



Extending data center networks to the IBM SmartCloud | IBM White Paper

Effective consolidation means more than simply reducing the number of boxes your company has in outlying offices and data centres. Efforts to reduce hardware infrastructure often result in degraded application performance — and thus unplanned expenditure — as it becomes necessary to optimize the infrastructure. F5's open architectural framework allows real control over your network to ensure applications are delivered exactly as intended.



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IBM and F5: Cloud enabling architecture

To meet planned and unplanned requirements, data centers need the capability to dynamically expand compute resources. Many organizations are moving beyond virtualization and reaping the benefits of cloud service delivery. The intelligent use of cloud computing requires agile infrastructures that are capable of integrating cloud resources and that enable consistent enforcement of delivery policies.

IBM Global Technology Services has teamed with F5 to deliver data center networks optimized for enterprise applications, virtualization and cloud computing. IBM is a market leader in providing cloud-based services, systems and software. F5, the leader in application delivery networking (ADN), provides solutions designed to ensure the performance, security and availability of applications for any user anywhere. Together, IBM and F5 can deliver a solution that can enable an agile and flexible networking and computing architecture.

Capabilities to move business forward

The IBM vision for cloud computing is embodied in IBM SmartCloud™ services and software, which includes:

- **IBM SmartCloud Foundation** – cloud software and hardware that can help enables enterprises to more quickly deploy and control clouds within their own firewalls.
- **IBM SmartCloud Application Services** – platform-as-a-service (PaaS) offerings.
- **IBM SmartCloud Ecosystem** – services for IBM Business Partners and independent software vendors (ISVs) to help clients adopt cloud models and manage cloud-based transactions by assisting their customers to build their own clouds or securely tap into the IBM SmartCloud.

Highlights:

- Performance, security and availability of applications for any user, regardless of device or location.
- Improved user experience across the network and the cloud
- Automated provisioning of network and cloud resources with intelligent application traffic management

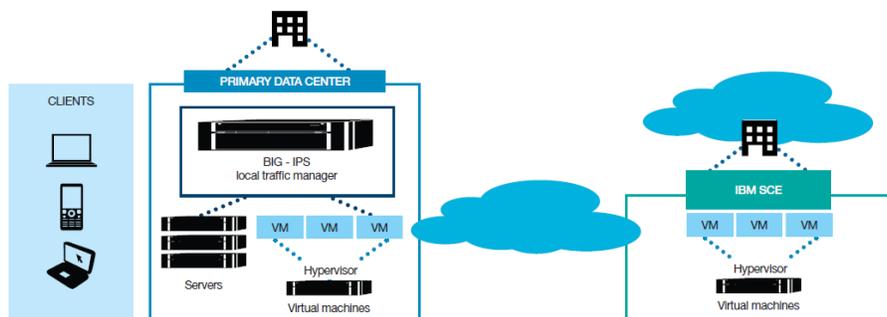


Figure 1. F5 Dynamic provisioning in the IBM SmartCloud enterprise



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Next generation networks with IBM and F5 solutions

IBM and F5 solutions are designed to provide the following capabilities:

- **Application optimization** – Improved remote performance, higher availability and increased security
- **Data center and server consolidation** – Faster response times over wide area network (WAN) while offloading compute intensive workloads for improved CPU utilization (30+ percent)
- **Server virtualization projects** – Automated provisioning of network resources with virtualization hypervisors from vendors such as VMware
- **Cloud and dynamic infrastructure initiatives (private, hybrid, public)** – Extends Application Delivery (for performance and availability), while automating movement of workloads to the cloud
- **Desktop cloud** – Secured access and faster performance across single or multiple VDI vendors
- **Global load balancing, business continuity and disaster recovery between sites** – Moves network and applications to remote sites automatically based on health inspection of the application or data center.
- **Application security protection** – Enables regulatory compliance; mitigates WikiLeaks-like DDoS attacks and SQL injection; provides application firewall up to 10 times faster than other vendors' solutions; improves availability as data centers become increasingly complex

IBM capabilities can help enable:

- Standardized, automated services that can be rapidly deployed
- Improved performance of infrastructure and insight into operations and service delivery
- Continued business operations with secure and resilient infrastructure
- Usage reporting and accounting for control of service utilization and costs
- Improved resource utilization with secure, scalable systems platforms

Applying the capabilities of F5 BIG-IP Local Traffic Manager (LTM) and on-demand resources of IBM SmartCloud Enterprise can help organizations scale and adjust services based on need, dramatically reducing costs at the same time.

BIG-IP LTM is designed to provide the ability to:

- Create additional instances in the IBM SmartCloud environment when local applications surpass policy-based thresholds
- Automatically add cloud instances to its pool of resources, bleed connections, and eventually deprovision virtual instances when no longer needed
- Consistently apply delivery policies to resources, regardless of location, to maintain availability, performance, and security

Cloud computing for growing business



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Cloud computing has changed the way we think about technology. Get started now, or continue your journey to cloud computing. Scale your IT investments as you grow your business.

For more information

For more information about what IBM and F5 solutions can provide, contact your IBM representative or visit: ibm.com/cloud

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