

BroadCloud™ PacketSmart™ for Monitoring

BroadCloud PacketSmart Monitoring observes customer networks and live calls 24x7x365 to identify the source of local area network (LAN) and wide area network (WAN) issues that may impact VoIP and H.264 video quality. By using proactive alerting with automated reporting, PacketSmart for Monitoring enhances service provider ability to see systematic problems proactively in the network. Having proactive alerts and reporting enables service providers to address issues prior to customer complaints surfacing into support groups, thus reducing overall trouble tickets.

BroadCloud PacketSmart

BroadCloud PacketSmart for Monitoring combines site-based probes with an analytics engine in the cloud. The site-based probes inspect Transmission Control Protocol (TCP) and User Datagram Protocol (UDP) traffic in conjunction with Session Initiation Protocol (SIP) by sniffing packets from the LAN and WAN networks. Live traffic analysis and packet performance are sent to the BroadCloud PacketSmart analytics engine hosted within BroadCloud's network operations center.

The analytics engine examines call SIP signaling, call metrics and call route analysis in conjunction with top ten data flows, which are measured and displayed within our HTML-5 dashboard. Historical data is stored and processed and the information is provided for a wide range of stakeholders.

- Network-wide, daily summary reports for service provider executives and operations team members

- Reports targeted toward end-customers that highlight issues in the LAN/WAN
- Email alerts for network support and engineers
- Diagnostics tools for customer service

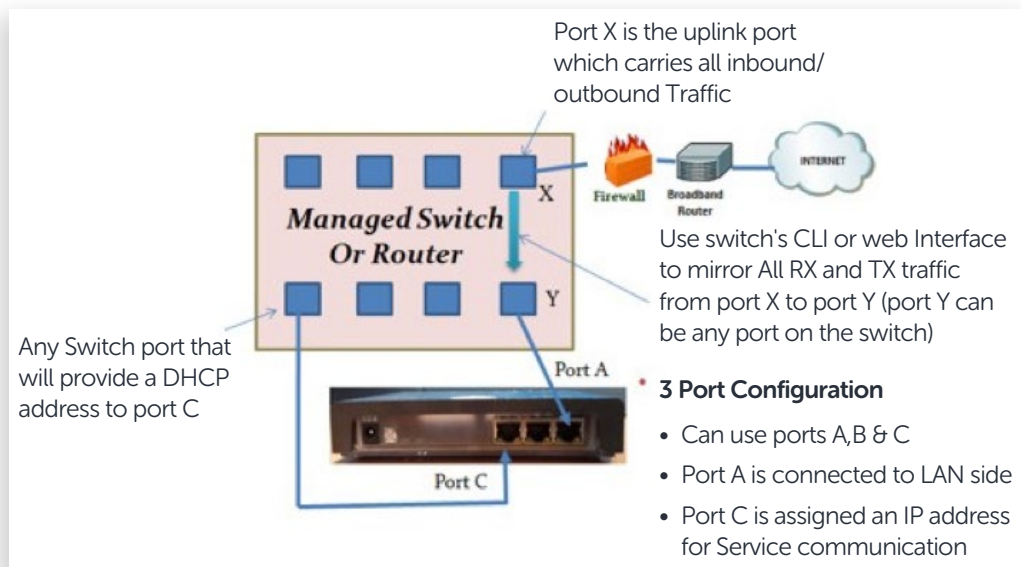
Service Provider Benefits

- Achieve high quality service experience through proactive notifications and automated reporting
- Identify low MOS calls, call signaling distribution and network latency problems
- Reduce repeat calls over quality issues
- Decrease customer care staffing costs
- Shift from reactive to proactive services
- Sustain fewer Tier 2 and Tier 3 escalations
- Standardized on performance measurement for delivering your SLAs
- Resolve customer issues in less time
- Increased ability to sell performance-sensitive for high-end service offerings

BroadCloud PacketSmart for Monitoring requires the deployment of a probe or a gateway/ router/ ATA with an embedded PacketSmart agent application on the end-customer's network. PI-150 probe is a non-intrusive, fail-safe 4" x 6" micro- appliance that can monitor up to 70 concurrent calls with no data traffic, and up to 60 concurrent calls with 30 Mbps TCP traffic. Maximum throughput full-duplex is 950Mbps.

The PI-150 uses Ethernet connectivity and is typically connected onto the customer's LAN switch either in an inline connection (fail-safe) or non-intrusive in a span or mirror port. This design enables the probe to analyze all voice and data traffic on the network without introducing an additional point of failure or source of variability. Positioning the PI-150 is simple. The device will function with any vendor's LAN switch or access device and there is no integration or interop required.

PI-150 is a higher capacity appliance server built using industry standard hardware and can monitor up to 70 concurrent calls. The BroadCloud PacketSmart appliance will also be available as an embedded application on select access device vendors. Please check with your BroadSoft account team to receive the list of approved OEMs that have PacketSmart agent application embedded to support our monitoring services.



Key Reports & Capabilities

- 24 x 7 x 365 monitoring of all VoIP calls
- Proactive alerting of VoIP quality issues
- Single Test call generation capability for debugging
- VoIP service level agreement (SLA) based on 30- day historical data
- Network Quality Report that is based on- demand or on automated 30 day historical data
- Dashboard for troubleshooting transient call setup issues such as call drops, one-way audio, protocol issues, etc.
- Detailed route analysis for every call to detect route flaps and poorly performing WAN routers
- Traffic flow analysis to detect LAN congestion
- Network behavior analysis reports that provide insights about how the LAN is being used
- Optional add-on assessment package enables periodic testing of LAN/WAN by generating up to 70 concurrent test calls. Result of test calls are made available as a detailed report
- Verification report that allows service providers to take snapshots of the service quality in different points in time
- Site-based probes available at varying capacity
- No additional probes required when routers and gateways have PacketSmart embedded when they are deployed

Summary

VoIP deployments are growing at an aggressive pace. Having a comprehensive quality monitoring service enables service providers to scale their business without being burdened by service quality problems or by the cost of a large support organization. Service providers and end- customers both lose when a quality problem persists, leading to repeated calls into customer care and long troubleshooting sessions—even truck rolls.

BroadCloud PacketSmart for Monitoring is designed to improve customer satisfaction, minimize cost of customer care operations, and reduce churn. And with a low upfront cost, service providers can quickly determine the impact of PacketSmart, starting with their toughest and most valuable customers.




Contact your BroadSoft account representative today to request a trial of BroadCloud PacketSmart for Monitoring. Further more details on PI-150's data sheet can be viewed below:

Power Supply	100 to 240V AC with output to MA 12 Volts 2 A
Display	LED
Interface Type / Speed (A,B, & C)	Gigabit Ethernet/1000 Base T
W Ethernet Cable Type	Straight-through or cross-over cables (CAT 5, 5e and 6) MDI/MDIX
VoIP Protocols Monitored	SIP, UDP, RTP Audio/Video, RTCP-XR
Data Upload Protocol	HTTP (80) / HTTPS (443)
IPV4 & IPV6 Support	YES
SIP Ports Monitored	All UDP & TCP ports
2 Port/3 Port Discovery and Packet Capture Support	YES
2 Port/3 Port SIP Registration tracking	YES
IEEE 802.1Q VLAN Tags Monitoring	YES
Max VoIP Concurrent Call Monitoring Limit (Audio)	90 Concurrent calls Sustainable for 2 hours @ 3 calls/sec 80 Concurrent calls Sustainable for 2 hours @ 5 calls/sec 70 Concurrent calls Sustainable for 2 hours @ 10 calls/sec 60 Concurrent calls for 24 hours @ 10 calls/sec
VoIP Audio Only Monitoring Speeds (Call Load)	90 Concurrent Calls with 20 mbps of UDP & 10 mbps of TCP 80 Concurrent Calls with 30 mbps of UDP & 20 mbps of TCP 70 Concurrent Calls with 40 mbps of UDP & 30 mbps of TCP 60 Calls with 50 mbps of UDP & 40 mbps of TCP
VoIP Audio/Video Monitoring Speeds (Call Load)	H.264 HD-8 CCS H.264 Large-10 CCS H.264 Medium-20 CCS H.264 Small-25 CCS H.264 Mobile-35 CCS
Monitoring Throughput Performance (IP-V4)	150 Mbps for UDP @ 12,700 PPS 140 Mbps for TCP @ 12,800 PPS
Monitoring Throughput Performance (IP-V6)	150 Mbps for UDP @ 12,700 PPS 130 Mbps for TCP @ 16,000 PPS
Bandwidth Wire Throughput (Single direction without calls)	950 mbps of UDP & 930 mbps of TCP
Bandwidth Wire Throughput (Bi-direction without calls)	470 Mbps for TCP & 460 Mbps of UDP
NAT Support	YES
Fail-Safe	YES
CE/FCC/ROHS Marked	YES

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About BroadSoft

Cloud business unified communications, team collaboration and contact center Software-as-a-Service (SaaS)

	Company	NASDAQ: BSFT	\$341M Revenue (2016)	25% CAGR Since '10	1,800 Employees (2016)	80+ Country Presence
	Channels	25 of the top 30 service providers by revenue		600+ Channel Partners	\$8B Estimated enterprise revenue based on BroadSoft solutions	
	Leadership	#1 Global Market Leader	41% Market Share	16M Business lines installed base (Q4 2016)	85M+ Estimated total end users served	

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