

Cisco Web Security Appliance Connectors: Sizing for Cloud Web Security

Previous sizing for the Cisco® Web Security Appliance Connector and Cloud Web Security was based on user count. However, traffic profiles vary significantly across different customers. For example, school students, bankers, and retailers all use the Internet differently.

As a result, user count is not a meaningful way of sizing, even though it was convenient because it tied in with the Cloud Web Security licensing model.

Next-Generation Tower (NGT) sizing for Cloud Web Security connectors is now based on two testing metrics: requests per second (RPS, Xact/sec) and bandwidth (Mbps). Neither of these metrics should be exceeded when sending traffic to an NGT.

Due to TCP/IP limitations, the Web Security Appliance can use only 64,000 ports per single IP address. So, although the appliance can handle many users when proxied to a Cloud Web Security tower, there may be a bottleneck, depending on the type of traffic that is sent to Cloud Web Security. Microsoft Office 365 traffic, for example, will use many ports.

Customers should calculate their user own count based on their traffic profile. Metrics are provided for two scenarios: when the Web Security Appliance does no authentication and when the NT LAN Manager (NTLM) authenticates on the device. There are five levels of SSL mix, from zero percent to 100 percent at 25 percent intervals.

Full Testing Details

- Web Security Appliance build 8.8.0-85
- Recommended bandwidth (Mbps) and RPS (Xact/sec) figures are provided
- Separate testing results for no authentication and authentication by NTLM on the Web Security Appliance device
- Results for 0-100% SSL mixes (at 25% intervals)
- Measured against NGT sizing
- Tested till 80% reached in CPU or memory, because the device is dedicated only for the connector when in this mode so no other services will be running

Connector Sizing for the Web Security Virtual Appliance S000V

Mode	Authentication	Metric	SSL 0%	SSL 25%	SSL 50%	SSL 75%	SSL 100%
Transparent	No	Throughput (Mbps)	250	250	250	200	180
Transparent	No	Xact/sec	1500	1380	1240	990	880
Explicit	No	Throughput (Mbps)	210	200	200	170	170
Explicit	No	Xact/sec	990	940	940	800	800
Transparent	NTLM	Throughput (Mbps)	160	160	150	150	130
Transparent	NTLM	Xact/sec	850	810	750	720	640
Explicit	NTLM	Throughput (Mbps)	70	70	70	70	70
Explicit	NTLM	Xact/sec	320	320	320	320	320

Connector Sizing for the Web Security Virtual Appliance S100V

Mode	Authentication	Metric	SSL 0%	SSL 25%	SSL 50%	SSL 75%	SSL 100%
Transparent	No	Throughput (Mbps)	290	270	250	200	180
Transparent	No	Xact/sec	1500	1380	1240	990	880
Explicit	No	Throughput (Mbps)	300	300	240	210	180
Explicit	No	Xact/sec	1550	1520	1200	960	780
Transparent	NTLM	Throughput (Mbps)	240	230	210	190	160
Transparent	NTLM	Xact/sec	1270	1180	1250	930	750
Explicit	NTLM	Throughput (Mbps)	90	90	90	90	90
Explicit	NTLM	Xact/sec	420	420	420	410	400

Connector Sizing for the Web Security Virtual Appliance S300V

Mode	Authentication	Metric	SSL 0%	SSL 25%	SSL 50%	SSL 75%	SSL 100%
Transparent	No	Throughput (Mbps)	420	370	270	230	200
Transparent	No	Xact/sec	2150	1880	1310	1110	940
Explicit	No	Throughput (Mbps)	420	380	280	210	190
Explicit	No	Xact/sec	2240	1770	1340	980	800
Transparent	NTLM	Throughput (Mbps)	350	330	270	210	180
Transparent	NTLM	Xact/sec	1840	1690	1330	1040	880
Explicit	NTLM	Throughput (Mbps)	120	120	120	120	120
Explicit	NTLM	Xact/sec	550	550	550	550	550

Connector Sizing for the Web Security Appliance S380

Mode	Authentication	Metric	SSL 0%	SSL 25%	SSL 50%	SSL 75%	SSL 100%
Transparent	No	Throughput (Mbps)	130	130	70	60	60
Transparent	No	Xact/sec	630	630	330	300	290
Explicit	No	Throughput (Mbps)	60	60	60	60	60
Explicit	No	Xact/sec	290	290	290	290	290
Transparent	NTLM	Throughput (Mbps)	60	60	60	60	60
Transparent	NTLM	Xact/sec	300	300	290	290	290
Explicit	NTLM	Throughput (Mbps)	60	60	60	60	60
Explicit	NTLM	Xact/sec	300	300	290	290	290

Connector Sizing for the Web Security Appliance S670

Mode	Authentication	Metric	SSL 0%	SSL 25%	SSL 50%	SSL 75%	SSL 100%
Transparent	No	Throughput (Mbps)	800	650	550	470	450
Transparent	No	Xact/sec	3810	3080	2640	2240	2140
Explicit	No	Throughput (Mbps)	430	400	320	290	250
Explicit	No	Xact/sec	2030	1870	1460	1310	1110
Transparent	NTLM	Throughput (Mbps)	440	410	360	310	300
Transparent	NTLM	Xact/sec	2300	1960	1740	1490	1420
Explicit	NTLM	Throughput (Mbps)	440	410	310	290	270
Explicit	NTLM	Xact/sec	2300	1960	1570	1390	1250

Connector Sizing for the Web Security Appliance S680

Mode	Authentication	Metric	SSL 0%	SSL 25%	SSL 50%	SSL 75%	SSL 100%
Transparent	No	Throughput (Mbps)	730	480	430	360	300
Transparent	No	Xact/sec	3510	2280	2040	1720	1410
Explicit	No	Throughput (Mbps)	380	280	240	220	180
Explicit	No	Xact/sec	1820	1280	1160	100	820
Transparent	NTLM	Throughput (Mbps)	490	320	340	320	280
Transparent	NTLM	Xact/sec	2320	1630	1620	1500	1340
Explicit	NTLM	Throughput (Mbps)	320	250	240	160	130
Explicit	NTLM	Xact/sec	1830	2250	1960	1460	1370

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