

Case study

Connectivity is key for data centre effectiveness



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For a department more accustomed to controlling borders, breaking down barriers in connectivity was the key to improving data centre efficiency.

The Australian Department of Home Affairs' headline mission is to implement immigration and border control policy, but it also responsible for national security, emergency management, federal law enforcement, as well as Australia's humanitarian program, citizenship, trade and customs, offshore maritime security and revenue collection. One of its operational enforcement arms, the Australian Border Force, is responsible for investigations, compliance and immigration detention operations offshore and onshore, across air and seaports and land and maritime domains. It's a wide-ranging and very important portfolio.

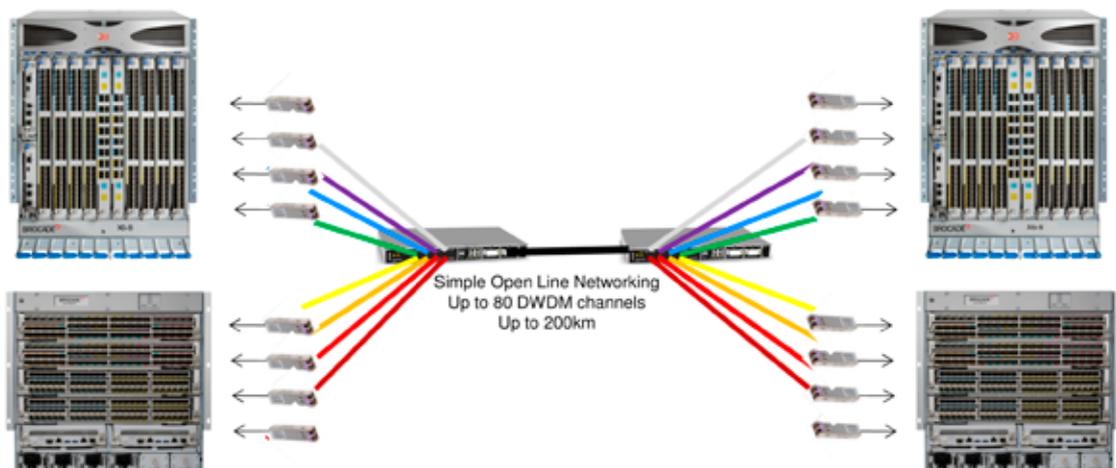
Several years ago, after outsourcing the operation and management of its secure gateway, the Department decided to move to a dual-site active/active gateway and bring the technology back in-house. For this, it needed to establish high-speed

connections between its data centres within the Canberra region.

But there was a major problem at that time — acquiring the fibre would take too long, up to six months. The Department couldn't wait for its technology infrastructure to play catch-up; it had only six weeks to allocate budgets for upgrading its systems before the fiscal year ran out. So its ICT experts scoured the market for a solution that would bridge the gap. They called in several leading players to present ideas, but all offered carrier-level solutions that were too complex and too costly.

In the end, a Smartoptics M-Series multiplexer solution was chosen as the best fit, as it would provide the right level of speed and flexibility by increasing capacity through wave division multiplexing (WDM) to optimise the existing network infrastructure. Independent Data Solutions (IDS), the exclusive Smartoptics distributor in Australia, designed, built and installed the Department's solution, although it often

Embedded xWDM – its so simple



- Use colored xWDM SFPs directly in SAN/IP switch
- Mux/Demux combines wavelength channels on to a single dark fiber
- LC patch cable connects transceiver to multiplexer
- Single channel connectivity, 16ch CWDM, 88ch DWDM

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works through integrators and resellers (as required, for instance, by the tender process in the ACT).

The approach chosen combined the simplicity of a passive multiplexer with the features of a more traditional transponder-based Dense WDM platform, which is exactly what the Department needed for its connectivity — its data centres can now synchronously connect all of their storage and data traffic together with minimal signal latency. And traffic monitoring through the fully automated SmartOS management system provides all the features necessary to handle the monitoring of the fibre network, automatically adjusting to the correct power levels.

The Department was able to carry out a

complete network refresh and load the new environment without any disruptions. Network capacity increased significantly, with 12 channels all running simultaneously at 1–10 Gbps with additional capacity available for growth. The initial deployment gave the Department the volume it needed to respond quickly to its changing data centre needs, and it has recently invested in an expansion of its Smartoptics capabilities.

“We’ve found that Smartoptics systems have proven very popular with dozens of Australian government departments and agencies, and we’ve worked closely with leading resellers and integrators such as Dimension Data, Data#3, ForwardIT, Amnesium, Arista, Dell/EMC and others to provide solid solutions that work first time,” said IDS’s Director of Sales, Ian Deane.

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