Faster insights equals better user experience. When it comes to improving network and application performance, it’s often a race against time. Every minute spent troubleshooting is a minute your users are unproductive and your customers could be researching the competition.

Business Challenge
Today’s network manager is facing a much different network than a few years ago. There are a whole host of new architectures and technologies that are being adopted within the enterprise that can affect network performance. For example, Voice over Internet Protocol (VoIP) is one of key drivers to upgrade the WAN and real-time video and on-demand streaming can represent up to 75% of network traffic. With 91% of organizations using cloud and 81% adopting a multi-cloud strategy, it’s not surprising that 45% of all network traffic originates from external, public cloud applications. Add to that the ongoing trends of SD-WAN, mobilization, and webification of applications and the network team has their hands full trying to learn these technologies, how they affect network performance, and whether or not their network performance monitoring solution is up to the job.

Network-based Application Performance Management
The network is the only thing that connects all digital transactions. SteelCentral™ AppResponse delivers full stack application analysis—from packets to pages to end-user experience – letting you observe all network and application interactions as they cross the wire. Using powerful, flexible network and application analytics and workflows, AppResponse speeds problem diagnosis and resolution, helping you get to answers fast.

Cloud ready
Available as an appliance, virtual machine, or AWS cloud-ready solution, SteelCentral AppResponse combines network forensics, application analytics, and end-user experience monitoring in a single solution. This means everything is at your fingertips when an issue arises, regardless of where it occurs in the network – data center, branch office, cloud, or hybrid environment.

Fast diagnosis and remediation
AppResponse passively monitors the network and collects packet data for continuous, real-time and historical monitoring plus fast troubleshooting. It indexes and stores the packets in such a way that there is no need for file transfers when performing forensic analysis. By continuously recording the packets traversing the network, rich troubleshooting details are always available when you need them. This speeds problem diagnosis and remediation. As a result, there are fewer business-stopping slowdowns and outages, saving you time and money.
Using simultaneous multi-stage analytic processing, SteelCentral AppResponse delivers powerful capabilities, such as automatic application discovery, deep application insights, response time decomposition, TruePlot big data analysis of all transactions, and end-user experience monitoring.

“Undoubtedly, there have been countless thousands of dollars saved from minimizing downtime of our manufacturing line during application and network failures. It has also garnered some respect from other IT departments on our ability to identify cross-functional problems.”

Engineer, Large Enterprise Electronics Company

SteelCentral AppResponse Cloud

SteelCentral AppResponse Cloud provides the same great visibility in cloud and hybrid environments as the on-prem AppResponse. It uses the same real-time and historical network and application monitoring and troubleshooting workflows to gain clarity into cloud performance. AppResponse Cloud runs in an AWS EC2 instance. All workloads remain in the cloud unless you decide otherwise.

“SteelCentral AppResponse helps us to save 50% of the time on troubleshooting and performance operation monitoring.”

Wei Huang, IT Specialist, WestJet Airlines Ltd

Key Benefits

Minimize Downtime

- Rapidly identify and triage problems
- Ensure optimal network and application performance

Improve Productivity

- Enable operational consistency
- Facilitate collaboration and reduce “finger pointing” among IT teams

Reduce Costs

- Protect user experience and minimize impact of downtime on business
- Reduce risks and avoid costs through strategic planning
Add-on Modules

SteelCentral AppResponse offers a variety of optional modules that provide specialized analysis. These modules include:

Application Stream Analysis Module (ASA)
The ASA module provides real-time and historical network analysis. You can roll-up metrics at various granularities and store the aggregate data so you can get to the answer faster without having to go to the packets as often. In addition, the ASA module also provides rich response time composition metrics so you can quickly determine where to focus your troubleshooting efforts—the network or server.

Web Transaction Analysis Module (WTA)
The WTA module offers real-time web application performance analysis for monitoring business transactions. It auto discovers all URLs and end-user activity to simplify monitoring. View end-user experience for web pages as well as detect page errors, page rates, unique users, and more. Geographic heat maps make it easy to focus triage efforts on critically affected users and sites, whether they are decrypted or not.

Database Analysis Module (DBA)
The DBA module identifies the impact of the database on end-to-end application performance. By monitoring database performance at the transaction level, you can identify the particular SQL statement or database call responsible for application delay and equip your database team with actionable information. Its agentless approach introduces zero overhead on database operation and does not require privileged access to database systems or database diagnostics logging.

Unified Communications Analysis Module (UCA)
The UCA module provides real-time and historical analysis of voice and video performance calls. Drill down to the underlying problem to understand the interaction of voice and data traffic. Easily troubleshoot the source of poor call quality with real-time, web-based dashboards for quick resolution. Proactively monitor voice call quality and resolve issues before they affect users. Set meaningful SLA’s based on how call quality is affecting the business.

Key Features

Network Forensics
The Shark Packet Analysis (SPA) module is part of the base package and delivers near real-time traffic analysis of packet events with 1-second granular displays with microsecond resolution.

Deep packet inspection (DPI)
Auto-recognizes more than 1700 popular business and recreational applications

Multi-capture jobs
- Perform multiple, separate capture jobs on and dedicate different amounts of storage or filtering

Selective recording
- Capture and store just the header, the header and the first xx bits, or the whole packet. You decide

Smart packet indexing
- Real-time indexing of packet data means you can quickly search terabytes of data—without having to drag packets across the network

Network-layer analysis
- Provides support for network-layer analysis, such as ARP, CIFS, microburst, broadcast and multicast issues

Address management protocols
- Troubleshoot DHCP and DNS issues

Application-specific analysis
- All variations of FIX
- Market Data Feed protocols: Aquis, Euronext, PITCH, LSE, CTS, CQS, OPRA, UQDF, UTDF, OMDF, IC, TMX
- Market Data Gap Detection views
  - Market Data Gaps Over Time
  - Market Data Gap Details
  - Market Data Gaps Overview
- VDI: VMware PCoIP, Citrix ICA and CGP
Network Analytics
The Application Stream Analysis (ASA) module offers layer 4 TCP and UDP metrics with historical summary information.

Real-time and historical data analysis
- Monitor live performance for all users all the time, and alert against SLAs
- Roll-up metrics at 1 min., 5 min., 1 hour, 6 hour, and 1 day granularity
- Store data up to 3 years
- Stores aggregate data and individual flows and pages so you can get to the answer faster without having to go to the packets as often
- Analyze historical information for trending and capacity planning

Flexible data analysis
- Continuously automated calculation of 60+ TCP and UDP metrics
- Aggregate traffic by applications, users, servers, clients, conversations, and host groups. Define a hierarchy of host groups
- Understand network bandwidth utilization by remote offices

Virtual Interface Groups (ViFGs)
- Auto-discover VLANs
- Group up to 32 VLAN IDs
- Capture traffic from multiple VLAN IDs

Response time analysis
- Measure responsiveness and performance for internal and external users of your enterprise applications
- Response Time Composition Chart graphically shows network versus server delay to quickly pinpoint where to focus your troubleshooting efforts. Displayed metrics include: connection set up, server response, payload transfer, retransmission delay, network round trip time (out), network round trip time (in), user response
- True min and max metrics
  - User response time
  - Server response time
  - Round trip time

Web Application Analysis
The Web Transaction Analysis (WTA) module provides real-time web application performance for monitoring business transactions.

Web page time analysis
- Auto-discovers all URLs, page families, and end-user activity
- View metrics by Slow Pages, Page Views, Page Time, Network Busy Time (per page), Server Busy Time (per page), Unique Users, and Unique Affected Users

End-user experience monitoring (EUM)
- View response time for web pages for a true end-user perspective of performance. Passively monitor browser load time for the page level and object level of a web page or group of web pages as monitored as a single transaction

Web transaction performance
- Detects abnormal web transaction performance and directly alerts on common web application problems such as page errors, response/page, page rate, # of slow pages, and slow page times

TruePlot®
- TruePlot can render hundreds of thousands of transactions at once to reveal patterns hidden by traditional line charts. TruePlot doesn’t average-out spikes and can clearly differentiate symptoms vs root causes

Group and monitor related pages or users
- Easily monitor a group of related web pages in a common way. Customize monitoring to flexibly map your web pages to an application. Group page views together or separate pages that are monitored together by default
- Group originating IPs of users who are using/downloading the pages

Geographic heat map
- Geographic display of performance and usage for Web applications and page views to focus triage efforts on the most critically affected users and sites
- View by web application, region, platform, and browser type

Real-time SSL decryption
- Able to decode HTTPS when the customer has the key

Database Analysis
The Database Analysis module (DBA) provides automatic recognition and real-time analysis of major SQL databases.

Auto recognition
- Automatic recognition of databases on all network addresses and ports
- Major SQL databases recognized

Database analysis
- Layer 7 packet decoding acquires database sessions, SQL queries, stats and timing info
- Full-text parsing and standardization of every SQL query
- Multi-key access to database sessions and SQL queries

VoIP and Video Call Analysis
The Unified Communications Analysis module (UCA) provides real-time and historical analysis of voice and video performance calls with the ability to drill-down to the underlying problem.

- Automatically recognizes more than 140 voice, audio and video codecs, including SIP, H.323 and Cisco SCCP
- Infer call quality from RTP or decrypt encrypted signaling
- Define your own call quality definitions by codec
- Signaling ladder diagram is in SteelCentral Packet Analyzer Plus

UCA Insights
- All UC traffic - VOIP/Video summary shows all UC traffic being monitored individually
- UC Host Group - Shows VOIP/Video load, performance and network anomalies of an individual host group
- Summary: VOIP/VIDEO CALL - summary of individual calls

UC Navigator Analysis
- All UC traffic, call user groups, media types, individual calls, individual channels
Web UI

Internationalization / Localization
• Simplified Chinese (zh_CH)

Insights
• Pre-defined, intelligent analysis and workflows that are functional right out of the box. Enables novice users to use AppResponse and gain expertise over time. Create, save, and share your own insights

Navigator
• Expert analysis with multi-dimensional drill down and pivots. Allows you to explore all dimensions of your analysis

Search
• Flexibly search for anything that is stored in the database, such as host groups, applications, IPs, IP conversations, and pages

Reporting
• Share analysis with colleagues and executives

Certifications
• USGv6
• FIPS 140-2

Miscellaneous

Authentication
• SAML-2.0, RADIUS/TACACS+ authentications

Alerting
• Built-in policies, available out of the box, alert on events such as application availability, degradation, and network packet loss
• Detailed, flexible alerting engine with advanced filters to minimize false positives
• Scheduled PDF reporting
• Able to save and email report snapshots
• Rich policy details describes event
• Flexible policy hours customizes when a policy is active, such as “Work Week”

Incident Notifications
• ServiceNow - AppResponse can send incident tickets to ServiceNow for central IT service management
• Syslog - AppResponse alerts can be sent to any remote syslog

• SNMP trap - Alerts can also be sent to an SNMP trap

Appliance health monitoring
• Appliance sub-system status, e.g., power supply, RAID, etc.
• Disk storage usage tracking
• Storage configuration data
  - RAID level
  - Allocation for different performance data types

Customizable disk space allocation
• Customize allocated space for your packet, microflow indexes, aggregates, and transaction metrics storage either by data volume or retention time

Comparison to earlier times
• Yesterday, last week, 4 weeks ago

Rest API
• Support for AAA, managing time/time zone, managing host groups, getting performance data and packet data, and packet export

Built-in SteelScript for enhanced automation
• See SteelScript code to access data in UI widgets; copy to clipboard to edit and quickly build custom automations as you require

Integration Links
Allow users to contextually integrate with other SteelCentral or external products:
• SteelCentral
  - Aternity
  - AppInternals
  - NetIM
• External Links
  - ARIN WHOIS Search
  - Geotool
  - Traceroute
  - Trusted Research Portal
  - Malware Domain List

SteelCentral AppResponse Cloud
Provides real-time and historical network and application visibility into cloud environments.

Cloud vendors supported
• AWS

Supported visibility
• Network forensics (SPA module)
• Network & application analytics (ASA module)

Cloud telemetry options
To obtain packets in the cloud, AppResponse Cloud works with:
• SteelCentral agents
• Virtual Network Tap Aggregators: Big Switch, Gigamon, and IXIA
• ERSPAN Type II: Cisco CSR v1000s

Integrations

SteelCentral NetProfiler
• SteelCentral AppResponse exports flow to NetProfiler for end-to-end monitoring and reporting

SteelCentral Transaction Analyzer Plus
• SteelCentral AppResponse provides one-click access to SteelCentral Transaction Analyzer Plus for detailed transaction modeling for root-case analysis and predictive studies

SteelCentral Packet Analyzer Plus
• SteelCentral Packet Analyzer Plus is graphical packet analysis software for SteelCentral AppResponse

SteelCentral Portal
• SteelCentral AppResponse integrates with SteelCentral Portal for blended viewing of end-user experience, application, network, UC, and infrastructure performance

Network tap aggregators
• SteelCentral AppResponse adopts the precision time stamps from network tap aggregators such as Gigamon, IXIA, cPacket, Big Switch, and Arista
Navigator/Individual Page Views

**Figure 2**
The waterfall chart breaks shows you exactly where the problems lie. For each object in the transaction, it shows network time to the server, insert (light brown) and network time back to the client (dark green). As you can see from the amount of light brown on the chart, there are some server issues.

**Figure 3**
For reporting and alerting it is often convenient to track similar devices as a group. For example, the traffic statistics for all hosts in the same geographical location can be aggregated and reported as one host group. Similarly, all web servers or all database servers can be tracked as a host group. A host group can contain individual members and one or more other host groups. The Navigator and Insights features can report selected performance metrics for host groups. Network usage policies can be defined for host groups and alerts sent when the policies are violated. A host group is defined by the IP addresses of its members. AppResponse is shipped with four default host groups: one for each of the three blocks of reserved IP addresses and one for all public IP addresses.
TruePlot can render hundreds of thousands of transactions at once to reveal patterns hidden by traditional line charts. It doesn’t average-out spikes and can clearly differentiate symptoms from root causes.

Customizable Storage

SteelCentral AppResponse lets you customize how you want packet, microflow indexes, aggregates, and transaction metrics stored on the appliance. You can make your determination either by data volume or by retention time using sliding scales.
## Supported Product Models

### SteelCentral AppResponse xx80 Appliances

<table>
<thead>
<tr>
<th>Model</th>
<th>2180</th>
<th>4180</th>
<th>8180</th>
<th>8180 Plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product SKU</td>
<td>SCAN-02180</td>
<td>SCAN-04180</td>
<td>SCAN-08180</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>12 TB raw 10 TB usable</td>
<td>48 TB raw 40 TB usable (RAID 0)</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Supported Storage Units</td>
<td>N / A</td>
<td>N / A</td>
<td>1</td>
<td>Up to 16</td>
</tr>
<tr>
<td>Maximum Storage Capacity</td>
<td>12 TB raw 10 TB usable</td>
<td>48 TB raw 40 TB usable (RAID 0)</td>
<td>120 TB</td>
<td>1,920 TB</td>
</tr>
<tr>
<td>Storage Disk Capacity¹,²</td>
<td>2 x 6 TB</td>
<td>8 x 6 TB</td>
<td>N / A</td>
<td></td>
</tr>
<tr>
<td>Storage Disk Redundancy</td>
<td>SW RAID level 0</td>
<td>HW RAID 0 (default)</td>
<td>N / A</td>
<td></td>
</tr>
<tr>
<td>System and Data Capacity¹,²</td>
<td>4 TB usable (2 x 4 TB)</td>
<td>8 TB usable (4 x 4 TB)</td>
<td>16 TB usable (8 x 4 TB)</td>
<td></td>
</tr>
<tr>
<td>System and Data Disk Redundancy</td>
<td>Yes (RAID 10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating System</td>
<td></td>
<td>Customized Linux-based OS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAM (GB)</td>
<td>32</td>
<td>64</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Available Network Interface Card Slots</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available Capture Ports (max)³</td>
<td>4 x 1 GbE (Copper or Fiber) or 2 x 10 GbE Fiber</td>
<td>8 x 1 GbE (Copper or Fiber) or 8 x 10 GbE ports (Fiber) or 4 x 1 GbE + 4 x 10 GbE (Fiber)</td>
<td>Up to two of the following NICs: - 4 x 1 GbE Copper - 4 x 1 GbE Fiber - 2 x 10 GbE Fiber - 4 x 10 GbE Fiber Or: - 2 x 40 GbE Fiber Or one of the following NICs: - 2 x 40 GbE Fiber - 2 x 100 GbE Fiber</td>
<td>Up to two of the following NICs: - 4 x 1 GbE Copper - 4 x 1 GbE Fiber - 2 x 10 GbE Fiber - 4 x 10 GbE Fiber Or one of the following NICs: - 2 x 40 GbE Fiber - 2 x 100 GbE Fiber</td>
</tr>
<tr>
<td>Management Port (10/100/1000 RJ45)</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Storage Units Models for 8180

<table>
<thead>
<tr>
<th>Model</th>
<th>48 TB Storage Unit</th>
<th>120 TB Storage Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product SKU</td>
<td>SCAN-SU-4</td>
<td>SCAN-SU-10</td>
</tr>
<tr>
<td>Storage</td>
<td>48 TB</td>
<td>120 TB</td>
</tr>
<tr>
<td>Supported Storage Units</td>
<td>N / A</td>
<td></td>
</tr>
<tr>
<td>Maximum Storage Capacity</td>
<td>48 TB</td>
<td>120 TB</td>
</tr>
<tr>
<td>Storage Disk Capacity¹,²</td>
<td>12 x 4 TB</td>
<td>12 x 10 TB</td>
</tr>
<tr>
<td>Storage Disk Redundancy</td>
<td>HW RAID 0 (default),³,⁴</td>
<td></td>
</tr>
<tr>
<td>Data Encryption at Rest</td>
<td>N / A</td>
<td>Yes</td>
</tr>
</tbody>
</table>

## SteelCentral AppResponse Virtual

<table>
<thead>
<tr>
<th>Model</th>
<th>VSCAN-00100</th>
<th>VSCAN-00500</th>
<th>VSCAN-02000</th>
<th>VSCAN-FLOW</th>
<th>VSCAN-AWS-SUB-010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Storage</td>
<td>Up to 100 GB</td>
<td>Up to 2 TB</td>
<td>Up to 8 TB</td>
<td>Up to 100 GB</td>
<td>16 GB - 8 TB</td>
</tr>
<tr>
<td>Hypervisor</td>
<td>VMware ESXi 5.5, 6.0 and 6.5</td>
<td></td>
<td></td>
<td>AWS EC2</td>
<td></td>
</tr>
</tbody>
</table>

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1. Raw Disk Capacity: 1 TB = 10^12 Bytes. It does not take into account disk formatting or RAID overhead.
2. Storage Disks store packets and in addition can be configured to store performance metrics data.
3. All Storage Units on an individual model 8180 must be of the same capacity. With no Storage Units attached, available storage is limited to system and data capacity.
4. RAID 6 is not an option for the model 8180 when metrics priority storage mode is selected.
Gartner Magic Quadrant Recognition

Riverbed is a six-time leader in the Gartner Network Performance Monitoring and Diagnostics (NPMD) magic quadrant.*

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