

**SoftAX**

**SoftAX Virtual Appliance**  
Application Delivery and Server Load Balancing

## Flexible and Cost Effective Cloud Computing

- AX Series Virtual Appliance, a Software Application Delivery Controller (SoftADC)
- Full Application Delivery and Server Load Balancing feature set for application availability, scalability and performance
- Rapid deployment to virtualized infrastructure; no hardware to ship
- Flexibility to scale up or down, on-demand and cost effectively

The AX Series family offers the widest choice of deployment options, from high performance hardware platforms with hardware off-load capabilities to the cost effective and flexible SoftADCs.

SoftAX, part of A10 Networks' award-winning AX Series Application Delivery Controller (ADC) family, is designed to meet the growing needs of organizations that require a flexible and easy-to-deploy application delivery and server load balancer solution running within a virtualized infrastructure.



SoftAX for VMware



SoftAX for Hyper-V, KVM and Xen

Flexible deployment on-demand with a choice of hypervisors on top of commodity hardware

**ACOS**

Advanced Core Operating System

Unique 64-bit shared memory architecture for unparalleled performance and efficiency



## Changing Computing Infrastructures

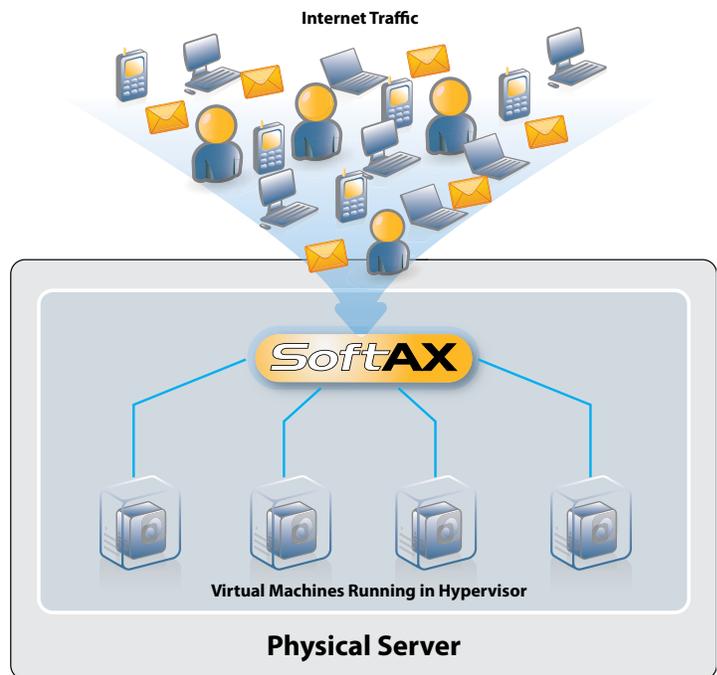
Data center virtualization (and even hypervisors running on IT professionals' local machines) enables new, comparatively low cost computing resources to be available. Deployment and testing of ADCs can now be achieved without purchase of a dedicated hardware appliance.

The SoftAX is designed to be installed on a hypervisor running atop commodity hardware or A10 Networks' AX-V appliance (for guaranteed performance).

## Fastest Time to Operation

Offering the fastest deployment possible, the SoftAX software can be downloaded directly from the Internet and installed into an organization's existing virtual machine (VM) environment on demand.

The SoftAX VM is an integrated, packaged image that requires no separate operating system or application software setup. This enables rollout of an ADC system in minutes, instead of days or weeks.



## SoftAX Key Benefits

- High performance SoftADC with speeds up to 8 Gbps
- Best price/performance advantage versus competitors' platforms
- Comprehensive upgrade paths from software versions to hardware appliances (900 Gbps+)
- Software image allows download and immediate deployment
- Unified 64-bit OS and application delivery software; no system hardening or multi-step installation
- Virtual Appliance is portable to another compatible host
- Underlying hardware can be enhanced while maintaining the same image configuration and settings
- SoftAX with unique AX Virtual Chassis scaling for on-demand expansion
- AX-V appliance for high density SoftAX deployments on purpose-built optimized hardware
- Most efficient CPU resource usage, requiring only 1 virtual CPU
- No feature limitations; version licensed by bandwidth

## Use Cases

The SoftAX is ideal for certain scenarios, for example:

- When functionality, not performance, is required; such as "2nd tier" applications behind web servers that need high availability
- Ideally suited as laboratory or test equipment for network administrators and support personnel
- Developer test beds to encourage full usage of advanced aFlex and aXAPI scripting
- New applications, before traffic requires a hardware ADC (configurations can be ported at time of replacement)
- Service Providers offering on-demand cloud computing infrastructure with rapid deployment



*SoftAX can be deployed to your existing virtual infrastructure*

## SoftAX Virtual Appliance Characteristics

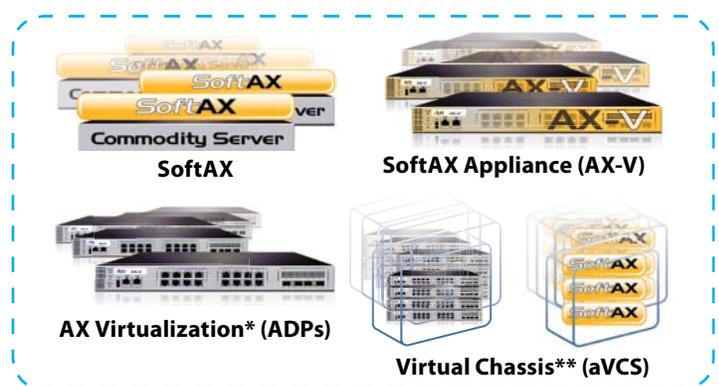
New flexible and dynamic architectures can now be deployed:

- Consolidated infrastructure
  - Virtualization allows multiple independent VMs to be deployed on a single shared hardware platform, such as a pair of web servers and a pair of ADCs, reducing costs
- Reduced CAPEX and OPEX
  - The SoftAX reduces capital expenditure with an initial lower price point, while also reducing ongoing costs by allowing more efficient use of resources, with multiple machines utilizing the same hardware and not occupying dedicated data center rack space
- ADC VM high availability (HA) and VM strong isolation
  - Independent SoftAX VMs ensure true HA, being separate from each other, on a single host or two different hosts
- SoftAX VMs are completely independent software instances, demonstrating strong isolation, with no shared components; issues on one VM do not affect another
- Dynamic provisioning
  - Under peak loads the hypervisor management software and the SoftAX aXAPI can automatically add more application servers and adjust the ADC configuration to allow more capacity
- Multiple data center flexibility
  - SoftAX Global Server Load Balancing (GSLB) can direct users to the operational data center, providing data center failover and continuity
  - SoftAX can be moved between data centers and easily backed up on demand

## ACOS Advantage

Advanced Core Operating System (ACOS) was designed with the ability to swiftly port to other processors. This makes ACOS a suitable OS for hypervisors, enabling support without substantial re-engineering and compatibility issues.

- The only full-featured 64-bit ADC virtual appliance on the market with all feature licenses included
- As ACOS was also designed to reduce internal overhead and resource usage on the host VM, host hardware is optimized
  - Ability to run on a single CPU for maximum density
  - Efficient operation, customized to utilize only the resources required from the hypervisor, eliminating continual polling



### All AX Series Virtualization Options

\*Application Delivery Partitions (ADPs) provide large scale multi-tenancy for AX Series hardware platforms (not available on SoftAX).  
 \*\*Multiple AX Series appliances (hardware or virtual) running as a single unified device.

*SoftAX is a member of the AX Series family of Application Delivery and Load Balancing appliances.*

## SoftAX Requirements Summary

AX Series SoftAX		AX Series AX-V Appliances (SoftAX Instances Included)	
<b>Supported Hypervisors</b>	<ul style="list-style-type: none"> <li>• VMware ESXi 4.0 or higher</li> <li>• Citrix XenServer 6.0 or higher</li> <li>• KVM 0.14 or higher</li> <li>• Microsoft Hyper-V on Windows Server 2012</li> </ul>	<b>Hardware Specifications</b>	<ul style="list-style-type: none"> <li>• Compact 1U appliances</li> <li>• High port density</li> <li>• 1 Gbps and 10 Gbps interfaces</li> <li>• Solid-state Drives (SSDs)</li> <li>• Redundant power supplies</li> <li>• Hardware SSL support (ASIC)</li> </ul>
<b>Hardware Requirements</b>	See installation guide		<b>Licenses</b>
<b>Licenses</b>	Versions vary by price, bandwidth and hypervisor. For example, VMware: <ul style="list-style-type: none"> <li>• <b>Lab/Developer Edition Production-Entry Level/Lab Editions:</b> 200 Mbps and 1 Gbps</li> <li>• <b>Production – High-performance Editions:</b> 4 Gbps and 8 Gbps</li> </ul>	<b>Standard Warranty</b>	90-day hardware & software
<b>Standard Warranty</b>	90-day software		

## SoftAX Features

### Application Delivery Features

- Comprehensive IPv4/IPv6 Support
- Advanced Layer 4/Layer 7 Server Load Balancing
  - ◆ Fast HTTP, Full HTTP Proxy
  - ◆ High-performance, template-based Layer 7 switching with header/URL/ domain manipulation
  - ◆ Comprehensive Layer 7 application persistence support
  - ◆ Comprehensive load balancing methods: Round Robin, Least Connections, Fastest Response
- Firewall Load Balancing ALG support for FTP and SIP
- aFleX – deep packet inspection and transformation for customizable, application-aware switching
- Advanced Health Monitoring
  - ◆ Comprehensive Protocol Support - ICMP, TCP, UDP, HTTP, HTTPS, FTP, RTSP, SMTP, SNMP, DNS, RADIUS, LDAP
  - ◆ TCL Scriptable Health Check Support
  - ◆ High Availability – Active-Active, Active-Standby configurations
  - ◆ STARTTLS support for Secure Email (POPS, SMTPS, IMAPS) & LDAPS
- Hash-based Persistence
- Spam Filter Support – high-speed application of very large black/white lists
- Firewall Load Balancing (FWLB)
- Global Server Load Balancing (GSLB)

- Transparent Cache Switching (TCS)
- Link Load Balancing (LLB)
- Diameter AAA Load Balancing

### Acceleration & Security Features

- HTTP Acceleration & Optimization
  - ◆ HTTP Connection Multiplexing
  - ◆ HTTP Caching
  - ◆ HTTP Compression
- SSL Acceleration
  - ◆ SSL Offload
  - ◆ Support for all TCP Protocols – SSL Termination, SSL Bridging (SSL Initiation)
- SSL Session-ID Reuse
- Support for TLS 1.2
- SYN Cookies, IP Anomaly Detection
- Connection Rate Limiting/Connection Limiting
- DNS Application Firewall

### High Performance, Scalable Platform

- ACOS Operating System
  - ◆ Linux on Control Plane
  - ◆ ACOS on Data Plane

### Networking

- Integrated Layer 2/Layer 3
- Routing – Static Routes, IS-IS (v4/v6), RIPv2(IPv4)/ng(IPv6), OSPF v2/v3, BGP4+
- VLAN (802.1Q)

- Access Control Lists (ACLs)
- Traditional IPv4->IPv4 NAT/NAPT
- IPv6->IPv6 NAPT

### IPv6 Migration

- Full native IPv6 management and feature support
- SLB-PT (Protocol Translation), SLB-64 (IPv4->IPv6, IPv6->IPv4)
- Application Level Gateways (ALGs) for FTP, TFTP, RTSP, PPTP, SIP, ICMP, DNS, ESP

### Management

- Dedicated management interface (VM console access, SSH, Telnet, HTTPS, SFTP)
- Web-based Graphical User Interface (GUI) with Language Localization
- Industry-standard Command Line Interface (CLI)
- SNMP, Syslog, Email Notification
- REST-style XML API (aXAPI)
- LDAP, TACACS+, RADIUS Support

### Virtualization

- aVCS (AX Virtual Chassis System)
- SoftAX Virtual Appliance support for VMware ESXi, Citrix XenServer, KVM, Microsoft Hyper-V
- Hypervisor acceleration and management integration

## Customer Driven Innovation

To learn more about the AX Series Application Networking Platform and how it can enhance your business, contact A10 Networks at: [www.a10networks.com/contact](http://www.a10networks.com/contact) or call to talk to an A10 sales representative.

## About A10 Networks

A10 Networks was founded in 2004 with a mission to provide innovative networking and security solutions. A10 Networks makes high-performance products that help organizations accelerate, optimize and secure their applications. A10 Networks is headquartered in Silicon Valley with offices in the United States and centers of excellence around the globe. For more information, visit [www.a10networks.com](http://www.a10networks.com).

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