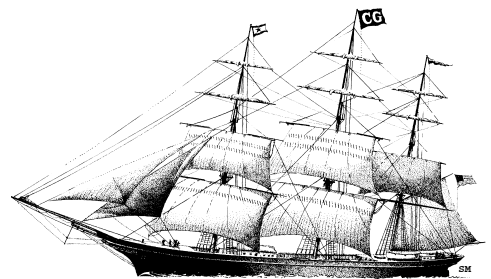


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Published Since 1993

October 16, 2002

McData's *Sphereon 4500* — The Switch Brick

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In the worlds of computer networks, switches are key elements which link server computing engines to the storage arrays, from which they pull their data. It is no surprise that switches are expensive, and that large, internally-redundant never-fail Director-class switches are at the high end of a lofty price range.

Like other computing components, if you can't afford the budget hit for top-of-the-line integrated large-scale solution, you go with smaller, less expensive building blocks, often called *bricks*, and assemble your own solution. Bricks are smaller units of capability (storage, servers, switches) that can be aggregated. They are procured in cheaper increments, and often can be removed and replaced in an aggregation without bringing down the solution (in this case, the network). The brick must be big enough to be worth the cost of procurement and installation, but not so big as to be painful to procure and deploy.

With switches, there is an additional caveat. When cascading switches (many smaller switches linked together into a larger solution), *alternate pathing* is accomplished by inter-switch links (ISLs), which consume ports without enabling any incremental throughput. The larger the cascade (i.e., the more switches that are connected together), the more of those expensive ports must be consumed for ISL connectivity. **So you want your switch building blocks to be as large as possible – to enable internal connectivity – as long as the price of larger building blocks does not become punitive on a per port basis.**

McData's new *Sphereon 4500* switch has been built with this in mind. It has 24 ports when fully enabled, but a customer can buy the dual-powered, dual-fanned, highly-available chassis with as few as 8 ports. Additional optics to enable additional ports can be shipped overnight and added dynamically in 8-port increments, using McData's *FlexPort* design. **The *Sphereon 4500*'s flexible port count and 24-port capacity allow enterprises to start small and grow within the box to a mid-sized configuration without having to buy another switch which, of course, also eliminates the need for any (or most) of the unproductive ISLs. With this product, McData has changed the sweet spot for switch procurement.**

The *Sphereon 4500* features a 20 KM distance capability, loop support (so you can use your existing storage), and API's to hook up to storage management frameworks. Online diagnostics, health monitoring and fault isolation specific to the switch component enrich the *Sphereon 4500*'s functionality. This switch enables SANs for the small and medium enterprise at a cost that starts at about \$1000 per port for the 8-port configuration and costs less per port for the full 24-port configuration, under \$22,000. Free *SANpilot* software is included for zoning, configuration and management.

McData's right-sized, right-price brick can also be part of something bigger. *SANpilot* can manage small fabrics of up to 6 devices. From *SANpilot*, customers can easily migrate to McData's high-end storage network management product, *SANavigator*, which provides the ability to manage heterogeneous fabrics with modules for planning and asset management. Moreover, McData is developing APIs for device management and fabric management that will allow higher-level frameworks to pull data out using XML from a *SANavigator* or *SANpilot* database. This will allow detailed trending analysis.

These all bring down the cost of a SAN solution, without limiting the features that give SANs their strategic benefits. Small, local SANs are now easier to install and easier to manage. An added benefit is the choice of local basic management or participation in a larger universe, with more sophisticated management tools. Mid-sized bricks, like the *Sphereon 4500*, are an important building block for the future, for both smaller and larger enterprises. **For your enterprise, it may pay to think small, but not too small.**



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¹ See *Intelligent Storage Networks – Creating a More Cost-Effective Storage Infrastructure* in **The Clipper Group Explorer** dated February 22, 2002, at www.clipper.com/publications.htm.

² For example, logs, indices, and temporary tables.

³ For an in-depth discussion about tiered storage classes, see *Tiered Storage Classes Save Money — Getting The Most Out Of Your Storage Infrastructure* in **The Clipper Group Explorer** dated August 29, 2002, at www.clipper.com/publications.htm.