hp high availability (ha) monitors

The monitors help to ensure you the highest availability by notifying you of an event before it happens. An event can simply be defined as something you want to know about; for example, a disk failure or file space dropping below a predefined level. The monitors can poll hardware, disks, clusters, network interfaces and system resources sending information to your framework.

HP’s High Availability monitors can also give you improved productivity and application availability by enabling automatic detection of HA disk component failures. Additionally, they monitor logical and physical volumes: mirrored copies of data, network interface cards, file system status and number of users.

the challenge
How to detect system failure in a mission-critical environment before it happens.

the solution
Event Monitoring Services (EMS)

business benefits
• enables efficient and effective monitoring of your systems within a single, comprehensive framework
• delivers the ability to tailor the monitoring system to fit your specific needs
• enables a wide variety of notification methods through multiple protocols (snmp traps, tcp, utp, opc messaging)
• provides immediate alert if a component fails enabling you to proactively schedule its replacement
• interacts with hp mc/serviceguard and serviceguard ops edition to provide a more complete high availability solution for mission-critical needs

introduction
Every minute a system is down money is lost, making it essential that you maintain your system availability to keep your enterprise running smoothly and profitably. And because the weakest link in any high availability system is the single point of failure, gaining visibility of these failure events is crucial in order to quickly schedule the failed component for replacement.

HP’s Event Monitoring Service (EMS) reports information that helps you detect loss of redundant resources, thus exposing single points of failure and eliminating the threat to data and application availability. And now, HP EMS capabilities cover the entire system: system components, storage and network interfaces.

provides open framework, supports multiple protocols

HP EMS is a system monitoring application designed to facilitate real-time monitoring and error detection for HP products in the enterprise environment. This framework enables centralized management of hardware devices and system resources and it provides immediate notification of hardware failures and system status. HP EMS can receive data on unusual activity and add information on the problem’s source.

HP EMS consists of a set of system and network monitors within a monitoring environment. This monitoring framework has an easy-to-use interface and provides a mechanism for monitoring resources, registering monitoring requests and sending notification when resources reach user-defined critical values. HP EMS monitors may come with preset threshold values defined by the monitor developers. They were also designed for flexibility so you can pre-configure event-monitoring thresholds to your desired levels.
<table>
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<tr>
<th>features</th>
<th>benefits</th>
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<tr>
<td>Real-time notification</td>
<td>Just-in-time notification gives you immediate visibility of the problem so you can prevent unplanned downtime through remedy and repair.</td>
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<td>Several notification methods</td>
<td>HP EMS can notify you of an event by the system console or e-mail, or it can generate pager notification through system management tools such as HP OpenView IT/Operations (IT/O). These notification methods can help reduce your total cost of ownership.</td>
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<td>Logging capabilities</td>
<td>HP EMS allows you to store messages in syslog or textlog which provides logging for future trend analysis. Previously you could only configure reaction/failover with HP MC/Serviceguard or viewable with IT/O.</td>
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<td>Free API’s</td>
<td>HP is providing, free-of-charge, the same set of APIs to various hardware and software vendors who are working with us to create hardware and software monitors that interface with the HP EMS framework. Having these third parties use this common set of APIs delivers an extra layer of reliability to the solution because the individuals who are designing the devices and software are the people most familiar with their own products. Having the APIs available also means that you can write your own custom monitors that will plug into the HP EMS framework and take full advantage of the EMS capabilities.</td>
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<td>Tight integration with MC/Serviceguard and Serviceguard OPS Edition</td>
<td>HP’s MC/Serviceguard and Serviceguard OPS specialized facilities protect mission-critical applications from a wide variety of hardware and software failures. With HP MC/Serviceguard or Serviceguard OPS, multiple nodes (systems) are organized into an enterprise cluster that delivers highly available application services to LAN-attached clients. All of the EMS resource monitors are integrated with MC/Serviceguard and Serviceguard OPS through the EMS framework. Custom EMS monitors allow you to extend the failover capability of MC/Serviceguard and Serviceguard OPS to include those monitored resources.</td>
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<td>EMS Disk Resource Monitor</td>
<td>Disks are essential components in HA environments, with most mission-critical environments relying heavily on disk access. Either disk mirroring or redundant physical links to a device (pvLinks) are required to eliminate a single point of failure. HP’s Disk Resource Monitor (DRM) provides notification when HA disk components are failing, including mirror failure, and disk failure. DRM detects physical volume failures and reflects mirror status.</td>
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<td>Provides critical information to MC/Serviceguard</td>
<td>The DRM monitors Logical Volume Status—the collection or pieces of disk space from one or more disks—as well as Logical Volume Summary, Physical Volume Status (disk), and Physical Volume Summary. Each collection is put together so that it appears to be operating like a single disk. Like disks, logical volumes can be used to hold file systems, raw data areas, dump areas, or swap areas. The ability to monitor the logical volume is critical because MC/Serviceguard needs to know whether it can be accessed from the current node.</td>
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<td>HA Resource Monitoring to HP ClusterView Plus</td>
<td>HP ClusterView Plus integrates HP’s leading network and systems management platform, HP OpenView, with both HP’s high availability enterprise clusters anywhere on your network. It is integrated into the graphical, map-based interface of HP OpenView, resulting in a simple, easy-to-use method for obtaining configuration, status, and event information, and for launching cluster-related administrative tasks and applications.</td>
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<tr>
<td>Adds powerful resources with little or no system impact</td>
<td>In addition to providing multi-system benefits for system components, storage, and network interfaces. HP EMS capabilities extend to the entire system, including the monitoring of mirrored disks and the monitoring of a variety of storage and system-level resources.</td>
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**system requirements**

Monitors are available for the following areas:
- hp disk arrays
- fiber channel interconnect
- fiber channel i/o cards
- scsi tape products
- memory
- logical volume manager
- network interfaces
- users/jobs
- file system utilization
- hp mc/serviceguard and serviceguard ops ed. cluster status, se package, se package service status
- hp osi transport services

**turn to hp to keep your mission-critical applications up and running**

HP’s Event Monitoring Services is a component of HP’s complete High Availability solutions portfolio. Our mission-critical system engineering team can help you design the right high availability solution for your mission-critical computing environment.

**product requirements**
- hp 9000 enterprise servers and workstations
- hp-ux 10.20, 11.0, or later

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HP offers the best-in-class total high availability solution. It provides one of the most comprehensive HA product portfolios on the market along with a strong support and partner organization as well as consulting services to ensure the best solution for your mission-critical environment.
For more information of HP’s EMS system requirements or on other HP UNIX high availability programs and offerings, please visit us at www.hp.com/go/ha.

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