

DATA SHEET

WAN Optimization

Acceleration and Compression



Overview

Enterprise productivity requires that all employees have a high-quality user experience when accessing business applications, no matter where the employee is located. In addition, business applications are generally consolidated on architectures within centralized data centers, for a number of reasons: security, IT operations and costs.

This kind of architecture increases pressure on the WAN and requires a number of optimization technologies. These technologies facilitate the mitigation of latency through protocol acceleration and optimization of bandwidth resources by using compression and de-duplication, which are especially relevant in global network environments.

Ipanema's WAN optimization includes:

- **TCP Acceleration** to overcome the limitations of TCP-based protocols
- **Application Acceleration** to alleviate chatty applications, such as CIFS
- **De-duplication and redundancy elimination** that drastically reduces the amount of repeated data transferred on the network

Ipanema's WAN optimization includes:

- **TCP Acceleration**
- **Application Acceleration**
- **De-duplication and redundancy elimination**

This **WAN Optimization** is applicable to any TCP flows between any site of the network equipped with Ipanema physical appliances (iplengine) or virtual appliances (virtuallengine). The WAN Optimization feature is also available for Windows PCs, which can be equipped with **Ipanema Mobile Agent** software, thereby extending WAN Optimization benefits to telelengines for small branch offices and teleworkers.

Ipanema's Wan Optimization Key Differentiators

- Handles any TCP flow, including SSL-encrypted
- Can be used in all network topologies, including fully meshed and asymmetric routing deployments
- Does not require any direct interaction with application servers
- SSL encryption and decryption is SaaS-compatible (e.g. Office 365, G Suite, Salesforce, etc.) and security-friendly
- Is fully integrated with other Ipanema features to ensure that the WAN optimized bandwidth is not immediately consumed by recreational traffic
- Scalable to very large networks, since Ipanema's SALSA platform allows the enterprise to provision which applications to WAN Optimize across the entire network.



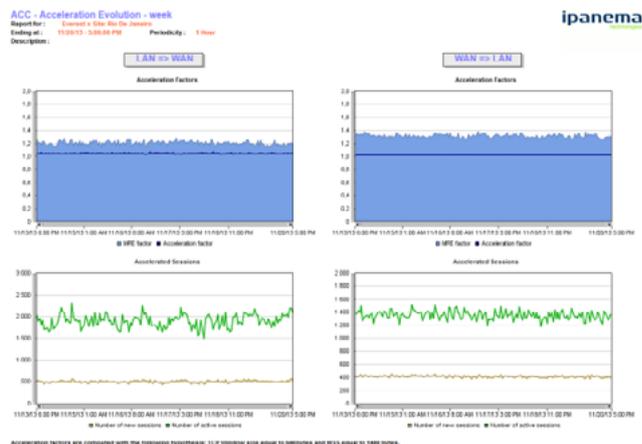
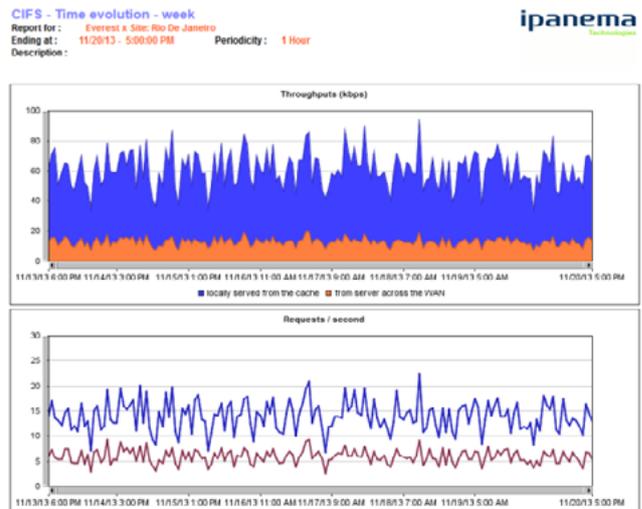
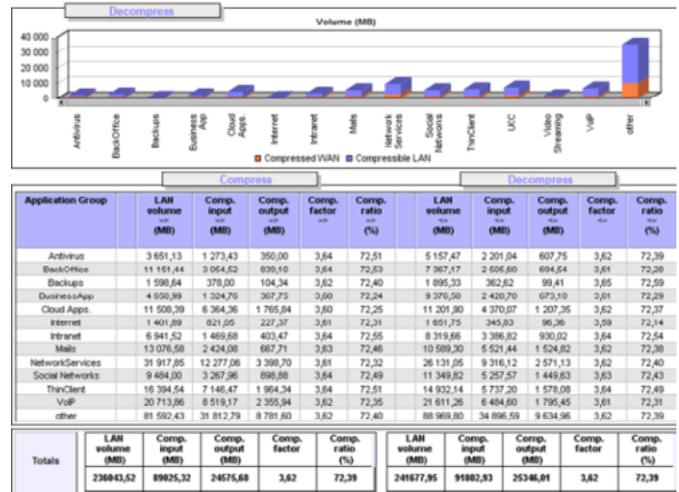
Ipanema SD-WAN, application intelligence for the WAN edge, links application performance over the network with the enterprise's business goals.

- **Self-learning, self-adapting and self-healing**, Ipanema offers tightly coupled features that bring a unique level of intelligence to the enterprise network;
 - **Application Visibility** provides full understanding of application usage and performance over the global network – from the smallest detail up to SLA-based application performance management;
 - **Application Control** dynamically adjusts network behavior and resources to the exact application traffic demand – guaranteeing critical application performance in the most complex and changing traffic situations;
 - **WAN Optimization** accelerates application response times and offers additional virtual bandwidth to the network;
 - **Dynamic WAN Selection** enables dynamic hybrid WAN for multi-networked branch offices, selecting in real-time the best path according to actual performance and application traffic characteristics;
 - **WAN Security** protects branch Internet connections from threats. It encrypts traffic over IPsec VPNs to public and private DCs. It forwards Web traffic to Secure Web Gateway providers and allows/denies traffic to go directly to the Internet.
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How Ipanema's Wan Optimization Works

- **Redundancy elimination** applies to TCP flows, including SSL- encrypted flows. A number of algorithms have been tuned to handle today's most important business applications, including **HTTP/HTTPS** and **MAPI- based** applications.
- Specific TCP acceleration mechanisms address **"TCP slow-start"** to speed up short transfers and **"Bandwidth Delay Product"** encountered on high-latency network links.
- Specific **CIFS acceleration** mechanisms address the chattiness of **SMB Microsoft File Sharing** protocol to improve end-user experience from branches where they access an Office document stored in a data center. This feature does not require any direct interaction with Microsoft servers.
- Ipanema appliances use **bidirectional dictionaries**. Once a file has been downloaded, it is optimized for uploads and for the subsequent downloads. This is a powerful mechanism for end users who **wrote-back** their Office documents to a shared server. These data are stored once, locally, to liberate the WAN of reloads.
- **SSL certificates** are handled in a way that avoids the requirement of propagating them throughout the network. This is a significant advantage over other mechanisms on the market. The Ipanema system allows **SaaS application optimization on the WAN** and reinforces end-to-end security.
- Ipanema data center physical and virtual appliances handle WAN Optimization even for complex network architectures with **asymmetric routing**. Data centers with several network links are fully supported. These data centers provide high availability, allowing IP sessions to go out on one link and come back on another.
- WAN optimization is scalable to **very large networks**. By using Ipanema **central management platform** called **SALSA®**, the enterprise defines which applications to WAN optimize.
- As part of the **system's reporting**, Ipanema's WAN optimization benefits are measured and made visible in real-time and by historical periods.

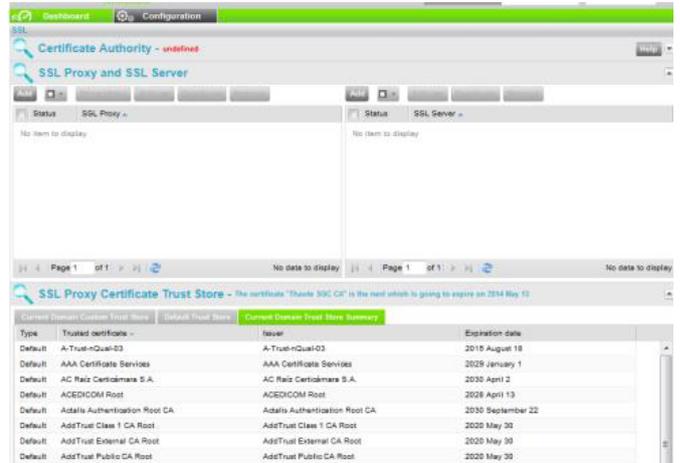


Benefits

For the enterprise as a whole: Increase productivity and satisfaction of employees. Contribute to IT savings by reducing network and infrastructure costs. Enable WAN governance as part of IT governance.

For the IT organization: Optimize network resources by minimizing the volume of data transferred over the WAN. Speed up batch operations such as back-up and replications. Ensure the success of IT transformations, including server consolidation, in corporate data centers. Streamline IT operations.

For the end user: Ensure end-user experience related to daily activities, such as surfing, and file downloads and uploads, while guaranteeing the performance of business-critical applications (ERP, CRM) and real-time applications (VoIP, video).



About Infovista

Infovista, the leader in modern network performance, provides complete visibility and unprecedented control to deliver brilliant experiences and maximum value with your network and applications. At the core of our approach are data and analytics, to give you real-time insights and make critical business decisions. Infovista offers a comprehensive line of solutions from radio network to enterprise to device throughout the lifecycle of your network. No other provider has this completeness of vision. Network operators worldwide depend on Infovista to deliver on the potential of their networks and applications to exceed user expectations every day. Know your network with Infovista.