VistaLink® for Alcatel-Lucent 5620 Service Aware Manager

A certified, pre-integrated performance assurance solution for Alcatel-Lucent 5620 SAM

InfoVista® Orchestrating network performance

1st TO CERTIFY ON SAM R12

The Alcatel-Lucent 5620 SAM powers mobility services including mobile backhaul, core IP/MPLS, broadband, enterprise and wholesale data services. InfoVista, an Alcatel-Lucent OSS Connected*Premier* partner, is the first to deliver and certify its performance assurance solution with the latest release of the 5620 SAM.

Now, you can enhance your enterprise and wholesale customers' experience with a market-leading, Web-based interface, network SLA management, and full historical reporting and analysis for engineering and planning. Add to that service exception alerting and self-service dashboards for your operations—all by combining the power of Alcatel-Lucent 5620 SAM with InfoVista's performance assurance platform including VistaLink® for Alcatel-Lucent 5620 SAM.
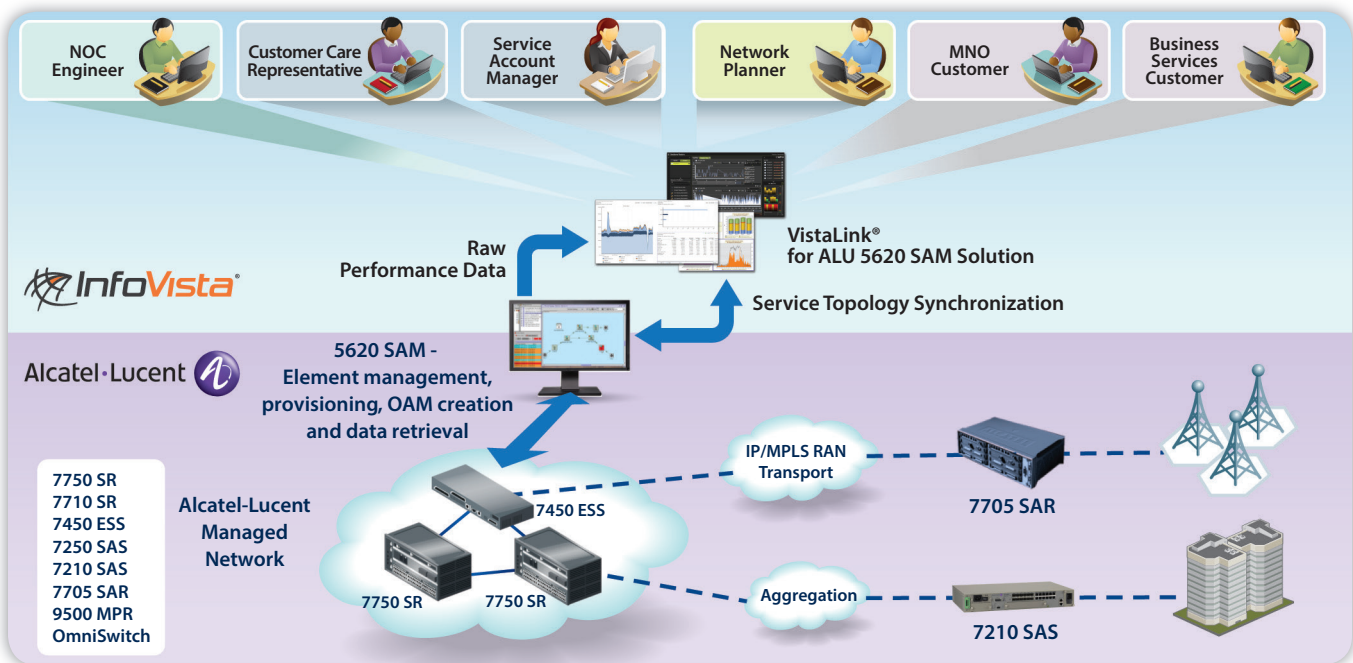

Figure 1. *VistaLink® for Alcatel-Lucent 5620 SAM model for service quality visualization*

Scalability that drives operational efficiency

Analyzing and reporting on an Alcatel-Lucent network—either as a stand-alone implementation or as part of a multi-vendor network architecture—is critical for communication service providers (CSPs) delivering high value, differentiated services. The challenge is handling the massive size of CSP networks in a practical manner. InfoVista's solution uses Alcatel-Lucent's LogToFile for collection of all metrics to deliver the operational efficiency CSPs require. This method, available since SAM v9R5, is the SAM's most efficient means of data collection by avoiding direct database queries and using JMS events for real-time access to performance and accounting statistics. InfoVista is the first to support LogToFile for collecting all statistics to ensure cost-effective performance assurance.

Connected*Premier* partnership ensures risk-free, rapid deployment

For close to a decade, InfoVista has provided the leading performance assurance platform with pre-built integration to the Alcatel Lucent 5620 SAM. Alcatel Lucent's OSS Partner Program has recognized this commitment by awarding InfoVista Connected*Premier* partner status. CSPs around the world can be confident that our integration is tested and certified to ensure the most effective and rapid integration of Alcatel-Lucent's growing portfolio of routing, switching and microwave products. CSPs can ensure SLAs are met, troubleshoot performance, plan/forecast capacity requirements and have access to the full history of service performance, underlying KPIs and technical indicators. The result is lowered management costs, reduced customer churn and increased customer satisfaction and revenue growth.

Accelerated time-to-market without compromise

CSPs must deliver quickly on service reporting to internal and external stakeholders to support new services, new customers and changing infrastructure. InfoVista reports on the key performance metrics for Layer 2 and Layer 3 network services. CSPs also need flexibility to handle uncommon or unique devices, features and options. InfoVista's Open VistaLink® technology enables CSPs to use any available SAM class property within a KPI formula. In addition, CSP's can rapidly add additional SAM packages and classes using the Alcatel-Lucent 5620 SAM-O API. The flexibility of Open VistaLink® technology ensures rapid deployment with out-of-the-box KPIs and reports, while ensuring full access to the entirety of SAM's performance and accounting statistics for unique or esoteric requirements.

InfoVista's VistaLink® for Alcatel-Lucent 5620 SAM is a pre-built, integrated performance assurance solution (certified by the Alcatel-Lucent OSS Connected Partner Program) that provides the benefits of best-of-breed, off-the-shelf software without the typical costs and risks associated with complex integration projects. This extension module provides Alcatel-Lucent 5620 SAM customers with a sophisticated performance assurance solution suitable for large, multi-vendor, heterogeneous networks, while fully leveraging the capabilities of the 5620 SAM suite.

Combining InfoVista's solution with the Alcatel-Lucent 5620 SAM enables CSPs to:

- Obtain a real-time view of Carrier Ethernet and IP/MPLS service availability including microwave backhaul

- Gain visibility of network and service key performance indicators (KPIs)

- Quickly and proactively identify quality of service (QoS) performance degradation, routing and capacity problems

- Improve the manageability and performance of large Carrier Ethernet and IP/MPLS service environments including broadband, business and mobility services.

- Capture SLA-imperative operations, administration and maintenance (OAM) metrics and results

- Decrease mean-time-to-resolution (MTTR)

- Improve service reporting and availability tracking

- Easily meet the reporting and monitoring requirements of CSPs and their customers

- Expedite service delivery through a pre-integrated, certified software solution

Together, the InfoVista and Alcatel-Lucent solutions accelerate service provisioning and assurance of IP-MPLS/Carrier Ethernet-based business services, mobility services and wholesale services (e.g. mobile backhaul).

Alcatel·Lucent

Alcatel-Lucent 5620 Service Aware Manager (SAM)

The Alcatel-Lucent 5620 SAM provides end-to-end service-aware management of converged, all-IP networks. The 5620 SAM manages all network domains including mobility, enterprise, residential and converged services. With unified element, network and service-aware management, CSPs can reduce time-to-market, automate provisioning and capitalize on their OSS investments with the SAM's open interfaces and integration with third-party solutions backed by the OSS Connected Partner Program.

InfoVista®

InfoVista's performance assurance platform delivers unmatched capacity and scale with more than two billion transactions per day in a virtualized environment delivering a multi-vendor, multi-tenant solution for the demanding needs of CSPs and their customers. The solution combines an easy-to-use, collaborative interface with advanced service modeling, correlating the relationships between resources, the services they support, the customers subscribing to those services and their respective performance indicators.

Using role-based access and related workflows, users inside CSPs' organizations (e.g. operations, engineering, service desk) are able to access the same source of information in the context they need to troubleshoot and resolve performance issues, plan and forecast their network services and address customer-impacting service degradation. Users outside of CSPs' organizations (namely customers) are able to 'touch-and-feel' their network services and visualize the proof-point that the service is meeting their needs.

InfoVista's solution is delivered on a distributed architecture of tightly integrated software components, designed for multi-tenancy, known as VistaFoundation®. This highly scalable and extensible architecture, coupled with out-of-the-box KPIs, reports and page views, enables rapid deployment and ease of monitoring large, multi-vendor CSP service environments.
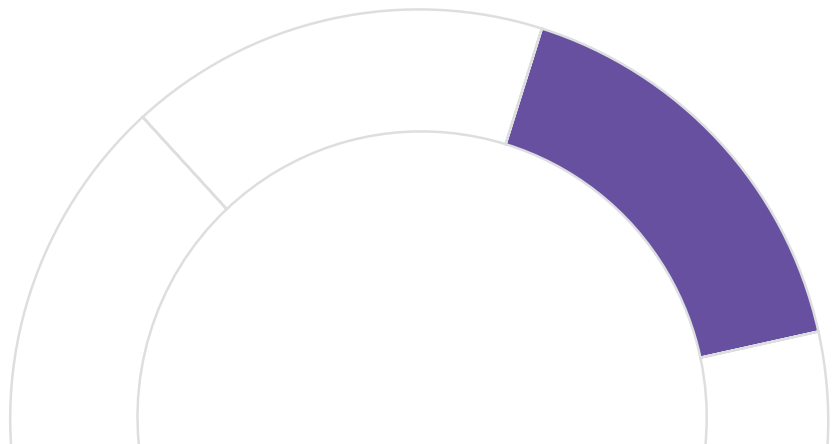
Automated performance reporting during activation and provisioning improves operational efficiency through:

- Streamlined service activation and performance reporting processes

- Automatic population of InfoVista's Layer 2/Layer 3 service model with customer, service, device and OAM test profiles

- Reduction in service activation time which includes customer-facing SLA reporting

- Accelerated time-to-market for service offerings

- Synchronized accounting of moves, adds, changes and deletions in Alcatel-Lucent network environments

- Fully configurable KPI reporting and calculation for custom SLA requirements, internal engineering metrics and VIP customer reporting

- Automated notification of forecasted capacity limits and abnormal performance

- Support for IPv6- and IPv4-based performance statistics

Proactive service assurance ensures successful service deployment and service excellence for competitive IP-MPLS/ Carrier Ethernet VPNs, mobility and wholesale services (e.g. mobile backhaul). The solution enables users to:

- Detect and visualize problematic performance conditions and avoid SLA violations

- Prevent outages and efficiently diagnose transient conditions, which are typical in packet-switched environments

- Detect sudden and long-term deviations from normal operating conditions

- Analyze performance history of network services, nodes and resources

- Optimize bandwidth utilization based on long-term trends

- Gain the information to verify and adjust QoS policies in relation to each class of service on the interface

- Navigate using simple and organized workflows within a web-based portal that leverages industry-aligned Carrier Ethernet and VPN service modeling

- Tailor reporting for highly specific customer reporting requirements and help differentiate service offerings
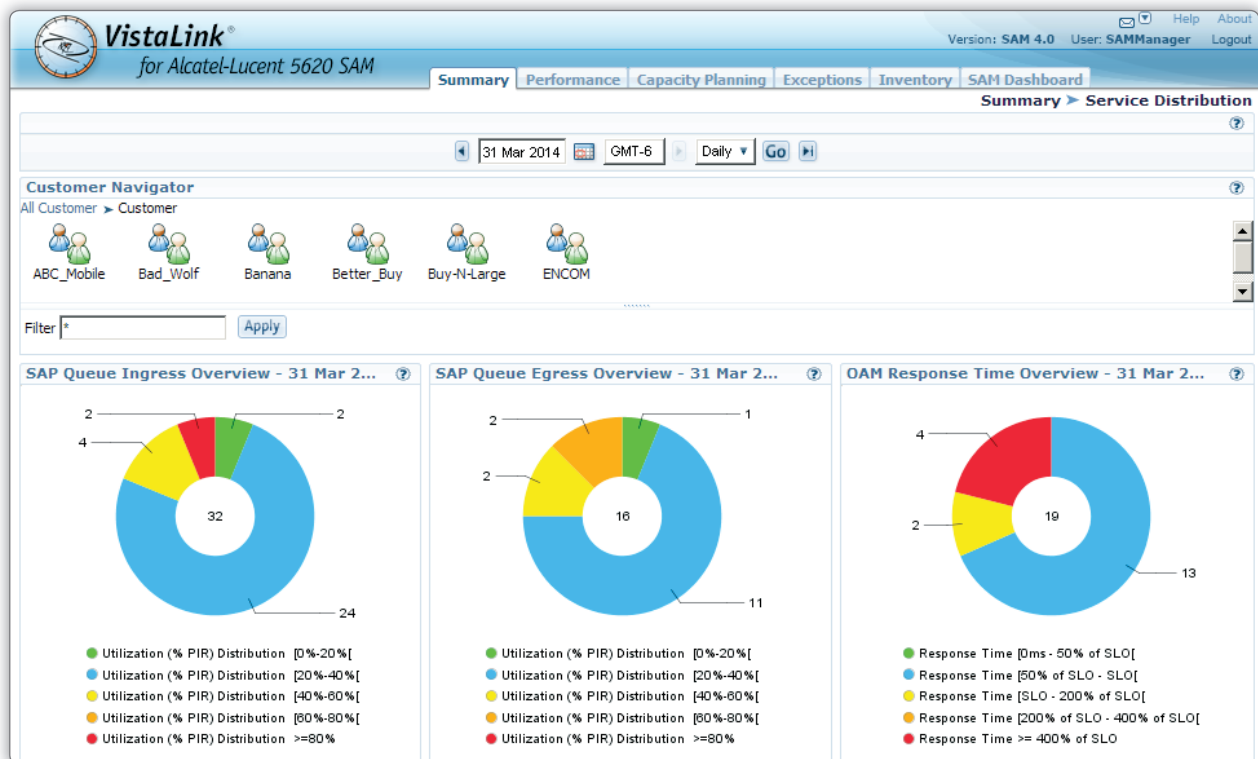

Figure 2. *Service level and utilization distribution dashboard by customer with drill-downs*

Out-of-the-Box, Certified Integration

With a GUI-driven setup and configuration, the certified Alcatel-Lucent 5620 SAM integration can be up and collecting data within the hour. The Alcatel-Lucent 5620 SAM assists engineering with service configuration and turn-up; that same configuration is then seamlessly synchronized with InfoVista's service model to enable the customer, service and location context provisioned with the 5620 SAM to be available within the InfoVista solution for true service visualization. Once the InfoVista configuration is set, the raw performance data provided by the 5620 SAM is fed directly to the InfoVista solution via the 5620 SAM-O module, including resource-to-service mapping of service access points (SAPs) and their relationships to IESs, VLANs, VLLs, VPLSs, and VPRNs, as well as linkages between 5620 SAM end-to-end measurements (OAM tests) and their related services.

Using this certified and pre-integrated approach, CSPs can avoid costly integration efforts and delays that may risk service delivery and particular market or customer opportunities.

No Additional Polling

The certified integration removes the need for direct polling by the InfoVista servers. Instead, the redundant northbound, XML-based interface is used as an efficient single point of contact with the 5620 SAM for collection of performance statistics. This lightens the load on network devices that might otherwise be subjected to numerous sources of polling. An additional benefit of the integration is that it gives the service assurance platform access to the OAM statistics, available only from the 5620 SAM. Such measurements are pertinent for monitoring end-to-end service performance.

The solution then delivers comprehensive, hierarchical performance reports and KPIs that CSPs and their customers can use to proactively measure IP VPN, IP/MPLS and Carrier Ethernet service performance. These reports empower both parties to supervise SLAs and gain a deep understanding of network problems.

High Availability

The high availability and system redundancy, built into the Alcatel-Lucent 5620 SAM solution, is fully supported by InfoVista. Specifically, the InfoVista solution supports primary and secondary 5620 SAM servers such that any failure of the primary server, or connection to that server, triggers the InfoVista solution to switch to the secondary SAM server and continue the data collection and service topology synchronization.

End-to-End Service Visibility and Analytics

A critical aspect of managing next-generation network (NGN) services like IP/MPLS-based VPNs and Carrier Ethernet services is their end-to-end performance. The Alcatel-Lucent 5620 SAM provides a number of OAM capabilities for measuring end-to-end performance characteristics including reach-ability, latency and jitter across Layer-2 VPNs, MPLS LSPs and other service constructs. Using the InfoVista solution, CSPs can continually enable these measurements, allowing the ability to not only see current and historical end-to-end behavior measurements but also apply baselines, forecasting and event notifications to better understand and preemptively address customer-impacting service degradation.
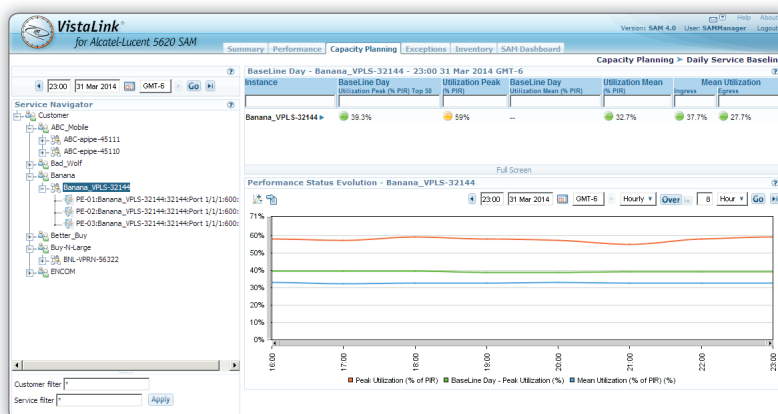

Figure 3. *Baselining % of utilization based on PIR for customer services*

Included in the reporting solution is support of Alcatel-Lucent's Y.1731 OAM test, providing an interoperable, end-to-end Ethernet measurement point with any vendor supporting the Y.1731 standard, and enabling one to monitor end-to-end Ethernet services purely at the Ethernet (Layer 2) level in heterogeneous networks.

Service-Centric Modeling

A traditional, resource-centric approach to managing NGN technologies, such as Layer 2/Layer 3 VPNs, IP/MPLS, Carrier Ethernet and mobile IP RAN, is functionally and operationally insufficient because it fails to provide a view and understanding of the relationships between quality (from the perspective of the users) and performance (from the perspective of the technology). Hence, customer satisfaction and SLA conformance suffer. InfoVista's solution provides the service-centric modeling to deliver those perspectives, including proactive analysis and preemptive alerting that can map customers to service levels and deliver visibility into relationships between end-to-end performance and network resources.

Figure 4. *Key services snapshot of usage and availability*

Service-Centric Navigation

VistaLink® for Alcatel-Lucent 5620 SAM's service model extends Alcatel-Lucent-related service intelligence, enabling efficient navigation by customer, service or device. In addition to being 'customer aware' and 'service centric,' users can display performance indicators that provide in-depth visibility into routers, interfaces, SAPs, SAP queues, service distribution points (SDPs), Link Aggregation Groups (LAGs), Multilink Point-to-Point Protocol Bundles (MLPPPs), MPLS interfaces and LSPs and OAM for IP/MPLS and Carrier Ethernet services.

Configurable KPIs for Differentiated Service Offerings

Immediately after installation, VistaLink® for Alcatel-Lucent 5620 SAM provides out-of-the-box monitoring and reporting on the most common and pertinent analytics and indicators for the provisioned Layer 2 and Layer 3 networks (including IPv6 metrics). As customers demand more for less, being able to tailor services to meet specific customer needs enables differentiation and increases customer wins.

To achieve such, the InfoVista solution provides an open and flexible report definition environment using a customization wizard to suit specific organizational and customer reporting requirements. The GUI allows the solution's administrator to enable or disable selected classes and properties to be retrieved from the SAM-O module. By avoiding manual manipulation of system XML files, it is possible to quickly implement the desired changes and accelerate the deployment of a solution in the production environment.

Metro Ethernet Forum (MEF) Alignment

Carrier Ethernet services have garnered significant industry support and respective revenues for CSPs. InfoVista was the first service assurance software member of the MEF, and InfoVista's commitment to the MEF is further demonstrated by the platform's integration of network equipment vendors that enable MEF-aligned service delivery such as with the Alcatel-Lucent 5620 Service Aware Manager. CSPs are then able to take full advantage of the flexibility and differentiated offerings enabled by MEF standards and provide the service visualization to showcase those offerings, while serving as the proof-point to the end customer.

Optional Self-Service Reporting

Whether CSPs are ensuring operational efficiency in the NOC or providing differentiated service offerings for their customers, true empowerment and service visualization is the solution. When combined with Vista360®, VistaLink® for Alcatel-Lucent for 5620 SAM enables end users (engineers, account managers or customers) to work with the performance assurance solution and analytics intuitively, defining their own views, thresholds and viewing comparative analytics of historical data. With graphical views, maps, collaborative dashboards and drilldowns, CSPs can add another dimension to VistaLink® for Alcatel-Lucent 5620 SAM solution..
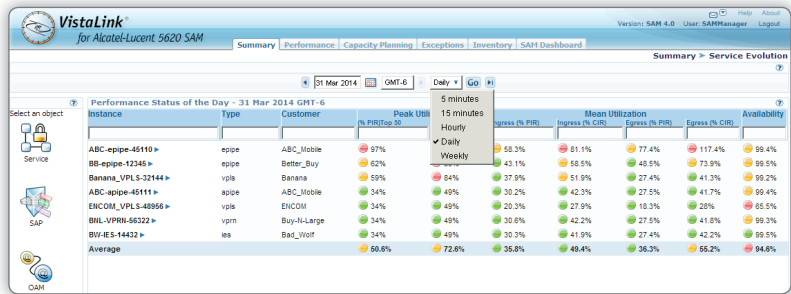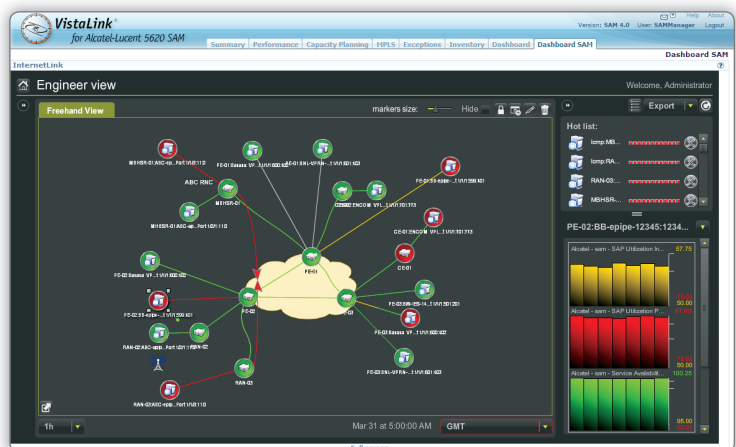

Figure 5. *Integrated self-service dashboard for user-defined analytics and alerting*
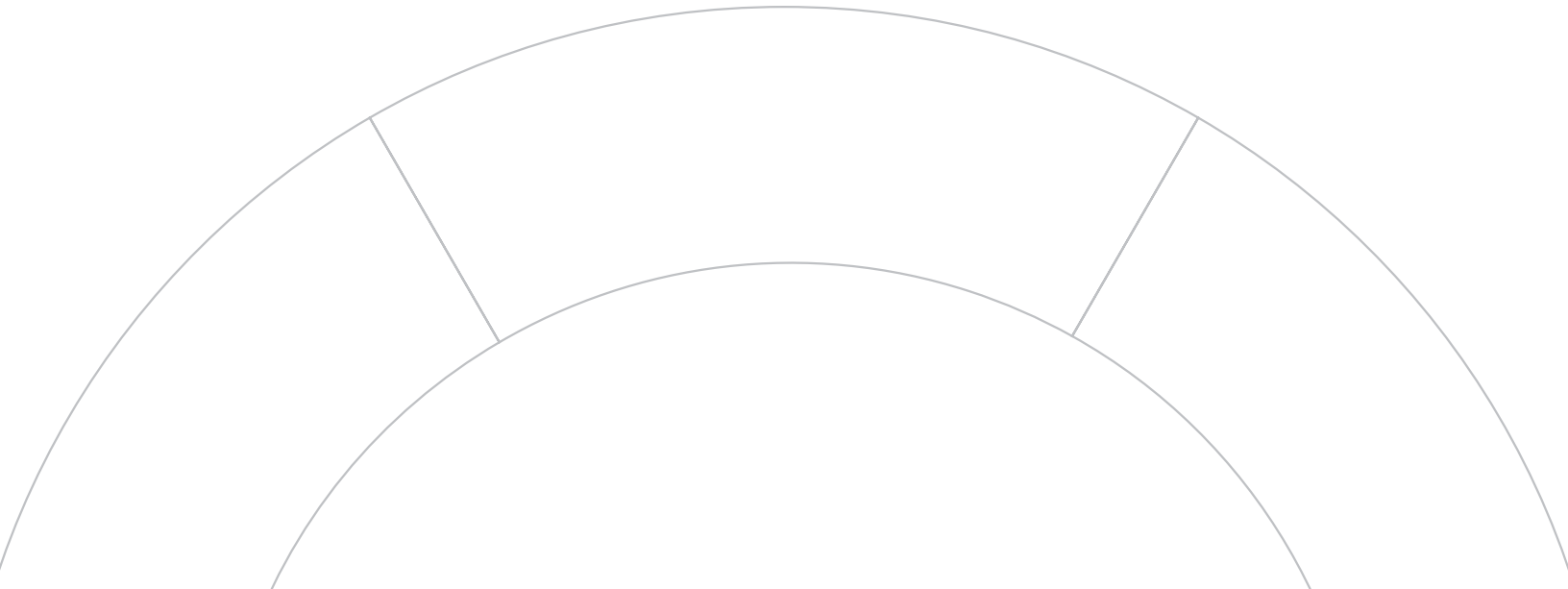
InfoVista—an Alcatel-Lucent Connected*Premier* Partner:

The Alcatel-Lucent OSS Connected Partner Program is a selective partnering program with best-of-breed software vendors. Its purpose is to help CSPs reduce OSS integration cost, time and risk by creating pre-integrated OSS application solutions that are compatible and interoperate with Alcatel-Lucent management solutions such as the 5620 SAM. InfoVista has been a member of the OSS Connected Partner Program since 2004.

In 2007, InfoVista achieved Connected*Plus* status—the top tier of the program at that time. Later in 2013, InfoVista achieved Connected*Premier* status, a third tier launched by Alcatel-Lucent in 2013 with additional commitment to certification with each major release of Alcatel-Lucent's management products. VistaLink® for Alcatel-Lucent 5620 SAM is certified under this program with the Alcatel-Lucent 5620 SAM. As such, InfoVista is committed to proactively maintaining its solution's interoperability with the latest releases of Alcatel-Lucent's 5620 SAM and service router portfolio. Hallmarks of the Connected*Premier* tier include a rigorous test program for certification and close, proactive collaboration between InfoVista and the SAM OSS team to drive product innovation. Through participation in this program, InfoVista continues to align its solution delivery with the very latest 5620 SAM releases. CSPs can be assured that their InfoVista solution will continue to execute flawlessly when planning a network upgrade to take advantage of the latest 5620 SAM features.

VistaLink® for Alcatel-Lucent 5620 SAM release 4.0 is certified against Alcatel-Lucent 5620 SAM releases 10, 11 and 12.

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