

Optimizing Productivity for SAP Remote Users

- Accelerate all SAP architectures—including mySAP
- Get consistent, predictable performance for all users
- Improve SAP Citrix deployments
- Avoid unnecessary and costly network upgrades

Expand enhances SAP with:

- An average 500% acceleration
- Capacity: increase network capacity on average by 400%
- QoS to protect SAP Applications and their priority on the network
- Caching offloads SAP application server
- Transparency: maintain benefits of services that rely on original packet information

The Business Issue

SAP is a mission critical application for many enterprises and one of the key business tools driving their business. The climate of the economy these days means that most enterprises are global enterprises, with workforces often far outside of headquarters. Despite the location, the entire enterprise workforce must use SAP effectively, to ensure that the business is successful, agile, and competitive. However, these distributed workforces are located in branch offices, which typically suffer from limited WAN bandwidth and high latency. As SAP is delivered to these remote locations, or must interact with common data stores in remote datacenters, the hostile WAN environment will substantially impact SAP performance negatively. The result is a slowdown in application response time, which means that the workforce will take longer to complete the same tasks and complete work with SAP. This slowdown will reduce workforce productivity and that will have a direct and profound effect on the business. Expand Networks, a market leader in accelerating applications over the WAN, ensures workforce productivity and customer satisfaction, by both optimizing the performance of SAP over the WAN and reducing deployment costs.

The IT Challenge

Applications, such as SAP, work as information is exchanged between clients and servers. Usually written on LAN-based environments, developers often take for granted that the

LAN is a very friendly environment (next to no congestion or latency) compared to the WAN. Building more and more functionality into their applications, these developers continue to increase the amount of traffic required to go between the client and server, as well as often adding more robust transport schemas that sometimes include excessive collaboration between client and server as they negotiate transport. On the LAN, the performance is wonderful; however, on the WAN, fighting for available bandwidth (congestion) applications like SAP often find servers temporarily unreachable and communication unpredictable. Additionally, with latency that is orders of magnitude greater than on the LAN, application response time performance is crippled as clients and servers must go back and forth between each other hundreds of times even to complete simple and small transactions.

In the specific case of SAP, enterprises have several deployment architecture options. The original SAP (including R/3) deployment architecture either made use of a traditional Windows client GUI, or the newer ITS (Internet Transaction Server) – which transforms SAP GUI screens into HTML pages that can be displayed in a common Web browser. These options are some of the more efficient strategies to deploy SAP over the WAN (because they are relatively thinner and less chatty), but they still are susceptible to the hostilities of the WAN. The newer mySAP option delivers many web application benefits

and actually generates dynamic web pages leveraging enterprise Java technologies. Congestion and latency on the WAN are likely to be even more pronounced in this option, as the transport used in web services tends to be more chatty (meaning small amounts of network latency are multiplied as they negatively impact response time performance) and the web services footprint is not known for being terribly compact (although SAP is certainly one of the more light-weight web services applications). Finally, some enterprises even deploy SAP using thin-client solutions such as Citrix and COCKPIT. However, at the end of the day, regardless of the chosen architecture and network bandwidth, despite the excellent usability and design of SAP products, remote end-users will experience performance caused by the hostile WAN environment.

The Solution



Expand Networks' Compass platform delivers a unique solution that mitigates the impact of the hostile WAN, accelerating SAP to the remote workforce, for all SAP architectures. The Compass platform is actually a multi-service platform that integrates the best technologies, on a single, cost-effective appliance (the Accelerator). With the Compass platform working in the network, remote workforce SAP performance will ensure that productivity is once again a given. Here are some of the relevant Compass technologies that improve SAP performance on the WAN:

- **Compression** increases network capacity on average by 400%, removing bandwidth bottlenecks and avoiding un-necessary and costly bandwidth upgrades.

- **Acceleration** rate of 500% and better, overcoming protocol limitations, reducing application chattiness, and mitigating latency.
- **Pattern recognition and caching** for static and dynamic content which eliminates transfer of repetitive data over the WAN.
- **Prioritizing SAP** over non-business applications at the critical point where congestion can most impact SAP performance. Compass' QoS services ensure that the network appreciates which traffic is most critical for the business. The QoS functionality is sophisticated enough to distinguish traffic at layer 7, meaning that Compass can distinguish between SAP traffic and other web traffic, giving preferential treatment to SAP. Additionally, using Compass for all of your QoS needs will avoid queues and congestion that will exist if the QoS is activated within a separate network device on the (e.g. Router or Firewall).
- **Improve SAP Citrix deployments** by optimizing Citrix traffic and setting top priority to SAP compared to other Citrix applications. Compass will allow you to increase the number of Citrix sessions supported at remote sites without increasing the size of the WAN link.
- **Transparency mode** to maintain the benefits and service levels of MPLS or other network monitoring, routing, and control infrastructures that rely on original packet information.
- **Offloading SAP application server** by caching presentation content and reducing the application chattiness, allowing these servers to better service the back-end R/3 ABAP services.

Results

The case studies listed here illustrate the performance improvements and cost reductions experienced by some of Expand's customers running SAP business applications.

<p>Improve productivity while reducing WAN costs</p> <p>Kennametal needed to expedite the upgrade of SAP in its vast frame relay network. The upgrading process resulted in severe strain on the network, significantly impacting user productivity levels and impeding daily operations such as handling customer queries and orders processing. In addition, Kennametal wanted to improve operation efficiencies for its international offices by providing remote users with faster access to mission-critical data in its centralized SAP system.</p>	 <p>“The Accelerators freed up so much network capacity, that we did not have to pay for additional bandwidth to handle the higher SAP data processing loads and could even reduce CIR levels in certain locations...”</p> <p>- John Bregar, Manager, Global Telecommunications, Kennametal Inc.</p>
<p>Reduce WAN costs when running SAP over Citrix</p> <p>Kingspan is running SAP networked services and Citrix thin clients to streamline its operations and increase business efficiency. Kingspan deployed Compass and was able to avoid expensive bandwidth upgrades. Throughput was increased threefold, averaging 6MB over other 2MB links and provided the necessary performance boost to support SAP and Citrix applications. The company has also realized a rapid return on investment (ROI) within 6 Months.</p>	 <p>“The Accelerators have become an integral part of our strategy in rolling out a new Group wide WAN... They've allowed us to reduce significantly the running cost of our network, and paid for themselves within 6 months.”</p> <p>- Sean Hickey, Head of IT, Kingspan Group</p>
<p>Optimize Windows Client Upgrade to Web GUI</p> <p>When a large fortune 500 plumbing manufacturer upgraded its SAP R/3 application to include a new graphical user interface (GUI), the global manufacturer was faced with the dilemma of having to add network capacity. The new GUI increased bandwidth consumption per user session from 2 Kbps to 20 Kbps. Based on the Expand solution, capacity was expanded on the 512 Kbps links to an average of 1.8 Mbps. The additional virtual bandwidth substantially improved the performance of SAP and other applications.</p>	<p>Over 300% increase in network capacity</p> <p>End-user response time issues disappeared!</p>

The Business Impact

Compass accelerates SAP applications over the WAN ensuring end-user productivity and consistently cutting network costs, a definite positive impact on the bottom line in both cases. Additionally, Compass helps to streamline SAP deployments, translating into further cost savings as well as improved business processes. With the ability to address all types of SAP deployments, and a host of other business applications, the Expand Compass solution is a sound investment for the business to ensure SAP has maximum benefit.