



Flexing the Data Center Fabric

Network intelligence from the core to the edge

The traditional system-centric data center paradigm of the past has been rendered ineffective by new virtualization technologies and an explosion of data center growth. The practice of building separate compute, storage and network resources that are managed by separate IT teams has become complex and costly, forming a barrier to the innovation and responsiveness demanded by the current business environment. As a result, a service-centric model is now evolving – requiring a [Converged Infrastructure](#) of today's systems and processes that rapidly adjusts to meet changing business needs.

The fundamental nature of data center computing is changing. Static pools of compute resources are being replaced by dynamically-provisioned, highly-utilized server infrastructures that can continuously-evolve in response to application and user requirements. Virtualization enables a more dynamic, flexible data center use model. In addition, data centers are rapidly expanding to meet business demands.

At the same time, traditional hierarchical network designs cannot scale nor provide the performance and dynamic flexibility demanded by a virtualized data center. A new and innovative data center networking architecture is required to meet demands for greater scalability, increased performance and fully leverage virtualization technology. Server, storage and network connectivity must be converged onto a single fabric that is more coherent, flexible, and agile than today's ridged infrastructure.

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FlexFabric

HP is “flattening” the conventional hierarchical network topology by transitioning to a flat, high-performance aggregation layer coupled with intelligent, virtualization-aware server edge switches. This structure is designed to complement the intelligent virtualized network interfaces offered by the latest HP data center servers and storage systems. FlexFabric combines intelligence at the server edge with an advanced orchestration and management layer to enable virtualization-aware networking, predictable performance and rapid, secure, business-driven provisioning of data center resources. The FlexFabric architecture allows IT organizations to create a ‘wire once,’ network infrastructure that will deliver true “networking-as-a-service” capabilities to the various consumers of connectivity within the data center.

To thrive in an increasingly unpredictable economy, businesses need a data center environment with elasticity – the ability to scale and react dynamically to meet rapidly changing needs. FlexFabric gives data center operators the ability to virtualize SAN and LAN connections that dynamically migrate with workloads as they move across or between data centers. This operating model can be dynamically scaled and divided,

matches protocols to application requirements and delivers predictable latency. HP FlexFabric allows server, storage, networking, and application administrators to set governance, security, and SLA policies. HP FlexFabric will deliver the following:

- A highly scalable, modular, and converged data center fabric to support a wide variety of application and business workloads, performance requirements, and data center build-out strategies
- Cost-effective deployment models that use industry-standard building blocks as their foundation
- Comprehensive management and orchestration tools that offer seamless resource provisioning, linking network infrastructure functions to end-user and business demands

Simply put, FlexFabric will deliver a unified, flexible data center infrastructure to manage connectivity— across servers, storage, and networking – and dynamically adapts to the demands of heavily virtualized data center architectures. HP accomplishes this by providing:

- High performance, very low latency fabric - A large, flat network domain for ultra low latency, high performance forwarding and fast workload mobility, seamless integration with existing enterprise Layer-3 cores, high speed Ethernet capabilities, and active load balancing and link aggregation within the server edge interconnect.
- Open, standards-based solutions – Interoperability among software and hardware products and seamless support for emerging industry standards (Higher speed Ethernet links, Virtual Ethernet Port Aggregation, Fibre Channel over Ethernet, and Converged Enhanced Ethernet) for fully modular, highly scalable, and cost effective networking.
- Integrated management to deliver business agility – With management integrated down to the component level – including networking and virtual I/O – HP is revolutionizing data center provisioning and operation. Integrated FlexFabric management capabilities dramatically reduce time to service and the chance of costly errors while accelerating IT alignment with business demands and goals.

How do I get started?

HP ProCurve and HP Virtual Connect (VC) edge connectivity technologies form the foundation of HP FlexFabric to improve performance, utilization and flexibility. For organizations who choose a more traditional data center network management and design methodology, HP ProCurve offers an optimized strategy that is seamless from the data center across the Enterprise.

Complementing Virtual Connect, HP ProCurve switches provide proven, industry-leading solutions at the data center edge to increase cost of ownership. These data center networking products include the 6600 Layer 2 and Layer 3 Top of Rack and end of row/aggregation switches, the 5400 and 8200 Layer 2/Layer 3 scalable chassis for data center aggregation, the 6120 family of blade switches at the server edge, and the new Data Center Connection Manager appliance, backed by a Lifetime Warranty. These capabilities give network administrators the power and flexibility to deploy, manage, and evolve server connectivity quickly and in line with business policy and



demands.

To learn more about HP FlexFabric read the [FlexFabric white paper](#) and the [FlexFabric Fact Sheet](#)

* For as long as you own the product, with next-business-day advance replacement (available in most countries). The following hardware products have a five-year hardware warranty for the disk drive and lifetime hardware warranty (for as long as you own the product) for the rest of the module: HP ProCurve ONE Services zl Module, HP ProCurve Threat Management Services zl Module, and HP ProCurve MSM765zl Mobility Controller. The following hardware products and their related series modules have a one-year hardware warranty with extensions available: HP ProCurve Routing Switch 9300m series, HP ProCurve Switch 8100fl series, HP ProCurve Network Access Controller 800, and HP ProCurve DCM Controller. The following hardware products have a one-year hardware warranty with extensions available: HP ProCurve M111 Client Bridge, HP ProCurve MSM3xx-R Access Points, HP ProCurve MSM7xx Mobility and Access Controllers, HP ProCurve RF Manager IDS/IPS Systems, HP ProCurve MSM Power Supplies, HP ProCurve 1 Port Power Injector, HP ProCurve CNMS Appliances, and HP ProCurve MSM317 Access Device. Standalone software, upgrades, or licenses may have a different warranty duration. For details, refer to the ProCurve Software License, Warranty, and Support booklet at www.hp.com/go/procurve/warranty.

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