



APPENDIX **A**

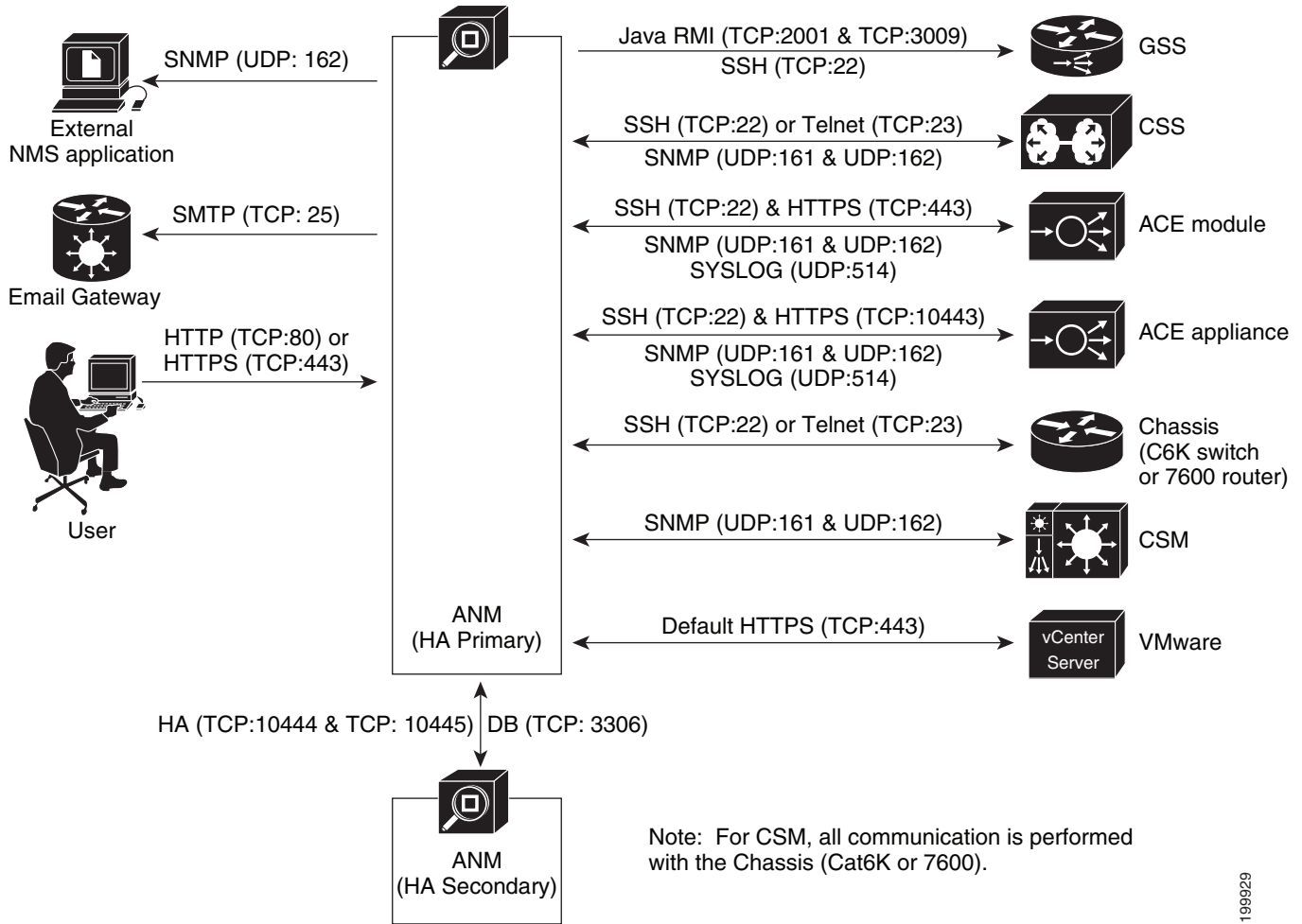
ANM Ports Reference

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ANM uses specific ports for its processes. [Figure A-1](#) illustrates a typical ANM server deployment in a network. This illustration identifies the protocols and ports used by the different network devices in a typical deployment.

- [Table A-1](#) lists the ports used for ANM client (browser) or ANM server and ANM high availability communication.
- [Table A-2](#) lists the ports used for communication between ANM and managed devices.

Figure A-1 ANM Server Deployment



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Table A-1 Ports Used by ANM in a Network Deployment¹

Port	Description
TCP (80)	Default port if ANM is configured for access using HTTP (using anm-installer).
TCP (443)	Default port if ANM is configured for access using HTTPS (using default install option).
TCP (3306)	MySQL Database system (ANM HA installation opens this port to communicate with the peer ANM).
TCP (10444) and TCP (10445)	ANM License Manager (ANM HA installation opens these two ports to communicate with the peer ANM).
TCP (25)	Port used by ANM server to communicate to Email Gateway through SMTP.
UDP (162)	Port used by ANM server to send out trap notification to external NMS application.
HTTP(8080) and HTTPS (8443)	Web service ports.

1. It is highly recommended that you run ANM on a stand-alone device. However, if you run ANM on a shared device, please note that ANM locally opens the following ports for internal communication:

TCP Ports: 8980, 10003, 10004, 10023, 10443, 40000, 40001, 40002, 40003
 UDP Ports: 6120, 10003

Table A-2 Ports Used by ANM for Communication with Managed Devices

Device Type	Port	Description
Chassis (Catalyst 6500 switch or Cisco 7600 router)	SSH (TCP:22) or Telnet (TCP:23)	Discover chassis configuration.
ACE (appliance or module)	HTTPS (TCP:443)	For ACE module: XML/HTTPS interface on the device used to discover, configure, and monitor using specific show CLI commands.
	HTTPS (TCP:10443)	For ACE appliance: XML/HTTPS interface on the device used to discover, configure, and monitor using specific show CLI commands.
	SSH (TCP: 22)	Discovery and configuration of ACE licenses, certificates/keys (crypto) licensing, scripts, and checkpoints.
	SNMP (UDP: 161 & UDP:162)	Monitor ACE through SNMP requests (UDP: 161) and receive trap notifications (UDP: 162).
CSM	SNMP (UDP: 161 & UDP:162)	Monitor CSM through SNMP requests (UDP: 161) and receive trap notifications (UDP: 162).

Table A-2 Ports Used by ANM for Communication with Managed Devices (continued)

Device Type	Port	Description
CSS	SSH (TCP:22) or Telnet (TCP:23)	Discover chassis configuration.
	SNMP (UDP: 161 & UDP:162)	Monitor CSS through SNMP requests (UDP: 161) and receive trap notifications (UDP: 162)
GSS	SSH (TCP:22)	Discover chassis configuration and monitoring operational status of DNS rules and VIP answers.
	RMI (TCP:2001 & TCP:3009)	Activate/suspend DNS rules and VIP answers.
vCenter Server	Default HTTPS (TCP:443)	Communicate with the vCenter Server and vSphere Client in a VMware virtual data center environment. For more information about using the plug-in that is available with ANM to integrate ANM with a VMware virtual data center environment, see Appendix B, "Using the ANM Plug-In With Virtual Data Centers."