



# CONSULTING ENGAGEMENT PROJECTS SUMMARY

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## NETWORK-APPLICATION SCALABILITY

### Routing/Switching Product Selection - Banking

Our client required confirmation of the most suitable hardware for their international core routing requirements. Upon supplying a key list of applications and expected growth over the next five years, Celemetrix was asked to validate performance and availability of four vendors. The outcome of this validation engagement was the most suited vendor could only facilitate the application requirements for three years; not the goal of five years. This significantly changed the ROI model and CFO recommendation.

### 3G Mobile Infrastructure Scalability Validation - Carrier

Upon deploying critical 3G infrastructure, our client was challenged with ensuring the scalability of the infrastructure. Celemetrix was asked to emulate the projected utilisation demands and provide a list of key recommendations to ensure scalability, performance and stability would be achieved.

### VoIP Performance and Scalability for Hosting Service - Carrier

Upon deploying centralised VoIP infrastructure and successfully signing many new customers, our client needed to understand the performance and scalability limits it should use to decide infrastructure investment as well as scalability limitations. Celemetrix was able to emulate national VoIP traffic and call establishment requests and validate break points in the current infrastructure and provide recommendations for improvements.

### Disaster Recovery Data Loss Validation - Government

Celemetrix was engaged to offer factorial evidence of potential data loss on the event of a DR (Disaster Recovery) event. This engagement was to cause a fail over event and measure the total loss of data and network performance.

### VoIP Product Development - Carrier

Celemetrix was asked to develop the technical guideless for a domestic and commercial VoIP product for a national carrier. This entailed the development of CPE capability establishment for the potential mix of traffic that could be generated by end users. Once this was established the CPE configuration recommendations and network architecture could be developed.

## NETWORK-APPLICATION OPTIMISATION

### Telecommunications Technology Overview - Government

Due to the increase in international deployments, this client needed critical infrastructure design and technological overview details to assist in the deployment and optimisation of installed infrastructure.

### MPLS Fail Over Validation - Data Centre

After completion of a new data centre, our client (banking) needed to ensure that if a critical failure occurred, disaster recovery processes would successfully achieve fail over with customer impact. Deployment of critical test plans resulted in the identification of critical MPLS routing issues that once resolved, achieve the desired outcome. Business interruption would have cost our client many millions of dollars per hour.

### Application Performance Optimisation - Defence

Upon deploying a mission critical application, performance issues arose and Celemetrix was asked to identify them most cost effective actions to achieve the desired performance requirements. Celemetrix was able to emulate and identify scalability and deployment challenges and recommend changes to the application that would achieve the desired outcome.

## NETWORK SECURITY

### Network Firewall Performance and Scalability Validation - Carrier

Operating one of Australia's largest ISPs, firewall performance was critical. Our client asked us to validate the scalability and robustness of their firewall to protect them against malicious intruders. Celemetrix was able to emulate large scale firewall attacks to establish the weak points in their infrastructure design and assist with the reconfiguration to achieve the optimal outcome.

### Firewall Robustness Testing - Banking

Celemetrix was engaged to provide testing services to establish the robustness of a major firewall. This entailed the emulation of extremely large amount of data requested, Malware, DNS etc to establish at what point a failure event would occur. In addition once this event occurred measure the impact of a DR fail over event.



## SLA COMPLIANCE

### **Bandwidth Performance Dispute Resolutions - Carrier**

Celemetrix was asked to assist in identifying reasons for link performance challenges between Melbourne and Perth. Link bandwidth was estimated to 5% of SLA requirements. Using state of the art equipment Celemetrix was able to identify the issue within 24 hours and resolve it. This issue had been challenging both parties for six months.

### **SLA Penalty Resolution - Enterprise**

Upon being dissatisfied with the carrier's performance and reporting capabilities, Celemetrix was asked to validate a signed SLA performance agreement for a national WAN network. The outcome to this engagement was that our client was able to invoke significant penalties for poor application performance (Network Applications Delay).

### **SLA Verification on Application and Network Performance - Integrator**

Upon being asked to assist our client guarantee the successful deployment of a key business application, Celemetrix utilised our lab facilities to emulate and model how the applications would work across the entire network and create a QoS design to ensure WAN SLA guidelines could be guaranteed.

### **QoS Validation - Carrier**

Due to the blending of LAN and WAN demarcation and configuration implications, Celemetrix was asked to assist in validating the correct infrastructure configuration to achieve the desired bandwidth/application performance validation. This included the emulation of key applications and working with the carrier to achieve the optimal network configuration that delivered the desired application performance under different load situations. This was achieved by QoS mapping, optimisations and configuration changes.

## OPTICAL INFRASTRUCTURE

### **Fibre Characterisation of 1000km Transmission Link - Utility**

Celemetrix was engaged to provide testing services to ensure that a long haul fibre optic transmission link could perform at the desired performance level. Concerns related to link dispersion and optical link stability.

### **Validation of Fibre Optic Infrastructure for DWDM Suitability - Utility**

Upon winning another major client, this utility needed to deploy multi channel DWDM at 10Gb/S. Concerned about SLA penalties, Celemetrix was engaged to validate the capability and performance of the infrastructure so that our client could agree on a suitable SLA contract and appropriate penalty structure.

### **Submarine Fibre Characterisation - Carrier**

One of Australia's longest fibre optic submarine unrepeatable links was undergoing a transmission system upgrade which needed to achieve long term performance outcomes and stability requirements. Celemetrix was engaged to validate the critical optical characteristics of the link and work with the owner to ensure all business outcomes could be achieved.

### **Singapore Submarine Infrastructure Verification - Carrier**

Upon signing across a new international carrier, our client needed to validate the performance capabilities of their infrastructure to ensure contracted SLA guarantees could be met. Celemetrix was engaged to execute a list of highly technical validation tests that resulted in the identification of critical link issues that would have exposed the carrier to multi million dollar penalties.

### **WAN Network Performance Validation - Mining**

Network upgrades that included the deployment of new DWDM transmission systems resulted in our client needing to provide their transmission equipment supplier with key infrastructure performance specifications. Celemetrix executed a range of highly technical tests to evaluate the technical suitability of such systems that ensured successful deployment of the desired transmission system.





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