



Operationalizing the Network with Cisco ACI and F5 Synthesis

To meet business expectations without compromising on security, availability, or performance, today's IT organizations are expected to deliver applications with a speed and efficiency that was unimaginable just a few years ago. To keep pace, you must transform your data center infrastructure to support the rapid provisioning and scaling of network and application services. With the joint solution of Cisco Application Centric Infrastructure (ACI) and F5 Synthesis™, you can operationalize the network and accelerate application deployment.

Challenge

Transforming the data center requires IT to deliver applications when, where, and how they are needed by customers and employees alike. But the existing data center infrastructure is often a heterogeneous mix of physical and virtual devices with a device-centric management approach, and its operation is manual, repetitive, and time-consuming. IT departments are not set up to deploy applications quickly, scale them effectively, and maintain required service levels.

Evolving the existing data center infrastructure requires automation and orchestration, but these strategies bring their own challenges, such as the need to operationalize the network while maintaining the high availability and predictable application performance. This new approach moves the data center from a traditional, web-scale-focused architecture to an operationalized, hyper-scale-capable architecture. It must support the integration and orchestration of network and application services, while preserving existing investments for traditional and web-scale applications.

Solution

The Cisco and F5 solution transforms the current data center and addresses these business challenges. Cisco ACI is a data center architecture with an integrated network fabric and centralized policy-based control; it provides centralized access to all fabric information, optimizes the application lifecycle for scale and performance, and supports flexible application provisioning across physical and virtual resources. F5 Synthesis is an architecture that delivers and orchestrates F5's Software-Defined Application Services™ (SDAS) via a high-performance application fabric. The key point of integration for F5 within Cisco ACI is the F5 Device Package for the Cisco Application Policy Infrastructure Controller (APIC). The F5 Device Package is software that provides a single workflow for policy configurations and provisioning. Customers can choose to leverage a Cisco-APIC-to-BIG-IP or Cisco-APIC-to-BIG-IQ integration model for provisioning L4–L7 services, as required by the applications.

Key features

- Policy-driven, fabric-based approach to data center architecture
- Full functionality with F5 iRules and F5 iApps
- Cisco Application Policy Infrastructure Controller (APIC)
- Policy abstraction through open APIs
- F5 ScaleN architecture
- Downloadable F5 Device Package
- Granular control over resource deployment
- Open standards and open APIs
- Central management and orchestration of F5 devices through F5 BIG-IQ

Key benefits

- Accelerate application deployment
- Simplify automation
- Amplify investment protection
- Secure multi-tenant support in network fabric
- Increase business agility
- Improve time to market
- Reduce operating costs
- Get detailed visibility and telemetry at application and tenant level
- Grant iApps to deploy in Cisco ACI environment via BIG-IQ

Efficiently deploy fast, secure, and available applications

The joint solution extends the F5 Synthesis architectural vision and programmable SDAS into Cisco ACI through a downloadable, easy-to-install integration package, helping customers efficiently deploy fast, secure, and available applications within the APIC management console. This preserves the richness of SDAS within an ACI-enabled fabric through policy abstraction, which defines a common operational model through open APIs.

F5 offers customers choices with both Cisco-APIC-to-BIG-IP or Cisco-APIC-to-BIG-IQ integration models. With the Cisco-APIC-to-BIG-IP integration model, customers can configure F5® BIG-IP® Local Traffic Manager™ (LTM) with the flexibility to configure a variety of L4–L7 parameters for applications.

In the Cisco-APIC-to-BIG-IQ integration model, Cisco APIC leverages the intelligence of F5 BIG-IQ® to expose iApps in ACI environments. When Cisco APIC uses iApps, users will configure their applications with a few application-centric parameters that are translated into a full set of L4–L7 configurations on F5 BIG-IP instances. Administrators can customize the parameters that are exposed to their users to ensure correct and consistent deployments.

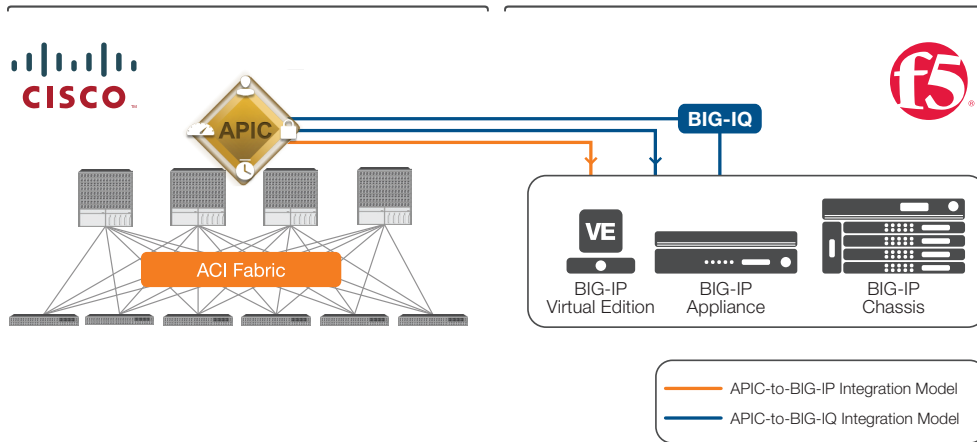
In addition to BIG-IP LTM, other L4–L7 services such as BIG-IP® Application Security Manager™ (ASM) and BIG-IP® Advanced Firewall Manager™ (AFM) that are embedded in the iApps will be available for Cisco APIC. Many customers use rich iRules® capability offered with the F5 BIG-IP system. With this integration model, iRules embedded in iApps will be automatically used when the service graph is deployed through Cisco APIC.

With an application-centric approach, F5 is uniquely positioned to bring L4–L7 multi-tenant capabilities and range of application templates via iApps to Cisco ACI environments. This protects existing application and architectural investments while operationalizing the network.

Reduce OpEx while maintaining operational best practices

Using the industry-leading F5 ScaleN™ architecture, customers can deploy multi-tenant solutions in Cisco ACI environments using route domains and F5 virtual application capabilities. The result is detailed control over resource deployment and prioritization that preserves the ability to isolate services, helping you meet regulatory compliance and business requirements. The combination of multi-tenancy and a policy-based, per-application delivery approach significantly reduces operating costs.

With Cisco ACI and F5 Synthesis, you can overcome your biggest IT challenges, ensuring responsiveness to customers and employees and a more competitive posture. As a result, rather than being a perceived barrier to success, your IT organization can transform the data center to meet and exceed business objectives.



F5 Synthesis integration with Cisco ACI through the Device Package

Learn more

To learn more about how the F5 and Cisco partnership can help your business, visit cisco.com/f5 and f5.com/cisco.

F5 Networks, Inc. 401 Elliott Avenue West, Seattle, WA 98119 888-882-4447 www.f5.com

Americas
info@f5.com

Asia-Pacific
apacinfo@f5.com

Europe/Middle-East/Africa
emeainfo@f5.com

Japan
f5j-info@f5.com

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an application world.

