



# NETWRIX CHANGE NOTIFIER FOR VMWARE

## QUICK-START GUIDE

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# 1. INTRODUCTION

## 1.1. Overview

Netwrix Change Notifier for VMware allows automatic tracking of configuration changes to your virtual environment. The product reports on all changes made to servers, folders, clusters, resource pools, virtual machines, etc.

## 1.2. Licensing

Netwrix Change Notifier for VMware is a freeware product with an unlimited license.

## 1.3. How It Works

The product data collection and reporting workflow is as follows:

1. An administrator sets the parameters for automated data collection by specifying the virtual center or an ESX server to be monitored for configuration changes.
2. A dedicated scheduled task which is launched daily collects audit data and writes it to a local file-based storage referred to as Audit Archive.
3. After the task has been executed, a Change Summary containing a list of changes that occurred since the last data collection is sent to the specified recipients. You can also use the Report Viewer tool to generate and view on-demand summaries. The product also generates and emails an inventory snapshot showing the current configuration state of your virtual infrastructure.

## 2. INSTALL NETWRIX CHANGE NOTIFIER FOR VMWARE

### 2.1. Installation Prerequisites

This section provides hardware and software requirements necessary to install Netwrix Change Notifier for VMware, and recommendations on how to deploy this product.

#### 2.1.1. Deployment Options

Netwrix Change Notifier for VMware can be installed on any computer that belongs to your network.

#### 2.1.2. Hardware Requirements

Before installing Netwrix Change Notifier for VMware, make sure that your hardware meets the following requirements:

*Table 1: Netwrix Change Notifier for VMware Hardware Requirements*

Hardware Component	Minimum	Recommended
Processor	Intel or AMD 32 bit, 500MHz	Intel or AMD 64 bit, 3GHz Note: The Itanium (IA64) processor is not supported.
Memory*	512MB RAM	2GB RAM
Disk space	50MB	20GB

- **These are rough estimations. The actual required memory size depends on the average number of changes per day in the monitored environment.**

#### 2.1.3. Software Requirements

Before installing Netwrix Change Notifier for VMware, make sure that your system meets the following software requirements:

*Table 2: Netwrix Change Notifier for VMware Software Requirements*

Component	Requirement
Operating System	Windows XP SP3 or above
Framework	.NET Framework <a href="#">3.5</a>
Additional Software	Windows Installer <a href="#">3.1</a> or above

#### 2.1.4. Supported Environments

The product supports auditing of the following types of VMware environments with Windows Server 2000 or later domain controllers:

- Platforms:
  - [vSphere 4.0 – 5.1](#)
  - [VMware 3.5](#)
- Hosts:
  - [ESXi 3.5 – 5.1](#)

[ESX 3.0 – 4.1](#)

- SW:

[vCenter Server 4.0-5.1](#)

[Virtual Center 2.5](#)

## 2.2. Install Netwrix Change Notifier for VMware

To install Netwrix Change Notifier for VMware, download and run the Netwrix\_Change\_Notifier\_for\_VMware.msi file. Follow the instructions of the installation wizard. When prompted, accept the license agreement and specify the installation folder.

### 3. CONFIGURE RIGHTS AND PERMISSIONS

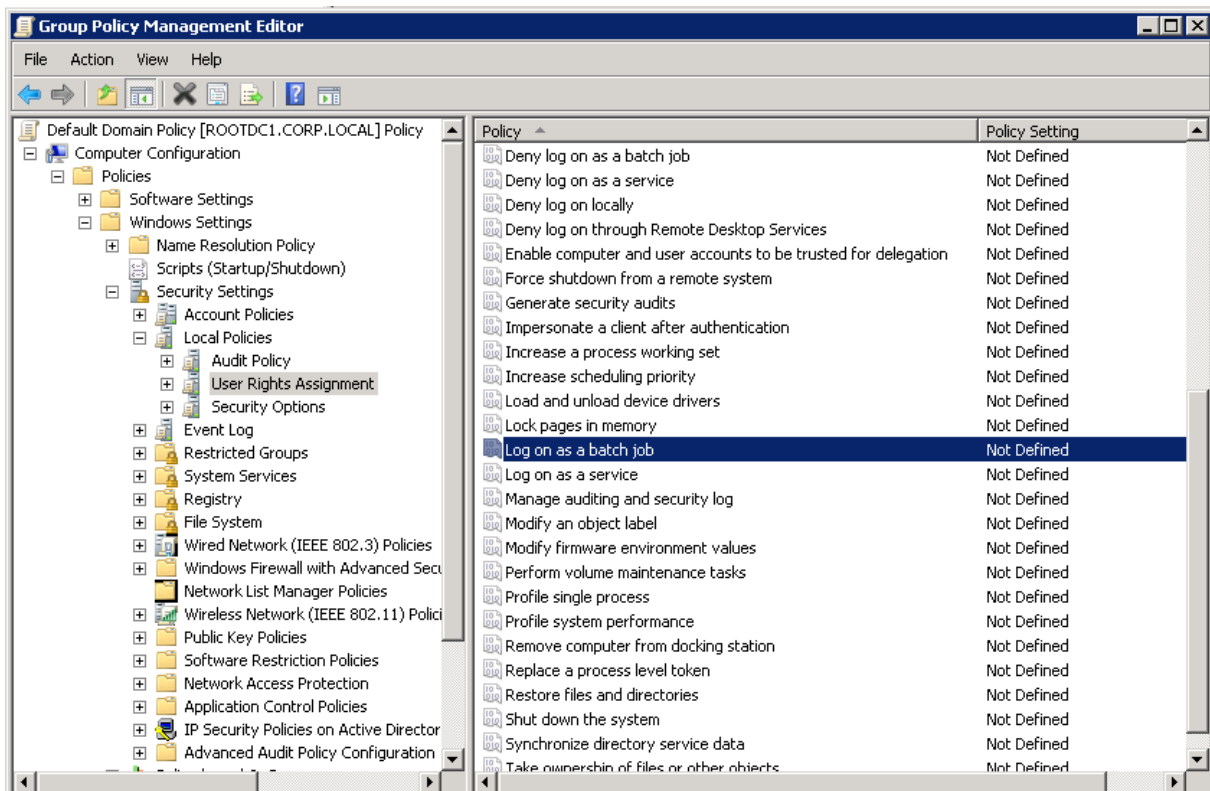
The account under which Netwrix Change Notifier for VMware collects data must have the following rights and permissions:

- The account must be a member of the **Local Administrators** group on the computer where the product is installed and on the target servers.
- The **Log on as a batch job** policy must be defined for this account (see [Procedure 1 To define the Log on as a batch job policy](#))

#### Procedure 1. To define the Log on as a batch job policy

1. Open the **Group Policy Management** console on any domain controller in the monitored domain: navigate to **Start** → **Administrative Tools** → **Group Policy Management**.
2. In the left pane, navigate to **Forest: <domain\_name>** → **Domains** → **<domain\_name>**, right-click **Default Domain Policy** and select **Edit** from the pop-up menu.
3. In the **Group Policy Management Editor** dialog, expand the **Computer Configuration** node on the left and navigate to **Policies** → **Windows Settings** → **Security Settings** → **Local Policies** → **User Rights Assignment** and locate the **Log on as a batch job** policy:

Figure 1: Group Policy Management Editor



4. Double-click this policy, select **Define these policy settings** and click **Add User or Group**. Specify the account that you want to define this policy for.
5. Navigate to **Start** → **Run** and type `cmd`. Input the `gpupdate /force` command and click **Enter** to update the group policy.

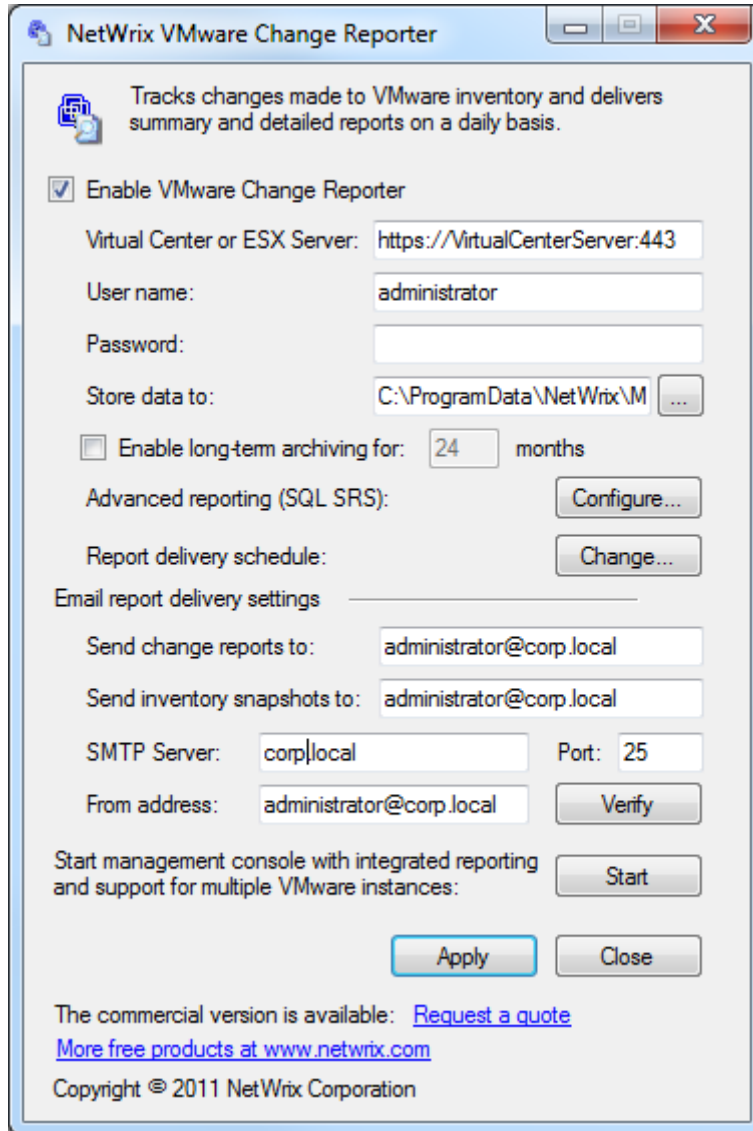
## 4. CONFIGURE NETWRIX CHANGE NOTIFIER FOR VMWARE

After Netwrix Change Notifier for VMware has been installed, you need to enable and configure VMware audit.

### Procedure 2. To Configure VMware Audit

1. Navigate to **Start → All Programs → Netwrix Freeware → Netwrix Change Notifier for VMware**. The product configuration dialog will open:

Figure 2: The Netwrix Change Notifier for VMware Configuration Dialog



2. Specify the following settings and parameters:

Table 3: Netwrix Change Notifier for VMware Settings

Parameter	Instruction
Enable VMware Change Reporter	Enable this option to start auditing your virtual infrastructure.
Virtual Center or ESX Server	Specify the target server URL



User name	Enter the account that will be used to connect to the target servers.
Password	Enter the account's password.
Store data to:	Specify the location for the local file-based storage of audit data.
Report delivery schedule	Click the <b>Change</b> button to modify Change Summary delivery schedule. <b>Note:</b> Before you can modify the Change Summary delivery schedule, you must save your current configuration.
Send change reports to	Enter the email address of the Change Summary recipient. You can enter several addresses separated by a semicolon.
Send inventory snapshots to	Enter the email address of the Inventory Snapshot recipient. You can enter several addresses separated by a semicolon.
SMTP Server	Enter the SMTP server name.
Port	Specify the SMTP port number.
From address	Enter the email address that will appear in the "From" file in the Change Summary emails.
Verify	Click to check your email settings. The product will send a test message to the specified recipients and will inform you if any problems are detected.

3. Save your configuration by clicking the **Apply** button. The **Scheduled Task Credentials** dialog will be displayed.
4. Specify the account under which the product scheduled task will collect audit data. Make sure that this account has the necessary rights and permissions (see Chapter [3](#) Configure Rights and Permissions)
5. Enter and confirm the account password and click **OK**.

**Note:** To modify the product settings later, launch the product configuration dialog from the **Start** menu.

## 5. MONITOR VIRTUAL INFRASTRUCTURE FOR CHANGES

When the product has been configured, it starts collecting data on VMware changes from the monitored computers. By default, the data collection task is launched daily at 3:00 AM. If required, you can launch the product scheduled task manually or modify its schedule.

### 5.1. Launch the Product Task Manually

**Procedure 3.** To launch the product scheduled task manually:

1. Launch **Task Scheduler**.
2. In the left pane, expand the **Task Scheduler Library** node. In the right pane, select the task called **Netwrix Management Console - Change Reporter for VMware**.
3. Right-click the task and select **Run** from the drop-down list. Alternatively, use the **Run** option from the **Actions** menu.

### 5.2. Modify the Product Task Schedule

**Procedure 4.** To modify the product task schedule:

1. Launch Netwrix Change Notifier for VMware.
2. In the main configuration dialog, click **Change** next to **Report delivery schedule**.
3. In the dialog that opens, click **Change**, modify the default schedule, click **OK**, and click **Apply** in the main window to save the changes.

### 5.3. View a Change Summary

After the first data collection task has finished, an email will be delivered to the specified address notifying you that the initial analysis has been completed.

After that, you can make test changes to your environment to see how they are reported.

When the task is launched the next time (either automatically or manually), it detects the changes made since the last data collection, generates and delivers the Change Summary to the specified recipients:

Figure 3: Change Summary Example

This is an evaluation version (4 days left). [Request a quote.](#)

Change analysis for virtual center <https://10.0.0.5:443> completed successfully.

More reports are available at [http://pi-dc/Reports\\_SOExpress](http://pi-dc/Reports_SOExpress).

Summary Information	
Objects Added	4
Objects Removed	0
Objects Modified	59

The following changes were detected in your VMware inventory:

Change Type	Object Type	When Changed	Who Changed	Object Name	Details
Modified	Folder	1/23/2014 6:13:43 PM	root	\ha-folder-root	Permission 0 Principal changed from qwerty12 to reader Permission 1 Principal changed from ssh to qwerty12 Permission 2 Principal changed from spaces to ssh Permission 3 Principal changed from CRVM to spaces Permission 4 Principal changed from root to CRVM Permission 5 Principal changed from vpxuser to root Permission 6 Principal changed from dcui to vpxuser Permission 7 Group option Disabled Permission 7 Principal changed from root to dcui Permission 8 Group with value True added Permission 8 Principal with value root added Permission for user CRVM changed from Administrator to empty Permission for user reader changed from Administrator to empty Permission for user root changed from empty to Administrator Permission for user spaces changed from empty to Administrator Permission Propagate for user root with value True added
Added	ResourcePool	system	system	\ha-folder-root\ha-datacenter\host\brass.qcdom.Jo.cal\Resources\crvm\newpool2	none
Added	ResourcePool	system	system	\ha-folder-root\ha-datacenter\host\brass.qcdom.Jo.cal\Resources\trash\newpool3	none
Added	ResourcePool	system	system	\ha-folder-root\ha-datacenter\host\brass.qcdom.Jo.cal\Resources\trash\newpool3\ämpääla	none
Added	ResourcePool	system	system	\ha-folder-root\ha-datacenter\host\brass.qcdom.Jo.cal\Resources\trash\newpool3\ökcrtoropck	none
Modified	VirtualMachine	1/23/2014 6:14:53 PM	root	\ha-folder-root\ha-datacenter\vm\New Virtual Machine 11	Memory Shares changed from 320 to 640 Memory Size (Mb) changed from 32 to 64
Modified	VirtualMachine	1/23/2014 6:14:54 PM	root	\ha-folder-root\ha-datacenter\vm\New Virtual Machine 12	Memory Shares changed from 320 to 640 Memory Size (Mb) changed from 32 to 64
Modified	VirtualMachine	1/23/2014 6:14:55 PM	root	\ha-folder-root\ha-datacenter\vm\New Virtual Machine 13	Memory Shares changed from 320 to 640 Memory Size (Mb) changed from 32 to 64
Modified	VirtualMachine	1/23/2014 6:14:52 PM	root	\ha-folder-root\ha-datacenter\vm\New Virtual Machine 9	Memory Shares changed from 320 to 640 Memory Size (Mb) changed from 32 to 64
Modified	VirtualMachine	1/23/2014 6:15:38 PM	root	\ha-folder-root\ha-datacenter\vm\New Virtual Machine22	Memory Shares changed from 320 to 640 Memory Size (Mb) changed from 32 to 64
Modified	VirtualMachine	1/23/2014 6:14:50 PM	root	\ha-folder-root\ha-datacenter\vm\NewVirtualMachine10	Memory Shares changed from 320 to 640 Memory Size (Mb) changed from 32 to 64

This is an automatically generated message (server: pi-dc.dmc.loc) from NetWrix VMware Change Reporter. Please visit [www.netwrix.com](http://www.netwrix.com) for a complete suite of products for tracking configuration changes on your systems.

The Change Summary provides the following information for each change:

- Change type, for example Added, Removed, Modified;
- Object Type, for example, ResourcePool, VirtualMachine, etc.;
- Additional details on the change made to server configuration including the before and after values of the changed setting.

At the same, an inventory snapshot is generated and sent to the specified recipients, showing the current configuration state of the audited VMware infrastructure:

Figure 4: Inventory Report Example

This is an evaluation version (4 days left). [Request a quote.](#)

VMware inventory snapshot collection for virtual center <https://10.0.0.5:443> completed successfully.

VMware inventory snapshot:

**Summary Information:**

Object Type	Count
Clusters	0
Hosts	1
Virtual Machines	73

**Clusters:**

**Hosts:**

Name	brass.qcdom.local
Location	\\ha-folder-root\ha-datacenter\host\brass.qcdom.local
Product	VMware ESXi 5.1.0 build-799733
Processor type	Intel(R) Core(TM)2 Duo CPU E6550 @ 2.33GHz
Processor cores	2
Hyperthreading	True
Memory Size	8 GB
Model	System Product Name
Manufacturer	System manufacturer
VMkernel IP address	10.0.0.5
NTP running	True
NTP Servers	none
Datastore	snap-6c2ff4c0-datastore1
Virtual Machines	New Virtual Machine 30, New Virtual Machine 21, New Virtual Machine 14, New Virtual Machine 5, New Virtual Machine 46, New Virtual Machine 31, Decepticons, New Virtual Machine 13, New Virtual Machine 42, New Virtual Machine 39, New Virtual Machine 27, New Virtual Machine 45, New Virtual Machine 52, New Virtual Machine 35, DC12-2, VB-CRVM-SCOM-Test-1, New Virtual Machine 49, New Virtual Machine 25, New Virtual Machine 22, New Virtual Machine 33, New Virtual Machine 16, New Virtual Machine 38, New Virtual Machine 53, New Virtual Machine 48, New Virtual Machine 41, troll_machine, Virtual ESXi server, New Virtual Machine22, New Virtual Machine 26, New Virtual Machine 44, New Virtual Machine 51, New Virtual Machine 18, New Virtual Machine 50, Esxi5.1 for 2012 domain, bdttest_vm_01, DC12-1, New Virtual Machine 6232, New Virtual Machine 40, New Virtual Machine 11, 44634636346, New Virtual Machine 56, New Virtual Machine 2, New Virtual Machine 37, New Virtual Machine 20, New Virtual Machine 19, New Virtual Machine 24, New Virtual Machine 47, New Virtual Machine 43, NewVirtualMachine10, Virtual ESXi 5.1, New Virtual Machine 12, New Virtual Machine 54, New Virtual Machine 36, New Virtual Machine 9, New Virtual Machine 1333, New Virtual Machine 32, New Virtual Machine 17, New Virtual Machine 29, New Virtual Machine 59, New Virtual Machine 55, agtestmaschine1, New Virtual Machine 7, New Virtual Machine 23, hell_and_hate_machine, New Virtual Machine 28, New Virtual Machine 15, testvm2, New Virtual Machine 4, Nedd2, New Virtual Machine 58, TestVM-ESXi, New Virtual Machine 57, New Virtual Machine 34
vSwitch 0 Uplink Adapters	vmnic0
vSwitch 0 Port Groups	VM Network, Management Network
vSwitch 0 Allow Promiscuous	False
vSwitch 2 MAC Address Changes	True
vSwitch 2 Forged Transmits	True
vSwitch 1 Uplink Adapters	vmnic1
vSwitch 1 Port Groups	VM Network 2
vSwitch 1 Allow Promiscuous	False
vSwitch 1 MAC Address Changes	True
vSwitch 1 Forged Transmits	True
Port Group "VM NETWORK 2" Name	VM Network 2
Port Group "VM NETWORK 2" VLAN ID	0
Port Group "VM NETWORK 2" Allow Promiscuous	False
Port Group "VM NETWORK 2" MAC Address Changes	True
Port Group "VM NETWORK 2" Forged Transmits	True
Port Group "VM NETWORK" Name	VM Network
Port Group "VM NETWORK" VLAN ID	0
Port Group "VM NETWORK" Allow Promiscuous	False
Port Group "VM NETWORK" MAC Address Changes	True
Port Group "VM NETWORK" Forged Transmits	True
Port Group "MANAGEMENT NETWORK" Name	Management Network
Port Group "MANAGEMENT NETWORK" VLAN ID	0
Port Group "MANAGEMENT NETWORK" Allow Promiscuous	False
Port Group "MANAGEMENT NETWORK" MAC Address Changes	True
Port Group "MANAGEMENT NETWORK" Forged Transmits	True
Port Group "VM NETWORK 3" Name	VM Network 3
Port Group "VM NETWORK 3" VLAN ID	0
Port Group "VM NETWORK 3" Allow Promiscuous	False
Port Group "VM NETWORK 3" MAC Address Changes	True
Port Group "VM NETWORK 3" Forged Transmits	True

## 5.4. Generate an On-Demand Change Summary

If you wish to view the changes made to server configuration within some specified time frame, do the following:

### Procedure 5. To generate an on-demand Change Summary:

1. Navigate to **Start → All Programs → Netwrix Freeware → Netwrix Change Notifier for VMware → Advanced Tools → Report Viewer**.
2. Select the server for which you would like to view the changes from the drop-down list.
3. Specify the time frame by selecting the sessions in the **From session** and **To session** drop-down lists.
4. Click the **Generate Summary** button.
5. You will be asked to save the result as an HTML document.
6. The changes made to server configuration within the specified time frame will be displayed in the default web browser.