

A decorative pattern of concentric hexagons in a light blue color, scattered across the top dark blue header area.

FortiNAC - AWS Deployment Guide

Version 7.2 F

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FEEDBACK

Email: techdoc@fortinet.com

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FortiNAC 7.2 F AWS Deployment Guide

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Overview

This document provides the steps necessary for installing FortiNAC appliance(s). It is intended to be used in conjunction with the [FortiNAC Deployment Guide](#) in the Fortinet Document Library.

For additional details on the steps outlined in this document, refer to the appropriate vendor documentation.

Virtual Appliance (VM) Part Numbers

| Part Number | Description |
|-------------|-------------------------------------|
| FNC-MX-VM | Control Manager |
| FNC-CAX-VM | Control and Application Server (CA) |

The FortiNAC VM can be preconfigured to boot with a predetermined configuration. See [Cloud-init](#) for details.

Requirements

- Direct access to the AWS environment (direct connection or VPN tunnel). Public connections are not recommended due to lack of security.
- Virtual appliance settings will vary depending on the underlying hardware being used for the hosting server. The ideal result is to yield a virtual environment where the average load does not exceed the Total GHz Rating of CPU Resources Allocated.
 - Determine the appropriate parameters for the virtual environment. It is recommended they be comparable to those of hardware-based FortiNAC appliances. Refer to the following tables in the [FortiNAC Data Sheet](#):
 - Hardware Server Sizing - Hardware server part number most appropriate for the target environment
 - Specifications - Details regarding the applicable part number
 - VM Server Resource Sizing - Suggested values for memory and CPU to allocate for the virtual appliance
- AWS CLI is installed on a Linux based machine.



Important notice

To run the `import2awsimg.sh` script successfully, you must use a linux based distribution, i.e. ubuntu. If you are using windows you can use Ubuntu with Windows Subsystem for Linux.

- Instructions to install AWS CLI on your computer can be found at <https://docs.aws.amazon.com/cli/latest/userguide/installing.html>
- Instructions to configure the credentials for your AWS CLI can be found at <https://docs.aws.amazon.com/cli/latest/userguide/cli-chap-configure.html#cli-quick-configuration>

Note: To test that setup was done correctly, you can create a test directory, and download or copy the FortiNAC OVA into the test directory.

- The computer must have sufficient hard drive space available for the FortiNAC OVA.

Considerations

- In versions 7.x and greater, FortiNAC doesn't have any ports open by default. In previous versions, this was not the case. As features are configured, ports must also be added to the allowaccess list in order for the feature to work.

Operating System and Open Ports

FortiNAC-F series appliances use the FortiNAC-OS operating system. Limited TCP/UDP ports are open by default for security purposes. This was not the case for FortiNAC appliances using the CentOS operating system.

Virtual appliances do not have any TCP/UDP ports listening by default. Opening additional ports requires the use of the "set allowaccess" command in the appliance CLI.

The configuration steps provided include opening ports for the applicable features and functions covered in this guide. As more features are configured, additional access must be enabled using the "set allowaccess" command via the appliance CLI. For details, see [Open Ports](#) in the FortiNAC Administration Guide.

The best practice is to keep the number of open ports to a minimum, and block all other ports. If there is a need to provide users access to network resources through a static port (e.g., from outside a firewall), the best option is to allow users to connect by VPN.

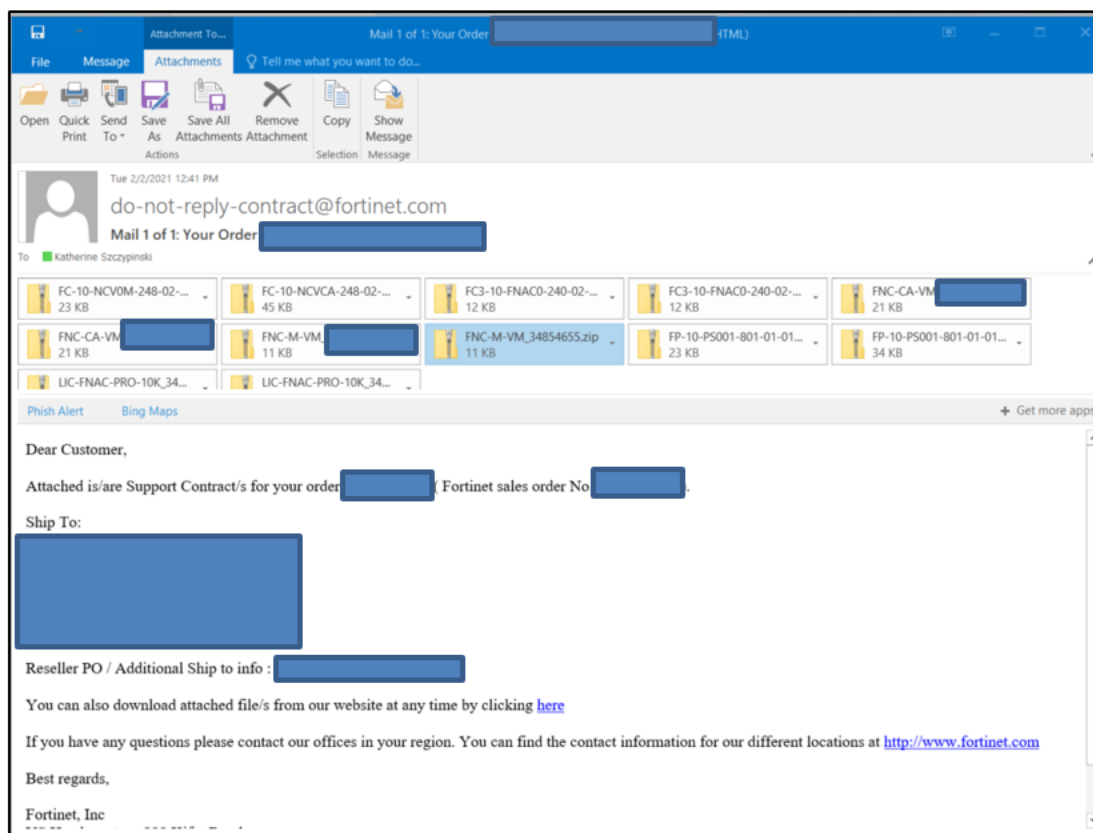
Prerequisite: Product Registration

Products must be registered in order for the appropriate keys to be generated for the appliances. Without these keys, the appliances will not start.

Requirements Checklist

- Registration codes: Email from do-not-reply-contract@fortinet.com with attached .zip files containing registration codes for all products

Example



File name examples:

FNC-MX-VM-xxx.zip = Manager next-gen VM Server

FC-10-FNVXM-xxx.zip = Support & Maintenance for Manager next-gen VM Server

FNC-CAX-VM-xxx.zip = Control & Application next-gen VM Server

FC-10-FNVXA-xxx.zip = Support & Maintenance for Control & Application next-gen VM Server

LIC-FNAC-BASE-xxx.zip = Perpetual License, Base level

FC1-10-FNAC0-xxx.zip = Support & Maintenance for Perpetual Base Licenses

FCx-10-FNAC1-215-xx-xx.zip = Support & Maintenance for Subscription Base Licenses

LIC-FNAC-PLUS-xxx.zip = Perpetual License, Plus level

FC2-10-FNAC0-xxx.zip = Support & Maintenance for Perpetual Plus Licenses

FCx-10-FNAC1-213-xx-xx.zip = Support & Maintenance for Subscription Plus Licenses

LIC-FNAC-PRO-xxx.zip = Perpetual License, Pro level

FC3-10-FNAC0-xxx.zip = Support & Maintenance for Perpetual Pro Licenses

FCx-10-FNAC1-209-xx-xx.zip = Support & Maintenance for Subscription Pro Licenses

FP-10-PS-801-01-01.zip = Professional Service Days*

FP-10-PS-830-01-01.zip = Professional Service Days*

*Registered on the day of engagement only. See [Fortinet Professional Services Contracts](#) in the Appendix for more information.

Within the zip files are one or more PDF's which contain the Registration Code.

Tip: If multiple appliances were purchased, save these files in separate folders for each appliance.

Example A – CAVM

Example B – Support for CAVM

FortiNAC Control and Application VM Server Certificate

Licensor : Fortinet, Inc.
US Headquarters, 899 Kifer Road,
Sunnyvale, CA, USA

Licensee :
Registration Code : RWC4W-XXXXXX
Sales Order : FNC-CA-VM

Grant Of License

Fortinet ("Licensor") hereby grants to the "Licensee", the non-exclusive, revocable, limited right to use one instance of FortiNAC Control and Application VM Server (the "Product") on a supported virtualization platform subject to and in accordance with the terms contained in the End User License Agreement (the "EULA") which is hereby expressly incorporated herein by reference. Use of the license on more than one instance of FortiNAC Control and Application VM Server shall give Licensor the immediate right to terminate this license with no refund to Licensee whatsoever, in addition to all other remedies to which Licensor is entitled. Licensee is strongly encouraged to read the EULA before using the Product or any associated software. For additional copies of the EULA, please contact Licensor at <http://www.fortinet.com/doc/legal/EULA.pdf>.

Registration

Please refer to the following steps:

- Log into your registration account on <https://support.fortinet.com/> website
- Go to "Registration" and enter the provided registration code: RWC4W-XXXXXX
- Follow the registration process
- Serial number will be generated and displayed on "Registration Completion page"
- Go to "Manage/View Products" and click on the serial number in order to download the license file

Image Download

Please log into <https://support.fortinet.com/> to download the Virtual Appliance image.

- Mouse over "Download" (do not click "Download")
- Go to "Firmware Images"
- Follow links to download proper image version

Should you have any questions, or require further assistance, please contact your Regional Customer Services and Support Team who will be happy to assist you.
For Support Center contact information please visit www.fortinet.com/support/contact_support.html.

Best Regards,
Fortinet Customer Service and Support

Service Entitlement Summary

PLEASE REMEMBER TO REGISTER YOUR CONTRACT REGISTRATION CODE

Date :
Purchase Order Number :
Contract Registration Code : XXXXXXXX

Support / Maintenance / Subscription Services Included

| Qty | Part Number | Description |
|-----|-------------|---|
| 1 | FC-10-NCVCA | 1 Year coverage for FortiNAC ControlApp VM Server include: Firmware & General Updates Enhanced Support 24x7 Telephone Support 24x7 |

- **Physical Appliances Only:** Serial number (FNxxxxxxxxxx). The serial number (S/N) is located on the label that shipped with the hardware. This label also contains the Product Name, Model/SKU, Fortinet P/N and HW ID.

Register the “Managing” Server

1. Use the chart below to determine the “managing” server (appliance to which the Endpoint License Key will be installed). The remaining servers in multiple appliance deployments are installed with an Appliance (Base) License Key.

For more information on how licenses are distributed for each system configuration, see section [License Distribution](#) in the Appendix.

| Deployment Configuration | Managing Server | Part Number |
|--|------------------------|-------------|
| Standalone | CA Server | FNC-CAX-xx |
| Standalone with High Availability (HA) | Primary CA Server | FNC-CAX-xx |
| Multiple Independent Standalones | Each CA Server | FNC-CAX-xx |
| Multiple Independent with High Availability (HA) | Each Primary CA Server | FNC-CAX-xx |

| Deployment Configuration | Managing Server | Part Number |
|---|-------------------------|-------------|
| Distributed | Control Manager | FNC-MX-xx |
| Distributed with High Availability (HA) | Primary Control Manager | FNC-MX-xx |

2. Log into the Customer Portal at <https://support.fortinet.com/>
3. Click **Register Product**.
4. In the **Registration Code** field, enter the appropriate value.
 - **Virtual appliance:** Registration code from the pdf found in file FNC-CAX-VM_xxx (or if a Manager FNC-MX-VM.xxx).
 - **Physical appliance:** Serial number on label.
5. Click **Next**.

This page may appear if there was a POC or active evaluation license.

If you are converting your POC to production, select **Convert Evaluation**.

If you not converting your POC to production, select **Register**.

The screenshot shows a web interface for product registration. At the top, a blue header bar contains the text "Register Product > GQFI" and a progress indicator with steps "1" and "2 Convert Option". Below the header, the "Product Model" is listed as "FortiNAC Control/App VM Server". The main section is titled "Registration Confirmation" and contains the text: "You may register FortiNAC Control/App VM Server with license number [redacted] or use it to convert an existing evaluation license. We have found evaluation license(s) of the same product in your account. Please specify your choice before proceeding to the next step." Below this text is a light blue box with the heading "Attention:" and a warning: "Please be advised that purchased VM licenses are required to be of sufficient size to cover existing products under evaluation. If you attempt to attach an undersized license, your product may not function as expected. All registered support and subscription contracts associated with the converted evaluation VM license will be removed and replaced with associated purchased contracts." At the bottom of the main content area are two buttons: "Convert Evaluation" (black) and "Register" (blue). At the very bottom of the interface are "Cancel" and "Previous" links.

6. Under Product Description, enter managing server's hostname or "Managing Server" (this can be edited later).
7. Select **Fortinet Partner** (ignore all other fields).
8. Click **Next**.

The screenshot shows a web browser window with the title "Register Product > GQ /D". The browser's address bar contains "1 2 3 Registration Info 4 5 6 ?". The main content area is a registration form with the following fields:

- Product Model: FortiNAC Control/App VM Server
- Support Contract No.:
- Product Description:
- Mac Address:
- UUID:
- Fortinet Partner:
- Asset Permissions:

At the bottom of the form, there are three buttons: "Cancel", "Previous", and "Next".

9. Read terms and conditions.
10. Click on radio button.
11. Click **Next**.

Register Product > GQ VD 1 2 3 4 Agreement 5 6 ?

Product Model: FortiNAC Control/App VM Server

Fortinet Service Terms & Conditions

For FortiCare, FortiGuard and other Service Offerings

THESE TERMS AND CONDITIONS APPLY TO THE PROVISION OF SERVICES BY FORTINET AND EXCLUSIVELY GOVERN THE LEGAL RELATIONSHIP BETWEEN YOU (THE CUSTOMER) AND FORTINET. IT SETS FORTH THE LEGALLY BINDING RIGHTS AND OBLIGATIONS OF THE CUSTOMER IN RELATION TO FORTICARE SUPPORT OR FORTIGUARD SUBSCRIPTION SERVICES OR OTHER FORTINET SERVICE OFFERINGS. THE CUSTOMER CONSENTS TO BE BOUND BY THESE TERMS AND CONDITIONS AND TO HAVE BECOME PARTY TO THIS 'AGREEMENT' (THIS OR THE 'AGREEMENT') AND REPRESENTS TO HAVE READ AND UNDERSTOOD THIS AGREEMENT AND HAVE HAD SUFFICIENT OPPORTUNITY TO CONSULT WITH COUNSEL BEFORE AGREEING TO THE TERMS HEREIN. THE CUSTOMER AGREES THAT ANY OF THE FOLLOWING ACTIONS BY CUSTOMER REPRESENTATIVES REPRESENT THE CUSTOMER'S AUTHORIZED CONSENT TO BE BOUND BY THIS AGREEMENT: (I) RECEIVING, DOWNLOADING, DEPLOYING OR USING ANY SOFTWARE PROVIDED IN CONNECTION WITH FORTINET SERVICES, (II) RECEIVING, CONFIGURING, LOGGING IN, REGISTERING OR OTHERWISE USING OR BENEFITTING FROM THE SERVICES, OR (III) BY CLICKING ON THE "ACCEPT" BUTTON UPON REGISTRATION (ANY OF (I), (II), OR (III) SHALL CONSTITUTE "ACCEPTANCE" BY CUSTOMER). THE CUSTOMER HEREBY ACKNOWLEDGE AND AGREES THAT THE PERSON ENGAGING IN (I), (II), AND/OR (III) IS AUTHORIZED TO BIND THE CUSTOMER TO THE TERMS HEREIN. FOR CLARITY, NOTWITHSTANDING ANYTHING TO THE CONTRARY, IF CUSTOMER IS USING AN AUTOREGISTRATION TOOL, CUSTOMER ACKNOWLEDGES AND AGREES THAT ANY AND ALL UNITS REGISTERED USING SUCH TOOL SHALL BE SUBJECT TO THESE TERMS AND CONDITIONS.

Services are available independently or in connection with the purchase of Fortinet's commercial networking products and related equipment, including hardware products with embedded software, and software products sold and licensed to you pursuant to Fortinet's End User License Agreement ("EULA"), which EULA is available at <https://www.fortinet.com/content/dam/fortinet/assets/legal/EULA.pdf>, and you hereby agree to the terms of the EULA.

This Agreement and the Sales Order Acknowledgment represent a legal agreement between the parties with respect to FortiCare and FortiGuard Subscription services or other Fortinet services, and shall supersede all prior representations, discussions, negotiations and agreements, whether written or oral. This document expressly supersedes the Customer Service & Support Reference Guide (CSS Reference Guide) and all other service descriptions, and, notwithstanding anything to the contrary, Fortinet is only bound by, and Customer is only entitled to, services pursuant to official service descriptions that are authorized by Fortinet pursuant to this Agreement and are contractually binding on Fortinet pursuant to the terms herein

☒ I have read, understood and accepted the contract stated above


Cancel Previous Next

Note: "No Entitlement" will display. This is correct.

12. Click on radio button to accept.
13. Click **Confirm**.

Product Model: FortiNAC Control/App VM Server

Important Notice:
READ BEFORE COMPLETING THE REGISTRATION.

 **Asset location:** My Assets

PRODUCT ENTITLEMENT

No Entitlement!


Entitlement calculation is based on any existing warranty or contract services plus the term of your new contract. If you have questions regarding these conditions, please open a ticket for Registration Assistance by clicking [here](#).

☒ By accepting these terms, you are activating this support contract and the entitlement period provided can not be changed. If you wish to continue, click "confirm" button to submit your request.

[Cancel](#) [Previous](#) [Confirm](#)

CAX(VM) product registration is now complete.


14. Note the Serial Number (will be used in a future step).
15. Proceed to register the support contract for the appliance. Click **Register More**.

 **Registration Completed**

Thank you for choosing this Fortinet product. **Your registration process has completed successfully.** Please be aware that the registration information may not reflect on your product immediately, a delay (up to 4 hours) can occur.

Product Info

| | |
|-------------------|--------------------------------|
| Product Model | FortiNAC Control/App VM Server |
| Serial Number | FNVMCATM2 |
| Registration Date | 2021-03-01 |
| Description | N/A |
| Partner | Fortinet (Americas) |
| MAC Address | N/A |
| UUID | N/A |

 **Asset location** My Assets

SUPPORT COVERAGE

No Entitlement!

REGISTERED SUPPORT CONTRACT

No Contract Registered.

REGISTERED LICENSE(S)

| License Type | License Number | Registration Date |
|--------------|----------------|-------------------|
|--------------|----------------|-------------------|

Register More

Done

Register Support Contract for Managing Server

1. Enter registration code found on pdf from file FC-10-FNxxx_xxx.
2. Click **Next**.

The screenshot shows a web form titled "Register Product" with a progress bar at the top indicating four steps: 1. Registration Code (active), 2, 3, and 4. The main content area is divided into two sections. The first section, "Registration Code", contains a text input field with a red asterisk and a help icon (?). The second section, "End User Type", has a heading "The product will be used by" followed by two radio buttons: "A government user" and "A non-government user". Below these are three numbered bullet points defining government end-users. At the bottom of the form are "Clear" and "Next" buttons.

Register Product

1 Registration Code 2 3 4 ?

Registration Code

Please enter your product serial number, service contract registration code or license certificate number to start the registration: *

?

End User Type

The product will be used by

☐ A government user

☒ A non-government user

In this context a government end-user is any central, regional or local government department, agency, or other entity performing governmental functions, including:

1. Governmental research institutions.
2. Governmental corporations or their separate business units which are engaged in the manufacture or distribution of items or services controlled on the Wassenaar Munitions List.
3. International governmental organizations.

Clear Next

3. Associate the support contract to the appropriate Serial Number noted in previous step.
 - If only one product is registered, there will only be one choice – select that radio button.
 - If more than one product is registered, select the Serial Number noted in previous step.Selecting the radio button will auto-complete the Serial Number field.
4. Click **Next**.
5. Click on radio button in the lower left corner.
6. Click **Confirm**.

Serial Number: FNVMCATM21000351

Product Model: FortiNAC Control/App VM Server

Contract Number: 0012PT845297

Important Notice:
READ BEFORE COMPLETING THE REGISTRATION.

PRODUCT ENTITLEMENT

| Support Type | Support Level | Activation Date | Expiration Date |
|----------------------------|---------------|-----------------|-----------------|
| Firmware & General Updates | Web/Online | 2021-03-01 | 2022-03-01 |
| Enhanced Support | 24x7 | 2021-03-01 | 2022-03-01 |
| Telephone Support | 24x7 | 2021-03-01 | 2022-03-01 |

Entitlement calculation is based on any existing warranty or contract services plus the term of your new contract. If you have questions regarding these conditions, please open a ticket for Registration Assistance by clicking [here](#).

☒ By accepting these terms, you are activating this support contract and the entitlement period provided can not be changed. If you wish to continue, click "confirm" button to submit your request.

Cancel

Previous

Confirm

Support contract registration is now complete and applied to the FortiNAC-OS appliance.

7. Click **Register More**.

Proceed to the appropriate section:

Perpetual licenses: Register Perpetual Licenses

Subscription licenses: [Register Support Contract for License](#)

Register Perpetual Licenses

1. Enter the registration code from the pdf found in the appropriate License file:
LIC-FNAC-xxxxx-xxx_xxx
2. Click on **Next**.

The screenshot shows a web interface titled "Register Product". At the top, there is a progress bar with four steps: 1. Registration Code (active), 2, 3, and 4, followed by a help icon. The main content area is divided into two sections. The first section, "Registration Code", contains a text input field with a placeholder "Please enter your product serial number, service contract registration code or license certificate number to start the registration:" and a question mark icon. The second section, "End User Type", contains a radio button selection for "A government user" and "A non-government user", with "A non-government user" selected. Below this, there is a list of three items: 1. Governmental research institutions, 2. Governmental corporations or their separate business units which are engaged in the manufacture or distribution of items or services controlled on the Wassenaar Munitions List, and 3. International governmental organizations. At the bottom of the form, there is a "Clear" link and a "Next" button.

3. Associate the License to the managing server CAX(VM).
 - If only one CAX(VM) is registered, there will only be one choice – select that radio button.
 - If more than one CAX(VM) is registered, select the appropriate CAX(VM) (Primary/Control server).
Important: DO NOT license the secondary server. The secondary server will obtain its license from the Primary after High Availability is configured.
4. Click **Next**.

Product Model: FortiNAC Control/App VM Server

Contract Number: 00[REDACTED]

Serial Number

Or Select It From:

| | SERIAL NUMBER | PRODUCT MODEL | DESCRIPTION |
|-----------------------|---------------------|--------------------------------|---------------------------|
| <input type="radio"/> | FNVMCATM [REDACTED] | FortiNAC Control/App VM Server | Hercules (not in use yet) |
| <input type="radio"/> | FNVMCATM [REDACTED] | FortiNAC Control/App VM Server | Herculesii |
| <input type="radio"/> | FNVMCATM [REDACTED] | FortiNAC Control/App VM Server | Atlas |
| <input type="radio"/> | FNVMCATM [REDACTED] | FortiNAC Control/App VM Server | Hercules 1 year license |
| <input type="radio"/> | FNVMCATM [REDACTED] | FortiNAC Control/App VM Server | |

Total Units: 5

Cancel

Previous

Next

Perpetual license registration is complete.

- Next step:** Register the support contract for the License. Click **Register More**.

Register Product >

123 Completion?

✓ Registration Completed

Thank you for choosing this Fortinet product. Your registration process has completed successfully. Please be aware that the registration information may not reflect on your product immediately, a delay (up to 4 hours) can occur.

Product Info

Product Model

FortiNAC Control/App VM Server

Serial Number

FNVMCATM

Registration Date

2021-03-01

Description

N/A

Partner

Fortinet (Americas)

MAC Address

N/A

UUID

N/A

SUPPORT COVERAGE

No Entitlement!

REGISTERED SUPPORT CONTRACT

| Contract Number | SKU | Creation Date | Registration Date |
|-----------------|-----------------------|---------------|-------------------|
| 001 | FC-10-NCVCA-248-02-12 | 2021-01-14 | 2021-03-01 |

REGISTERED LICENSE(S)

Register More

Done

Register Support Contract for License

1. Enter registration code from the pdf found in the appropriate License Support file:
 - FCx-10-FNAC0-xxx-xxx (support for Perpetual licenses)
 - FCx-10-FNAC1-xxx-xx-xx (support for Subscription licenses)
2. Click **Next**.

Register Product

1 Registration Code234?

Registration Code

Please enter your product serial number, service contract registration code or license certificate number to start the registration: *

?

End User Type

The product will be used by

☐ A government user

☒ A non-government user

In this context a government end-user is any central, regional or local government department, agency, or other entity performing governmental functions, including:

1. Governmental research institutions.

2. Governmental corporations or their separate business units which are engaged in the manufacture or distribution of items or services controlled on the Wassenaar Munitions List.

3. International governmental organizations.

Clear

Next

3. Associate the License Support contract to the managing server CAX(VM). If registering Perpetual licenses, this is the same serial number used in previous step.
4. Click **Next**.

Product Model: FortiNAC Control/App VM Server | Contract Number: 0012PT845297

Serial Number

Or Select It From:

| | SERIAL NUMBER | PRODUCT MODEL | DESCRIPTION |
|-----------------------|-------------------------------|--------------------------------|---------------------------|
| <input type="radio"/> | FNVMCATN <input type="text"/> | FortiNAC Control/App VM Server | Hercules (not in use yet) |
| <input type="radio"/> | FNVMCATN <input type="text"/> | FortiNAC Control/App VM Server | Herculesii |
| <input type="radio"/> | FNVMCATN <input type="text"/> | FortiNAC Control/App VM Server | Atlas |
| <input type="radio"/> | FNVMCATN <input type="text"/> | FortiNAC Control/App VM Server | Hercules 1 year license |
| <input type="radio"/> | FNVMCATN <input type="text"/> | FortiNAC Control/App VM Server | |

Total Units: 5

Cancel

Previous

Next

5. Click on radio button in lower left corner.
6. Click **Confirm**.

Serial Number: FNVMCATM

Contract Number: 206

Important Notice:
READ BEFORE COMPLETING THE REGISTRATION.

PRODUCT ENTITLEMENT

| Support Type | Support Level | Activation Date | Expiration Date |
|----------------------------|---------------|-----------------|-----------------|
| Firmware & General Updates | Web/Online | 2021-03-01 | 2022-03-01 |
| License Support | 24x7 | 2021-03-01 | 2022-03-01 |
| Enhanced Support | 24x7 | 2021-03-01 | 2022-03-01 |
| Telephone Support | 24x7 | 2021-03-01 | 2022-03-01 |

Entitlement calculation is based on any existing warranty or contract services plus the term of your new contract. If you have questions regarding these conditions, please open a ticket for Registration Assistance by clicking [here](#).

☒ By accepting these terms, you are activating this support contract and the entitlement period provided can not be changed. If you wish to continue, click "confirm" button to submit your request.

Cancel

Previous

Confirm

Serial Number: FNVMCATM[REDACTED]

Contract Number: 206[REDACTED]4

Important Notice:
READ BEFORE COMPLETING THE REGISTRATION.

PRODUCT ENTITLEMENT

| Support Type | Support Level | Activation Date | Expiration Date |
|----------------------------|---------------|-----------------|-----------------|
| Firmware & General Updates | Web/Online | 2021-03-01 | 2022-03-01 |
| License Support | 24x7 | 2021-03-01 | 2022-03-01 |
| Enhanced Support | 24x7 | 2021-03-01 | 2022-03-01 |
| Telephone Support | 24x7 | 2021-03-01 | 2022-03-01 |

Entitlement calculation is based on any existing warranty or contract services plus the term of your new contract. If you have questions regarding these conditions, please open a ticket for Registration Assistance by clicking [here](#).

☒ By accepting these terms, you are activating this support contract and the entitlement period provided can not be changed. If you wish to continue, click "confirm" button to submit your request.

Cancel

Previous

Confirm

Registering the License support contract is complete.

The page will display the products and support contracts registered.

Registration Completed

Thank you for choosing this Fortinet product. Your registration process has completed successfully. Please be aware that the registration information may not reflect on your product immediately, a delay (up to 4 hours) can occur.

Product Info

| | |
|-------------------|--------------------------------|
| Product Model | FortiNAC Control/App VM Server |
| Serial Number | FNVMCATM-XXXXXX |
| Registration Date | 2021-03-01 |
| Description | N/A |
| Partner | Fortinet (Americas) |
| MAC Address | N/A |
| UUID | N/A |

SUPPORT COVERAGE

| Support Type | Support Level | Activation Date | Expiration Date |
|----------------------------|---------------|-----------------|-----------------|
| Firmware & General Updates | Web/Online | 2021-03-01 | 2022-03-01 |
| License Support | 24x7 | 2021-03-01 | 2022-03-01 |
| Enhanced Support | 24x7 | 2021-03-01 | 2022-03-01 |
| Telephone Support | 24x7 | 2021-03-01 | 2022-03-01 |

REGISTERED SUPPORT CONTRACT

| Contract Number | SKU | Creation Date | Registration Date | Units of Contract |
|-----------------|------------------------|---------------|-------------------|-------------------|
| ▶ 204-XXXXXX | FC3-10-FNACD-240-02-12 | 2021-01-14 | 2021-03-01 | 200 |
| ▶ 001-XXXXXX | FC-10-NCVCA-248-02-12 | 2021-01-14 | 2021-03-01 | |

REGISTERED LICENSE(S)

| License Type | License Number | Registration Date |
|--|----------------|-------------------|
| FortiNAC VM | FTNAC47-XXXXXX | 2021-03-01 |
| FortiNAC Control and Application VM Server | | |
| FortiNAC Upgrade | FTNAC4-XXXXXX | 2021-03-01 |
| FortiNAC PRO License for 200 concurrent endpoint devices | | |

Register More
Done

7. Close the PDF files used in the previous steps.
8. If there are additional CAX(VM)s to register (and its support contracts), click on **Register More**. Otherwise, click **Done**.

Register Remaining Appliances

1. Open the folder for the next appliance to be registered.
2. Open the 2 PDF files.
3. Register the appliance.
 - a. Click **Register Product**.
 - b. Enter registration code from the PDF found in file FNC-CAX-xx_xxx (or if there is a Manager FNC-MX-xx.xxx).
 - c. Click **Next**.
 - d. If there was a POC or active evaluation license, a special page may display. If you are converting your POC to production, select **Convert Evaluation**. If you are not converting your POC to production, select **Register**.

- e. Enter “Managing Server” under Product Description (this can be edited later).
- f. Select Fortinet Partner (ignore all other fields).
- g. Click **Next**.
- h. Read terms and conditions.
- i. Click on radio button.
- j. Click **Next**.

Note: “No Entitlement” will display. This is correct.

- k. Click on radio button to accept.

- l. Click **Confirm**.

CAX(VM) product registration is now complete.

- m. Note the Serial Number (will be used to register the appliance support contract).

- n. Proceed to register the support contract for the appliance. Click **Register More**.

4. Register Support Contract for Appliance.

- a. Enter registration code found on pdf from file FC-10-NCxx_xxx.
- b. Click **Next**.
- c. Associate the support contract to the appropriate CAX(VM) Serial Number noted in previous step.
- d. If only one CAX(VM) is registered, there will only be one choice – select that radio button.
- e. If more than one CAX(VM) products are registered, select the appropriate CAX(VM).
- f. Click **Next**.
- g. Click on radio button in the lower left corner.
- h. Click **Confirm**.
- i. Support contract registration is now complete and applied to the CAX(VM).
- j. Close the PDF files used in the previous steps.

If there are additional CAX(VM)s to register (and its support contracts), click on **Register More**. Otherwise, click **Done**


*** DO NOT REGISTER THE PROFESSIONAL SERVICES CONTRACTS ***

Important: If a file for Professional Services (FP-10-PS-801-01-01.zip or FP-10-PS-830-01-01.zip) was included in the email, do not attempt to register. These are ONLY to be registered one at a time and on the day of the Professional Services session. One contract is like an “admission ticket” to the Professional Services session.

End result:

Once product registrations are complete, the summary page for each appliance will look similar to the example below. Note only the managing server (example below) will have license information listed.

Perpetual License Example:

 Product Information

Product Model

FortiNAC Control/App VM Server

Serial Number

FNVMCA[REDACTED]

Registration Date

2021-03-01

Description

N/A

Partner


Fortinet (Americas)

MAC Address

N/A

UUID

N/A

 Entitlement

✓ Telephone Support

✓ Enhanced Support

✓ License Support

✓ Firmware & General Updates

 Registration




Renew Contract

 License & Key

| License Type | License Number | Registration Date |
|--|------------------|-------------------|
| FortiNAC VM | FTNAC4[REDACTED] | 2021-03-01 |
| FortiNAC Control and Application VM Server | | |
| FortiNAC Upgrade | FTNAC4[REDACTED] | 2021-03-01 |
| FortiNAC PRO License for 200 concurrent endpoint devices ← | | |

Subscription License Example:

 Entitlement

✓ License Support

✓ Telephone Support

✓ Enhanced Support

✓ Firmware & General Updates

✓ FortiNAC VM

If assistance is needed with registering devices, contact Fortinet Customer Service.

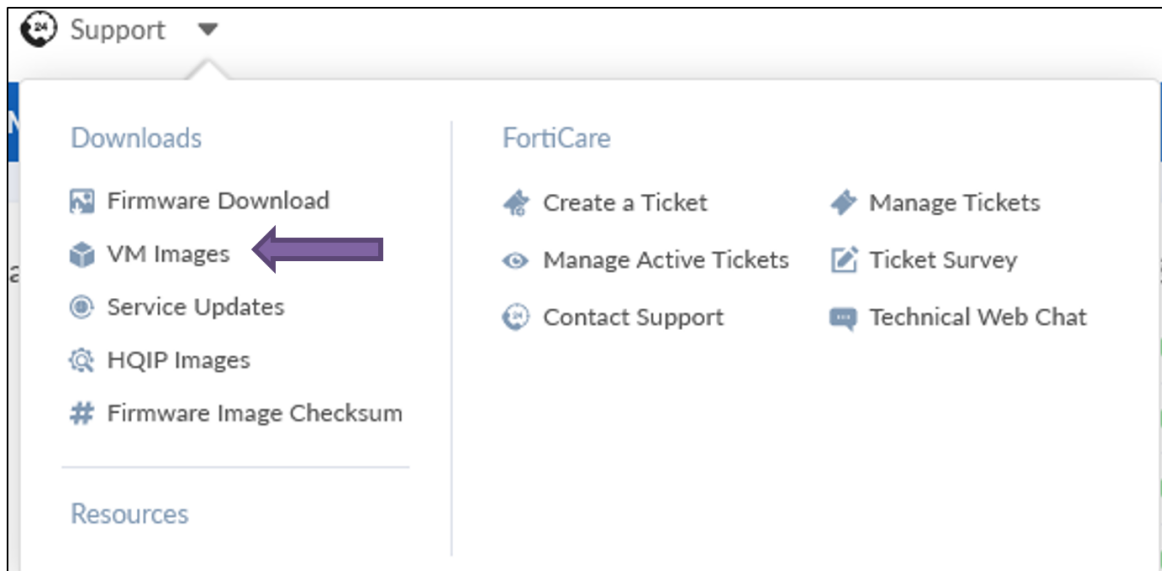
Product Registration is complete. Proceed to next step.

Step 1: Download the Virtual Machine

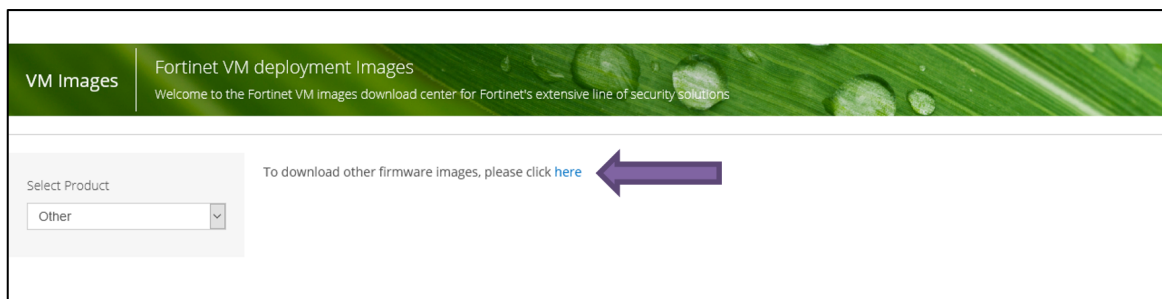
After registering the products, download the appropriate **aws.zip** file.

Note: Both FortiNAC CA and Manager use the same image. The product type is defined by the license key installed.

1. In the Customer Portal, navigate to **Support > Downloads**
2. Click **VM Images**



3. From drop down list, click **Other** and then click on **here**.



4. From drop down list, select **FortiNAC-F**.
5. Select the Download Tab to reveal the available versions. Please select the FortiNAC-OS version as recommended by Fortinet or Program Manager.

Note: The suggested version may be the GA version and not the newest version.

Step 2: Upload and Convert the FortiNAC image to AMI



If *not* using the provided `import2awsimg.sh` script to upload the AMI, the instance needs to have 2 storage drives defined in order for the boot process to extract the FortiNAC application. The script creates a 9GB boot drive and a 10GB data drive but they can be adjusted to fit the environment.

1. Log into your AWS account. Navigate to **AWS Console > All Services > S3**
2. Create an Amazon S3 bucket or choose an existing bucket to store the FortiNAC OVA. This bucket should be in the same Region where you want to import your VMs.
3. On the local machine where the AWS CLI is installed, create the file `trust-policy.json` with the following policy:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": { "Service": "vmie.amazonaws.com" },
      "Action": "sts:AssumeRole",
      "Condition": {
        "StringEquals": {
          "sts:Externalid": "vmimport"
        }
      }
    }
  ]
}
```

4. In the AWS CLI, create an IAM role named **vmimport** with VM Import/Export access (the path following `file://` should point to the full path of the location for `trust-policy.json`):
`aws iam create-role --role-name vmimport --assume-role-policy-document file:///C:\import\trust-policy.json`
5. On the local machine, create the `role-policy.json` file. Replace “disk-image-file-bucket” with the bucket that will contain the disk images:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
```

```
"Effect": "Allow",
"Action": [
  "s3:GetBucketLocation",
  "s3:GetObject",
  "s3:ListBucket"
],
"Resource": [
  "arn:aws:s3:::disk-image-file-bucket",
  "arn:aws:s3:::disk-image-file-bucket/*"
]
},
{
  "Effect": "Allow",
  "Action": [
    "ec2:ModifySnapshotAttribute",
    "ec2:CopySnapshot",
    "ec2:RegisterImage",
    "ec2:Describe*"
  ],
  "Resource": "*"
}
]
```

6. Using the AWS CLI, assign the policy to the role (the path following `file://` should point to the full path to the location of `role-policy.json`):

```
aws iam put-role-policy --role-name vmimport --policy-name vmimport --policy-document "file://C:\import\role-policy.json"
```

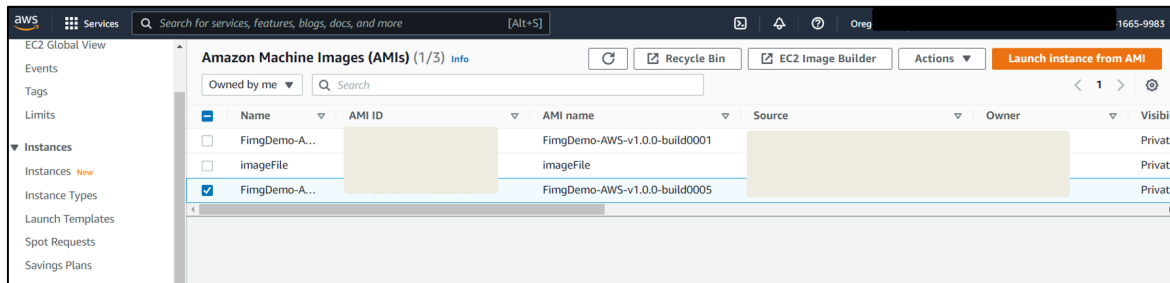
7. On the local machine, extract the **aws.zip** file to access the VHD file and import script.
8. On the local machine, import VM by executing the "import2awsimg.sh" script:

```
./import2awsimg.sh <imported_image_file> <s3_bucket_name>
```

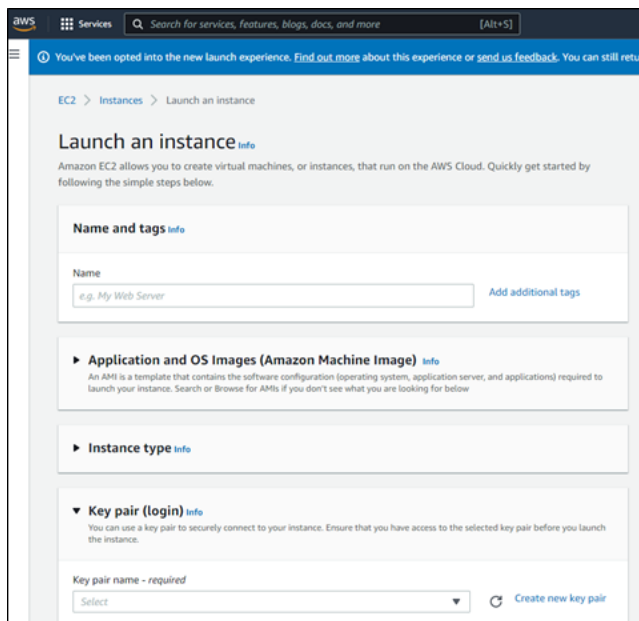
Note: The user used for import should have read and write permissions to bucket, ec2 snapshot, image creation and import permissions.

Step 3: Deploy the AMI and Configure

1. In AWS's EC2 service interface, **select AMI**.
2. Select the image just imported to the list.
3. Click **Launch instance from AMI**.



4. Configure the following:
 - Name and tags for instance
 - Instance type
 - The instance type should be "t2.xlarge" or larger. A profile with minimum of 16GB of memory should be selected. For specifications and resource sizing see [Requirements](#).
 - Reference <https://aws.amazon.com/ec2/instance-types/>
 - Key pair (use an existing key or create a new one)



5. Stop the EC2 instance, then run AWS CLI command to enable ENA for the instance.
`aws ec2 modify-instance-attribute --instance-id {instance_id} --ena-support`
6. Make a new AMI out of the ENA enabled EC2 instance.
7. Use the new AMI to create new EC2 instances, which can use all X86 EC2 types.
8. Configure Network settings.

Configure the appropriate interfaces

- port1: Management network interface (required)
 - Set the Private IP address settings to Static
 - Configure Security Group rules for port1
 - Allow inbound SSH (TCP 22) & HTTPS (TCP 8443)
 - Allow outbound ALL
- port2: If the “isolation” VLANs will be used to restrict network access for untrusted endpoints, create a second network interface.

Important: Ports 22 and 8443 allow access to complete the appliance configuration using Configuration Wizard (step 2 of the deployment as outlined in the Deployment Guide). In order to successfully complete the deployment, all ports required for communication must be added to this Security Group.

For a complete list of required ports, refer to section **Open Ports** in the Appendix of the [Deployment Guide](#) in the Fortinet Document Library.

Name
e.g. My Web Server Add additional tags

► Application and OS Images (Amazon Machine Image) [Info](#)
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

► Instance type [Info](#)

▼ Key pair (login) [Info](#)
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required
Select ▼ Create new key pair

► Network settings Edit

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
2 volume(s) - 19 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel Launch instance

Step 4 (Optional): Cloud-init

This section is specific to configuring cloud-init. If not using this function, proceed to Launch instance.

This section describes how to bootstrap a FortiNAC VM using cloud-init. This method can be used if deploying VMs on AWS. When the new instance is launched, it boots with a predetermined configuration.

- FortiNAC day zero configuration:
- Port1 IP Address
- Subnet mask
- Gateway

Configure

1. Create the FortiNAC configuration script via text editor. The configuration script for a FortiNAC VM uses FortiNAC-OS CLI syntax.

Script should contain the following content:

```
#<HostName> Day0 Configuration
config system interface
edit port1
set ip <port1 IP address>/<mask>
set allowaccess https-adminui ssh
next end config system route
edit 1
set device port1
set gateway <Default Gateway for port1>
next
end
```

Example

Hostname = FNC

port1 IP address and mask = 10.12.234.175/22

Default gateway = 10.12.232.1

```
#FNC Day0 Configuration
config system interface
edit port1
set ip 10.12.234.175/22
set allowaccess https-adminui ssh
next end config system route
edit 1
set device port1
set gateway 10.12.232.1
next
end
```

2. Under **Advanced Details**, paste configuration script content in the **User data** section.

Step 5: Launch Instance

1. Select **“Launch instance”**.
2. Connect to instance and login.
3. Obtain the public IP of the instance from the EC2 interface.
4. On the local machine, verify the appliance CLI can be accessed using SSH via private key.

```
ssh -i <private key file/identity_file> admin@<public IP address>
```

Example where identity file= myprivatekey.pem and public IP=54.123.45.67

```
> ssh -i ../myprivatekey.pem admin@54.123.45.67
```

Proceed below as appropriate.

Cloud-init (step 4 option) was configured

Verify that the VM is booting and utilizing the day zero configuration file that was provided.

1. Log in the FortiNAC CLI using the following:
User name = admin
Password = <no password>
2. Review port1 configuration. Type

```
get system interface physical
```
3. Confirm SSH access to the port1 IP address works.
4. Appliance installation is complete. Proceed to the [FortiNAC Deployment Guide](#) to continue deployment.

Cloud-init was not configured



Configure the gateway first; otherwise, the instance may become unreachable.

Assign Static IP Address for port1 and enable both SSH and HTTPS access.

1. Log in the FortiNAC CLI using the following:
User name = admin
Password = <no password>
2. To set the IP address and default gateway, type the following:

```
config system interface
edit port1
set ip <port1 ip addr>/<mask>
set allowaccess https-adminui ssh
```

```
next
end
config system route
edit 1
set device port1
set gateway <default gateway>
next
end
```

Example:

```
config system interface
edit port1
set ip 10.12.234.175/22
set allowaccess https-adminui ssh
next
end
config system route
edit 1
set device port1
set gateway 10.12.232.1
next
end
```

3. Confirm SSH access to the port1 IP address works.
4. Appliance installation is complete. Proceed to the [FortiNAC Deployment Guide](#) to continue deployment.

Generate and Download Keys

This step updates the product records in FortiCare with the required information for each appliance in order to generate the appropriate key files.

Key Generation Procedure Overview

- 1: Collect appliance information
- 2: Generate Key for Managing Server
- 3: Generate Key for Remaining Servers (VMs Only)

Collect Appliance Information

Collect the appropriate appliance information using one of the methods below.

UI Method

1. Launch the FortiNAC Administration UI by opening a web browser and navigating to:
`https://<FortiNAC IP Address>:8443/`
or
`https://<FortiNAC Host Name>:8443/`
2. Login using the Default FortiNAC Admin UI Credentials
User: root
Password: YAMS
3. Read the End User License Agreement. Accept the terms and proceed.
4. Under **Enter License Key**, the UUID (virtual appliances only) and port1 MAC address are displayed.
5. **Record** the information. This information is used in the next step to generate the license key. You cannot currently import a license file because you do not have one yet.
6. Close the browser window.

CLI Method

1. Login to the appliance CLI as admin.
2. Enter the command
`get hardware status`
Record the UUID and MAC address from the resulting output.
3. Type `exit`

Physical Appliances

Eth 0 MAC address (xx:xx:xx:xx:xx:xx or xx-xx-xx-xx-xx-xx) can also be found in the following locations:

- Shipping label
- Appliance Identification Details document

- On the back or the top of the metal casing of the appliance

Generate Key for Managing Server

1. Log into the Customer Portal at <https://support.fortinet.com/>
2. Go to **Products > Product List**.
3. Click the serial number for the appliance.
4. Edit the record in **Product Information**.
5. Enter the following:
 - Description (if modification is required)
 - port1 MAC Address
 - UUID (Virtual appliances only)

Note: Once MAC Address and/or UUID is entered and saved, it cannot be changed online. If assistance is needed with registering devices or changing these entries, contact Fortinet Customer Service.

6. Click **Save**.

The summary page has updated with the link to “Get The License File”

Important: Customers with new appliances should select the FortiNAC License File.

The screenshot displays the Fortinet Customer Portal interface. The 'Product Information' section shows details for a FortiNAC Control/App VM Server, including its serial number, registration date, and MAC/UUID addresses. The 'Entitlement' section lists supported services like Telephone Support and License Support. The 'Registration' section has a 'Renew Contract' button. The 'License & Key' section contains two tables. The first table lists licenses for FortiNAC VM, FortiNAC Upgrade, and FortiNAC PRO. The second table lists keys for 'Get The License File' for both FortiNAC and Network Sentry. Two purple arrows point to the 'Get The License File' links in the second table.

| License Type | License Number | Registration Date |
|--|-------------------|-------------------|
| FortiNAC VM | FTNAC [redacted] | 2021-03-01 |
| FortiNAC Control and Application VM Server | | |
| FortiNAC Upgrade | FTNAC4 [redacted] | 2021-03-01 |
| FortiNAC PRO License for 200 concurrent endpoint devices | | |

| Key | License Number | Description |
|--------------------------------------|----------------|--------------------------------|
| Get The License File | N/A | FortiNAC License File Download |
| Get The License File | N/A | Network Sentry Key File |

7. Click **Get the License File**.

If a Control Manager is registered, this screen may appear.

Please Select the Linked Serial Number

☐ FNVM-MTM20000045

☐ FNVM-MTM20000066

☐ FNVM-MTM21000029

☐ FNVM-MTM21000030

Download License Key File

Close

8. Select the serial number of the Control Manager that will be managing this appliance (select Primary Control Manager if Managers are configured for High Availability).
9. Click **Download License Key File**.
The .lic filename will reflect the appliance serial number.
10. Once the file is downloaded, click **Close**.

Remaining Servers

Virtual Appliances: Repeat the previous steps to update each appliance record and download the key, saving each key file to their appropriate folder.

Physical Appliances: Repeat the previous steps to update each appliance record with the MAC Address. Do not download any additional keys. The remaining appliances use the installed key shipped with the hardware.

Key generation is complete. Proceed to next step.

Appliance Configuration

1. Follow the instructions in the [Guided Install](#) section of the Administration Guide.

These steps guide the user through the following tasks:

- License key installation
- Network settings configuration
- Password creation
- port2 interface configuration

2. Verify appliance with the Endpoint License Key has the correct entitlements.




a. In the appliance with the Endpoint License Key installed, access the Administration UI using one of the following URLs:

`https://<FortiNAC IP Address>:8443/`

`https://<FortiNAC Host Name>:8443/`

If “Processes are Down” is displayed, there may be a UUID or MAC address mismatch. See related KB article [192992](#).

b. Locate the License Information widget in the Dashboard. If not available, click the **Add Widget** button at the top of Dashboard view to add.

| License Information: Refresh: Manual    | | | | |
|---|---------------|------------|-----------|--------|
| Type | Total | In Use | Available | % Used |
| Concurrent Licenses | 500 | 0 | 500 | 0% |
| Entitlement | Support Level | Expires | | |
| Telephone Support | 24x7 | 2023-12-11 | | |
| IoT Detection | Web/Online | 2023-12-11 | | |
| Vulnerability Management | Web/Online | 2023-12-11 | | |
| Firmware & General Updates | Web/Online | 2023-12-11 | | |
| FortiNAC VM | FortiNAC Pro | 2023-12-18 | | |
| Enhanced Support | 24x7 | 2023-12-11 | | |
| COMP | 24x7 | 2023-12-11 | | |

- c. Review the entitlements in the License Information widget to ensure they are accurate.

If entitlements are populated but not correct, review the entitlements in the customer portal (<https://support.fortinet.com/>) for that product. Contact Customer Service for assistance.

Subscription License: If panel is blank, see KB article [191745](#) for troubleshooting steps.

For more information regarding the different license types, see [Perpetual and Subscription Licenses](#) in Appendix.

Appliance installation is complete. Proceed to the [FortiNAC Deployment Guide](#) to continue deployment.



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