

# Datasheet

## Fujitsu PRIMERGY/PRIMEQUEST Server Systems for Windows Server 2019 (OEM & ROK)

With the release of Windows Server 2019, Fujitsu proudly presents the new lineup of its best-selling PRIMERGY and PRIMEQUEST servers!

### Windows Server 2019

Windows Server (WS) 2019, the latest iteration of Microsoft's renowned Windows Server operating system, helps you thrive in the cloud-driven modern computing environment. Windows Server 2019 helps you update your digital infrastructure for the cloud-computing age, boosting the performance of your servers while maintaining their resilience and security. Much anticipated Windows Server 2019

- Helps you manage your servers and incorporate Microsoft's Azure services into them via Windows Admin Center.
- Uses Hyper-V Containers for enhanced isolation of containerized applications without any changes to container images.
- Enables agile application deployment and management through Windows Server Containers.
- Allows the deployment of applications on Linux-based operating systems with best-in-class support for Hyper-V on Linux.
- Protects your servers from attacks and threats with such robust security measures as Shielded Virtual Machine and Windows Defender Advanced Threat Protection.
- Let's you manage your data easily with Storage Spaces Direct, highly scalable software-defined storage, and helps you recover effortlessly from catastrophic system failures with Storage Replica.

### Windows Server 2019 Editions

The following editions of Windows Server 2019 are available: Datacenter, Standard, and Essentials. All editions include English, German, French, Italian, Spanish, Japanese, Chinese, and Korean by default. Downloadable Language Packs are available for other languages.

### Fujitsu ServerView

Fujitsu ServerView Installation Manager, available with Fujitsu PRIMERGY server systems, makes the installation of Windows Server 2019 easy. For the installation of Windows Server 2019 (whether OEM or ROK) on VMware hosts, please consult the readme file on Fujitsu VMware OEM media.

### Delivery

Fujitsu OEM and ROK Windows Server Base Licenses ship with Fujitsu PRIMERGY server systems. FUJITSU OEM and ROK Windows Server Client Access Licenses, Remote Desktop Services Client Access Licenses, and Windows Server Additional Licenses may be obtained separately after PRIMERGY server systems are purchased.

### Warranty

Fujitsu products include a country-specific warranty.

### Support Policy

Please refer to Fujitsu's PRIMERGY support policy as well as Microsoft's support lifecycle. <https://support.microsoft.com/en-us/help/14085>



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With the release of Windows Server 2019, Fujitsu proudly presents the new lineup of its best-selling PRIMERGY and PRIMEQUEST servers!

### Fujitsu Product Order Numbers

- **Windows Server 2019 Datacenter Base License 16 core**

OEM: S26361-F2567-E610  
ROK: S26361-F2567-D610

—— **w/Reassignment 16 core**

OEM: S26361-F2567-E611  
ROK: S26361-F2567-D611

- **Windows Server 2019 Datacenter Additional License 16 core, No Media/Key**

OEM: S26361-F2567-E612  
ROK: S26361-F2567-D612

—— **4 core, No Media/Key**

OEM: S26361-F2567-E613  
ROK: S26361-F2567-D613

—— **2 core, No Media/Key**

OEM: S26361-F2567-E614  
ROK: S26361-F2567-D614

- **Windows Server 2019 Standard Base License 16 core**

OEM: S26361-F2567-E620  
ROK: S26361-F2567-D620

- **Windows Server 2019 Standard Additional License 16 core, No Media/Key, POS Only**

OEM: S26361-F2567-E622  
ROK: S26361-F2567-D622

—— **4 core, No Media/Key, POS Only**

OEM: S26361-F2567-E623  
ROK: S26361-F2567-D623

—— **2 core, No Media/Key, POS Only**

OEM: S26361-F2567-E624  
ROK: S26361-F2567-D624

- **Windows Server 2019 Standard Additional License 16 core, No Media/Key, APOS**

OEM/ROK: S26361-F2567-L622

—— **4 core, No Media/Key, APOS**

OEM/ROK: S26361-F2567-L623

—— **2 core, No Media/Key, APOS**

OEM/ROK: S26361-F2567-L624

- **Windows Server 2019 Essentials**

OEM: S26361-F2567-E630  
ROK: S26361-F2567-D630

- **Windows Server 2019 CAL**

—— **100 Device**

S26361-F2567-E668  
S26361-F2567-L668

—— **50 Device**

S26361-F2567-E666  
S26361-F2567-L666

—— **10 Device**

S26361-F2567-E664  
S26361-F2567-L664

—— **5 Device**

S26361-F2567-E662  
S26361-F2567-L662

—— **1 Device**

S26361-F2567-E660  
S26361-F2567-L660

- **Windows Server 2019 CAL**

—— **100 User**

S26361-F2567-E669  
S26361-F2567-L669

—— **50 User**

S26361-F2567-E667  
S26361-F2567-L667

—— **10 User**

S26361-F2567-E665  
S26361-F2567-L665

—— **5 User**

S26361-F2567-E663  
S26361-F2567-L663

—— **1 User**

S26361-F2567-E661  
S26361-F2567-L661

- **Windows Server 2019 RDS CAL**

—— **100 Device**

S26361-F2567-E678  
S26361-F2567-L678

—— **50 Device**

S26361-F2567-E676  
S26361-F2567-L676

—— **10 Device**

S26361-F2567-E674  
S26361-F2567-L674

—— **5 Device**

S26361-F2567-E672  
S26361-F2567-L672

—— **1 Device**

S26361-F2567-E670  
S26361-F2567-L670

- **Windows Server 2019 RDS CAL**

—— **100 User**

S26361-F2567-E679  
S26361-F2567-L679

—— **50 User**

S26361-F2567-E677  
S26361-F2567-L677

—— **10 User**

S26361-F2567-E675  
S26361-F2567-L675

—— **5 User**

S26361-F2567-E673  
S26361-F2567-L673

—— **1 User**

S26361-F2567-E671  
S26361-F2567-L671

# Windows Server 2019 – Editions and Features

## Windows Server 2019 Editions at a Glance

### Windows Server 2019 Datacenter

Windows Server 2019 Datacenter is for highly virtualized datacenters and cloud environments. It provides unprecedented levels of security and brings cutting-edge innovations to modern computing infrastructure. Windows Server 2019 Datacenter is the only edition of Windows Server 2019 that includes all of its functionalities (while Standard and Essentials offer their subsets). For a server to be properly licensed, all physical cores in that server must be licensed. Each server must be licensed for a minimum of 16 cores. Each physical processor must be licensed for a minimum of 8 cores. If there are more than 16 physical cores in a server, additional licenses are needed to cover excess cores. Client Access Licenses (CALs) are needed to access servers licensed with Windows Server 2019 Datacenter.

#### Benefits

- Windows Admin Center makes it a breeze not only to manage the most complex of server systems but also to take advantage of Microsoft Azure services.
- With Hyper-V, virtual machines can be run on top of (i.e., can be nested in) other virtual machines.
- Easy configuration of virtual environments.
- Highly scalable storage to accommodate ever accumulating data (Storage Spaces Direct).

### Windows Server 2019 Standard

Windows Server 2019 Standard is for physical or minimally virtualized environments. As such, Standard does not include some functionalities that are available in Datacenter. Licensing details for Windows Server 2019 Datacenter apply to Windows Server 2019 Standard. CALs are required to access servers licensed with Windows Server 2019 Standard. Windows Server 2019 Standard allows two instances of virtual machines.

#### Benefits

- Container management by PowerShell and efficient use of virtual environment resources.
- Enhanced security through the ability to set required minimum security levels.
- Highly reliable disaster recovery to keep data from being lost (Storage Replica).

### Windows Server 2019 Essentials

Affordable and user-friendly, Windows Server 2019 Essentials is ideal for small businesses with up to 25 users and 50 devices.

#### Benefits

- Unlike Datacenter or Standard, CALs are not required.

## Feature Comparisons across WS 2019 Datacenter, WS 2019 Standard, and WS 2016 Datacenter

|   | Windows Server 2019 |                      | Windows Server 2016 |
|---|---------------------|----------------------|---------------------|
|   | Datacenter          | Standard             | Datacenter          |
| Storage Migration Service                 | Yes                 | Yes                  | No                  |
| System Insights                           | Yes                 | Yes                  | No                  |
| Server Management by Windows Admin Center | Yes                 | Yes                  | Yes                 |
| Storage Spaces Direct (S2D)               | Yes                 | No                   | Yes                 |
| Storage Replica                           | Yes                 | Yes (up to 2TB/Vol.) | Yes                 |
| Network Controller                        | Yes                 | No                   | Yes                 |
| Leap Second                               | Yes                 | Yes                  | No                  |
| Windows Defender Exploit Guard            | Yes                 | Yes                  | No                  |
| Shielded VM for Windows                   | Yes                 | No                   | Yes                 |
| Shielded VM for Linux                     | Yes                 | No                   | No                  |
| Windows Server Container                  | Yes                 | Yes                  | Yes                 |
| Hyper-V Container                         | Yes (Unlimited)     | Yes (2 VMs)          | Yes (Unlimited)     |
| Linux Container                           | Yes                 | Yes                  | No                  |
| Server Core Features on Demand            | Yes                 | Yes                  | No                  |
| Kubernetes Platform Support               | Yes                 | Yes                  | No                  |
| Licensing Model                           | Core based          | Core based           | Core based          |

# Windows Server 2019 – Editions and Technical Specifications

| Technical Specification                                       | WS 2019 Datacenter       | WS 2019 Standard       | WS 2019 Essentials |
|---|--------------------------|------------------------|--------------------|
| Maximum physical CPUs / cores supported by Fujitsu PRIMERGY   | 4 CPUs / 112 cores       | 4 CPUs / 112 cores     | 2 CPUs / 56 cores  |
| Maximum physical CPUs / cores supported by Fujitsu PRIMEQUEST | 8 CPUs / 224 cores       | 8 CPUs / 224 cores     | ---                |
| VM-use rights included per product                            | Unlimited VMs            | 2 VMs <sup>1</sup>     | 1 VM <sup>2</sup>  |
| Maximum physical RAM supported                                | 24TB                     | 24TB                   | 64GB               |
| Hyper-V role supported  | Yes (incl. Shielded VMs) | Yes                    | Yes <sup>3</sup>   |
| Maximum number of 64-bits sockets                             | 64                       | 64                     | 2                  |
| Active virtual machines supported                             | 1,024                    | 1,024                  | 1 <sup>2</sup>     |
| Maximum nodes per cluster                                     | 64                       | 64                     | Not supported      |
| Maximum number of users / devices                             | Unlimited <sup>4</sup>   | Unlimited <sup>4</sup> | 25 / 50            |
| Remote Desktop Services supported                             | Yes                      | Yes                    | No <sup>5</sup>    |
| CALs required / included in Base License                      | Yes / 0                  | Yes / 0                | No                 |
| RDS CALs required for RDS / included in Base License          | Yes / 0                  | Yes / 0                | N/A                |
| Admin connections allowed w/o CAL                             | 2                        | 2                      | 2                  |
| Can act as Domain Controller (AD)                             | Yes                      | Yes                    | Yes <sup>6</sup>   |

<sup>1</sup> Although WS 2019 Standard includes the right to run up to 2 virtual machines, Additional Licenses must be purchased in order to run more than 2 virtual machines. Furthermore, for every 2 additional virtual machines, Additional Licenses must be obtained in such a way as to fulfill core-based license requirements for the physical server.

<sup>2</sup> Only Windows Server 2019 Essentials as a guest OS.

<sup>3</sup> Hyper-V guests can use no more than 64 virtual CPUs, 1 TB of memory, or 64 TB VHDs.

<sup>4</sup> Certain hardware limitations, specifications, and configurations may limit the maximum number of users and devices, though Datacenter and Standard themselves can support unlimited numbers of users and devices.

<sup>5</sup> Two admin remote sessions, included in the product license, are allowed.

<sup>6</sup> Domain Controller, or AD, must be configured for maximum 25 users and 50 devices, must be the root of a forest, must not be a child domain, and must not have a trust relationship with any other domains.

# Technical Details

Please note that the information provided below is current as of **14 July 2020**.

| SOFTWARE   |   |
|--|---|
| Server Operating System  | Windows Server 2019   |
| Windows Server 2019 Editions   | Datacenter, Standard, and Essentials  |
| Product Update   | Windows Update  |
| HARDWARE   |   |
| Minimum Hardware Requirement   | Minimum hardware requirements are set by Microsoft. FUJITSU PRIMERGY/PRIMEQUEST server systems, scale-out servers (formerly server blades), and nodes are (or will be) certified—"logo'd," so to speak—by Microsoft and hence meet (or will meet) the minimum hardware requirements.  |
| Fujitsu Server Systems for Microsoft Hyper-V Server 2019 (Hypervisor Download) | -PRIMERGY: RX4770 M4, RX4770 M3, RX2560 M2, RX2540 M4, RX2540 M2, RX2530 M4, RX2530 M2, RX2520 M4, RX1330 M4, RX1330 M3, TX2560 M2, TX2550 M4, TX1330 M4, TX1330 M3, TX1320 M4, TX1320 M3, TX1310 M3, CX2570 M2, CX2560 M4, CX2550 M4, CX2550 M2, BX2580 M2, BX2560 M2<br>-PRIMEQUEST: 3800B, 3800E, 3400E, 3800B2, 3800E2, 2800B3, 2800E3, 2400E3  |
| Fujitsu Server Systems for Windows Server 2019 Datacenter                      | -PRIMERGY: RX4770 M4, RX4770 M3, RX2560 M2, RX2540 M4, RX2540 M2, RX2530 M4, RX2530 M2, RX2520 M4, RX1330 M4, RX1330 M3, TX2560 M2, TX2550 M4, TX1330 M4, TX1330 M3, TX1320 M4, TX1320 M3, TX1310 M3, CX2570 M2, CX2560 M4, CX2550 M4, CX2550 M2, BX2580 M2, BX2560 M2<br>-PRIMEQUEST: 3800B, 3800E, 3400E, 3800B2, 3800E2, 2800B3, 2800E3, 2400E3  |
| Fujitsu Server Systems for Windows Server 2019 Standard                        | -PRIMERGY: RX4770 M4, RX4770 M3, RX2560 M2, RX2540 M4, RX2540 M2, RX2530 M4, RX2530 M2, RX2520 M4, RX1330 M4, RX1330 M3, TX2560 M2, TX2550 M4, TX1330 M4, TX1330 M3, TX1320 M4, TX1320 M3, TX1310 M3, CX2570 M2, CX2560 M4, CX2550 M4, CX2550 M2, BX2580 M2, BX2560 M2<br>-PRIMEQUEST: 3800B, 3800E, 3400E, 3800B2, 3800E2, 2800B3, 2800E3, 2400E3  |
| Fujitsu Server Systems for Windows Server 2019 Essentials                      | -PRIMERGY: RX2560 M2, RX2540 M4, RX2540 M2, RX2530 M4, RX2530 M2, RX2520 M4, RX1330 M4, RX1330 M3, TX2560 M2, TX2550 M4, TX1330 M4, TX1330 M3, TX1320 M4, TX1320 M3, TX1310 M3, CX2570 M2, CX2560 M4, CX2550 M2, BX2580 M2, BX2560 M2   |
| Fujitsu Storage Systems  | ETERNUS: JX40 S2, JX60 S2   |
| System Requirements for Fujitsu Servers  | Processor. ECC Memory. DVD drive. Disk. RAID (Redundant Array of Independent Disks) is supported, but not required. The system volume can be MBR or GPT. Keyboard. Video. Mouse. Certification logo requirements are the same for all Windows Server 2019 editions.   |
| BIOS Requirements for Fujitsu Servers  | BIOS requirements for the following PRIMERGY/PRIMEQUEST models are as follows: <ul style="list-style-type: none"> <li>• <b>RX4770 M4:</b> version 1.18 or higher</li> <li>• <b>RX4770 M3:</b> version 1.20.0 or higher</li> <li>• <b>RX2560 M2:</b> version 1.22 or higher</li> <li>• <b>RX2540 M4:</b> version 1.28 or higher</li> <li>• <b>RX2540 M2:</b> version 1.22 or higher</li> <li>• <b>RX2530 M4:</b> version 1.28 or higher</li> <li>• <b>RX2530 M2:</b> version 1.22 or higher</li> <li>• <b>RX2520 M4:</b> version 1.28 or higher</li> <li>• <b>RX1330 M4:</b> version 1.04 or higher</li> <li>• <b>RX1330 M3:</b> version 1.22 or higher</li> <li>• <b>TX2560 M2:</b> version 1.22 or higher</li> </ul> |

- **TX2550 M4:** version 1.28 or higher
- **TX1330 M4:** version 1.04 or higher
- **TX1330 M3:** version 1.22 or higher
- **TX1320 M4:** version 1.04 or higher
- **TX1320 M3:** version 1.22 or higher
- **TX1310 M3:** version 1.22 or higher
- **CX2570 M2:** version 1.17 or higher
- **CX2560 M4:** version 1.34 or higher
- **CX2550 M4:** version 1.34 or higher
- **CX2550 M2:** version 1.17 or higher
- **BX2560 M2:** version 1.17.0 or higher
- **BX2580 M2:** version 1.17.0 or higher
- **PRIMEQUEST 3800B:** version 1.0.0.0 - R1.71.0 or higher  
If equipped with TPM2.0, BIOS needs to be R1.87.0 or higher.
- **PRIMEQUEST 3800E:** version 01.78 or higher (included in Firmware PA19-02-5 or higher)  
If equipped with TPM2.0, BIOS needs to be 01.85 or higher.
- **PRIMEQUEST 3400E:** version 01.78 or higher (included in Firmware PA19-02-5 or higher)  
If equipped with TPM2.0, BIOS needs to be 01.85 or higher.
- **PRIMEQUEST 3800B2:** version 1.6.0 or higher
- **PRIMEQUEST 3800E2:** version 01.10 or higher
- **PRIMEQUEST 2800B3:** version 1.47 or higher (included in Firmware BC19-04-1 or higher)
- **PRIMEQUEST 2800E3:** version 1.47 or higher (included in Firmware BC19-04-1 or higher)
- **PRIMEQUEST 2400E3:** version 1.47 or higher (included in Firmware BC19-04-1 or higher)

BIOS files for the above **PRIMERGY models** can be obtained from <http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.> Click on "Product Search" and enter the model number. Choose "Microsoft Hyper-V Server 2019" or "Windows Server 2019" from the operating system dropdown menu. Click on the **"BIOS" tab** and find the requisite BIOS file.

BIOS files for **PRIMEQUEST 3800B, 3800E, and 3400E** can be obtained from <http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.> Click on "Product Search" and enter the model number, but, in doing so, DO NOT abbreviate the word PRIMEQUEST. Choose "OS Independent (BIOS, Firmware, etc.)" from the operating system dropdown menu.

For **PRIMEQUEST 3800B** and **PRIMEQUEST 3800B2**, click on the **"BIOS" tab** and find the requisite BIOS file.

For **PRIMEQUEST 3800E, PRIMEQUEST 3400E** and **PRIMEQUEST 3800E2**, click on the **"Driver" tab** and find the "PA19-02-5" (or higher) firmware file in the "Flash - Firmware" section. The PA19-02-5 (or higher) file contains the BIOS file for PRIMEQUEST 3800E, PRIMEQUEST 3400E PRIMEQUEST 3800E2. Click on the "File description" link to confirm that the BIOS version is 01.78 (or higher).

For **PRIMEQUEST 2800B3, PRIMEQUEST 2800E3, and PRIMEQUEST 2400E3**, click on the **"Driver" tab** and find the "BC19-04-1" (or higher) firmware file in the "Flash - Firmware" section. The BC19-04-1 (or higher) file contains the BIOS file for PRIMEQUEST 2800B3, PRIMEQUEST 2800E3, and PRIMEQUEST 2400E3. Click on the "File description" link to confirm that the BIOS version is 1.47 (or higher).

## WINDOWS SERVER 2019 INSTALLATION OPTIONS

**"Server with Desktop Experience" & "Server Core" Installations** "Server with Desktop Experience" and "Server Core" installation options are available for Windows Server 2019.

**"Nano Server" Installation** The "Nano Server" installation option, which was available for Windows Server 2016, is no longer available for Windows Server 2019. If the "Nano Server" installation option is desired, please use the Semi-Annual Channel release of Windows Server.

## FUJITSU OEM/ROK WS 2019 INSTALLATION ON VMWARE HOSTS

Fujitsu OEM/ROK Windows Server 2019 can be installed as a guest operating system on VMware hosts. But do not use ServerView Installation Manager to install Fujitsu OEM/ROK Windows Server 2019 on virtual machines.

## FUJITSU SERVERVIEW SUITE

The Fujitsu ServerView Suite — consisting of ServerView Installation Manager (v. 13.18.12 or higher), ServerView Operations Manager (v. 8.50.02 or higher), ServerView Agent (v. 8.51.08 or higher), and ServerView RAID Manager (v. 6.7.2 or higher) — supports Windows Server 2019.

The Fujitsu ServerView Suite compatible with Windows Server 2019 is available at [http://support.ts.fujitsu.com/prim\\_supportcd/SVSoftware/Software/Hints\\_and\\_readmes/English/ServerView\\_Links/ServerView\\_links.htm](http://support.ts.fujitsu.com/prim_supportcd/SVSoftware/Software/Hints_and_readmes/English/ServerView_Links/ServerView_links.htm). At the Fujitsu ServerView Suite page, open the "ServerView Suite" folder and then the "Software downloads" folder. Click on the "ISO images" page and choose the link that suits your need.

## LANGUAGES

Windows Server 2019 Datacenter, Standard, and Essentials are multilingual and include the following languages by default: English, German, French, Italian, Spanish, Japanese, Chinese, and Korean. Language Packs for Arabic, Brazilian Portuguese, Bulgarian, Croatian, Czech, Danish, Dutch, Estonian, Finnish, Greek, Hebrew, Hungarian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Slovenian, Swedish, Thai, Turkish, and Ukrainian are available as end-user downloads from Microsoft. Install Language Packs from the command line by issuing the "lpksetup" command. For more information about Language Packs, see <https://docs.microsoft.com/en-us/windows-hardware/manufacture/desktop/available-language-packs-for-windows>.

## HYPER-V

**Hyper-V** Windows Server 2019 Datacenter, Standard, and Essentials provide Hyper-V. Hyper-V enables you to create and manage virtualized computing environments through Windows Server 2019's built-in virtualization technology. Hyper-V is supported on all PRIMERGY servers.

**Supported Guest Operating Systems (Server & Client)** Operating systems that can be used as guest operating systems (whether server or client) in Windows Server 2019's Hyper-V environment will be announced later.

Install Integration Services after you set up the operating system in the virtual machine. Supported guest operating systems and Service Packs can be found at <https://docs.microsoft.com/en-us/windows-server/virtualization/hyper-v/Hyper-V-Technology-Overview>. Guest operating systems must be properly licensed.

## SPECIAL FUNCTIONS

### Storage Spaces Direct (S2D)

Storage Spaces Direct (S2D), a storage feature exclusive to Windows Server 2019 Data-center, harnesses servers' physical disks into a highly scalable software-define storage space.

Before using S2D (and other Software-Defined Data Center features), please apply the latest update for Windows Server.

For PRIMERGY models where S2D can be implemented, please see *Datasheet Windows Server 2016/2019 Addendum: Storage Spaces Direct*.

### Hardware Assurance

*Hardware Assurance*–certified systems are capable of supporting all hardware and firmware technologies required for higher levels of security. Those technologies are:

- Trusted Platform Module version 2.0 or later
- UEFI version 2.31c or higher firmware support
- SecureBoot
- IO Memory Management Unit (IOMMU)

The following PRIMERGY and PRIMEQUEST models are *Hardware Assurance*–certified:

-PRIMERGY: RX4770 M4, RX2540 M4, RX2530 M4, RX2520 M4, RX1330 M4, RX1330 M3, TX2550 M4, TX1330 M4, TX1330 M3, TX1320 M4, TX1320 M3, TX1310 M3, CX2570 M4, CX2560 M4, CX2550 M4

-PRIMEQUEST: 3800B, 3800E, 3400E

### Intel Optane DCPMM Module

Intel Optane DCPMM App Direct Mode can be used with Windows Server 2019 if a Windows Server's latest cumulative update (LCU) released in August 2019 or later is applied.

For DCPMM's installation requirements and PRIMERGY and PRIMEQUEST models with which DCPMM App Direct Mode can be used, please see PRIMERGY and PRIMEQUEST hardware documentations (such as Datasheets and Configurators).

## COMPONENT RESTRICTIONS

### Onboard LAN Devices without the OCP

**PRIMERGY** When the OCP is not installed, onboard LAN devices will be flagged with an "Intel (R) Ethernet Connection X722" warning or displayed as "unknown devices" in the Device Manager. This phenomenon, however, does not indicate any functional problems with PRIMERGY servers or Windows Server 2019.

To solve this, please apply *both* the "Intel® NVM Update Tool for X722 device (offline update tool)" software package (version 4.10 or later) *and* the "Intel® Ethernet Adapters Connections CD" software package (version 24.1 or later), available at <http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=>.

Click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue" and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "LAN" section.

Note: When Hyper-V function is enabled and the above "Intel® Ethernet Adapters Connections CD" software package (version 24.1) is installed, please make sure to enable "SR-IOV Support" in the BIOS to avoid the possible failure at windows loading screen. Please refer to the manual of your server for BIOS configuration.

-Applicable to: PRIMERGY RX4770 M4, RX2540 M4, RX2530 M4

**PRIMEQUEST** The above caveats do not apply to PRIMEQUEST server systems.

### Display Resolution

**PRIMERGY** Display resolution is fixed at 1024 x 768 when the onboard VGA is used.

-Solutions: The "iRMCS4 and iRMCS5 Windows Server 2012 R2, 2016, and 2019 VGA driver for Matrox G200e," version R507 – 4.4.50.4 or later, available at <http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=>, fixes this problem. At the download page, please click on "Product Search," enter the model number, click on "Continue," click on the "Driver" tab on a given model's product support page, and select Windows Server 2019 from the "Select Operating System" dropdown menu.



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-Applicable to: PRIMERGY RX4770 M4, RX2540 M4, RX2530 M4, RX2520 M4, RX1330 M4, TX2550 M4, TX1330 M4, TX1320 M4, CX2560 M4, CX2550 M4

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### Onboard SATA Controllers

**PRIMERGY** WS2019 does not recognize devices connected to the onboard SATA controller when it is set to the RAID mode in the BIOS.

-Solutions: The PRAID AS200i driver for Windows Server 2019 WHQL certified (version 18.02.2018.1105 or higher), available at <http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=>, fixes this problem. At the download page, please click on "Product Search," enter the model number, click on "Continue," click on the "Driver" tab on a given model's product support page, and select Windows Server 2019 from the "Select Operating System" dropdown menu.

-Applicable to: PRIMERGY RX1330 M4, TX1330 M4, TX1320 M4

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### QLogic/Cavium LAN Cards

**PRIMERGY** If network interface cards listed below are to be used with Windows Server 2019, please apply the "QL41xxx, QL45611, Windows Driver Installer" (version 20.30.1.22 or later), available at <http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=>. At the download page, please click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue," select "Windows Server 2019" from the "Select Operating System" dropdown menu, and click on the "Driver" tab. Scroll down to the "LAN" section.

-Applicable to: PLAN EP QL41112 2X 10GBASE-T, LP, FH; PLAN EP QL41112 2X 10GBASE-T, LP; PLAN EP QL41112 2X 10GBASE-T, FH; PLAN EP QL41212 25Gb 2p SFP28 LP, FH; PLAN EP QL41212 25Gb 2p SFP28 LP; PLAN EP QL41212 25Gb 2p SFP28 FH; PLAN EP QL45611 100Gb 1p QSFP28 LP, FH; PLAN EP QL45611 100Gb 1p QSFP28 LP; PLAN EP QL45611 100Gb 1p QSFP28 FH; PCNA EP QL41262 2X 25G SFP28, LP, FH; PCNA EP QL41262 2X 25G SFP28, LP; PCNA EP QL41262 2X 25G SFP28, FH; PLAN EP QL41132 2X 10G SFP+, LP, FH; PLAN EP QL41132 2X 10G SFP+, LP; PLAN EP QL41132 2X 10G SFP+, FH

**PRIMEQUEST** Fujitsu is assessing QLogic/Cavium LAN Cards that can be used with Windows Server 2019 and will announce as soon as supportable on PRIMEQUEST servers.

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### Mellanox LAN Cards

**PRIMERGY** If network interface cards listed below are to be used with Windows Server 2019, please apply *both* the "Mellanox mlx up Firmware Bundle" (version 4.5.1 or later) *and* the "Mellanox driver package (WinOF-2) for Windows" (version 2.10 or later), available at <http://support.ts.fujitsu.com/IndDownload.asp?Ing=COM&SoftwareGUID=>. Click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue" and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "LAN" section.

-Applicable to: PLAN EP MCX4-EN 100Gb 1p QSFP28 LP, FH; PLAN EP MCX4-EN 100Gb 1p QSFP28 LP; PLAN EP MCX4-EN 100Gb 1p QSFP28 FH; PLAN EP MCX4-EN 40Gb 2p QSFP LP, FH; PLAN EP MCX4-EN 40Gb 2p QSFP LP; PLAN EP MCX4-EN 40Gb 2p QSFP FH; PLAN EP MCX4-LX 25Gb 2p SFP28 LP, FH; PLAN EP MCX4-LX 25Gb 2p SFP28 LP; PLAN EP MCX4-LX 25Gb 2p SFP28 FH; PLAN EP MCX4-LX 25Gb 2p SFP28 OCP; PLAN EP MCX4-LX 25Gb 2p SFP28 OCP

**PRIMEQUEST** If network interface cards listed below are to be used with Windows Server 2019, please apply the "Mellanox mlxup Firmware Bundle for Linux/Windows/ESX" (version 4.5.1) and "Mellanox driver package (WinOF-2) for Windows" (version 2.10), available at <http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=>. Click on "Product Search," enter a PRIMEQUEST model that supports Windows Server 2019 (e.g., PRIMEQUEST 3800 E2), click on "Continue," and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "LAN" section.

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-Applicable to: PLAN EP MCX4-LX 25Gb 2p SFP28, PLAN EP MCX4-EN 40Gb 2p QSFP, PLAN EP MCX4-EN 100Gb 1p QSFP28

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### Broadcom(Emulex) LAN Cards

**PRIMERGY** There are no known issues with LAN cards.

**PRIMEQUEST** If network interface cards listed below are to be used with Windows Server 2019, please apply the "Firmware for Broadcom OCe14k/OC14k CNA/NIC Family" (version 12.0.1178.0) and "Broadcom NIC Driver for Windows" (version 12.0.1195.0-14), available at

<http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=>.

Click on "Product Search," enter a PRIMEQUEST model that supports Windows Server 2019 (e.g., PRIMEQUEST 3800 E2), click on "Continue", and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "LAN" section.

-Applicable to: PLAN EP OCe14102-NX 2x10Gb, PLAN EP OCe14102 2x 10Gb BASE-T

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### Emulex/Cavium Converged Network Adapters

**PRIMERGY** WS2019 inbox drivers for the Emulex/Cavium converged network adapter PCNA EP OCe14102 2x 10Gb do not support the following functions:

- FCoE
- iSCSI

The inbox drivers currently support LAN only.

-Solutions: The driver scheduled to be released in late March 2020 or later is expected to support the FCoE and iSCSI functions.

-Applicable to: PCNA EP OCe14102 2x 10Gb, PCNA EP OCe14102 2x 10Gb LP, PCNA EP OCe14401 1x 40Gb, PCNA EP OCe14401 1x 40Gb LP, PLAN EP OCe14102 2x 10Gb, PLAN EP OCe14102 2x 10Gb LP, PLAN EP OCe14102 2x 10Gb FH, PLAN EP OCe14102 2x 10Gb Base-T, PLAN EP OCe14102 2x 10Gb Base-T LP

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**PRIMEQUEST** Fujitsu is assessing Emulex/Cavium Converged Network Adapters that can be used with Windows Server 2019 and will announce as soon as supportable on PRIMEQUEST servers.

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### Intel LAN Cards and Onboard Intel LAN Devices

**PRIMERGY** For the Intel LAN Cards listed below, please apply the "Intel® Ethernet Adapters Connections CD" software package (version 24.1 or later) available at <http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=>. At the download page, please click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue," and select "Windows Server 2019" from the "Select Operating System" dropdown menu, and click on the "Driver" tab. Scroll down to the "LAN" section.

-Applicable to (Intel LAN Card): Eth Ctrl 2x10Gbit PCIe x8 D2755 SFP+, Eth Ctrl 2x10GBase-T PCIe x8 X540-T2, PLAN AP 1x1Gbit Cu Intexl I210-T1, PLAN CP 4x1Gbit Cu Intel I350-T4, PLAN CP 2x1Gbit Cu Intel I350-T2, PLAN EP X550-T2 2x10GBASE-T, PLAN EP X710-DA2 2x10Gb SFP+, PLAN EP X710-DA4 4x10Gb SFP+, PLAN EP X710-T4 4x10GBASE-T, PLAN EP XXV710-DA2 25Gb 2p SFP28, PLAN EP XXV710-DA2 25Gb 2p SFP28 OCP, PY Eth Mezz Card 10Gb 2 Port V2, PLAN EM 10Gb OCP onb RX25xx M4, PLAN EM 1Gb OCP onb RX25xx M4, PLAN Intel 4x1Gb T OCP

-Applicable to (Onboard Intel LAN Devices): RX2520 M4, TX2550 M4, RX2520 M4, RX2530 M4, RX2540 M4, RX4770 M4, TX2550 M4, CX2560 M4

*Notice:*

When Hyper-V function is enabled and the above "Intel® Ethernet Adapters Connections CD" software package (version 24.1) is installed, please make sure to enable "SR-IOV Support" in the BIOS to avoid the possible failure at windows loading screen.

Please refer to the manual of your server for BIOS configuration.

If PLAN Intel 4x1Gb T OCP or an Intel Onboard LAN Card listed below is used with Hyper-V function enabled, please apply the "Intel® NVM Update Tool for X722 device (offline update tool)" software package (version 4.10 or later). Otherwise, Hyper-V virtual switch cannot be created.

-Applicable to (Intel LAN Card): PLAN Intel 4x1Gb T OCP

-Applicable to (Onboard Intel LAN Devices): RX2520 M4, TX2550 M4

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**PRIMEQUEST** The Firmware and Software Kit are available at the following site: <http://support.ts.fujitsu.com/IndexDownload.asp?lng=COM&SoftwareGUID=>. Click on "Product Search," enter a PRIMEQUEST model that supports Windows Server 2019 (e.g., PRIMEQUEST 3800 E2), click on "Continue", and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "LAN" section.

The Firmware and Software Kit to apply depend on the LAN Card used.

To use the following Intel LAN Card:

<PLAN EP X550-T2 2x10GBASE-T>

Please apply the following Firmware and Software Kit:

- "Firmware for PLAN EP X550-T2 (ASP for Windows)" (version 2.00)

- "Intel® Ethernet Adapters Connections CD" (version 24.3)

Note these firmware and driver, which are available on the PRIMEQUEST 3000 series on the download site, can actually be used with the PRIMEQUEST 2000 series.

To use the following Intel LAN Cards:

<PLAN EP X710-DA2 2x10Gb SFP+, PLAN EP XXV710-DA2 25Gb 2p SFP28>

Please apply the following Firmware and Software Kit:

- "Firmware for PLAN EP X710-Adapters (ASP for Windows)" (version 7.10)

- "Intel® Ethernet Adapters Connections CD" (version 24.3)

Note these firmware and driver, which are available on the PRIMEQUEST 3000 series on the download site, can actually be used with the PRIMEQUEST 2000 series.

To use the following Intel LAN Cards:

<PLAN CP 2x1Gbit Cu Intel I350-T2, PLAN CP 4x1Gbit Cu Intel I350-T4, Eth Ctrl 2x10Gbit PCIe x8 D2755 SFP+, Eth Ctrl 2x10GBase-T PCIe x8 X540-T2 >

Please apply the following Software Kit:

- "Intel® Ethernet Adapters Connections CD" (version 24.3)

To use the PRIMEQUEST Onboard Intel LAN Device:

<3800B, 3800E, 3400E, 3800B2, 3800E2, 2800B3, 2800E3, 2400E3>

please apply the following Software Kit:

- "Intel® Ethernet Adapters Connections CD" (version 24.3)

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## Trusted Platform Modules (TPM)

**PRIMERGY** TPM 2.0 chips S26361-F3552-L10 and S26361-F3552-E10 can be used with Windows Server 2019 on all *Hardware Assurance*-certified PRIMERGY models if these models are configured with these chips. This is the case with PRIMERGY RX1330 M3, TX1330 M3, and TX1310 M3.

When used with Windows Server 2019, TPM 2.0 chips must be used as TPM 2.0 components.

But these TPM 2.0 chips cannot be used with the PRIMERGY models listed below.

-Applicable to: PRIMERGY RX4770 M3, RX2560 M2, RX2540 M2, RX2530 M2, TX2560 M2

**PRIMEQUEST** TPM 2.0 chips can be used with Windows Server 2019 on PRIMEQUEST 3800B, 3800E and 3400E. Whether use TPM 2.0 chips on these models, please refer to "BIOS Requirements for Fujitsu Servers" for BIOS version requirements.

However, as soon as assesses its operation, Fujitsu will announce other PRIMEQUEST servers models that will support the TPM 2.0 chips.

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## QLogic Fibre Channel Cards

**PRIMERGY** If fibre channel cards listed below are to be used with Windows Server 2019, please apply *both* the "MultiBoot Image for QLE269x and QLE274x" software package (version 1.60.34 or later) *and* the "StorPort Miniport Driver Windows 2016/2019" software package (version 9.2.9.23 or later), available at <http://support.ts.fujitsu.com/IndexDownload.asp?lng=COM&SoftwareGUID=>.

Click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue" and select "Windows Server 2019" from the "Select Operating System" dropdown menu. For the "MultiBoot Image" package, click on the "BIOS" tab and scroll down to the "Fibre Channel" section. For the "StorPort Miniport Driver" package, click on the "Driver" tab and scroll down to the "Fibre Channel" section.

-Applicable to: PFC EP QLE2740 1x 32Gb, PFC EP QLE2740 1x 32Gb LP, PFC EP QLE2742 2x 32Gb, PFC EP QLE2742 2x 32Gb LP, PFC EP QLE2690 1x 16Gb, PFC EP QLE2690 1x 16Gb LP, PFC EP QLE2692 2x 16Gb, PFC EP QLE2692 2x 16Gb LP

**PRIMEQUEST** The Multiboot Image package and Software Kit are available at the following site:

[http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.](http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=)

Click on "Product Search," enter a PRIMEQUEST model that supports Windows Server 2019 (e.g., PRIMEQUEST 3800 E2 and PRIMEQUEST 2800 E3), click on "Continue", and select "Windows Server 2019" from the "Select Operating System" dropdown menu. For the "MultiBoot Image" package, click on the "BIOS" tab and scroll down to the "Fibre Channel" section. For the "StorPort Miniport" Software Package, click on the "Driver" tab and scroll down to the "Fibre Channel" section.

The Multiboot image package and Software Kit to apply depend on the Fibre Channel Card used.

To use the following Fibre Channel Card:

< PFC EP QLE2690 1x 16Gb Qlogic, PFC EP QLE2692 2x 16Gb Qlogic, PFC EP QLE 2740 1x32Gb, PFC EP QLE 2742 2x32Gb>

Please apply the following Multiboot image package and Software Kit:

- "MultiBoot Image for QLE269x and QLE274x" (version 1.60.42)

- "StorPort Miniport Driver Windows 2016/2019" (version 9.3.3.20)

To use the following Fibre Channel Cards:

< FC CTRL QLE2560>

Please apply the following Multiboot image package and Software Kit:

- "MultiBoot for QLE2560 v.4.00 (USB Image)" (version 4.00)

- "StorPort Miniport Driver Windows 2016/2019" (version 9.3.3.20)

To use the following Fibre Channel Cards:

< FC CTRL QLE2562>

Please apply the following Multiboot image package and Software Kit:

- "MultiBoot for QLE2562 v.4.00 (USB Image)" (version 4.00)

- "StorPort Miniport Driver Windows 2016/2019" (version 9.3.3.20)

To use the following Fibre Channel Cards:

< PFC EP QLE2670 1x 16Gb, PFC EP QLE2672 2x 16Gb>

Please apply the following Multiboot image package and Software Kit:

- "MultiBoot Image for QLE267x v4.60.10 (USB Image)" (version 4.60.10)

- "StorPort Miniport Driver Windows 2016/2019" (version 9.3.3.20)

## Broadcom (Emulex) Fibre Channel Cards

**PRIMERGY** Firmware and drivers for Broadcom fibre channel cards are available at

[http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.](http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=)

Click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M2, RX2540 M4, BX2560 M2), click on "Continue," and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "Fibre Channel" section.

To use the following fibre channel cards:

PFC EP LPe 32000 1x32Gb, PFC EP LPe 32002 2x32Gb, PFC EP LPe31000 1x 16Gb Emulex, PFC EP LPe31002 2x 16Gb Emulex,

apply the following firmware and driver:

- "Universal Boot and FW for LPe3100x / LPe3200x" (version 12.0.261.33 or later)

-"Emulex Storport Miniport Driver for Windows (elxdrv-fc)" (version 12.0.367.0-3 or later)

To use "FC CTRL LPe1250,"

apply the following firmware and driver:

-"Universal Boot and FW for LPe1250"(Boot v11.20a5 FW v2.02a3 or later)

-"Emulex Storport Miniport Driver for Windows (elxdrv-fc)" (version 12.0.367.0-3)

To use "FC CTRL LPe12002,"

apply the following firmware and driver:

-"Universal Boot and FW for LPe12002"(Boot v11.20a5 FW v2.02a3 or later)

-"Emulex Storport Miniport Driver for Windows (elxdrv-fc)" (version 12.0.367.0-3)

To use "PY FC Mezz. Card 8Gb 2 Port (MC-FC82E) (Onboard),"

apply the following firmware and driver:

-"MultiBoot Firmware Flash for MC-FC82E" (FW v2.02a3 or later)

-"Emulex Storport Miniport Driver for Windows (elxdrv-fc)" (version 12.0.367.0-3 or later)

To use "PFC EM MC-FC162E 2x16Gb (Onboard),"

apply the following Firmware and Driver:

-"Universal Boot and FW for MC-FC162E and LPe1600x" (version 11.2.210.13 or later)

-"Emulex Storport Miniport Driver for Windows (elxdrv-fc)" (version 12.0.367.0-3 or later)

**PRIMEQUEST** Firmware and drivers for Broadcom fibre channel cards are available at <http://support.ts.fujitsu.com/IndexDownload.asp?lng=COM&SoftwareGUID=>.

Click on "Product Search," enter a PRIMEQUEST model that supports Windows Server 2019 (e.g., PRIMEQUEST 3800B), click on "Continue," and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "Fibre Channel" section.

To use the following fibre channel cards:

PFC EP LPe31000 1x 16Gb Emulex, PFC EP LPe16000 1x 16Gb, PFC EP LPe32000 1x 32Gb, PFC EP LPe31002 2x 16Gb Emulex, PFC EP LPe16002 2x 16Gb, PFC EP LPe32002 2x 32Gb on

PRIMEQUEST 3800B, PRIMEQUEST 3800E, PRIMEQUEST 3400E, PRIMEQUEST 3800B2, PRIMEQUEST 3800E2, PRIMEQUEST 2800B3, PRIMEQUEST 2800E3, PRIMEQUEST 2400E3,

apply the following firmware and driver:

-"Universal Boot and FW for LPe3100x / LPe3200x" (version 12.4.243.17)

-"Emulex Storport Miniport Driver for Windows (elxdrv-fc)" (version 12-4-243.4-11)

Note these firmware and driver, which are available only for PFC EP LPe3100X of PRIMEQUEST 3000 models on the download site, can actually be used for both PFC EP LPe3100X of PRIMEQUEST 3000 models and PFC EP LPe1600X of PRIMEQUEST 2000 models.

To use "LPe1250: 1 channel FC HBA, 8 Gbit/sec" on

PRIMEQUEST 2800B3, PRIMEQUEST 2800E3, PRIMEQUEST 2400E3,

apply the following firmware and driver:

-"Universal Boot and FW for LPe1250"(Boot v12.40a6 FW v2.02a5)

-"Emulex Storport Miniport Driver for Windows (elxdrv-fc)" (version 12-4-243.4-11)

To use "LPe12002: 2 channel FC HBA, 8 Gbit/sec, PCIe 2.0 x4" on

PRIMEQUEST 2800B3, PRIMEQUEST 2800E3, PRIMEQUEST 2400E3,

apply the following firmware and driver:

-"Universal Boot and FW for LPe12002"(Boot v12.40a6 FW v2.02a5)

-"Emulex Storport Miniport Driver for Windows (elxdrv-fc)" (version 12-4-243.4-11)

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### Internal Battery Units

**PRIMERGY** Battery units listed below can be used with Windows Server 2019 only on the following PRIMERGY models: RX2530 M2; RX1330 M3; TX1330 M3; TX1320 M3.

-Applicable to: Fujitsu battery units 380 W, 12V

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### SAS RAID Controller Cards

**PRIMERGY** Drivers for SAS RAID controller cards are available at

[http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.](http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=)

Click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue," and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "SAS RAID" section.

To use the following SAS RAID controller cards:

PRAID EP400i, PRAID EP420i, PRAID EP440i, PRAID EP420e, PRAID CP400i,

apply the "Windows Server 2019 device driver for LSI Logic MegaRAID SAS HBA and ROMB solutions" (version 6.714.18.00 or later)

**PRIMEQUEST** Firmware and drivers for SAS RAID controller cards are available at

[http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.](http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=)

Click on "Product Search," enter a PRIMEQUEST model that supports Windows Server 2019 (e.g., PRIMEQUEST 3800B), click on "Continue," and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "SAS RAID" section.

To use "PRAID EP420i SAS Cougar4" and "PRAID EP420e" on

PRIMEQUEST 3800B, PRIMEQUEST 3800E, PRIMEQUEST 3400E, PRIMEQUEST 3800B2, PRIMEQUEST 3800E2, PRIMEQUEST 2800B3, PRIMEQUEST 2800E3, PRIMEQUEST 2400E3,

apply the following firmware and driver:

-"Firmware for RAID Ctrl SAS 12G (LSI3108 based)" (version 24.21.0-0076)

-"Windows Server 2019 device driver for LSI Logic MegaRAID SAS HBA and ROMB solutions" (version 6.714.18.00)

To use "PRAID EP540i" and "PRAID EP580i" on

PRIMEQUEST 3800B, PRIMEQUEST 3800E, PRIMEQUEST 3400E, PRIMEQUEST 3800B2, PRIMEQUEST 3800E2,

apply the following firmware and driver:

-"Firmware for RAID Ctrl SAS 12G (PRAID EP540i)" (version 50.7.2-2553)

-"AVAGO MegaRaid TriMode HBA Windows 2016 driver 7.707.11.00" (version 7.707.11.00)

To use "PRAID EP540e" on

PRIMEQUEST 3800B, PRIMEQUEST 3800E, PRIMEQUEST 3400E, PRIMEQUEST 3800B2, PRIMEQUEST 3800E2,

apply the following firmware and driver:

-"Firmware for PRAID EP540e (ASP for Windows)" (version 50.7.2-2553)

-"AVAGO MegaRaid TriMode HBA Windows 2016 driver 7.707.11.00" (version 7.707.11.00)

Note these firmware and driver, which are available only for PRIMEQUEST B models on the download site, can actually be used for *both* PRIMEQUEST B and E models.

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### NVIDIA Graphics Cards

**PRIMERGY** If graphics cards listed below are to be used with Windows Server 2019, please apply the "Windows 2016 and 2019 driver NVIDIA Graphic cards" driver (version 419.17 or later) available at

[http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.](http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=)

At the download page, please click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue," select "Windows Server 2019" from the "Select Operating System" dropdown menu, and click on the "Driver" tab. Scroll down to the "Graphic" section.

-Applicable to: NVIDIA Quadro P400 2GB, Low Profile; NVIDIA Quadro P400 2GB, Full Height

#### PCIe SSD

**PRIMERGY** If PCIe SSDs listed below are to be used with Windows Server 2019, please apply the "PACC EP P4800X AIC" (version 4.2.0.1002 or later) available at

[http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.](http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=)

Click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue" and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "PCIe SSD" section.

-Applicable to: PACC EP P4800X AIC 750GB; PACC EP P4800X AIC 375GB; PACC EP P4800X AIC 750GB; PACC EP P4800X AIC 375GB

However, the PCIe SSD listed above cannot be used as a boot drive for Windows Server 2019. Storage for OS startup is required separately.

**PRIMEQUEST** PACC EP 4800X AIC are not relevant to PRIMEQUEST models.

#### Tape Kit LTO

**PRIMERGY** If Tape Kits LTO listed below are to be used with Windows Server 2019, please apply "IBM TapeWin driver 6268" (version 6.2.6.8 or later) available at

[http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=.](http://support.ts.fujitsu.com/IndexDownload.asp?Ing=COM&SoftwareGUID=)

Click on "Product Search," enter a PRIMERGY model that supports Windows Server 2019 (e.g., RX2540 M4), click on "Continue" and select "Windows Server 2019" from the "Select Operating System" dropdown menu. Click on the "Driver" tab and scroll down to the "Tape Drive" section.

-Applicable to: Tape Kit LTO6HH 2.5TB 160MB/s SAS 6Gb; Tape Kit LTO7HH 6TB 300MB/s SAS 6Gb

## LICENSING

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CALs are no longer included in Windows Server Base Licenses, but CALs are still required to access any WS 2019 Datacenter or Standard instances (physical or virtual). CALs must be purchased separately from base licenses. OEM CALs are not tied to servers. Additional OEM CALs may be purchased after the initial server sale. CALs are channel agnostic; any CALs (whether OEM, VL, or Retail) can be used to access any WS (whether OEM, VL, or Retail) machines.

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**Product Activation Notice to End Users – ROK**

Certain Microsoft software included in Fujitsu servers may employ copyright protection measures. Unless the software is activated, you have no right to use it after its activation period. This is to prevent its unauthorized use. You may not bypass or circumvent activation. The activation procedure and Microsoft's privacy policy will be displayed when the software is launched for the first time, when it is reinstalled, or when your computer is reconfigured. Product activation may be completed by Internet or telephone (toll charges may apply).

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**Downgrade Rights**

Windows Server 2019 Datacenter, Standard, and Essentials licenses include a downgrade or down-edition right, or both. Typically, customers who request a downgrade would already have a server running the (older) version of Windows Server they are seeking to downgrade to; hence, customers who wish to exercise a downgrade right that their Windows Server 2019 license entitles would usually have a server running Windows Server 2016 or an earlier WS version, for example. Those customers may use their existing media and keys to exercise their downgrade right. That customers elect to use a downgrade version does not change the terms and conditions of the license product they purchased. Therefore, customers who purchased a WS 2019 license have to abide by WS 2019 license's terms and conditions even when they exercise their downgrade right. For example, when Windows Server 2012 R2 or Windows Server 2012 is used through a WS 2019 license's downgrade right, all cores on physical processors still have to be licensed because Windows Server 2019 is licensed on the per-core basis, while Windows Server 2012 R2 and earlier WS versions are licensed on the per-processor basis. Likewise, virtualization rights stay unaltered when downgrade rights are exercised; if WS 2016 Standard is used via a WS 2019 Standard license's downgrade right, that license still permits two instances of virtual machine, for example. Upon request, Fujitsu provides downgrade media or product key (or both).

- Windows Server 2019 Datacenter includes downgrade and down-edition rights to WS 2019 Standard and Essentials; WS 2016 Datacenter, Standard, and Essentials; WS 2012 R2 Datacenter, Standard, Essentials, and Foundation; and WS 2012 Datacenter, Standard, and Essentials.
- Windows Server 2019 Standard includes downgrade and down-edition rights to WS 2019 Essentials; WS 2016 Standard and Essentials; WS 2012 R2 Standard, Essentials, and Foundation; and WS 2012 Standard and Essentials.
- Windows Server 2019 Essentials includes downgrade rights to WS 2016 Essentials, WS 2012 R2 Essentials and Foundation, and WS 2012 Essentials.

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**Downgrading Windows Server CALs**

Downgrading Windows Server 2019 CALs (Client Access Licenses) does not require end users to take special action or obtain separate product keys.

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**SOFTWARE ASSURANCE**



Software Assurance is Microsoft's maintenance program. Its benefits include new version rights, additional use rights, installment payment plans, consulting services, training, and much more. You must sign up for Software Assurance within the 90 days of your software purchase. (Please note use of Nano Server requires Software Assurance.) If you purchase a Software Assurance (SA) policy for your OEM license, use of that software becomes subject to Microsoft Product Use Rights and the terms and conditions of your organization's volume licensing agreement. Your software's OEM terms are reinstated after the expiration of your SA policy.

Software Assurance, Microsoft Volume Licenses, and Microsoft Products and Services Agreements must be obtained from authorized Microsoft Licensing Solution Partners (LSPs). Fujitsu is an authorized Microsoft LSP around the world, including the European Union and European Free Trade Association countries. For assistance, please contact [PM-Team-LAR@ts.fujitsu.com](mailto:PM-Team-LAR@ts.fujitsu.com).

## FUJITSU CUSTOMER SUPPORT

Basic installation support is provided free of charge. Windows Server 2019 initial installation issues that pertain to Fujitsu PRIMERGY server systems' hardware warranty or hardware support services are handled by Fujitsu Maintenance Organizations. Basic installation support covers issues related to the installation of an operating system as a POSE (Physical Operating Software Environment) on Fujitsu PRIMERGY server systems. Support for issues related to VOSE (Virtual Operating System Environment) installation is not free. Customers needing advanced levels of product support are advised to purchase such services as Fujitsu Support Pack Software, Fujitsu Service Contract Software, and Fujitsu Installation Pack. Those services are not included in Windows Server licenses (whether OEM or ROK) and must be purchased separately. For more information about those services, please see <http://www.fujitsu.com/fts/products/product-support-services/>.

## PRODUCT SUPPORT LIFE CYCLES

Please refer to Microsoft's support lifecycle for Windows Server 2019 as well as Fujitsu's PRIMERGY lifecycle policy.

Microsoft's Windows Server 2019 support lifecycle begins: on or shortly after GA

Microsoft's Mainstream Support ends: about 5 years after GA

Microsoft's Extended Support ends: about 5 years after Mainstream Support ends

<https://support.microsoft.com/en-us/help/14085/microsoft-business-developer-and-desktop-operating-systems-policy>

# More Information

## Fujitsu OPTIMIZATION Services

In addition to Fujitsu Windows Server 2019 OEM / ROK for FUJITSU Server PRIMERGY, Fujitsu provides a range of platform solutions. They combine reliable FUJITSU products with the best in services, know-how and worldwide partner-ships.

### Dynamic Infrastructures

With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure-as-a-Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

### Computing products

[www.fujitsu.com/global/products/computing/](http://www.fujitsu.com/global/products/computing/)

- PRIMERGY: Industrial standard server
- ETERNUS: Storage system

### Software

[www.fujitsu.com/global/products/software/](http://www.fujitsu.com/global/products/software/)

- Windows Server: FUJITSU PRIMERGY Operating System
- ServerView: FUJITSU PRIMERGY Server Management

## More information

Learn more about FUJITSU Server PRIMERGY, please contact your Fujitsu sales representative, Fujitsu business partner, or visit our website.

[www.fujitsu.com/global/products/computing/servers/primergy/](http://www.fujitsu.com/global/products/computing/servers/primergy/)

## Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to contribute to the creation of a sustainable environment for future generations through IT. Please find further information at:

[www.fujitsu.com/global/about/environment/](http://www.fujitsu.com/global/about/environment/)



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