

# MonitorIT<sup>®</sup>

## Key MonitorIT Technical and Feature Items

- **Complete & Robust Agent Based Server & Network Monitoring:** Monitor IT is a complete, comprehensive and extensible real-time monitoring tool for Windows servers and workstations, Linux/Unix servers and network devices providing detailed server/workstation monitoring including Services, Processes, Performance Counters, Event Logs, Files, Registry, CPU, Disks, Memory, and other resources; and detailed network device monitoring with SNMP & Syslog.
- **Consolidated Dashboard Status Display and Reporting:** From a single central monitoring server, MonitorIT scales to monitor over 1,000 local and remote servers/devices offering network managers a consolidated, dynamic status view on a single dashboard display. Users can access MonitorIT anytime, from anywhere, using an Internet Explorer Web browser to view real-time monitoring data and dynamic dashboard displays, generate reports and perform administration tasks.
- **Extensible Monitoring Programming Platform:** With the "CustomWatch" monitoring option, MonitorIT provides a user the easy ability to extend and enhance monitoring with Windows scripting, and scheduled execution of any Windows executable including in-house developed or 3<sup>rd</sup> party programs. One can script very detailed monitors for Exchange Server, Active Directory, SQL Server, IIS, and other Windows server based systems. Various sample scripts are included with MonitorIT.
- **Automated Remediation and Recovery Actions:** MonitorIT provides alert action options to have a designated 'Program' run under a specified security context based on Username/Password credentials, with an optional 'Working Start Directory' for the 'Program', and an option to 'Show Window' for the 'Program's' Window GUI; the 'Program' can be any Windows Batch, Script such as VBS & WMI, COM, and EXE.
- **Comprehensive LOG Monitoring and Management:** MonitorIT's real-time EventLog and Syslog alert Monitoring and long term Archiving enable organizations to react quickly to issues and meet requirements for Sarbanes-Oxley issues, HIPAA and other IT compliance requirements for managing Event Logs and Syslogs.
- **Multi-Tenant Platform:** MonitorIT supports managing "multiple-tenants". With optional security settings, view all tenants, or view a partitioned set of one or more tenants.
  - For MSPs, support multiple clients in a single, scalable central MonitorIT Server, with optional separate security settings based on client login and limited to viewing only the clients' servers, workstations, devices and associated Watches on the various console displays.
  - For Medium-Enterprise Businesses, support multiple administrators and analysts, with option security settings based on their Windows login and limited to viewing only their responsible servers, workstations, devices and associated Watches on the various console displays.

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- **Flexible Licensing:** MonitorIT offers flexible licensing. Purchase licenses as needed and add licenses as requirements grow.
  - For MSPs, allocate and reallocate available licenses among clients as some clients are added and clients grow, and other clients shrink or drop-out;
  - For Medium-Enterprise Businesses, allocate and reallocate available licenses among departments and divisions as needs grow and change.

## Technical Summary

MonitorIT consists of a central MonitorIT Server application, an Agent application that is deployed to each Windows server and workstation and Linux/Unix server to be monitored, and an Internet Explorer based 'console' application to interface to the central MonitorIT Server.

### **Central MonitorIT Server**

- Implemented with Microsoft Visual Studio C++
- Multi-threaded and runs as a Windows service 24 x 7
- Self-monitoring via a separate service 'wrapper' component for the ultimate in reliability and robustness which will auto-restart the primary MonitorIT Server process if the service detects that the primary process is not running or is not functioning correctly
- Controls the central MonitorIT database; monitors Windows servers via the deployed Agents; and manages multiple local and remote IE based 'consoles' for command input and dynamic display/dashboard output
- Scales to monitor as many as 1000+ Windows and Linux/Unix servers per MonitorIT Server via the deployed Agents
- Listens by default on port 82 for connection requests from deployed Agents; establishes TCP connections with Agents and uses a proprietary message protocol with all transmissions encrypted and compressed for secure communication
- Communicates the applicable monitoring rules, called Watches, to an Agent upon connection
- On Windows servers, using the deployed Agent, can monitor Services, Processes, Files, Event Logs, Performance Counters, including CPU, Disk space, Memory, Network, Registry, and Hardware Configuration details
- Monitor deployed Agents for keep-alive heart-beat messages sent to insure Agents stay connected; alerts when Agents are not connected
- Listens by default on port 81 for HTTP 'console' page requests, and then establishes a secure, encrypted & compressed TCP connection on port 82 with the local/remote 'console' for send/receive of all data. The IE based local/remote 'console' uses one of its ActiveX Controls to establish this secure connection with the MonitorIT Server
- Uses the available MDAC Access database engine for its database by default which performs very well up to Access limitations of size at 2GBs; this is usually reached at the level of 35-50 servers/devices being monitored
- Optionally use SQL Server for its database; this can be a local or remote SQL server where the MonitorIT database is attached

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## Deployed MonitorIT Agents

- Implemented with Microsoft Visual Studio C++ for the Windows Agent; and Java for the Linux/Unix Agent
- Multi-threaded and runs as a Windows service, or Linux/Unix daemon 24 x 7
- Self-monitoring via a separate service 'wrapper' component which will auto-restart the primary Agent process if the service detects that the primary process is not running
- Windows Agent Installed using one of three options; (1) centrally from the MonitorIT Server via 'push' technology; or (2) 'pulled' from the MonitorIT Server using IE to connect from the target server; or (3) manually copy files, and run a batch file
- Linux/Unix Agent installed by manually copying files
- Extremely robust and low overhead; no known compatibility issues running on tens of thousands of Windows servers world-wide in every conceivable configuration; accomplishes all its monitoring using standard Windows C++ API calls; or standard Linux/Unix commands
- Agent always initiates the connection to the MonitorIT Server, by default using port 82 outbound so this is the only port that needs to be open; and establishes the secure encrypted & compressed TCP connection with its proprietary message protocol to the central MonitorIT Server
- Agent maintains the connection, and the MonitorIT Server monitors the connection with the Agent, using a tiny keep-alive, heart-beat message sent by the Agent to the MonitorIT Server, and then echoed back by the MonitorIT Server to the Agent which monitors the receipt
- Agent can be deployed on servers anywhere worldwide and can be monitored by the central MonitorIT Server over the internet
- Monitors Services, Processes, Files, Event Logs, Performance Counters, including CPU, Disk space, Memory, Network, Registry, and Hardware Configuration details; receives its applicable monitoring rules, called Watches, upon connection to the central MonitorIT Server
- Complete flexibility in defining monitoring rules to accomplish very targeted monitoring

## Local/Remote MonitorIT Consoles

- Implemented with dynamic HTML, Jscript, and ActiveX Controls, which are themselves implemented with Microsoft Visual Studio C++
- Connect to the central MonitorIT Server which listens by default on port 81 for HTTP requests; use as the URL <http://MonitorITServerNameOrIPAddress:81>
- HTTP connection is only used to deliver the HTML page; once the page is downloaded, it uses embedded Jscript code and an associated ActiveX Control, which is downloaded the 1<sup>st</sup> time, to establish a secure TCP connection on port 82 back to the MonitorIT Server for all data communications
- One or more IE based 'consoles' can be run either local and/or remote to the MonitorIT Server

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- MonitorIT Server optionally enforces login security from a console so only authorized users are permitted access; login credentials can be unique to MonitorIT or based on the user's Windows credential where the MonitorIT Server does not manage passwords but rather calls into Windows to authenticate the user
- Authenticated User's can be limited to type of access; either full or limited Admin rights, or full or limited 'view only' Analyst rights
- All MonitorIT Server functionality available via the IE based 'console' with a variety of dynamic status displays and consolidated dashboard displays