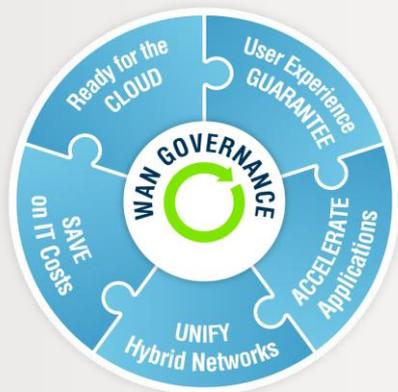




Server Consolidation

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The Ipanema System specifically addresses the key requirements for making IT consolidation possible:

- It automatically recognizes the consolidated flows and the underlying business critical applications;
- It improves application their response time using a combination of bandwidth allocation, protocol optimizations, redundancy elimination and caching;
- It understands the characteristics and requirements of every consolidated application;
- It manages the increased competition between bandwidth hungry applications for WAN resources;
- It protects business critical applications against non-business critical applications;
- It seamlessly integrates consolidated application flows into the existing application mix (ERP, VoIP, Video...).

TURN THE WAN INTO AN IT CONSOLIDATION ENABLER

IT consolidation or centralization is a natural option for many organizations. Following acquisitions, enterprises are facing multiple coexisting IT systems with disparate servers located in different buildings, cities and countries. Because of constrained WAN resources, some organizations simply chose to use a distributed IT infrastructure, where users locally access applications, rather than using the WAN and central data centers to do so. **The cost of a diverse, distributed IT infrastructure is important in terms of hardware and software, maintenance, data security and backup.**

When consolidating their infrastructure, enterprises typically choose between one or two data centers (for disaster recovery capabilities). They progressively migrate applications to these central locations. Unlike Desktop Virtualization projects, users of an consolidated IT infrastructure continue to use their legacy applications in the same manner. The consequence is that **the same application flows that used to be on the LAN now traverse the WAN, frequently leading to response times that are so degraded that the applications become unusable.**

By mitigating the impact of constrained WAN resources, Ipanema's optimization and acceleration technologies are able to eliminate the impact of consolidation on user experience. **Ipanema makes IT consolidation possible.**



APPLIES TO MANY CONSOLIDATION SCENARIOS

- Storage consolidation (CIFS, FTP...)
- Email consolidation (Microsoft, Lotus Notes...)
- Proprietary application consolidation



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TECHNICAL CHALLENGES

- When consolidating servers, application flows that once ran on 1 Gbps/1 ms links often have to cope with a 100th of this bandwidth and 100x this delay. The impact of these constraints results in 3 bottle necks that are managed by Ipanema.
- The bandwidth bottleneck: the performance of many applications is related to the available bandwidth. Higher WAN bandwidth equates to lower application response time.
- The TCP bottleneck: design limitations mean that TCP is not able to make use of all available WAN resources.
- The application protocol bottleneck: many applications are not designed for the WAN; they are “chatty” - the application protocol has too many request-response turns when transmitting data. As network delay increases, the performance degrades significantly.

FEATURES

The Ipanema Autonomic Networking System (ANS) turns the WAN into an IT Consolidation enabler. As the individual features are totally automatic, they scale up to manage the largest deployments:



- **Classification** of consolidated flows. The application flows are automatically recognized independently of the servers location;
- **Global optimization** of the whole traffic mix, by dynamically managing competition between all flows over the entire network;
- **Protocol optimization and redundancy elimination** to mitigate the impact of constrained WAN resources and higher latency, improving the response time of the consolidated applications;
- Understanding the **specific nature of consolidated flows**. In addition to managing bandwidth requirements for each active user, the actual nature of the traffic whether it be data transfer or interactive, is understood by Ipanema’s optimization mechanisms;
- Precise **reporting** on the ongoing **Quality of Experience** using Ipanema’s Application Quality Score (AQS), demonstrating the successful implementation of the consolidation initiative;
- Delivering accurate information about the **real bandwidth requirements** (through the rightsizing feature), both present and future, associated with business critical applications including those freshly consolidated;
- Providing a complete framework to enable all services:
 - **Anytime**: Real-time, fully automated adaptation to changes in the application or in the network environment;
 - **Anywhere**: thanks to its Tele-Optimization, Ipanema delivers its benefits over the whole network without needing to equip all sites;
 - **Anyway**: Ipanema optimizes the performance of all applications simultaneously, regardless of whether they are data transfers, interactive (such as virtual desktops), or real-time (such as voice or video).

CUSTOMER BENEFITS

- **Cost savings** through reduced IT infrastructure and simplified software maintenance;
- Better **data security and integrity** through simplified backup and administration processes;
- The network is constantly **aligned with the enterprise’s business goals** whatever the complexity of the application and traffic matrix;
- The **telecommunications costs** related to IT consolidation are minimized and fully controlled;
- The ongoing **quality of user experience** is accurately measured and reported;
- Completely **governed**, the WAN becomes a predictable asset that the enterprise can rely on.