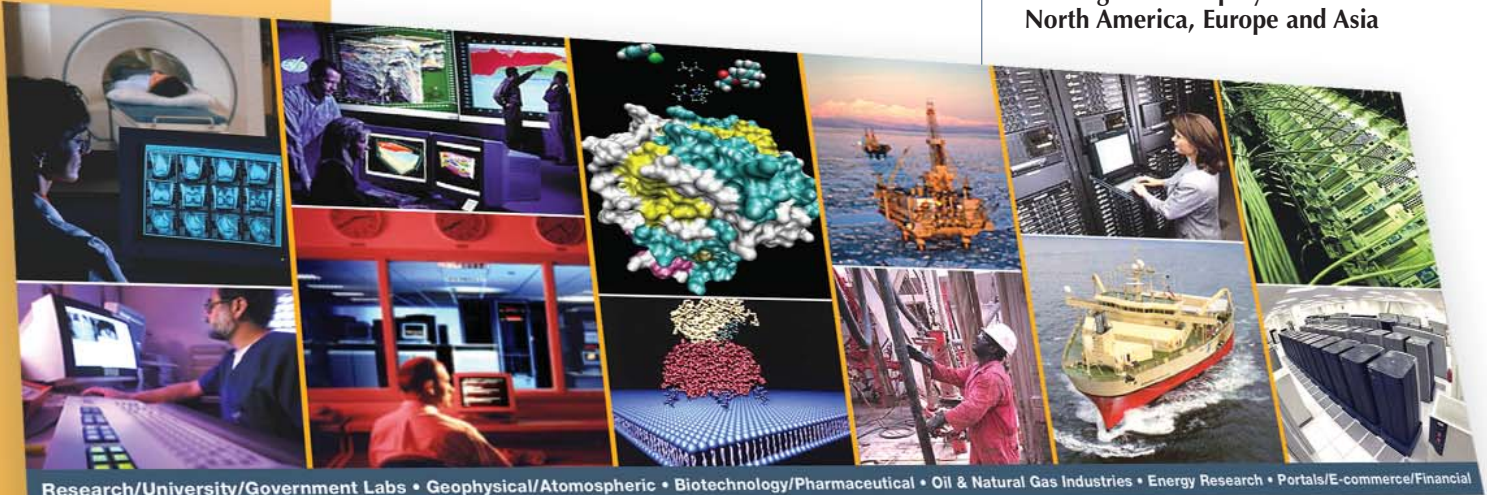


PREDICTABLE  
PERFORMANCE

## HIGH PERFORMANCE CLUSTER AND CLOUD COMPUTING

- Force10 powers six of the world's top 10 fastest supercomputers
- Leading HPCC deployments in North America, Europe and Asia



**Best-of-Breed**  
**10 GbE**  
Technology with  
High Touch Support

High Performance  
**Gigabit &  
10 Gigabit  
Ethernet**

**Lower TCO**  
Through System  
Resiliency &  
High Density

**Lower OpEx**  
By Over **20%**  
Through Reduced  
Power & Cooling Needs

### High Performance Cluster Computing Solutions

A high performance computing cluster (HPCC) system needs to be flexible, powerful and efficient, in order to provide timely, accurate and high quality results for commercial and scientific ventures. The right Ethernet architecture can enhance the performance and reliability of an HPCC system and provide the foundation on which to grow for the future. Force10 Gigabit Ethernet (GbE) and 10 GbE switch/routers paired with leading server, storage and software solutions, create some of the world's most powerful HPCC systems.

National laboratories and other research environments worldwide are requiring more computational power yet greater simplicity as their supercomputers and their supporting networks continue to get larger and operate faster. From the E-Series high density switch/router and the C-Series resilient switch in the core to the S-Series access switch on the edge, Force10 Ethernet switch/routers provide the non-blocking performance, reliability and scalability that are needed to optimize supercomputer performance and enhance state-of-the-art research and analysis.

### Force10 HPCC Customers in the TOP500 List

Force10's Ethernet switch/router solutions play a significant role in six of the world's top 10 most powerful supercomputers according to the most recent Top500.org list. Los Alamos National Laboratory, home of Roadrunner, which is ranked number one on the list, utilizes the Force10 TeraScale E-Series switch/router to serve as the supercomputer's high-speed Ethernet interconnect network.

In addition to powering the fastest supercomputer in North America, the Force10 Ethernet switch/router solutions provide critical Ethernet interconnect functionality to the fastest supercomputers in Europe and Asia. Forschungszentrum Juelich, with its Jugene supercomputer located in Germany, ranks 3rd on the list and has deployed the Force10 TeraScale E1200 with more than 200 Ten Gigabit Ethernet ports. Asia's highest-performing supercomputer, Magic Cube (previously known as the Dawning 5000A), at the Shanghai Supercomputer Center utilizes Force10 C300 resilient switches and S2410 access switches. Force10 also powers 10 of top 20 and 14 of top 50 fastest supercomputers worldwide.

FORCE10

**FORCE10 INSTALLATIONS IN THE TOP 50 CLUSTERS RANKED IN THE JUNE 2009 TOP500 LIST**

Rank	Site	Country	System Model
1	DOE/NNSA/LANL	United States	BladeCenter QS22
3	Forschungszentrum Juelich (FZJ)	Germany	BlueGene/P
7	Argonne National Laboratory	United States	BlueGene/P
8	Texas Advanced Computing Center/Univ. of Texas	United States	Sun Blade x642
9	DOE/NNSA/LLNL	United States	BlueGene/P
10	Forschungszentrum Juelich (FZJ)	Germany	NovaScale R422-E2/Sun Blade 6048
12	Oak Ridge National Laboratory	United States	Cray XT4 QuadCore
14	King Abdullah University of Science and Technology	Saudia Arabia	BlueGene/P
15	Shanghai Supercomputer Center	China	Dawning 5000A
16	SciNet/University of Toronto	Canada	IBM xSeries iDataPlex
25	ECMWF	United Kingdom	pSeries 575
26	ECMWF	United Kingdom	pSeries 575
45	Stony Brook/BNL, New York Center for Computational Sciences	United States	BlueGene/L
50	DOE/NNSA/LLNL	United States	pSeries 575

**When Your Network is Your Business**

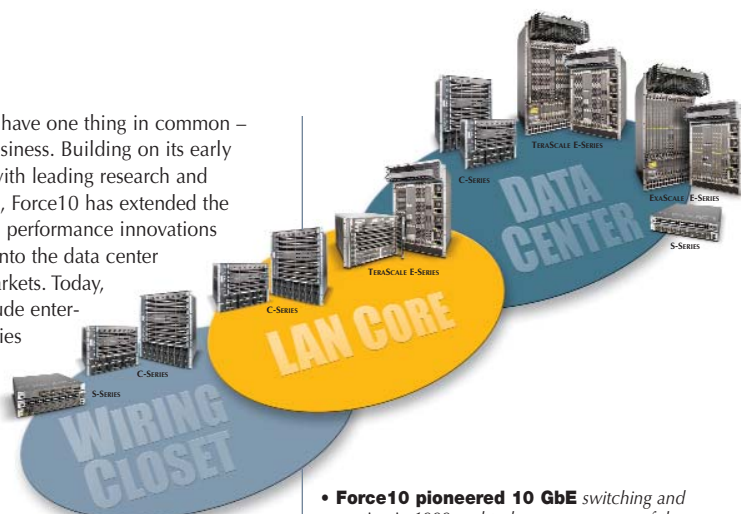
**Force10 Networks** is the global technology leader that data center, service provider and enterprise customers rely on when the network is their business. The company's high performance Ethernet switch/routers provide industry leading density and resiliency to deliver simpler networks at lower costs. With its advances in hardware and software, Force10 delivers the innovative technologies that enable greater network reliability, control and scalability from the data center to the enterprise wiring closet.

Today, Force10 is a global company that builds and secures some of the most complex networks in the world. With worldwide offices and support centers, Force10 is committed to delivering the technology and service that helps customers transform their networks into strategic assets.

**Reliable Networking by Force10** delivers the high availability, network control and scalability that customers require to ensure their networks are application and service ready. The Force10 product portfolio is uniquely designed to optimize these performance characteristics. The Force10 Reliable Networking product portfolio includes the E-Series family of switch/ routers, the C-Series family of resilient switches, and the S-Series family of access switches. Leveraging patented innovations in system-level performance and FTOS, the modular Force10 operating system, the Reliable Networking product portfolio provides a flexible network foundation that can adapt to changing business needs.

**Force10 customers** have one thing in common – their network is their business. Building on its early customer partnerships with leading research and education organizations, Force10 has extended the advanced reliability and performance innovations of its product portfolio into the data center and service provider markets. Today, Force10 customers include enterprises in vertical industries such as media, financial services, oil and gas, Web 2.0 and gaming. Service providers, including Internet exchanges, wholesale providers cable operators and content delivery providers, also leverage the reliability, network control and scalability of the Force10 product portfolio to increase the strategic value of their networks.

**Force10's service and support** organization is designed to work in concert with customers to optimize the network according to their unique requirements. With technical assistance centers and spare depots around the world, Force10 combines advances in service and support technology with technical expertise to support customers from the planning and design phases through installation and long-term operation.



- **Force10 pioneered 10 GbE switching and routing in 1999 and today powers many of the world's largest networks**
- **The Force10 Operating System (FTOS), shipping since 2001, uses the same industry-standard CLI on all switch/router product lines**
- **High density + industry leading resiliency = new network economics**
- **Force10 is the 2nd largest provider of 10 GbE technology based on revenue (Dell'Oro Group) and was the first to ship line-rate 10 GbE systems in 2001**
- **Force10 offers 24x7x365 global support with TACs and over 15 offices worldwide**
- **Force10 is widely deployed in high performance data centers such as Brookhaven National Lab, eBay, eHarmony, Salesforce.com, Symantec, and Yahoo!**



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