

Motorola Solutions Technical Notification (MTN)

TITLE: NTP VM Reinstall Procedure for IMW 5.2.4

TECHNOLOGY: ASTRO25

SYMPTOMS:

The NTP service goes into an unreliable state and accuracy of the served time might decline. In the worst case ntp service might stop and ntp server become unreachable.

NOTE: The IMW system requires the main system components like redundancy, replication etc. to have time synchronized, otherwise some of the services might not work.

MODELS / SYSTEM RELEASES / KITS / DATECODES AFFECTED:

IMW 5.2.4 (NTP Version NTP-Astro-20.10.29.10-12)

SEVERITY RECOMMENDATION:

High / Safety - Perform Immediately

ROOT CAUSE:

Software defect

DEFINITIVE TEST:

None

RESOLUTIONS AND REPAIR PROCEDURES:

Upgrade to the appropriate version as listed in the "PARTS REQUIRED (HARDWARE/SOFTWARE):" section below, based on the model.

To obtain software:

- 1) Initiate a software request case through Motorola Solutions, Inc. Centralized Managed Support Operations (CMSO) at 800-MSI-HELP (800-674-4357) or 302-444-9800
- 2) Await confirmation email from Motorola Solutions Software Factory (MSSF) with instructions
- 3) Complete the Motorola Solutions Software Factory Software Order Form:
 - a) Reference **MTN-0036A-22-NA** in the 'Reason for Software/Hardware Change' section of the software order form.
 - b) List the part number (**KC #** as listed under "PARTS REQUIRED (HARDWARE/SOFTWARE)" below) in the 'Part # or Version #' section of the software order form.
- 4) Email completed Software Order Form to MSSF for processing
- 5) Once required software delivered, please follow the procedure described in REFERENCE THE FOLLOWING DOCUMENTS/PROCESSES FOR INSTALLATION PROCEDURES section.

PARTS REQUIRED (HARDWARE/SOFTWARE):

| Media name | KC number |
|--|-----------------------------|
| NTP - Virtual Appliance (CSA) 2021.1 - NTP-Astro-21.06.17.13-54 or greater | KC877V0EM000210101 or later |
| VMware vSphere 7.x Config Media (media not affected by this MTN but required to complete installation procedure) | KC877C0B1000210103 |

REFERENCE THE FOLLOWING DOCUMENTS/PROCESSES FOR INSTALLATION PROCEDURES:

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| NTP VM Reinstall Procedure for IMW 5.2.4 | |
| <u>Installing VMware PowerCLI (if not already installed)</u> | |
| <p>You can install the PowerCLI utility on a Network Management (NM) client, dispatch console, or service laptop.</p> <p>Prerequisites: Obtain the VMware vSphere 7.x Config Media. (KC877C0B1000210103) Ensure that:</p> <ul style="list-style-type: none"> • All VMware Remote Console instances are closed. • All web browser windows are closed. • Windows PowerShell 5.1 or higher is installed on your machine. | |
| 1. | <ul style="list-style-type: none"> • Log on to NM client as administrator. • Insert the VMware vSphere Configuration media into the optical drive of your computer. |
| 2. | <p>Open PowerShell as administrator by performing the following actions:</p> <ol style="list-style-type: none"> a. From Start, click Search. b. In the search field, enter: powershell c. Right-click Windows PowerShell, and select Run as administrator. d. If the User Account Control window appears, click Yes. e. If you are not logged on with an administrative account, enter the domain admin credentials. |
| 3. | At the PowerShell prompt, enter: Set-ExecutionPolicy RemoteSigned |
| 4. | <p>Enter: cd 'DVDDrive:\VMware vSphere PowerCLI' where "DVDDrive" is the drive that contains the VMware vSphere Configuration media. Step example: cd 'E:\VMware vSphere PowerCLI'</p> |
| 5. | <p>At the powershell prompt, enter: .\Set-PowerCLI.ps1 -SourceZipPath VMware-PowerCLI.zip -Install Once the PowerCLI installation is finished, close the Command Prompt window.</p> |

| <u>Getting the existing NTP VM identity config file with Command Line</u> | |
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| 1. | <p>On the NM Client, from the Windows Start menu, enter Powershell in the search then right-click Powershell option and select Run as administrator.</p> <p>Result: The Administrator:Powershell window appears.</p> |
| 2. | <p>To establish the connection to the VMware ESXi server on which you want to deploy the virtual machine in the standalone mode, enter: Connect-VIServer -Server <IP_address> where <IP_address> is the IP address of the VMware ESXi server's Network Management interface.</p> <p>When prompted, perform one of the following actions: • provide the esxi credentials for the root user. <esxi_user> is the username of esxi host <esxi_password> is the password of esxi host</p> |
| 3. | <p>To capture NTP Vm credential execute this command \$GuestCred=Get-Credential</p> <p>When window promoted for credential, provide the correct ntp_username and ntp_password for further steps.</p> |
| 4. | <p>At the Administration Command Prompt, enter:</p> <p style="text-align: center;">Get-VM -Name <vm_name> Copy-VMGuestFile -Source "/var/log/identity_inputs.initial" -Destination <fullpath_to_the_location> -GuestToLocal -Force -GuestCredential \$GuestCred</p> <p>where <vm_name> is the name of existing NTP VM <fullpath_to_the_location> is the path on the NM client where you want to copy the file identity_inputs.initial</p> <p>Note: Please make sure after executing the above command file is copied at destination path.</p> |

| <u>Unregister existing NTP VM</u> | |
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| 1. | <p>Log on to the Esxi Host management interface by performing the following actions:</p> <ol style="list-style-type: none"> a. Launch the web browser. b. Enter the IP address of the VMS host. c. If a certificate warning appears, continue to the page. The form of the warning and steps to ignore it depend on the web browser. d. In the User name field, enter the name of a user with administrator capability. e. In the Password field, enter the password. f. Click Log in. |
| 2. | From the list of virtual machines, select the NTP virtual machine, Right click and go to Power ---> Power Off |
| 3. | Once NTP VM is Powered off, Select the NTP virtual machine, Right Click and select Unregister . A dialog box will appear asking for confirmation, click on Yes button |
| 4. | <p>Go to Storage ---> datastore1---->Datastore browser</p> <ul style="list-style-type: none"> • Click on "Create directory" and create a directory with the name "ntp_vm_backup". • Right click on NTP VM folder and then select Move option For primary Servers, folder name is ntp1 For secondary servers folder name is ntp2 |
| 5. | <p>Another dialog windows opens with name "to select the destination folder", Select the folder "ntp_vm_backup" created in step 4 and then click on Move button</p> <p>Note: If any error occurred after clicking Move button. So close the GUI and opening 'Datastore browser' page again and retry again.</p> |

Deploying the NTP Virtual Machine with Command Line

Prerequisites:

Ensure that you have PowerCLI installed. See Installing VMware PowerCLI

Obtain the following media and information:

- NTP - Virtual Appliance (CSA) A2021.1 (**KC877V0EM000210101**)
- For the Esxi host server obtain:
 - IP address of the Management Network interface of the ESXi hypervisor (host server)
 - Root credentials for the ESXi hypervisor

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| 1. | <p>Log on to the VMware ESXi Embedded Host Client by performing the following actions:</p> <ol style="list-style-type: none"> a. Launch the web browser. b. In the address bar, enter the IP address of the VMS host. c. If a certificate warning appears, continue to the page. The form of the warning and steps to ignore it depend on the web browser. d. In the User name field, enter: root e. In the Password field, enter the password. f. Click Log in. |
| 2. | <p>In the navigation pane on the left, click Virtual Machines.</p> <p>In the Virtual Machines pane, review the list of existing virtual machines to check if this virtual machine already exists. Perform below steps if VM does not exist.</p> |
| 3. | <p>Insert the product media (KC877V0EM000210101) into the optical drive of the Windows-based device that you use for this import.</p> <p>Optional: For optimal speed during the import process, copy the folder appropriate for your configuration from the DVD to a temporary location on the hard drive of the Windows-based device that you are using for this import.</p> |
| 4. | <p>Open PowerShell console as an administrator.</p> <p>At the PowerShell prompt, enter: Set-PowerCLIConfiguration -InvalidCertificateAction Ignore</p> <p>Confirm the operation by entering: Y</p> |
| 5. | <p>To establish the connection to the VMware ESXi server on which you want to deploy the virtual machine in the standalone mode, enter: Connect-VIServer -Server <IP_address> where <IP_address> is the IP address of the VMware ESXi server's Network Management interface.</p> <p>When prompted, provide the esxi credentials for the root user. <esxi_user> is the username of esxi host <esxi_password> is the password of esxi host</p> |

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| 6. | <p>Define the variable for the IP address of the VMware ESXi server's Network Management interface by entering:</p> <p>\$vmhost = Get-VMHost -Name <IP_address> where <IP_address> is the IP address of the VMware ESXi server's Network Management interface.</p> |
| 7. | <p>Define the variable for the datastore on which the virtual machine is to be deployed by entering:</p> <p>\$datastore = Get-Datastore -Name '<datastore>'</p> <p>Usually for the IMW Esxi host server, the <datastore> is datastore1. Check the name once in Esxi Gui to reconfirm</p> |
| 8. | <p>Deploy the NTP virtual machine by entering:</p> <p>Import-VApp -Name <vm_name> -VMHost \$vmhost -Datastore \$datastore -DiskStorageFormat EagerZeroedThick For primary NTP VM, <vm_name> is ntp1 For secondary NTP VM, <vm_name> is ntp2</p> |
| 9. | <p>When prompted, enter the absolute path to the .ovf file for the NTP virtual machine.</p> <p>Note: Can Monitor the deployment in ESXI Gui Recent tasks</p> |
| 10. | <p>When the deployment is complete, log on to the management interface by performing the following actions:</p> <ol style="list-style-type: none"> Launch the web browser. Enter the IP address of the VMS host. If a certificate warning appears, continue to the page. The form of the warning and steps to ignore it depend on the web browser. In the User name field, enter the name of a user with administrator capability. In the Password field, enter the password. Click Log in. |
| 11 | <p>In the Navigator pane on the left, click Virtual Machines. From the list of virtual machines, select the NTP virtual machine and click Edit settings.</p> |
| 12. | <p>On the Virtual Hardware tab, Perform below Actions:</p> <ul style="list-style-type: none"> For Memory , change the value from 4 GB to 2 GB For Network Adapter 1 From the drop-down list, select the network mapping "UNS_APP" for the NTP virtual machine. Click on Add Network Adapter. For New Network Adapter From the drop-down list, select the network mapping "MGMT" for the NTP virtual machine. Click on Save button <p>Note: Make Sure the Connect and Connect at power on checkbox are ticked for both Network Adapters</p> |
| 13. | <p>Right Click on the NTP VM and select "Upgrade VM compatibility" option and the select option "ESXi 7.0 U1 virtual machine" and click on Upgrade button.</p> |

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| | A dialog box will appear asking you to confirm VM Compatibility Upgrade, click on Yes button. |
| 14. | Remove the media (KC877V0EM000210101) from the optical drive of the Windows-based device |

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| <u>Applying Supplemental Configuration to Virtual Machines</u> | |
| Prerequisites: | |
| <ul style="list-style-type: none"> ● Obtain the VMware vSphere Configuration media.(VMware vSphere 7.x Config Media- KC877C0B1000210103) ● Ensure that the VMware PowerCLI is installed. | |
| 1. | Insert the VMware vSphere Configuration media into the optical drive of the Windows-based device. |
| 2. | Open PowerShell as administrator by performing the following actions: <ol style="list-style-type: none"> a. From Start, click Search. b. In the search field, enter: powershell c. Right-click Windows PowerShell, and select Run as administrator. d. If the User Account Control window appears, click Yes. e. If you are not logged on with an administrative account, enter the domain admin credentials. |
| 3. | At the PowerShell prompt, enter: cd " E:\astro\bin " where E: is the DVD drive where you inserted/mounted the VMware vSphere Configuration media. |
| 4. | Power off the virtual machine to which you want to apply supplemental configuration. |
| 5. | At the PowerShell prompt, enter: .\'Configure-ASTROVMHardening.ps1' <ul style="list-style-type: none"> ● At the ESXi host IP prompt, enter the IP address of the VMS host. For systems with vCenter, the vCenter IP should be used. ● At the username prompt, enter the user name for an administrative account on the VMS host. ● At the password prompt, enter the password for an administrative account on the VMS host. |
| 6. | When prompted, apply supplemental configuration to a single virtual machine: Enter the name of the particular virtual machine. Ensure that the name matches the name of the virtual machine as it appears in the Virtual Machines pane of the VMware ESXi Embedded Host Client when connected to the VMS host. |
| 7. | When the script output appears, verify that no messages stating [FAILED] appear in the output of the script. |
| 8. | At the PowerShell prompt, enter: exit |
| 9. | From the list of virtual machines, select the NTP virtual machine, Right click and go to Power ---> Power On |

| <u>Pushing Identity Config to NTP VM</u> | |
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| Prerequisites: NTP identity config file obtained in first step - Getting the existing NTP VM identity config file with Command Line | |
| 1. | On the NM Client, from the Windows Start menu, enter Powershell in the search then right-click Powershell option and select Run as administrator. Result: The Administrator:Powershell window appears. |
| 2. | To establish the connection to the VMware ESXi server on which you want to deploy the virtual machine in the standalone mode, enter: Connect-VIServer -Server <IP_address> where <IP_address> is the IP address of the VMware ESXi server's Network Management interface. When prompted, provide the esxi credentials for the root user. <esxi_user> is the username of esxi host <esxi_password> is the password of esxi host |
| 3. | To capture NTP Vm credential, execute this command \$GuestCred=Get-Credential . When window promoted for credential, provide the correct ntp_username and ntp_password for further steps. |
| 4. | At the Administration Command Prompt, enter: Get-VM -Name <vm_name> Copy-VMGuestFile -Source <fullpath_to_the_location> -Destination "/tmp/identity_inputs.cfg" -LocalToGuest -Force -GuestCredential \$GuestCred where: <vm_name> is name of NTP VM <fullpath_to_the_location> is the path on the NM client where you initially copied the identity_inputs.initial in step Getting the existing NTP VM identity config file with Command Line |
| 5. | You can also login to NTP VM using esxi console to validate that the file "/tmp/identity_inputs.cfg" is created in NTP VM. |

| <u>Configuring the Time Zone on a Linux Server and Setting Identity for the NTP Virtual Machine</u> | |
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| 1. | Log on to the VMware ESXi Embedded Host Client by performing the following actions: <ol style="list-style-type: none"> a. Launch the web browser. b. In the address bar, enter the IP address of the VMS host. c. If a certificate warning appears, continue to the page. The form of the warning and steps to ignore it depend on the web browser. d. In the User name field, enter: root e. In the Password field, enter the password. f. Click Log in. |
| 2. | In the Navigator pane on the left, click Virtual Machines. In the list of virtual machines that appears on the right, right-click the virtual machine where you want to configure the time zone and select Console→Launch Remote Console. The Virtual Machine Remote Console opens. |
| 3. | Wait until a prompt to log on to the console appears. Click in the Console window and log on to the virtual machine as root user. |
| 4. | At the prompt, enter: admin_menu The administrative menu for the server appears. To select a menu item, enter the number that corresponds to that menu item, then press ENTER. |
| 5. | Select “ OS Administration ” and then Select “ Manage Platform Configuration. ” |
| 6. | Select “Set Time Zone”. A menu displays numbered options to change the time zone. The Set Time Zone option starts by prompting you for the region of the world. You can specify the time zone using the Posix TZ format. Continue responding to the prompts until you see a message regarding /usr/bin/tzselect. Ignore the message. |
| 7. | To quit, enter: q |
| 8. | Execute command “ /usr/bin/mv /opt/Motorola/idmgr/sbin/calc-app-identity /home/ ” |
| 9. | Execute command “ /opt/Motorola/idmgr/bin/apply-identity -f /tmp/identity_inputs.cfg ” This will take few minutes to complete Do not press any button until it completes and takes back on prompt |
| 10. | Reboot the NTP VM, type “ reboot ” and press Enter |

TIME TO IMPLEMENT/SYSTEM IMPACT:
Estimated time to implement - per machine - 2 Hours
Medium - time consuming but no loss of functionalities

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Bulletin Type: Informational Only

WHEN TO APPLY RESOLUTION:During maintenance As instructed **LABOR ALLOWANCE:**

This is an informational bulletin. No labor warranty is implied, intended or authorized for U.S. Domestic Partners/Customers. Other regions should follow their own standard procedures.

If, after attempting to perform the solution steps, you are having issues with the resolution in the MTN then please contact your MSI Technical support center.

https://www.motorolasolutions.com/en_us/support.html

SW ORDER FORM IS AVAILABLE UNDER THE LINK:

http://www.motorolasolutions.com/content/dam/msi/docs/robots/motorola-technical-notification/SW_order_form.pdf