InfoVista and Nuage Networks – Application Optimization and SD-WAN to Boost Enterprise Unified Communication Solutions

SOLUTION BRIEF

Orchestrating Network Performance

InfoVista

nuagenetworks
From Nokia

Nuage Networks and InfoVista have partnered to provide a joint SD-WAN and application optimization solution to enterprises and managed service providers. The joint solution provides enhanced application optimization to enterprises that are already benefiting from the operational efficiencies of Nuage Networks' Virtualized Network Services (VNS)-powered SD-WAN solution.

- InfoVista Ipanema provides enterprises with premium visibility, control, WAN optimization and dynamic WAN selection, which is required to monitor and benchmark the performance of applications objectively.
- InfoVista Ipanema's Application Optimization and Virtual Network Function (VNF) can be easily deployed on the Nuage Networks Network Service Gateway (NSG), an x86 server platform, to provide enhanced application optimization to enterprises and managed service providers.
- The joint solution reduces operational complexities by integrating multiple VNFs into a common platform.
- The joint solution represents the best-of-breed combination for an application-focused SD-WAN solution in the marketplace.

Unified Communications Are Increasingly Pivotal for Enterprise Productivity

Enterprises of all sizes are prioritizing the agility of business and decision-making to be able to drive optimum productivity – not only among employees but also with customers and partners. Advanced collaboration and communication tools and solutions – such as unified communication, augmented reality and virtual reality – are being deployed to assist with productivity between offices, branch networks and remote employees. Although the impact of such applications are largely positive, they are a strain on the enterprise's WAN in terms of bandwidth and on the performance of other enterprise applications as they migrate to the cloud. It is thus imperative for enterprises to have guaranteed performance of critical unified communication flows at times of network congestion or degraded performance.

The Imminent Challenge of the CIO is to Guarantee the Performance of Unified Communications and Other Business Applications

The CIO needs to guarantee the performance and success of the entire application portfolio of the organization. Unified communications and other enterprise applications all critically contribute to business efficiency.

Today's enterprises need an application intelligent solution coupled with the SD-WAN solution to deliver:

- Business efficiency
  - Guarantees session bandwidth of mission-critical applications and availability across hybrid networks at times of congestion
  - Dynamically routes application flows over a hybrid or multi-WAN scenarios to meet their individual performance requirements
  - Dramatically creates virtual bandwidth over the existing WAN underlay by eliminating redundant traffic patterns (WAN Optimization)
  - Maximizes end user satisfaction and quality of experience
  - Implements governance for applications and networks
- IT efficiency
  - Delivers IT transformations on time and on budget
  - Enables clear, measurable and accountable network operations
- Cost savings
  - Protect application investments
  - Avoid bandwidth upgrades

Pioneering the Next Generation of SD-WAN 2.0

InfoVista's application-centric Ipanema solution offers a dynamic quality of service (QoS) that guarantees the required bandwidth for each UC session regardless of the underlying WAN transport. This is invaluable at times of last mile congestion. InfoVista models each UC application separately (voice, video, screen share, etc.). Furthermore, InfoVista supports 40+ different CODECS, each of which is modeled as a separate application with distinct performance objectives on session bandwidth, latency, packet loss and jitter. InfoVista's Ipanema Application Performance Optimization is a proven platform that builds a potent ecosystem of Application Intelligence, Visibility, Control, WAN Optimization and Dynamic WAN Selection.

Ipanema Application Visibility is fully integrated with other Ipanema system features as the first step for enterprises to regain control over their networks. It enables IT to establish application performance baselines and verifies the benefits of each Ipanema feature. Application Visibility provides network managers with a full understanding of application usage and performance over the global network – from the smallest detail up to SLA-based application performance management.

The Ipanema system identifies applications and computes metrics for all IP packets that go through a physical or virtual network. The data are collected and stored centrally to be delivered through real-time and historical web-based reports.

Along with visibility, **Ipanema Application Control** dynamically

adjusts network behavior and resources to the exact application traffic demand – guaranteeing critical application performance in the most complex and dynamic traffic situations.

InfoVista's Ipanema WAN Optimization accelerates application response times and offers additional virtual bandwidth to the network. Enterprise productivity requires any employee to be able to access business applications with the best quality of experience no matter where the employee is located.

Ipanema WAN Optimization includes:

- Deduplication and Redundancy Elimination that strongly reduce the amount of data transferred on the network
- TCP Acceleration to overcome the limitations of TCP protocol
- Application Acceleration to mitigate chatty applications such as CIFS

Additionally, the **Dynamic WAN Selection** feature enables Dynamic Hybrid Networking for multi-networked branch offices, selecting the best path according to actual performance and application traffic characteristics in real time.

InfoVista Intelligent Application Optimization VNF – Fully Integrated with the Nuage Networks SD-WAN Platform

The InfoVista – Nuage Network joint solution offers an application performance and guaranteed VNF to enterprise customers for multi-branch deployment on the Nuage Networks SD-WAN platform, which is integrated into the NSG. The solution provides ease of integration to both service providers and enterprises as InfoVista's solution can be readily and agilely deployed as a VNF on the remote uCPE without integration complexities to get the branches up and running.

The Nuage Networks VNS is an industry-leading SD-WAN solution. The solution automates the provisioning, configuration and management of WAN connections to provide the optimal QoS at the lowest cost while meeting strict business policies and security requirements for each application. VNS can provide this policy-based automation while seamlessly connecting WAN branch sites to on-premise data centers, private clouds, public clouds and provider-managed VPN networks. For SD-WAN deployments, enterprises can automate the configuration and deployment of VPN services and appliances; request value-added services, such as next-generation firewalls and load balancers, as well as dynamically route traffic over the most cost-effective WAN links to achieve the desired QoS. The Nuage Networks VNS's scalable architecture also allows the deployment of multiple critical VNFs for seamless network and application operations to leverage its uCPE.

The Nuage Networks Virtualized Services Directory (VSD) stages the InfoVista VNF and pushes the on-demand InfoVista VNF onto the Nuage Networks NSG on customers' premises. The InfoVista VNF is then automatically started by the Nuage Networks platform on the NSG. Initial configuration of the VNF can be done through open-stack compliant mechanisms, such as Config Drive, or scripted configuration through its management interface. InfoVista's top-down licensing offers the centralized management of licenses by service providers through InfoVista's Central Management Platform (SALSA), ensuring ultimate flexibility in managing license pools across its managed customer base. Granular licensing is ensured through Ipanema Software Units (ISUs) that can be used to transfer or exchange licensing across services and sites for the same customer.

This joint solution has undergone stringent integration testing, and both InfoVista and Nuage Networks are currently engaged in several customer trials.

About Nuage Networks from Nokia

Nu-âhj: From French, meaning "cloud." Nuage Networks from Nokia brings a combination of technologies and networking expertise to the enterprise and telecommunications industries. The Silicon Valley-based business has applied new thinking to the problem of delivering massively scalable and highly programmable SDN solutions within and across the data center and out to the wide area network with the security and availability required by business-critical environments. Nuage Networks, backed by Nokia's IP/Optical Networks business, has the pedigree to serve the needs of the world's biggest clouds. The cloud has made promises – the mission of Nuage Networks is to help you realize them (**www.nuagenetworks.net**).

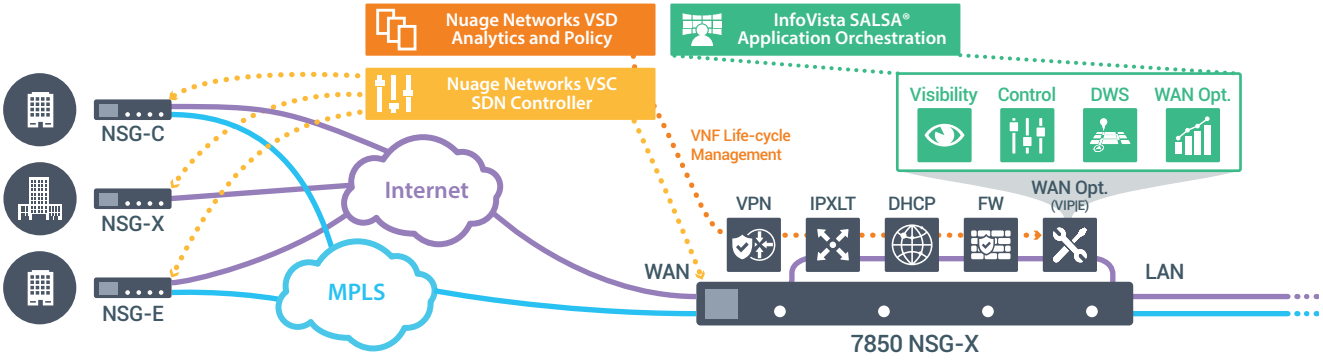

Figure 1. InfoVista - Nuage Networks Fully Integrated SD-WAN Solution Architecture

ABOUT INFOVISTA

InfoVista is the leading provider of cost-effective network performance orchestration solutions at the service of a better connected and collaborative world. Our award-winning solutions empower communications service providers and large enterprises to ensure a high-quality user experience by achieving optimal network performance and guaranteeing business-critical application performance. InfoVista's expertise and innovations provide a new level of actionable network, application and customer intelligence, visibility and control across all services, all technologies, and all domains of both the fixed and mobile networks. Using our solutions, eighty percent of the world's largest service providers and leading global enterprises deliver high-performing and differentiated services, plan and optimize networks to match application and service demands, and streamline network operations while keeping total cost of ownership as low as possible.