Assuring Delivery Of Web Applications For Bottom Line Results

Data center simplification and the growing migration to web-enabled applications are driving the need for a new class of multi-function optimization devices. The Stampede FX Series combines both one-sided application delivery and two-sided WAN optimization into a single platform. The FX Series delivers unprecedented application performance, optimization, transparency, availability and management for existing networks.

Productivity and Performance

The Stampede FX Series WAN optimization improves access to your applications by reducing the amount of data transferred on the link through use of various compression and caching schemes as well as accelerating reliable protocols.

Traffic Shaping with ACM Tracking

Traffic is classified and prioritized by protocol, source/destination subnets, source/destination ports, VLAN, and DSCP bits. Classified traffic is then shaped to the link rate based upon priority, CIR and MIR. Link rate is either configured at setup or optionally read from the modem in real time. Reading from the modem in real time allows the output rate to track the actual link rate for an ACM modem, which changes based upon changing link conditions. While it is possible to configure this with other modems, it is designed to work with the CDM-750 and CDM-625 modems. This feature is available as either stand-alone, or as part of the full WAN optimization product.

Transparent Assured Delivery

With flexible options for in-line or Cisco's Web Cache Communication Protocol (WCCP), the FX Series devices deliver unprecedented transparent optimization. End-to-end assurance is maintained for all applications providing complete transparency and the ability for existing Quality of Service (QoS) and network visibility management programs to continue monitoring the health of your network.

Optimize VLAN Trunked Data

All appropriate Layer 5 and Layer 7 optimizations are available for tagged VLAN data, preserving or recreating the VLAN tags for optimized traffic. This includes HTTP caching as well as de-duplication. Caches are maintained by appliance and by VLAN. Appropriate traffic can be shared between VLANs on the same appliance. In addition, the FX-1010 will support up to 8 LAN ports, each of which is tagged and passed to the WAN trunk.

Typical Users

- Internet Service Providers (ISPs)
- Enterprise
- Offshore/Maritime
- Telecommunications Operators
- Satellite Operators
- Managed Service Providers

Common Applications

- High-speed content delivery
- HTTP and TCP optimization & acceleration
- Internet access
- Corporate networks

Key Benefits

- Provides up to 80% bandwidth savings in both directions
- Provides up to N times efficiency when using the Multicator
- Enables measurable (5-10 times) reduction in response time for users
- Delivers CAPEX for OPEX payback typically in 3-4 months
- Scales easily for small, medium and high volume networks
- Ensure the best traffic flow with Advanced Traffic Shaping
- Match the modem link rates with ACM tracking

Multicator

The FX Series supports a reliable multicast. This is designed to work in a mesh network, but will also work in a hub/spoke network. In the mesh, any device can be a transmitter with the remaining devices being receivers. Multiple devices can be transmitters. The transmitter function is time shared, with a second device being given permission to transmit after the first is complete. This can work in a hub-spoke network where typically the ADC would be the transmitter, although this is not required. The process is to FTP a file from the client into the transmitter's inbox, that file is transmitted reliably in a multicast to all of the receivers. Once transmitted, the receivers FTP the file to a specified server.

Availability

Business critical applications requiring 24/7 availability will always perform optimally no matter how fast your organization grows. The Stampede FX platforms support deployments in a 1+1 configuration. Simply add additional FX devices as needed for increased scalability or failover protection. "High Availability" is available for the remotes and the ADC in either routed or in path configurations.

Management b

The FX platforms provide total insight through real-time information including over 100 real-time statistics providing extensive details on all inbound and outbound traffic. Historical data for days or months are easily viewed via online graphs, simplifying capacity planning, trending, network issues, and application troubleshooting. Management information can be obtained via an intuitive Web GUI or SNMP. The updating for the FX Series Remotes is automatic. The FX Series remotes poll the FX Series ADC for updates. When the ADC is updated; each remote will download the update and automatically update itself.

Flexibility b

The FX Series platforms provide a comprehensive range of flexible options for total transparent 24/7 operation within your existing or growing network infrastructure. No matter what your application acceleration or WAN optimization requirements are today or in the future, the FX Series platform solutions will handle all your business critical applications with ease. Whether your installation requires small, medium or large branches or the consolidation of multiple remote or enterprise data centers, We have the solution for your organization's needs.

Compatible with Advanced VSAT Solutions b

The Stampede FX Series products can be added to an Advanced VSAT Solutions network for WAN optimization and application acceleration. The results can be significant improvements in user experience and a reduction by 20-80% in required bandwidth for TCP traffic.

Solutions b

Deploy the Stampede FX Series (ADC) as a single-sided solution to optimize traffic from your outbound channel. For a two-sided solution, add the FX Series Remote (REM) appliance or our remote software clients and achieve the ultimate in application acceleration and WAN optimization.

Specifications b

Single Sided with the Application Delivery Controller (ADC) b

	FX-1000 ADC	FX-1005 ADC	FX-4000 ADC b
Max Accelerated Sessions h	,500	3,000	5,000
Data Rate Options Mbps h	, 4, 6, 10	1, 2, 4, 6, 10, 15	0, 15, 25, 45, 70, 155
Load Balancing via WCCP h	✓ 4	✓ 4	✓ 4
Connection Management h	✓ 4	✓ 4	✓ 4
Traffic Shaping with ACM (d) h	✓ 4	✓ 4	✓ 4
IP Source Preservation h	✓ 4	✓ 4	✓ 4
Optimize VLAN Tagged h ata h	✓ 4	✓ 4	✓ 4
GZIP Compression (b)	✓ 4	✓ 4	✓ 4
Image Reduction (c)	✓ 4	✓ 4	✓ 4
Content Caching h			
Static Caching	✓ 4	✓ 4	✓ 4
HA for In-Path and Routed Modes h	✓ 4	✓ 4	✓ 4

Two Sided with the ADC and the Remote b

	FX-1000 REM/ADC	FX-1005 REM/ADC	FX-1010 REM	FX-4000 REM/ADC
Max Accelerated Sessions (a)	3,000 (a)	6,000 (a)	6,000	10,000 (a)
Data Rate Options Mbps	2, 4, 6, 10, 15	1, 2, 4, 6, 10, 15	2, 4, 6, 10, 15, 25	10, 15, 25, 45, 70, 155
Load Balancing via WCCP				
Connection Management	✓	✓	✓	✓
Traffic Shaping with ACM (d)	✓	✓	✓	✓
IP Source Preservation	✓	✓	✓	✓
Optimize VLAN Tagged Data	✓	✓	✓	✓
Multicator	✓	✓	✓	✓
Content Reduction				
Bi-directional Compression	✓	✓	✓	✓
Image Reduction (c)	✓	✓	✓	✓
Dynamic Data De-duplication	✓	✓	✓	✓
Content Caching				
Static Caching	✓	✓	✓	✓
Cache Differencing	✓	✓	✓	✓
TCP Optimization	✓	✓	✓	✓
Multiplexing Data Streams	✓	✓	✓	✓
Auto Updates to the Remotes	✓	✓	✓	✓
HA for In-Path and Routed Modes	✓	✓	✓	✓

NOTES: h

(a) The FX-1000 when used as an ADC will handle 1500 concurrent sessions and the FX-1005 will handle 3000 concurrent M sessions. M

(b) Maximum accelerated WAN rates are a function of compressibility. If all content is being GZIP compressed with a ratio of M greater than 4:1, the maximum WAN rate may not be accelerated. M

(c) The number of images handled per second is a function of image size. MFor the FX-4000 ADC M 10 KB images, 800 M images/sec;Mor 50 KB images, 350 images/sec; for 500 KB images, 34 images/sec. MFor the FX-1000 ADC and M FX-1005 ADC M 10 KB images, 80 images/sec; for 50 KB images, 35 images/sec; for 500 KB images, 3.4 images/sec. M

(d) Available as either a stand-alone feature or part of the WAN optimization product. As a stand-alone feature, the maximum M data rate is 155 mbits/s, when purchased with the WAN optimization, the data rate is limited to the WAN optimization rate. M

Hardware **b**

Model	FX-1000	FX-1005	FX-1010	FX-4000
Form Factor	1RU	1RU	1RU	1RU
Weight	10 lbs (4.5 kg)	2.6 lbs (1.2kg)	13.3 lbs (6.0 kg)	15 lbs (6.8 kg)
Dimensions (h x w x d)	1.7" x 17.2" x 9.8" (43 x 437 x 249 mm)	1.7" x 8.5" x 7.4" (43 x 215 x 188 mm)	1.7" x 17.0" x 15.6" (44 x 431 x 395 mm)	1.7" x 16.8" x 14.0" (43 x 427 x 356 mm)
Memory	2 GB	4 GB	4 GB	8 GB
Storage	(1) 160 GB SATA	(1) 160 GB SATA	(1) 160 GB SATA	(1) 500 GB SATA
Network Interface (GE) Ports/Fail-to-Wire Pairs	4/1	4/1	/0	4/1
Serial Ports	1	1	1	1
USB Interface Ports	2	2	2	2
Rack Mount Kits		1 or 2 units in 1RU		
Power Supply – UL h Approved, FCC Compliant h	Single Power (00 W) **b** Auto (100V- 40V)	Requires a 60 W/12V power adapter with lock	200 W ATX power supply unit with input range of 90~264V@ 47-63 Hz	Single Power (00 W) **b** Auto (100V- 40V)
nvironment h	Operating temp 0 - 50°C, Storage temp -40 - 70°C, Humidity 8 - 90%	Operating temp 0 - 40°C, Storage temp -20 - 60°C, Humidity 5 - 90%	Operating temp 0 - 40°C, Storage temp -20 - 60°C, Humidity 5 - 90%	Operating temp 10 - 35°C, Storage temp -40 - 70°C, Humidity 8 - 90%

FX-1000 Front & Back Panel 4

FX-1005 Front & Back Panel 4
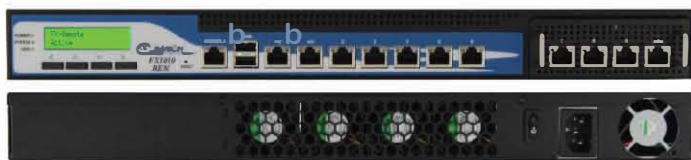
FX-1010 Front & Back Panel 4

FX-4000 Front & Back Panel 4