

# IBM Tivoli Monitoring V6.2.3

## Using OS Agents to monitor the file system

© 2014 IBM Corporation

The module is for IBM Tivoli® Monitoring V6.2.3. It explains how to use OS Agents to monitor the file system on UNIX®, Linux® and Windows® systems. You learn how to create a situation that monitors file or directory content.

## Assumptions

- This module assumes that you have these skills and knowledge:
  - Basic knowledge of IBM Tivoli Monitoring
  - Working knowledge of the Tivoli Enterprise Portal client and Situation Editor
  - A working IBM Tivoli Monitoring environment that includes these components:
    - A Tivoli Monitoring Enterprise Serve
    - A Tivoli Monitoring Portal Server
    - User-level access to a Tivoli Enterprise Portal client

This module assumes that you have basic operating knowledge of IBM Tivoli Monitoring on UNIX, Linux, and Windows operating systems. And it assumes that you have a functioning IBM Tivoli Monitoring environment, with at least user-level access to the Tivoli Enterprise Portal client.

## Objectives

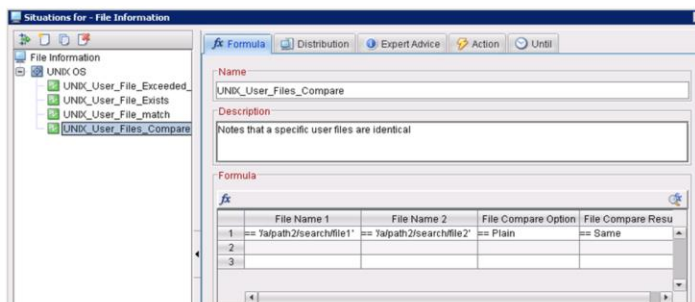
When you complete this module, you can perform these tasks:

- Know what the OS Agent on UNIX, Linux, and Windows system provides for monitoring the file system
- Create a situation that alerts you when a specific file or directory exists or is added, changed, or removed

Once you complete this module, you will know what the OS Agent on UNIX, Linux, and Windows systems provides for monitoring the file system. And you can create a situation that alerts you when a specific file or directory exists or is added, changed, or removed.

## File Comparison

- The **File Comparison** attribute compares two separate files on a UNIX or Linux system:
  - The fully-qualified path name must be specified for each file
  - The file compare option can be:
    - Plain (default)
    - Ignore\_Whitespace
    - Ignore\_Case
    - Ignore\_Case\_Whitespace
    - Binary
  - The file compare result is either:
    - Same
    - Different
- Here is an example of a situation that shows the attribute in use

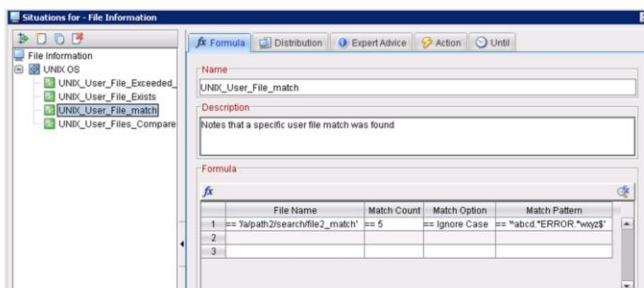


The OS Agent for UNIX and Linux systems has the File Comparison attribute. It allows you to compare two specific files to determine whether they are the same or different. The typical compare options are available for plain text or binary content.

The example shown detects whether two specific user files are the same. It demonstrates the formula with the required attribute values.

## File Pattern

- The File Pattern attribute searches the file content for a specific pattern on a UNIX or Linux system:
  - The fully-qualified path name must be specified for the file
  - The match options for how to perform the search are:
    - Normal
    - Ignore Case
    - Inverse Search
    - Match Whole Words
  - The match pattern is a regular expression to find the matching line
  - The match count indicates the number of pattern matches to be found
- The screen capture shows the attribute in use

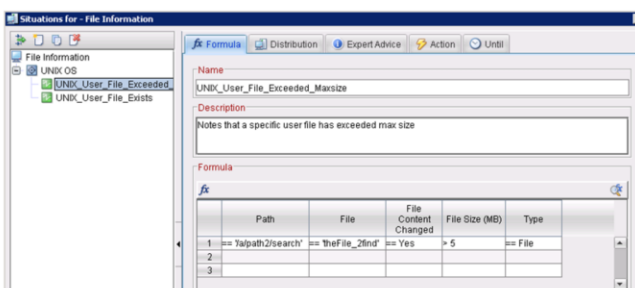


Similarly, the File Pattern attribute searches the content of a file for a specific pattern match and counts the number of times the match was found in the file. The typical match options are available.

The screen capture shows an example where a user file is searched for the specified pattern that should be matched five times. It shows the formula with the required attribute values.

## File Information

- The File Information attribute detects a specific file or directory name, size, owner, access rights, or type on a UNIX or Linux system:
  - The fully-qualified path and name must be specified for the file or directory
  - The specific information or condition to detect:
    - Access rights
    - Ownership
    - Size
    - Content change
    - Last Access
    - Last Change
- The screen capture shows the attribute in use



The File Information attribute looks for a specific file or directory with a specific name, size, owner, access rights, or type.

The screen capture shows an example of detecting a user file size change that exceeds the specified maximum size. It shows the formula with the required attribute values.

## File Change (1 of 3)

The File Change attribute to monitor changes to the file system on Windows Server:

- The fully-qualified path name must be specified for the file or directory
  - Wildcards (such as "\*\*") are not supported in file or directory names
- The type of change that occurred most recently:
  - File or directory was added
  - File or directory was removed
  - File or directory changed (in size, in attribute, or in the security for the file/directory)
  - File or directory was renamed - the old name displays
  - File or directory was renamed - the new name displays

Similar to the File Information attribute for the UNIX and Linux OS Agent, the OS Agent for Windows Server has the File Change attribute to monitor changes to the file system.

## File Change (2 of 3)

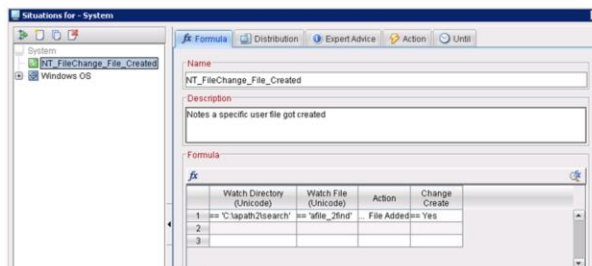
- The change filters are:
  - Change File Name
  - Change Directory Name
  - Change Attributes
  - Change Size
  - Change Last Write
  - Change Last Access
  - Change Create
  - Change Security
  - Monitor all Conditions
- The total number of file or directory changes since monitoring began
- The option to monitor the entire watch tree or only the directory

Many useful options are available to detect the precise file- or directory-level changes, including a count of the total number of changes since monitoring began and an option to monitor just a single directory and the contained subdirectories.

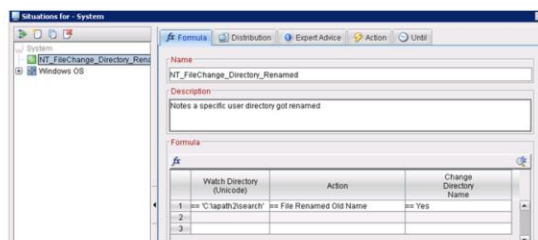


## File Change (3 of 3)

- The top screen capture is an example that shows the attribute in use to detect a file create



- The bottom screen capture is an example that shows the attribute in use to detect a directory rename



9

IBM Tivoli Monitoring V6.2.3 Using OS Agents to monitor the file system

© 2014 IBM Corporation

Here are two examples of situations that use the File Change attribute. The first example detects when a specific user file is created. And the second example detects when a specific user directory is renamed.

## File Trend

- The **File Trend** attribute monitors the growth rate in file space usage on Windows Server:
  - The fully-qualified path name must be specified for the file name
    - Wildcards (such as "\*\*") are not supported in file or directory names
  - The percent change and actual change over the period:
    - Average
    - Last Hour
    - Last Interval
    - Total – since monitoring began
    - Used – of the entire disk resource
  - The current size, date and time created and modified
  - The number of hours until current free space on the volume is exhausted

Unlike the UNIX and Linux OS Agent, the OS Agent for Windows Server has the File Trend attribute to monitor the growth rate in file space usage. Many useful options are available to detect the percent change and actual change over a specific time period. A warning indicator tells you the estimated time until the current free space on the volume is exhausted. This estimate is based on the size change rate over the last hour.

## Key differences between the *File Change* and *File Trend* attributes

- File Change attribute:
  - Usable at the directory level to detect file changes
  - Watch Tree detects file changes down to its subdirectories
  - Situation generates pure events
- File Trend attribute
  - Requires a specific file and does not detect directory-level changes
  - Situations are interval-based

There are some note-worthy differences between the File Change and File Trend attributes to keep in mind. Be sure to consider the differences listed on this slide when you define a situation to monitor the file system on Windows.

## Summary

Now that you completed this module, you can perform these tasks:

- Know what the OS Agent on UNIX, Linux, and Windows system provides for monitoring the file system
- Create a situation that alerts you when a specific file or directory exists or is otherwise changed

Now you know what the OS Agent on UNIX, Linux, and Windows systems provides for monitoring the file system. And you can create a situation that alerts you when a specific file or directory exists or is changed.

## Trademarks, disclaimer, and copyright information

IBM, the IBM logo, ibm.com, and Tivoli are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of other IBM trademarks is available on the web at "[Copyright and trademark information](http://www.ibm.com/legal/copytrade.shtml)" at <http://www.ibm.com/legal/copytrade.shtml>

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Windows, and the Windows logo are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, or service names may be trademarks or service marks of others.

THE INFORMATION CONTAINED IN THIS PRESENTATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. WHILE EFFORTS WERE MADE TO VERIFY THE COMPLETENESS AND ACCURACY OF THE INFORMATION CONTAINED IN THIS PRESENTATION, IT IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. IN ADDITION, THIS INFORMATION IS BASED ON IBM'S CURRENT PRODUCT PLANS AND STRATEGY, WHICH ARE SUBJECT TO CHANGE BY IBM WITHOUT NOTICE. IBM SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES ARISING OUT OF THE USE OF, OR OTHERWISE RELATED TO, THIS PRESENTATION OR ANY OTHER DOCUMENTATION. NOTHING CONTAINED IN THIS PRESENTATION IS INTENDED TO, NOR SHALL HAVE THE EFFECT OF, CREATING ANY WARRANTIES OR REPRESENTATIONS FROM IBM (OR ITS SUPPLIERS OR LICENSORS), OR ALTERING THE TERMS AND CONDITIONS OF ANY AGREEMENT OR LICENSE GOVERNING THE USE OF IBM PRODUCTS OR SOFTWARE.

© Copyright International Business Machines Corporation 2014. All rights reserved.