Software Product Description

PRODUCT NAME: PROBEwatch for Windows, Version 3.2 **SPD 46.03.01**

DESCRIPTION

PROBEwatch for Windows™ is an application for managing Digital's DECpacketprobe 90 Ethernet Remote Monitoring (RMON) probe and DECpacketprobe 900RR Token Ring RMON probe. DECpacketprobes monitor the network to which they are attached, and make the statistical data available via the RMON Management Information Base (MIB). PROBEwatch uses the Simple Network Management Protocol (SNMP) to get the RMON MIB data from the DECpacketprobes. You are provided with a Microsoft® Windows V3.1 graphical user interface, which makes the application easier to learn and to use. It allows you to configure probes and to view the performance data collected by them. PROBEwatch also contains extensive protocol decoding capability. PROBEwatch does not provide generic management of RMON devices, but it is compatible with the RMON agents from Frontier Software Development, Inc.

RMON is a proposed standard MIB specification written by the Internet Engineering Task Force (IETF) RMON Working Group. The specifications are designated RFC 1271 for Ethernet and RFC 1513 for Token Ring. RMON provides for an agent, acting on behalf of a client, to collect statistics on a per packet basis by monitoring the network on which the agent is attached. The agent-to-client communication takes place via SNMP. The DECpacketprobe is an implementation of an RMON agent, and PROBEwatch is Digital's implementation of an RMON client. DECpacketprobe 90 complies with RFC 1271, and DECpacketprobe 900RR complies with RFC 1513.

MIB OBJECTS

RFC 1271 calls for nine separate groups of MIB objects. The nine groups are as follows:

- **Segment Statistics**—counters for packets, octets, broadcasts, collisions, dropped packets, fragments, CRC/alignment errors, undersize and oversize errors, and jabbers; each packet is also sorted by size into one of six groupings. The RMON agent counts the number of packets that were dropped (not counted into the categories above) due to performance limitations.
- **History**—segment statistics stored at user-defined intervals.
- **Host Table**—statistics indexed by node address.
- **Host Top N**—host statistics sorted by user-defined criteria.
- **Traffic Matrix**—traffic patterns between pairs of nodes.
- **Filters**—a set of user-defined preconditions for capturing packets or events.
- **Events**—logs an entry in a local log or sends an SNMP trap when a particular user-specified event occurs.
- **Alarms**—user-defined high or low thresholds.
- **Packet Capture**—stores packets that meet the filter criteria for later retrieval by a client application such as PROBEwatch.

Version 3.2 of PROBEwatch for Windows supports RFC 1513, the Token Ring extensions to the RMON MIB. The additional object group defined in this MIB collects the following statistics:

- **Station Order**—physical order in which the hosts appear on the ring.
- **Station Config**—includes MAC address, uptime, location, microcode level, group address, and functional addresses.
- **Source Routing Status**—statistics related to source routing; accurate only in a pure source route bridging environment.

USING PROBEWATCH

The opening screen in PROBEwatch provides single mouse click access to many of the PROBEwatch displays. On the initial screen is a user-entered table of DECpacketprobe agents. You can select one of these agents and look at the data collected for that segment. Another feature on the top level screen is a list of agent groups. By grouping desired agents together, you can see traffic and protocol statistics of as many as eight segments in a single view.

Statistics and History Groups. Any of the parameters in the Statistics Group can be graphed over time. Short- and long-term history graphs can be started in separate windows for several of the variables in the Statistics Group. A choice of chart formats is available for each graph. On the multisegment protocol display, multiple protocols can be charted per segment for any of the following statistics: utilization, byte and packet rate, broadcast rate, small and large packet size rate, average packet size, and number of hosts. You can display the values for last sample, average, minimum, or maximum.

Host and Conversation Groups. PROBEwatch lets you view the list of discovered hosts and sort them by various criteria, including discovery order, MAC address order, and several statistics from the RMON Statistics Group. You can select a pair of hosts and view the conversation statistics between them. PROBEwatch supports the Top N Group through a window that lists hosts sorted by the various statistics of the Statistics Group. PROBEwatch identifies hosts by replacing the first three bytes of the MAC address with the vendor name, whenever the first three bytes can be associated with a known vendor. Optionally, hosts can be identified by Internet Protocol (IP) address rather than by MAC address. A chart shows the top 10 hosts, sorted by various statistics, such as bytes, packets, multicasts, broadcasts, and errors. You can select a host and see the top 10 hosts with which that node is exchanging information.

Domains. PROBEwatch DomainView™ hides much of the setup work that is required in the RMON MIB to set up filters for common protocol suites. A domain is a subset of all traffic on the segment and is specific to particular protocol types. Domains are defined using filters in the Filter Group. More than one domain can be active at the same time on any one probe; a different domain can be set up by another PROBEwatch management station. You can optionally enable statistics, history, hosts, conversations, or data capture separately for each domain. A single mouse click from the top level screen lets you view all of the domains installed on all of the probes in a group. You can then limit the displayed domains to a particular subset using the Scope button. You can also sort the list of domains to see, for example, the top broadcasting domains and segments. Domains can be installed only on one probe at a time. You can, however, preconfigure a file with domains and RMON groups; when a probe next powers up, it will request its configuration file. As with filters, custom domains can be created using the template-based editor.

Data Capture Group. PROBEwatch lets you upload captured files from DECpacketprobes to disk for subsequent decoding. Extensive protocol decoding exists for Novell®, AppleTalk® Phases 1 and 2, NFS®, DECnet & LAT, XNS, DoD TCP/IP suite, SNMP, VINES®, SNA, and OSI. You can display each layer of the Open Systems Interconnection (OSI) model in a different color and set up precapture filters to use on a particular node or protocol. Although PROBEwatch comes with many predefined filters, custom filters can be created using the template-based filter editor.

Alarms and Events Groups. You can set up thresholds in a probe on a per domain basis and specify which variable to monitor, whether the value is to be absolute or per second, whether the alarm is to occur on the rising or falling crossing of the threshold, or both. You can also set a threshold for the number of hosts or conversations on the segment. You can enter a textual trap description and severity level. The Setup screen queries the probe for the last time the variable was sampled and a trap was sent. PROBEwatch also provides access to the SNMP Trap Viewing window. Traps are stored by date so that you can step back through the history one day at a time. You can print the list of traps or select a specific trap message to view more detail.

Background Tasks. PROBEwatch begins three background tasks when it is first started. These are the trap, configuration, and logging daemons, which continue running if you exit the main PROBEwatch application. These tasks provide services as follows:

- Trap: a process for SNMP traps to be logged in a file as they come in.
- Configuration: a process for handling configuration load requests from DECpacketprobes as they power up.
- Logging: a process for periodically retrieving specified data from DECpacketprobes and storing that data in a disk file.

In conjunction with the logging of data to disk, PROBEwatch provides a screen for generating preformatted reports on the logged data.

HARDWARE REQUIREMENTS

- Intel® 80386 DX, 33 MHz or higher performance IBM®-compatible PC

- Color 800 × 600 VGA or SVGA monitor (higher resolutions are not supported)
- Minimum 8 MB RAM
- 3.5-inch, 1.44 MB diskette drive
- Minimum 12 MB of disk space
- Mouse or other pointing device supported by Windows V3.1
- 16 bit (or higher) Ethernet Network Interface Card (NIC)

SOFTWARE REQUIREMENTS

- MS–DOS® V5.0 or higher
- Microsoft Windows V3.1
- NDIS driver for the Ethernet NIC

PROBEwatch V3.2 includes the Network Driver Interface Specification (NDIS) drivers for the following NICs:

- Digital EtherWORKS II and III
- SMC EtherCard PLUS Elite 16
- 3Com® NICs: EtherLink® II, EtherLink Plus, EtherLink III
- Intel NICs: 82593 Demo Card, Ether Express 16

PROBEwatch includes a basic User Datagram Protocol (UDP) and IP protocol stack, but should work with any stack compliant with the WINSOCK specification. The network stack should include Serial Line Internet Protocol (SLIP) capability if you plan to communicate with DECpacketprobes on the out-of-band interface.

You can run PROBEwatch with PATHWORKS Version 5.x. You can also run HUBwatch for Windows Version 2.0 (or later) simultaneously with PROBEwatch on the same PC, although you may want to increase the amount of memory on the PC for acceptable performance.

GROWTH CONSIDERATIONS

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

DISTRIBUTION MEDIA

3.5-inch, 1.44 MB diskettes

ORDERING INFORMATION

Software License, Media, and Documentation: QB-218AA-SA

Update License, Media, and Documentation: QB-218AB-SA

SOFTWARE PRODUCT SERVICES

Software Maintenance: QT-218AA-XA

Documentation Update Service: QT-218AA-KZ

Installation: QT-218A9-I9

Service options available from Digital include:

- Network Management Planning and Design Services
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TRADEMARKS