

Alcatel-Lucent 5620 Service Aware Manager Portfolio for Utilities



Going far beyond traditional
network management





The Alcatel-Lucent 5620 Service Aware Manager (SAM) portfolio takes network administrators well beyond the traditional boundaries of element and network management. It enables unified, end-to-end management of IP/MPLS and Carrier Ethernet networks and the services they deliver. Fast and easy configuration reduces deployment time and increases flexibility. Proactive troubleshooting helps resolve problems before they affect users and the utility operations.



UTILITY NETWORK CHALLENGES

The pressure is on. Communications networks are being transformed to a converged, all-IP infrastructure. To rapidly plan, deploy and troubleshoot this new generation of networks and applications while controlling costs, a converged service-aware management solution is essential.

Traditional element and network management solutions often do not allow network administrators to keep pace with the size and complexity of today's networks. Manual processes that use a command-line interface (CLI) are too slow and error-prone. Reactive problem detection leads to longer outages and dissatisfied users. Insufficient information on how the network is used and uncertainty about how planned changes will affect the network and users make network planning very difficult and sometimes incomplete.

The Alcatel-Lucent 5620 SAM portfolio (see Figure 1) takes network administrators well beyond the traditional boundaries of element and network management. It enables unified, end-to-end management of IP/MPLS and Carrier Ethernet networks and the services they deliver. Fast and easy configuration reduces deployment time and increases flexibility. Proactive troubleshooting helps resolve problems before they affect users and the utility operations.

Importance of management for smart-grid implementations

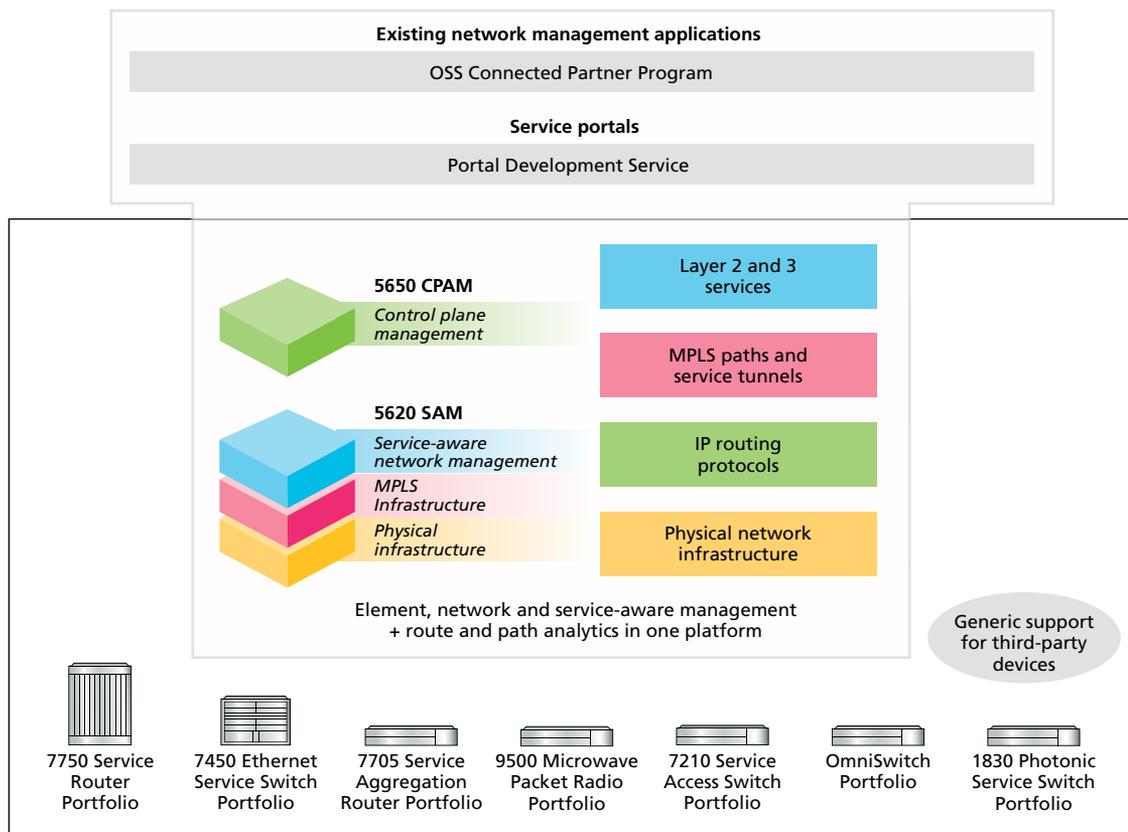
Utilities worldwide are implementing smart-grid technologies to:

- Increase the inclusion of distributed green power sources
- Deploy smart meters for more real-time information and control, both by consumers and the utilities
- Meet new regulations
- Adapt these and other technologies to an all-IP/Ethernet converged infrastructure

This IP transformation of the grid communications imposes new technologies and infrastructure designs and complexities, increasing the network administrator's role and responsibilities. A converged network reduces the overall effort and cost by reducing the number and types of network elements but can increase the requirements for flexibility and visibility. Without superior element, network and services management tools, the task can be a challenge.

The smart grid also has many elements that need to be managed in addition to the network infrastructure. The network administrator needs an overall network view as well as information about and control of the network and its applications. The Alcatel-Lucent 5620 SAM portfolio meets these needs because it is designed to effectively integrate into an umbrella Operational Support System (OSS).

Figure 1. Alcatel-Lucent 5620 SAM portfolio: Element, network and service-aware management plus route and path analytics



Independent research has confirmed the Alcatel-Lucent 5620 SAM increases administrator productivity by 75 percent while reducing script development costs by 50 percent.

SOURCE: FORRESTER CONSULTING



Accelerate the configuration process

Agility is key to maintaining a dynamic, yet reliable, communications network. Network administrators must be able to quickly and easily configure and change network elements, routing infrastructure and services.

Configuring using CLI is cumbersome and can lead to network issues. Introducing new equipment and services can be unnecessarily delayed, diminishing the customer experience and affecting business objectives. The Alcatel-Lucent 5620 SAM gives

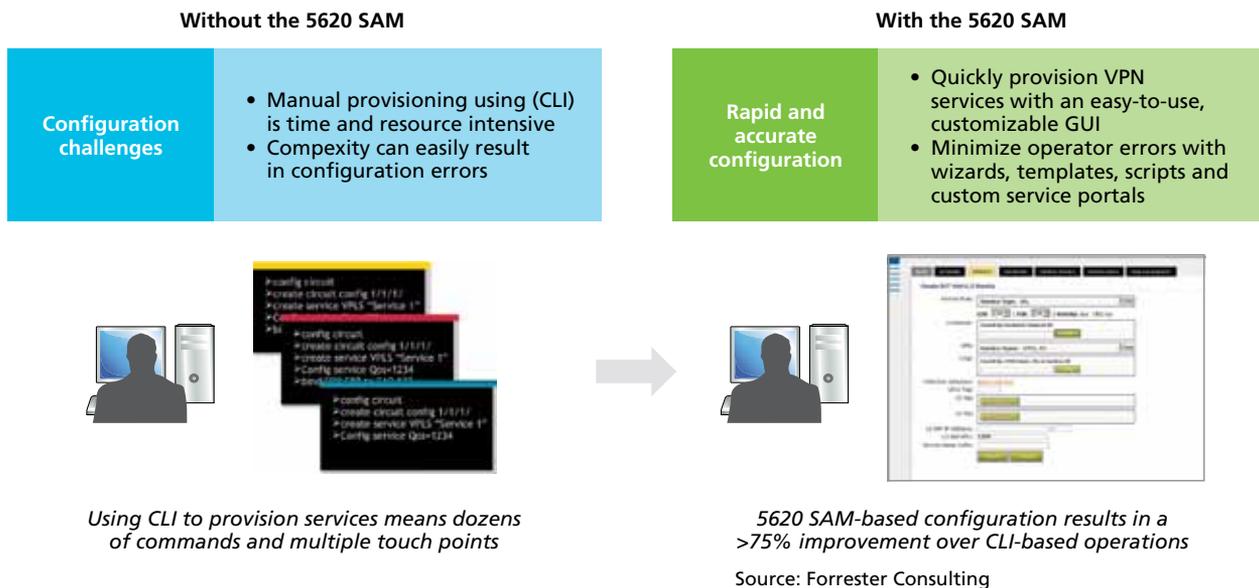
network administrators several options to accelerate the configuration process and minimize the risk of misconfigurations (see Figure 2):

- Easy-to-use graphical forms, for point-and-click element, network and service configuration
- Wizards to guide administrators step-by-step through complex tasks
- Advanced scripting, templating and rules-based configuration, allowing customization of the Alcatel-Lucent 5620 SAM for specific network or

service requirements.; this customization also allows non-expert resources to handle more complex tasks and eliminates repetitive data-entry activities

- Further automation and zero-touch configuration, if required, by deploying a custom-built service portal
- When configuration is complete, a single click allows administrators to verify that complex services are operating correctly across all layers.

Figure 2. Effective and efficient configuration with the 5620 SAM



Enable proactive fault management

Today's networks and the applications that use them have become mission and business critical. Any Quality of Service (QoS) reduction or persistent outage is directly tied to a loss in productivity and revenue, and can even compromise worker and customer safety. With network and application environments becoming increasingly complex, implementing fault management with traditional element and network centric tools and CLI is inefficient and resource-intensive.

With the Alcatel-Lucent 5620 SAM, network administrators can proactively identify and resolve potential problems in the network before they impact users. For example, scheduled test suites provide detailed information on network performance and assurance thresholds for any applications where increased latency, jitter or packet loss will affect application performance and diminish the quality of experience.

Rules-based alarm notifications, such as threshold-crossing alerts, and escalating test-failure alerts further automate fault management and ensure adherence to Service Level Agreements (SLAs).

When a problem does occur, the Alcatel-Lucent 5620 SAM offers a comprehensive set of tools that lets network administrators quickly find and resolve the issue. Integrated graphical views of the physical and logical topology depict all paths traversed by a service, including the actual routes across the network. And enhanced alarm correlation reduces the number of alerts by providing a single entry that identifies the root cause of the problem.

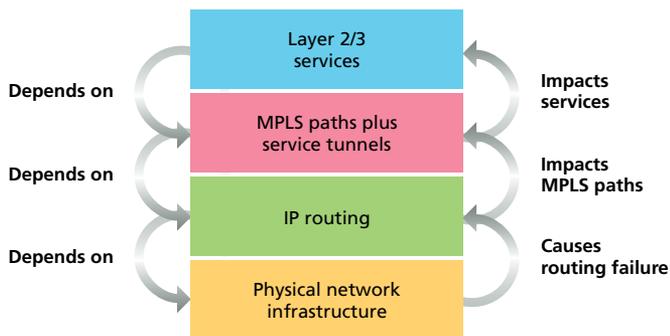


“The 5650 CPAM has proven an invaluable tool for troubleshooting complex BGP configurations. It allowed us to graphically visualize the AS path topology, enabling us to quickly diagnose BGP issues that occurred after an upgrade scenario. We look forward to continue to leverage the significant value the 5650 CPAM has added to our overall network-assurance capabilities as we introduce new services and our network grows.”

JEFF FRY, MANAGER, TELECOMMUNICATION ENGINEERING TRANSMISSION AND TECHNOLOGY, AUSGRID (FORMERLY ENERGYAUSTRALIA)

The Alcatel-Lucent 5650 Control Plane Assurance Manager (CPAM) is a multivendor route analytics solution that is tightly integrated within the Alcatel-Lucent 5620 SAM to deliver unprecedented real-time visualization, surveillance and troubleshooting for dynamic IP/MPLS networks and services. It helps network administrators to quickly identify IP routing and MPLS path misconfigurations, malfunctions and undetected updates, further decreasing troubleshooting times and accelerating problem resolution (see Figure 3).

Figure 3. Alcatel-Lucent 5650 CPAM simplifies control-plane management across multiple layers



ALCATEL-LUCENT 5650 CPAM

Administrators can use the Alcatel-Lucent 5650 CPAM to simulate planned control-plane configuration changes and operational maintenance, such as node upgrades. With graphic analysis of the simulated topology, administrators can prevalidate the impact of the changes before they take effect in the live network. This prevalidation reduces the risk of service degradations and interruptions.

Enhance performance reporting and network planning

Network administrators often lack visibility on how the network is used and on how planned changes will affect the network, utility operations and users.

The Alcatel-Lucent 5620 SAM provides a distributed platform for real-time statistics and offers the detailed information needed to avert network bottlenecks and service degradation. Historical and real-time statistics graphing help administrators better understand performance issues before they become a problem.

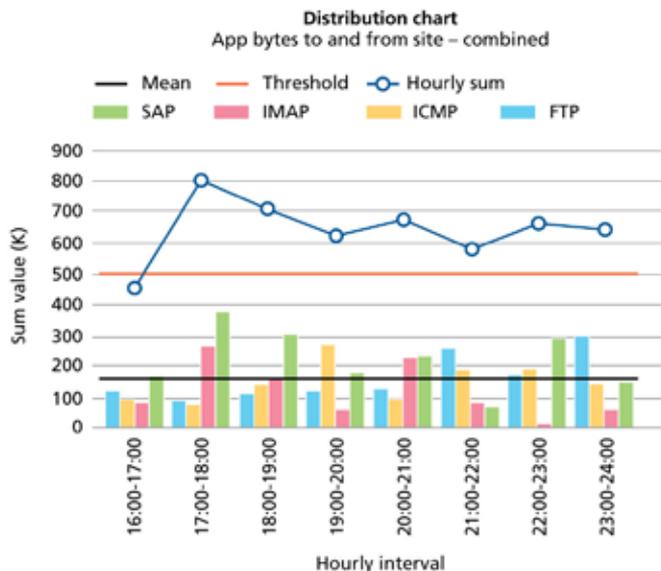
ALCATEL-LUCENT 5670 RAM

The Alcatel-Lucent 5670 Reporting and Analysis Manager (RAM) delivers accurate, timely, application-level intelligence for business and operational planning. It also provides insight into improving application performance and QoS optimization by collecting, warehousing, aggregating and analyzing performance and volumetric data for application traffic flows.

With the Alcatel-Lucent 5670 RAM, network administrators are able to better understand how the network is being used and to make informed decisions to ensure a positive user experience and operational flexibility (see Figure 4).



Figure 4. Sample of enterprise web reports (self-care) portal





Operational fit and flexibility when introducing IP/MPLS

With the Alcatel-Lucent 5620 SAM, network administrators gain a management solution that easily adapts to their existing environment. Span-of-control features allow administrators to assign administrator privileges based on geography, organization, job function or individual responsibilities. The ability to deploy the Alcatel-Lucent 5620 SAM in a high-availability, redundant configuration helps ensure full availability of network and service operations, even during catastrophic failures.

All Alcatel-Lucent 5620 SAM functionality is accessible through a powerful, open OSS interface. Using XML and Java Messaging Service (JMS), any or all capabilities can be integrated with other vendors' applications. The Alcatel-Lucent OSS Connected Partner Program provides certification for preintegrated products from leading independent software vendors, reducing integration time and costs.

Alcatel-Lucent Portal Development Service

- Offers customized, web-based service portals for network administrators to simplify workflows for service monitoring and configuration
- Can significantly simplify and accelerate the migration from legacy technologies to IP/MPLS-based networks by leveraging all available network data in the current operational environment, including data from third-party devices, systems and databases



CONTINUE EVOLVING WITH ALCATEL-LUCENT

Alcatel-Lucent has a long tradition of excellence in network management and leadership in IP/MPLS and Carrier Ethernet solutions. We also continue to raise the network and service management bar far beyond basic element and network management systems.

Our comprehensive portfolio of service-aware management applications allows network administrators to implement the lean and scalable operations processes required to deliver a reliable, flexible network that meets application performance requirements:

- Accelerates reliable provisioning processes
- Proactively prevents user-affecting problems
- Offers faster and simplified problem resolution
- Delivers unmatched visibility into network and application usage
- Simplifies network migration from legacy technologies to IP/MPLS

With more than 350 deployments, including some of the world's largest and most advanced networks in industries supporting mission-critical operations, the Alcatel-Lucent 5620 SAM portfolio is a proven solution that sets the standard for each aspect of network operations. With an architecture that is modular, extensible and scalable, the Alcatel-Lucent 5620 SAM portfolio helps network administrators address today's challenges with a foundation that will support tomorrow's smart-grid applications.

Effective, flexible, capable network and services management is a crucial aspect to running a mission-critical utility smart grid. The industry-leading and widely deployed Alcatel-Lucent 5620 SAM portfolio meets all the critical elements required by utilities.



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