



Take Control of Diameter Signaling to Grow Your Network

Subscriber demand for bandwidth-hungry apps has accelerated the use of mobile services and data on your network. Even as you evolve your network to 4G LTE to meet demand, Diameter signaling—which acts as the central nervous system of your network in controlling data sessions and supporting traffic policies—is exploding in volume and complexity. This can slow down your network’s performance and limit your growth. With F5 Diameter signaling solutions, you can maintain top performance and unprecedented scalability, roll out new revenue-generating services, and align network operations with business goals.

Scale and Manage 4G LTE Services

Mobile applications create many Diameter signaling transactions—sometimes hundreds of messages per session—and each application has distinct signaling behaviors. This massive signaling growth is a challenge to network management and scalability. Unless handled properly, it can bring performance to a grinding halt. In addition, as you evolve your network to 4G LTE to support advanced services, it can experience significant and disruptive fragmentation between legacy and newer interfaces that ultimately leads to complexity and poor performance.

To meet subscriber demand and continue to expand your business, communications service providers (CSPs) must overcome multiple challenges. These include implementing policy and charging policies and enforcement; enabling network roaming despite the incompatibility of various technologies and protocols; and supporting online and offline charging with multiple vendors and protocols. And, in order to preserve existing infrastructure investments and provide seamless service, you must also enable connectivity between legacy and 4G LTE network elements.

Diameter management solutions solve many communications challenges in evolving networks. For instance, Diameter gateways make connections between old and new network elements, Diameter load balancers help you scale and grow the network easily, and Diameter routers ensure that messages go to the right places. Diameter signaling has become the enabling technology for launching reliable, high-performance services. F5 is at the forefront of this innovation with the F5® Traffix™ Signaling Delivery Controller™ (SDC). The SDC is the only solution that consolidates context-aware routing, reliable load balancing, and an interworking function (IWF) to support legacy network elements—all on one platform—and scales to support an unlimited number of subscribers.

Key features

- **Contextual Diameter Routing**—Advanced contextual routing engine enables a range of rules and policies
- **Diameter Load Balancing**—Load balancing engine scales the control plane to help introduce new elements to support subscriber growth
- **Gateway and Message Transformation**—Ensures interoperability among legacy signaling and Diameter protocols
- **Element Management System**—Fine-grained monitoring and control to maintain top network operation 24/7
- **Control Plane Visibility**—Provides comprehensive analysis of and insight into the signaling control plane
- **Testing and Simulation Suite**—Enables LTE/Diameter node testing and planning

Key benefits

- **Simplify and Consolidate Management**—Consolidates gateway, load balancer, and router functionality and provides a comprehensive element management system
- **Scale to Enable Network Growth**—Supports high scalability and growth with advanced load balancing and routing
- **Manage Network Complexity**—Provides the flexibility to implement a range of routing rules and policies
- **Integrate All Network Elements**—Supports the broadest range of Diameter and legacy interfaces for seamless connectivity and preservation of existing investments with a superior IWF

Solution

The SDC is a third-generation Diameter signaling solution, under development since 2005. With live deployments worldwide, the SDC is a mature platform backed by the largest workforce dedicated to Diameter signaling. The SDC combines a Diameter Routing Agent (DRA), a Diameter Edge Agent (DEA), and an interworking function (IWF) in a single platform. A top-down, purpose-built architecture design for network-wide Diameter signaling that runs on off-the-shelf hardware, the SDC delivers unmatched performance and high ROI ratios of value:cost and capacity:footprint. The SDC allows you to take control of Diameter signaling to improve services and boost revenues by providing:

- Enhanced congestion and overload flow control mechanisms.
- Advanced context-aware routing, based on any combination of AVPs.
- Advanced session binding capabilities beyond Gx/Rx binding.
- A comprehensive environment for testing automation, including stress and stability of all Diameter scenarios.
- Support for all existing Diameter interfaces—more than 50—and for new ones.
- Support for the widest range of message-oriented protocols for routing and transformation (such as SS7, RADIUS, HTTP/SOAP, LDAP, GTP', JMS, and others).
- Provides active/active deployment configuration for enhanced redundancy.
- Support for SCTP, TCP, TLS, IPsec, IPv4, and IPv6.

Learn more

For more information about F5 Diameter signaling solutions, please use the following resources or use the search function on f5.com.

Product page

[F5 Traffic Signaling Delivery Controller](#)

Datasheet

[F5 Traffic Signaling Delivery Controller](#)

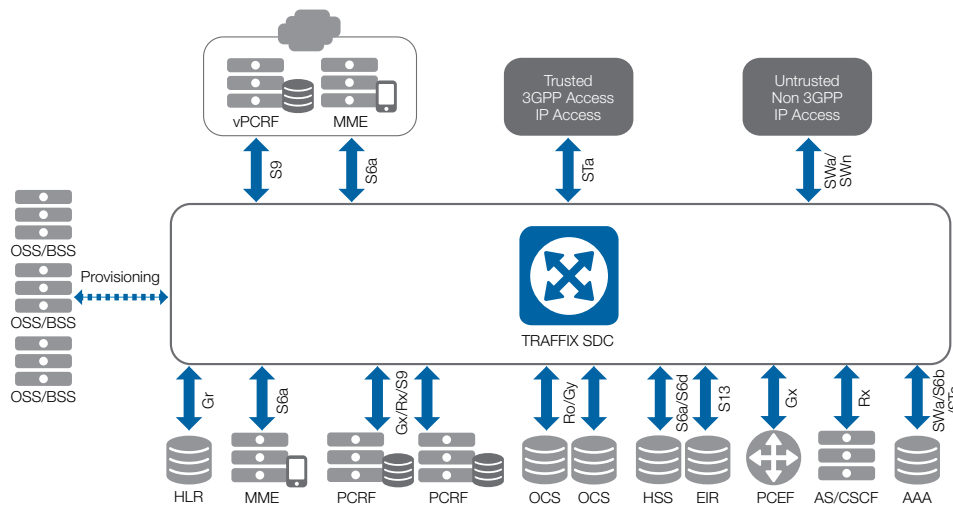
White papers

[Optimizing Diameter Signaling Networks](#)

[Wireless Security in LTE Networks](#)

Solution profile

[Diameter Signaling and the SS7 Interworking Function](#)



The SDC manages Diameter signaling, providing routing, load balancing, and a message transformation gateway—from a single platform.

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