

3Com® SuperStack® 3 Switch 4400: Building a Robust Wiring Closet

APPLICATION BRIEF

The Problem— Network Downtime

Wiring-closet switches usually have one major weakness when it comes to availability—the connection to the backbone. If this link fails, the entire workgroup loses its network connection. The link typically fails when the cable has been broken or there is a

problem with the wiring-closet switch such as power failure. Even if the link does not fail completely, a single Gigabit link to the backbone can get congested and cause performance issues, especially when the same downlink is being shared by up to 192 users.

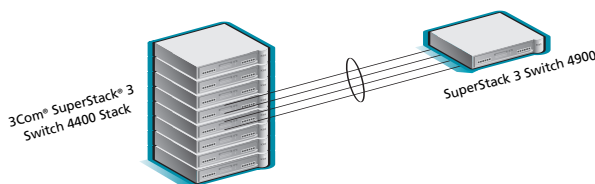
The Solution

Up until now IT managers have had a difficult choice: either create an Aggregated Link (sometimes called a Port Trunk) or create a Resilient Link. Creating an Aggregated Link as the downlink on a single unit in the stack solves the performance problem but not the availability problem, since that unit becomes a single point of failure. Creating a Resilient Link across the stack solves the availability problem but not the performance problem. That's because only one link can be active at a time, reducing the maximum throughput to 2 Gigabit/sec on a single full-duplex link.

However, the 3Com® SuperStack® 3 Switch 4400 offers solutions to both problems with a feature called Stack-wide Aggregated Links. Each Stack-wide Aggregated Link can consist of up to four Gigabit links via the

uplink modules or four 10/100 links through the switch front panel. And it's possible to have as many as four Stack-wide Aggregated Links per stack. So instead of the links comprising an Aggregated Link being restricted to a single unit, they can be distributed across different units in the stack. This means that if a single unit fails it will not cause the Aggregated Link to fail—providing the availability level of a Resilient Link.

At the same time, since all links are active and carrying traffic the switch offers the performance of an Aggregated Link. The hardware-based stacking architecture of the SuperStack 3 Switch 4400 makes this possible by allowing the entire stack to behave as a single switch—unlike non-stackable or “cluster” switches.



Want to know more?

For further information on this 3Com SuperStack 3 Switch 4400 feature and its use, please refer to this entry in 3Com Knowledgebase:

<http://knowledgebase.3com.com>, Solution ID: 2.0.72839378.3221790