

# A10 Network.b Inc.

AX 2100 Ver. 1.2

Competitive Performance Evaluation versus  
F5 Network. BIG-IP 3400 ver. 9.2.5

*Premise: Scaling a Web site means running multiple back-end servers behind a sophisticated traffic management device to distribute the incoming load efficiently and to maximize server farm performance. Layer 4 to 7 network traffic management systems or Web switches must offer sufficient performance. But most of all, they must demonstrate that they offer a competitive price/performance to ensure maximum value and effectiveness.*

10 Network.b Inc. commissioned The Tolly Group to evaluate the price/performance advantages of the AX 2100 Advanced

# Executive Summary

For these tests, Tolly Group engi-

**The A10 Networks AX 2100 supported higher Layer 4 connections per second rate, and greater transaction rates for Layer 7 and SSL while achieving better price/performance (ranging from 4.4X to 13.8X) compared to an F5 Networks BIG-IP 3400.**

The goal of this test was to evaluate the load balancing performance of the A10 Networks AX 2100 and the F5 Networks BIG-IP 3400 when handling Layer 4/7 traffic as well as SSL (encrypted) traffic and to evaluate results with respect to price/performance.

BIG-IP 3400. With one single HTTP request per TCP connection, the AX 2100 achieved 152,290 tps with 128-byte objects. At 10 HTTP requests, the transaction rate increased to 468,213 tps, and with unlimited HTTP requests, the transaction rate was 603,087 tps. The throughput rate in this configuration represented an average 5.9X increase over F5 Networks.

The AX 2100 relies upon hardware-assisted SSL acceleration in processing SSL tra

4 features on server load balancing where little application awareness is required.

Tolly Group engineers measured the steady-state connection-per-second rate and aggregate throughput in Layer 4 switching tests for the two devices under test, subjecting them to traffic streams with object sizes ranging from 128 bytes to 512K bytes.

In all Layer 4 tests with various object sizes, the AX 2100 outperformed the BIG-IP 3400 by almost 5X for the connection rate and for maximum throughput.

The AX 2100 connection rate was 200,908 cps, or 97% more than the BIG-IP

3400 which offered a sustained rate of 102,777 cps, for 128-byte objects. For other object sizes from 2K- to 512K-byte objects,



BIG-IP 3400 with an average of 934 Mbps. (See Figure 2.)

## SSL Performance

In this test, engineers focused on testing the AX 2100 SSL performance in handling large numbers of SSL encrypted streams at smaller objects and also processing bulk encryption data at larger objects. At the same time, engineers also measured the transaction rate of SSL when 9 SSL sessions were reused.

Without reusing the SSL session, the AX 2100 was able to achieve 5,391 SSL tps for 128-byte objects and

throughput was about 961 Mbps for larger (512K-byte) objects.

In a test where the SSL session was reused nine times, the AX 2100 achieved 13,479 tps, or 2.5X more transactions than if the session ID was not reused. Throughput remained the same for larger objects. (See Figure 3.)



## Test Equipment Summary

Vendor	Product	Web URL:
CDissos Systems	NetStorm & NetOcean ver. 1.4.2 build 36	<a href="http://www.cDissos.com">http://www.cDissos.com</a>



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