

System Report Management

MaxCS provides a System Summary report, an IP Cumulative Traffic Statistics report, and an SNMP (Simple Network Management Protocol) configuration screen, all available from the **Report** menu.

System Summary Report

The System Summary report provides summary information on extensions, trunks, and workgroups configured in the system. To open the System Summary report window, select **Report > System Summary**, or click the **Summary** button on the toolbar.

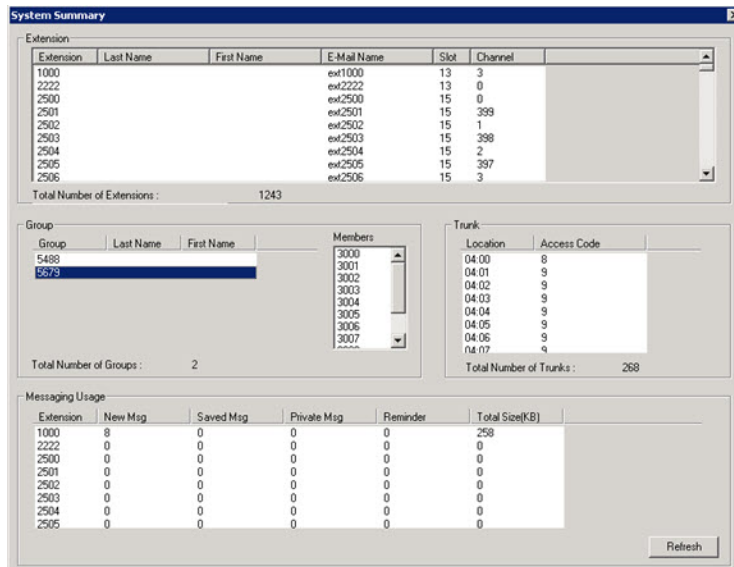


Figure 220. System Summary window

- **Extension Summary** – Configured extensions in the system, including Extension number, Last Name, First Name, SMTP/POP3 E-mail name, Slot (Logical board ID), and Channel.
- **Group Summary** – Configured workgroups and hunt groups in the system. When you select a group, agents belonging to that group are displayed in the Member window.
- **Trunk Summary** – Configured trunks in the system, including trunk location (Board ID : Channel Number) and trunk access code assignment.
- **Messaging Usage** – Message count and storage usage for each mail box. Click the **Refresh** button to update the message count and storage size information.

You can print this report by clicking the **Print** button.

IP Cumulative Traffic Statistics

To view a report of all cumulative IP traffic, click **Reports > IP Traffic Statistics**. The window shows IP trunk traffic information for **all** calls:

Internet Address	Packets Sent	Packets Received	Bytes Sent	Bytes Received	Packets Lost
10.30.10.22	512	1054	81920	84320	2
10.30.10.28	568	568	90880	90880	0

Figure 221. IP Cumulative Traffic Statistics window

This window displays the following data:

Cumulative Traffic Field	Description
Internet Address	The IP address of the VoIP system or device.
Packets Sent	Number of voice packets sent to other systems over the public or private IP network.
Packets Received	Number of voice packets received from other systems over the public or private IP network.
Bytes Sent	Total size (in bytes) of all voice packets sent to other systems over the public or private IP network.
Bytes Received	Total size (in bytes) of all voice packets received from other systems over the public or private IP network.
Packets Lost	Number of voice packets that have been lost due to prolonged delays, network congestion, or routing failure.
Average Jitter	Average length of delay per voice packet in milliseconds. This figure should stay under 100 milliseconds. A higher figure indicates a longer average delay. This number can be used to measure the quality of service on the network that connects the source and destination sites.

The difference between the **Current Resource Statistics** window and the **IP Cumulative Traffic Statistics** window is that the former shows figures only for the *active* call (Current Traffic) on a particular IP trunk of the local MaxCS system while the other window shows figures for *all* calls combined (cumulative traffic).

Resetting Cumulative Statistics

You can reset the **IP Cumulative Traffic Statistics** by clicking the **Reset** button. Also, this window automatically resets all fields to **0** when the MaxCS system is shut down and restarted. Statistics gathered before the reset are not saved.

Using SNMP

SNMP (Simple Network Management Protocol) is used in network management systems to monitor network-attached devices for conditions that warrant administrative attention.

This MaxCS SNMP configuration, used with a third-party management console (see the next section), helps you see the MaxCS status, so you can use MaxCS more securely. Using an SNMPv3 agent, MaxCS sends SNMP traps to the management console when alarming conditions are detected.

Note: SNMP traps are sent by the Altigen services SPSServ (Softswitch up, Softswitch down traps), AltiKeep (warm start trap), and AltiServ services (all other traps), so those services must be started, or the traps will not be sent.

SNMP traps are logged in text files: SNMP_Altiserv.txt, SNMP_DinaProxy.txt, SNMP_GlobalAppearance.txt, and SNMP_SPSServ.txt.

SNMP Management Console

To use SNMP, you need an SNMP management console that is SNMPv3-supported for receiving and collection. Altigen recommends MG-Soft Trap Ringer Professional Edition, available from MGSoft Corporation, at <http://www.mg-soft.com/tringer.html>.

You can get help about how to configure an SNMP User Account and Management Console Port in that product's Help system.

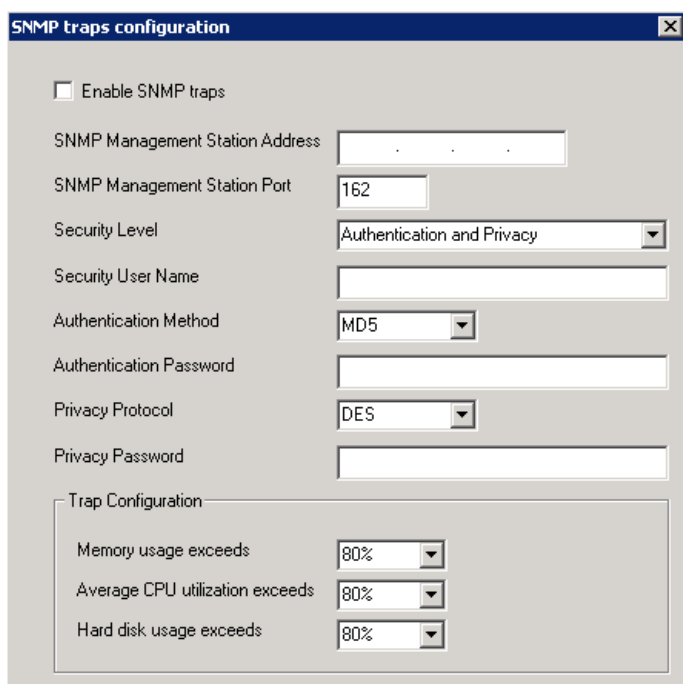
Note: Altigen's IANA Private Enterprise Number is 13679.

Configuring MaxCS for SNMP

To configure MaxCS for SNMP, select **Report > SNMP Configuration**.

Configure the parameters:

- Check **Enable sending SNMP traps**.
- Enter the SNMPv3 server address.
- Enter the SNMPv3 server port.
- Select a security level:
 - No Authentication and No Privacy
 - With Authentication but No Privacy
 - With Authentication and Privacy
- Select an Authentication method and enter a password
- Select a Privacy protocol and enter a password.



The image shows a 'SNMP traps configuration' dialog box with the following fields and options:

- Enable SNMP traps
- SNMP Management Station Address: []
- SNMP Management Station Port: 162
- Security Level: Authentication and Privacy
- Security User Name: []
- Authentication Method: MD5
- Authentication Password: []
- Privacy Protocol: DES
- Privacy Password: []

Trap Configuration section:

- Memory usage exceeds: 80%
- Average CPU utilization exceeds: 80%
- Hard disk usage exceeds: 80%

Configure traps:

- **Memory usage exceeds** – This trap is sent when MaxCS detects that the lowest virtual memory usage exceeds a specified percentage of physical memory configuration within a 10-minute duration. Default value is 80%. The next trap will be sent after the condition is cleared then occurs again. The minimum duration between any two consecutive traps is 30 minutes
- **Average CPU utilization exceeds** – This trap is sent when MaxCS detects its average CPU utilization exceeds a specified percentage in any 10-minute duration. Default value is 80%. The next trap will be sent after the condition is cleared then occurs again. The minimum duration between any two consecutive traps is 30 minutes
- **Hard disk usage exceeds** – This trap is sent when hard disk usage of MaxCS transitioning from below threshold to on or above threshold is detected. Default value is 80%. The minimum duration between any two consecutive traps is 30 minutes.

List of SNMP Traps Sent

A trap is sent when the following conditions are detected.

- Cold Start (generic trap). When Altiserv is cold started and initialized successfully.
- Warm Start (generic trap). When Altiserv service detects Altiserv.exe is down, re-starting Altiserv.exe, and Altiserv is initialized successfully.
- LinkDown (generic trap). When detecting a T1/E1/PRI span state is transitioning from up to down or losing clock source.

When a gateway is down, one trap is sent for each T1/E1/PRI interface in this Gateway. This trap is sent when SIP trunk destination state transitioning from reachable to unreachable is detected.

Every T1/E1/PRI span and SIP trunk channel is assigned a unique "ifIndex" value as a port identifier

- LinkUp (generic trap). When a T1/E1/PRI span state transitioning from down to up is detected.

- Softswitch up (specific trap). When Altiserv.exe starts to respond to the keep alive packets sent by the SNMP Agent. Altiserv should respond to the keep-alive packets after its initialization is completed.
- Softswitch down (specific trap). When Altiserv.exe stops responding to the keep-alive packets sent by the SNMP Agent.
- Gateway/Media Server connection up (specific trap). When a gateway or HMCP Media Server connection state transitioning from down to up is detected.
- Gateway/Media Server connection down (specific trap). When a gateway or HMCP Media Server connection state transitioning from up to down is detected.
- Enterprise Manager Master up (specific trap). When MaxCS is in Enterprise Manager slave role and Enterprise Manager master state transitioning from down to up is detected.
- Enterprise Manager Master down (specific trap). When MaxCS is in Enterprise Manager slave role and Enterprise Manager master state transitioning from up to down is detected.
- Enterprise Manager Slave up (specific trap). When MaxCS is in Enterprise Manager master role and detects Enterprise Manager slave state transitioning from down to up.
- Enterprise Manager Slave down (specific trap). When MaxCS is in Enterprise Manager master role and detects Enterprise Manager slave state transitioning from up to down.
- IP Phone service up (specific trap). When detecting IP Phone service transitioning from down to up.
- IP Phone service down (specific trap). When detecting IP Phone service transitioning from up to down.
- VM server connection up (specific trap). When detecting VM server connection transitioning from down to up.
- VM server connection down (specific trap). When detecting VM server connection transitioning from up to down.
- CT Proxy Service up (specific trap). When CTProxy Service connection transitioning from down to up is detected.
- CT Proxy Service down (specific trap). When detecting CTProxy Service connection transitioning from up to down.
- Excessive memory usage on Softswitch (specific trap). When MaxCS detects the lowest virtual memory usage exceeds a specified percentage of physical memory configuration within a 10-minute duration. The next trap will be sent after the condition is cleared then occurs again. The minimum duration between any two consecutive traps is 30 minutes.
- Excessive CPU utilization on Softswitch (specific trap). When MaxCS detects its average CPU utilization exceeds a specified percentage in any 10-minute duration. The next trap will be sent after the condition is cleared then occurs again. The minimum duration between any two consecutive traps is 30 minutes.
- Excessive hard disk usage on Softswitch (specific trap). When hard disk usage of MaxCS transitioning from below threshold to on or above threshold is detected. The minimum duration between any two consecutive traps is 30 minutes.
- SIP Trunk Group Status traps (Trunk Group Up, Trunk Group Down, Trunk Group Busy)
- SIP Abnormality traps (Out of HMCP codec resources, insufficient SIP extension channels, malicious IP address added)
- Security traps (Toll fraud - outbound call from voicemail exceeding call duration threshold or call quality threshold, 911 call, extension lockout)

- Out of licenses traps (Station Session, ACM Agent Seat [work as session], Recording seat, Recording session, MaxCommunicator seat, MaxCall seat, MaxAgent seat, MaxSupervisor seat, MaxMobile seat, SDK Connection session, Trunk Control APC SDK session, IPTalk seat, HMCP G.711/G.723/G.729 VPR, HMCP MeetMe Conference, HMCP Agent Supervision session, Integration Connector seat, Exchange Integration seat, MaxInsight session, MaxCommunicator session, MaxAgent session, MaxSupervisor session, AltConsole session, IPTalk session, MaxCall session, 3rd Party SIP Device seat)
- Forwarded voicemail failed trap -- When a voicemail message is forwarded to an email address, but the email message failed.
- A public certificate is nearing its expiration date
- A drive used to store voice recordings is nearing its capacity threshold

SNMP Trap OID Numbers

The following table identifies SNMP trap numbers.

Generic SNMP MIB OID	Description
1.3.6.1.6.3.1.1.5.1	MaxCS server cold started
1.3.6.1.6.3.1.1.5.2	MaxCS server warm started
1.3.6.1.6.3.1.1.5.3	[T1/E1/PRI Span SIP-trunk] link down // T1/E1/PRI span or SIP trunk channel network failed
1.3.6.1.6.3.1.1.5.4	[T1/E1/PRI Span SIP-trunk] link up // T1/E1/PRI span or SIP trunk channel network ok
1.3.6.1.6.3.1.1.5.5	Authentication failure
1.3.6.1.6.3.1.1.5.6	egpNeighborLoss
1.3.6.1.6.3.1.1.5.7	Enterprise specific

Enterprise-specific SNMP Traps	Description
1.3.6.1.4.1.13679	Altigen enterprise OID
1.3.6.1.4.1.13679.1	Softswitch up
1.3.6.1.4.1.13679.2	Softswitch down
1.3.6.1.4.1.13679.3	Gateway up
1.3.6.1.4.1.13679.4	Gateway down
1.3.6.1.4.1.13679.5	VoIP domain server up
1.3.6.1.4.1.13679.6	VoIP domain server down
1.3.6.1.4.1.13679.7	VoIP domain slave up
1.3.6.1.4.1.13679.8	VoIP domain slave down
1.3.6.1.4.1.13679.9	IP phone service up
1.3.6.1.4.1.13679.10	IP phone service down
1.3.6.1.4.1.13679.11	Voicemail server up
1.3.6.1.4.1.13679.12	Voicemail server down
1.3.6.1.4.1.13679.13	CT proxy service up

Enterprise-specific SNMP Traps	Description
1.3.6.1.4.1.13679.14	CT proxy service down
1.3.6.1.4.1.13679.15	High memory usage
1.3.6.1.4.1.13679.16	High CPU usage
1.3.6.1.4.1.13679.17	Low hard disk space (Note: this trap was removed as of Release 8.5 Update 1. It has been replaced with four new traps, 13679.17.1 - 17.4)
1.3.6.1.4.1.13679.17.1	Low hard disk space for voice recording: System drive
1.3.6.1.4.1.13679.17.2	Low hard disk space for voice recording: MaxCS drive
1.3.6.1.4.1.13679.17.3	Low hard disk space for voice recording: Post office drive
1.3.6.1.4.1.13679.17.4	Low hard disk space for voice recording: Recording drive
1.3.6.1.4.1.13679.18	Redundancy switchover
1.3.6.1.4.1.13679.19	Altigen IP phones redirected to an alternative server
1.3.6.1.4.1.13679.20	Altigen IP phones redirected back to main server
1.3.6.1.4.1.13679.30.1	SIP Trunk is up
1.3.6.1.4.1.13679.30.2	SIP Trunk is down
1.3.6.1.4.1.13679.30.3	All trunk channels in the SIP Trunk group are busy
1.3.6.1.4.1.13679.31.1	Out of HMP (VoIP) resources
1.3.6.1.4.1.13679.32.1	Extension has called an emergency number
1.3.6.1.4.1.13679.32.2	Toll fraud outbound call was made from voicemail (long duration) - an outbound call exceeding xx minutes was placed from the voicemail mailbox of the specified extension
1.3.6.1.4.1.13679.32.3	Toll fraud outbound call from voicemail (quantity) - the quantity of outbound calls placed from the voicemail mailbox of the specified extension exceeds a specified threshold
1.3.6.1.4.1.13679.33.1	SIP Extension Channels - Registration failed (insufficient channel resources)
1.3.6.1.4.1.13679.34.x	The system is out of a specific type of license. See the next table for a list of license types.
1.3.6.1.4.1.13679.35	Extension lockout
1.3.6.1.4.1.13679.36	SIP malicious IP address
1.3.6.1.4.1.13679.37.1	Voicemail forwarding failed; the failed voicemail will be forwarded to the extension.
1.3.6.1.4.1.13679.38.1	A certificate is approaching its expiration date.

Out of License traps	Description
1.3.6.1.4.1.13679.34.1	Out of Station licenses
1.3.6.1.4.1.13679.34.2	Out of CTI Seat licenses
1.3.6.1.4.1.13679.34.3	Out of Voice Recording licenses
1.3.6.1.4.1.13679.34.4	Out of APC ext licenses
1.3.6.1.4.1.13679.34.5	Out of feature licenses
1.3.6.1.4.1.13679.34.6	Out of IP extension licenses

Out of License traps	Description
1.3.6.1.4.1.13679.34.7	Out of ACD Seat licenses
1.3.6.1.4.1.13679.34.8	Out of MaxAgent Seat licenses
1.3.6.1.4.1.13679.34.9	Out of MaxSupervisor Seat licenses
1.3.6.1.4.1.13679.34.10	Out of SDK Connection licenses
1.3.6.1.4.1.13679.34.11	Out of Call Recording Seat licenses
1.3.6.1.4.1.13679.34.12	Out of APC (Application Control) licenses
1.3.6.1.4.1.13679.34.13	Out of AI ti View licenses
1.3.6.1.4.1.13679.34.14	Out of IPTalk Seat licenses
1.3.6.1.4.1.13679.34.15	Out of AltConsole Seat licenses
1.3.6.1.4.1.13679.34.16	Out of SIP Trunk licenses
1.3.6.1.4.1.13679.34.17	Out of FAX Control licenses
1.3.6.1.4.1.13679.34.18	Out of Third-Party Device Seat licenses
1.3.6.1.4.1.13679.34.19	Out of Third-Party Device Session licenses
1.3.6.1.4.1.13679.34.20	Out of AltGateway licenses
1.3.6.1.4.1.13679.34.21	Out of Recording Session licenses
1.3.6.1.4.1.13679.34.22	Out of HMCP G.711 codec licenses
1.3.6.1.4.1.13679.34.23	Out of HMCP Combo codec licenses
1.3.6.1.4.1.13679.34.24	Out of HMCP Station Conference Members licenses
1.3.6.1.4.1.13679.34.25	Out of HMCP MeetMe Conference Members licenses
1.3.6.1.4.1.13679.34.26	Out of HMCP Supervision (Silence Monitor/Barge-In/Coaching) licenses
1.3.6.1.4.1.13679.34.27	Out of TAPI Seat licenses
1.3.6.1.4.1.13679.34.28	Out of AltView Third-Party integration licenses
1.3.6.1.4.1.13679.34.29	Out of Exchange Integration licenses
1.3.6.1.4.1.13679.34.30	Out of HMCP Gateway licenses
1.3.6.1.4.1.13679.34.31	Out of MaxInsight licenses
1.3.6.1.4.1.13679.34.32	Out of MaxMobile licenses
1.3.6.1.4.1.13679.34.33	Out of MaxCommunicator licenses
1.3.6.1.4.1.13679.34.34	Out of AltConsole licenses
1.3.6.1.4.1.13679.34.35	Out of MaxSupervisor licenses
1.3.6.1.4.1.13679.34.36	Out of IPTalk Session licenses
1.3.6.1.4.1.13679.34.37	Out of MaxInsight Seat licenses
1.3.6.1.4.1.13679.34.38	Out of SDK Seat licenses
1.3.6.1.4.1.13679.34.39	Out of SDK APC Seat licenses
1.3.6.1.4.1.13679.34.40	Out of MaxCall Seat licenses
1.3.6.1.4.1.13679.34.41	Out of MaxCall Session licenses
1.3.6.1.4.1.13679.34.42	Out of Speech Recognition licenses
1.3.6.1.4.1.13679.34.43	Out of Max4000 2nd I1/E1/PRI span licenses