SteelCentral™ NetIM Virtual Edition ISO Update Guide

Virtual Edition for VMware, AWS, and Azure

Version: 2.4.0
Release Date: September 1, 2021
Revised: August 29, 2021

riverbed®

riverbed

Contents

About this guide

Riverbed® SteelCentral™ NetIM is an integrated solution for mapping, monitoring, and troubleshooting your infrastructure components. With NetIM you can capture infrastructure topology information, detect performance issues, map application network paths, diagram your network, and troubleshoot infrastructure problems. Additionally, you can manage infrastructure issues within the context of application, network, and end-user experience for a blended view of overall performance.

NetIM provides agentless infrastructure component monitoring to deliver a comprehensive picture of how your infrastructure is affecting network and application performance and how that impacts end-user experience. NetIM offers a broad overview of how the devices on your network are performing to complement your network and application performance management visibility. NetIM includes:

- Real-Time Monitoring – NetIM leverages multiple approaches (e.g., synthetic testing, SNMP, CLI) to identify new and changed infrastructure components.
- Analytics – Measure current performance and identify violations.
- Topology – Visualize and triage issues quickly.
- Troubleshooting – Search-based workflows and on-demand network paths help you to quickly identify and troubleshoot infrastructure performance issues.
- Event and Alert Visibility – View, filter and drill-down into internal alerts and syslog and traps occurring within your enterprise.
- Reporting – Report on infrastructure inventory and performance metrics.

This guide details the steps to update an existing NetIM 2.2.0 or later version deployment.
The ISO update process preserves all existing settings and data and should be used for all existing NetIM 2.2.0 (or later version) deployments.

Preparing to update an existing NetIM 2.3.1 Deployment

Who Should Use the ISO Update Process?

All clients who have an existing NetIM 2.3.1 installation should use the ISO update process (including AWS and Azure installs) to update to NetIM 2.4.0.   The ISO update process provides a seamless, automated procedure to migrate to the new features and enhancements provided in each new NetIM release. The ISO update process requires minimal downtime and preserves settings and data from your existing installation.

The ISO update process should be used for all existing NetIM 2.3.1 deployments.

NetIM ISO Update Requirements

Make sure you have all of the following before proceeding:
- A licensed and operating NetIM 2.3.1 deployment.
- A supported web browser – Chrome, Firefox, Edge, or Safari – in order to download the ISO update files from the [Riverbed Support site](#).
- The netimadmin password for all NetIM components.
- SSH and SCP access to the NetIM 2.3.1 manager and core.
- SSH and SCP applications (such as putty and WinSCP) in order to transfer the ISO files to manager and core.

NOTE: Due to the installation of Ubuntu and Docker patches in most ISO Updates, all NetIM VMs will be rebooted as part of the ISO update process.

Please plan accordingly and request appropriate permissions in your organization.

Upgrading NetIM Virtual Edition

Deploying the NetIM ISO updates to an existing NetIM 2.3.1 installation

Perform the NetIM software update, as follows:

1. Download the update ISO files from the [Riverbed Support site](#).
   - Two ISO files are provided:
     - a NetIM microservices update ISO file for updating manager, data manager(s) and worker(s)
       - i.e., netim_microservices_update_240_XXX.iso

       and
     - a NetIM core update ISO file for updating core
       - i.e., netim_core_update_240_XXX.iso

2. Upload the microservices update ISO file to your NetIM 2.3.1 manager VM's update folder (/home/netimadmin/update) by using the scp command on Linux or an application such as WinSCP on Windows.
   - Linux scp command example:
     - scp <file>.iso netimadmin@<ip_address>:/home/netimadmin/update/

3. After the upload of the microservices update ISO file has successfully completed, login to the NetIM manager VM as netimadmin and run the command "update".

4. Follow the instructions provided by the "update" command and enter the requested input to complete the update of the NetIM manager, worker(s), and data managers.

5. After successful completion of the update process on all swarm components, you will be asked if you want to delete the Microservices Update and informed that the update requires a reboot of the system. After the system reboots, all swarm services will start automatically.

6. (Optional) After completing your update to NetIM 2.4.0 microservices and ensuring that all required swarm services are up, you can optionally run the following script on the NetIM 2.4.0 swarm manager to remove any stale model components that may have accumulated in prior releases:
   - While logged in to your swarm manager as netimadmin in the netimsh shell, drop into the bash shell by entering:
     - bash
   - Change to the common directory by entering:
     - cd /home/netimadmin/common
   - Execute the reset and remap script by entering:
     - sudo ./reset_model_mapping.sh /tenant_id 1 /recreate_index remap

   The core model will be remapped to current model components and any stale model components will be removed from Elasticsearch index. When complete, the script will print out a message that the "Remap process has completed."
   - Exit from the bash shell and return to the netimsh by entering:

- exit

7. Upload the core update ISO file to your NetIM 2.3.1 core VM's update folder (/home/netimadmin/update) by using the scp command on Linux or WinSCP on Windows.

    - Linux scp command example.

        - scp <file>.iso netimadmin@<ip_address>:/home/netimadmin/update/

8. After the upload of the core update ISO file has completed, login to the NetIM core VM as netimadmin and run the command "update".

9. Follow the instructions and enter the required input to complete the update of NetIM core.

10. After successful completion of the update process on core, you will be asked if you want to delete the Core Update and informed that the update requires a reboot of the system. After the system reboots, all swarm services will start automatically.

11. You can now login to NetIM by pointing your browser to https://<netim-core-hostname or IP address>:8543.

Note: Log files generated by the swarm microservices and core update processes are stored in the /home/netimadmin/update/log/<iso_file_name>.log directory.

If your update fails to complete successfully, see the Troubleshooting section.

Post Update Adjustments

NetIM deployment guidelines may change over time. Review the Deployment Guidelines Table provided in the *NetIM 2.4.0 System Requirements*. Your NetIM deployment requirements for each VM may have decreased or increased.

Increasing VM Disk Space in ESXi

1. In the ESXi hypervisor, select the VM and then click **Shut down** to power down the VM.

2. Click **Edit** to edit the VM settings.

3. Adjust the Hard Disk 2 space allotted for the VM (Hard Disk 1 contains the OS and should not require you to increase allotted storage).

4. Click **Power on** to start the VM; then login to the VM console or SSH to the VM console as netimadmin.

5. A change in the allocated disk size will be auto detected during boot time. The partition will be automatically resized and another reboot initiated.

6. Verify the expanded logical volume by entering `shell df -Bg` and reviewing the output for `/data1`.

Modifying VM Memory in ESXi

1. In the ESXi hypervisor, select the VM and then click **Shut down** to power down the VM.

2. Click **Edit** to edit the VM settings.

3. Adjust the Memory allotted for the VM.

4. Click **Power on** to start the VM; then open the VM console or SSH to the VM console

   Note:

   - The docker containers automatically scale when the memory is increased. However, the java processes inside the containers may not scale automatically.

     o For NetIM Core, memory allocated to NetIM Core services can be adjusted by using the memory slider on the Core Server Management page.

5. After increasing physical memory, virtual memory (swap) size can be increased on the VMs by using the shell command "system swap size auto"

Modifying vCPUs in ESXi

1. In the ESXi hypervisor, select the VM and then click **Shut down** to power down the VM.
2. Click **Edit** to edit the VM settings.
3. Adjust the Memory allotted for the VM.
4. Click **Power on** to start the VM.

Scaling NetIM with Additional Data Managers

You should always try to plan your NetIM deployment such that you allocate the recommended number of data managers for the scale of your deployment. When you add data managers to the swarm, metric persistence will automatically scale and balance across the manager and data managers.   While it is always possible to add additional data managers after your initial deployment, rebalancing of any existing data persistence across the manager and data managers will incur additional overhead and should be avoided.

Scaling NetIM with Additional Workers

You should attempt to plan your NetIM deployment such that you also allocate the recommended number of workers for the expected scale of your deployment. However, it is less important to accurately plan and allocate the exact amount of workers that your deployment may require. You can add additional workers and load balance across multiple workers in the swarm at any time. However, it is important to understand that the tenant services are not automatically scaled and load balanced across the workers. You need to manually scale up certain services in the tenant stack to take advantage of the added workers. We recommend that you scale up the poller and alerting services when you add additional workers. You can scale up swarm services by executing the "scale" command on the NetIM Manager VM:

Syntax: `scale tenant-stack/<id>` <tenant-service-name> <number of replicas>

The "scale" command will persist the service scaling across reboots or restarts. For example, if you deployed 3 workers in your NetIM swarm, we recommend that you scale your poller, alerting and thresholding services to the number of workers by executing the following commands on the NetIM manager:

```
scale tenant-stack/1 poller 3
scale tenant-stack/1 alerting 3
scale tenant-stack/1 thresholding 3
```

Troubleshooting

In the unlikely event that your NetIM microservices ISO update fails, you can proceed with the update by performing the update manually.

Microservices ISO Update Manual Procedure

1. Upload the ISO update file (via SCP) to the Manager and every Worker and Data Manager

2. Log in to each host individually as netimadmin and run the following commands shown in bold:

    a. netimadmin@worker[netimsh]:~$ `bash`

    b. netimadmin@worker:~$ `export LC_NETIMSH_UPDATE_VERSION_CHECK=false`

    c. netimadmin@worker:~$ `netimsh`

    d. netimadmin@worker[netimsh]:~$ `update`

   NOTE: The update script may indicate that the ISO is "incompatible." Ignore the incompatible error message, enter the corresponding number of the update file, and then hit enter. The update will be applied.

3. Ensure that the hosts are updated to the correct version (i.e., 2.4.0) by running the following commands

    a. netimadmin@worker[netimsh]:~$ `exit`

    b. netimadmin@worker:~$ `exit`

    c. netimadmin@worker[netimsh]:~$ `show version`

4. After completing the update of all hosts in your NetIM swarm, log in to the NetIM Manager and run the command shown in bold to confirm all swarm nodes are updated:

    a. netimadmin@worker[netimsh]:~$ `show nodes`

Contacting Riverbed

Options for contacting Riverbed include:

- Internet - Find out about Riverbed products at http://www.riverbed.com.

- Support - If you have problems installing, using, or replacing Riverbed products, contact Riverbed Technical Support or your channel partner who provides support. To contact Riverbed Technical Support, please open a trouble ticket at https://support.riverbed.com or call 1-888-RVBD-TAC (1-888-782-3822) in the United States and Canada or +1 415 247 7381 outside the United States.

- Professional Services - Riverbed has a staff of engineers who can help you with installation, provisioning, network redesign, project management, custom designs, consolidation project design, and custom-coded solutions. To contact Riverbed Professional Services, go to http://www.riverbed.com or email proserve@riverbed.com.

- Documentation - Riverbed continually strives to improve the quality and usability of its documentation. We appreciate any suggestions you may have about our on-line documentation or printed materials. Send documentation comments to techpubs@riverbed.com.

riverbed