

## Secured Access & Load Balancing



Powerful, Flexible and Very Secure

Fusion ADC delivers a highly secured data transport mechanism that allows Thin Clients, CloudDesktop and other devices to communicate with intranet located servers, including thin client management servers in an isolated and secure manner. Fusion ADC is built on the edgeNEXUS engine core, with over 18 years of established use.

The Fusion ADC appliances can be placed either in the Cloud, the DMZ or network and is tethered to both thin client and server using certificate based authentication, ensuring that the communication stream is secured to the highest degree.

The Fusion ADC virtual appliance can also be used to secure and load balance connections between your thin clients and the management server, be they in the Intranet, cross Internet or MPLS.



### WHY YOU SHOULD USE THE FUSION ADC APPLIANCE



#### Robust, Proven Code base

Fusion ADC has a proven and highly reliable code base. The edgeNEXUS software technology that underpins the Fusion ADC uses the very latest in security and load balancing technology.



#### Enterprise grade

The Fusion ADC is a true, enterprise grade security and load balancing appliance able to securely connect thousands of thin clients to your management servers, and much more.



#### Highly Versatile

Fusion ADC is provided as an importable virtual appliance intended to run in virtual environments: VMware ESX, Microsoft Hyper-V, Xen and KVM. As such it can be deployed into on-premise data centers or public/private clouds.



#### Reliable Performance

The Fusion ADC is highly reliable and performance is equally matched. Based on edgeNEXUS, the code has been proven for many years and used under the most extreme and demanding circumstances.



#### Advanced Security

The Fusion ADC is equipped with Reverse Proxy with additional security measures to ensure that systems sitting behind the Fusion ADC are protected. You can be assured that your backend servers are totally isolated.



#### Feature Rich

The Fusion ADC delivers a wealth of features together with an extensive web based configuration UI, as well as an advanced API allowing detailed configuration by demanding network administrators.



#### Renowned Expertise

The core technology that underpins the Fusion ADC has been designed and built by edgeNEXUS, a UK company with established reputations in sectors including US Defence Department, banking and finance.



#### Trusted Worldwide

The Fusion ADC uses edgeNEXUS, an established and reputed technology. edgeNEXUS is trusted by globally organizations such as US Department of Defence.

## Sizing and Licensing



The Fusion ADC solution is licensed as a High Availability (HA) pair. The sizing of the virtual machine you use depends on the methodology of connectivity that you choose to adopt. There are two methods of connectivity configuration: SSL Pass-through and SSL Offloading.

### SSL Pass-through

SSL pass-through is the simplest of the two methods and allows you to have a much greater number of devices connected through the appliance. There is no SSL inspection carried out within the Fusion ADC appliance allowing very low appliance resources to be used. In such cases Layer 4 connections are used.

### SSL Offloading

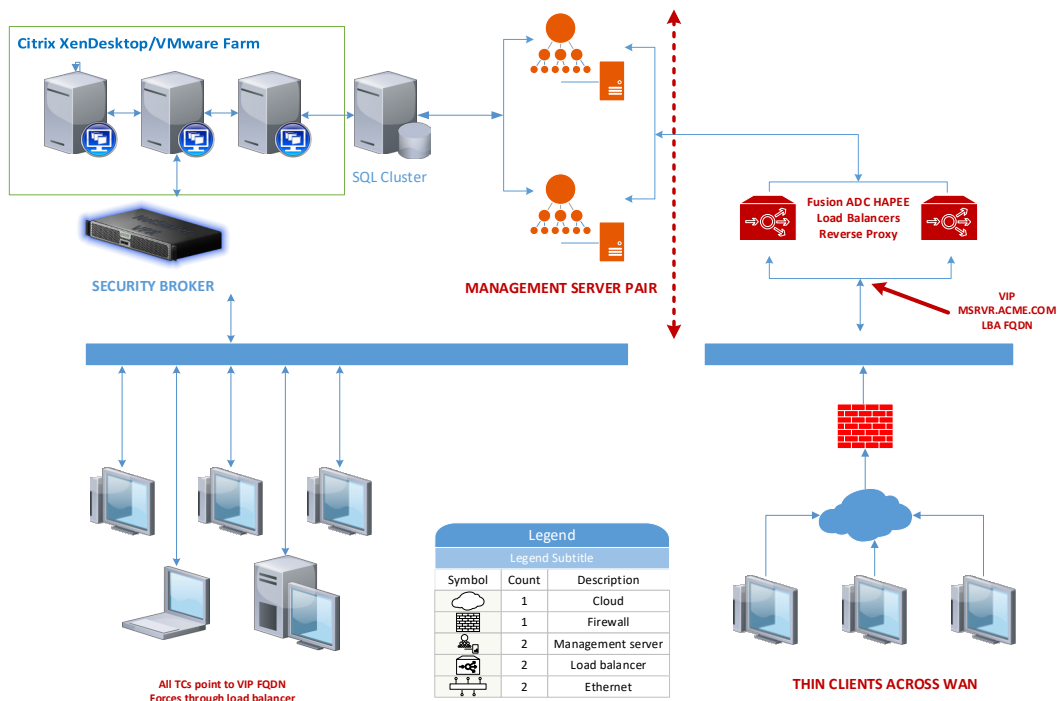
This method results in all transactions being offloaded and inspected within the appliance, and then sent onto the destination as a separate SSL transaction. The advantage of using this method is that you can employ many inbuilt features of the Fusion ADC appliance provided by FlightPATH. The disadvantage is that much higher resources are required to perform offloading, bridging, decryption, re-encryption and any other actions you may configure. In this mode, SSL-TPS connections are used.

We would recommend that for connection of thin clients to the infrastructure you use SSL Pass-through as the protocol handler.

The table below shows the license models available depending on the number of thin clients to be driven through the Fusion ADC appliances for the two different configuration methods.

	F-ALB-X-VA-1K	F-ALB-X-VA-2K	F-ALB-X-VA-4K	F-ALB-X-VA-8K	F-ALB-X-VA-16K	F-ALB-X-VA-30K	F-ALB-X-VA-50K
<b>MAX Thin Clients (SSL Passthrough)</b>	<b>1000</b>	<b>2000</b>	<b>4000</b>	<b>8000</b>	<b>16000</b>	<b>30000</b>	<b>50000</b>
<b>Max Virtual Appliances</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>16</b>	<b>32</b>	<b>64</b>	<b>64</b>
<b>Max Real Servers</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>64</b>	<b>128</b>	<b>256</b>	<b>256</b>
<b>Technical Requirements</b>							
<b>Recommended Min Memory (GB)</b>	<b>2GB</b>	<b>4GB</b>	<b>8GB</b>	<b>8GB</b>	<b>12GB</b>	<b>16GB</b>	<b>16GB</b>
<b>Recommended Min vCPU</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>8</b>	<b>12</b>
<b>Recommended Min vNICs</b>	<b>2</b>	<b>2</b>	<b>2-4</b>	<b>2-4</b>	<b>4-8</b>	<b>4-8</b>	<b>4-8</b>

### Fusion ADC Load Balancing Example



### SERVER LOAD BALANCING

- Layer 4 - 7 Load Balancing
- Layer 7 Application Persistence (aka. Persistence / Sticky Sessions / Cookie Based)
- Manual Server Weighting
- Automatic Server Weighting
- Reverse Proxy
- UDP Full Proxy
- Layer 7 Content Switching
- Active - Passive High Availability Mode
- Active - Active High Availability Mode
- Cross Data Centre Redundancy
- N+X Clustering
- Connection Draining
- Standby Server (aka Server of Last Resort)

### LOAD BALANCING METHODS

- Fastest Server
- Least Connections
- Round Robin
- IP Bound
- IP List Based
- Cookie Based
- Customisable Cookie
- Classic ASP Session Cookie
- ASP.NET Session Cookie
- JSP Session Cookie
- JAX-WS Session Cookie
- PHP Session Cookie
- Weighted Round Robin
- Weighted Least Connections

### SERVER HEALTH CHECKING

- Customisable Health Checks
- Simple HTTP
- Full HTTP (Layer 7)
- TCP Connect
- Out of Band Health Check
- DICOM
- RDP
- Ping
- Multiple Server Health Checks Per Service
- New HTTPS Health Check
- Redis Health Check (via App Store)
- DNS Health Check
- Upload Custom Health Checks
- Extra Setting for Custom Health Checks

### NETWORKING

- IPV6 Support
- IPV6 > IPV4 Proxy
- VLAN Support
- Single or Multi Interface Configuration
- Choice of Interfaces (from 4x1GbE up to 4x10GbE or 8x1GbE)
- Support for S-NAT, NAT and PAT
- Static Routing With Default Gateway
- Unrestricted Interfaces (Virtual)
- High-Performance Virtual Network Drives (Virtual)
- Multiple DNS Server Support

### LINK INTERFACE BONDING

- 802.3ad
- Round Robin
- Active / Passive
- Broadcast
- Adaptive
- Transmit
- Balance-XOR

### CONNECTIVITY METHODS

- Reverse Proxy
- High Performance Layer 4 Load Balancing
- Direct Server Return

### GLOBAL SERVER LOAD BALANCING (Additional Licence)

- Disaster Recovery for your data centers
- Active-Active:
- Round Robin
- Weighted
- Geo-Location
- Custom Location

### SSL

- High-Performance, Unrestricted SSL Offload
- Easy-to-Use SSL Management
- AES Hardware SSL Acceleration
- SSL Pass-Through
- SSL Re-Encryption
- Certificate Signing Request (CSR) Generation and Renewal
- Simple Certificate Import / Export inc PKCS12
- Self-Signed Certificate Creation
- Support For Multiple Keys Inc: 1024, 2048, 4096
- Intermediate Certificate Support
- Support for Server Alternative Names

## Technical Specifications



- Support for Wildcard SSL Certificates
- SSL Certificate Chaining
- Support for TLS 1.2
- Customisable Ciphers
- Full Support for Server Name Indication (SNI)
- Multiple Certificates Per Service for SNI

### SECURITY

- Web Application Firewall (Additional Licence)
- Pre-Authentication
- NTLM / Basic Support
- Form or Basic Authentication
- Single Sign On (SSO)
- Microsoft TMG Replacement
- Upload Custom Forms From GUI
- Custom Login with Configurable Welcome Message
- Authentication Protocol LDAPS Servers
- Security Logging
- Login Timeout
- Multiple Conditions

### TRAFFIC MANAGEMENT

#### (flightPATH)

- HTTP / HTTPS Traffic Manipulation
- Intuitive, Simple To Use
- Drag & Drop Rule Builder
- Layer 7 Content Switching
- Dynamic Routing
- Content Filtering
- Fully Customisable / Configurable
- Pre-Defined Rule Base
- Log and Alert
- Geo Location
- Selectable, Simple Match Conditions (inc does / does not: 'start with', 'end with', 'contain', 'equals') or
- Powerful Regular Expression Engine
- Extract Response Cookie Value
- Examples:
- Block IPs / Networks
- Redirect to Secure Website
- Rewrite URLs
- Replace Sensitive Info (Blank Credit Card Details)
- Browser Detection
- Device Detection
- Body Rewrite
- Prevent SQL Injections
- Prevent Cross-Site Scripting
- Add Google Analytics

- Redirect User Based on Country
- Certified for Key Applications

### CLOUD BASED SERVICES \*\*\*

- Secure Interface From ALB-X to Cloud Services
- Check Cloud & Download for Software Updates
- Check Cloud for Support
- Check Cloud for Licence Information
- Check Cloud for New Security Rules

### ACCELERATION

#### Compression

- Dynamic HTTP Compression
- Configurable Rule Base

#### Caching

- RAM-Based Caching with Disc Backup
- Automatic and Configurable Client-Side Caching
- Multiple Caching Profiles
- Auto-Detect and Prioritise Popular Content
- Simple Editing of Cache Rulebase
- Fully Configurable via GUI

#### Connection Management

- Connection Pooling / Multiplexing
- Connection Limiting
- Customisable Server Too Busy Page

### MANAGEMENT & REPORTING

- GUI and Configuration
- Secure Web-Based GUI
- Customisable Dashboard
- Configurable Widgets
- Automatic jetNEXUS Device Discovery
- jetPACK Application Templates (Auto-configuration)
- Clone Services
- Auto Complete
- Support for Slash Notation
- Configuration Back Up
- Software Updates
- Check Cloud Service for Software Updates
- Encrypted Software Updates
- Simple Software Update Via GUI
- Management and Monitoring
- Selectable SSL Certificate & Secure Port
- Full SNMP Monitoring (V1,2 &3)
- Command Line Interface (CLI)
- Email Alerting
- Real Time Stats
- Status Page with Live Individual Server Connections

## About VXL Software

VXL Software is a global company, with offices in Asia, Europe and the USA. VXL Software is a division of VXL Instruments. Established in 1976, VXL is a global leading manufacturer of thin, zero and cloud-client devices. VXL Software has locations in the USA, UK, France, Germany, the United Arab Emirates, India and Singapore. VXL Software's Americas Group is headquartered in Houston, Texas. The European headquarters is in Manchester, UK. VXL Software's development team, and the Asia Pacific headquarters, are based in Mumbai, India.

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