



CASE STUDY

Branch Network Re-design for a Large Asian Bank

The Customer is a large Bank in Japan serving 2 million+ end customers through 30+ branches, 24x7 phone banking facility and a nationwide ATM network. An efficient branch network is a critical part of the operations requirement for near 100% uptime. The re-design of branch network connectivity was carried out to optimize capacity, provide redundancy and security over the WAN while minimizing recurring costs.

The branches were connected to 2 Data Centers through dedicated network connections (Wide ether WAN Link), which was stable but had high recurring cost. Also, data traffic over this network connectivity was not encrypted. The backup connectivity on ADSL internet link could barely take the load when the primary dedicated link was down, leading to lost productivity.

Key Highlights

Challenge

- ▶ Rigid infrastructure with low utilization
- ▶ No encryption of data traffic
- ▶ High recurring cost of network connectivity
- ▶ Insufficient Backup connectivity

“The branch network re-design implementation has delivered on its promises. The quality of effort that went into Engineering, testing and deployment with no major business processes being impacted was commendable!”

- CIO of Client Organization

An exhaustive study of peak network bandwidth utilization of the branches, was carried out, based on historic utilization graphs from bandwidth monitoring tool, to estimate peak demands. Then, capacity sizing was done to accommodate peak demands and room for scalability. The bank's IT leadership was looking to improve the network design with the objective of improved redundancy and security at lower cost. Hence, Nucleus Software used multiple low cost consumer grade internet links on a link aggregation device which would support encryption and Quality of Service (QoS) settings for prioritizing specific types of traffic. QoS was essential to support critical customer facing voice calls which were more sensitive to bandwidth fluctuation and network latency.

The final setup has taken into account redundancy at each critical level, including device level, ISP level and site level assuming failures of each/any of these components. Exhaustive capacity testing was done to ascertain performance at peak loads. Aggregation of the consumer grade internet links and encryption were done on the link aggregation tool. Fine tuning was carried out on the device for enhanced performance and voice support. All critical applications including ATM's, which were part of branch network, were accessed and tested for usability.

This deployment involved physical setup of devices at multiple locations across the country and it was made possible with close co-operation from Bank's IT workforce.

Solution:

- Capacity planning for optimized utilization at each branch
- Aggregation of low cost consumer grade links from multiple ISP's to provide capacity and redundancy
- Link aggregation device to support layer 3 encryption and QoS
- Fine tuning of load balancer for enhanced performance and voice/video traffic

Results:

- Optimized utilization of capacity for primary and backup network connectivity from branches to DC
- Enhanced security through encryption of network traffic between branch and data center
- Easily scalable infrastructure.
- Reduction of annual recurring costs by more than 50%



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