

AUSTRALIAN BUREAU OF STATISTICS COMPLETES VIRTUALIZATION STRATEGY WITH EXPAND NETWORKS VIRTUAL ACCELERATOR



“ Expand enabled us to complete our virtualization picture and realise the full potential of our virtual investment

- Bruce Buckham, Servers, Systems and Storage Manager, Australian Bureau of Statistics

IN SUMMARY

- Bandwidth increases of 300%
- Clear gains in application and response times
- Enabled remote backup over the WAN

APPLICATIONS

- A number of in-house custom built applications manipulating data from Oracle and SAS databases
- Lotus Notes
- IBM Tivoli remote backup

PROFILE

The Australian Bureau of Statistics (ABS) provides statistics on a wide range of economic and social matters, serving government, business and the general population of Australia. It is recognised as one of Australia's most important institutions and is a key contributor to an effective Australian democracy as it supports decision making among governments and the community. The statistical operations of the ABS are divided into three groups: Macroeconomics and Integration, Social Statistics and Population, Labour, Industry and Environment Statistics.

THE CHALLENGES

Following the successful completion of the ABS' server virtualization project, the department was keen to complete the picture by implementing virtual desktops for all 3,000 of its employees. With 1,500 users in the Canberra head office and another 1,500 dispersed across seven regional offices in each Australian state or Territory capital, VDI seemed like the most effective way to overcome geographical boundaries and give regional offices virtual proximity to applications and datacenter services. VDI would also allow backup procedures to be performed centrally, rather than locally.

However, with half of the ABS' users receiving their virtual desktop image remotely over the WAN, the VDI project presented a number of challenges. Bruce Buckham, Servers, Systems and Storage Manager at ABS explains; "We had already virtualized 99% of our servers and VDI seemed like the next logical step. However when we first tried centralizing our IT, working with our most remote office in Perth last year, the lack of effective WAN optimization resulted in the total abortion of our thin client trial in less than two weeks."

The ABS' back end systems run Oracle and SAS, with employees interacting with the data through a number of in-house developed applications. Buckham continued; "We custom build the majority of our applications – most of which are rather graphics heavy. For users in our regional offices, especially those in the most remote locations like Darwin and Perth, simple things like backdrop rendering could take up to eight seconds – simply an unworkable experience."

When it came to backup, the ABS regional offices were performing tape backup locally, meaning there was no central knowledge management in place. The ABS had a secure, private Optus network link which could make network backup using Tivoli a reality – if only it could support the load.

THE SOLUTION

Despite the initial trial of a thin client environment proving less than successful, Buckingham was confident they had identified the inhibitor and was keen to give VDI a go. He knew that WAN optimization would dramatically improve the VDI experience so he approached VMware for recommendations on WAN optimization providers. VMware recommended Expand Networks.

Buckham wasted no time in getting a trial set up for the Perth office. “To complement our virtualization roll-out, Expand suggested we look at Virtual Accelerators (VACC). VACCs are effectively an accelerator ‘image’, avoiding the need for additional hardware at our regional offices, but still providing all benefits of an Expand solution including application acceleration and QoS,” explained Buckingham. The ABS deployed the VACC solution on its VMware ESX platform. Offered as a virtual appliance under VMware, the VACC delivers the most advanced levels of VMware integration, using VMware’s suite of services to deploy, manage, maintain and assure the Accelerator within the virtualized infrastructure.

Expand’s Virtual Accelerators live within, and accelerate out of, virtual environments, ensuring the success of VDI strategies using techniques such as byte-level compression and caching that specifically enable real-time interactive TCP traffic and RDP protocols to be maximized. Expand’s Layer 7 Quality of Service (QoS) enforcement – which provides monitoring and control at the application layer – also ensures that applications run unimpeded on the WAN. This is not just prioritization, but also includes sophisticated algorithms to combat congestion, mark packets for downstream QoS handling and rate control shaping to make sure data flows get the bandwidth they need.

The ability to accelerate Remote Desktop Protocol (RDP) traffic is fundamental to the success of any VDI project, however, until now organizations requiring WAN acceleration would need to go against their virtual infrastructure plans to support external hardware appliances. The VACC eliminates the need to do this and better still, before a physical appliance can be boxed and labeled for shipment, a virtual appliance can be installed, configured and actively optimizing RDP traffic.

THE BENEFITS

Since installing the two Expand Accelerators for the Perth office, the ABS has seen an effective increase of 36MB in the bandwidth available across the WAN – accelerating the delivery of data traffic over the WAN by 300%. This capacity increase has had a noticeable impact on the user experience.

Buckham comments; “Almost immediately we knew that these results were going to be very different from the original trial. Expand Networks’ VACC integrated seamlessly with our virtual IT infrastructure and we were amazed at the bandwidth increases. Thanks to the clever combination of compression, acceleration and caching inherent in the Expand Accelerators, we are now managing to push around 54MB through our 18MB pipe - three times as much data!”

“Virtual desktop response times have improved dramatically. The backdrop rendering which once took up to eight seconds now takes just one or two and for the first time we are able to backup our data over the WAN using IBM Tivoli.”

Paul Harapin, Managing Director, Australia and New Zealand at VMware comments on the implementation; “VMware was pleased to work with Expand Networks to help the Australian Bureau of Statistics transform its operations, delivering the significant benefits of virtualization including reduced capital and operating costs. The Australian Bureau of Statistics is one of the most highly virtualized organizations in Australia and this desktop deployment will help it realize even greater business efficiencies.”

The final word on the successful implementation goes to the ABS, with Buckingham concluding; “Expand certainly rose to the challenge when it came to meeting our demands in a virtual environment and allowed us to complete our virtualization picture and help us realize the full potential of our virtual investment. We look forward to rolling out the VACC solution to our other regional offices in the next three months to ensure all of our 1,500 regional employees have virtual proximity to our Canberra office and therefore can reap the same performance benefits.”