

APPLICATION NOTE

Raising Data Center Interconnect to Web-Scale Proportions

The Proliferation of Content Requires More Data Centers

From the way people work and communicate to the way they are entertained, the Internet's ability to provide instant access to content has never been more vital and has changed our daily lives. The proliferation of Internet-connected devices—which often provide this crucial access from the palm of one's hand—is one of the reasons Internet Content Providers (ICPs) and network operators have been working on making content available to users anywhere, anytime, and from any device.

Due to the nature of modern services and applications, consumer content must be delivered instantaneously and with high standards for performance. Some, such as maps that offer real-time driving instructions, create a need for data centers close to metropolitan areas. Others, such as email or Web pages, do not necessitate instantaneous delivery and can be delivered from far-end data centers. The unprecedented proliferation of mobile devices such as smartphones and tablets and new, Over-The-Top (OTT) services like streaming video and online gaming have fueled the creation of additional data centers in suburban and rural locations as well.

In addition, natural disasters and government regulations have pushed enterprises to create data centers to back up their data for Business Continuity/Disaster Recovery (BC/DR) plans and real-time data mirroring. These data centers are sometimes hundreds or thousands of kilometers away from corporate offices. Multinationals have been creating data centers across the globe to provide a quick and secure data stream to conduct their operations that support various departments such as R&D, sales, support, billing, and back-office functions. And virtualization has also fueled the creation of these data centers, as enterprise IT organizations are moving from customized, in-house IT applications to standardized, cloud-based ones. Document repositories, applications on demand, and virtual machines all require data centers.

Webserver for web-scale DCI

- Enables faster expansion—the stackable interconnect system and its ease of use allow the addition of multiple terabits of capacity in minutes
- Features flexible client interfaces, allowing the mixing and matching of 10G/40G/100G with a smooth transition between rates
- Features flexible line interfaces, with QPSK, 8QAM*, and 16QAM, for the highest capacity at any distance from metro to long-haul requirements
- Includes embedded REST APIs that enable automation and programmability—thousands of operations can be executed automatically around the clock
- Achieves new economic benchmarks with space, fiber, and hardware savings