

# PATROL® for Microsoft Windows 2000 Server – Diagnose

## Key benefits

- Isolates and diagnoses the root cause of a loss of service and reports diagnosis to a central console
- Uses automated tests to eliminate the number of potential causes
- Simplifies administration of complex systems by improving availability
- Installs and discovers automatically all managed nodes and application topology objects in any environment
- Identifies the impact the diagnosed problem will have on interrelated nodes, devices and dependent application services throughout the managed enterprise
- Provides an audit trail of the raw events used to make the root-cause diagnosis

## The challenge

To manage the applications that drive your business, you need to manage every component on which each application relies – the database, Internet applications and servers, server hardware, middleware and the operating system. Managing these heterogeneous components is challenging and requires easy-to-use and scalable solutions.

The success of your organization is dependent on the ability to meet the needs of your customers. Your customers expect the highest levels of availability and service around the clock. And maintaining the availability of your systems is only part of the solution. Quickly and decisively identifying the root cause of a loss of service or outage is the other.

## The solution

The PATROL for Microsoft Windows 2000 Server – Diagnose product pinpoints the root causes of availability and performance problems on Microsoft Windows 2000 Servers. This enables you to quickly and confidently initiate appropriate recovery actions. The results of the analysis are available for review by operators and each problem can be tracked over time.

PATROL for Microsoft Windows 2000 Server – Diagnose is a uniquely powerful, out-of-the-box solution to help IT personnel perform root-cause analysis with the aid of:

- PATROL for Microsoft Windows NT Server and PATROL for Microsoft Windows 2000 Server – provide monitoring of the operating system
  - PATROL for IP Networks – Diagnose – provides network fault isolation
- When events are detected, PATROL automatically isolates potential causes and performs automated tests to eliminate them in the following ways:
- Diagnoses the root cause of problems based on incoming symptoms and tests the results
  - Runs automated or guided manual tests as soon as there is notification of a problem
  - Builds the rules that enable true root-cause analysis automatically

- as managed objects are discovered using the built-in modeling engine
- Updates and changes the rules dynamically and automatically as the enterprise changes

## Diagnosing problems

PATROL for Microsoft Windows 2000

Server – Diagnose also pinpoints many time-consuming problems, including those caused by a lack of network connectivity. This solution addresses intelligent diagnosis of the root cause of a loss of service by:

- Diagnosing the root causes of failures related to applications, operating systems, middleware, RDBMSs and network connectivity problems
- Displaying the services affected by a failure
- Distinguishing true root causes from sympathetic symptoms
- Dynamically adapting to network changes

PATROL also diagnoses problems related to the following services and components:

- Domain controllers
- Dynamic Host Configuration Protocol (DHCP)
- Broadcasts
- LMHOST
- HOSTS
- Domain Name Service (DNS)
- Windows Internet Name Service (WINS)

## IP networking model

To determine accessibility, PATROL for Microsoft Windows 2000 Server – Diagnose also:

- Monitors single- or multipath networks
- Handles multiple simultaneous failures

- Identifies the potential impact of failures on services and applications
- Polls managed nodes on a regular basis
- Allows you to enable or disable the polling of a device
- Provides an adjustable polling frequency

## Root-cause analysis modeling

Root-cause analysis is initiated by PATROL alarms or IP accessibility failures. If a PATROL alarm triggers a root-cause analysis, the alarm is acknowledged in the PATROL event manager and a diagnosis manager instance is created. The diagnosis manager instance is displayed via the PATROL Console and contains all of the information about the event and failure that it represents. This includes a list of faults that are suspected to be the root cause as determined by the modeling engine.

If no specific root cause is found, the suspected root causes are displayed in a warning state. PATROL for Microsoft Windows 2000 Server – Diagnose then suggests manual tests to help determine the specific root cause. These tests can be executed from the PATROL Console, at a time when they will not adversely affect business operations.

## Impact analysis

When PATROL diagnoses a root cause of a failure, it also lets administrators know what services and managed objects are affected by the failure. PATROL alarms generated independently by the failure of these services can be treated as sympathetic alarms and thus ignored.

Administrators can use PATROL to create a recovery action that automatically notifies the staff affected by the failed devices and the person responsi-

ble for correcting the problem. This feature helps reduce recovery time by eliminating unnecessary troubleshooting.

## Dynamic updating of topology

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Server – Diagnose uses dynamic discovery to update the enterprise topology map. The topology map used by the correlation engine during root-cause analysis consists of the IP topology information about your network devices, operating system and applications. If servers or applications are added or removed from the network, PATROL for Microsoft Windows 2000 Server – Diagnose detects these changes and automatically updates the map.

## Record keeping

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Server – Diagnose also provides an audit trail of the analysis process used to diagnose the root cause or causes of a system failure. If a specific root cause cannot be diagnosed, PATROL may provide a list of suspected root causes and recommend tests accordingly.

PATROL also lists the tests that were performed automatically during the analysis. From the PATROL Console administrators can see which tests were performed and the results.

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