Leveraging the WAN's Real Potential

EXECUTIVE SUMMARY
Hindustan Unilever Limited
• Fast Moving Consumer Goods (FMCG)
BUSINESS CHALLENGE
• WAN Limitations • Optimisation and high availability of datacentre • Many single point of failures
NETWORK SOLUTION
• Implemented virtual switching system based solution for high availability • Service provider independent load balancing solution • Innovative route optimisation techniques to reduce routing table size • Proper IP planning for load balancing
BUSINESS RESULTS
• Close to 100 percent network availability • Increase in available bandwidth • Memory and CPU utilisation reduced drastically • Stability and performance • No single point of failure

Datacraft and Cisco iron out the technical glitches in Hindustan Unilever's WAN and makes it perform at almost 100 percent availability.

Executive Background

HUL was experiencing performance issues with its wide area network (WAN). The company needed a stable, faster convergent, high availability network.

Company Background

Hindustan Unilever Limited (HUL) is one of India's largest Fast Moving Consumer Goods (FMCG) Company. It is present in Home & Personal Care and Foods & Beverages categories. HUL and Group companies have about 15,000 employees, including 1200 managers.

The company posted a net profit of around Rs 24, 964 million for the year ended March 31, 2009. The total income was at Rs 2, 08, 071 million during the same period.

Business Challenge

HUL was experiencing performance issues with its wide area network (WAN). The existing network lacked the capability to scale operations as per the business needs. At that time, the company was using a point-to-point network. Load balancing was a challenge between service providers. Only half of the WAN bandwidth was actually being used.

Initially HUL relied only on BSNL as a service provider to address its communication needs but soon realised that to ensure better connectivity it needed other service providers who would help it to reach across every part of the country. So in addition to BSNL, it partnered with Tata, Airtel and Reliance for Multiprotocol Label Switching (MPLS) connectivity.

One of the major issues was the under-performance of the Open Shortest Path First (OSPF) protocol being used, which had its limitations. OSPF is a dynamic routing protocol for use in Internet Protocol (IP) networks. Firstly, the OSPF protocol did not work very well with the MPLS links from various service providers. Secondly, the sham link of the protocol deployed across MPLS links would disrupt the routers of the various service providers that connected to the HUL network. A sham link is required between any two sites that share a backdoor link. The reliability of the network was at stake and the company had to quickly spring into action to take corrective measures.

“What we needed at that point was stability, faster convergence, high availability of our network for our data centre and effective back up,” recalls Subramanyam Narayanan, Group IT Manager – Infrastructure and Security, Hindustan Unilever (HUL).

Solution

Another problem that HUL faced on the network was that a branch router had the same routing table size as the data centre routers. To address this issue, the Datacraft team came up with innovative route optimisation techniques to reduce the routing table size. They also did a proper IP planning for load balancing.

Datacraft started the project by creating the architecture of the MPLS link in consultation with the IT team at HUL. Datacraft designed the architecture by keeping the business goals and future needs of HUL in mind. This design also ensured adequate security and control of network as well.

The team then decided to implement Cisco’s virtual switching system that would ensure high availability of the network. The system would have a load balancing solution that was not dependent of the services of any service provider. This translated into smooth functioning of the network even if there were issues at the provider’s end.

Datacraft choose Border Gateway Protocol (BGP) in place of OSPF as it makes the network more scalable with MPLS links. BGP does not support load balancing but does support load sharing. Datacraft tweaked the solution to distribute the loads. It also provided training to HUL’s telecom partners. Datacraft along with the Cisco team carried out the technology migration plan to ensure that all the hardware and software components of HUL network were standardised for future scalability and better uptime.

As a networking partner for HUL, Datacraft ensured that the managed services offering resulted in 100 percent network availability. This was possible through a collaborative effort of both Datacraft and Cisco that covered Cisco hardware and software support, onsite engineer support and Cisco technical support.

“HUL is predominantly on Cisco’s platform and is probably the only network using virtualisation at the data centre routing layer,” says Balan Banerjee, Regional Manager, Datacraft.

According to Narayanan, Datacraft also helps the company in providing value added services. It maintains and monitors the various routers and switches and provides HUL an uptime guarantee on the hardware. “They also provide services on the network like integrating new technologies or moving to newer configurations on the WAN,” he says.

Business Value

The availability of the new network is now calculated at close to 100 percent. In the point-to-point network, the uptime was around the range of 92 to 94 percent. There has been a dramatic increase in available bandwidth which was achieved by load balancing between all service provider links.

Memory and CPU utilisation reduced drastically (less than 300 entries against 700 entries). The new network has improved the stability and performance with no single point of failure, requiring no manual intervention. This has been achieved through total automation.

“The migration of HUL from point-to-point network to a MPLS network has been cost effective. Point-to-point links are 20 to 30 percent more expensive than MPLS networks,” says Narayanan.

Last year, HUL launched a go to market (GTM) initiative in Mumbai in an attempt to refurbish its national distribution network and streamline its supply chain. With the network tuned, HUL now has the capability to expand its network to any location in the country by using any of its four service providers. This has given the company a lot of flexibility to support new business initiatives. The project has been reportedly a success in Mumbai, where it began in June. It will be brought forth in 42 cities and towns across India by the end of 2009.

The Datacraft network solution also offers HUL to change a service provider even at existing locations in case of any connectivity issues. Datacraft has also provided a complete design and implementation documentation for future reference to HUL.

Commenting on the future relation with Datacraft, Narayanan says, “We have already started working with Datacraft to make our data centre more resilient and robust. We are planning to implement Cisco Nexus platform with them.”

“Cisco and Datacraft share a unique relationship which is grounded in mutual trust and reinforced by a genuine business relationship. This has generated customer affinity and brand preference.”

— **GB Kumar, Senior Vice President, Customer Advocacy, Cisco India & SAARC**

“The migration of HUL from point-to-point network to a MPLS network has been cost effective. Our partnership with Datacraft and Cisco will go a long way.”

— **Subramanyam Narayanan, Group IT Manager – Infrastructure and Security, Hindustan Unilever (HUL)**