

ADVANCED OPERATIONAL ENVIRONMENT (AOE)

End-to-End Service Management Platform

PRODUCT FEATURES

- Scalable, extensible architecture
- All-Java application, based on TMN model
- Single management platform for ADTRAN systems
- Includes fault, configuration, accounting, performance, and security management functions
- Plug-and-play deployment for Ethernet services
- Supports scheduled and automatic network element software upgrades
- Provisioning recovery after catastrophic failure
- Optional redundant configuration

Overview

The rate of communications technology change is constantly accelerating. The explosion of connected devices combined with growing video content (both IPTV and OTT) and cloud applications are driving the need for infinite bandwidth. This is driving service providers to build next-generation software-centric (SDN) networks which are highly scalable and programmable, allowing for faster and more flexible service delivery. In addition, telecom and cable operators are looking for service management tools that simplify service orchestration in a multi-vendor network environment.

Aligning Business with Network Management

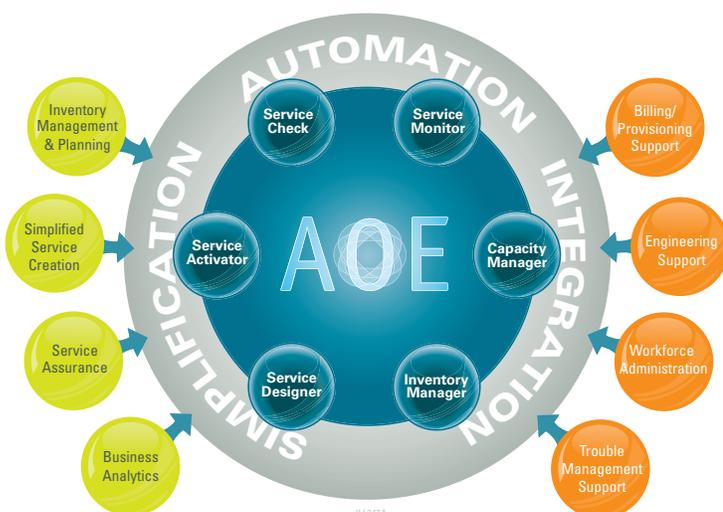
The ADTRAN® Advanced Operational Environment (AOE) transforms the traditional operational environment from equipment configuration and provisioning to a service-oriented approach that aligns with the service providers' drive towards software-centric networks.

AOE enables end to end service management, simplifying operations such as network planning, capacity management, service activation and assurance, providing timely and cost effective overall service management.

Service activation and diagnostics operate throughout the layers of the service, including physical and logical layers, ensuring the greatest possible visibility regarding the health and performance of the service. Effective management visibility includes Ethernet congestion points throughout the system, with the ability to characterize both the efficacy of the individual service and the overall capacity concerns of the system. Whether it is Carrier Ethernet, IPTV, VoIP, Internet, or Circuit Emulation, ADTRAN's advanced management solutions will verify the correct provisioning and performance of the circuit as well as prescribe corrective actions when problems arise.

Comprehensive Perspective

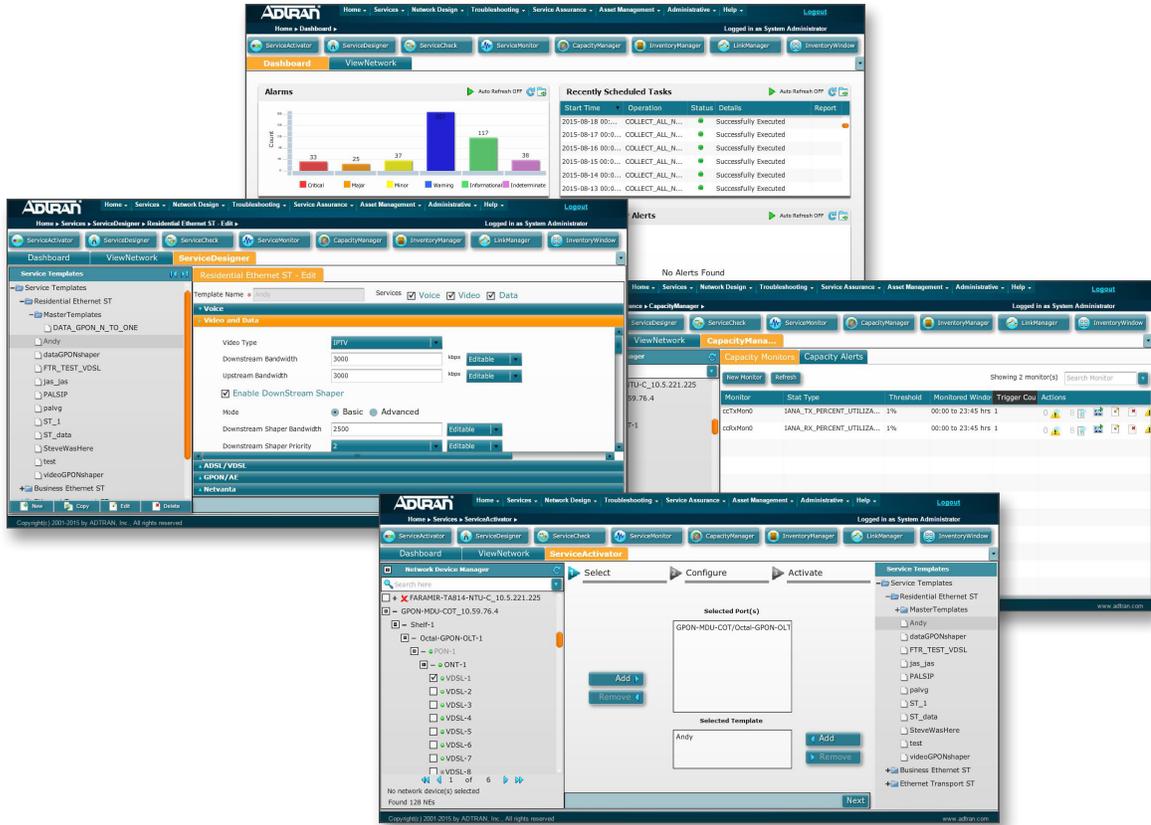
- ServiceDesigner® enables the network planner or provisioning to specify the configuration and performance parameters associated with a service in a "once and done" fashion using a simple web GUI. Component profiles are defined and used for complete service templates. Service templates are defined for multiple technology use. Service templates are defined for voice, video, data and business services.
- Auto Provisioning enables more efficient "zero-touch" residential FTTP service turn ups. This feature obviates the need for maintaining fiber plant records and allows service providers to actually learn accurate fiber assignments using reliable mechanisms like DHCP Option 82. It also allows for much richer back-office integrations wherever applicable and provides an avenue to decrease the overall time to revenue for new subscriber turn-up.
- ServiceActivator® simplifies the often arcane process of provisioning ports and cross connects to a simple service "drag and drop" capability. ServiceActivator works in concert with ServiceDesigner to perform end to end service provisioning based on template definitions. All the complexities of turning up subscribers services on access ports are completely transparent to the technician.



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- **ServiceCheck**[®] is a comprehensive diagnostic function useful in both circuit acceptance and troubleshooting situations. ServiceCheck goes beyond data visualization by employing diagnostic tests and algorithms such as metallic loop test, SELT/DELT, TScan[®], optical, and logical layer diagnostics to determine service integrity. PM, status, provisioning, and hardware information are written into system logic that checks the provisioning against the best practice settings for the particular service and then checks against an exhaustive set of rules to determine root causes for degrading conditions or failures. ServiceCheck offers recommendations to compensate for impairments if the line impairment cannot be isolated or repaired.
- **ServiceMonitor**[®] is a Performance Monitoring tool used to identify circuits that exhibit physical or packet performance degradation issues. It checks large number of circuits in a background operation; checks central offices or regions at a time. It is non-intrusive; generates a report of circuits experiencing degrading or suspect performance issues. It may be used with ServiceCheck to automate the diagnostics of suspect services identified by ServiceMonitor.
- **CapacityManager** monitors links and trunks throughout the access network to identify potential bottlenecks and recommended actions. Monitors can be configured for custom alerts. The alerts can be viewed on the AOE dashboard. This is non-service affecting.
- **InventoryManager** presents comprehensive set of inventory management and planning tools through an intuitive Graphical User Interface (GUI). It allows the user to view network-wide port usage by equipment type, descriptive inventory information by location and user definable reports
 - AOE offers a very simplified graphical interface to perform software upgrades in a scalable and reliable manner on all supported network elements. Software upgrades can be carried out on-demand or scheduled during a maintenance window. AOE makes it simpler to upgrade software on thousands of ONTs in an FTTP network.
 - All alarms from managed network element can be viewed live in the Alarm Window. The window offers a color coded view of the alarms based on their severity. The user can also drill into alarm details for more information about the alarms.
 - The OSS gateway provides northbound interface specifications for integration with service provider billing, provisioning, and facilities OSS to automate common tasks and functions.
- TL1, XML standard interfaces and web services.
- Support for alarms, provisioning, inventory, and performance monitoring.

End-to-End Service Management Platform



Summary

AOE is a simplified end-to-end service delivery construct that enables streamlined workflow for high scalability, proactive network monitoring for SLA compliance, and solid decision support logic designed for operational efficiency. ADTRAN's AOE solution transforms the traditional operational environment from equipment configuration and provisioning to a service-oriented approach that aligns with the service providers' operations. Hardware tasks have been automated within ADTRAN's management system, eliminating the training and equipment knowledge required of customer service representatives.

AOE

End-to-End Service Management Platform

PRODUCT SPECIFICATIONS

AOE is for use with Linux-based operating systems. Minimum hardware requirements necessary for evaluation of AOE are listed below. To receive recommendations for your deployment, please contact your sales individual or email ems@adtran.com

Server

Supported OS

- CentOS 5, 6 or 7
- RedHat Enterprise (RHEL) 5, 6 or 7

Server Specs

- **Processor:** Quad-core 1.9 GHz or comparable
- **RAM:** 8 Gb
- **Disk Space:** 100 Gb
- **Network LAN:** 1 Gb

Product Families Supported

Category I

- Total Access® 5000
- Total Access 4303
- Total Access 3000
- OPTI-6100

Category II

- Total Access 1500
- Total Access 1100F/1200F
- Total Access 11xx/12xx
- OPTI-3

Category III

- NetVanta® 800, 8000 Series
- Total Access 14xx
- FTTH 500 Series FTTB/dp ONU
- MX2800/MX2820
- MX410/412
- Total Access 600 Series T1 ATM
- Total Access 600 Series T1 TDM

Category IV

- FTTH 300 Series ONT
- FTTH 400 Series ONT

ORDERING INFORMATION

AOE Services Management Application is delivered as a key component in the ADTRAN Network Care Programs. For information on these programs, including components and pricing, please visit the Services website at: www.adtran.com/networkcare

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