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Test & Measurement

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Complimentary Reference Material

This PDF has been made available as a complimentary service for you to assist in evaluating this model for your testing requirements.

TMG offers a wide range of test equipment solutions, from renting short to long term, buying refurbished and purchasing new. Financing options, such as Financial Rental, and Leasing are also available on application.

TMG will assist if you are unsure whether this model will suit your requirements.

Call TMG if you need to organise repair and/or calibrate your unit.

If you click on the “Click-to-Call” logo below, you can call us for FREE!

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Avalanche 2200

As Internet architectures become more complex and users more diverse, the pressure on network devices and applications grows. Whether you're building a Web site or a router, you must deliver consistent performance. That's why testing your products and infrastructures before they're deployed has never been more important. But testing their capacity to withstand the real world—not just lab environments—has never been harder.

Spirent Communications offers a solution.

Avalanche 2200™ is a capacity assessment appliance that provides high-performance, protocol-accurate L4-L7 stress testing under high loads, ensuring that your device, application or infrastructure will excel under real-world conditions.

Avalanche 2200 gives network equipment makers, service providers and enterprises the ability to assess performance realistically—and with repeatable, consistent results.

With support for protocols such as HTTP, SSL, RTSP/RTP (QuickTime and Real Networks), MMS, FTP, SMTP, and POP3, Avalanche 2200 is the world's first system to emulate the full user/browser experience. As a result, Avalanche 2200 gives you insight into your infrastructure's architectural effectiveness, points of failure, modes of performance degradation, robustness under critical load, and potential performance bottlenecks.

In other words, Avalanche 2200 lets you see what your users see—and tune your equipment and infrastructure accordingly. With Avalanche 2200, you can deploy your products and services with confidence.

Performance that puts your capacity to the test.

Avalanche 2200 delivers high-speed performance that can exceed 1 Gbps rates. Our users can attest to the value of being able to set up, transfer data over, and tear down connections at rates of 30,000 per second—all while handling cookies, traversing tens of thousands of URLs, and operating under a realistic mix of traffic.

More than a million concurrent connections.

Through IP masquerading, Avalanche 2200 initiates and maintains more than a million concurrent connections, each appearing to come from a different IP address. This allows realistic and accurate capacity assessment of devices such as routers, firewalls, load-balancing switches, intrusion detection systems, SSL accelerators, web servers, application and database servers. It helps you identify potential bottlenecks from the router connection all the way to the database.

It's ugly. It's accurate. It's real-world Internet traffic.

Avalanche 2200 replicates real-world conditions far more accurately than any other capacity assessment product. It's the only system that delivers high degrees of realism at both the application and network layers. This accuracy is especially critical for companies that are sensitive to Layer 4-7 performance. The ability to simulate error conditions such as HTTP Aborts, packet



You can access Avalanche 2200 directly from a desktop browser to quickly set up realistic high-load tests that include a mix of different users and profiles—without having to write extensive scripts.

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loss, and TCP/IP idiosyncrasies can help you anticipate and avoid significant insidious (and previously unknown) impacts on performance.

Layer 4-7 realism.

Avalanche 2200 provides multiprotocol support for better user/browser emulation and modeling. For the most realistic and flexible real-world user/browser emulation available, Avalanche 2200 supports HTTP/1.0, HTTP/1.1, SSL, RTSP/RTP (QuickTime and Real Networks), MMS, SMTP, POP3, and FTP protocols, as well as HTTP redirects, allowing you to accurately test for the most common—and performance-draining—user activities: Web surfing, e-commerce, streaming, downloading files, and emailing. To enable more accurate load simulations across multi-tiered Web site architectures, the system also lets you configure extremely realistic user behaviors—such as HTTP basic and proxy authentication, think times, click stream, and HTTP Aborts (“click-aways”)—that cause Web servers to terminate connections while back-end application servers continue to process requests.

Streaming media testing.

The world’s first capacity assessment appliance to support the full set of standard streaming protocols, Avalanche 2200 enables the generation of more than 10,000 concurrent streams. This allows you to accurately assess the real-world capacity of large streaming server farms with Apple QuickTime® Servers, RealSystem®

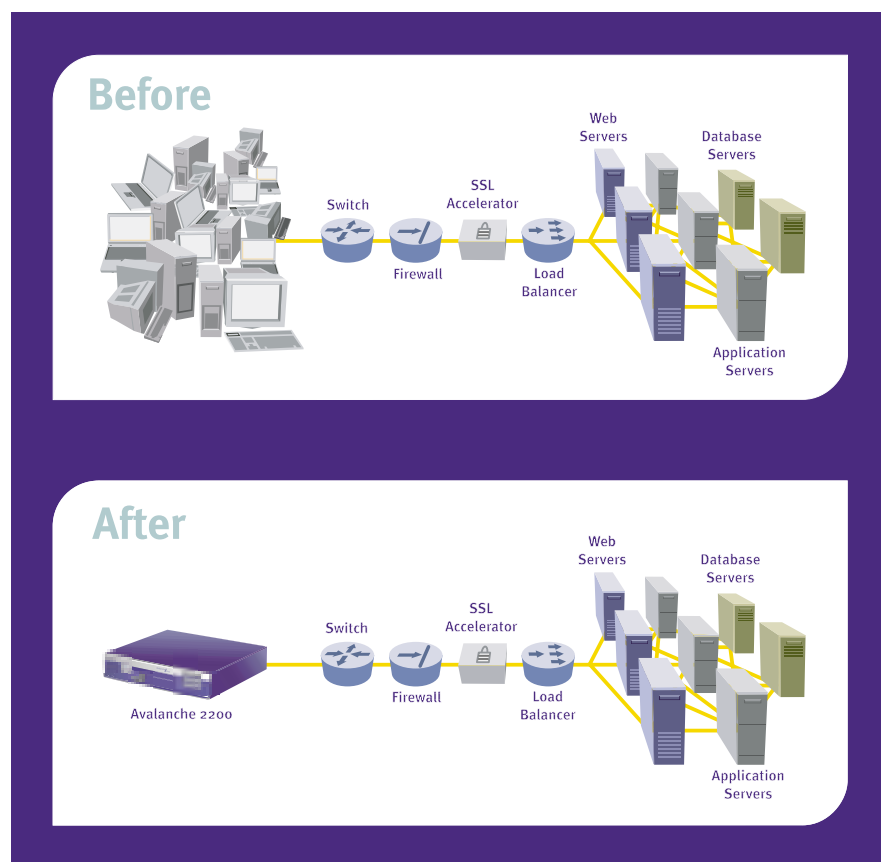
Servers, and Windows® Media Servers. Streaming support in Avalanche 2200 simplifies the setup and configuration of performance tests for large-scale streaming media infrastructures and eliminates the need to configure large farms of PC’s with streaming clients.

Mail testing.

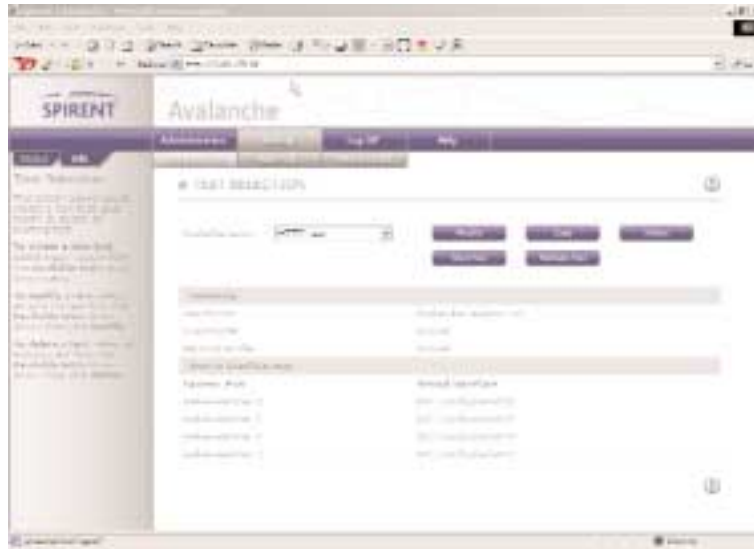
Avalanche 2200 allows you to accurately assess the real world capacity of your email infrastructure. SMTP and POP3 support in Avalanche 2200 simulates large numbers of users sending, receiving and deleting mail messages. Avalanche 2200 is compatible with all major mail servers and eliminates the need for setup of farms of PCs with mail clients.

Rich e-commerce capabilities.

To let you accurately simulate capabilities such as registration forms and shopping carts that are intrinsic to rich e-commerce platforms, Avalanche 2200 includes Session ID, Dynamic HTML, and Business Logic support for browser cookies, HTML forms, HTTP posts, and SSL-encrypted traffic. The system gives you the flexibility to specify data sources and mix and match data sets to recreate accurate user behavior at very high performance levels. Avalanche 2200 creates SSL loads—with support for all versions of SSL—that can stress the world’s most sophisticated secure e-commerce platforms. It also includes configurable cipher suites that enable you to emulate different types of browsers.



Before, you had to use a complicated network of PCs and servers to simulate data servers. With Avalanche 2200, you can easily simulate even the world’s largest customer environments.



Our easy to use browser based GUI provides instant real time statistics and feedback on system performance.

More realistic and accurate testing.

By giving you the flexibility to configure real-world environments, Avalanche 2200 lets you simulate the conditions that most seriously affect performance and drain system resources. These include:

- Network delay settings. Avalanche 2200 includes a high-accuracy delay factor that mimics latencies in users' connections by simulating the long-lived connections that tie up networking resources.
- Packet loss simulation. Avalanche 2200 gives you the unique ability to specify the level of packet loss during a given test.
- TCP/IP stack characteristics. Avalanche 2200 provides control over maximum segment size, slow start/congestion avoidance, and TCP timeout behavior for the most thorough, realistic TCP/IP stack testing. No other system gives you this degree of granular control.

A refreshingly simple way to manage testing.

When you replace multiple racks of workstations with a single, well-designed appliance, you free your busy professional staff from time-consuming hardware management tasks. And by catching performance-related bugs earlier during development, you can deploy new features more quickly and robustly.

Quick setup and intuitive controls.

Avalanche 2200 proves that "advanced" doesn't always translate into "hard to use." The system's intuitive setup requires only minutes of training: it typically requires about 15 minutes for rack mounting, powering up, and browser configuration. Most customers begin stressing their equipment and Internet infrastructure within a half-hour of unpacking the appliance. You can access Avalanche 2200's sophisticated capabilities directly from a desktop browser-based GUI. Its intuitive controls let you quickly set up tests of new functionality—without having to write extensive scripts.

Flexible load metrics.

To allow you to focus on the metrics relevant to you, Avalanche 2200 provides a highly flexible adaptive load-generation feature. You can specify load using user sessions, user sessions per second, transactions, transactions per second, connections, or connections bandwidth per second—all the while benefiting from the rich user profiles that Avalanche 2200 supports. The system's graduated load-stressing capabilities enable you to set up parameters just once to perform tests at multiple load levels.

Real-time test results.

Avalanche 2200 provides real-time statistics for critical variables—across all protocols—so you can determine how your equipment or infrastructure holds up while testing is in progress. Comprehensive reporting capabilities give you an integrated picture of all relevant statistics in a single report.

Make the most of existing testing products.

Avalanche 2200 can be run in conjunction with your current software-based regression testing tools, protecting your current investment and enhancing its value. By simulating high traffic volumes, Avalanche 2200 helps you spot functional site problems that might not be apparent at lower load levels—even with the most advanced regression testing.

For companies that currently use Layer 2–3 test tools but need to test at Layers 4–7, Avalanche 2200 supplements existing test tools by allowing Layer 2–3 traffic to run in conjunction with intelligent Layer 4–7 traffic.

Warranty and support backed by commitment.

Avalanche 2200 comes with comprehensive warranty, maintenance, and support packages, as well as Spirent Communications' full commitment to helping you get the most from our innovative technology.

Avalanche 2200 Specifications.

Integrated Hardware and Software

- 2U, 19-inch rack-mountable infrastructure stressing appliance.
- Intuitive operation.
- Features an easy-to-use browser-based GUI.
- Graduated load stressing facilitates testing at multiple load levels in a single test.
- Real-time statistics provide instant feedback on infrastructure performance.

High Performance

- Simulates more than 1 million simultaneously connected users.
- Generates in excess of 30,000 requests per second (HTTP 1.0 with no keep alive) and over 50,000 requests per second (HTTP 1.1 with persistence).
- Sustain over 2,000 HTTPS requests per second with no SSL session ID re-use.
- Generates over 10,000 streaming requests.

Realistic and Accurate Testing

- Generates HTTP/1.0, HTTP/1.1, HTTPS, RTSP/RTP (QuickTime and Real Networks), MMS, FTP, SMTP, and POP3 traffic.
- Supports SSL versions V2, V3 and TLS V1, Session ID, Dynamic HTML, and Business Logic Support.
- Handles multi-level HTTP redirects.
- Supports HTTP proxies and proxy caches.
- Includes support for SSL, Session IDs, browser cookies, HTML forms, and HTTP posts.
- Provides control over TCP/IP maximum segment size and TCP timeout behavior.

Generates a realistic load from a mix of user profiles, allowing you to specify variables such as:

- Browser emulation.
- SSL protocol parameters (version selection, cipher suites, and session ID re-use).
- HTTP protocol levels, persistence and simultaneous connection settings.
- Source IP addresses to masquerade.
- Data files for HTML forms-filling.
- URL traffic pattern with user "think times".
- Link-speed emulation (from 9600 bps to gigabit LAN speeds).
- Packet loss rates.
- User HTTP Aborts (click-away) behavior.

Physical Specifications.

Dimensions

- 3.485"H x 15.53"W x 18.375"D
- (18 cm H x 43 cm W x 41 cm D)
- (fits standard 19" rack, 2U high)

Weight

- 22 lbs. (10 kg)

Operating Environment

- 5°C-40°C

Non-Operating Environment

- 0°C-50°C

Power Requirements

- Input rating 115-230V, 50/60 HZ

Maximum Power Consumption

- 400 watts

Network Interfaces

- 10/100BASE-T admin interface

Choice of test interfaces:

- 1 1000BASE-SX (GigE)
- 2 1000BASE-SX (GigE)

Regulatory Approvals

- FCC Class A
- CE
- UL-1950
- GS Mark