

Secure Application Delivery with FortiADC

Executive Summary

In recent years, the landscape of application delivery has undergone significant transformations influenced by evolving technology trends and the increasing adoption of cloud computing. Many organizations are integrating on-premises data centers with public cloud environments to optimize application performance, enhance scalability, and improve overall business agility. FortiADC is an application delivery controller (ADC) with advanced security features that help ensure application security, availability, and optimization.

Application Delivery Trends and Challenges

Today, many organizations have adopted hybrid and multi-cloud architectures. They use a mix of on-premises data centers and public cloud services to maximize flexibility, scalability, and redundancy. This approach facilitates workload mobility and strategic resource allocation based on specific business requirements, but it has introduced new challenges as well.

Application development life-cycle and deployment architectures have changed. The shift toward microservices and containerization, such as Docker and Kubernetes, has enhanced agility, enabling the development, deployment, and scaling of applications in a more modular and efficient manner in data centers and across multiple cloud environments.

The rise of edge computing has influenced how applications are delivered. By processing data closer to the source, edge computing reduces latency and enhances real-time capabilities. Applications that require low latency, such as the Internet of Things (IoT) and AI-driven applications, particularly benefit from edge computing.

The need for organizations to bridge the gap between on-premises data centers and public cloud platforms introduces integration complexity issues. Ensuring seamless communication, data consistency, and secure connections between these environments requires robust solutions and careful planning.

Security also becomes more complex as applications span data centers and public clouds. Organizations must implement comprehensive security measures to protect data in transit and at rest, ensure identity and access management, and address compliance requirements across diverse environments.

Achieving optimal performance and scalability is a persistent challenge. Organizations must dynamically scale resources to meet fluctuating demand, which requires effective load balancing, resource provisioning, and monitoring across both on-premises and cloud environments.

To navigate these trends and challenges, organizations increasingly turn to solutions such as ADCs, DevOps practices, and comprehensive management platforms to streamline operations, enhance security, and ensure seamless application delivery across diverse infrastructures.

FortiADC Key Features and Benefits

FortiADC is a powerful ADC solution that provides intelligent traffic distribution, session persistence, and application acceleration capabilities to optimize application performance, availability, and security. It also provides load balancing and web security for applications within a single data center or for multiple applications for millions of users around the globe. FortiADC delivers availability, performance, and security with a single, all-inclusive license.



Over the past three years, nearly 40% of organizations have suffered a major outage caused by human error.¹

Offering Layer 4 through 7 load-balancing capabilities, FortiADC ensures application availability and the distribution of traffic across multiple servers. The Lua scripting language support allows for advanced customization and control over traffic management so that organizations can tailor the load-balancing behavior to their specific requirements.

FortiADC provides robust application security features, including a web application firewall that safeguards against common vulnerabilities and attacks. It also offers protection against distributed denial-of-service attacks, leveraging advanced threat intelligence and mitigation techniques. Additional FortiADC security features include antivirus scanning and intrusion prevention system capabilities to provide comprehensive application protection.

Using application acceleration technologies such as HTTP/2 and SSL/TLS offloading, FortiADC improves application performance and reduces end-user latency. By offloading SSL/TLS processing from back-end servers, FortiADC reduces the computational overhead on those servers, enhancing their overall performance.

FortiADC provides robust authentication mechanisms to ensure secure access to applications. It supports various authentication methods, including LDAP, RADIUS, and SAML, so organizations can enforce user authentication before granting access.

The global load-balancing capabilities in FortiADC enable organizations to distribute traffic across multiple data centers or geographical locations. Load balancing ensures optimal performance and availability of applications worldwide, even in a data center or network failure.

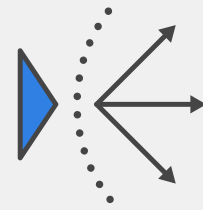
Deploying FortiADC as Part of the Fortinet Security Fabric

As a core component of the Fortinet Security Fabric, FortiADC enhances the visibility and control of east-west traffic. It leverages shared threat intelligence from FortiGuard Labs across Security Fabric solutions, including FortiGate Next-Generation Firewall (NGFW), FortiWeb, FortiAnalyzer, FortiSIEM, and FortiAuthenticator. This Security Fabric integration applies comprehensive detection and prevention across the full attack surface from the network to applications.

Corrective measures for security issues or application performance can be automated, and detailed analytics provide a unified view across all security layers. For example, FortiADC integrates with FortiGate NGFWs for unified security policies, FortiAnalyzer for analytics, and FortiManager for centralized orchestration across the Security Fabric.

FortiADC supports standard deployment requirements and is available in multiple form factors:

- **Hardware appliances:** FortiADC is available as physical appliances with different throughput and scalability options, ranging from 3Gbps to 250Gbps. FortiADC appliances are suitable for organizations that require high-performance ADC solutions for their on-premises infrastructures.
- **Virtual appliances:** FortiADC can be deployed as virtual machines in virtualized environments, which offers flexibility, scalability, and cost-effectiveness. This option is ideal for organizations with virtualized or cloud-based infrastructures and is supported via Fortinet [FortiFlex](#) on-demand licensing and provisioning for security solutions and services for all environments.
- **Cloud service:** FortiADC is also available as a cloud-based service so that organizations can leverage ADC capabilities without needing hardware or software deployment. This option provides agility, scalability, and ease of management for cloud-native applications. It is also supported via FortiFlex.



FortiADC provides extensive integration through APIs and plugins to third-party solutions, including Amazon Web Services, Microsoft Azure, Kubernetes, OpenShift Container Platform, and SAP.

Optimize Performance, Availability, and Security

FortiADC is a feature-rich ADC solution that optimizes application performance, availability, and security. With its advanced traffic distribution, session persistence, and application acceleration capabilities, FortiADC helps organizations reliably deliver applications to their users. Whether deployed as a hardware appliance, virtual machine, or cloud-based service, FortiADC offers a flexible and scalable solution for modern application delivery requirements. Learn more about [FortiADC](#) or contact the Fortinet sales team for more information.

¹ Uptime Intelligence, [Annual outages analysis 2023 The causes and impacts of IT and data center outages](#), March 2023.



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