D-Link
FOR BUSINESS

case study

Telair, Queensland

D-Link provides greater capacity for Telair to grow their business with a Top of Rack Data Centre Switch Solution

The D-Link switches give us the capacity to connect to every carrier we have at every PoP at 10Gbps multiple times... we will now have enough capacity for the next five years.

— Edward Wenman, Telair

Contact us for more information on D-Link Network Solutions for your business.

1300 700 100
www.dlinkbusiness.com.au
smb@dlink.com.au

Background

Organisation:

Telair was established by founder and current Managing Director Edward Wenman in 2006. Ed saw opportunities emerging for businesses due to a fast evolving communications industry. The company has since grown to be a key provider of communications services nationally.

Telair's Core Network was nearing capacity and they were expanding into new Data Centre locations. In order to keep up with the demands of a growing network and the trend of end customers ordering higher-speed services, Telair needed to upgrade and redesign their entire Core Network.

The Requirements

Telair identified the weaknesses in their existing solution and identified the technology they would need to satisfy their requirements for the foreseeable future. They then designed a solution to satisfy as many of those requirements as possible. These requirements included:

- High Port density
- Small physical footprint
- Redundancy
- Scalability
- Flexibility

Telair were looking for a new switching and routing platform which would work well together. Internally, they had the implementation skills, and needed it to last them well into the future.

Telair reviewed a large number of options and designs before shortlisting three vendors, which were then presented to the management team for final review.

These shortlisted options included the D-Link DXS-5400-54S, a new switch from D-Link designed as a high capacity, top of rack Data Centre switch with the flexibility of Open Networking Install Environment (ONIE).

The Solution

With 6 x 40Gbps and 48 x 10Gbps ports, this significantly increased the amount of 10Gbps connections per PoP – a constraint of the old network, which is limited to a 1Gbps connection to their carriers. As bandwidth delivered to end-users increases, the number of 1Gbps headends increases and adds complexity in the allocation of bandwidth per headend. A better solution for Telair is to always connect at 10Gbps giving an increased 'lifetime' to each carrier connection.

Increasing the number of 10Gbps connections also brings about a saving on the number of data centre cross-connects required – reduce monthly rental cost significantly.

Edward Wenman said, "The D-Link switches give us the capacity to connect to every carrier we have at every PoP at 10Gbps multiple times. Given the current number of carriers and clients, we are cross-connecting to, I would expect that we will now have enough capacity for the next five years."

Competitive Advantages

D-Link switches were chosen as Edward Wenman explained, "6 x 40G ports allow the inclusion of a third switch while maintaining 40G Dual Uplinks. Some key D-Link differences were critical in our decision, including:

- **8GB DDR3 DRAM pre-installed.** Other vendors have only 2GB
- **64GB M.2 SSD Flash Memory pre-installed,** other vendors with 4GB and it is only mSATA – an older standard
- **Larger MAC Table - 288K –** way more than other vendors of 32K

Warranty was also key, with D-Link's Limited Lifetime Warranty with Advanced Replacement being a compelling factor.

Edward Wenman added, "Clearly D-Link is a well-known and established brand with which we have a historical relationship and local account representation. **We believe that not only is the D-Link product physically better but the support going forward will make a significant difference.**"

Continues on the next page...

D-Link
FOR BUSINESS

case study

Telair, Queensland

D-Link provides greater capacity for Telair to grow their business with a Top of Rack Data Centre Switch Solution

We believe that not only is the D-Link product physically better but the support going forward will make a significant difference.

— Edward Wenman, Telair

Contact us for more information on D-Link Network Solutions for your business.

1300 700 100
www.dlinkbusiness.com.au
smb@dlink.com.au

The Challenges

Of the key points outlined the first two - the increased total bandwidth throughput and high port density within a minimal physical footprint - are easily solved by a large number of switches on the market. By installing a single rack unit high switch with 48 x 10G ports Telair covered these points.

Redundancy and scalability were solved using the uplink ports. The D-Link solution comes with 6 x 40G QSFP ports which enables Telair to connect to their routing platform with redundant ports and interconnect the switches as well. On top of this the D-Link switch has dual hot-swappable power supplies and 4 fans.

Flexibility was also key. Planning for the future of an ISP's Core Network is a real challenge. Technology evolves very quickly and locking yourself into hardware and vendors is a very big decision. The shortlisted vendors Telair considered were capable of supporting open networking software (ONIE) - essentially allowing you to change the operating system of your switches without changing the switch. This gives the user the ongoing choice past the hardware purchase date and was a key factor in Telair's decision making.

The Implementation

In each of the primary data centres, Telair installed two of the D-Link DXS-5400-54S switches with each switch connected to their routing platform using two of the 40Gbps QSFP ports, leaving 2 free for future growth.

Telair chose the D-Link OS to run on the switches, which allows them to take full advantage of D-Link support services. Each switch has 48 x 10Gbps ports which Telair use to connect to their carriers. The switch configuration is mirrored allowing a single switch to take over all connectivity in the event of a fault.

The WOW Factors

It's very unusual to have the freedom of completely reviewing and replacing an entire Core Network. Telair needed to be careful when making their choices as they likely won't get this chance again. The total throughput of the D-Link switches used in the solution is 1.44Tbps per switch which is a staggering amount of data.

Edward Wenman added, "I think the biggest wow factors for us were when we received the hardware and started getting everything set up. **There was so much capability within the D-Link switches. They are extremely flexible in their configuration and we are really only scratching the surface of what they can do in our current, fairly simple configuration.** For anyone who is familiar with big chassis style switches, they take up so much room and so much power - which all equates to cost in a data centre. Replacing them with two switches that take up just 2 rack units, that use very little power, and can handle 16 times the capacity between them, you definitely have a little wow moment."

The Outcome

"Very simply it all worked. Everything is deployed - the switches, servers for virtualised routing platform, managed power rails, out of band management and lots of fibre modules. Everything had been tested and tested again in Telair's lab before deployment so we knew it would work."

Edward Wenman concluded, "**Telair used the D-Link Support Team to help when testing initial configurations but since deployment, we haven't had a single issue.** There is also an added benefit of connecting the serial port to the out of band management and logging into what is essentially a server on the switch connected to the management network. From there you can jump into other connected equipment or the switch OS. Moving forward we have huge amounts of capacity in terms of bandwidth and ports and we can now look to the more interesting features around SDN and what the various Open Networking operating systems offer. When we need to we can completely redesign our network using software without having to touch the hardware."

Products integrated in this solution include:

	**12 x D-Link DXS-5000-54S** 54-Port Data Centre Switches with 6 x 40Gbps QSFP+ Ports, and 48 x 10Gbps SFP+ Ports
	**12 x D-Link DXS-5K-54S-DC-LIC** D-Link Operating System (OS) Software Licenses for the DXS-5000-54S Data Centre Switches