



Spirent Enterprise Solutions



AGENDA

- Spirent Overview
- Introduction to Spirent Solutions
 - *AxonCore*
 - *AxonPulse*
 - *Blitz*
 - *ArmourHub*



SPIRENT - A GLOBAL COMMUNICATIONS-TEST LEADER



Smartphones and
mobile devices



High-speed IP
networks and
applications



Live network services



Mobile access, backhaul
and packet core



Data center, cloud
computing and
virtualization



Global positioning
technologies

SPIRENT

Symbol **SPT.L**

Exchange **LSE**
(FTSE250)

Market Cap **\$1.6B**
(Mar. 2012)

Sales **\$528M**

RandD investment **\$88M** in areas that matter most to our customers

No.1 or No.2 in the markets we serve



Our business came from **1400** global customers in 2011

supported by **1400**
dedicated Spirent employees

in **50** countries

Network performance experts with best-of-breed products and solutions which provide end-to-end network and web application performance



SPIRENT ENTERPRISE SOLUTIONS

Axon

- *Test network performance by simulating traffic and measuring latency, jitter, packet loss and more.*
- *Results are delivered in real time, for fast network troubleshooting*



AxonPulse

- *Wireless infrastructure management*
- *Performance monitoring with End User QoS Management*



Blitz

- *The leading cloud-based web app load test solution*
- *Performance, scalability and reliability testing throughout web app development, staging, production and operations*



Armorhub

- *Cloud Based Security Testing Solution*
- *Monitor and Test Web Sites for Security problems*



AXON SPIRENT



WHAT IS AXON?

- A surprisingly simple network platform that enables testing of network performance by simulating traffic
 - *Measure latency*
 - *Jitter*
 - *Packet loss and more*
- Results are delivered in real time, for fast network troubleshooting



AXON USE CASE



SLA Management

- Manage Carrier SLA Performance
- Troubleshoot Circuit & Ensure uptime



Network Modelling

- Generate real traffic to measure performance
- Ensure Voice Quality and Network Quality - Prior to UC Deployment or new application deployment



Diagnose & Repair

- Validate and Increase Performance
- Pinpoint Issues before they arise



Circuit and Branch Office Management

- Branch Office Deploy, Troubleshoot and Manage
- Data Center Circuit management, Disaster and Backup Validation



- ✓ Reduce Costs And Risk
- ✓ Bandwidth Spend
- ✓ Reduce Downtime

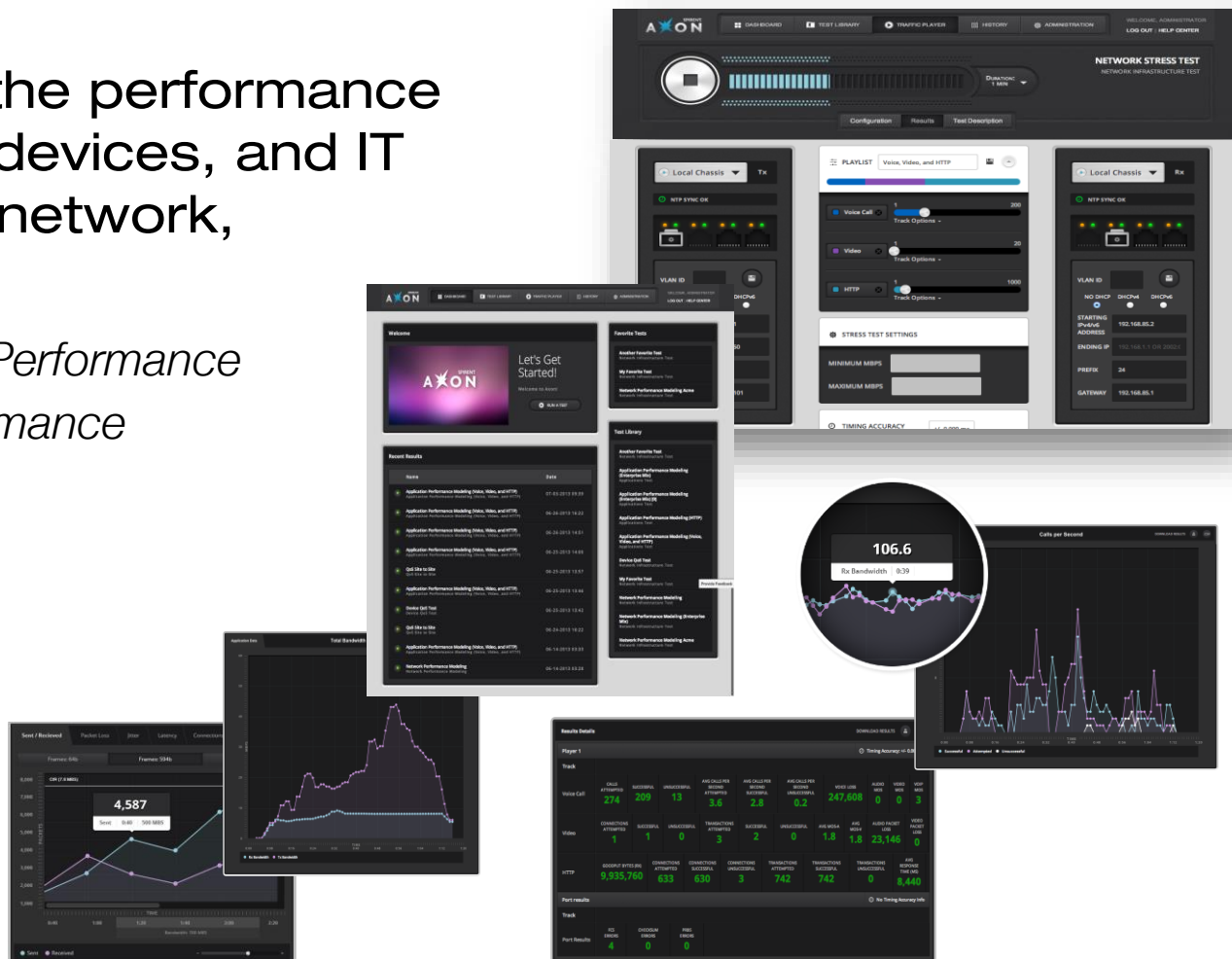
- ✓ Speed Time To Deploy
- ✓ Validate Deployments
- ✓ Ensure Qoe

- ✓ Reduce Downtime
- ✓ Identify Issues Early
- ✓ Reduce Support Costs

- ✓ Size Circuit Need
- ✓ Ensure Circuit SLA
- ✓ Ensure Qoe

SIMPLE YET POWERFUL

- Use to validate the performance of applications, devices, and IT services on the network, including:
 - *Network Infrastructure Performance*
 - *Web Application Performance*
 - *Voice/Video Readiness*
 - *Network QoS Testing*
 - *Failover Performance*



AXON TEST WHAT MATTERS



- **Axon Tests**

- *Layer 2/3 Network Performance Modelling IPv4 and IPv6*
- *Layer 2/3 Network Stress Test Ipv4 and Ipv6*
- *Enterprise Traffic Mix Performance Modelling (IPv4 and IPv6)*
- *Network QoS Performance Ipv4 and IPv6*
- *Site to Site Performance Test Ipv4 and IPv6*
- *Site to Site with SLA Verification*
- *Site to Site Application Performance*
- *Mixed Protocol Ipv4 and IPv6 Performance test*
- *HTTP Web Application Performance Test*

AXON MODELS

Axon Core 1C



1GB Full Line Rate
4 Port Copper
Customers with 1gb Networks

Axon Core 110CF



1Gb and 10GB testing from 1 Device
Copper, or Optical Short or long Range SFP
2 PORT Combo

Axon Core 10F



FULL LINE RATE 10GB
Short or long Range SFP
2 PORT Optical
Large Enterprise with 10gb networks and Circuits

AXON CUSTOMERS

arqiva



NEC



PETRONAS



CABLEVISION



AXON PULSE

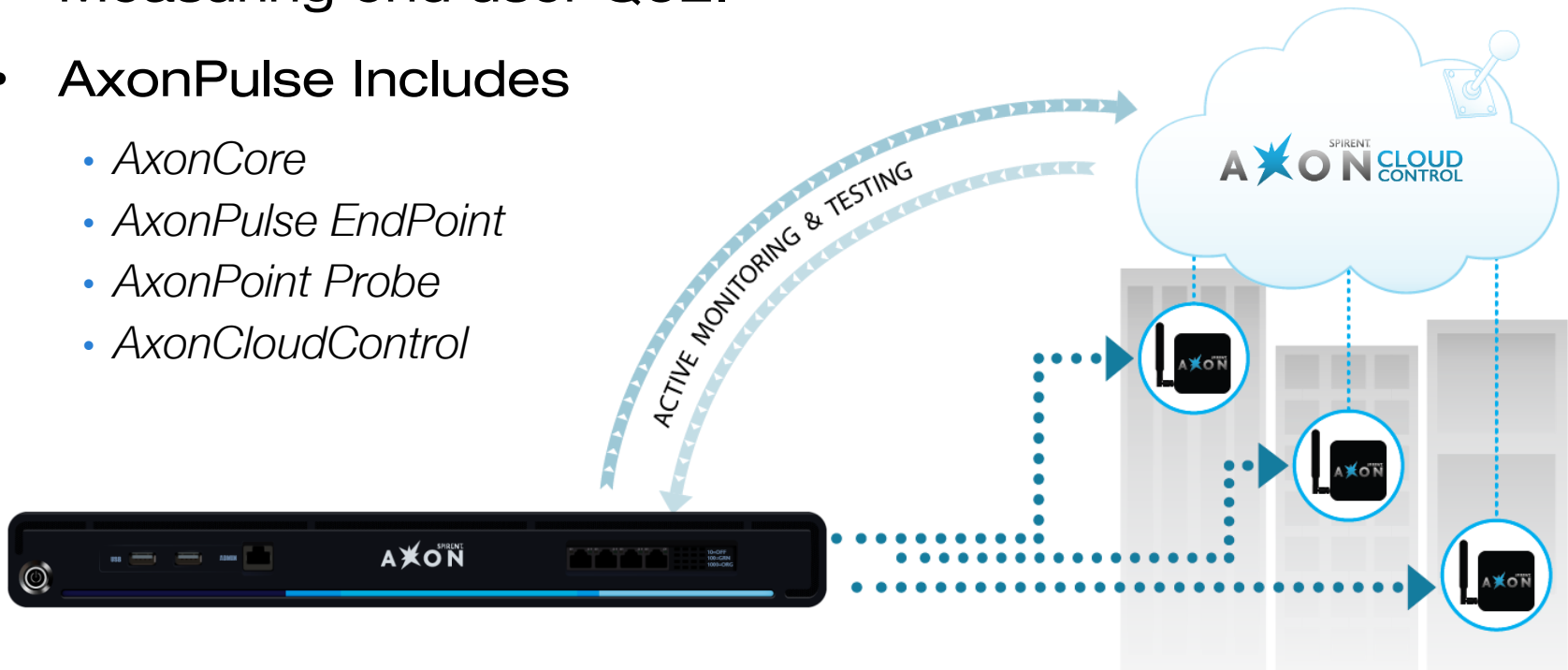
SPIRENT

Let Virtual Users Take The Guesswork Out of Network Performance

AXONPULSE

Adding Wi-Fi management, testing and QoE to your Network Performance toolset

- AxonPulse adds additional features to enable you to monitor Wi-Fi and Fixed line networks, along with Measuring end user QoE.
- AxonPulse Includes
 - *AxonCore*
 - *AxonPulse EndPoint*
 - *AxonPoint Probe*
 - *AxonCloudControl*



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AXON PULSE

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AXONPULSE USE CASE

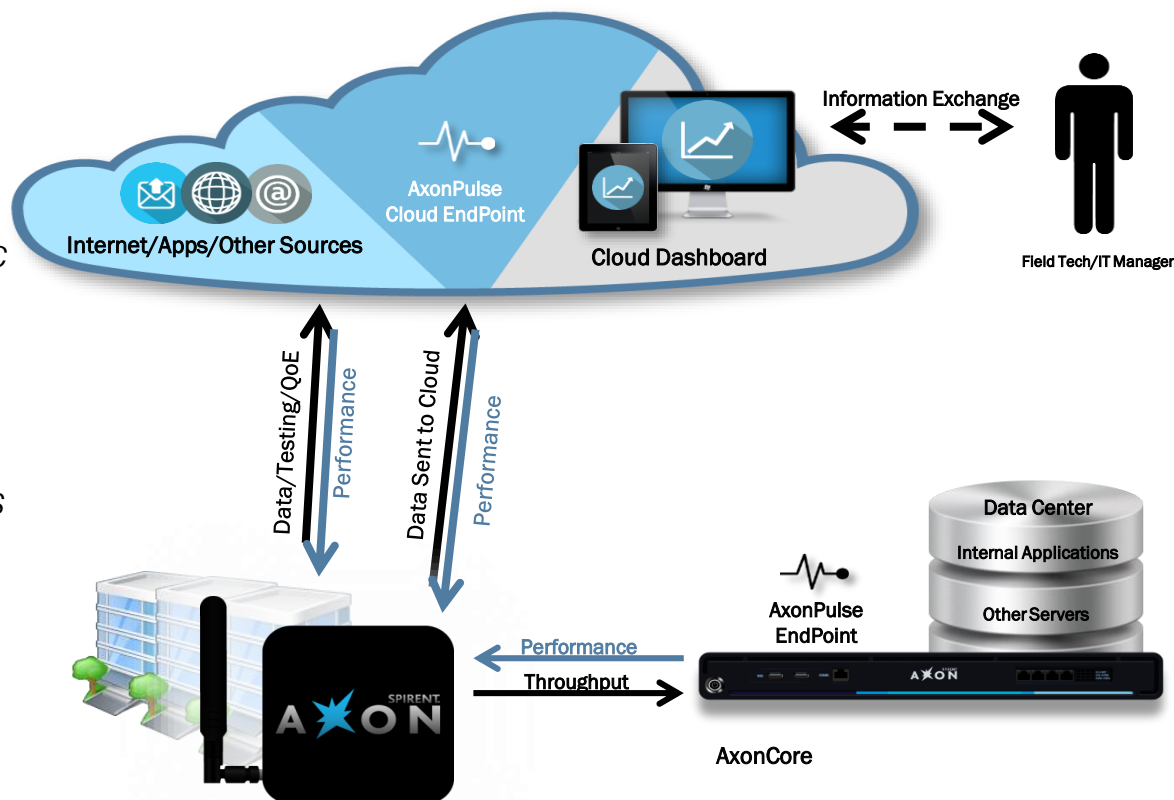


HOW IT WORKS

AxonPulse is made up of four key components – each working together for a whole solution to Wi-Fi and Hardwired network testing, management and optimization

•AxonPulse Includes

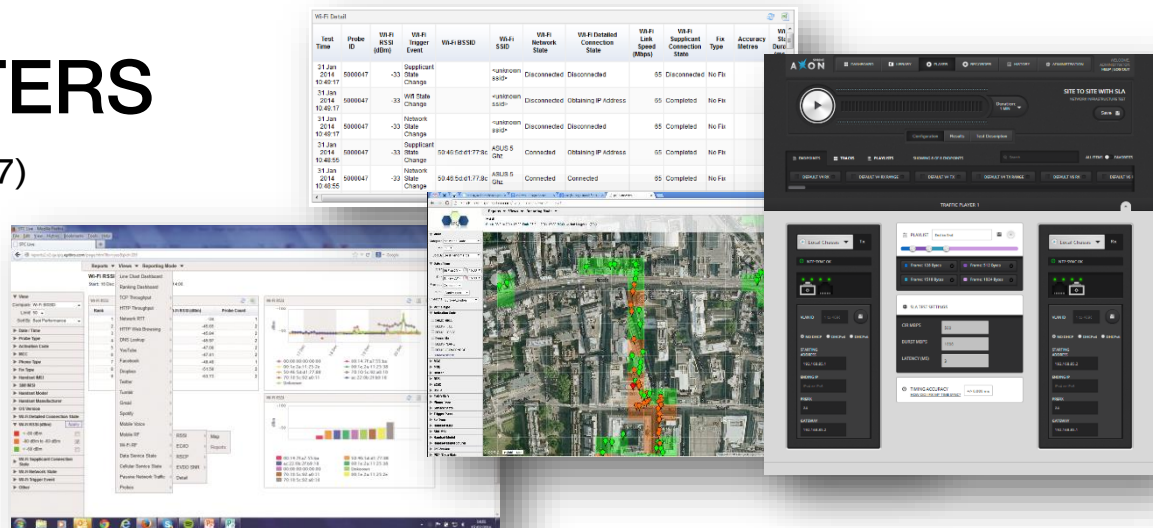
- *Axon CloudControl provides the Cloud based Analytics, testing and Management tols*
- *AxonCore which Provides Fixed network testing, Traffic Simulation*
- *AxonPulse Endpoint Either Software on the AxonCore or a hosted EndPoint for AxonPoint Probes*
- *AxonPoint Hardware Probes along with probe and Handheld Software for Wifi QOE, Testing and Management*



TEST WHAT MATTERS

AxonPoint Network QoS (Layer 4-7)

- Downlink Capacity (TCP)
- Uplink Capacity (TCP)
- Web Download Speed (HTTP)
- Web Upload Speed (HTTP)
- Network Latency ICMP
- Network Latency (TCP 3-way)
- DNS Resolution Time/Failures
- Splash screen login time/success / failure
- WiFi Measurement
 - Wi-Fi RF
 - Wi-Fi RSSI
 - Wi-Fi Channel
 - Wi-Fi Frequency
 - Wi-Fi Channel SNR
 - Wi-Fi Service Accessibility
 - Captive Portal Accessibility
 - Captive Portal Login Time
 - WPA/WPA2 Login Time
 - IP Address Allocation Time
 - Login Success / Failure Rate
- Ancillary Metrics
 - Probe ID
 - Probe Location
 - Probe Name



AxonCore Pre-Configured Tests

- Layer 2/3 Network Performance Modelling IPv4 and IPv6
- Layer 2/3 Network Stress Test Ipv4 and Ipv6
- Enterprise Traffic Mix Performance Modelling (IPv4 and IPv6)
- Network QoS Performance Ipv4 and IPv6
- Site to Site Performance Test Ipv4 and IPv6
- Site to Site with SLA Verification
- Site to Site Application Performance
- Mixed Protocol Ipv4 and IPv6 Performance test
- HTTP Web Application Performance Test

MEASURE WHAT MATTERS

QoE Measurements track the key performance indicators and popular apps that affect your user experience.

Video Quality

- Start Time
- Buffering Time
- Interrupts

Environment

- Signal Strength
- Time -to-Connect
- SSID



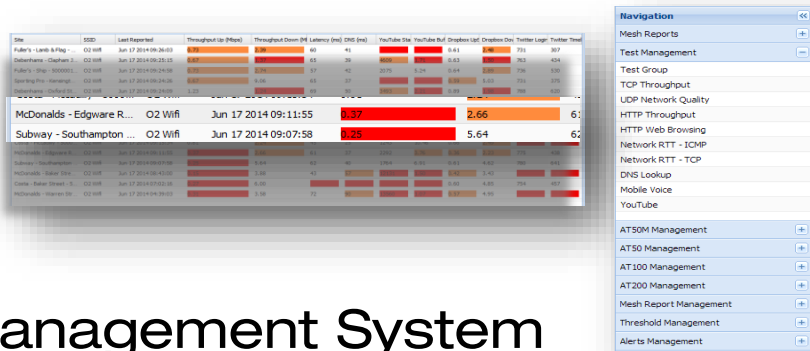
Data

- Down/Upload Speed
- HTTP Throughput
- Web Browsing
- Latency
- DNS Resolution

Public Apps

- Salesforce
- Point of Sale
- Intranet
- + more

MANAGE WHAT MATTERS

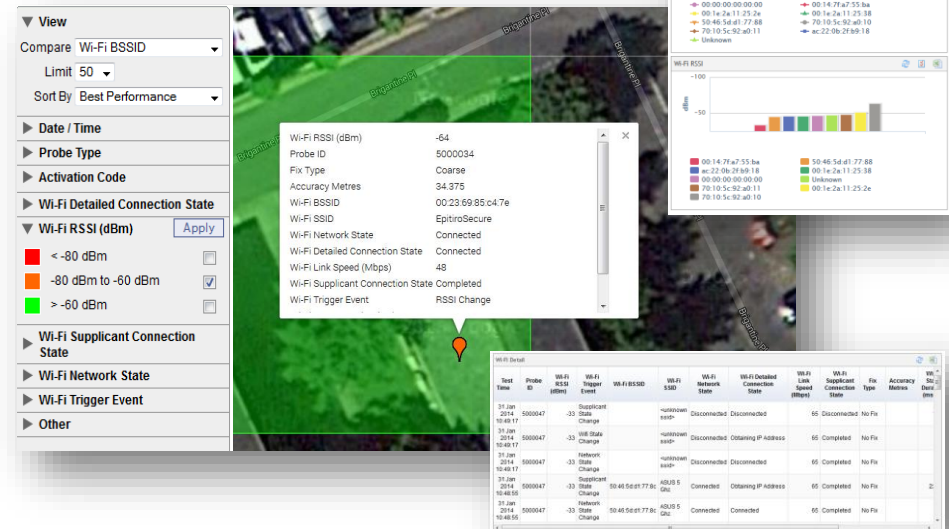


Management System

- Initiate and control how you test & when you test.
- Centralized set-up and control of probes
- Quickly see AxonPoint that detect breaches in quality thresholds
- Investigator alerts you of potential issues & Identify the poor results
- Minimize troubleshooting and repair costs

Analytics

- Use the Analytics Dashboard to instantly see performance over time
- Filter just the data you want to see
- Drill-down to investigate network performance



EPITIRO / AXONPULSE CUSTOMERS

- Retail

- McDonalds
- Pizza Hut
- Subway
- Sporting Pro
- Fullers Pub Groub (UK)



- Sporting Events

- Olympics 2012
- Six Nations European Rugby Championships 2013, 2014
- The College World Series (CWS) Omaha 2014
- The NCAA Final Four 2014
- The Phoenix Waste Waste Management Open 2014



- Carrier

- Cox Communications (USA)
- Telefonica O2
- Vodafone (UK)
- British Telecom (UK)



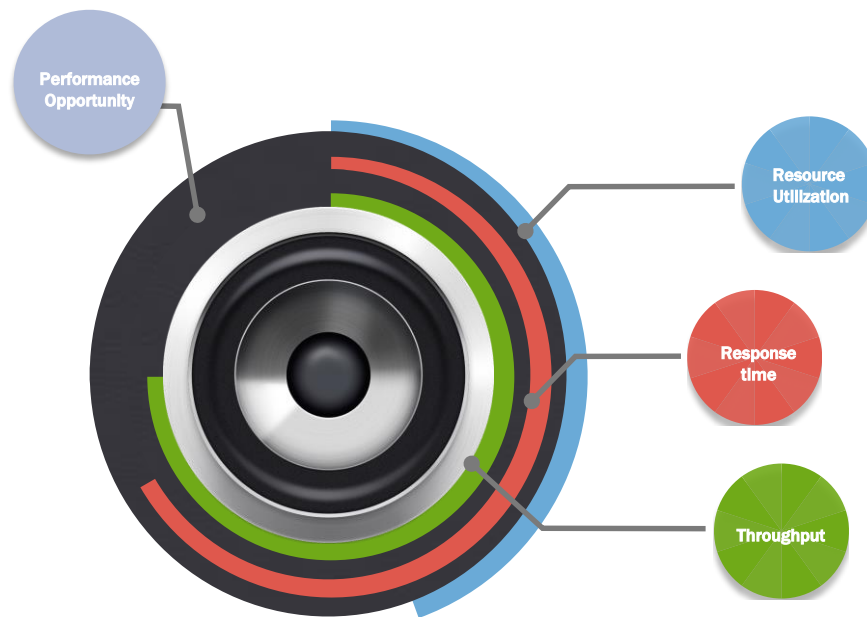


CLOUD BASED WEB & APPLICATION TESTING & OPTIMIZATION

PERFORMANCE LOAD TESTING

Blitz brings simplicity and agility to performance testing by enabling you to instantly burst up to 200,000 concurrent users against your web app in seconds.

- *Simple design changes can have significant impact on*
 - *Performance*
 - *Scalability*
- *Performance tuning*
 - *Should be tightly integrated with the design of the web app*
- *Performance Value*
 - *Response time affects users*
 - *Throughput affects business*
 - *Resource utilization affects systems*

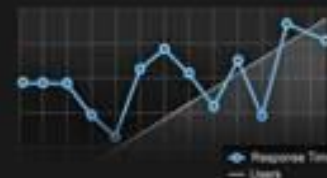


KEY BLITZ FEATURES

- Schedule Recurring Tests
- Select various regions and up to 200,000 concurrent users
- Set up Multiple steps per test
- Monthly Subscriptions with a 14 day free trial

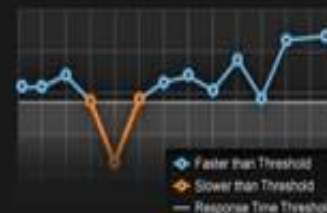
CAPACITY PLANNING

- Find out how many users your site can handle. Do you have enough capacity or are you paying for more than you need?
- Discover how your application's performance changes as load increases.



PERFORMANCE MONITORING

- Keep track of your performance over time.
- Discover performance regressions before your users do.



OPTIMIZATION

- Make changes to your application and measure how performance is affected.
- Compare different software stacks, hardware resources, and service providers.



GLOBAL OPTIONS

- Customize your tests by choosing multiple regions around the world for traffic sources and ensure your application delivers the highest levels of user satisfaction.
- Global locations to
 - *Australia*
 - *Brazil*
 - *Ireland*
 - *Japan*
 - *North America*
 - *California*
 - *Oregon*
 - *Virginia*
 - *Singapore*



BLITZ CUSTOMERS



CODE *for*
AMERICA



ACQUIA®



The
New York
Times



STANFORD
BUSINESS



THE
HUFFINGTON
POST





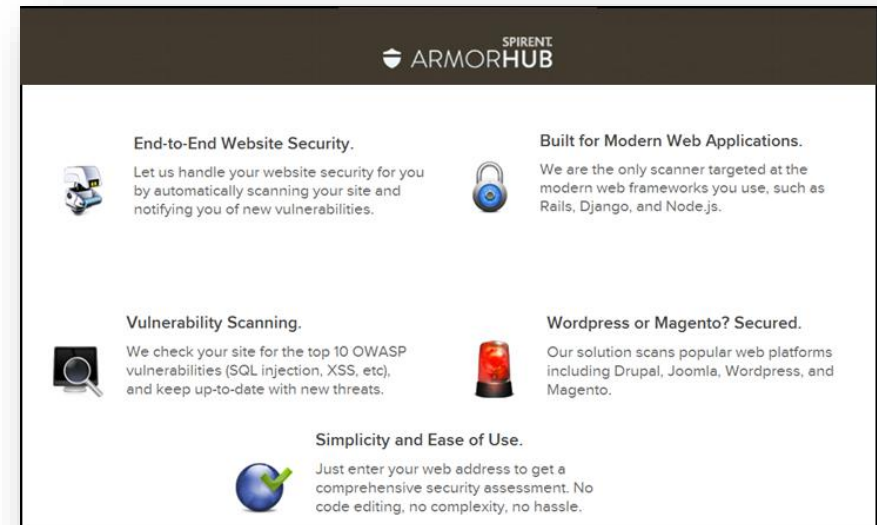
ARMORHUB[®]

CLOUD BASED WEB SECURITY TESTING

SPIRENT[®]

SECURITY SCANNING AT YOUR FINGERTIPS

- Automate your Website Security in seconds and get notified of any new vulnerabilities.
- End –to –End Website Security
- Built for Modern Applications
- Wordpress and Magento Secured
- Easy to use



SECURITY ON YOUR SCHEDULE

- Schedule Recurring Scans and have them emailed to you
- Check for OWASP's Top 10 Vulnerabilities and an additional proprietary list of Exploits and Malware, including Heartbleed.

