Deployment Tool User Guide

Nymi Connected Worker Platform 1.16.0
v1.0
2024-03-20

Contents

Preface

Nymi™ provides periodic revisions to the Nymi Connected Worker Platform. Therefore, some functionality that is described in this document might not apply to all currently supported Nymi products. The *Connected Worker Platform Release Notes* provide the most up to date information.

Purpose

This document is part of the Connected Worker Platform (CWP) documentation suite.

This guide describes how to use the Nymi Deployment Tool to test the validity of important configuration settings in the environment prior to the deployment of the Nymi solution.

Audience

This guide provides information to individuals who deploy the Nymi Solution about how to perform pre-deployment tests of the data zone.

Revision history

The following table outlines the revision history for this document.

Table 1: Revision history

Version	Date	Revision history
1.0	March 20, 2024	First release of this document.

Related documentation

- **Nymi Connected Worker Platform—Overview Guide**

  This document provides overview information about the Connected Worker Platform (CWP) solution, such as component overview, deployment options, and supporting documentation information.
- **Nymi Connected Worker Platform—Deployment Guide**

  This document provides the steps that are required to deploy the Connected Worker Platform solution.

  Separate guides are provided for authentication on iOS and Windows device.
- **Nymi Connected Worker Platform—Administration Guide**

  This document provides information about how to use the NES Administrator Console to manage the Connected Worker Platform (CWP) system. This document describes how to set up, use and manage the Nymi Band™, and how to use the Nymi Band Application. This

document also provides instructions on deploying the Nymi Band Application and Nymi Runtime components.

- **Connected Worker Platform with Evidian Installation and Configuration Guide**

  The Nymi Connected Worker Platform with Evidian Guides provides information about installing the Evidian components and configuration options based on your deployment. Separate guides are provided for Wearable, RFID-only, and mixed Wearable and RFID-only deployments.
- **Nymi Connected Worker Platform—Troubleshooting Guide**

  This document provides information about how to troubleshoot issues and the error messages that you might experience with the NES Administrator Console, the Nymi Enterprise Server deployment, the Nymi Band, and the Nymi Band Application.
- **Nymi Connected Worker Platform with Evidian Troubleshooting Guide**

  This document provides overview information about how to troubleshoot issues that you might experience when using the Nymi solution with Evidian.

How to get product help

If the Nymi software or hardware does not function as described in this document, you can submit a support ticket to Nymi, or email support@nymi.com

How to provide documentation feedback

Feedback helps Nymi to improve the accuracy, organization, and overall quality of the documentation suite. You can submit feedback by using support@nymi.com

Nymi Deployment Tool Overview

The Nymi Deployment Tool is a Windows command line tool that allows users to test key configuration requirements on the user terminals, centralized Nymi Agent machine, and Nymi Enterprise Server(NES) prior to deployment.

Using the Nymi Deployment Tool - Pre-Installation Checks

The Nymi Deployment Tool provide you with the ability to perform tests before you install the Nymi software on the Nymi Enterprise Server(NES), enrollment terminal, and user terminals.

Run the Nymi Deployment Tool on each machine to ensure that key prerequisite configuration settings are correct.

1. Download the Nymi Deployment Tool from the Nymi Fileshare server, and extract the contents to a folder on the machine.

   The package name is *CWPInfraCheck-Release-version.zip*
2. From a command prompt, navigate to the folder that contains the extracted Nymi Deployment Tool package.
3. Type ***CWPInfraCheck.exe***. The Nymi Deployment Tool interface appears as shown in the following figure.

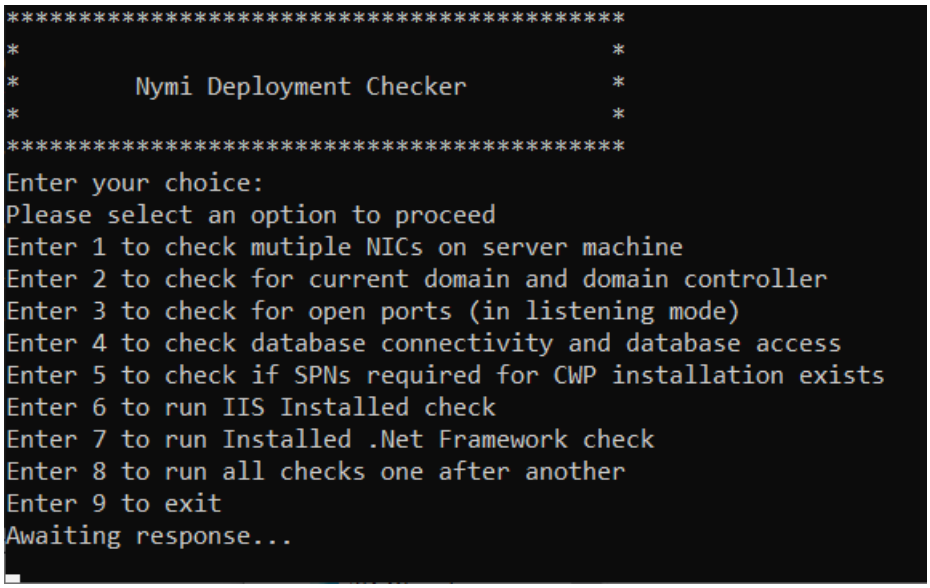


Figure 1: Nymi Deployment Tool Interface

Note: If you receive an error that the *VCRUNTIME140_1.dll* file is not found, download and install the latest Visual C++ Redistributable package from Microsoft, or you can install Visual C++ Redistributable version 14.29 from folder that contains the extracted Nymi Deployment Tool package.

4. Select the appropriate test option. The following sections summarize the purpose of each option, on which machines you should test the option, and the expected results of each test.

Option 1

Applicable Solution Component: User terminals that connect to a centralized Nymi Agent.

Purpose: Displays information about all detected Network Interface Cards(NICs).

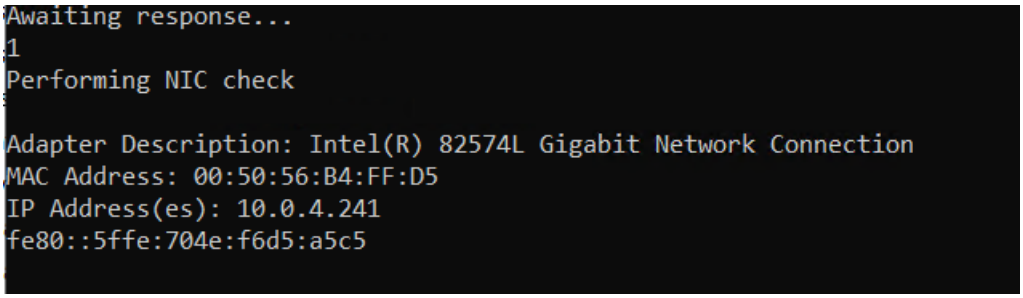
Expected Results

After you type ***1*** and press **`Enter`**, the Nymi Deployment Tool displays the following information about detected NICs:

- Adapter description
- MAC Address
- IP Addresses

Note: User terminals that connect to a centralized Nymi Agent should only have one enabled NIC.

The following figure provides an example of the output:



Option 2

Applicable Solution Component: User terminals that use Nymi Lock Control.

User terminals that use Evidian EAM Client software.

Purpose: Tests connectivity to the domain and the domain controller.

Expected Results:

After you type ***2*** and press **`Enter`**, the Nymi Deployment Tool prompts you to provide the name of your domain. After you type your domain name and press **`Enter`**, the Nymi Deployment Tool confirms that the machine is a part of the domain and also summarizes additional domain membership for the machine.

The following figure provides an example of the output that you see when the test succeeds:

```
Awaiting response...
2
Performing domain check
Please provide Domain Name of the System
tw-lab.local
 Current system is part of domain - ' tw-lab.local '
ComputerNameNetBIOS: TW-SRV2
ComputerNameDnsHostname: TW-Srv2
ComputerNameDnsDomain: TW-Lab.local
ComputerNameDnsFullyQualified: TW-Srv2.TW-Lab.local
ComputerNamePhysicalNetBIOS: TW-SRV2

Domain Controller: \\TW-DC.TW-Lab.local


Do you want to check if any friend / trusted domain is available ? (Y / N)
```

You are then prompted to check if there is any friend or trusted domains available. Type one of the following options:

- Y-For IT/OT deployments or when the user account domain differs from the domain in which NES resides.
- N-For Single domain deployments.

When you type ***Y***, the Nymi Deployment Tool prompts you to type the username and password of a domain user account. The following figure shows the output that appears when the Nymi Deployment Tool can connect to the trusted domain.

```
Do you want to check if any friend/trusted domain is available? (Y/N) -Y
Please enter the credentials of user of friend/trusted domain -
Please enter username : nesuser3
Please enter password : *********
Friend Domain: DEMO598
```

Option 3

Applicable Solution Component: All machines

*Purpose:*Performs test to confirm that the required ports are open and in listening state. This test allows you to test local ports and remote ports.

Expected Results:

After you type ***1***, and then presses **`Enter`**, the test performs two checks:

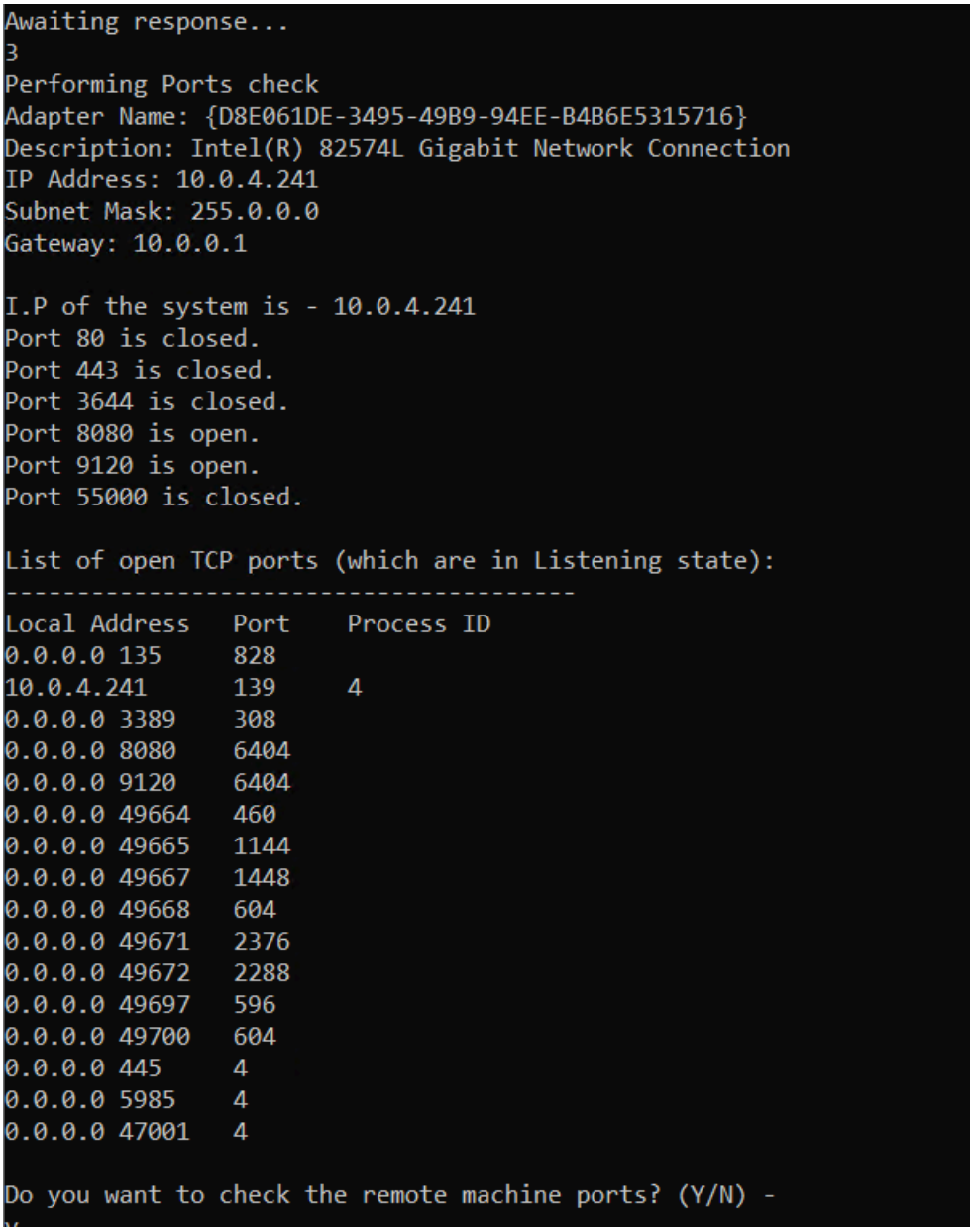
- State of the all ports on the local machine that are used by the Nymi solution.
- State of a port on a remote machine.

After the user types ***3***, and then presses **`Enter`**, the Nymi Deployment Tool tests the following ports to confirm that ports are open and lists all ports that are in a listening state.

The open port requirements differ for each component type.

Port Number	Applicable Nymi Components	Purpose
80	All user terminals	Required when communication between the user terminals and NES occurs over HTTP.
443	All user terminals	Required when communication between the user terminals and NES occurs over HTTPS.
3644	All user terminals with the Evidian EAM Client.	Support management of user terminals from the Evidian EAM Controller.
8080	All user terminals when the environment uses the Nymi WebAPI	Supports communication between the user terminals and the centralized Nymi Agent.
8080	All user terminals when the environment uses the Nymi WebAPI	Supports communication between the user terminals and the centralized Nymi Agent.
9120	NES and a centralized Nymi Agent machine	Supports communication between NES and the centralized Nymi Agent.
55000	All user terminals with the Evidian EAM Client software	Supports communication between the Evidian EAM Controller and all Evidian EAM Client machines.

The following figure provides an example of the output that appears when you run the command on the NES server, which is also the centralized Nymi Agent.



The Nymi Deployment Tool then asks you if you want to test remote ports, to ensure that the firewall rules do not prevent communications. To perform this test, you must ensure that the port is open on the remote server and then start the test.

Perform the following steps on the remote machine:

1. Run the Nymi Deployment Tool and type option ***3***.
2. Observe the list of open ports. If the port you want to test is not open, perform the following steps:

   a. Open Powershell.

b. Copy the contents of the *StartTCPListnerScript.ps1* file that is located in the folder that contains the extracted Nymi Deployment Tool package.

c. Paste the content of the *StartTCPListnerScript.ps1* file in the Powershell window.

d. Type the following command in Powershell: ***OpenPortlistener -TCPPort port_number***. The script opens the port.

Note: If the port is already open on the machine, the command returns to a prompt.

The following figure provides an example of the messages that you see when you run the command. The first example shows when the script detects that the port is already open. The second example, shows the script running the open port.

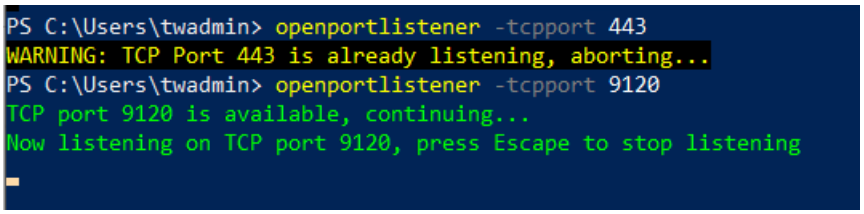


Figure 2: Sample output for the OpenPortListener command

Perform the following steps on the source machine:

1. Type ***Y***.
2. On the **`Please enter the IP address`** prompt, type the IP address of the remote machine, and then press **`Enter`**.
3. On the **`Please enter the port`** prompt, type the port on the remote machine, and then press **`Enter`**.

The Nymi Deployment Tool attempts to connect to the port on the remote machine and displays the results.

The following figure provides an example of when the source machine can connect to the port on the remote machine.

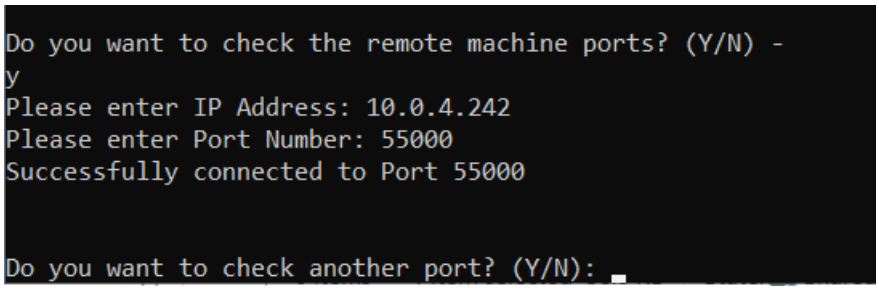


Figure 3: Open Port Output

The following figure provides an example of when the source machine can connect to the port on the remote machine.

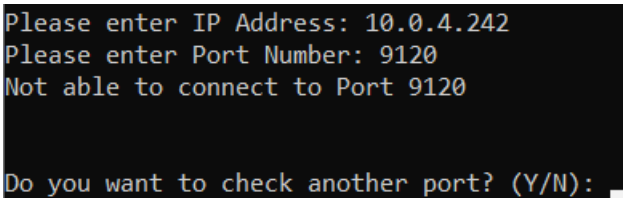


Figure 4: Closed Port Output

To test other ports, return to the remote machine and in the Powershell window, press the **Esc** key to close the current port. Run the **OpenPortListener** command with the next port number. On the source machine, type ***Y*** and specify the details for the next port test.

Option 4

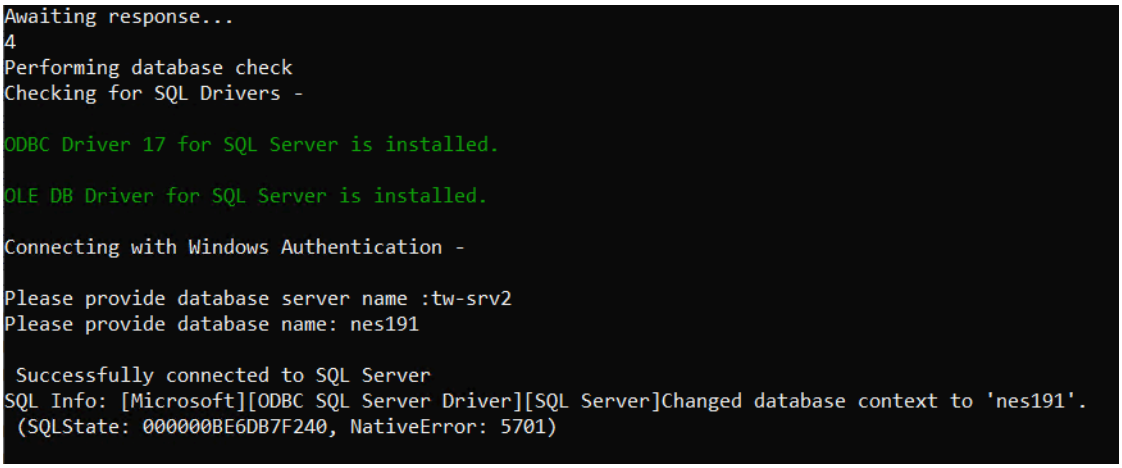
Applicable Solution Component: NES server

Purpose: Tests connectivity to the SQL database server and database.

Expected Results:

After you type ***4*** and then press **`Enter`**, the Nymi Deployment Tool prompts you to provide the database server name and the database name.

The following figure provides an example of a successful connection to a SQL database that uses Windows Authentication.



Note: *Native Error:(5703)* is an informational message and does not indicate an error or failure that requires investigation.

The following figure provides an example of an unsuccessful connection to the SQL database, when the account that runs the test does not have access to the SQL database.

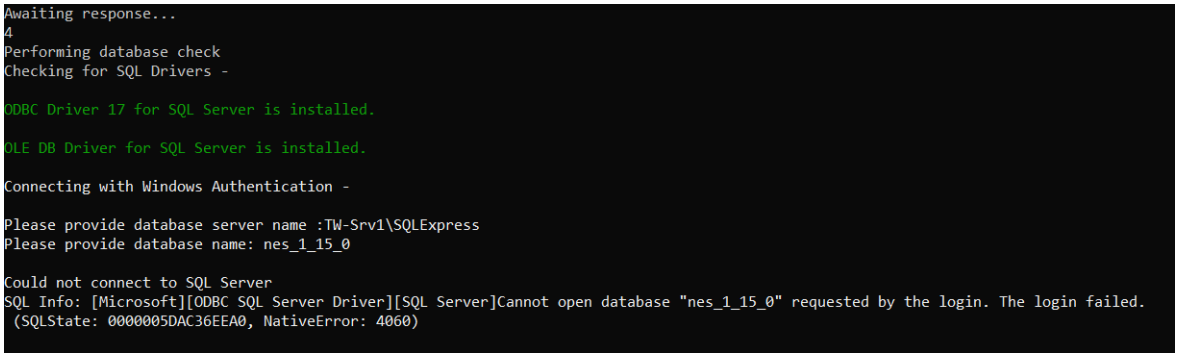


Figure 5: Unsuccessful connection to SQL Database due to access issues

To resolve this issue, perform the following steps:

1. Close the Nymi Deployment Tool.
2. Copy the extracted Nymi Deployment Tool package to a location that is accessible to the an account that has access to the SQL database.
3. Run the command prompt as a use that has access to the SQL database.
4. Navigate to the directory that contains the extracted Nymi Deployment Tool package, run **CWPInfraCheck.exe**, and select option ***4***.

Option 5

Applicable Solution Component: NES server

Note: This test is not required if your SQL server instance is installed on the NES server.

Purpose: Performs a test that lists all the Service Principal Names(SPNs) that are assigned to the application pool identity account.

Expected Results:

After you type ***5*** and then press **`Enter`**, the Nymi Deployment Tool prompts you to provide the account name for the identity that is associated with the NES application pool. Review the output and confirm that HTTP and MSSQLSvc appear.

The following figure provides an example of the output where the HTTP and MSSQLSvc SPNs appear for NES.

```
Awaiting response...
5
Performing SPN's Check
Please provide service account name -
nymi_infra_service
Registered ServicePrincipalNames for CN=nymi infrastructure,CN=Users,DC=TW-Lab,DC=local:

        HTTP/tw-srv2.tw-lab.local

        MSSQLSvc/TW-Srv2.TW-Lab.local:1433

        MSSQLSvc/TW-Srv2.TW-Lab.local
```

Option 6

Applicable Solution Component: NES server

Purpose: Performs a test to ensure that the IIS installation completed successfully.

Note: The Nymi Deployment Tool does not check that IIS or the application pool is in a running state.

Expected Results:

The Nymi Deployment Tool checks the system for IIS. The following figure displays the message when the tool detects that IIS is installed on the server.

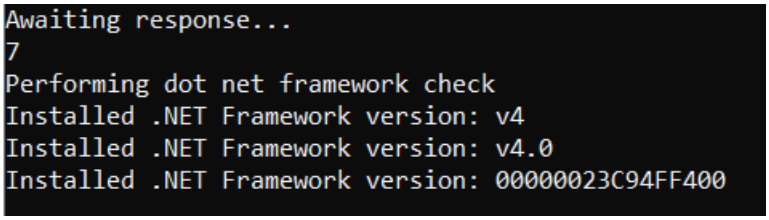
```
Awaiting response...
6
Performing IIS check
 IIS is installed
```

Option 7

Applicable Solution Component: NES server, after you install IIS.

Purpose: Performs a test to check for the ASP.Net software.

Expected Results: The Nymi Deployment Tool checks the system for the ASP.Net software and displays each installed version. The following figure displays the output that appears when the Nymi Deployment Tool detects the software.



Option 8

Applicable Solution Component: Any machine

Purpose: Performs all tests in sequence.

Expected Results: The Nymi Deployment Tool guides you through each option.

Option 9

Applicable Solution Component: Any machine

Purpose: Exit the Nymi Deployment Tool interface.

Expected Results: The Nymi Deployment Tool exits and you return to a command prompt.

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Toronto, Ontario
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