Alcatel·Lucent

Alcatel-Lucent 8950

AUTHENTICATION, AUTHORIZATION AND ACCOUNTING | RELEASE 6.X

The Alcatel-Lucent 8950 Authentication, Authorization and Accounting (AAA) server is an award-winning, industry-leading software product that supports over 1000 service providers and enterprise customers, providing service to hundreds of millions of ports and subscribers worldwide. A key component of the Alcatel-Lucent Enterprise solution, the Alcatel-Lucent 8950 AAA supports WLAN, Wi-Fi® and Voice over Internet Protocol (VoIP) networks.
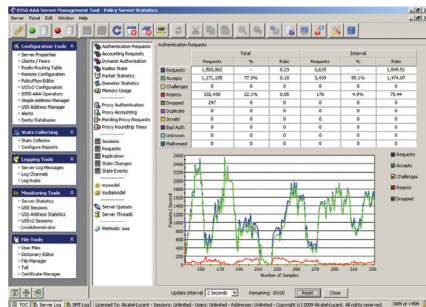
What is AAA?

AAA is defined as authentication, authorization and accounting and is a fundamental aspect of IP networking. As mobile IP technology expands to enable a multitude of mobile, Internet-enabled devices, AAA servers will provide the means of administering policy to ensure proper use and management of resources.

Specifically, authentication refers to the process of establishing the digital identity of a user or device. Authorization refers to the granting of specific types of privileges to users/devices, based on their authentication, the privileges they are requesting and the current system state. Accounting refers to the tracking of the consumption of network resources by users/devices for management, planning and billing.

Benefits

- Reduces capital expenditure (CAPEX) server costs by up to 50 percent compared to competitors
- Scales to support a virtually unlimited number of subscribers
- Supports multiple networks
- Reduces operating expenditures (OPEX) through a single interface for subscriber management
- Increases enterprise security and compliance with regulations with a network-based solution

The Alcatel-Lucent 8950 AAA has one of the most extensive sets of AAA features for access management on the market. Supported by a highly flexible policy management capability and an intuitive, real-time dash board, the Alcatel-Lucent 8950 AAA provides

access management for Wi-Fi, WLANs, VoIP and enterprise networks. It is tightly coupled with Alcatel-Lucent OmniSwitch™ and Alcatel-Lucent VPN Firewall Brick™ as well as the InfoExpress CyberGatekeeper. It is also an integral part of the Network Access Control solution, offering the following capabilities:

- Specifies who is authorized to access your network
- Ensures that connections are configured correctly
- Controls the way users connect to and what resources they can access on your network
- Helps in accounting while users are connected to your network

Simultaneous support for multiple access requirements

Utilizing award-winning, field-proven technology, the Alcatel-Lucent 8950 AAA dramatically reduces costs by simultaneously supporting multiple access requirements. This capability eliminates the need for multiple AAAs to support fixed and/or mobile services, roaming, convergence and blended multimedia services. Creating standard AAA policies is quick and efficient with the easy fill-in-the-blank PolicyAssistant Configuration graphical user interface wizard.

Alcatel-Lucent PolicyFlow™ programming is used for overall server configuration, management and monitoring, creating the ability to conform to any possible policy scenario without compromise to requirements or adjustment of designs.

Compliance with industry standards

Designed based on industry standards, the Alcatel-Lucent 8950 AAA supports all current 802.1x and Extensible Authentication Protocol (EAP) standards for authenticating users, client hardware and servers. Extensive RADIUS and Diameter standards compliance provides a robust feature set to support a wide range of access networks for Mobile-IP and Virtual Private Networks and Voice of IP.

Open interfaces

Open interfaces simplify integration, including ease of integration with third-party products for secure token access, such as SecurID, Aladdin® SafeWord® and others. The Alcatel-Lucent 8950 AAA also has a seamless interface with existing RADIUS and Diameter systems and back-end storage technologies, such as the Alcatel-Lucent 8661 Directory Server (DS) or third-party Lightweight Directory Access Protocol (LDAP), Microsoft® Active Directory (AD) or SQL technologies. Strong multivendor RADIUS and Diameter client support is based on an extensible XML dictionary.

Features

The Alcatel-Lucent 8950 AAA is designed with a modular architecture to provide the highest levels of flexibility, performance and availability and the broadest ranges of scalability.

Flexibility and performance

- Extensibility
  - ¬ PolicyFlow AAA programming language for flexible service definition to provide extreme configurability — no custom software development required
  - ¬ Strong authentication based on token cards
  - ¬ Fully configurable accounting record creation
- Multiple configurations to support all environments, including:
  - ¬ Standalone AAA server capability
  - ¬ Pre-integration with the InfoExpress CyberGatekeeper, OmniSwitch and VPN Firewall Brick
  - ¬ AAA with a pre-integrated LDAP directory server: Alcatel-Lucent 8661 DS, Microsoft AD
  - ¬ Adaptable configuration options for integration in any network environment with full support for redundancy and availability requirements
  - ¬ Available for the most popular platforms: Sun Solaris, HP-UX, Linux™ and Microsoft Windows™

Figure 1. Alcatel-Lucent 8950 AAA
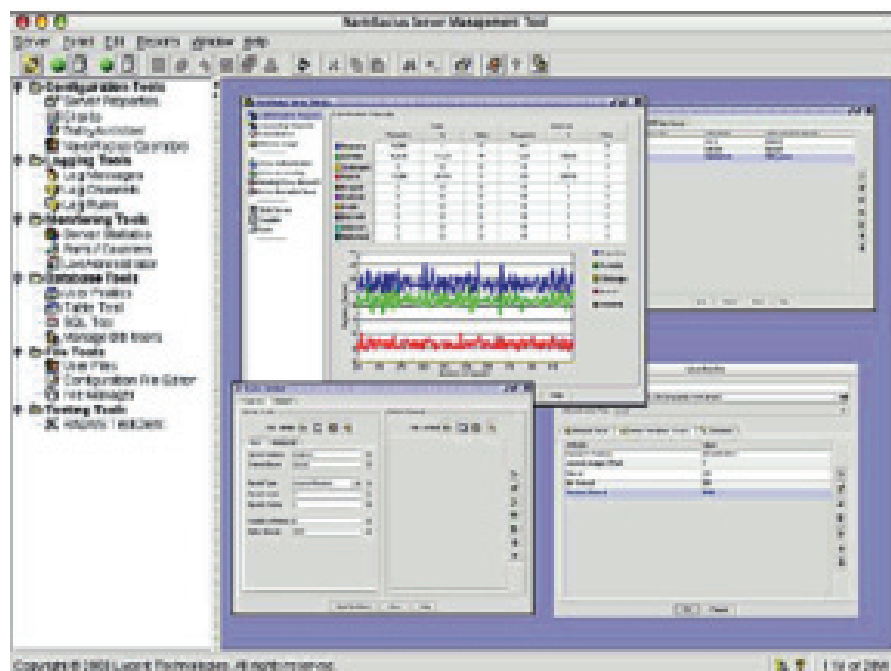
- Highly flexible policy management capabilities and a broad toolset of capabilities that enable personalized services, making the Alcatel-Lucent 8950 AAA the most flexible AAA server on the market
- Competitive performance advantage
  - ¬ Intelligent transaction processing of requests, including flexible retry/alternate data source logic
  - ¬ Software optimized for performance: fully multi-threaded application with processor thread tuning to take full advantage of multi-processor systems
- Server monitoring and statistics tools, including extensive logging capabilities such as Syslog and SNMP
- Support for both local and geographical redundancy for high availability and improved resilience

Scalability and capacity

- Virtually unlimited capacity architecture that capitalizes on major Internet technology innovations in hardware and architecture
- Scalable to support the smallest to the largest of networks
- Support for a virtually unlimited number of subscribers, enabling service providers to maximize one-time investments in network equipment while growing their customer base

Technical specifications

- IP data integration
  - ¬ RADIUS
  - ¬ HTTP and XML
  - ¬ SOAP
  - ¬ IPv6 ready
- EAP support
  - ¬ EAP-MD5-Challenge Handshake Authentication Protocol (CHAP), such as password-based authentication
  - ¬ EAP-TLS certificate-based mutual authentication, including CRL and OCSP support
  - ¬ EAP-Tunneled TLS (TTLS) single-sided certificate authentication (such as SSL) supports standard AAA options, including PAP/CHAP and proxy
  - ¬ EAP-Protected EAP (PEAP) single-sided certificate authentication for secure EAP
  - ¬ EAP-MS-CHAPv2 password-based authentication
  - ¬ EAP-Generic Token Card Basic transport for PAP and token cards such as SecurID and SafeWord; typically used with PEAP or TTLS
  - ¬ EAP-SIM SIM-based authentication
  - ¬ EAP-AKA USIM-based authentication
  - ¬ Support for additional options, including password and proxy
  - ¬ Support for Microsoft and RSA® systems
- Supported platforms
  - ¬ Windows
  - ¬ Solaris and Linux upon request

Figure 2. Enterprise Environment

Any user

Any device

Any authenticator

RADIUS 802.1X captive portal

8950 AAA

LDAP

Windows AD

RADIUS

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