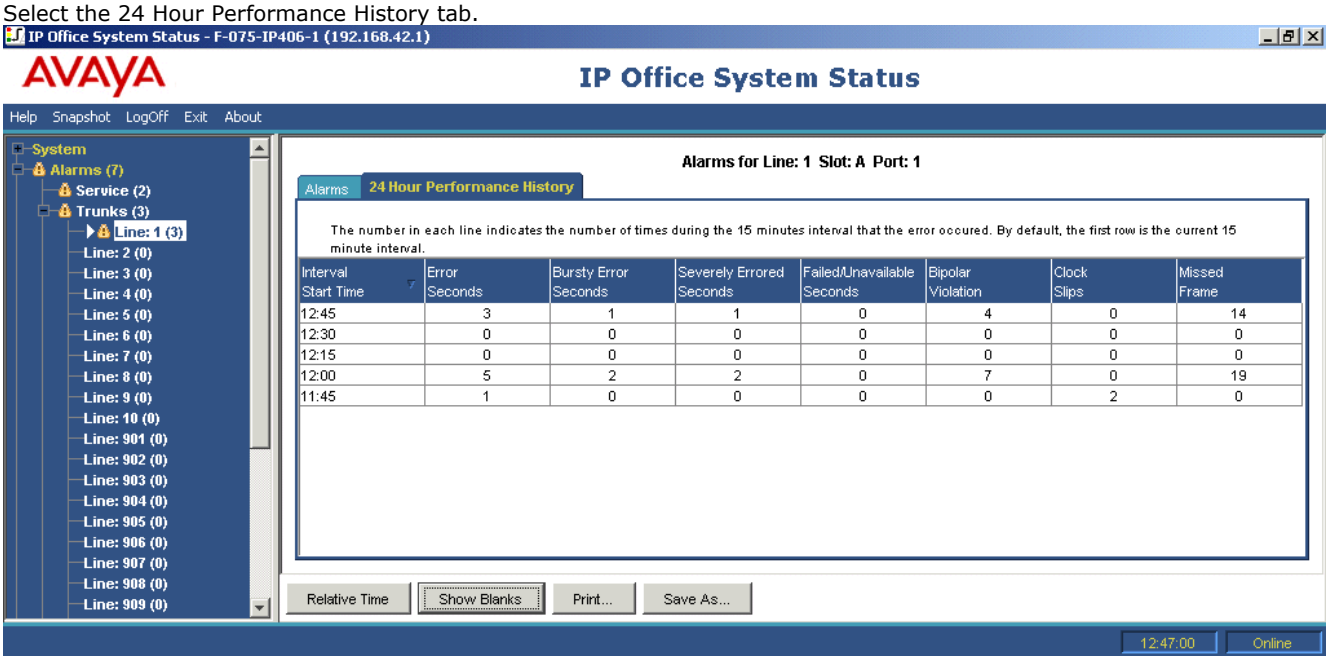
Unplugging and plugging the PRI cord from the PRI slot will bring the line back in to service and allow calls to go out.

Procedure

1. Click **Alarms** and then **Trunks**.
2. Click the line number of the PRI.



3. Select the 24 Hour Performance History tab.



The example above shows that the PRI line experienced clock slips and missed frames. This issue may be resolved by replacing the wiring from the PRIs smart jack and the IP Office.

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