# FortiADC™ D-Series

FortiADC 100F, 200D, 300D, 400D, 700D, 1500D, 2000D, 4000D and VM

The FortiADC D-series of Application Delivery Controllers (ADC) optimizes the availability, user experience, performance and scalability of Enterprise Application Delivery. **The FortiADC D-series family of physical appliances delivers fast, secure and intelligent acceleration and distribution of demanding applications in the enterprise.**

## Acceleration and Performance

Multi-core processor technology, combined with hardware-based SSL offloading to accelerate application performance.

## Application Availability

24x7 application availability through automatic failover, global server load balancing, and link load balancing to optimize WAN connectivity.

## Enhanced Protection

Web application firewall to defend against application vulnerabilities.

## Highlights

- Comprehensive server load balancing for 99.999% application uptime
- Server offloading for improved application acceleration, scale and TCO
- Intelligent traffic management for optimized application delivery and availability
- Hardware-based SSL Offloading, Forward Proxy, and Visibility
- Authentication Offloading
- Included Global Server Load Balancing
- Included Link Load Balancing
- Web Application Firewall with automatic updates
- Scripting for custom load balancing and content rewriting

# HIGHLIGHTS

## Hardware-Based SSL Offloading, SSL Inspection, and Visibility

FortiADC offloads server-intensive SSL processing with support for 4096-bit keys, TCP connection management, data compression and HTTP request processing from servers. This speeds up response times, reduces load on the backend servers, allowing them to serve more users.

SSL Forward Proxy utilizes FortiADC's high-capacity decryption and encryption to allow other devices, such as a FortiGate firewall, to easily inspect traffic for threats. An inline pair of FortiADCs at the front end and back end of a firewall remove all encryption so that the firewall isn't taxed with the additional load of SSL processing. FortiADC ensures seamless re-encryption with certificates intact with no user disruptions.

FortiADC's Transparent HTTP/S and TCP/S Mirroring Capabilities decrypt secure traffic for inspection and reporting. Copies of clear traffic can be sent for analysis by FortiGate or other third-party solutions for an indepth view of threats that may be hidden in encrypted traffic while FortiADC continues to perform its application delivery functions.

## Disaster Recovery with Global Server Load Balancing

FortiADC's included Global Server Load Balancing (GSLB) makes your network reliable and available by scaling applications across multiple data centers for disaster recovery or to improve application response times. Administrators can set up rules that direct traffic based on site availability, data center performance and network latency.

## Link Load Balancing

Built-in Link Load Balancing (LLB) gives you the option to connect your FortiADC to two or more WAN links to reduce the risk of outages or to add additional bandwidth to relieve traffic congestion. FortiADC supports inbound and outbound Link Load Balancing to manage traffic leaving or entering the device. Using policy routing, FortiADC can support complex NAT and routing requirements to address almost any network LLB architecture. With Tunnel Routing you get high-speed, reliable site-to-site connectivity without the need to lease expensive WAN links. It aggregates multiple links to create a virtual tunnel to a remote data center that ensures availability especially for applications that are time sensitive and require large single-session bandwidth such as video conferencing.

## HTTP Caching

Reduce server overload, bandwidth saturation, high latency, and network performance issues with intelligent caching. FortiADC dynamically stores popular application content such as images, videos, HTML files and other file types to alleviate server resources and accelerate overall application performance.

## HTTP Compression

Accelerate application performance and reduce overall bandwidth requirements with HTTP compression. FortiADC intelligently compresses HTTP and HTTPS traffic. By reducing server reply content size it accelerates performance and improves response times. FortiADC supports both industry standard GZIP and DEFLATE algorithms for many content types used by today's latest web-based applications.

## Virtual Domains (VDOMs)

Managed service provider and enterprise data center administrators can divide a FortiADC into two or more virtual FortiADC devices, each operating as an independent application delivery controller. Each VDOM can provide completely separate ADC services, such as server load balancing, SSL offloading, and traffic routing policies. A multi-VDOM FortiADC can be centrally managed or can be assigned to a VDOM administrator to manage their own virtual ADC

## Enhanced Protection with FortiGuard WAF, Web Filtering and IP Reputation Services

Web applications can be an easy target for hackers. FortiADC offers you multiple levels of protection to defend against attacks that target your applications. In addition to its stateful firewall feature, built in to every FortiADC D-series is a Web Application Firewall that can detect known threats using FortiGuard WAF Security Services for layer 7 attack signatures (subscription required) and checks that requests haven't been tampered with using its HTTP RFC compliance constraints. FortiGuard Web Filtering works with FortiADC's SSL Forward Proxy feature to simplify the process of managing exceptions for secure traffic inspection. Instead of manually configuring single URLs, Web Filtering gives administrators the ability to choose websites by category type to enable or disable SSL traffic inspection as a group instead of on a site by site basis. FortiADC also supports our FortiGuard IP Reputation service (subscription required) that protects you from sources associated with DoS/ DDoS attacks, phishing schemes, spammers, malicious software and botnets.

## Scripting to Extend Built-in Features

FortiADC's Lua-based scripting language gives you the flexibility to create custom, event-driven rules using predefined commands, variables and operators. Using easy-to-create scripts, you get the flexibility you need to extend your FortiADC with specialized business rules that give you almost unlimited possibilities for server load balancing and content rewriting to meet the needs of your organization.

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## Key Features and Benefits

| | | |
|---|---|---|
| | Advanced Layer 7 Load Balancing | Intuitive L7 policy-based routing to dynamically rewrite content to support complex applications and server configurations. |
| | SSL Offloading, Forward Proxy, and Visiblity | Hardware and software-based SSL offloading reduces the performance impact on your server infrastructure. Also provides SSL visibility, decryption and re-encryption for FortiGate to easily inspect traffic for threats. |
| | Global Server Load Balancing | Included Global Server Load Balancing distributes traffic across multiple geographical locations for disaster recovery or to improve user response times. |
| | Link Load Balancing | Link Load Balancing distributes traffic over multiple ISPs to increase resilience and reduce the need for costly bandwidth upgrades. |
| | IP Reputation | IP Reputation Service protects your applications against automated web attacks by identifying access from botnets and other malicious sources. |
| | Web Application Firewall | Protect applications with Web Application Attack signatures and HTTP RFC compliance. |

# FEATURES

## Application Availability

**Easy to use and configure Layer 4/7 policy and group management**
- Virtual service definition with inherited persistence, load balancing method and pool members
- Static, default and backup policies and groups
- Layer 4/7 application routing policy
- Layer 4/7 server persistence
- Application load balancing based on round robin, weighted round robin, least connections, shortest response
- Granular real server control including warm up rate limiting and maintenance mode with session ramp down
- Custom Scripting for SLB and Content Rewriting

**Layer 4 Application Load Balancing**
- TCP, UDP protocols supported
- Round robin, weighted round robin, least connections, shortest response
- L4 dynamic load balancing based on server parameters (CPU, Memory and disk)
- Persistent IP, has IP/port, hash header, persistent cookie, hash cookie, destination IP hash, URI hash, full URI hash, host hash, host domain hash

**Layer 7 Application Load Balancing**
- HTTP/HTTPS/FTP/SIP/RDP/RADIUS supported
- L7 content switching
    – HTTP Host, HTTP Request URL, HTTP Referrer
    – Source IP Address
- URL Redirect, HTTP request/response rewrite (includes HTTP body)
- Layer 7 DNS load balancing, security, and caching
- 403 Forbidden Rewrite
- Content rewriting

**Link Load Balancing**
- Inbound and outbound LLB
- Support for Policy Route and SNAT
- Multiple health check target support
- Configurable intervals, retries and timeouts
- Tunnel Routing

**Global Server Load Balancing (GSLB)**
- Global data center DNS-based failover of web applications
- Delivers local and global load balancing between multi-site SSL VPN deployments
- DNSSEC
- DNS Access Control Lists

**Deployment Modes**
- Configurable proxy (NAT) or transparent (direct) mode per VIP
- X-Forwarded for configuration in proxy mode
- High Availability
- Active/Passive Failover
- Active/Active Failover

# FEATURES

## Application Acceleration

### SSL Offloading and Acceleration

- Offloads HTTPS and TCPS processing while securing sensitive data
- Full certificate management features
- SSL Forward Proxy for secure traffic inspection
- HTTP/S Mirroring for traffic analysis and reporting

### CP Acceleration

- 100x acceleration by off-loading TCP processing
- Connection pooling and multiplexing for HTTP and HTTPS
- TCP buffering
- Client connection persistence
- HTTP Compression
- HTTP Caching
- Bandwidth allocation with Quality of Service (QoS)
- HTTP and Layer 4 Rate Limiting

### Authentication Offloading

- Local
- LDAP
- RADIUS
- Kerberos
- SAML 2.0 (SP & Idp)

## Networking

- NAT for maximum flexibility and scalability
- VLAN and port trunking support
- BGP and OSPF Support
- IPv6 Support
- IPv6 routing
- IPv6 firewall rules

## Security

- Web Application Firewall
- GEO IP security and logs
- Stateful firewall
- Web Filtering (subscription required)
- IP Reputation (subscription required)
- IPv4 and 6 firewall rules
- Granular policy-based connection limiting
- Syn Cookie Protection
- Connection Limits

## Management

- Single point of cluster management
- CLI Interface for configuration and monitoring
- Secure SSH remote network management
- Secure Web UI access
- RESTful API
- SNMP with private MIBs with threshold-based traps
- Real-time Data Analytics
- Syslog support
- Role-based administration
- In-build diagnostic utilities
- Real-time monitoring graphs
- Built-in reporting
- Virtual Domains (VDOMs)

# SPECIFICATIONS

| | FORTIADC 100F | FORTIADC 200D | FORTIADC 300D | FORTIADC 400D |
|---|---|---|---|---|
| **Hardware Specifications** | | | | |
| L4 Throughput | 1.5 Gbps | 3 Gbps | 6.0 Gbps | 12.0 Gbps |
| L7 RPS | 400,000 | 580,000 | 725,000 | 1 M |
| L7 Throughput | 1.3 Gbps | 2.5 Gbps | 4.0 Gbps | 8.0 Gbps |
| SSL TPS 2048 Key | 500 | 900 | 1,500 | 7,000 |
| Compression Throughput | 1.0 Gbps | 2.1 Gbps | 2.6 Gbps | 6.1 Gbps |
| SSL Acceleration Technology | Software | Software | Software | ASIC |
| Memory | 4 GB | 4 GB | 8 GB | 8 GB |
| Virtual Domains | — | — | 10 | 20 |
| Network Interfaces | 6x GE RJ45 | 4x GE RJ45 | 4x GE RJ45, 4x GE SFP | 2x 10 GE SFP+ slots, 4x GE SFP ports, 4x GE ports |
| 10/100/1000 Management Interface | — | — | — | — |
| Storage | 64 GB SSD | 1 TB Hard Disk | 128 GB SSD | 128 GB SSD |
| Management | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP |
| Power Supply | Single | Single | Single | Single (optional Dual) |
| **Environment** | | | | |
| Form Factor | 1U Appliance | 1U Appliance | 1U Appliance | 1U Appliance |
| Input Voltage | 100–240V, 50–60 Hz | 90–264V AC, 47–63 Hz | 100–240V AC, 50–60 Hz | 100–240V AC, 50–60 Hz |
| Power Consumption (Average / Maximum) | 40 W / 60 W | 60 W / 72 W | 96 W / 115 W | 109 W / 130.8 W |
| Maximum Current | 100V/1.5A, 240V/0.6A | 115V/6A, 230V/3A | 100V/4A, 240V/2A | 100V/5A, 240V/3A |
| Heat Dissipation | 132–163 BTU/h | 205 BTU/h | 392.4 BTU/h | 446.3 BTU/h |
| Operating Temperature | 32–104°F  (0–40°C) | 32–104°F  (0–40°C) | 32–104°F  (0–40°C) | 32–104°F  (0–40°C) |
| Storage Temperature | -4–167°F  (-20–75°C) | -13–158°F  (-25–70°C) | -13–158°F  (-25–70°C) | -13–158°F  (-25–70°C) |
| Humidity | 10–85% relative humidity, non-operating, non-condensing | 5–95% non-condensing | 5–95% non-condensing | 5–95% non-condensing |
| **Compliance** | | | | |
| Regulatory Compliance | FCC Part 15 Class A, C-Tick, VCCI Class A, CE, UL/c | | | |
| Safety | CSA, C/US, CE, UL | | | |
| **Dimensions** | | | | |
| Height x Width x Length (inches) | 1.75 x 17.3 x 10.55 | 1.75 x 17.05 x 13.86 | 1.73 x 17.24 x 16.38 | 1.73 x 17.24 x 16.38 |
| Height x Width x Length (mm) | 44 x 440 x 268 | 45 x 433 x 352 | 44 x 438 x 416 | 44 x 438 x 416 |
| Weight | 9.9 lbs  (4.5 kg) | 17.2 lbs  (7.8 kg) | 20 lbs  (9.07 kg) | 22 lbs  (9.97 kg) |

FortiADC 100F

FortiADC 200D

FortiADC 300D

FortiADC 400D

# SPECIFICATIONS

| | FORTIADC 700D | FORTIADC 1500D | FORTIADC 2000D | FORTIADC 4000D |
|---|---|---|---|---|
| **Hardware Specifications** | | | | |
| L4 Throughput | 18.0 Gbps | 23.0 Gbps | 32.0 Gbps | 50.0 Gbps |
| L7 RPS | 1.6 M | 2 M | 2.5 M | 3.3 M |
| L7 Throughput | 15.0 Gbps | 18 Gbps | 25 Gbps | 35 Gbps |
| SSL TPS 2048 Key | 14,000 | 14,000 | 33,700 | 34,500 |
| Compression Throughput | 10.5 Gbps | 11.5 Gbps | 16.0 Gbps | 22.0 Gbps |
| SSL Acceleration Technology | ASIC | ASIC | ASIC | ASIC |
| Memory | 16 GB | 16 GB | 16 GB | 32 GB |
| Virtual Domains | 30 | 45 | 60 | 90 |
| Network Interfaces | 4x 10 GE SFP+ slots, 4x GE SFP ports, 4x GE ports | 4x 10 GE SFP+ slots, 8x GE ports | 4x 10 GE SFP+ slots, 16x GE ports | 8x 10 GE SFP+ slots, 16x GE ports |
| 10/100/1000 Management Interface | — | 1 | 1 | 1 |
| Storage | 128 GB SSD | 120 GB SSD | 120 GB SSD | 480 GB SSD |
| Management | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP |
| Power Supply | Single (optional Dual) | Dual | Dual | Dual |
| **Environment** | | | | |
| Form Factor | 1U Appliance | 1U Appliance | 1U Appliance | 2U Appliance |
| Input Voltage | 100–240V, AC 50–60 Hz | 100–240V AC, 63–47 Hz | 100–240V AC, 63–47 Hz | 100–240V AC, 63–47 Hz |
| Power Consumption (Average / Maximum) | 135 W / 162 W | 288 W / 345 W | 300 W / 360 W | 450 W / 540 W |
| Maximum Current | 100V/5A, 240V/3A | 120V/6A, 240V/3A | 120V/6A, 240V/3A | 120V/9A, 240V/4A |
| Heat Dissipation | 508.68 BTU/h | 1177 BTU/h | 1228 BTU/h | 1843 BTU/h |
| Operating Temperature | 32–104°F  (0–40°C) | 32–104°F  (0–40°C) | 32–104°F  (0–40°C) | 32–104°F  (0–40°C) |
| Storage Temperature | -13–158°F  (-25–70°C) | -13–158°F  (-25–70°C) | -13–158°F  (-25–70°C) | -13–158°F  (-25–70°C) |
| Humidity | 5–95% non-condensing | 5–95% non-condensing | 5–95% non-condensing | 5–95% non-condensing |
| **Compliance** | | | | |
| Regulatory Compliance | | FCC Part 15 Class A, C-Tick, VCCI Class A, CE, UL/c | | |
| Safety | | CSA, C/US, CE, UL | | |
| **Dimensions** | | | | |
| Height x Width x Length (inches) | 1.73 x 17.24 x 16.38 | 1.73 x 17.24 x 22.83 | 1.73 x 17.24 x 22.83 | 3.46 x 17.52 x 23.70 |
| Height x Width x Length (mm) | 44 x 438 x 416 | 44 x 438 x 580 | 44 x 438 x 580 | 88 x 445 x 602 |
| Weight | 22 lbs  (10 kg) | 23.94 lbs  (10.86 kg) | 24.23 lbs  (11.08 kg) | 36.11 lbs  (16.38 kg) |

| | FORTIADC-VM01 | FORTIADC-VM02 | FORTIADC-VM04 | FORTIADC-VM08 |
|---|---|---|---|---|
| **Hardware Specifications** | | | | |
| Hypervisor Support | VMware ESX/ESXi, Citrix XenServer, Open Source Xen, Microsoft Hyper-V, KVM. Please see the FortiADC-VM Install Guide for the latest hypervisor versions supported. | | | |
| L4 Throughput* | 1 Gbps | 2 Gbps | 4 Gbps | 10 Gbps |
| Virtual Domains | 0 | 0 | 5 | 10 |
| vCPU Support (Minimum / Maximum) | 1 | 2 | 4 | 8 |
| Memory Support (Minimum / Maximum) | 512 MB / 2 GB | 512 MB / 4 GB | 512 MB / 8 GB | 512 MB / 16 GB |
| Network Interface Support (Minimum / Maximum) | 10 | 10 | 10 | 10 |
| Storage Support (Minimum / Maximum) | 50 MB / 1 TB | 50 MB / 1 TB | 50 MB / 1 TB | 50 MB / 1 TB |
| Throughput | Hardware Dependent | Hardware Dependent | Hardware Dependent | Hardware Dependent |
| Management | | HTTPS, SSH CLI, Direct Console DB9 CLI, SNMP | | |

\* Actual performance values may vary depending on the network traffic and system configuration. Performance results were observed using an appliance with an Intel CPU E5-1650 v2 @ 3.50 GHz running VMware ESXi 5.5.
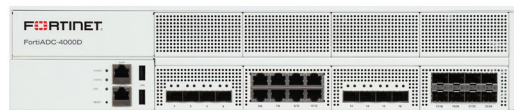


**FortiADC 700D**



**FortiADC 1500D**



**FortiADC 2000D**



**FortiADC 4000D**

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# ORDER INFORMATION

| Product | SKU | Description |
|---------|-----|-------------|
| FortiADC 100F | FAD-100F | FortiADC-100F, 6x GE ports, 1x 64 GB SSD onboard storage. |
| FortiADC 200D | FAD-200D | FortiADC-200D, 4x GE ports, 1x 1 TB storage. |
| FortiADC 300D | FAD-300D | FortiADC-300D, 8x GE ports, 1x 128 GB SSD onboard storage. |
| FortiADC 400D | FAD-400D | FortiADC-400D, 2x 10 GE SFP+ slots, 8x GE ports, 1x 128 GB SSD onboard storage, optional dual AC power supplies. |
| FortiADC 700D | FAD-700D | FortiADC-700D, 4x 10 GE SFP+ slots, 8x GE ports, 1x 128 GB SSD onboard storage, optional dual AC power supplies. |
| FortiADC 1500D | FAD-1500D | FortiADC-1500D, 4x 10 GE SFP+ slots, 8x GE ports, 1x 120 GB SSD onboard storage, dual AC power supplies. |
| FortiADC 2000D | FAD-2000D | FortiADC-2000D, 4x 10 GE SFP+ slots, 16x GE ports, 1x 480 GB SSD onboard storage, dual AC power supplies. |
| FortiADC 4000D | FAD-4000D | FortiADC-4000D, 8x 10 GE SFP+ slots, 16x GE ports, 1x 480 GB SSD onboard storage, dual AC power supplies. |
| FortiADC-VM01 | FAD-VM01 | FortiADC-VM software virtual appliance designed for VMware ESX and ESXi platforms. 1x vCPU core, 2 GB. |
| FortiADC-VM02 | FAD-VM02 | FortiADC-VM software virtual appliance designed for VMware ESX and ESXi platforms. 2x vCPU core, 4 GB. |
| FortiADC-VM04 | FAD-VM04 | FortiADC-VM software virtual appliance designed for VMware ESX and ESXi platforms. 4x vCPU core, 8 GB. |
| FortiADC-VM08 | FAD-VM08 | FortiADC-VM software virtual appliance designed for VMware ESX and ESXi platforms. 8x vCPU core, 16 GB. |
| **Optional Accessory** | | |
| AC Power Supply | SP-FAD700-PS | AC power supply for FAD-700D, FML-400E, FDB-500D AND FWN-1000B. |