

NetSensory Solution Insight for VoIP

Real-Time, Integrated Management of Voice and Data

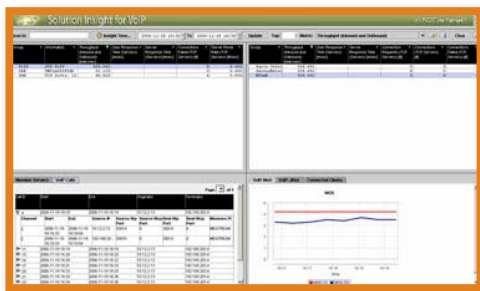
The NetSensory Solution Insight for VoIP delivers real-time, integrated management of both voice and data applications from an easily-installed appliance, without the need for agents, probes, or synthetic handsets. You can drill-down from industry-standard voice quality metrics to the underlying network conditions responsible for call degradation, measure the impact of other enterprise applications on voice traffic, and judge how other applications are affected by the network changes made to support voice.

D A T A S H E E T

Manage Voice Like Any Other Application

The whole point of deploying VoIP is to run voice across the network just like any other application. In this voice and network managers are finding that their management tools aren't up to the task. Call management solutions offer no insight into the network cause of call degradation, while traditional network management tools can't accurately monitor voice-user experience. Neither can effectively show the impact of network conditions and standard application traffic on VoIP traffic, or vice versa. As a result, managing a VoIP implementation is a guessing game, with network managers on the losing side: they can't prove it's not the network, or if it is, they can't see how best to fix the network.

The NetSensory Solution Insight for VoIP overcomes these problems by integrating standard voice quality metrics with the more than 60 performance and utilization metrics delivered by Network Physics NetSensory appliances. The resulting point-and-click interface enables you to manage voice much like any other application on your network. You can easily drill-down from call details to identify the underlying causes of call degradation or failure, whether caused by network performance issues such as latency, packet loss, and jitter, or by competing traffic from other applications. As well, you can judge the impact of the network changes that you make to support voice (e.g., QoS) on other, critical applications. All this data is available for calls in progress, as well as completed calls.



The NetSensory Solution Insight for VoIP gives you integrated, real-time, point-and-click access to call quality metrics in the context of overall network performance.

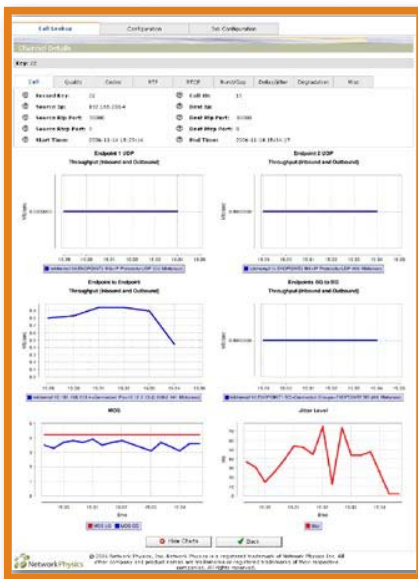
Key Benefits

- Manage voice and data applications together in real-time
 - Delivers industry-standard voice metrics plus all NetSensory data metrics
 - Drill down from voice quality to underlying network causes of call degradation
 - Monitor impact of data traffic on voice and vice versa
 - Defend against “the network is slow” complaints
 - End service provider vs. VoIP vendor finger-pointing
- Simplify VoIP management
 - “Single-arm” deployment via appliance
 - Simple SPAN/mirror port or tap connection
 - No agents or synthetic calls, monitors real user experience
 - For most implementations, runs in same appliance
 - Fast time-to-value
- Monitor signaling and media, multiple channels
 - Get real-time information on call quality
 - Call setup, calls in progress, and completed calls (history)
 - Inbound and outbound (talk and listen)
- Monitor quality of encrypted calls (if headers in clear)
- Get insight into service provider performance and VoIP service levels
- Baseline network before and after VoIP rollout
 - Easy comparison of VoIP performance before and after network changes
- Easily communicate benefits of VoIP and network initiatives to non-technical managers
- Identify user groups (e.g. remote offices) in need of VoIP upgrades or tuning
- Integrate third-party data (e.g., from call managers)
- Extensible architecture for highly distributed environments
- Manage VoIP for maximum return on investment

It's NOT the Network™

Real-Time Business Impact

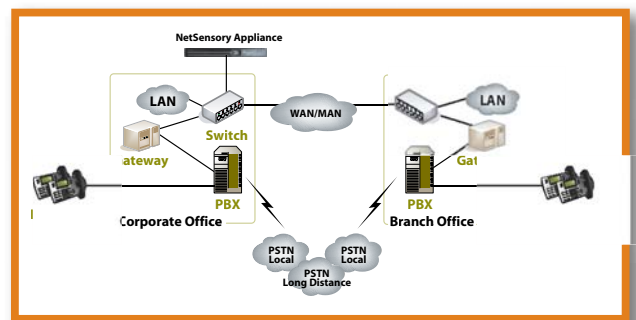
The NetSensory Solution Insight for VoIP delivers both real-time and historical data about VoIP performance. It correlates call signaling and media in real-time, allowing you to clearly identify the cause of failed calls, as well as the quality of both ongoing and completed calls, on all active channels (e.g., calling and listening). NetSensory can even monitor the quality of encrypted calls, if the headers are transmitted in the clear. Like all Network Physics performance management solutions, the NetSensory Solution Insight for VoIP presents all metrics in the context of their business impact: who is affected and what's the importance to your bottom line. You can monitor the quality of individual calls (identified by phone number, IP address, or other parameters), or of groups of calls aggregated by the business identity of their origin or destination (e.g., department, remote office, customer site, etc.). At any point, you can drill down from voice metrics, such as individual or aggregated MOS ratings or R-factors, to the underlying network issues impacting call quality. NetSensory even computes and displays real-time information on the relative contribution of various factors (e.g., jitter, latency, dropped packets) to overall call quality.



The NetSensory Solution Insight for VoIP delivers in-depth insight into the network factors controlling call quality.

Easy Deployment, Simple Management

The NetSensory Solution Insight for VoIP is a software option for standard NetSensory appliances, so it requires no hard-to-manage agents or synthetic handsets, no SNMP or probes: just a simple SPAN/mirror port or tap at a key point in your network where call data is available. This is often a single point, but the solution can easily scale to larger, distributed implementations. NetSensory gathers data from real traffic, and also automatically reads RTCP XR call management traffic if available. In many cases, the Insight can run in the same appliance you use to manage your data applications.

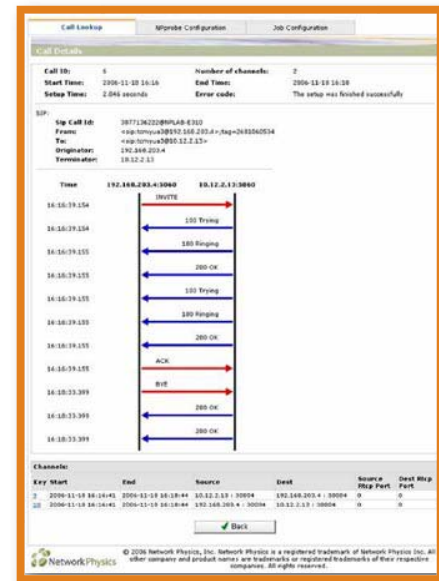


The NetSensory Solution Insight for VoIP is a software option for standard NetSensory appliances, which install via SPAN/mirror port or tap at a data aggregation point—no probes, agents, SNMP, or synthetic handsets needed.

The NetSensory Solution Insight for VoIP gives you the data you need for a wide range of tasks: pre-deployment baselines of your network to judge its readiness for VoIP, VoIP testing, troubleshooting and diagnostics, voice quality assessment (listening, conversational, and transmission), billing and accounting, and verifying service level agreements. An authorized Network Physics solution provider can customize the NetSensory Solution Insight for VoIP to fit your specific needs, including integration of data from other products: for instance, caller name from a call manager.

NetSensory VoIP Metrics

- Call Quality Metrics
 - Listening, conversational and transmission quality MOS ratings with ACR
- Call Setup Diagnostics (Call Setup Ladder)
 - SIP, Cisco SCCP (Skinny), H.323
- ITU and TTC scaling – MOS-LQ, MOS-CQ
 - Listening and conversational quality R factors (R-LQ, R-CQ)
 - Separate R factors for burst and gap conditions (R-Burst, R-Gap)
- IP/RTP Metrics
 - Packet loss rate, packet discard rate, burst length/density, gap length/density, IP TOS bytes
- Jitter Buffer Metrics
 - Early packets, late packets, discards, resynchronization events, jitter buffer delay, jitter envelope, etc.
- Degradation Factors
 - Percentage contribution of loss, jitter, codec, delay, signal level, noise level, echo, and latency to call degradation
- Interface Protocol Compatibility
 - UDP, RTP (RFC3550), RTCP XR (RFC3611)
 - Spans VLAN encapsulated traffic



The NetSensory Solution Insight for VoIP breaks down call setup to reveal the cause of call failure.



The NetSensory Solution Insight for VoIP lets you track the MOS ratings or other metrics for calls aggregated by Business Group (e.g., remote office) and service provider, yielding a real-time and historical view of service level delivery.

NetSensory Products



NP-2000 NetSensory Professional

- For mid-sized businesses
- Solve your top 10 problems in 10 days for under \$10K!
- Over 50 performance and utilization metrics
- Try before you buy

NP-2000 NetSensory Enterprise

- For data center and enterprise networks
- Everything in the Professional plus...
 - Web-based reporting
 - Alerting and advanced troubleshooting
 - ISP & route quality analysis
 - 3rd-party integration
 - Packet capture, and more
 - Distributed operation with NP-Director
 - License-key upgrade from NP-2000 Professional

NP-500 NetSensory Enterprise

- Same features as NP-2000 Enterprise
- Lower throughput for branch office operation

NP-3000 (Professional & Enterprise)

- For high-bandwidth installations
- 25% faster than NP-2000
- Double the storage of one-minute and five-minute averages

NP-Director NetSensory Enterprise

- Very large distributed networks, up to 15 GBPS aggregate throughput
- Global aggregation appliance
- Unified view from up to 20 NP-500 or NP-2000 Enterprise appliances
- Global troubleshooting, configuration, and management
- Find and fix application response time problems
- Non-Invasive Monitoring
 - Via switch SPAN/mirror port or tap
 - No agents, no SNMP, no polling, no synthetic transactions
- All the Traffic, All the Time
 - No sampling error, 1-minute granularity



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NetSensory Features

Find and fix application response time problems

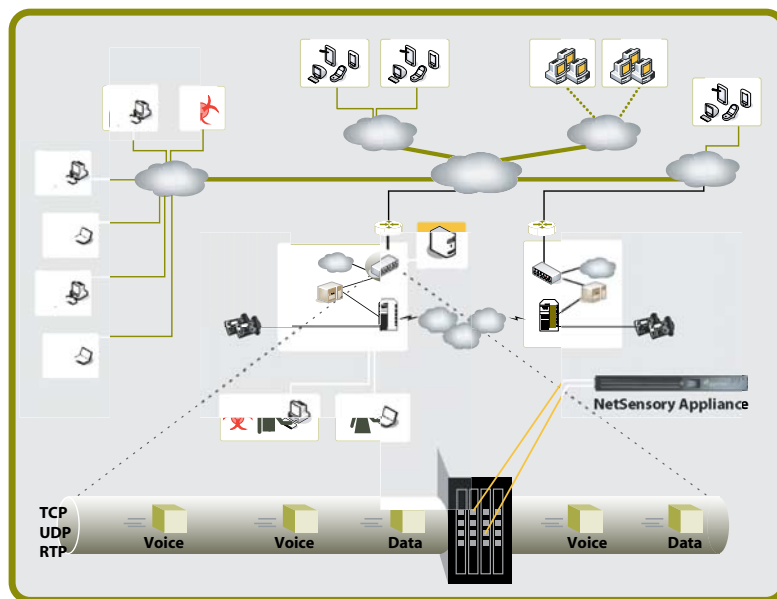
- Defend against "the network is slow" claims end to end across WAN, LAN, Internet, VPN, partner & customer networks, etc.
- Immediately identify which applications are affected, which users, and the business impact
- Easy drill-down to problem source: server, application, network, ISP, branch office, etc.

Audit, baseline, troubleshoot, secure, and optimize

- Ensure the performance, security, and availability of your entire application infrastructure
- Baseline and validate network changes: WAN/application acceleration, MPLS migration, server consolidation, firewall upgrade, etc.
- Integrates easily with other management solutions

Easy to install, easy to use, immediate results

- No agents, no SNMP, no synthetic transactions, no network impact
- Unique NetSensory Insights: point-and-click action guides encapsulating best-practices for critical management tasks
- Dashboard automatically baselines performance and utilization, behavior-based alerting finds Day-Zero problems



The NetSensory appliance installs quickly via SPAN/mirror port or tap at a primary switch, delivering deep insight into application performance across the largest, most complex networks.



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