

# **Event Monitoring Service Version A.03.20.01 Release Notes for HP-UX 11i**



**Manufacturing Part Number: B7609-90015**

**December 2000**

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# **Event Monitoring Service Version A.03.20.01 Release Notes for HP-UX 11i**

## **Announcements**

Version A.03.20.01 of the Event Monitoring Service (B7609BA), includes media, license and manual. Version A.03.20.01 runs on HP-UX 11i B.11.11. It is available for HP 9000/Series 700 and 800.

Use the Event Monitoring Service (EMS), together with one or more EMS monitors, to monitor various system resources. The EMS product includes the framework and general monitors. You can configure EMS monitoring through monitoring requests. In the request, you define how and when you want to be notified about system resource events. EMS can enhance your high-availability environment by warning you about a single point of failure before it can make an application unavailable.

Monitors that register with the EMS framework are automatically discovered and displayed in the EMS interface. Monitors that use the interface can place information in the interface button, [View Resource Description](#). All monitors come with EMS dictionary files that can be found in `/etc/opt/resmon/dictionary`.

EMS contains the following:

- **The framework:** Provides discovery, configuration, and notification for EMS monitors. Depending on the monitor, EMS may actively poll or it may wait for event messages. It compares the return value with the threshold configured in the request. If it matches, the framework sends notification to the source specified, using the protocol specified.
- **The graphic interface:** You start the EMS interface from an icon in SAM. Use the interface to create, modify, and remove monitoring requests. You can also see a list of the available resources that EMS has discovered on your system, and a list of all current configured monitoring requests.
- **The `resls` and `resdata` EMS utilities.**

- The MIB Monitors:
  - HA Cluster Monitor checks the status of ServiceGuard clusters, nodes, or packages and services.
  - HA Network Interface Monitor reports the status of LAN interfaces.
  - HA System Resource Monitor checks the number of users, tge system load, and the amount of file system space.

EMS can be used with:

- HP OpenView, ServiceGuard, and any other software that can receive SNMP traps, TCP, or UDP protocol messages
- text to email, console, syslog or regular files that use text messages

Users can write their own monitors, using the EMS Developers' Kit. For more information, go to <http://www.software.hp.com> and click High Availability, then Event Monitoring Service Developers' Kit. The manual and software can be downloaded free from this web site.

## **What's New in this Version**

The A.03.20.01 Version of Event Monitoring Service is a minor release, for HP-UX 11i. It runs only on HP-UX, Version 11i B.11.11 or later.

The Draft version of Event Monitoring Service supports the same configurations as versions A.03.00 through A.03.20.

## **What Manuals are Available for This Version**

The following manuals are shipped with the Event Monitoring Service A.03.20.01:

- *Using the Event Monitoring Service* (HP Part Number B7612-90015)

## **Further Information**

Online versions of user's guides and white papers for high availability products are available on Hewlett-Packard's HP-UX Documentation web page:

<http://docs.hp.com/hpux/ha>

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## Compatibility Information and Installation Requirements

EMS should be installed on each node that you want to monitor. It does not need to be installed on the management station, unless you want to also monitor the management station itself.

### Compatibility with HP-UX Releases

**Table 1-1 EMS Hardware and HP-UX Compatibility**

EMS Version	Compatible HP-UX Releases	Compatible Hardware
EMS A.01.00	HP-UX 10.20	HP-UX 800 series servers
EMS A.02.00	HP-UX 11.00	HP-UX 800 series servers
EMS A.03.00, A.03.00.01, A.03.10, and A.03.20	HP-UX 10.20 OR HP-UX 11.00	HP-UX 700 and 800 series servers
EMS A.03.20.01	HP-UX 11i B.11.11	HP-UX 700 and 800 series servers

### Software Requirements

If you are a licensed MC/ServiceGuard customer using EMS to configure resources as package dependencies, you must have the correct version of MC/ServiceGuard installed.

**Table 1-2 EMS MC/ServiceGuard Compatibility**

EMS Version	HP-UX Release	ServiceGuard Version
A.01.00	HP-UX 10.20	MC/ServiceGuard A.10.10

**Table 1-2 EMS MC/ServiceGuard Compatibility**

EMS Version	HP-UX Release	ServiceGuard Version
A.02.00	HP-UX 11.00	MC/ServiceGuard A.11.01, A.11.03
	HP-UX 11.00	MC/LockManager A.11.01, A.11.02, A.11.03
A.03.00, A.03.00.01, A.03.10, and A.03.20	HP-UX 10.20	MC/ServiceGuard A.10.11, A.10.12
	HP-UX 11.00	MC/ServiceGuard A.11.04, A.11.05, A.11.07, A.11.08, A.11.09
		MC/LockManager A.11.04, A.11.05, A.11.06
		ServiceGuard OPS Edition A.11.08, A.11.09
A.03.20.01	HP-UX 11i B.11.11	MC/ServiceGuard A.11.09
		MC/LockManager A.11.06
		ServiceGuard OPS Edition A.11.09

**Requirements for HP OpenView Users:**

Configure templates into HP OpenView ITO or NNM to see the EMS events. To configure, download the latest templates from the <http://software.hp.com> web site. Click High Availability, then Event Monitoring Service Developers' Kit. The templates are in a list near the bottom of the Developers' Kit page. Instructions are provided with the templates.

## **Hardware Requirements**

EMS runs on the HP 9000 series 700 and 800 servers.

## **Disk Requirements**

EMS requires 2.75 Mb of disk space to install.

An additional 13.0 Mb of disk space should be allocated for `/etc/opt` to support EMS logging facilities.

## **Memory Requirements**

EMS requires approximately 3 Mb of memory to execute.

## **Installing the Event Monitoring Service**

EMS checks the resources for local systems only. EMS is most effective when installed and configured on all systems in your environment.

EMS should be installed on each node that you want to monitor. EMS can be installed on a running system in multi-user mode.

Use the software management tools in SAM or the `swinstall` command to install EMS. For details, see the `swinstall` manpage.

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### **NOTE**

Updated monitors may have new status values that change the meaning of your monitoring requests. When you update a monitor:

- Check for recent updates of the EMS bundle to ensure compatibility with the new monitor
- Review your existing monitoring requests to ensure they are current and reasonable for the new monitor

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The EMS bundle (Part Number B7609BA) version A.03.20.01 contains the following file sets:

- EMS-Core.EMS-CORE — EMS framework
- EMS-Config.EMS-GUI — SAM interface to EMS
- EMS-MIBMonitor.MIBMON-RUN — MIB (Management Information Base) monitors for cluster, networking interface, and system

### resources

You can install EMS either of these ways:

- Use `swinstall`, or
- Use the Software Management area in SAM

If you have many systems, it may be easier to install over the network from a central location:

1. Create a network depot according to the instructions in *Managing HP-UX Software with SD-UX*.
2. `rlogin` or `telnet` to the remote host on which you are installing EMS.
3. Install over the network from the depot.

Your requests are retained when monitors are updated, or when you re-install a monitor on top of an existing monitor. This is part of the functionality provided by the persistence client.

To install EMS, the installation process may need to modify `/etc/services`, `/etc/inittab`, or `/etc/inetd.conf`. If it does, it first puts a copy of the unmodified version in the `/var/tmp` directory. For example,

- `/etc/inittab` may be copied to `/var/tmp/ems_inittab.old`
- `/etc/services` may be copied to `/var/tmp/services.old`
- `/etc/inetd.conf` may be copied to `/var/tmp/inetd.conf.old`

## Removing EMS

To remove EMS, use `swremove` or the Software Management products under SAM. Note that the monitors are persistent, that is, they are always automatically started if they are stopped. Therefore, it is likely you will have warnings in your removal log file that say:

```
Could not shut down process
```

or errors that say:

```
File /etc/opt/resomn/lbin/p_client could not be removed.
```

Even if you see these warnings, monitors are removed and any dirty files are cleaned up on reboot.

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**CAUTION**

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When you remove EMS, all log files are also removed. If you wish to save any of the EMS log files, rename them or store them off *before* you remove EMS.

## **Patches and Fixes in this Version**

This section describes patches that are required and defects that have been fixed in Version Draft of Event Monitoring Service.

### **Required and Recommended Patches**

No patches are required for EMS Draft.

### **Fixes and Changes**

Two defects are fixed in EMS Version A.03.20.01 for 11i.

**Table 1-3**

#### **Corrected Defects**

<b>Defect number</b>	<b>Problem and Resolution</b>
JAGad05568	Persistent monitoring requests sometime disappear after reboot. EMS framework was modified to insure all persistent monitoring requests are reinstated after reboot.
JAGad26096	EMS does not work properly when system is booted in single user mode and then issues 'init 3' to start up the system process. Modified /sbin/init.d/ems file to insure that the EMS persistence client "p_client" does not terminate when /sbin/rc terminates.

## Known Problems and Workarounds

The following are known problems and suggested workarounds with the EMS:

### **JAGab77527: EMS client may fail to connect to the registrar**

*What is the problem?* An EMS client may fail to connect to the EMS registrar. If this occurs, you may see a message in `/etc/opt/resmon/log/client.log` like this one:

```
-----Start Event-----  
Event 11 occurred at Tue Oct 19 15:53:24.025936 1999  
Process ID: 1062 (/etc/opt/resmon/lbin/startmon_client)  
Log Level: Error  
  
rm_client_connect: Failed to connect to hprdsts.rose.hp.com,  
IP address 15.8.135.200, Port 1712: Invalid argument  
-----End Event-----
```

```
-----Start Event-----  
User event occurred at Tue Oct 19 15:53:24.036390 1999  
Process ID: 1062 (/etc/opt/resmon/lbin/startmon_client)  
Log Level: Error  
  
client connect failed: An error occurred while trying to  
connect to a remote system: Invalid argument  
-----End Event-----
```

*What is the workaround?* Perform the following:

1. Ensure the `inetd` is listening on port 1712. To do this, you can execute the following command. The desired output line is listed here:

```
netstat -an | grep 1712  
tcp        0      0 *.1712    *.*      LISTEN
```

If `inetd` is not listening on port 1712, be sure the following entry is in `/etc/inetd.conf`:

```
registrar stream tcp nowait root \
/etc/opt/resmon/lbin/registrar \
/etc/opt/resmon/lbin/registrar
```

Be sure the following line is in the `/etc/services` file:

```
registrar 1712/tcp # resource monitor service
```

Then enter `inetd -c` to reconfigure `inetd`.

2. Retry running the client that failed.

### **JAGab77759: ServiceGuard package service status is reported incorrectly**

*What is the problem?* `/cluster/package/service_status/<package_name>/<service_name>` may be incorrectly reported. When monitoring the service status of a package running locally and the ServiceGuard coordinator node is not the same node, service status may be incorrectly reported as UNKNOWN or DOWN when it is really UP. `cmviewcl` shows the service is UP.

*What is the workaround?* Configure package and service status monitoring on each node in the cluster. Then correlate the data reported on each node. The coordinator node will report status of UNKNOWN for the remote service. UNKNOWN state means that the service is up and running somewhere in the cluster.

### **JAGad03512: Events could be lost when EMS and HA Monitors are upgraded**

*What is the problem?* When updating the Event Monitoring Services, notifications for monitors with active persistent requests can be lost. This can happen for up to two minutes from the update. This cannot happen with a new install, only an update.

*What is the workaround?* Before updating, find out which monitors are active. Enter the `ps -ef |grep resmon` command. In the table below, check any of the monitors listed in the output.

Now, update the software.

Immediately after the update, activate the monitor to re-register all of its active persistent requests. Use the commands in the table below.

**Table 1-4**

<b>monitor name listed in output</b>	<b>command to re-register the monitor's active persistent requests</b>
clustermond	resls /cluster/localNode/status
diskmond	resls /vg
fsmond	resls /system/filesystem/availMb
lanmond	resls /net/interfaces/lan/status
mibmond	resls /system/numUsers
pkgmond	resls /cluster/package/package_status
rdbmsmond	resls /rdbms
svcmond	resls /cluster/package/service_status

## **Name services requirement**

*What is the problem?* EMS may not function if you are running name services that do not use `/etc/services`, such as NIS, DNS, or X.500.

The port number for the EMS registrar is listed in `/etc/services`. If you are running a different name lookup service, for example NIS, and it is not configured to use `/etc/services` as part of the name lookup process, then EMS monitors will not be able to find the `registrar` program and will not function.

*What is the workaround?* You can do either of the following:

- On the name server, add the registrar services line to the appropriate services file for the name lookup service you are running. The line should have the same port number as the line in `/etc/services`, for example:

```
registrar 1712/tcp                # resource monitor service
```

If `inetd` is not listening on port 1712, be sure the following entry is in `/etc/inetd.conf`:

```
registrar stream tcp nowait root \
/etc/opt/resmon/sbin/registrar \
```

```
/etc/opt/resmon/lbin/registrar
```

After you have confirmed both registrar requirements, reconfigure `inetd` by executing:

```
inetd -c
```

- **Add the `/etc/services` file to the lookup path your name lookup service uses. For example, modify the `nsswitch.conf` file to refer to `/etc/services` if you are running NIS.**

## **Software Availability in Native Languages**

Event Monitoring Service, Version Draft, is available with documentation in American English or Japanese. (The interface is available only in American English.)

B7609BA #ABJ Japanese

B7609BA #ABA American English

