F5® BIG-IP® devices combine scalability and high availability with full proxy capabilities to assure interoperability between AAA services, giving service providers the ability to grow the subscriber base, while adding new, innovative services. F5 products and solutions enable service providers to build a strong foundation that maximizes the use of resources and increases service management while remaining agile enough to support both existing and future network architectures and new user devices.

Managing Subscribers

Managing subscriber profiles continues to become increasingly challenging for service providers. The fundamental requirement for high availability remains as user directories continue to grow on an unprecedented scale. Many service providers now operate multiple systems for authentication, authorization, and accounting (AAA), potentially on a distributed basis, further complicating seamless service delivery.

Subscriber management also plays an important role in maximizing average revenue per user (ARPU). Offering users a choice of different services and service levels—potentially on an opt-in/opt-out basis—can help increase ARPU, but managing traffic based on the many permutations and combinations can be a daunting task for subscriber management.

F5 can help service providers scale their subscriber management systems by enforcing traffic management policies based on subscriber profiles—an integral part of F5’s Service Delivery Network (SDN). F5’s SDN is an architecture of products and solutions designed to manage service delivery to users and devices. VIPRION®—F5’s service provider-grade chassis-based controller—provides scalability and high-availability for subscriber management and application delivery. BIG-IP devices support Message-Based Load-Balancing (MBLB), purpose-built for messaging protocols used for subscriber management and signaling. A single VIPRION chassis holds up to four hotswappable blades, and is capable of supporting up to 64 million concurrent sessions—and millions more subscribers.

BIG-IP products and solutions are far more than high-availability load balancers. As a proxy for disparate subscriber management systems, BIG-IP devices can provide interoperability for a single protocol, such as Diameter, or between protocols, such as Diameter, RADIUS, LDAP, and Active Directory.

While managing subscriber data, the SDN intercepts, inspects, directs, and transforms traffic. How BIG-IP products and solutions transform session traffic can be customized using F5’s event-driven scripting language, iRules®. For example, an iRules script could be written to proxy between an existing RADIUS server and the IP Multimedia Subsystem’s (IMS) home subscriber server or other implementation of the IMS user profile server function.

Key features

- **Subscriber Management**—Utilizes local and global load balancing for managing subscriber access and delivery
- **Authentication**—Supports Diameter, RADIUS, LDAP, and others
- **Subscriber Proxy**—Assures interoperability between users and services
- **Programmatic API**—Provides off-box authentication and user management services
- **Service Provider-Grade Support**—Provides NEBS-compliant hardware and professional service and support 24x7, worldwide

Key benefits

- **Grow ARPU and Reduce Costs**—Increases revenue by managing existing AAA infrastructure while preserving existing subscriber infrastructure
- **Flexible Management**—Offers customizable subscriber traffic management
- **Streamline User Experience**—Improves user experience with single sign-on
- **Increase Versatility**—Assures interoperability of new subscriber systems
- **Maximize ROI**—Increases revenue, lowers costs, and integrates subscriber management to create a higher ROI
F5 BIG-IP® Access Policy Manager™ (APM) helps simplify authentication, consolidate infrastructure, and reduce costs by providing dynamic, context-aware access control based on user identity. BIG-IP APM’s Visual Policy Editor makes it easy to create access control policies at layer 4 through layer 7 for either individuals or groups. BIG-IP APM also provides a form of single sign-on (SSO) by caching and proxying user credentials during an entire session, giving users access to all authorized services without the need for separate log-ins.

Analytics are also available for subscriber as well as application traffic details. Access to subscriber analytics helps operators implement customer profiling, which can help maximize ARPU by capitalizing on individual user needs and preferences. Service delivery statistics can be used by other devices or applications on the network for everything from geo-based ad insertion to the caching of bandwidth-intensive video traffic or software updates.

F5’s strategic partnerships further enhance subscriber management capabilities. These services leverage dynamic subscriber information, including utilization, location, and context to give service providers more granular, policy-based control over network and application usage. The versatility afforded by iRules and iControl®—a Web services-enabled open API—provide sophisticated forms of integration between the network operator’s AAA servers and third-party systems.

Learn more
For more information on BIG-IP subscriber management and optimization solutions, please see the following resources or use the search function on F5.com.

Datasheets
VIPRION
BIG-IP Access Policy Manager

White paper
Message-Based Load Balancing

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