

Knowledge Base Articles

TITLE:

Understanding and configuring the Xian UNIX Servers process monitoring.

DESCRIPTION:

The Xian 2005 Network Manager SMP for UNIX Server (Linux and Solaris) monitors the most critical components from the computer such as the CPU load, system uptime, file system usage and interface traffic among other features. Additionally, it is critical to monitor the state and performance of the most critical and important processes running on the UNIX Server. To provide a solution for this, Xian 2005 Network Manager SP2 implements the UNIX Server process monitoring feature.

Xian considers 2 types of processes within the UNIX Server:

- Daemon: process that the system is running on a second layer (background) and is not being controlled by any user.
- Process: Any process that is not a daemon.

Xian allows you to discover any daemon or process and monitor its CPU and memory usage along with its state. You can obtain alerts if certain processes have exceeded certain CPU or memory usage thresholds or if its state has changed. Additionally, you will receive performance data for trend analysis and finally receive the appropriate reports.

Note that the monitored processes should be first discovered by Xian using the 'add device' rule for the Linux or Solaris servers and that those processes are not dynamically updated. If you want to stop monitoring a removed process or monitor a new one, which was not previously discovered, you need to remove your discovered UNIX server from the Xian console and then discover it again. However, you must make sure that the desired process is not present, if you want to remove it, or configure the rule to discover the new one.

REQUIREMENTS:

The process monitoring feature can be applied to:

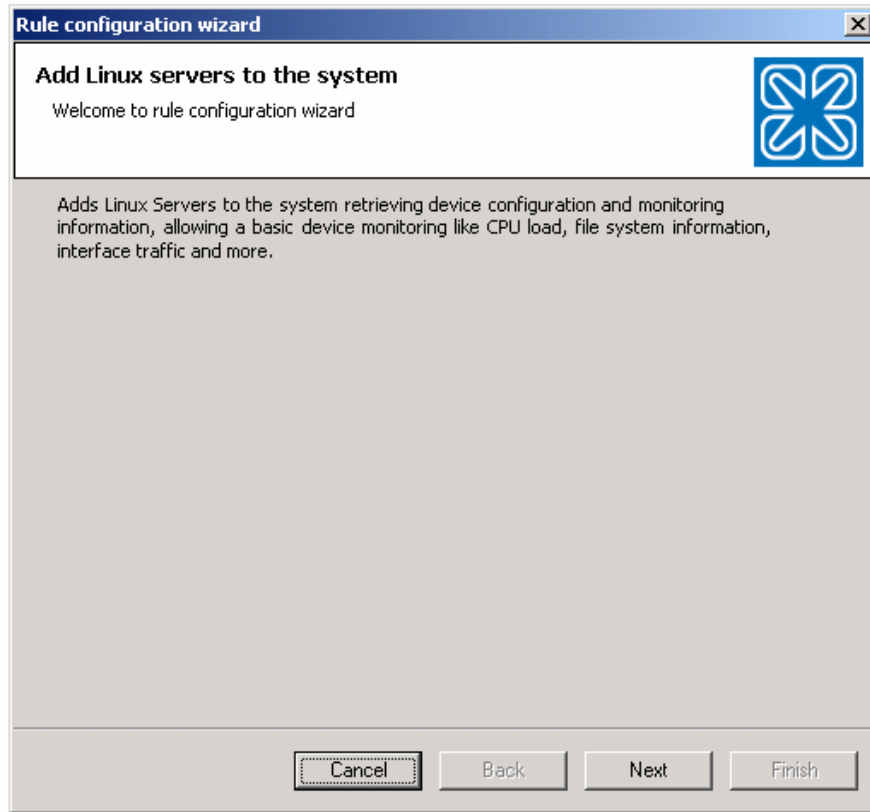
- Linux Server version 2.4 and above, all distributions.
- Solaris Server 8.

PROCESSES DISCOVERY:

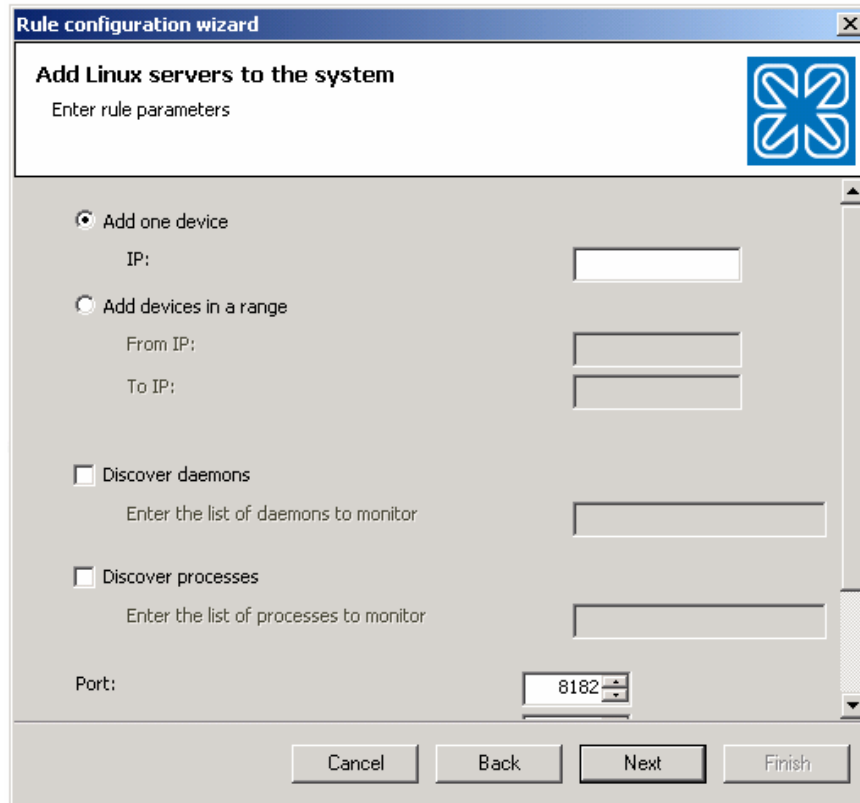
In order to monitor your processes, you should discover them first. This process is included in the device discovery procedure using the 'add device' rule. You can explicitly type the name of a certain daemon or process to be discovered or you can make use of the '*' wildcard for discovering processes that fit certain search criteria.

To discover the processes from a certain server (in this example a Linux Server) you should follow these steps:

- Open the Xian console
- Double click on the Linux Server Smart Agent element located on the Smart Agent's tree. The following window should appear:



- Click on the 'Next' button. The following window will be displayed:



- Select if you want to add one server or several servers by providing an IP range and then type the IP address or the range of IP addresses using the appropriated IP format, e.g. 125.23.1.253.
- The next step is to select the daemons to be discovered. For this purpose you can click on the 'Discover daemons' checkbox and enter the list of daemons to be discovered separated by commas (',') or you can make use of the '*' wildcard that will allow you discover any daemon that matches the search criteria. For example if you type '*' on this field, the discovery process will discover all the daemons running on the server and if for instance you type '/usr*', then the discovery process will discover all the daemons that their names begin with '/usr' like /usr/sbin/sshd or /usr/sbin/atd. Finally, if you enter the following line 'portmap, crond', then the discovery process will try to discover the daemons that are named portmap and crond and no other ones.

The figure below shows the daemons discovery configuration option:

Rule configuration wizard

Add Linux servers to the system
Enter rule parameters

IP: 10.50.15.130

Add devices in a range

From IP:

To IP:

Discover daemons

Enter the list of daemons to monitor

Discover processes

Enter the list of processes to monitor

Port: 8182

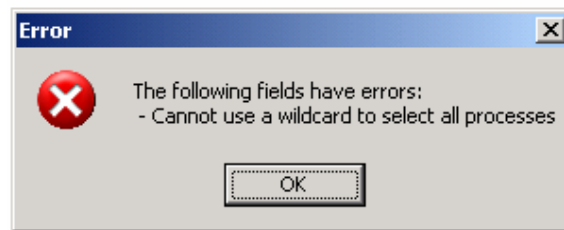
Time out: 300 ms

Maximum retries: 3 Retries

Cancel Back Next Finish

- The next step is to choose if you want to discover any other processes; to do this you should select the 'Discover processes' check box and enter the list of the processes to be discovered.

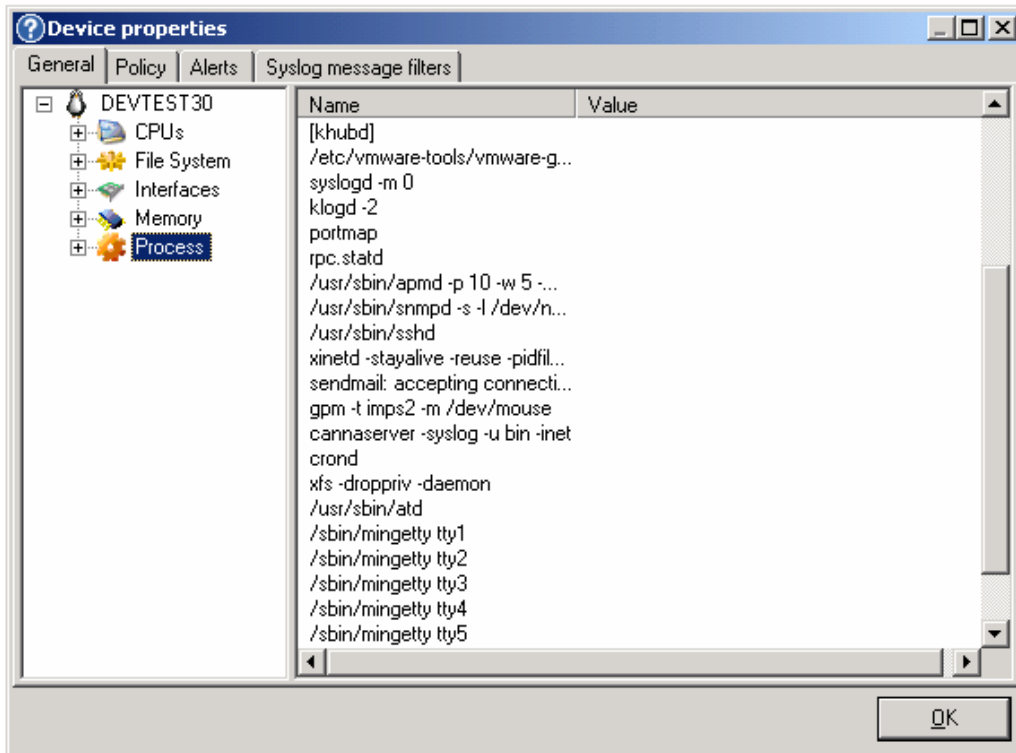
You can use the '*' wildcard, as with the 'Discover daemons' configuration, which will let you discover processes that meet certain criteria. Please note, that even though the logic for discovering these processes is the same, it does has one restriction which states that you can not discover all the processes within your server (using only the '*'). You will receive the following error message when trying to configure the discovery rule with the '*' wildcard in this field.



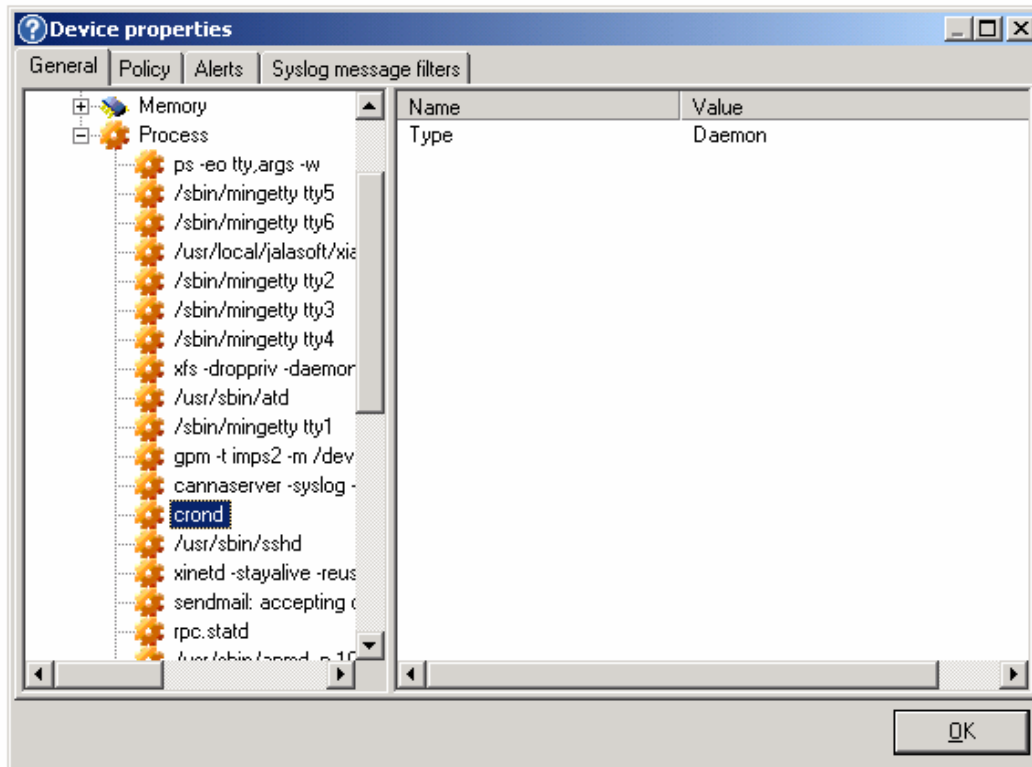
- Finally, you should indicate the port where the agent is running, the timeout interval and the maximum retries number for the rules to be executed. These fields are initially set to the default values. Press the 'Next' button.

- You should configure the severity of the alert notification for the rule and finally press the 'Finish' button and the rule will begin to run and discover your UNIX server.

Once the rule has ended its execution and the server has been discovered. Open the device properties window and verify that there is a folder named 'Process' under the General tab. Click on it and you will see the list of all the discovered daemons and processes:



Additionally, you can see if a certain process is a daemon or a user process by expanding the Process folder and selecting any process:



Please note that if you selected not to discover any processes, the 'Process' folder will not appear on this window and if the rule did not find any process that matches the search criteria, the folder will appear empty.

RULES CONFIGURATION:

After you have discovered the UNIX server processes that you want to monitor, the next step is to configure the process monitoring rules. Currently there are 3 rules that monitor the processes of a Server:

- **Process memory usage percent:**
It monitors the memory usage percent of a process on the UNIX server. The default setting for this rule is:
 - Alert when value is over 75% of usage.
 - Severity: critical.
 - Execute at regular intervals of 30 minutes.
- **Process CPU usage percent:**
It monitors the CPU usage percent of a process on the UNIX server. The default setting for this rule is:
 - Alert when value is over 75% of usage.
 - Severity: critical.
 - Execute at regular intervals of 30 minutes.
- **Process status:**
It monitors the status of a process on the UNIX server. There are a lot of states for a process but we have just chosen four.
 - Unavailable: The process has ended its execution between the

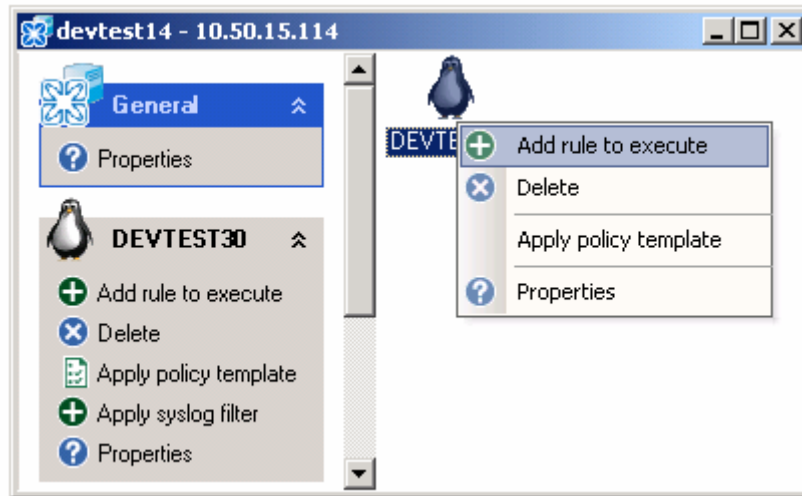
- o discovery process and the performance rule execution process.
- o **Running**: The process is sleeping or running in the processor. We can say the process is in normal state.
- o **Waiting**: The process is waiting for a resource like I/O or Memory.
- o **Zombie**: The process has ended its execution abnormally and is still present on the UNIX server.

The default settings for this rule are:

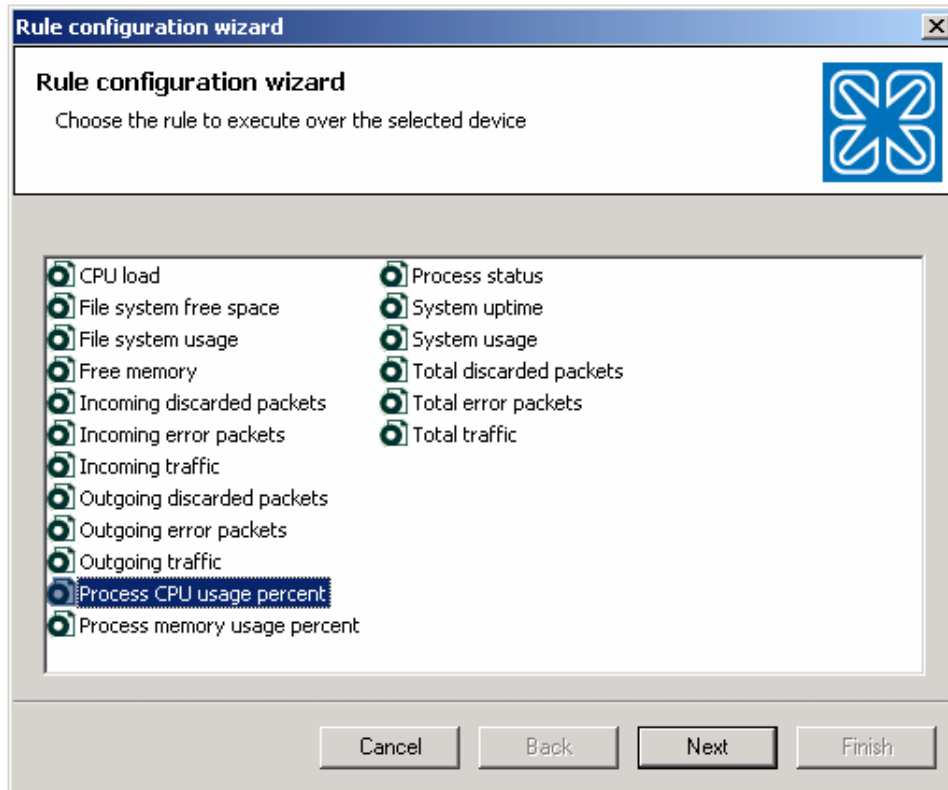
- Severity: critical.
- Execute at regular intervals of 30 minutes.

For adding one of these rules, just follow these steps:

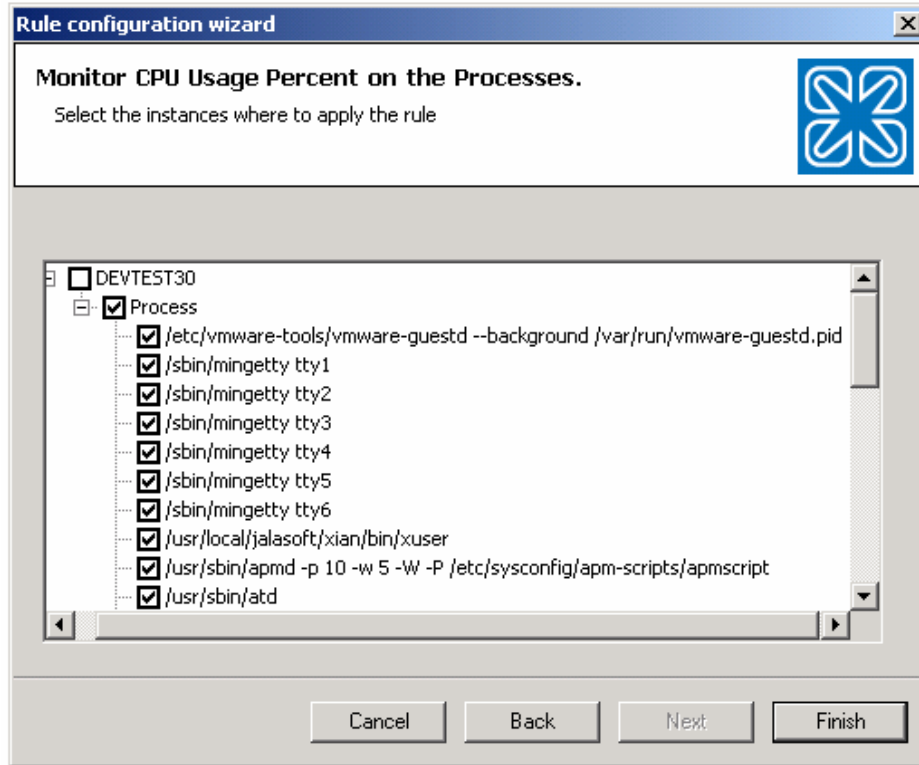
- Right click on the Server and then click on the 'Add rule to execute' contextual menu option (or you can directly click on the 'Add rule to execute' option on the properties on the left properties window or finally use the drag and drop method for adding a rule, if preferred).



- You will be able to see the list of the applicable rules for the machine. Select the desired Process rule:



- Configure the rule parameters as desired: the threshold values for raising alerts in MOM, the severity level of the alerts, the execution schedule and if the rule will collect performance data.
- Finally you should select the processes that this rule will monitor. You will see a list like the following:



- Select the processes you want to monitor and then click on the 'Finish' button.

Please note that these processes were discovered when discovering the device so you may encounter three special cases when trying to monitor certain processes:

- There is a process that is not longer running on the machine but still appears on the processes list. If you want this process not to appear here, you should remove your machine and discover it again so this process will not be discovered.
- There is a process that you want to monitor but it does not appear on the list. You should rediscover your device making sure that the process is included on the 'add device' rule.
- There are several processes with the same name but you can see only one element on the list. The rule will monitor all of them.

After configuring the rule, you will start receiving alerts and performance data in MOM. Please note that when an alert arrives, it names the process that caused this alert.

APPLIES TO:

Xian Network Manager 2005 Service Pack 2

Xian Server UNIX Agent version 2.4.4.127



STATUS:

Procedure provided.

ADDITIONAL COMMENTS:

You can determine all the processes running on your server by running this command:

Ps -elf

Additionally, if you want to determine which daemons are running on the server, you can run this command.

Ps - elf|grep ?

With this information you can determine which processes are really important for you and need to be discovered and monitored by Xian.