

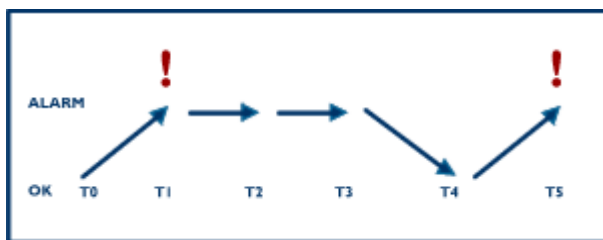
1. Alarm action basics

Alarm actions are the foundation of a pro-active network management system. The basic principle is that you want to be notified as soon as a critical component or resource fails. How well the network management system works is largely dependent on proper configuration. This document will outline some best practices in configuring alarm action scenarios.

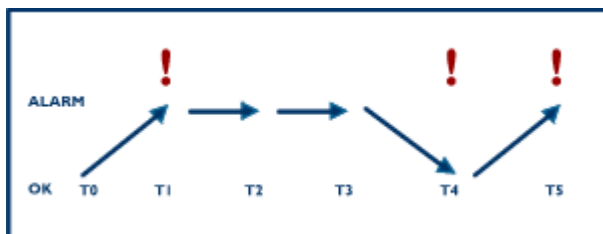
MonitorMagic includes the ability to escalate alarm actions in any order including dependencies. For instance, when a critical service on one of your production servers stops, you might want to automatically restart the service and get a notification when this fails. Another example is when a service fails, you might want to send an e-mail to helpdesk staff and page a senior technician when there has been no acknowledgement within 30 minutes.

2. Alarm execution options

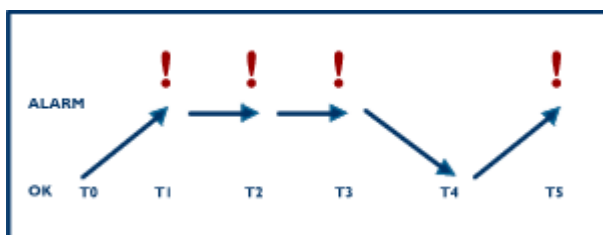
By default, MonitorMagic executes an alarm action when the rule is triggered and the monitor goes into the "Alarm" state. When the monitor remains in this alarm state, no subsequent alarm actions will be executed (when no additional delays or dependencies have been defined). This setting is discussed in this document as **Scenario 1**.



Another option is to have MonitorMagic execute an alarm action when the monitor returns from its "Alarm" state to the "OK" state. This setting is discussed in this document as **Scenario 2**.



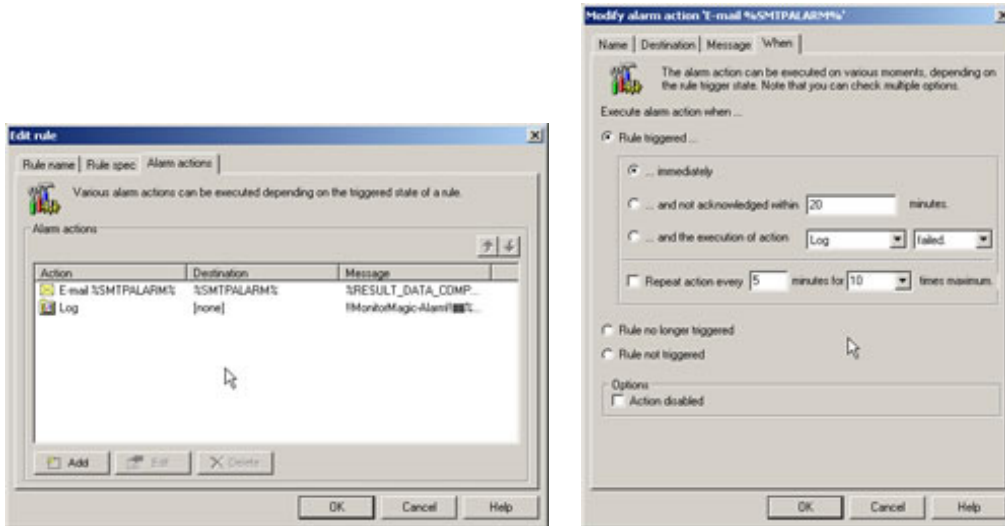
The last option is to have MonitorMagic repeat the alarm action for as long as the monitor remains in the "Alarm" state. The repeat scheduling can be defined in minutes and does not directly relate to the T0 to T5 times mentioned in the picture below. Tools4ever recommends using this option carefully, as it can generate a lot of unwanted alarms.



The other alarm execution options are based on delays and dependencies and are discussed later in this document, in **Scenario 3 and 4**.

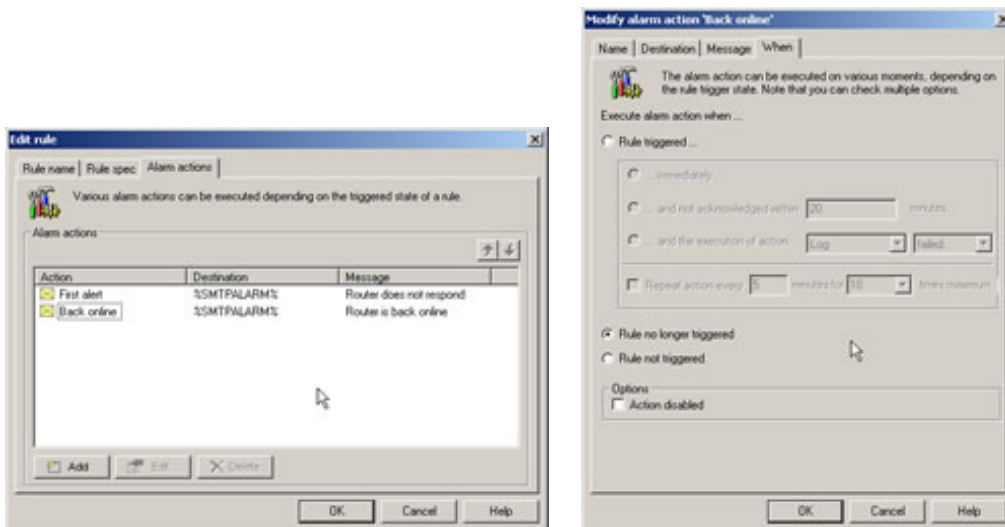
3. Scenario 1: Immediate notification

This is the default alarm action scenario in MonitorMagic. When you create a rule and start adding alarm actions, all actions will by default be executed whenever the rule is triggered. As shown in the screenshot below, this means that an e-mail alarm action and a log event alarm action will be executed without any dependencies or delays. As you can see, each alarm action has a "When" tab in its properties window. The execution settings are set to "Immediately", when the rule has been triggered.



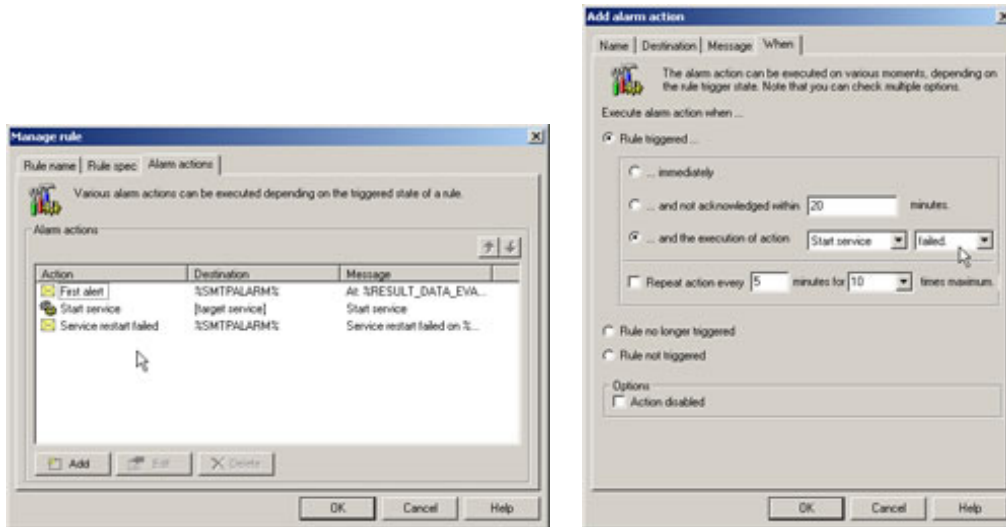
4. Scenario 2: Notification when the error is no longer present

The second scenario is to execute an alarm action when the error is no longer occurring. For example, if a router no longer responds you want to receive an e-mail alert, and you also want an alert when the router comes back online to confirm that the end-users are no longer affected. This scenario requires two alarm actions; this example uses e-mail alarm actions only. The first action is always sent without dependencies or delays, so we can use the default setting of "Immediately".



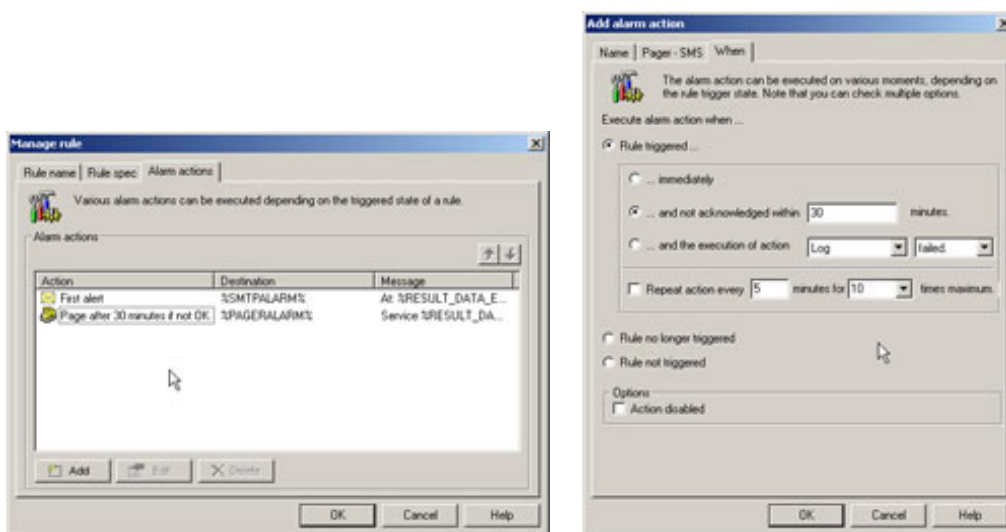
5. Scenario 3: Escalation with dependencies

This scenario is only useful when MonitorMagic performs a corrective action. For instance, when a critical service fails, you can configure MonitorMagic to automatically restart that service. You can configure similar behavior for other types of monitors using reboot/shutdown or script commands. When the action has failed, you might want to receive an alert so that you have to continue working on the problem and that end-user experience remains affected. As you can see in the screenshots below, this scenario uses 3 alarms; 2 e-mails and 1 start service action. The second e-mail message has been made dependent on the result of the start service action.



6. Scenario 4: Escalation with acknowledgement

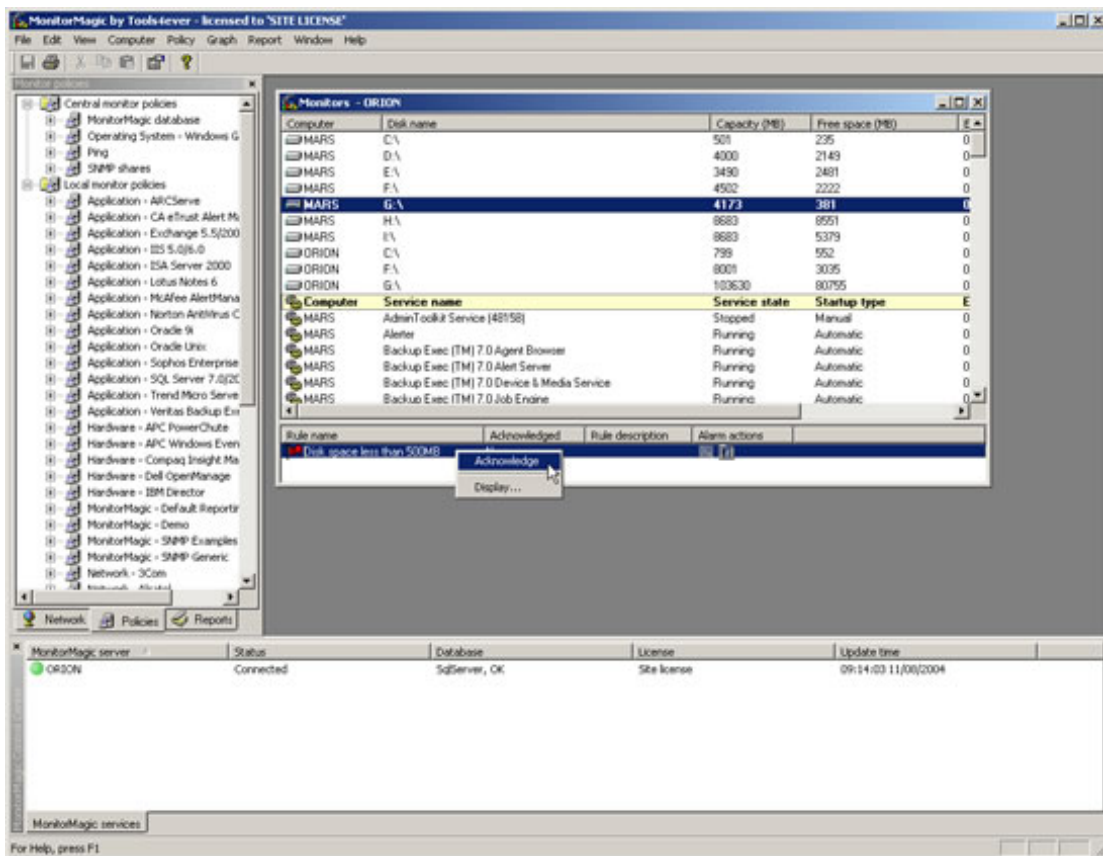
The final alarm action scenario is to use escalation with acknowledgement. In this scenario, you can start with sending a notification to general helpdesk staff. When nobody acknowledges the alarm, you can then escalate the issue to a senior technician using either e-mail or a pager notification. In this scenario, 2 alarm actions are used; 1 e-mail and 1 pager alarm. The pager alarm is set to wait until the issue has not been acknowledged for 30 minutes.



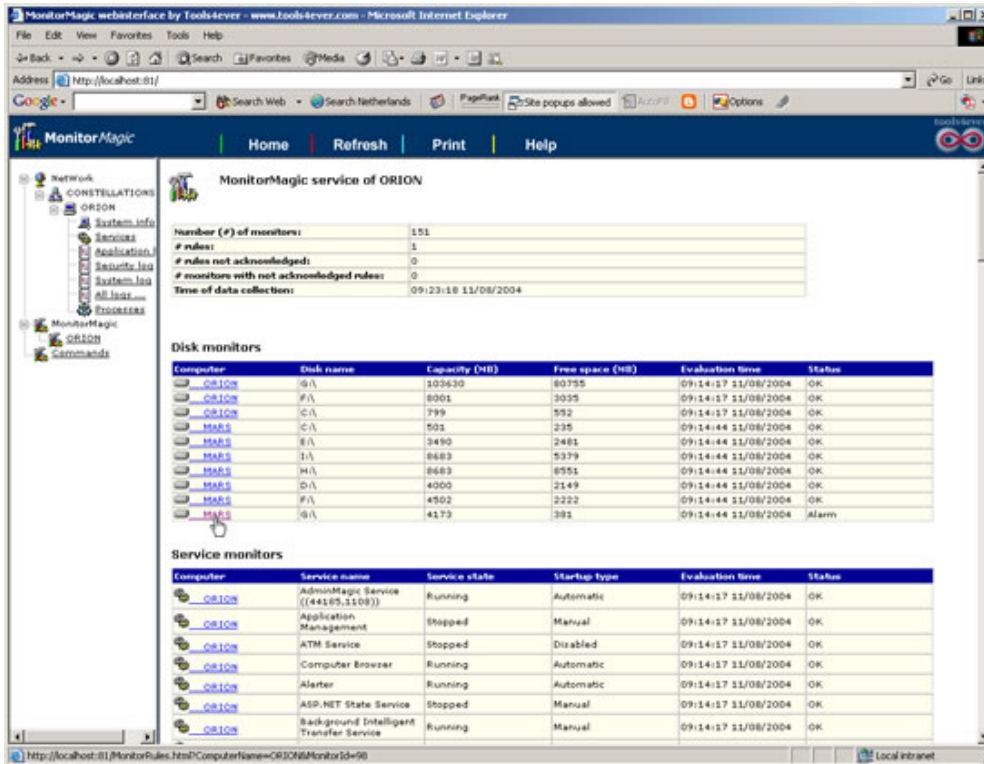
7. Acknowledging alarms

When using scenario 6, you need a mechanism to interrupt the escalation process and stop the (in this example) pager alarm from being executed. This process is called: to **"Acknowledge"** a rule. By acknowledging, you instruct MonitorMagic to halt the alarm action execution for all pending alarm actions. There are two ways to acknowledge a rule; the first is using the MonitorMagic client, select a monitor that is in the **"Alarm"** state, which is represented by the monitor showing up in red. The rule in question will also appear in red. To acknowledge this rule, right-click on the rule and select **"Acknowledge"**.

Note: acknowledging rules does not mean that the same rule will be ignored the next time it is triggered. When acknowledged, only the escalation sequence is broken. The next time the rule is triggered, the escalation sequence will be executed from the start.



The other method to acknowledge a rule is by using the web interface. Essentially you perform the same action as when using the MonitorMagic client by selecting the monitor and using the acknowledge option. The screenshots on the next page show the details of the monitor and rule when using the web interface.



MonitorMagic service of ORION

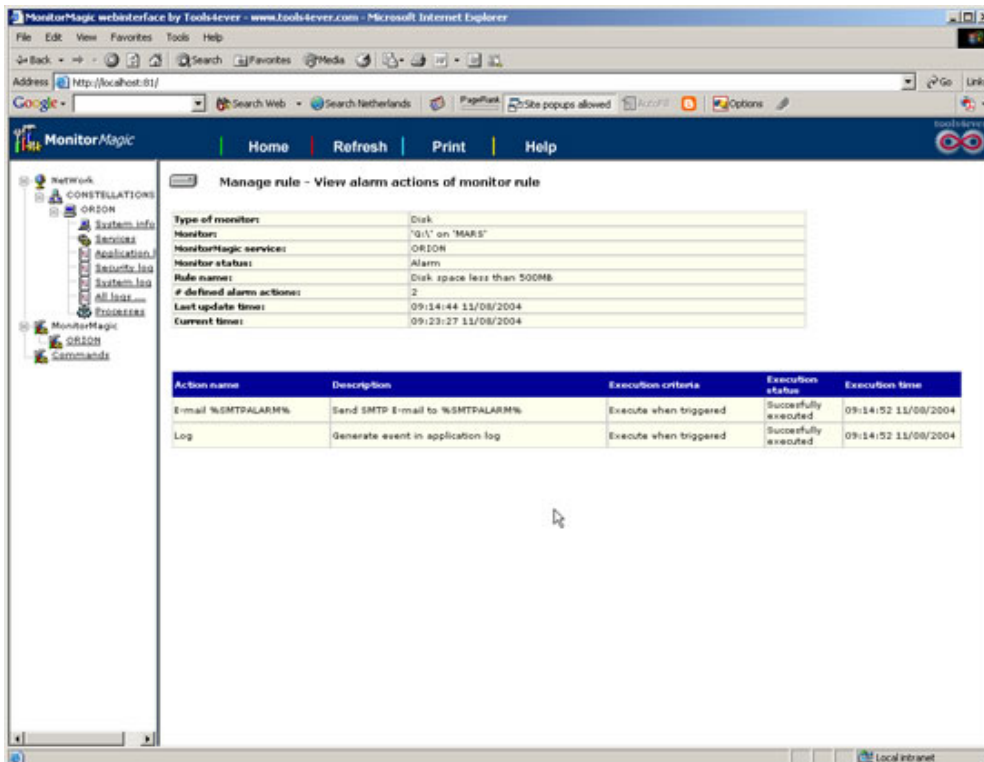
Number (#) of monitors: 151
 # rules: 1
 # rules not acknowledged: 0
 # monitors with not acknowledged rules: 0
 Time of data collection: 09:23:10 11/08/2004

Disk monitors

Computer	Disk name	Capacity (MB)	Free space (MB)	Evaluation time	Status
ORION	G:\	103630	80755	09:14:17 11/08/2004	OK
ORION	F:\	8001	3035	09:14:17 11/08/2004	OK
ORION	C:\	799	552	09:14:17 11/08/2004	OK
MARS	C:\	501	235	09:14:44 11/08/2004	OK
MARS	E:\	2490	2481	09:14:44 11/08/2004	OK
MARS	I:\	8483	5379	09:14:44 11/08/2004	OK
MARS	H:\	8483	8751	09:14:44 11/08/2004	OK
MARS	D:\	4000	2149	09:14:44 11/08/2004	OK
MARS	F:\	4502	2222	09:14:44 11/08/2004	OK
MARS	G:\	4173	381	09:14:44 11/08/2004	Alarm

Service monitors

Computer	Service name	Service state	Startup type	Evaluation time	Status
ORION	AdminMagic Service ((44105.1109))	Running	Automatic	09:14:17 11/08/2004	OK
ORION	Application Management	Stopped	Manual	09:14:17 11/08/2004	OK
ORION	ATM Service	Stopped	Disabled	09:14:17 11/08/2004	OK
ORION	Computer Browser	Running	Automatic	09:14:17 11/08/2004	OK
ORION	Alerter	Running	Automatic	09:14:17 11/08/2004	OK
ORION	ASP.NET State Service	Stopped	Manual	09:14:17 11/08/2004	OK
ORION	Background Intelligent Transfer Service	Running	Manual	09:14:17 11/08/2004	OK



Manage rule - View alarm actions of monitor rule

Type of monitor: Disk
 Monitor: "G:\ on 'MARS'"
 MonitorMagic services: ORION
 Monitor status: Alarm
 Rule name: Disk space less than 500MB
 # defined alarm actions: 2
 Last update times: 09:14:44 11/08/2004
 Current time: 09:23:27 11/08/2004

Action name	Description	Execution criteria	Execution status	Execution time
Email %SMTPALARM%	Send SMTP E-mail to %SMTPALARM%	Execute when triggered	Successfully executed	09:14:52 11/08/2004
Log	Generate event in application log	Execute when triggered	Successfully executed	09:14:52 11/08/2004