StrataSphere ATM Network Management

This chapter provides information on the StrataCom StrataSphere ATM network management products. The information is organized into the following sections:

- Product Overview

- Standard Features

- Scalability

- Management Architecture and Standards

- StrataSphere Tools

- System Requirements

- Product Numbers

Note   Documentation for StrataSphere products is available in two forms: on a CD-ROM called Cisco Connection Documentation, Enterprise Series and printed books. A CD and hard-copy installation documentation ship with each order, and a configuration note ships with each component ordered. All configuration notes are available on the CD. Additional CDs and a subscription CD update service are also available.

You can also access Cisco technical documentation on the World Wide Web URL http://www.cisco.com. For more information, see the chapter "Documentation" at the end of the catalog.

Product Overview

StrataSphere is an SNMP-based multiprotocol management environment designed specifically for ATM WANs. It provides integrated service management and process automation to simplify management of even the most complex networks. StrataSphere allows you to easily monitor usage, provision connections, prototype services, optimize traffic flow, model network design, and track network statistics.

StrataSphere is designed to address the significant demands in managing and operating next-generation ATM networks. StrataSphere's robust, scalable architecture meets today's business requirements for the control, operation, and end-to-end service management of product-oriented wide-area ATM networks.

The StrataSphere Solution

StrataSphere is the industry's first robust, scalable management environment for ATM systems. As such, it is designed to address the major issues surrounding network management, which must be addressed for ATM deployment:

- Cost allocation—As the costs of higher speed wide-area networks increase with bandwidth, so there is greater demand for cost justification and allocation to those users actually using the bandwidth.

- Network administration—ATM's more complex environment, greater number of connections, and wide variety of services make the administration of the network a potentially impossible task without the right tools.

- Resource planning—ATM networks are complex to analyze, design, manage, and maintain.

Standard Features

The following features are available with StrataCom StrataSphere:

- Scalability
- Management architecture and standards
- StrataSphere tools

Scalability

StrataSphere's distributed architecture is optimized for scalability. StrataSphere network management is designed to scale from the few-node user to the multithousand node carrier service network.

Management Architecture and Standards

Cisco's StrataSphere network management provides the unique capabilities required for managing ATM WANs. While Stratm is the ASIC implementation of ATM, StrataSphere distributes the logical management intelligence throughout the network via a set of building blocks, or modules. By distributing network management functionality, service management and process automation can be tightly integrated—simplifying management of even the most complex WANs and providing a comprehensive end-to-end management solution.

StrataSphere revolves around a TMN-compatible structured architecture optimized for scalable ATM system management. First, a significant amount of intelligence is distributed to the elements themselves, allowing fast, distributed rerouting and real-time quality of service management. Elements collect and archive granular historical statistics (not simple counters) and provide standard, open interfaces to information. Interface protocols include and extend beyond SNMP, which is real-time intensive and has

excessively high overhead, to TFTP, which is optimized for bulk data transfer, and can upload one million usage statistics per hour per management station. StrataSphere also supports Telnet for direct nodal access.

Element and network management functions are provided by the StrataView Plus system, which can manage all StrataCom network elements seamlessly. StrataView Plus in turn provides open interfaces for other StrataSphere tools and for higher level service management systems.

StrataSphere Tools

StrataView Plus, a suite of SNMP-based network management applications, available for HP OpenView and NetView for AIX, provides powerful fault, configuration, and performance management functionality. StrataView Plus also provides StrataSphere's robust statistics collection, storing the information in an Informix SQL database and allowing simple integration of this data into existing network management and operations systems. The StrataSphere tools include the following capabilities:

- Network planning and design

- Management and operations

- Service management and integration

Network Planning and Design

The StrataSphere Modeler lets network managers read, design, modify, and analyze networks on line. With Modeler software, the best network topology can be quickly and easily designed, based on existing network configuration data. The StrataSphere Optimizer enables "what if" scenarios based on predefined parameters to analyze user traffic patterns, optimize for least cost, and determine minimum adequate redundancy. Optimizer software simplifies prototyping of new services and helps network managers determine how future growth will impact service usage and resource allocation.

Management and Operations

StrataView Plus software provides powerful fault, configuration, and performance management capabilities for the BPX Service Node. A user-friendly, graphics-oriented interface running under HP OpenView and IBM NetView for AIX platforms lets network managers view the entire network at once to quickly identify and isolate network problems.

Service Management and Integration

The StrataSphere Service Agent provides network and service layer management views and control through a Simple Network Management Protocol (SNMP) proxy agent. This feature enables automated provisioning, simplifies customer network management, and provides a basis for other value-added service management solutions. The StrataSphere Statistics Agent software collects comprehensive network statistics for billing, cost allocation, performance management, and capacity planning. The Statistics Agent saves time and simplifies billing and planning. StrataSphere BILLder software lets network
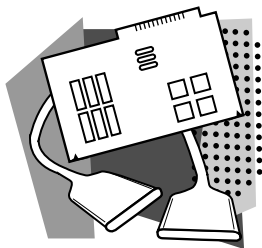
managers monitor network traffic flow and allocate costs. Once billing periods are defined, BILLder captures the data from that period and formats it in a standard or customized billing record.

System Requirements

Table 226 provides the system requirements for StrataSphere ATM network management.

Table 226   StrataSphere System Requirements

Description	Requirement
Hardware	Sun SPARCsystem
Operating system	Solaris 1.x (SunOS 4.x)
Memory	128 MB to 192 MB (depending on configuration)
Disk	1.5 GB
Video	17" color monitor, 256-color display adapter

Product Numbers

Table 227 lists the product numbers you can use to order StrataCom StrataSphere ATM network management software.

Table 227   StrataCom StrataSphere Product Numbers

Description	Product Numbers
StrataView Plus	
StrataView Plus 727 software license (<12 nodes), Sun	NM-SV-S.727
StrataView Plus 8112 software license (<12 nodes), Sun	NM-SV-S.8112
StrataView Plus 727 software license (12 nodes), Sun	NM-SV-L.727
StrataView Plus 8112 software license (12 nodes), Sun	NM-SV-L.8112
HP OpenView 3.3—Sun	HPOV.33
StrataSphere SNMP Service Agent (<12 nodes)	NM-SV-AGNT-S.727
StrataSphere SNMP Service Agent (<12 nodes)	NM-SV-AGNT-S.8112
StrataSphere SNMP Service Agent (12 nodes)	NM-SV-AGNT-L.727
StrataSphere SNMP Service Agent (12 nodes)	NM-SV-AGNT-L.8112
Billing and Statistics	
Standalone Statistics Agent—Sun	NM-SV-STAT.727
Standalone Statistics Agent—Sun	NM-SV-STAT.8112

Description	Product Numbers
Network Modeling and Design	
StrataSphere Modeler software license 720	NM-NMT-MOD.721
StrataSphere Modeler software license 810	NM-NMT-MOD.810
StrataSphere Optimizer	NM-NMT-OPT.810
Network Management Upgrades	
StrataView Plus (any release) to Release 7.27 (<12 nodes)	720050.727U
StrataView Plus (any release) to Release 7.27 (12 nodes)	720051.727U
StrataView Plus Release 7.112 to Release 8.112 (<12 nodes)	NM-SV-S.8112U
StrataView Plus Release 7.112 to Release 8.112 (12 nodes)	NM-SV-L.8112U
StrataSphere SNMP Service Agent Release 7 to 8.10 (<12 nodes)	NM-SV-AGNT-S.810U
StrataSphere SNMP Service Agent Release 7 to 8.10 (12 nodes)	NM-SV-AGNT-L.810U
StrataSphere Modeler Upgrade (NMT) 6.21 to 7.21 (end user)	711400.721U
StrataSphere Modeler Upgrade (NMT) 6.21 to 7.21 (internal)	711500.721U
StrataSphere Modeler Upgrade (NMT) 7.0 to 8.10 (end user)	NM-NMT-MOD.810U