



## Sniffer Distributed

Assuring Optimal Network Performance and Security

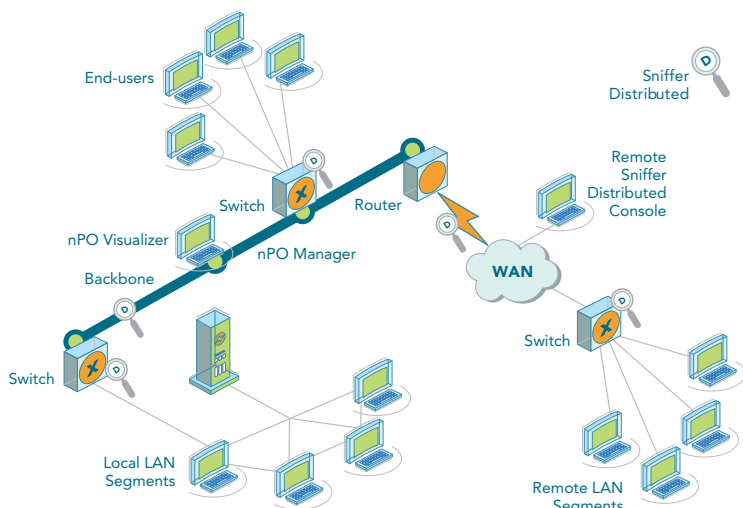
### Product Overview

Managing today's complex and widespread enterprise network has never been more challenging. As an IT professional, how can you ensure that your network, and the applications it supports, delivers the availability, security, and reliability that your business requires to succeed in this highly competitive world—24/7?

Sniffer® Distributed helps you meet these formidable challenges by providing a network performance and security management solution that you can deploy across your entire enterprise. This powerful combination of standards-based monitoring and expert analysis makes Sniffer Distributed the ideal solution to proactively manage today's multi-topology, multi-protocol distributed networks. With Sniffer Distributed, you can monitor, validate, and evaluate your entire network infrastructure operations, from troubleshooting and base lining, to real-time and historical analysis. Armed with these insights, you can identify and correct network performance problems and bottlenecks, before they impact your users.

Delivering unparalleled network monitoring, protocol decodes, and Expert analysis capabilities to all key segments, Sniffer Distributed software provides a cost-effective, flexible way to instrument your network. You can purchase and deploy it modularly, which gives you the flexibility to instrument your current key network segments and upgrade them over time as your needs change.

Sniffer Distributed also gives you centralized, secure, and easy information access. With its Windows®, or browser-based user interface (UI), you can access Sniffer Distributed information anytime, from anywhere. Now your network engineering team can monitor and troubleshoot your network without incurring the travel expenses required to diagnose and resolve problems onsite.



*Sniffer Distributed provides unequalled network visibility throughout your enterprise.*

### Features and Benefits

#### Software Modularity

- Offers initial purchase flexibility that delivers a cost-effective way to instrument your network.
- Enables you to adapt your instrumentation needs as the criticality of your network changes.

#### Fast Troubleshooting

- Features a complete set of protocol decodes and real-time Expert diagnoses to track and resolve problems quickly
- Gives you a turnkey appliance for easy installation to start diagnosing problems immediately
- Delivers advanced filtering to quickly isolate and resolve problems on the network
- Provides a groupware feature so multiple users can view real-time analysis screens promoting collaborative troubleshooting and training

#### Proactive Network Monitoring

- Gathers RMON1 and RMON2 data for invaluable long-term monitoring and trend analysis
- Provides real-time statistics that show you how your network is performing

#### Application Performance Analysis

- Supports the new Appera™ Application Manager add-on to discover and track key applications within an organization including SAP, PeopleSoft, and Oracle
- Increases the value of your Sniffer Distributed investment by recognizing critical applications, who is using them, the bandwidth they are consuming, and the response times they are receiving.
- Enables you to monitor in-house applications through customer-aided discovery

**Network General™**, a privately-held company, is the leading developer and provider of award-winning solutions for network and application performance management. The Network General solutions portfolio consists of a family of integrated hardware and software products that enable the management of complex, high-speed networks covering virtually all wireless and wired network topologies and protocols, and the applications that traverse these networks



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The Sniffer Distributed product line provides a comprehensive solution to manage networks from the edge to the core.

It comprises both hardware and software components. Network General hardware is available in two platform series, the s4000 and the s6040. The s4000 delivers unparalleled network monitoring, protocol decodes, and Expert analysis capabilities to key segments with models that support all major topologies. The model s6040 platform provides Gigabit Ethernet support, and is designed for high-speed, high-density environments, such as those at your network core.

Sniffer Distributed software is available in two different initial configurations:

- Sniffer Distributed Expert—Provides fault management and network performance management. It is ideal for sites that require Expert analysis, monitoring functionality, and complete troubleshooting capabilities
- Sniffer Distributed RMON+—Delivers monitoring capabilities. It is suitable for locations such as remote offices, which mainly require network status information and occasional troubleshooting

In addition, Sniffer Distributed also supports software options such as Appera, Mobile, Voice, and an Expert analysis upgrade for Sniffer Distributed RMON+ that lets you enhance your network instrumentation value and functionality as your business needs evolve.

### Sniffer Distributed Expert

#### The Power to Fine-Tune Your Network

Sniffer Distributed Expert enables customers to proactively manage today's multi-topology and multi-protocol distributed networks. The software combines an industry-leading protocol analyzer and an RMON probe in a single network solution. It delivers the unequalled ability to anticipate, isolate, and diagnose network faults and performance problems. Through a combination of unique, real-time Expert diagnoses and extensive protocol decodes, Sniffer Distributed Expert enables you to fix network problems quickly and minimize costly downtime.

Using the Expert system, you can conduct realtime monitoring and receive alerts that identify bottlenecks before they impact your network. Expert symptoms and diagnoses make it possible to discover network inefficiencies before they lead to deterioration in network performance.

Examples of applications and protocols that Sniffer Distributed's Expert system addresses include:

- HTTP
- SMTP
- H.323
- SAP R3
- FCIP
- SIP
- Oracle
- iSCSI
- RTP

### 24/7 Productivity

The Sniffer Distributed Expert software configuration set provides continuous monitoring to give you real-time network status updates. Changes in network behavior are visible immediately, so you can detect potential problems before they impact end users.

Integrated reporting functionality provides short-term reports for network and application statistics, as well as Expert analysis reports. With only one or two mouse clicks, you can also access graphical reports that display realtime information to isolate problems fast. Long-term trend and multi-segment group reports give you network visibility from an enterprise perspective, which you can access easily through the optional Network Performance Orchestrator™ (nPO™) solution.

The Sniffer Distributed architecture helps you troubleshoot remote network problems, which eliminates travel costs and saves you time and money. You can better leverage your staff by matching specific problems with the expertise of individual resources, regardless of location. Multiple engineers can also engage in collaborative troubleshooting, using the Groupware feature, leading to faster problem resolution and valuable training for less-experienced engineers.

With the myriad of tools flooding the market today, your network management platform can become almost as complex as your network. To further simplify your management challenge, you can integrate Sniffer Distributed with your existing network management products. You can configure a Sniffer Distributed appliance to send alarms to any SNMP-based management system, such as HP OpenView. And Sniffer Distributed is a compatible data source for third-party reporting products, such as Concord eHealth, NetScout nGenius, and Lucent VitalSuite.

### Delivery of Supplemental Product Enhancements

The Sniffer Distributed software supports the addition of decode and Expert packs and tool enhancements that expand the ability of your Sniffer instrumentation to troubleshoot key applications and core networking protocols. The decode and Expert packs supplement the regular release schedule and allow you to take advantage of the latest versions of protocol specifications as you update or deploy new technologies in your network. The additional post-capture analysis tools provide functionality that helps you focus your analysis of network and application problems and reduce your problem mean time to resolution.



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### Sniffer Distributed RMON+

#### Simplify Your Network Management Challenge

A cost-effective, monitoring-only version of Sniffer Distributed software, Sniffer Distributed RMON+ is ideally deployed at sites that don't require Expert analysis, such as remote branch offices. Sniffer Distributed RMON+ enables you to purchase instrumentation that's tailored to meet your specific site needs. It allows you to instrument more segments of your network cost effectively and flexibly—so you can engage in more capacity planning, network performance monitoring, and security management.

Sniffer Distributed RMON+ leverages the monitoring and capture capabilities included in the Sniffer Distributed Expert software. Sniffer Distributed RMON+ includes:

#### Real-time Monitoring

- Realtime monitoring using the Sniffer UI
- RMON compliance for compatibility with third-party RMON applications

#### Reporting

- Integrated, single-segment reporting for short-term (three to five days) analysis
- Centralized, multi-segment, short- and long-term reporting with nPO Visualizer

#### Identical Capture and Robust Decodes as Offered by Sniffer Distributed Expert

- Capture and decode occurs at the Sniffer Distributed RMON+ appliance—not the console
- Participates in nPO Manager's multi-trace capabilities. Using multi-trace analysis, users can analyze common network traffic across multiple segments simultaneously to help pinpoint the source of a problem

### Upgrade to Sniffer Distributed Expert with the Expert Analysis Option

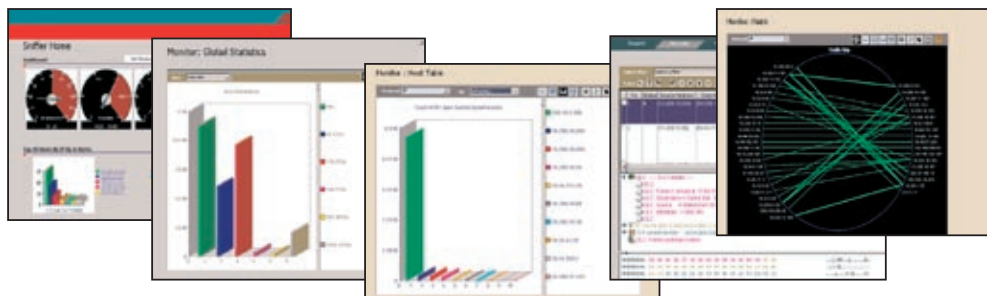
- Sniffer Distributed RMON+ becomes Sniffer Distributed Expert where and when users' business needs change
- No hardware upgrades required

Sniffer Distributed RMON+ supports most network topologies such as: 10/100 Ethernet, Gigabit (SX/LX), ATM, and WAN (E1, DS3, HSSI), as well as several multi-port and multi-topology combinations. You can deploy a Sniffer Distributed RMON+ appliance on a local or remote network segment for access from a central location via an intuitive Windows- or browser-based console.

### Software Only for Ethernet

The Sniffer Distributed Expert and Sniffer Distributed RMON+ software configurations are available as software only purchases. This means you can now install the software only version of Sniffer Distributed on your own hardware. The software only version of the product allows you to save money by taking advantage of any volume purchase agreements you may have with a PC vendor or avoiding hardware tariffs that are imposed by some countries.

The software only product is another example of the flexibility of the Sniffer Distributed product, which allows you to cost-effectively instrument all segments of your network. It delivers the same ease-of-use and functionality as our appliances, giving you the power to decide where to deploy appliances and where to deploy the software-only solutions. For example, you can deploy Sniffer Distributed software only at remote branch offices and install Sniffer Distributed Gigabit appliances at your headquarters. The software only package also allows you to add software modular options such as Appera, Voice, Mobile, and Expert (for RMON+).



*With the Sniffer Distributed Web-browser UI, you can access Sniffer Distributed appliances—anytime, from anywhere.*

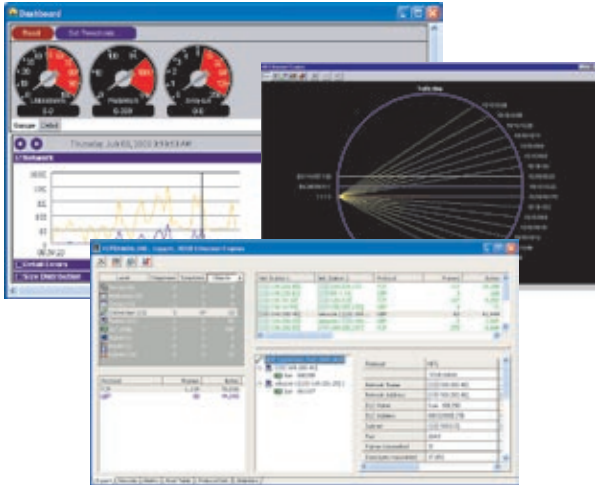


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### Additional Modular Software Options

Software options can be enabled using a simple licensing mechanism. Modularity lets you flexibly and cost-effectively add features as your business needs change. Expert analysis is a prerequisite for enabling the Sniffer Voice and Sniffer Mobile options. The prerequisite for Appera and Expert is Sniffer Distributed RMON+.



*Monitoring capabilities built into the server keep tabs on the network, detect anomalies, and record overall network performance.*

### Sniffer Voice Option

Sniffer Voice is an optional product that integrates with Sniffer Distributed Expert to provide necessary insights into voice traffic in order to facilitate smooth Voice over IP (VoIP) rollouts. Sniffer Voice can also be used to ensure that users continue to experience high-quality voice service following rollout. In addition to allowing you to analyze voice-call setup as well as the RTP voice packets, Sniffer Voice is capable of analyzing all aspects of streaming audio and video.

To ensure that you can troubleshoot installations of the latest Voice technology, Sniffer Voice delivers the latest versions of VoIP protocol decodes. In addition, Sniffer Voice enhances Sniffer Technology's renowned Expert System to automatically detect and help resolve key problems on VoIP networks—jitter, packet loss, packet sequencing, call setup time, high-call rate, too many incomplete calls, and latency. This helps drive down Mean Time to Resolution of VoIP issues.

When used in conjunction with Sniffer Distributed, Sniffer Voice also lets you understand the effect that prioritizing VoIP traffic over other network traffic has on response times and overall performance of other applications. This allows you to adjust prioritization levels in order to achieve optimal performance of VoIP traffic as well as that of your other key applications.

### Sniffer Mobile Option

Sniffer Mobile is a value-added optional package for Sniffer Distributed Expert that enables mobile wireless carriers to resolve issues related to subscriber registration, network latency, dropped packets, and application response time. Sniffer Mobile leverages the functionality, performance, and reliability of Sniffer Distributed. Sniffer Distributed delivers support for 2G mobile wireless data networks by providing TCP/IP troubleshooting and analysis. Sniffer Mobile adds protocol decodes and performance reports for the core/wired side of 2.5G/3G mobile wireless data networks.

### Appera Option

Appera Application Manager is a software add-on to Sniffer Distributed that enables you to monitor and manage your organization's business-critical applications. By giving a higher-level view of your network, Appera lets you discover how your business-critical applications are performing.

Appera focuses on application discovery, custom application definition, and powerful application performance analysis. Appera automatically discovers dozens of strategic applications such as Oracle, PeopleSoft, and SAP right out of the box. You can also define and name your own custom applications, providing visibility to internally created applications.

This value-added solution provides multi-dimensional analysis of application performance by providing insight into key metrics such as network, server and client response times, delays, and network or VLAN utilization. The five dimensions that can be locked down include; application, client, server, VLAN, and time.

This enables you to gain insight into a single element and then shift focus to view a different element.

With the high-level view afforded by Appera, networking and applications departments can find a common ground to measure and improve application performance over the network. By working together to find the source of problems, the groups are better able to address the root causes of any performance issues reducing the need for packet analysis.

### Expert Analysis Option

The Expert analysis option enables Sniffer Distributed RMON+ users to upgrade to Sniffer Distributed Expert via simple software licensing. Using the Expert analysis option, Sniffer Distributed RMON+ users add realtime and post-capture Expert analysis, Groupware, Matrix Switch, Switch Expert, and increased buffer size features. Once the Expert analysis option is enabled, you can upgrade to the Voice and Mobile options. The Expert analysis option makes it possible to support network segments as their criticality changes.

### Part of the Network General Solutions Framework

Sniffer Distributed appliances serve as the instrumentation to collect and analyze network data. They work in concert with the nPO solution to provide comprehensive visibility and manageability for your enterprise network.



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### The nPO Solution

#### nPO Manager

Centralized administration of Network General's resources is key to effective access and manageability of your network. With the nPO Manager option, you can perform bulk discovery and configuration of Sniffer Distributed appliances, as well as bulk software updates and installation of add-on options. Control of access rights and privileges are centrally managed, and authentication is performed using the Network General proprietary database or existing third-party systems such as LDAP, RADIUS, and TACACS+.

#### nPO Visualizer

The nPO Visualizer solution is a powerful Web-based network analysis and trend-reporting component that gives you critical information about network performance and security. You can archive and report on data using nPO Visualizer, which leverages the wide array of data gathered by Sniffer Distributed Expert and Sniffer Distributed RMON+ software. nPO Visualizer provides high-level and granular data that documents bandwidth utilization, aids in capacity planning, and validates end-user experiences. Its easy-to-learn, Web-based UI provides flexible report access from anywhere on the network to give you actionable data and to help you make critical business decisions.

### World-Class Training, Consulting, and Support

Sniffer University is a comprehensive resource for building and enhancing network professionals' skills in protocol analysis, application analysis and troubleshooting. Sniffer University has trained over 80,000 network professionals worldwide. The Sniffer Certified Professional Program provides your IT organization with industry-recognized accreditation as technical experts in the network management and protocol analysis disciplines.

The Network General Consulting Services group is dedicated to ensuring that policy becomes practice. Our consultants leverage their extensive experience in fault isolation, performance management, and protocol and application analysis. They assist clients during all network growth stages from planning, design, and product deployment, through ongoing management and emergency response. They combine their expertise and an objective perspective to identify, prioritize, and resolve each client's individual performance and availability issues.

The Network General Customer Support Services group offers essential product knowledge and rapid, reliable technical solutions. Over 70 percent of our technical staff holds industry certifications and/or technical degrees and five-plus years of experience in the IT industry. The Support team of responsive, highly skilled support technicians delivers detailed technical assistance in managing the success of critical projects – with a range of service levels to meet the needs of the customer. Customer support is your key to maximizing processing uptime, revenue generation, and customer satisfaction.

### Compliance with Industry Standards

- SNMP version 1 and 2 support
- MIB II
  - RFC 1213 and 2021
- RMON1
  - RFC 1757 (Ethernet—all groups)
  - RFC 1513 (Token Ring—all groups)
- RMON2
  - RFC 2021 (all groups)
  - RFC 2074 (RMON protocol IDs)
- Frame Relay DTE MIB
  - RFC 2115
- ATM RMON MIB
- Network General's Sniffer Distributed/RMON MIB (extensions)
- Application Response Time MIB (extension)

### Value-Added Standards Extensions

- Switch Control (Cisco CDP, Cisco VTP, Cisco ISL, and 802.1Q)

### Protocol Decodes

Sniffer Distributed decodes all major protocols including:

- Citrix ICA
- iSCSI
- FCIP
- FIX (Financial Information Exchange Protocol)
- TCP and UDP over IP
- Novel (IPX and NetWare 5)
- Microsoft®
- Database (Oracle, Sybase, and MS SQL Server)
- SSL/TLS
- ATM (AAL, LANE, and PNN)
- WAN (Frame Relay, PPP, X.25, HDLC, ISDN, SDLC, and Cisco HDLC)
- Bridge/Router
- Cisco (CDP, CGMP, VTP, ISL, DISL, DRIP, and pAGP)
- IBM (SNA, Enterprise Extender, and APPN)



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- MPLS/Core Routing (MPLS\_UNK\_L2, LDP, CR-LDP, RSVP-TE, OSPF-TE, and BGP)
- Optional add-on for VoIP including: H.323, H.225, H.245, RAS, SIP, SCCP (Cisco Skinny), RTP/RICP, and SDP/SAP)

Sniffer Distributed also supports VoIP and Mobile IP protocol decodes. Complete lists of these supported protocol decodes are available in the Sniffer Voice and Sniffer Mobile data sheets.

### Sniffer Voice

- H.323 (v4) including:
  - H.225 (v4) Call Signaling
  - H.245 (v8) Media Control
  - RAS (v4)—Registration, Admission, and Status
  - H.235 (v3)—Security
  - Faststart
- Cisco Skinny Client Control Protocol (SCCP)

### Sniffer Mobile

- 2.5G Mobile Wireless Networks
- 3G (IMT-2000) Mobile Wireless Networks
- Tunneling and Routing Encapsulation Protocols
- Mobile IP and Mobility Protocols
- IPv6 Protocols
- GSM/GPRS Network Protocols

### Network Topologies Supported

Sniffer Distributed supports all major network topologies, speeds, and connection methods. For the first time, a common, comprehensive solution that supports all of the network management team's operational needs—monitoring, planning, troubleshooting, and reporting—can be deployed across your entire enterprise.

- LAN: 10/100MB Ethernet (shared, switched, half-duplex, full-duplex), 100MB full-duplex Ethernet, Gigabit Ethernet (SX/LX/TX), Token Ring, and FDDI
- WAN (HDLC framed data): EIA-232 (RS-232), T1, E1, Fractional T1 (channelized and unchannelized), Fractional E1 (channelized and unchannelized), V.35, X.21 (V.10/V.11), RS-530, RS-449 (RS-422/RS-423), ISDN PRI, DS3 (unchannelized), and HSSI
- ATM: DS1 (unchannelized), DS3 (unchannelized), E3 (unchannelized), OC-3c SM, MM (STM-1), OC-12c SM, MM (STM-4)

### System Requirements

#### Console Minimum Requirements

- Pentium III 800MHz or faster CPU
- 512MB memory (minimum)
- 350MB hard disk space
- Microsoft Windows NT Workstation 4.0 with SP6A, Windows 2000 Professional with SP4, Windows XP Professional with SP1 Software, Microsoft Virtual Machine
- Microsoft Internet Explorer 6.0 with SP1 on Windows NT, 2000, and XP
- Browsers to support Java Plug in 1.3.1\_02
- VGA color monitor 1024x768 resolution
- Mouse or similar pointing device
- Network adapter card configured with an IP address and connected to the network

#### Software Only Product Minimum Requirements

*Software:* Microsoft Windows XP Professional w/ SP (1), Internet Information Server v5.1, Internet Explorer v6.0

*Processor:* Pentium III, 800MHz

*RAM:* 512MB SDRAM

*Hard Disk Space:* 40GB, 300MB free disk space

*CD-ROM*

*Motherboard:* One COM port

*Transport NIC:* Onboard LAN or external Ethernet

*Monitoring NIC:* Any single 10/100 Ethernet NIC that supports the Intel 8255x Chip Set OR the Adaptec

ANA-62011/TX NIC

#### NOTE:

- The software only version of the Sniffer Distributed product is designed to monitor a single Ethernet segment.
- To add Appera support to your software only product, you will need a system with a Pentium IV processor and 1GB RAM.

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