



SAP Case Study: Enterprise Solutions

mySAP.com's Evaluation of Internap Network Services*

Overview

SAP (NYSE: SAP) is the world's largest inter-enterprise software company and the world's third-largest independent software supplier. SAP has leveraged its extensive experience to deliver the definitive e-business platform for the new Internet economy - mySAP.com™. By deploying the best technology, mySAP.com delivers an open, scalable, and flexible e-business platform that is ideal for collaboration. MySAP's online performance is critical for satisfying the demands of their customer base. The information, applications and services must be rapidly available to customers seven days a week, 365 days a year.

SAP selected Internap Network Services (Nasdaq: INAP), the leading provider of intelligent routing services, to provide Internet connectivity for mySAP.com. Internap's *Overlay Network* architecture monitors the traffic situation over the major Internet backbones and routes mission-critical data faster and more reliably than conventional Internet technology. Internap's proprietary routing technology provides high performance connectivity that allows demanding web-based applications to operate seamlessly.



Internet Infrastructure

SAP is multi-homed with Internap and another Tier 1 National Service Provider (NSP) through a remote connectivity configuration called Diversity Plus. Enterprise customers implement Diversity Plus in order to intelligently route packets across both their current NSP connection and their Internap connection. This configuration extends Internap's proprietary route management information to SAP, optimizing performance, while giving SAP carrier redundancy. Internap's proprietary routing technology, known as ASsimilator, routes packets best served by SAP's other NSP carrier connection through that NSP, while routing other packets through Internap's *Overlay Network*. This complementary routing configuration greatly reduces the latency and packet loss traditionally associated with peering point exchanges, while also allowing SAP to continue its relationship with its current NSP.

Not only does SAP require a premium Internet connectivity solution, but their IT staff also demand the highest level of service from their vendors. According to SAP Team Lead Tony Fasy, "During the installation process, Internap's engineers were efficient and knowledgeable. They assisted SAP's engineers with the BGP configuration used to balance Internap traffic with our other carrier's traffic. The entire installation was extremely smooth and easy."

Internap Network Services is FASTER than the Keynote Top 40

Initial Connection and First Byte Download are the critical factors in analyzing Internet connectivity

Initial Connection: **37.5% Faster**

First Byte Download: **28.6% Faster**

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Tony Fasy, Team Lead, SAP

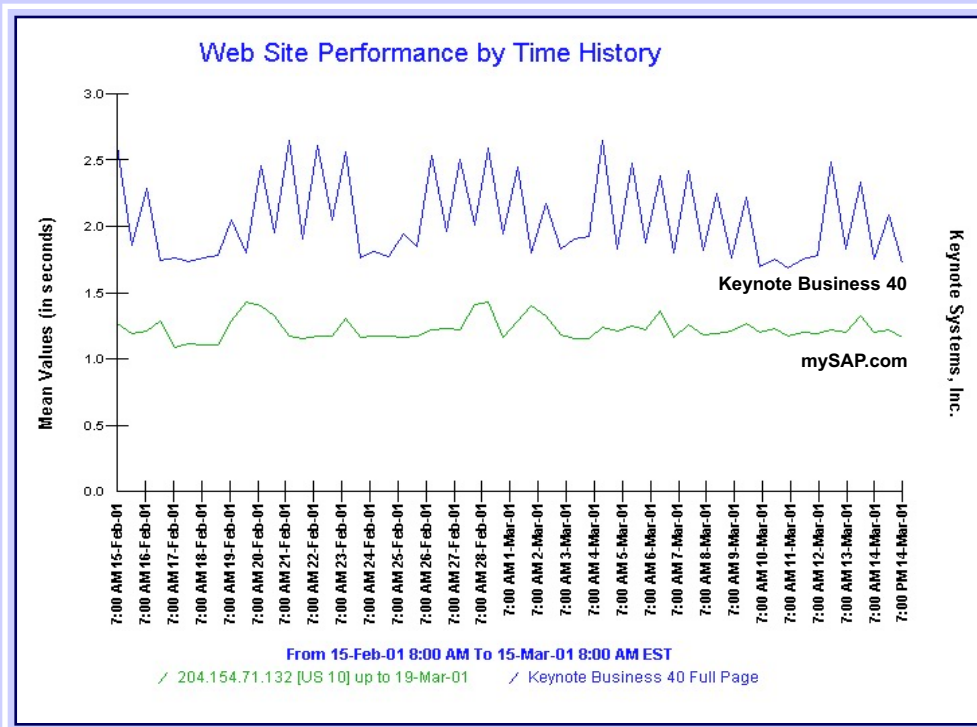
Overall Web Site Performance

Internap improves SAP's network redundancy, reliability, and quality of service of their Internet infrastructure. mySAP.com users now enjoy faster connection times, consistent performance, and an overall favorable online experience. The results of SAP's Internet connectivity service enhancement are illustrated by the Keynote data below.

Keynote's analysis compared the performance of mySAP.com to the Keynote Business 40 Full Page from February 15, 2001 to March 15, 2001. The Keynote Business 40 Internet Performance Index is an industry-standard metric of the overall health and performance of the Internet. The Index is composed of 40 important web sites in six categories including publishing, search engines and directories, business services, financial services, high technology and communications. The Index provides Keynote customer's historical and real-time performance measurements for their web sites. DNS Lookup, Initial Connection, Redirection, First Byte Download and Base Page Download were analyzed. In addition, Keynote compared average total bytes and the total measurement time. Using Internap, mySAP.com's overall performance was significantly faster and more reliable than the Keynote Business 40 web sites.

Component	mySAP.com Average Time	Keynote Business 40 Full Page Average Time
DNS Lookup	.00 **	0.03
Initial Connection	0.05	0.08
Redirection	.00 **	0.06
First Byte Download	0.1	0.14
Base Page Download	0.1	0.43
Average Total Bytes	46798	74323
Total Measurement Time	1.23	2.04

** Indicates that the component was too fast to measure or < zero seconds. The statistic for comparison used was .005 seconds.



"Internap's service offering is a great enterprise solution for SAP. Internap delivers dependable performance even through periods of network fluctuations and outages, even high load situations. Their service, NOC, and platform are solid as a rock! "

- Greg Ligon, Senior WAN Engineer, SAP

Summary

As referenced by Web Site Performance by Time History, Internap provides mySAP.com flat, predictable network performance. Although the Keynote 40 web sites were subject to fluctuations, illustrated by the spikes in the chart, Internap delivered dependable connectivity service. With the connection to Internap's service point in Philadelphia, PA in November 2000, the overall performance of mySAP.com has increased in consistency and reliability. The Keynote 40 represents many of the Internet's leading web sites. For SAP to regularly outperform these sites is a tribute to the SAP staff, IT infrastructure design and to Internap Network Services' unique connectivity offering.