

Continuous capture devices that collect packet-flow data for analysis by nGenius and Sniffer Solutions

Highlights

- nGenius® InfiniStream, combines network monitoring and detailed packet recording in a single network performance appliance. Users can monitor network flow data and utilize deep packet inspection to:
- Streamline the troubleshooting of today's toughest network problems by utilizing a unique top-down, KPI-to-Flow-to-Packet approach
- Diagnose the root cause of business critical application degradations quickly, reducing mean time to resolution
- Store network packets for post incident forensics and provide packet level and conversational flow visibility to Sniffer Intelligence to solve critical problems
- Provide real-time analysis and historical reporting on key network performance metrics



With a variety of configurations the nGenius InfiniStream delivers critical network flow data and deep-packet analysis to the nGenius Performance Manager and Sniffer Intelligence to provide unprecedented network troubleshooting capabilities.

Troubleshooting subtle and often intermittent network application and performance problems is an ongoing, time-consuming activity. Pinpointing and diagnosing the root cause of such problems in an efficient, timely manner is often extremely difficult. Today's IT professionals need both flow-based monitoring and deep-packet inspection to tackle the formidable performance management challenges found in Modern IP networks.

To meet this need, IT organizations have turned to the nGenius InfiniStream as a key data source to deliver critical performance network metrics to nGenius Performance Manager and Sniffer Intelligence. The nGenius InfiniStream gives IT professionals the needed flow-based monitoring and continuous recording of packet streams with sophisticated data mining to detect, diagnose, verify change and manage the network environment.

Empowered by CDM

NetScout's Common Data Model (CDM) architecture allows traffic flow data from a variety of LAN and WAN network technologies, such as 10 Gigabit Ethernet, Frame Relay and Packet over SONET to be integrated into a common repository for consistent analysis, views and reports within nGenius Performance Manager. CDM provides detailed information for emerging technologies and policy-based configurations, including VoIP, MPLS, QoS, VPNs and NetFlow.

Strategic network deployments of nGenius InfiniStream

Flexible nGenius InfiniStream configurations collect packet flow data twenty-four hours a day, seven days a week with 1.25–15TB storage options for data mining and analysis by nGenius Performance Manager and Sniffer Intelligence solutions. Strategically deployed a variety of multi-port options and alternate topology interfaces enable the nGenius InfiniStream appliances to monitor

either full duplex or half duplex links utilizing passive in-line taps or 10/100/1000Mbps and 10 Gigabit Ethernet span switch ports.

How It Works

As dedicated monitoring devices, the nGenius InfiniStream delivers performance data collected from critical network links or spanned switch ports to the nGenius Performance Manager. The nGenius Performance Manager uses the packet-flow

information from the nGenius InfiniStream to deliver real-time analysis and historical reporting of network and application metrics and activity as well as to troubleshoot degradations using deep-packet inspection and network forensic analysis. Sniffer Intelligence modules leverage the packets recorded by nGenius InfiniStream for in-depth, troubleshooting with insight into the specific activity and transactions of unique network and application environments.

Working in combination with Sniffer Intelligence

The nGenius InfiniStream supports advanced packet-level analysis of key applications and network functions by leveraging Sniffer Intelligence modules:

- **Sniffer Application Intelligence** which is included with nGenius InfiniStream supports hundreds of well-known applications “out of the box”, including applications such as SAP, MS Exchange and Oracle. Custom, or in-house, written applications are easily added to the discovery process. Sniffer Application Intelligence provides a combination of rich metrics and a flexible user interface to expertly investigate everything from TCP Efficiencies to the amount of time it took for a server to respond to a specific request.
- **Sniffer VoIP Intelligence** which is included with nGenius InfiniStream allows users to seamlessly move from the nGenius InfiniStream back-in-time console to the Sniffer VoIP Intelligence console with its focus on troubleshooting

VoIP implementations. Users are presented with an integrated view of call volumes, call summary screens, and per-call quality of service charts. They can easily move to VoIP call replays and ultimately into packet decodes and Expert Analysis.

- **Sniffer Financial Intelligence** delivers detailed analysis for financial based exchanges and trading houses utilizing FIX-based order flows and/or financial multicast data streams. This solution provides a broad library of financial performance measures and statistics to assist IT managers supporting trade orders. It helps reduce MTTR by tailoring flexible dashboards for targeted troubleshooting and performance analysis down to the individual order and packet.
- **Sniffer Mobile Intelligence** enables the testing, deployment and operation of 2.5G, 3G and emerging 4G mobile wireless data networks by providing protocol analysis and reporting tools for the wired/

core side of General Packet Radio Service (GPRS), Code Division Multiple Access (CDMA)2000, WiMAX and Wideband Code Division Multiple Access (W-CDMA) networks. Mobile carriers can resolve issues related to subscriber registration, network latency, dropped packets, and application response times, as well as Mobile IP and GPRS Tunneling Protocols (GTP).

- **Sniffer Multi-Segment Analysis** slashes the time required to troubleshoot your most difficult networking issues. It uses an automated process to gather and process multiple trace files from across the network to analyze and troubleshoot distributed application performance issues. Using sophisticated algorithms to coordinate the files, anomalies, and response times into a single analysis session, Sniffer Multi-Segment Analysis helps users more efficiently troubleshoot complex network and application issues.

Key Features

Application Recognition and Monitoring Support for a variety of application types, including:

- Well-known applications and services e.g. SNMP, FTP
- User-defined, custom developed applications
- Complex applications using port-ranging/port-hopping e.g. SAP or Citrix
- Peer-to-peer applications e.g. eDonkey, LimeWire
- Web-based applications and URLs e.g. www.netscout.com
- Extends application analysis capabilities with Sniffer Application Intelligence

Packet Troubleshooting/Recording

- Continuous capture functionality for network forensic investigation
- Contextual data mining focuses on packets relating to the issue at hand
- Robust packet capture decode engine and expert analysis quickly identify packet level anomalies
- Extends packet troubleshooting by delivering valuable packet-level data to Sniffer Intelligence
- Flexible storage configuration options from 1.5-15 TB

Sophisticated Sniffer Intelligence Analysis

- Sniffer Application Intelligence (Included)
- Sniffer VoIP Intelligences (Included)
- Sniffer Financial Intelligence (Optional)
- Sniffer Mobile Intelligence (Optional)
- Sniffer MultiSegment Analysis (Optional)

Response Time Analysis/Key Performance Indicators

- Passive application responsiveness measurements
- Response time metrics for virtually all application types

- 1-minute granularity for: average response time, number of active sessions, successful transactions, and server error types in nGenius Performance Manager
- 15 minute granularity for: maximum & average response time per client/server pair, total number of transactions, successful transactions, TCP connect time, active sessions, timeouts and retries, as well as, total packet loss, responses time distribution, and application payload in nGenius Performance Manager
- Measures key performance indicators including packet loss, inter-packet delay, client and server errors, and timeouts via nGenius K2 for advanced alarming

VoIP Convergence Management

- Volume, utilization, host and conversation details for RTP Voice and RTP Video protocols
- Application-layer details for call set-up protocols, such as SIP, H.323, Q.931 and MGCP, plus Cisco's SCCP and Avaya's H.323 extensions
- VoIP quality metrics: jitter, call set-up time, packet loss, incomplete and failed calls
- Analysis by IP addresses, phone extensions and connect times
- Packet-level visibility and decode of voice protocols
- Voice configuration data including Codec, phone numbers or resolved aliases and QoS assignments
- VoIP replay functionality

Network Management Metrics

- TCP, HTTP and server-specific performance and error conditions
- Percent Utilization and Packet Byte Counts for: link, host, host group, applications, conversations
- Link aggregation combines traffic data from multiple interfaces to support load balanced and redundant links
- Site monitoring tracks traffic from remote offices

Alarming and Event Identification

- Define alarms for link utilization, CRC errors, application utilization, application response time, application availability as well as broadcast packets, multicast packet and multicast packets on the LAN
- Burst Alarms at millisecond resolution
- "Power Alarms" highlight root cause by gathering top users and applications automatically at violation time for segments exceeding utilization, responsiveness and availability thresholds
- Rising, falling and time over-threshold templates
- Auto-actions to trigger scripts, packets decode and SNMP traps

Data Granularity

- 15-second real-time views with 1-millisecond peaks
- 1-minute historically logged data for all application, hosts, and conversation flows
- Sub-second granularity for link level views

Network Visibility

- LAN – Fast Ethernet, Gigabit Ethernet, 10-Gigabit Ethernet
- Virtual Channels – VLANs, QoS Groups
- Encrypted Channels – MPLS, IP enabled VPN

nGenius InfiniStream Deployment Alternatives

- In-line connection via passive tapping device
- Span via switch mirror port for 10/100/1000 Ethernet and 10 Gigabit Ethernet
- SFP multi-port models can be configured to accommodate a combination of SX/LX/TX interfaces for Gigabit Ethernet
- XFP multi-port models can be configured to accommodate a combination of SR/LR interfaces for 10 Gigabit Ethernet



Connectivity Specifications

InfiniStream Type	Number of Monitoring Ports	Monitoring Interface Types	Taps and Cables (Ordered Separately)
Gigabit Ethernet	SFP Pluggable: 4, 8 SX / LX / TX configurable combinations 10/100/1000 Base-T: 4, 8	SFP (SX) Interface: LC SFP (LX) Interface: LC SFP (TX) Interface: RJ45 10/100/1000 Base-T: RJ45	Contact your NetScout Sales Representative for tap and cable options
10 Gigabit Ethernet	XFP Pluggable: 2,4 SR/ LR configurable combinations	XFP (SR) Interface: LC XFP (LR) Interface: LC	Contact your NetScout Sales Representative for tap and cable options

About NetScout Systems

NetScout Systems provides advanced network and application service assurance solutions that deliver complete visibility into real-time, packet/flow-based operational intelligence. IT operators at the world's largest enterprises, government agencies, and service providers use the Sniffer and nGenius solutions to troubleshoot service degradations faster and more efficiently in order to reduce MTTR.

Our world-renowned Sniffer and nGenius solutions include:

- Intelligent Data Sources for high capacity, deep-packet recording and monitoring
- Analysis Software for real-time and historical network and application performance management, troubleshooting, capacity planning, and reporting
- Advanced Intelligence for early detection and in-depth analysis of complex or specialized application services
- Comprehensive, global support, consulting and training services

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