WHITE PAPER

February 1995

Compaq Computer Corporation

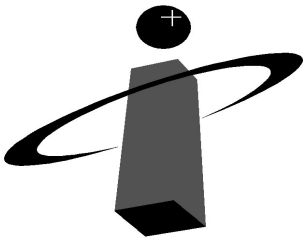
CONTENTS

Intelligent Manageability - Deskpro Basics

This white paper discusses Compaq Deskpro Intelligent Manageability features. Intelligent Manageability is Compaq's Desktop Management strategy for today and tomorrow. This paper provides a basic understanding of how Intelligent Manageability is implemented in the new Deskpro. A separate white paper provides an overview of Desktop Management technology.

Compaq is responding to this customer need for easy-to-manage desktop PCs, demonstrated by its industry-leading implementation of desktop management, called Intelligent Manageability, the Compaq Desktop Management Solutions Partners Program, and its position as a Steering Committee Member in the Desktop Management Task Force (DMTF).

Compaq is poised to leverage its history of delivering manageable servers to desktop PCs.



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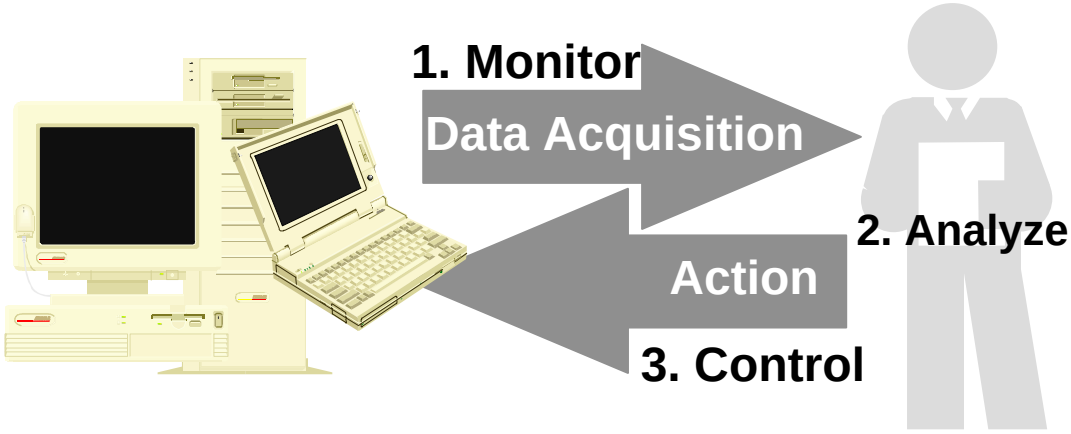
Intelligent Manageability - Deskpro Basics
First Edition (January 1995)
343A/0395

INTRODUCTION TO DESKTOP MANAGEABILITY

In the past few years, as the growth in shipments of personal computers has exploded, the personal computer has matured and developed into more of a commodity product. A key trend seen recently over the past few years is that the majority of the desktop PCs selling into the commercial market are being installed in networked environments. When you add to this equation the efforts of corporate America to downsize or rightsize their manpower, we find the vast majority of IM departments struggling to install and maintain their PC networks utilizing significantly smaller staffs. These factors have placed a considerable burden upon the IM staffs and they lack the tools to effectively manage their desktop PC networks in this environment.

Historically, sophisticated tools have evolved to enable IM managers to manage network protocols as well as the various LAN hardware resources such as bridges, routers, and concentrators. More recently, Compaq has led the industry in adding servers to the list of manageable network hardware. However, today, there are no comprehensive tools for managing desktop PCs on the LAN. Since PCs are by far the most prevalent devices on the network, Compaq addresses this issue with the new Deskpro products.

But first, what do we mean by management? The broad, industry recognized definition is defined as follows; Desktop Management is the in-depth process of monitoring, analyzing and controlling the inventory/configuration, fault, security, and performance aspects of the desktop PC's operation both locally and, more importantly, remotely from the network administrator's workstation.



COMPAQ DESKTOP MANAGEMENT DEFINITIONS

Intelligent Manageability- Compaq's industry leading implementation of desktop management.
AssetControl- Compaq's industry leading implementation of PC hardware asset and inventory management. The set of capabilities that provide comprehensive hardware and software component identification and configuration reporting. This simplifies inventory and accounting procedures. In addition, since this functionality allows the IS administrator to identify software and revision levels, it simplifies remote software distribution. Also, should a service event occur, critical hardware and software component information can be given to the service provider before they make a service call.

COMPAQ DESKTOP MANAGEMENT DEFINITIONS (cont.)

Fault Management- Fault management can be broken down into three distinct activities; Fault Prevention, Fault Tolerance, and Rapid Recovery.

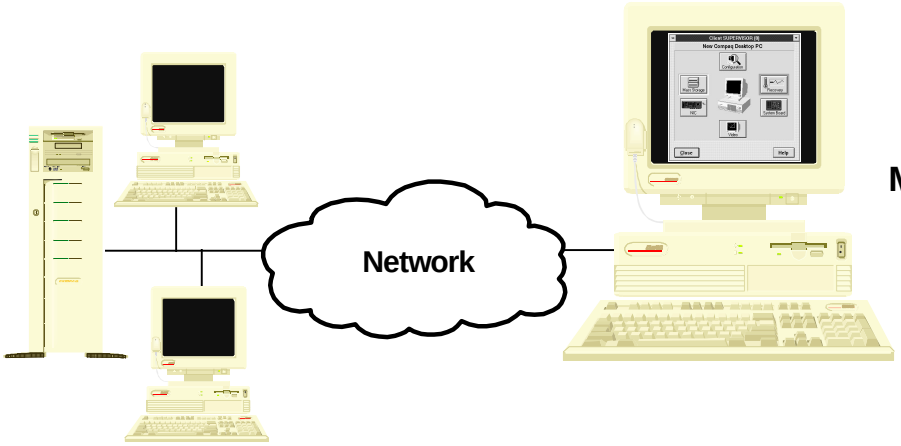
> **Fault Prevention-** Prevention of faults requires the computer to monitor its health and provide early warning of the impending failure of subsystems such as hard drives or thermal management systems. With an early warning, the user and the administrator can proactively resolve the problem and avoid potentially catastrophic losses.
>
> **Fault Tolerance-** is the set of capabilities that automatically corrects faults when they occur, maximizing uptime by ensuring continued operation in the event of component or subsystem failure. This feature is usually found in more expensive network components such as servers, bridges, and routers.
>
> **Rapid Recovery-** Rapid recovery is a set of capabilities that provide rapid identification and notification of faults, as well as automated restart of failed systems or subsystems so that unplanned downtime is minimized. Error alerts such as paging a network administrator or sending error messages to the user, nonvolatile health logs that hold error identification hints, automated tape backup when hard drive fault alerts occur, and diagnostic software are all examples of rapid recovery features.

Security Management- Just as the name implies, security management focuses on ensuring that only authorized personnel may access specific data . The goal is to safeguard and protect sensitive or critical data. Security can be provided through both hardware and software.

Performance Management- Performance management is comprised of a set of performance monitoring, tuning and capacity planning capabilities designed to enable the cost-effective utilization and growth of the customer's ever-changing network. This aspect of management will be comprehended in the future as a function of Insight Manager working under Windows 95.

Local Management- Local management allows the user to locally view AssetControl information and fault monitoring information concerning their individual desktop. When Windows 95 is available, the user will not only be able to view AssetControl and fault management information but will also receive active alert Pop-Up's on the screen when fault conditions occur.

Remote Management- The remote aspect of the above definitions is the portion that IM managers and administrators are most interested. Under remote access and control, the administrators no longer need to travel to the desktop PC's location. They can diagnose and troubleshoot most issues from their own offices, thus more effectively utilizing their time. In addition, when they need to accurately inventory the PCs on their networks, they are able to compile these statistics remotely from their workstations instead of having to go to each office and manually record PC model and serial number data. The ability to remotely perform these tasks will provide the ability to more effectively and efficiently utilize scarce IM resources.



THE NEW DESKPRO AND INTELLIGENT MANAGEABILITY

For the new Deskpro, Compaq will focus on the two most important aspects of management, AssetControl and Fault Management with Rapid Recovery. Under Windows 3.1, the Compaq Diagnostics for Windows Management Tool will support local viewing of PC configuration data, monitor asset data, thermal monitoring data, and hard drive fault management data. Use of third party management tools will facilitate remote viewing of the AssetControl features. With Windows 95, both local and remote AssetControl and Fault Management features will be supported. In order to enable these management features, Compaq has designed a unique combination of management enabled hardware and firmware for the new Deskpro.

DESIGNED FOR INTELLIGENT MANAGEABILITY (new Deskpro Features)

System Serial Number - Compaq has designed the backplane of the computer with an additional serial EEPROM. When the factory builds the computer and assigns its serial number, the serial number is automatically stored in this EEPROM. The system serial number can be obtained during asset management queries, both local and remote.

System Board Revision Level - The AutoRev feature first implemented in Compaq Servers has been added to the new Deskpro system boards. This feature allows management software to read the major revision level of the system board. This is implemented by placing a block of resistors on the system board. When the factory builds a new system board, its revision level is digitally encoded by the manner in which this resistor block is installed on the board and the resistor values that are used.

ROM Revision Levels - System ROM revision levels are controlled by the date of release. Each time a new ROM revision is flashed onto the system boards, the ROM revision level is updated. The ROM revision date information is held in an industry standard memory location. AssetControl software applications, both local and remote, poll this memory location and report ROM revision dates as required.

Hard Drive Manufacturer, Model, and Serial Number - Both local and remote software are able to report the hard drive manufacturer, model, and serial numbers. When a request for this information is initiated, the software reads this information from the hard drive firmware and reports this asset data.

IntelliSafe Hard Drives - An IntelliSafe hard drive contains firmware that performs periodic analysis to determine how well the drive is operating at that moment. If the analysis determines that an aspect of the drive's operation has degraded to the point that failure is imminent, then the drive passes this information to management software which generates a fault alert or may initiate a tape backup of the drive contents.

Software Inventory - This feature provides primarily remote benefit through third party software. Remote software allows the administrator to take control of the desktop PC and inventory the software on the hard drives. The administrator then may schedule the desktop PC for remote software updates to either the desktop PC itself or to the desktop PC's local server using a third party software package such as Frye Computer, Inc.'s LAN Directory. This feature allows the administrators to maintain their software inventories and licensing.

Monitor Manufacturer, Model, and Serial Number - Our new AssetControl Monitors have been designed to conform with VESA's Display Data Channel (DDC) specification. This data channel provides a way for the monitor to automatically communicate configuration and asset information to the desktop computer. This information is contained in an Extended Display ID (EDID) file located within an EEPROM on a circuit specifically designed by Compaq for inclusion in our new monitors.. The ability to communicate this information in this way provides for Monitor AssetControl as well as for full Plug-N-Play capabilities. Our monitors support DDC1 and DDC2B communication protocols with DDC2B, the faster protocol, being the mode used for AssetControl and Plug-N-Play. Utilizing this communication feature allows an IM administrator to electronically inventory the monitor remotely and the user to inventory it locally.

INTELLIGENT MANAGEABILITY UNDER WINDOWS 3.1

The new Deskpro will announce with Windows 3.1 as the pre-installed operating system. Under Windows 3.1 several levels of Intelligent Manageability are provided. Local access to AssetControl and hard drive fault prediction will be provided through the Diagnostics for Windows Management Tool located in the Compaq Utilities Group Window. Remote access to AssetControl is enabled through third party software running on the administrators workstation.

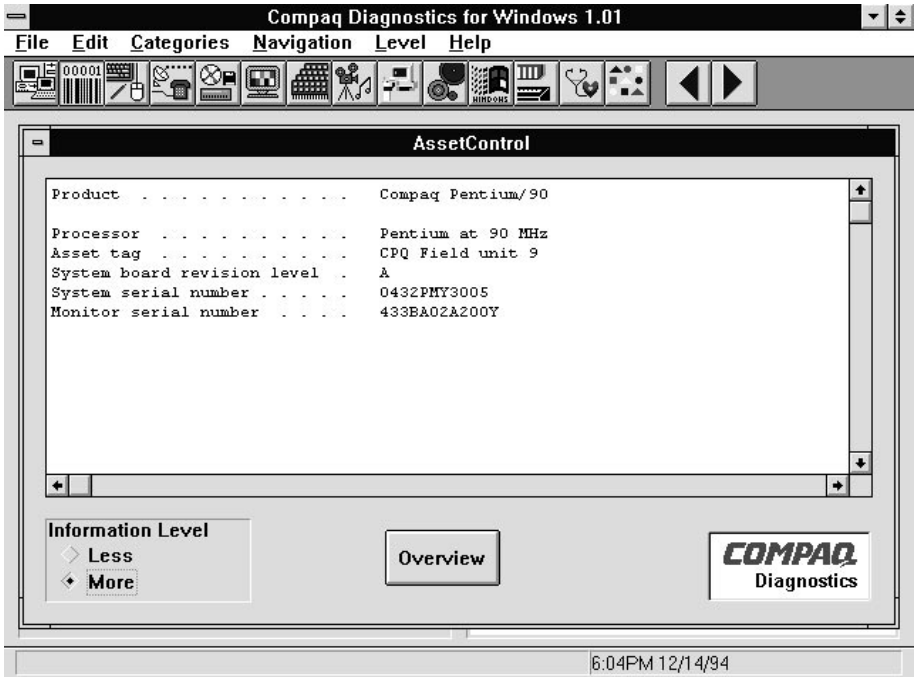
LOCAL ASSET CONTROL & HARD DRIVE FAULT PREDICTION

Compaq has extended the Diagnostics for Windows utility to take advantage of the management hardware and software designed for the new Deskpro. Using this new management tool, the user can locally view CPU related asset information, monitor asset information, thermal data, and hard drive fault condition data. The Diagnostics for Windows Management Tool is found in the Compaq Utilities Group Window and utilizes four basic Windows screens to display this information. These screens are the AssetControl screen, the Display screen, the Health screen for thermal monitoring, and the Storage screen.

AssetControl Screen

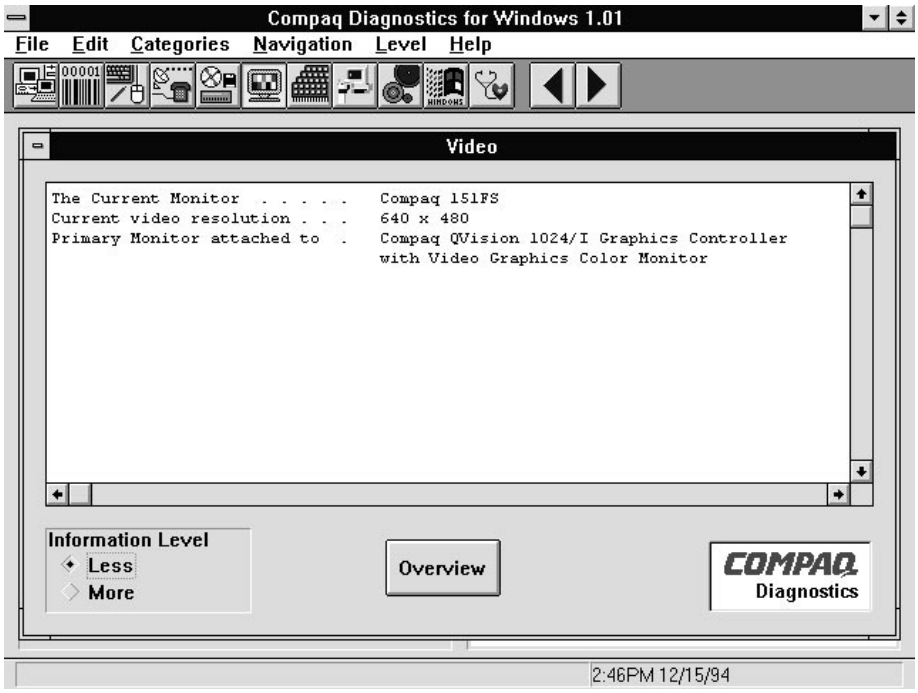
The AssetControl screen provides the user with product information detailing the manufacturer and processor as well as serial number and asset information for their computer and monitor. The Asset Tag is a user or administrator controlled identifier and is intended to match the capital asset number used by financial cost accounting in their capital asset registers. As initially shipped, the Asset Tag contains the system serial number. Once the customer has assigned an internal Asset Tag number, they may change this field to match their internal Asset Tag number. The system board revision level provides the user with the revision level of the system board. This is derived from the AutoRev design on the system board. The system serial number corresponds to the unit serial number as well as the serial number on the rear of the computer. Using Compaq AssetControl monitors allows the monitor serial number to be displayed.

Note: Initially the hard drive serial number will only be displayed in F10 setup. By the end of 1Q95, the hard drive serial number will be displayed by the Diagnostics for Windows Management Tool.



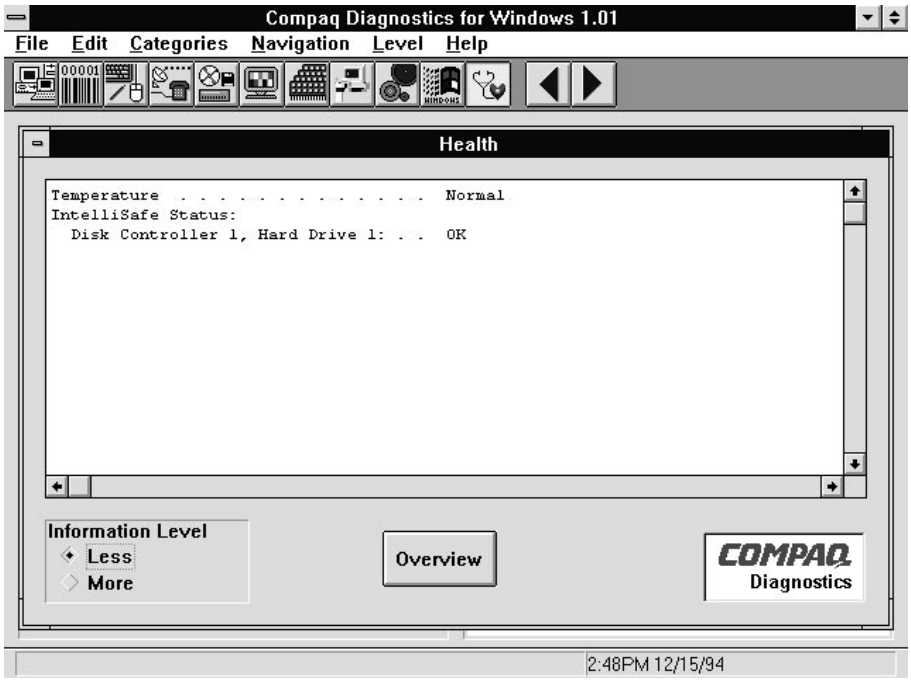
Display Screen

The Display screen displays the monitor type, video resolution currently in use, the graphics controller type, and information about the video ROM.



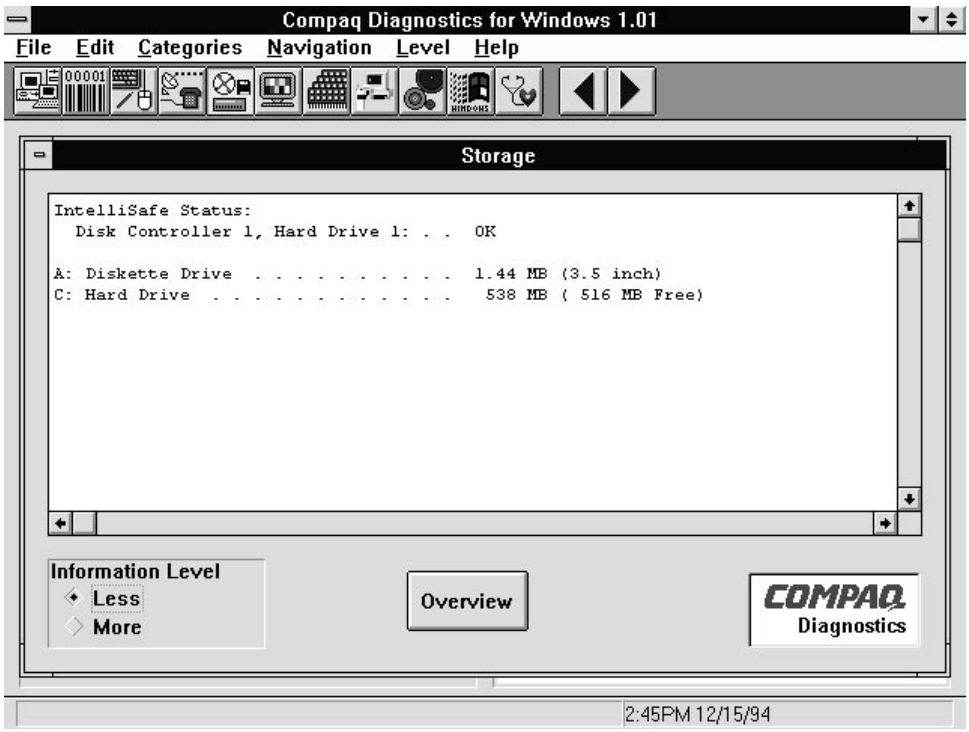
Health Screen

The Health screen displays summary information regarding temperature status and IntelliSafe hard drive status. For more detailed hard drive information the user should select the Storage screen.



Storage Screen

The Storage screen displays information about the diskette and hard drives. Of primary importance for fault management purposes is the first section, "IntelliSafe Status". If the hard drive has reported that any of its operating parameters has failed, the information is reflected here. If a failure has occurred in an operating parameter, a drive failure is imminent and the user should back up the system immediately. Please note that the Diagnostics for Windows Management Tool only displays the condition of the hard drive and does not provide the user with Pop-Up alerts. The user must actively call up the storage screen in Diagnostics for Windows Management Tool to see whether or not a fault condition exists.



THE COMPAQ DESKTOP MANAGEMENT SOLUTIONS PARTNERS PROGRAM

Remote Intelligent Manageability Through Partnering with the Top PC LAN Management Vendors

Compaq has focused on delivering desktop management solutions today under Windows 3.1 through the Compaq Desktop Management Solutions Partners Program. This program is a Compaq initiative to ensure compatibility and integration of Intelligent Manageability with leading PC LAN Management vendors to provide remote access to AssetControl desktop management capabilities for the new Deskpro under Windows 3.1. Doing so ensures that the benefits of Compaq's Intelligent Manageability are accessible to our entire customer base through broad vendor support. This broad support ensures that customers can easily manage Compaq PCs remotely using their choice of tools and that they can do so more confidently and cost effectively than with other PCs.

In developing this program, Compaq has worked extensively with our partners to support their development efforts in integrating the new Deskpro AssetControl features into their products. During the past year, Compaq has provided them with technical information, emulation software, and has allowed each of these vendors to integration test their products in the Compaq Desktop Management Lab. Initially Compaq's partners have developed their applications for Windows 3.1. In the future, the majority will provide support for Windows 95, OS/2, and Windows NT.

Compaq Desktop Management Solutions Partners

Cheyenne Software, Inc.
Frye Computer, Inc.
Intel, Inc.
Microsoft Corporation
McAfee Associates, Inc.
Network Computing, Inc.
Saber Software, Inc.
Symantec, Inc.
Tally Systems Corporation

INTELLIGENT MANAGEABILITY UNDER WINDOWS 95

Windows 95 will allow Compaq to add a new dimension to Intelligent Manageability. Under Windows 95, the local asset information viewing tools are enhanced. More rigorous Fault Management capabilities are added by including active alert Pop-Up screens upon determination of hard drive or thermal faults. In addition, remote fault alerting and tape backup is supported by third party software applications and Insight Manager.

The question you might ask is, "Why isn't this possible under Windows 3.1". The answer is that Windows 3.1 does not provide the integrated management infrastructure support that Windows 95 provides. Windows 95's SNMP (Simple Network Management Protocol) management protocol is the enabler. SNMP is the communications protocol that allows software management applications to communicate with Compaq's software and hardware to provide a seamless management solution under the Windows 95 operating system.

COMPAQ VALUE-ADDED MANAGEMENT SOFTWARE

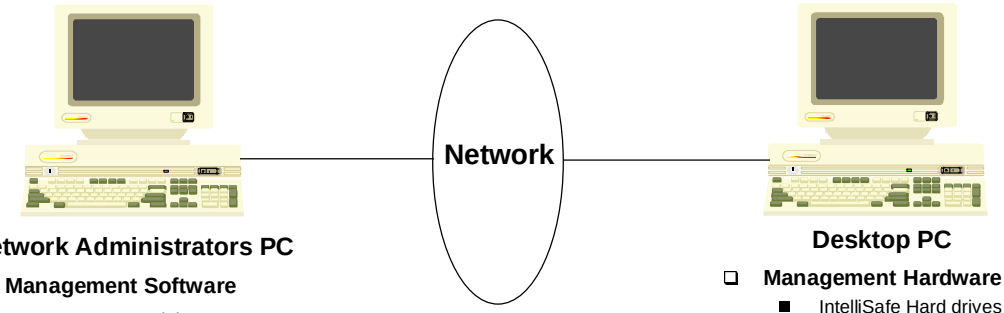
In order to make possible the industry leading level of desktop management provided with Windows 95, we have worked to develop the underlying software required for Intelligent Manageability. In general there are three basic software elements that Compaq has developed; Instrumented Device Drivers, Management Agents, and Management Applications.

Instrumented Device Drivers- The Instrumented device driver is an extension of the traditional device driver. In addition to providing the normal device driver functionality, the instrumented device driver also maintains management information (inventory/configuration and fault) about the device's operation.

Management Agent- The management agent takes the management information from the instrumented device driver and delivers the information to the management application using the SNMP management protocol.

Management Application- The management application is the user interface and viewing tool. It provides the monitoring , analysis, and control of the management features in the computer. Examples of management applications are Diagnostics for Windows Management Tool for local viewing and remote tools such as Insight Manager or other third party management tools.

Desktop Management Requirements



Network Administrators PC

- **Management Software**
  - Compaq Insight Manager

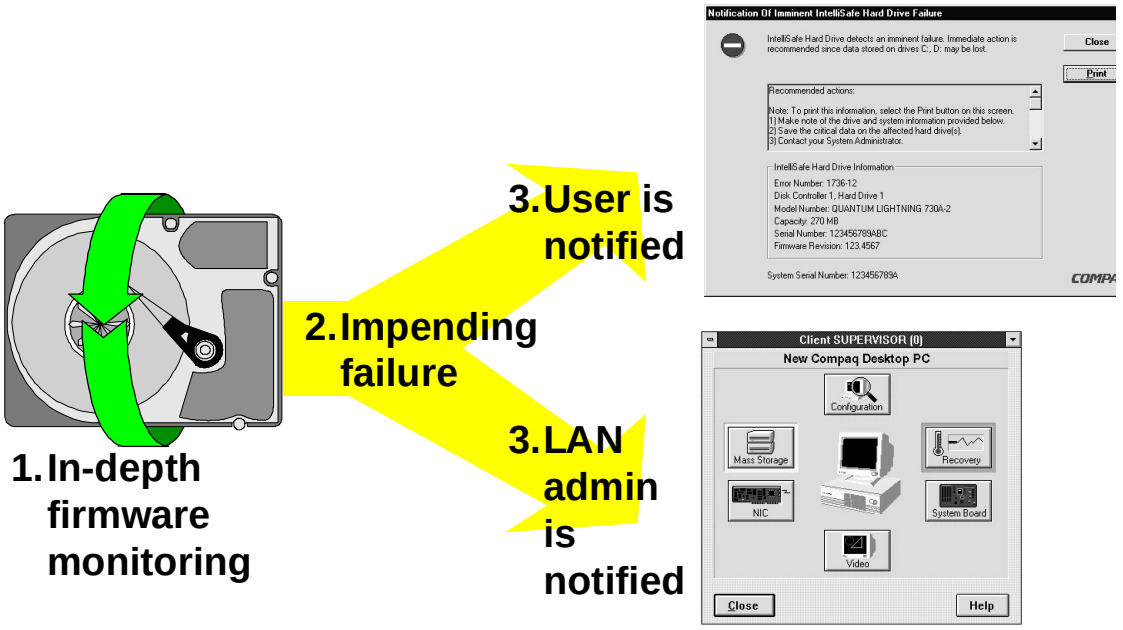
    and/or
  - One or more ISV Desktop management software applications

Desktop PC

- **Management Hardware**
  - IntelliSafe Hard drives
  - Thermal sensors
  - AssetControl Architecture
  - Compaq Monitors with AssetControl
- **Management Software**
  - Management protocol (SNMP)
  - Instrumented device drivers
  - Management agents
  - Local management application

EXAMPLE: Hard Drive Fault Prediction

Hard drives are mechanical devices — they have components that move and spin. An IntelliSafe hard drive contains firmware that performs periodic analysis to determine how well the drive is operating at that moment. If the analysis determines that an aspect of the drive's operation has degraded to the point that failure was impending then the drive will pass this information to its instrumented device driver. The instrumented device driver passes the indication of failure and other management information (either acquired from the drive or maintained by the driver) to the management agent. The agent stores the management information in a database-like table called a MIB (Management Information Base). Besides storing the information in the table, the agent sends a message to a management application such as Insight Manager. The message would tell the management application that the hard drive is likely to fail. The management application would alert the administrator (by way of a pop-up window, audible tone, or message to pager) that the user's hard drive is likely to fail. This alert, before the drive failed, enables the administrator to avoid downtime by proactively backing up the data and replacing the user's drive.

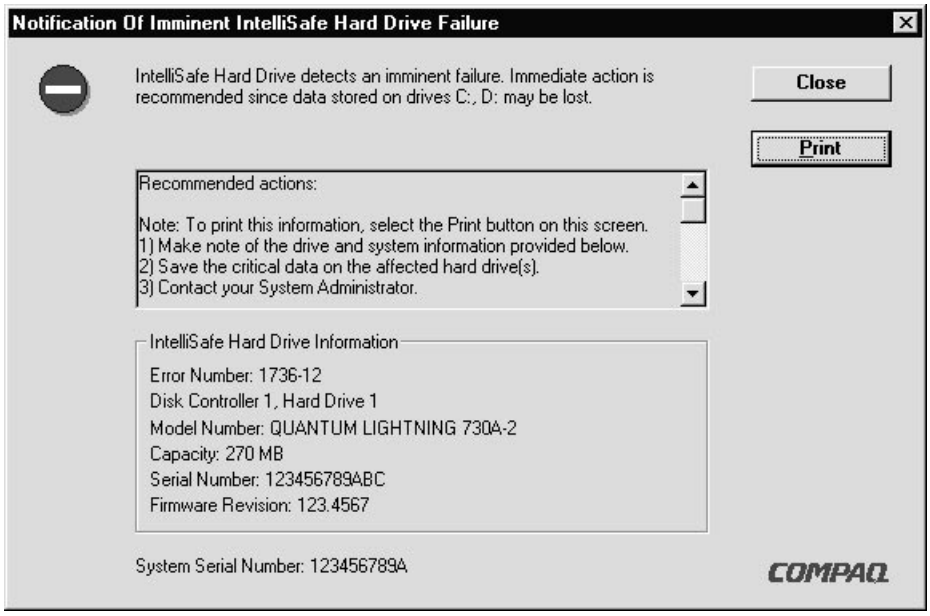


LOCAL MANAGEMENT APPLICATIONS UNDER WINDOWS 95

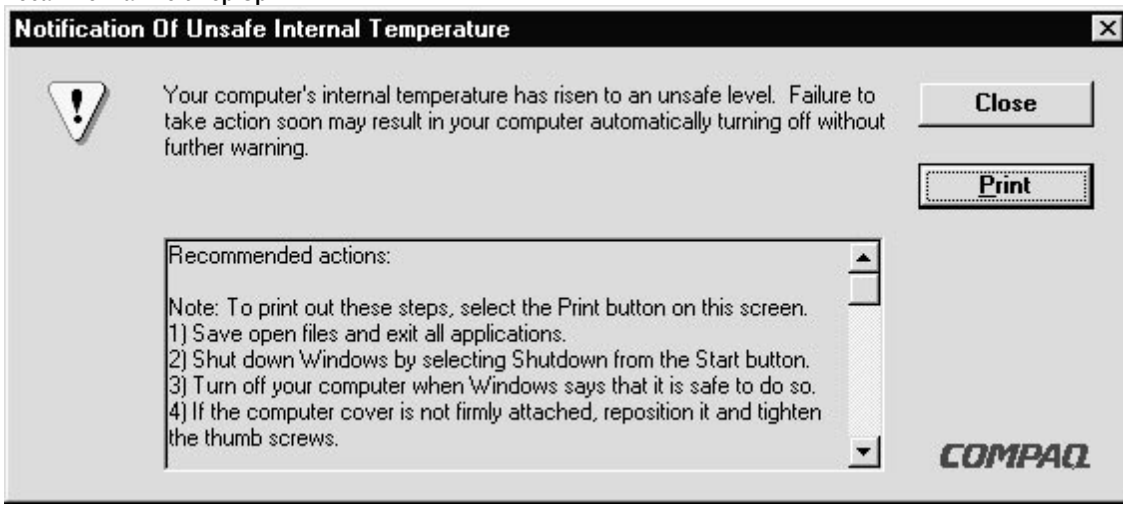
Under Windows 95, the Diagnostics for Windows Management Tool is still the principle application for viewing AssetControl information. The information is presented in the same format. To this, the fault management Alert Pop-Up screens are added that alert the user to impending hard drive failures or thermal management problems. These alert screens provide the user with warning of an impending fault problem and allows them to take the appropriate steps to avoid catastrophic loss of data. In the case of a hard drive alert, the user can close all applications and manually backup data to the network or locally to tape before the hard drive fails. The hard drive can then be replaced and data restored without the catastrophic loss of mission critical data. In the case of a thermal fault alert, the user is warned to close all applications because temperatures are exceeding operating thresholds. After this warning, if the temperature in the unit continues to rise, the unit will shut itself down automatically.

The Alert Pop-Up screens are shown below. The recommended actions box within the Alert Pop-Ups may be customized to include corporate guidelines or other instructions pertinent to resolving the fault.

IntelliSafe Hard Drive Local Alert



Local Thermal Alert Pop-Up



REMOTE MANAGEMENT UNDER WINDOWS 95

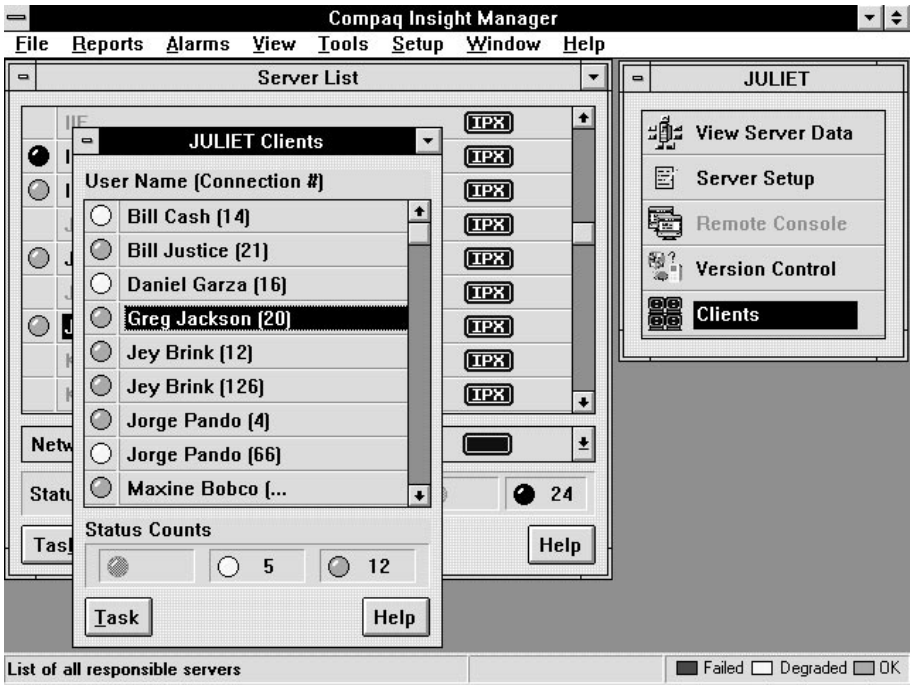
The addition of remote fault alerting and proactive tape backup are two of the key benefits of desktop management under Windows 95. To enable these remote features, Compaq Insight Manager for servers has been extended to support desktops and we have worked with top ISV's to develop software providing remote fault management capabilities.

INSIGHT MANAGER FOR DESKTOPS

Using the SNMP protocol available in Windows 95, Compaq has continued the migration of our management tools from our servers to our desktops by enhancing Compaq Insight Manager. This extension of Compaq's Insight Manager provides the LAN Administrator with the remote viewing tools that are needed to manage the extensive PC networks existing in today's business. This tool allows the LAN administrator to remotely view asset data, configuration data, NIC performance data, and contact information. In addition, Insight Manager provides remote fault alerting for impending desktop hard drive and thermal failures. Insight Manager notifies the network administrator of problems by adding a visual alert by the client name on the client master list database, as well as adding the client name to a special "alert list" which lists all PCs with potential problems. Insight Manager can also be configured to provide a pop-up alert window, an audible alert, or even send a message to a pager when a client is experiencing problems. Several of the Insight Manager screens are shown below.

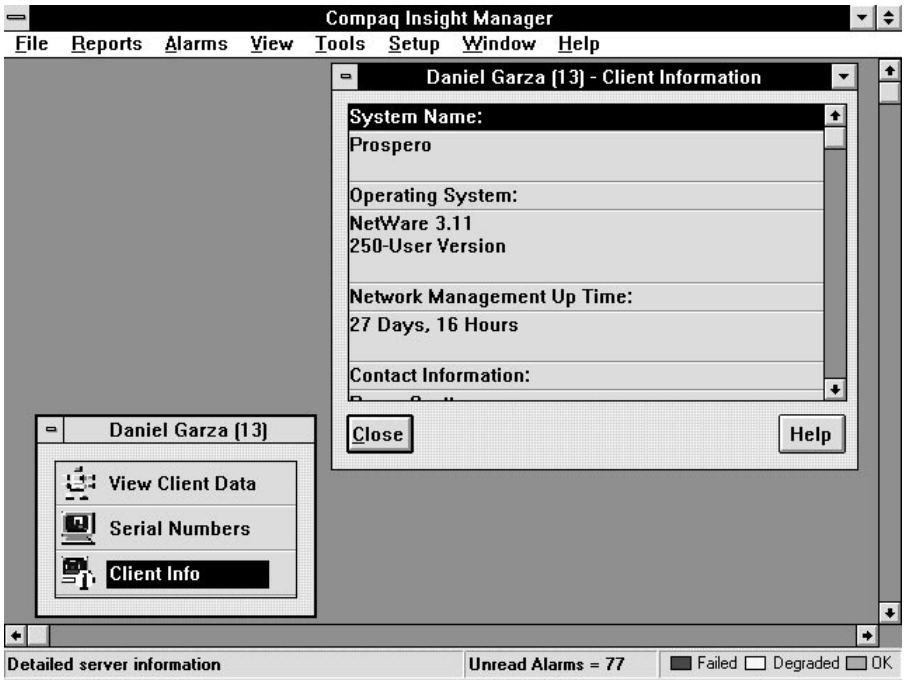
Client List Screen

This screen lists the clients set up for use with a particular server. In this example the server name is Juliet and the clients are Bill Cash, Bill Justice, Daniel Garza, etc. Selecting a client from this screen allows the LAN administrator to view individual client information.



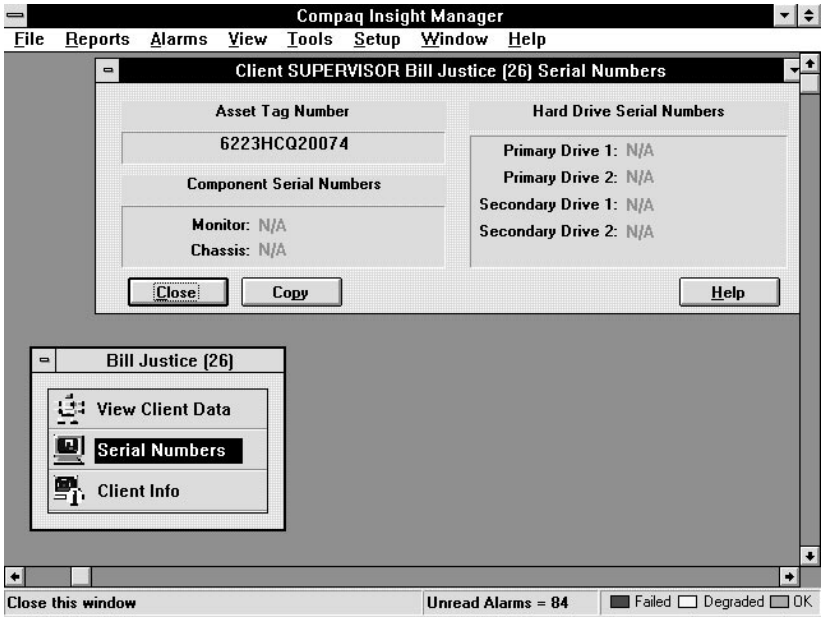
Client Information Screen

Once the administrator has selected a specific client to view, the administrator may click on the "Client Info" button to view the Client Information Screen. The Client Information Screen shows the administrator basic information about the client. This information includes system information as well as contact information such as the client's office and telephone numbers.



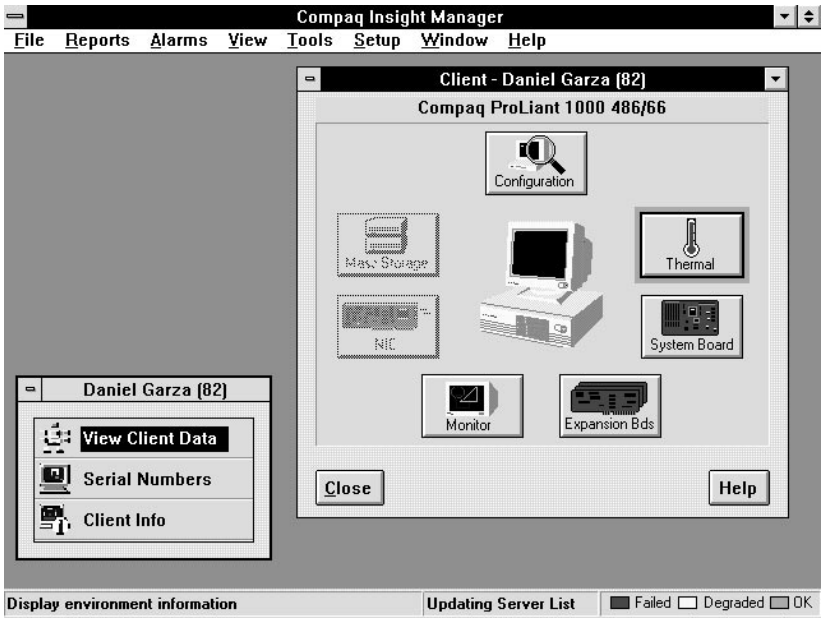
AssetControl Screen

To view AssetControl information the administrator would click on the "Serial Number" button. The AssetControl screen displays serial number data for the CPU, the monitor, and hard drives. In addition, this screen shows the Asset Tag number which typically ties back to a financial accounting capital asset register.



Client Data Menu Screen

To view more comprehensive information about the client desktop PC, the administrator clicks on the "View Client Data" button. The Client Data Menu Screen is the launching point used by the administrator to pop into more detailed screens and menus that ultimately provide all of the information required to characterize the client desktop computer and its operation, both hardware and software. This screen also provides print capabilities within each category selected.



Configuration Button- selecting this button shows detailed configuration information such as client desktop manufacturer , processor type, operating system, system board ID, type of expansion bus, floppy drive and hard drive data as well as a host of more detailed system resource level data

Thermal Button- this button provides a simple windowed message indicating the thermal state of the remote PC. In addition, thermal device software can be listed detailing thermal device drivers and SNMP agents, their revision levels and release dates.

System Board Button- clicking on the system board button will bring up a window containing a full set of AssetControl and configuration information describing the client desktop system board. Information displayed includes system name, ROM version, bus type, board revision level, processor type, cache memory size, and main memory size.

Expansion Board Button- selecting the expansion board screen allows the administrator to view and identify the boards in each expansion slot as well as identifying which slots are empty.

Monitor Button- the monitor button calls up the monitor screen which displays information about the monitor such as model, serial number, date of manufacture, resolution, and refresh rate.

NIC Button- Selecting the NIC button allows the administrator to identify the type of NIC installed in the desktop PC as well as the NIC's hardware and software settings. In addition, the administrator may view detailed NIC performance data which can be useful for resolving network performance issues.

Mass Storage Button- The Mass Storage button allows the administrator to view disk controller information as well as AssetControl information such as hard drive serial number, firmware version, drive type, capacity, and other technical parametric data.

REMOTE FAULT MANAGEMENT WITH SOLUTIONS PARTNER PRODUCTS

While Insight Manager provides remote alerting in the event of thermal fault or IntelliSafe hard drive fault, third party support is required for automated remote tape backup. Currently three ISV's are developing software to enable automated tape backup under Windows 95. The first vendor's product that we can disclose is Cheyenne's ARCServe. Utilizing Windows 95's embedded SNMP protocol, this product will provide for remote tape backup on receipt of a fault alert without intervention from the administrator or user. This product prevents the loss of mission critical data and significant loss of productivity for both the desktop user and the administrator. More information on the other ISV products being developed for remote tape backup will be included in future communications. Third-party support is also being developed for remote fault alerting of IntelliSafe hard drives.

NEW DESKPRO—NETWORK READY PCS

At the new Deskpro and new ProLinea announcement, the transition of all Deskpro products to network ready PCs will be complete. All Compaq Deskpro units with the exception of the Deskpro XE will ship with either integrated PCI Ethernet on the system board or with an IBM Token Ring card installed in the Compaq option slot. In addition to the NIC hardware, network setup utility with the Novell Universal Network Client Shell will be pre-installed.

ETHERNET: Integrated NetFlex Enet/PCI Controller

The new Deskpro will include an AMD 32-bit integrated PCI Ethernet subsystem. Network drivers will also be pre-installed. Outputs from the Ethernet subsystem are either RJ-45 for unshielded twisted pair 10Base-T wiring schemes or AUI. For BNC support, we provide an AUI to BNC transceiver optionally for North America and standard for Europe and most of APD.

TOKEN RING: IBM Auto 16/4 Token Ring ISA Adapter

In response to customer requirements for an IBM Token Ring solution, Compaq has utilized the IBM Auto 16/4 Token Ring ISA Adapter to use as the standard NIC in Token Ring Deskpro models. This adapter provides complete compatibility with all Token Ring environments and since it is an IBM solution, it will fit well into existing Token Ring installations. The adapter is enabled for Plug and Play, adheres to IEEE 802.5 and 802.2 standards, provides automatic ring speed detection, built in Remote Program Load, two LED's that show the NIC's status, and uses native IBM drivers. Driver support is optimized for all major network operating systems including, Novell NetWare, Windows NT, LAN Server, LANManager, TCP/IP, and SCO UNIX. The adapter is installed in the Compaq option slot and provides RJ-45 for unshielded twisted pair wiring schemes as the standard output connector. All Token Ring SKU's will also ship with a RJ-45 to DB-9 adapter cable for those customers using shielded twisted pair wiring schemes.

QUESTIONS AND ANSWERS

Q1. What is Intelligent Manageability?

A1. Many vendors today claim network management expertise. But at Compaq, we've proven our expertise through more than five years of worldwide leadership in server management. Now Compaq is bringing that server management expertise to the desktop PC. Intelligent Manageability is Compaq's industry leading implementation of desktop management.

The introduction of the new Deskpro represents the first implementation of two new Compaq strategies: **Intelligent Manageability** which is the Compaq desktop management strategy to make networked PCs easier to manage and less expensive to maintain, and the **Compaq Desktop Management Solutions Partners Program** which is a Compaq initiative to ensure the compatibility and integration of Intelligent Manageability with leading PC LAN management vendors' products. The network features of the new Deskpro are designed to deliver immediate setup and management benefits to the customer as well as providing the hardware requirements to take advantage of future Desktop Management tools.

Q2. What is the Compaq Desktop Management Solutions Partners Program?

A2. Compaq's reputation is built upon compatibility and quality. The Compaq Desktop Management Solutions Partners Program moves those two elements of our success into the management domain. The program is a Compaq initiative to ensure compatibility and integration of Intelligent Manageability with the leading PC LAN management vendors. Now, the benefits of Compaq's Intelligent Manageability are accessible to our entire customer base. The broad vendor support ensures that our customers can easily manage Compaq PCs using their choice of tools and they can do so more confidently and cost-effectively than with other PCs.

Q3. What vendors are participating in the Compaq Desktop Management Solutions Partners Program?

A3. Currently, the participating vendors are: Cheyenne Software Inc., Frye Computer Systems Inc., Intel Corp., McAfee Associates Inc., Microsoft Corporation, Network Computing Inc., Saber Software Corp., and Tally Systems Corp. We expect this list to expand over time.

Q4. When will these vendors' products support Intelligent Manageability?

A4. These vendors are currently shipping or will soon ship products that support Intelligent Manageability. For actual product name, version, and availability information you must contact the vendor directly.

Q5. Why is the Compaq Desktop Management Solutions Partners Program necessary?

A5. There is a lot of confusion in the marketplace today. Several management technologies are competing for the customer's mind share (e.g. SNMP, DMI, Plug and Play, Windows Registry, etc.). Unfortunately, too few PC LAN management products that are well integrated with PC hardware are available today. Rather than market technologies that provide no useful benefits at this time, Compaq decided to work with the PC LAN management vendors to provide customers with viable solutions today. The Compaq Desktop Management Solutions Partners Program lets customers focus on using their networks to solve business problems, thereby reaping the benefits of lower cost of ownership via these well integrated products.

Q6. What have these vendors done to ensure compatibility with the new Deskpro's Intelligent Manageability?

A6. Compaq has supported the vendors during their product development phase. Compaq Technical Reference Guides and emulation software was provided. In addition, each of these vendors have integration tested their products in the Compaq Desktop Management Integration Lab.

Q7. Does Compaq support the Desktop Management Task Force (DMTF)?

A7. Yes. Compaq is a Steering Committee Member of the DMTF and endorses the technology defined by the DMTF. Unfortunately, the Desktop Management Interface (DMI), the technology defined by the DMTF, is not yet included as a standard feature of today's desktop PC operating systems. When the DMI becomes a standard and integrated component of desktop operating systems, Compaq will deliver DMI-enabled PCs and continue to work with the members of the Compaq Desktop Management Solutions Partner Program to ensure tight integration and compatibility with these vendor's products.

Q8. What has the Desktop Management Task Force defined?

A8. The Desktop Management Task Force (DMTF) has defined two pieces of technology- the Desktop Management Interface (DMI) and the Management Information Format file (MIF). The DMI is the set of API's that enable the management of hardware and software components. A MIF is a text description of a hardware or software component that can be managed by using the DMI. MIF's are created by component vendors to describe their product; the format and the contents follow a specific set of rules in order to be understood by the DMI.

Q9. Does SNMP (Simple Network Management Protocol) have any relationship to DMTF?

A9. No. SNMP is an old, well established network management protocol that was developed to provide protocol support for managing networked devices on the Internet. The DMTF is much newer than SNMP and has yet to define a management protocol.

Q10. Hewlett-Packard is delivering DMI technology today. What's wrong?

A10. HP chose to be first-to-market with technology, not solutions. The customer's issue really is "How many of today's PC LAN management products can be used with the HP implementation?" The answer is one, Intel's LANDesk Management Suites 2.0. In contrast, Compaq is pursuing a more pragmatic approach to satisfying the customer's need for manageability. Compaq focused on integrating Intelligent Manageability with all of today's leading PC LAN management products. When the DMI becomes a standard and integrated component of desktop operating systems, Compaq will deliver DMI-enabled PCs and continue to work with the members of the Compaq Desktop Management Solutions Partners Program to ensure tight integration and compatibility with these vendor's products.

Q11. What third party products will deliver remote management applications for DMI compatible products like The new Deskpro and new ProLinea?

A11. The Compaq Desktop Management Solutions Partners Program has developed significant third party support for remote desktop management without using the DMI. For applications that are written specifically for DMI, Intel a DMTF steering committee member, has incorporated DMI support into their LANDesk Management product.

Q12 What impact does Microsoft's DMTF direction have on Compaq or the new Deskpro?

A12 This decision will have no impact on Compaq. We will support DMTF and will also exploit the systems management capabilities found in Windows 95. There is no impact to the new Deskpro.

Q13 Will a desktop management version of Insight Manager be available with the introduction of the new Deskpro? Will it be supported in all network environments where we support Insight Manager for servers?

A13 Insight Manager will support the desktop using SNMP. The PC must also be running Windows 95 for Insight Manager to communicate with it. Therefore, Insight Manager support really depends on how long it takes for Microsoft to deliver Windows 95. Insight Manager will only support desktops in a NetWare environment.

Q14 Are AssetControl features available on the New ProLinea as well as the new Deskpro?

A14 Locally, the Diagnostics for Windows Management Tool will display only product ID, processor, asset tag, system serial number, hard drive serial number, monitor ID and firmware revision level. Remotely, using third party management software, the administrator can view CPU identification, asset tag, system serial number, hard drive serial number, monitor ID, firmware revision level, and software inventory. The system board revision level cannot be viewed remotely on the New ProLinea.

Q15. Is the Asset Tag for the CPU controlled by the administrator password?

A15. Yes. If an administrator password is set, the asset tag cannot be changed unless the administrator password is invoked.

Q16. Is there an Asset Tag for the monitor in addition to its serial number?

A16. No. The monitor asset tag is assumed to be the serial number of the monitor.

Q17. Using third party management software, does the administrator have the ability to download software directly to the managed desktop PC?

A17. Yes. Third party management software can download software updates directly to the managed desktop PC.