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SAP Enterprise SOA and Citrix Application-Delivery Infrastructure:

Make SAP Run HQ Fast for Everyone

As businesses innovate to seek competitive advantage and increased efficiency, their processes and systems must adapt to support new capabilities. SAP NetWeaver provides a technical foundation for SAP's enterprise service-oriented architecture, an enterprise SOA that can help transform inflexible data silos and legacy applications into integrated systems to meet modern business needs.

But providing a secure, high-quality, end-user experience for enterprise SOA can be tricky. The standards upon which Web-based applications traditionally draw (HTTP, HTML, and XML, for example) are inherently "chatty." The increased network traffic can cause even well-designed architectures to suffer problems on slow networks, which in turn can degrade the users' experience and undermine their productivity. Exciting new application-delivery technologies from Citrix Systems address these and other pain points.

As a member of SAP's Enterprise Services (ES) Community, Citrix recently tested its application-delivery infrastructure in the ES Community's Enterprise Networking Lab (ENL). The tests show that Citrix infrastructure produces remarkable results. For example, it can:

- Reduce SAP users' wait time over networks 50% to 99%
- Improve overall network performance by as much as 97%
- Reduce SAP NetWeaver Portal server workload by up to 60%
- Deliver significant management and security benefits
- ... and more

Summary of Study

To simulate a user's eye view of the effects large data transfers can have across a variety of access scenarios, the ES Community devised a series of tests that were representative of common business processes. One key measurement represented data-intensive transactions and was based on the time it took users to transfer 5MB of data from the SAP Knowledge Management module. Other measurements included performance of individual enterprise SOA calls and also datacenter resource-utilization improvements.

Citrix used the following products, all part of the Citrix family of application-delivery infrastructure solutions:

- **Citrix NetScaler:** A single network-optimization appliance that combines the functions of many point products, including server load-balancing, caching, compression, Secure Sockets Layer (SSL) acceleration, and attack defense
- **Citrix WANScaler:** A high-performance application- and data-delivery appliance for branch-office users; automatically applies to each data flow a combination of performance-boosting techniques depending on the application, data, and network conditions that allow it to help deliver local-area network (LAN)-like performance across the enterprise
- **Citrix Presentation Server:** Citrix's flagship application-delivery system; securely provides end-to-end application access to users anywhere, on any device, with any network connection, using virtualization and application-streaming technologies
- **Citrix Access Gateway with Advanced Access Control:** A leading SSL, virtual private network (VPN) appliance with Advanced Access Control manages both information and users' actions based on their roles, locations, device configurations, and network connections)
- **Citrix EdgeSight:** A quality-assurance tool that monitors users' actual application experience; provides the summary and detailed data companies need to ensure their IT resources run at peak efficiency

Citrix Application Optimization

Tests measured response-time improvements over network qualities ranging from LAN conditions (0% data loss, 4-millisecond [ms] latency) to remote-worker or branch-office conditions (1% data loss, 150-ms latency). As the graph below illustrates, test results proved conclusively that a single, centrally located NetScaler appliance can improve large-file download times by about 80%. For WAN scenarios, WANScaler appliances (one at each end of the test WAN) delivered a first-time view of the 5MB data download 95%

faster than did the SAP baseline configuration alone, and subsequent views 99% faster. *This means branch-office users halfway around the world can enjoy the same rich application experience as their colleagues at company headquarters do.*

Tests also revealed Citrix NetScaler's ability to offload low-level, but CPU-intensive, Internet server tasks from SAP NetWeaver Portal, thereby lowering server workload as much as 60% and generating corresponding savings in investment and maintenance costs.

Citrix Application Delivery

In addition to the application-optimization options noted above, Citrix Presentation Server reduced SAP response times by 60% to 97%, but the benefits of using it extend far beyond LANs and WANs. Citrix Presentation Server virtualizes client-side application interfaces for all users, thereby eliminating the task of assessing or configuring individual users' PCs and laptops from the project team's to-do list.

Sending little more than encrypted screenshots, keystrokes, and mouse clicks across any type of network, including the Internet, Citrix Presentation Server offers rich, LAN-quality application experiences to users who access SAP from any computing device, as well as many additional benefits. For example, your company's SAP users need a variety of applications to perform their jobs: SAP GUI, BEx Analyzer, Web browsers, and so on. Problems with delivering such a varied array of client applications abound. Citrix Presentation Server brings all these moving pieces to your company's data center from users' PCs, simplifying management responsibilities, lowering costs, and improving user performance. Better yet, your company gets complete control of what data, reports, and other information users save to

PCs and laptops outside its protected network, eliminating inadvertent data leaks via lost or stolen computers. By adding Citrix Access Gateway with Advanced Access Control, your company can also protect data by controlling access to applications on a role-based, case-by-case basis. Every time users connect, Advanced Access Control considers their location and device and grants an appropriate level of access. If you include Citrix's innovative EdgeSight, your company can monitor each user's personal experience and provide issue-resolution analytics, thereby helping your company deliver on its performance service-level agreement (SLA).

The SAP and Citrix Advantage

With Citrix, you can guarantee secure, cost-effective, high-performance, anytime, anywhere access to the SAP applications and Web services that drive your company's business — and simultaneously lower the total cost of owning them.

For more information about Citrix application-delivery infrastructure solutions, visit www.citrix.com/HQfastSAP. ■

