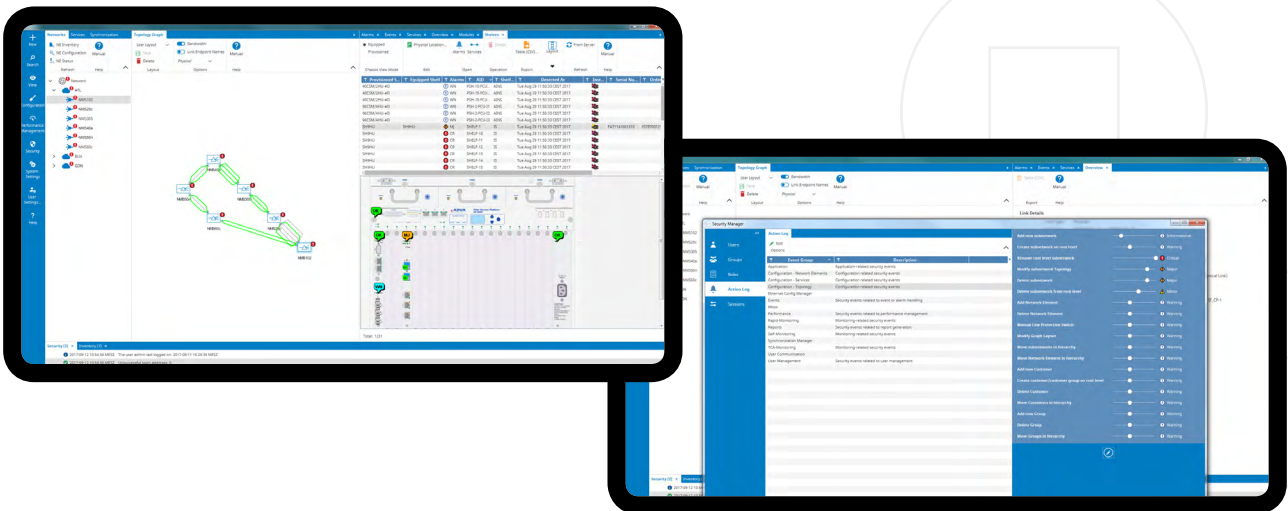


Ensemble Controller

Combining network management with domain control

With ever-increasing network complexity, communication service providers need management tools for intuitive and barrier-free operation, while open control interfaces need to enable simple integration into end-to-end orchestrators. A common solution for network management and domain control is a prerequisite for seamless migration from manual operations to automated control. Our Ensemble Controller builds on proven, reliable and scalable network management technology such as the FSP Network Manager, Pro-Vision® and the FSP Network Hypervisor.

Our Ensemble Controller is part of our comprehensive Ensemble software solution suite for advanced operation and control of physical and virtualized networks. With its management capabilities, it streamlines operational processes, helps to isolate faults, gathers performance data and delivers comprehensive reporting. Thanks to an intuitive graphical user interface (GUI) and multitude of sorting and filtering options, operational staff can easily and efficiently manage the network, no matter how big or complex it is. With our Ensemble Controller's automated procedures, even tedious and long processes, such as network element backups or software downloads, become child's play. Open SDN interfaces simplify the integration into overarching orchestrators for automated dissemination of abstracted resource information and network health as well as automated service activation.



Your benefits

- ✔ **Fault monitoring and root cause analysis**
 Sophisticated sorting and filtering options simplify fault management for instant problem resolution
- ✔ **Performance management**
 Collection, storage and display of performance data enable operators to monitor and optimize network quality and ensure SLAs
- ✔ **Open standardized northbound interfaces**
 Simplifying integration with open-source and commercial multi-domain controllers
- ✔ **Technology-specific extensions**
 Domain-specific applications such as Ensemble Sync Director, Ensemble Optical Director, Ensemble Crypto Director
- ✔ **Multi-technology management**
 One tool for optical transport, packet networks and synchronization
- ✔ **Proven, reliable and scalable**
 Applied with more than 750 customers; designed to manage more than 100k network elements

High-level specs

Visualization

- Intuitive, barrier-free point-and-click GUI
- Network topology view with automatic topology detection
- Photo-realistic shelf display
- Multi-layer service display

Fault and alarm monitoring

- Automatic synchronization with network elements
- Alarm correlation and filtering
- User-friendly browsing, sorting and filtering
- Trap flood protection

Data collection and Reporting

- Resource discovery, service activation
- Standard interfaces such as ONF T-API, IETF TEAS, MEF Presto
- Supporting data collection for AI applications

Security

- Radius and TACACS+ authentication
- Extensive use of secure protocols with encryption
- User activity logging
- Optional four-eyes principle for critical actions

Housekeeping

- Extensive analysis tools
- Centralized software download to network elements
- Automatic backup and restore of network element configuration
- Automatic backup of NMS data

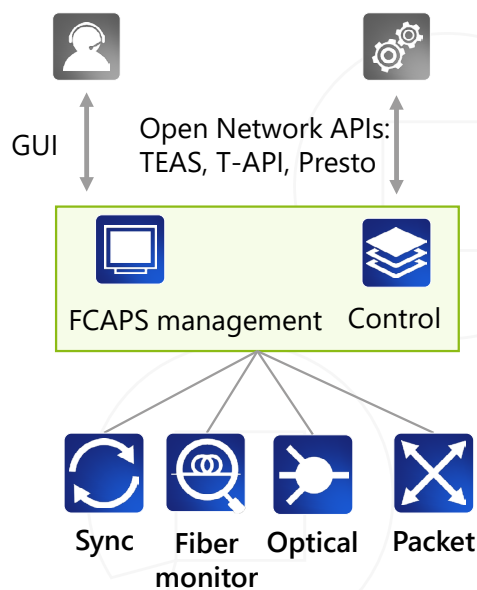
Operational environment

- Runs on Microsoft Windows and RedHat Linux OS; also on virtualized servers
- Geographically redundant configuration
- Wide range of northbound interfaces

Applications in your network

Advanced management and control for manual and automated service activation and assurance

- Centralized visibility and control of network infrastructure
- Integrated cross-layer management view (WDM, OTN, Ethernet, Sync)
- Domain control of ADVA network domain providing standard northbound SDN control interface



For more information please visit us at www.advaoptical.com
© 12 / 2018 ADVA Optical Networking. All rights reserved.

Product specifications are subject to change without notice or obligation.