

## 2488H V5 Configuration Help

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1. **Notice:**The V5 servers which install VMware system should avoid using the Intel X710/XL710 NIC, should configure and use the NIC which is in the compatibility list configuration except X7xx/XL7xx serial NIC. The reason is detailed in the warning notice:

<http://support.huawei.com/enterprise/en/bulletins-product/NEWS2000000641>

Notice:The V5 servers which install VMware system should avoid using the Intel X710/XL710 NIC, should configure and use the NIC which is in the compatibility list configuration except X7xx/XL7xx serial NIC. The reason is detailed in the warning notice: <http://support.huawei.com/enterprise/en/bulletins-product/NEWS2000000641>

### 2. Chassis module type

- 1.Include Chassis, mainboard,etc(excluding PSU and RAID controller card).
- 2.For 24\*2.5" HDD Chassis RAID controller cards are only available in PCIe slot4, slot 6 and slot 8.

### 3. ===CPU===

#### o 3.1 CPU type

Intel 4100 and 5100 series CPUs support the actual maximum frequency of 2400 MHz, and Intel 6100 and 8100 series CPUs support the actual maximum frequency of 2666 MHz.

#### o 3.2 Number of CPUs

Supports for up to 4 CPUs.

### 4. ===Memory===

#### o 4.1 DIMM type

The following is not supported:  
Mixing of RDIMMs and LRDIMMs;  
Mixing of different DIMM capacity.

#### o 4.2 Number of DIMMs

Double CPUs support 1 to 24 DIMMs, and four CPUs support 1 to 48 DIMMs.

### 5. ===Hard Disk===

- **5.1 Number of hard disk types**

1. Quantity selection 1, only show the first hard disk kinds.
2. The number of choice 2, two hard disk kinds are displayed.
3. The number of choice 3, three hard disk kinds are displayed.

- **5.2 1st hard disk series**

1. There are four types of HDDs: SAS HDD, SATA HDD, SSD and NVMe, supports mixed configuration.
2. None-NVMe chassis doesn't support NVMe HDD.

- **5.3 Number of the 1st hard disks**

1. 8 x 2.5" HDD Chassis support for up to 8 x 2.5" HDD;
2. 24 x 2.5" HDD Chassis support for up to 24 x 2.5" HDD;
3. 25 x 2.5" HDD Chassis support for up to 25 x 2.5" HDD;
4. NVMe Chassis support for up to 16 x 2.5" HDD.

- **5.4 2nd hard disk series**

1. There are four types of HDDs: SAS HDD, SATA HDD, SSD and NVMe, supports mixed configuration.
2. None-NVMe chassis doesn't support NVMe HDD.

- **5.5 Number of the 2nd hard disks**

1. 8 x 2.5" HDD Chassis support for up to 8 x 2.5" HDD;
2. 24 x 2.5" HDD Chassis support for up to 24 x 2.5" HDD;
3. 25 x 2.5" HDD Chassis support for up to 25 x 2.5" HDD;
4. NVMe Chassis support for up to 16 x 2.5" HDD.

- **5.6 3rd hard disk series**

1. There are four types of HDDs: SAS HDD, SATA HDD, SSD and NVMe, supports mixed configuration.
2. None-NVMe chassis doesn't support NVMe HDD.

- **5.7 Number of the 3rd hard disks**

1. 8 x 2.5" HDD Chassis support for up to 8 x 2.5" HDD;
2. 24 x 2.5" HDD Chassis support for up to 24 x 2.5" HDD;
3. 25 x 2.5" HDD Chassis support for up to 25 x 2.5" HDD;
4. NVMe Chassis support for up to 16 x 2.5" HDD.

- **5.8 NVMe SSD type**

None-NVMe chassis doesn't support NVMe HDD.

- **5.9 Number of NVMe SSDs**

Support for up to 8 x 2.5" NVMe SSD;

6. **=== M.2 SSD===**

- **6.1 Number of M.2 SSDs**

Two M.2 SSD are configured by default.

7. **===Riser Card===**

- **7.1 Riser module**

Supports 1pcs 1\*X16 + 1\*X8 PCIe Riser Card(Support Full High,Half Length) or 1\*X16 + 1\*X8 PCIe Riser Card(Support Full High,3/4 Length)

8. **===PCIe Card===**

- **8.1 PCIe card for the 1st slot(3.0 x16)**

- 1.Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
- 2.Need select one or two IB Cable when select a IB card.

- **8.2 PCIe card for the 2nd slot(3.0 x8)**

- 1.Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
- 2.Need select one or two IB Cable when select a IB card.

- **8.3 PCIe card for the 3rd slot(3.0 x4)**

- 1.Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
- 2.Need select one or two IB Cable when select a IB card.

- **8.4 PCIe card for the 4th slot(3.0 x8)**

1. Only support PCIe Raid Card.
2. When selecting an 8\*2.5-inch NVMe hard drive enclosure,If you need to use a SAS/SATA hard disk for subsequent expansion, select a Raid card that supports NVMe/SAS/SATA hard disk. If not, select a Raid card that only supports NVMe hard disks.

- **8.5 PCIe card for the 5th slot(3.0 x16)**

1. Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
2. Need select one or two IB Cable when select a IB card.

- **8.6 PCIe card for the 6th slot(3.0 x8)**

1. Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
2. Need select one or two IB Cable when select a IB card.

- **8.7 PCIe card for the 7th slot(3.0 x8)**

1. Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
2. Need select one or two IB Cable when select a IB card.

- **8.8 PCIe card for the 8th slot(3.0 x8)**

1. Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
2. Need select one or two IB Cable when select a IB card.

- **8.9 PCIe card for the 9th slot(3.0 x8)**

1. Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
2. Need select one or two IB Cable when select a IB card.

- **8.10 PCIe card for the 10th slot(3.0 x16)**

1. Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
2. Need select one or two IB Cable when select a IB card.

- **8.11 PCIe card for the 11th slot(3.0 x8)**

1. Need select one or two optical transceivers or SFP+ High Speed Cable interface modules when select a network card without transceiver;
2. Need select one or two IB Cable when select a IB card.

- **8.12 Perpetual License, NVIDIA GRID Virtual PC, 1 CCU, 3 year product services, Electronic**

1. Perpetual license allows the use of licensed software indefinitely. The subscription can be renewed at the end of the subscription period. Subscription license includes software license and subscription services, and the license needs to be renewed at the end of the subscription period.
2. NVIDIA GRID Virtual PC is used for common

desktop acceleration scenarios, such as PC applications, browsers, and HD videos. NVIDIA GRID Virtual Workstation is used for professional graphics applications acceleration scenarios. 3. Concurrent User (CCU) is a method of counting licenses based on active user VMs. If a VM is active and the NVIDIA GRID software is running, this VM is considered as one CCU. A GRID CCU is independent of the VM connection. 4. An GPU can be virtualized into 4/8/16/32/64 vGPUs. For details, visit <https://images.nvidia.com/content/grid/pdf/GRID-Licensing-Guide.pdf>. 5. License files are required for virtual desktop scenarios. The number of license files varies with the number of concurrent VMs. A VM that has been already assigned vGPUs will apply to the license server for a license file after the VM is started. After the VM is powered off, the license file will be returned to the license server. (Even if the VM fails to receive a license file, all the functions of the vGPUs are still available, but the VM user will keep receiving prompt messages.)

- **8.13 Perpetual License, NVIDIA GRID Virtual Workstation, 1 CCU, 3 year product services, Electronic**

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- **8.14 Subscription License, NVIDIA GRID Virtual PC, 1 CCU, 1 year product services, Electronic**

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- **8.16 Subscription License, NVIDIA GRID Virtual Workstation, 1 CCU, 1 year product services, Electronic**

1. Perpetual license allows the use of licensed software indefinitely. The subscription can be renewed at the end of the subscription period. Subscription license includes software license and subscription services, and the license needs to be renewed at the end of the subscription period. 2. NVIDIA GRID Virtual PC is used for common desktop acceleration scenarios, such as PC applications, browsers, and HD videos. NVIDIA GRID Virtual Workstation is used for professional graphics applications acceleration scenarios. 3. Concurrent User (CCU) is a method of counting licenses based on active user VMs. If a VM is active and the NVIDIA GRID software is running, this VM is considered as one CCU. A GRID CCU is independent of the VM connection. 4. An GPU can be virtualized into 4/8/16/32/64 vGPUs. For details, visit

<https://images.nvidia.com/content/grid/pdf/GRID-Licensing-Guide.pdf>. 5. License files are required for virtual desktop scenarios. The number of license files varies with the number of concurrent VMs. A VM that has been already assigned vGPUs will apply to the license server for a license file after the VM is started. After the VM is powered off, the license file will be returned to the license server. (Even if the VM fails to receive a license file, all the functions of the vGPUs are still available, but the VM user will keep receiving prompt messages.)

- **8.17 Subscription License, NVIDIA GRID Virtual Workstation, 1 CCU, 3 year product services, Electronic**

1. Perpetual license allows the use of licensed software indefinitely. The subscription can be renewed at the end of the subscription period. Subscription license includes software license and subscription services, and the license needs to be renewed at the end of the subscription period. 2. NVIDIA GRID Virtual PC is used for common desktop acceleration scenarios, such as PC applications, browsers, and HD videos. NVIDIA GRID Virtual Workstation is used for professional graphics applications acceleration scenarios. 3. Concurrent User (CCU) is a method of counting licenses based on active user VMs. If a VM is active and the NVIDIA GRID software is running, this VM is considered as one CCU. A GRID CCU is independent of the VM connection. 4. An GPU can be virtualized into 4/8/16/32/64 vGPUs. For details, visit <https://images.nvidia.com/content/grid/pdf/GRID-Licensing-Guide.pdf>. 5. License files are required for virtual desktop scenarios. The number of license files varies with the number of concurrent VMs. A VM that has been already assigned vGPUs will apply to the license server for a license file after the VM is started. After the VM is powered off, the license file will be returned to the license server. (Even if the VM fails to receive a license file, all the functions of the vGPUs are still available, but the VM user will keep receiving prompt messages.)

9. **===Optical Transceiver and High Speed Cable===**

- **9.1 Optical Transceiver-SFP+-850nm-10Gb/s-LC-Multimode-0.3km**

Used for 10GE SFP+ Network Card, the quantity of SFP+ Cable and optical transceiver are not more than the 10GE interfaces without optical transceiver.

- **9.2 Optical Transceiver-SFP+-1310nm-10Gb/s-LC-Singlemode-10km**

Used for 10GE SFP+ Network Card, the quantity of SFP+ Cable and optical transceiver are not more than the 10GE interfaces without optical transceiver.

- **9.3 1m Passive SFP+ High-speed Cable-include Interface Module**

Used for 10GE SFP+ Network Card, the quantity of SFP+ Cable and optical transceiver are not more than the 10GE interfaces without optical transceiver.

- **9.4 3m Passive SFP+ High-speed Cable-include Interface Module**

Used for 10GE SFP+ Network Card, the quantity of SFP+ Cable and optical transceiver are not more than the 10GE interfaces without optical transceiver.

- **9.5 1m IB FDR High-speed Passive Cable(DAC)-Include Interface Module**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;
- 4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.6 3m IB FDR High-speed Passive Cable(DAC)-Include Interface Module**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;
- 4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.7 5m IB FDR High-speed Cable(AOC)-Include 56Gb/s QSFP+ Optical Module**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;
- 4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.8 10m IB FDR High-speed Cable(AOC)-Include 56Gb/s QSFP+ Optical Module**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;



4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.9 1m IB-Mellanox- 100G EDR High-speed Passive Cable-Include Interface Module**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;
- 4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.10 3m IB-Mellanox- 100G EDR High-speed Passive Cable-Include Interface Module**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;
- 4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.11 5m IB EDR Active Optical Cable(AOC)-QSFP28**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;
- 4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.12 10m IB EDR Active Optical Cable(AOC)-QSFP28**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;
- 4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.13 20m IB EDR Active Optical Cable(AOC)-QSFP28**

- 1.The different length is different price, please configure after getting the length request from customer;
- 2.Configure the number depends on customer demand docking IB, please contact customer explicitly (the cable is very expensive, make sure clearly demand);
- 3.If need other length, please contact the RD members;
- 4.The QSFP+ cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.14 Optical Transceiver-SFP28-850nm-25Gb/s-LC-Multimode-0.1km**

This optical transceiver is used for a 25GE QSFP+ NIC. The total number of QSFP+ cables and optical transceivers cannot exceed that of 25GE ports.

- **9.15 25G SFP28 Passive High Speed Cable,1m**

- 1.Used for 25GE SFP28 Network Card, the quantity of SFP28 Cable and optical transceiver are not more than the 25GE interfaces without optical transceiver;
- 2.The SFP28 cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.16 25G SFP28 Passive High Speed Cable,3m**

- 1.Used for 25GE SFP28 Network Card, the quantity of SFP28 Cable and optical transceiver are not more than the 25GE interfaces without optical transceiver;
- 2.The SFP28 cable including the Interface Module, does not need to configure the optical transceiver and optical fiber additionally.

- **9.17 1m Omni-Path 100Gbps QSFP28 High-speed Passive Cable-Include Interface Module**

Optical Transceiver is required when 100GE QSFP+ Network Card is selected and the quantity can't exceed the port of 100GE interfaces without optical transceiver.

- **9.18 2m Omni-Path 100Gbps QSFP28 High-speed Passive Cable-Include Interface Module**

Optical Transceiver is required when 100GE QSFP+ Network Card is selected and the quantity can't exceed the port of 100GE interfaces without optical transceiver.

- **9.19 3m Omni-Path 100Gbps QSFP28 High-speed Passive Cable-Include Interface Module**

Optical Transceiver is required when 100GE QSFP+ Network Card is selected and the quantity can't exceed the port of 100GE interfaces without optical transceiver.

## 10. ===Power===

○ 10.1 **PSU**

1. Support 1+1 redundancy, each chassis supports 2 pcs PSUs.
2. The power consumption is lower than 900W. It is recommended to use 900W power supply, higher than 1500W. It is recommended to use 2000W power supply. It is recommended to use 1500W power supply between 900W and 1500W.
3. For more accurate power information, please use the power calculator link:<http://support.huawei.com/onlinetoolsweb/ftpa/en>

○ 10.2 **C13 AC power cord**

1. Power Cable recommend Wall Plug and PDU Style, if the use condition is clear, it could select the Wall Plug or PDU Style.
2. 2000W and below power supply use C13 power cable, PDU power cable is 12A in Japan, other countries is 10A; wall plug cable is 12A in Japan, other countries is 10A.
3. If use the wall plug, please select power cable by select Area model(C13 to C13 Wall plug, normal extension cord );
4. If use the PDU plug, please select C13 PDU power cable(C13 to C14 PDU plug, PDU extension cord ).



PDU-IEC plug



PDU

Wall plug for



Normal wall plug

○ 10.3 **C13 Wall Plug power cord**

1. Power Cable recommend Wall Plug and PDU Style, if the use condition is clear, it could select the Wall Plug or PDU Style.

2.2000W and below power supply use C13 power cable, PDU power cable is 12A in Japan, other countries is 10A; wall plug cable is 12A in Japan, other countries is 10A.

3.If use the wall plug, please select power cable by select Area model(C13 to C13 Wall plug, normal extension cord );

4.If use the PDU plug, please select C13 PDU power cable(C13 to C14 PDU plug, PDU extension cord ).



Denmark C13-C13



Korea C13-C13



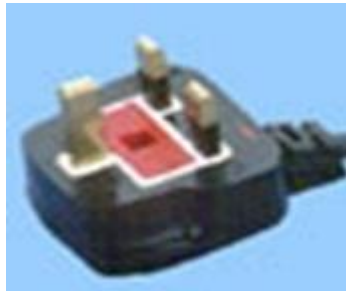
Argentina C13-C13



Australia C13-C13



Brazil C13-C13



Britain C13-C13



China C13-C13



Europe C13-C13



South Africa C13-C13



India C13-C13



Italy C13-C13



Japan C13-C13



North America C13-C13



Switzerland C13-C13

#### ○ 10.4 **C13 PDU power cord**

1. Power Cable recommend Wall Plug and PDU Style, if the use condition is clear, it could select the Wall Plug or PDU Style.
2. 2000W and below power supply use C13 power cable, PDU power cable is 12A in Japan, other countries is 10A; wall plug cable is 12A in Japan, other countries is 10A.
3. If use the wall plug, please select power cable by select Area model(C13 to C13 Wall plug, normal extension cord );
4. If use the PDU plug, please select C13 PDU power cable(C13 to C14 PDU plug, PDU extension cord ).



China(PDU) C13-14

## 11. ===DVD===

### ○ 11.1 Internal DVD-RW

If you select an internal DVD, an external will not be necessary.

### ○ 11.2 External DVD-RW

If you select an internal DVD, an external will not be necessary.

## 12. ===Accessory===

### ○ 12.1 Rack Rail

1. Adjustable Guide Rails does not support online maintenance.
2. Holding Rails Without Cable Management Arm does not support online maintenance, but if a cable management arm is installed, it supports online maintenance.
3. Holding Rails With Cable Management Arm supports online maintenance.



Static Rail Kit(21240434)

Guide Rail: 2U





Slide Rail: 2U

Ball Bearing Rail Kit(21241258)



1U/2U Cable

Management Arm(21241259)

- 12.2 **Protection panel**

The front panel comes with a lock and does not need any screws.

### 13. ===Insert Part===

- 13.1 **Security encryption function**

1.The security chip module and TPM are used for system and disk encryption;

### 14. ===Operating System===

- 14.1 **Operating system type**

Operating system manufacturers provide the original service. (Huawei is reseller)

- 14.2 **Operating system**

1. The configuration of SuSE Linux OS, Redhat Linux OS and Windows 2008/2012 OS licensing is based on cumulative CPU.

2. The configuration of Windows 2016 OS licensing is based on the total number of CPU cores. 1 pcs OS is sufficient if the number of CPU cores is no larger than 16, otherwise additional licenses are indispensable to match the overflow CPU cores.

3. According to the operating system manufacturer's life cycle strategy, entering the version(eg: suse 12.2 of the LTSS cycle requires an additional purchase of LTSS expand maintenance.

Please confirm the customer's operating system version before placing the order. If the LTSS version is involved, the customer needs to purchase it from the operating system manufacturer separately.

4. According to the operating system manufacturer's life cycle strategy, entering the version(eg: redhat 7.2) of the EUS/ELS cycle requires an additional purchase of

EUS/ELS expand maintenance.

Please confirm the customer's operating system version before placing the order. If the EUS/ELS version is involved, the customer needs to purchase it from the operating system manufacturer separately.

- **14.3 Windows Server 2016 Additional 16**

**Core,Chinese,Standard ,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-Chinese-Standard-expands the CPU Core License;
2. Each License increases supports 16Core.

- **14.4 Windows Server 2016 Additional 16**

**Core,English,Standard ,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-English-Standard-expands the CPU Core License;
2. Each License increases supports 16Core.

- **14.5 Windows Server 2016 Additional 4**

**Core,Chinese,Standard ,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-Chinese-Standard-expands the CPU Core License;
2. Each License increases supports 4Core.

- **14.6 Windows Server 2016 Additional 4**

**Core,English,Standard ,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-English-Standard-expands the CPU Core License;
2. Each License increases supports 4Core.

- **14.7 Windows Server 2016 Additional 2**

**Core,Chinese,Standard,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-Chinese-Standard-expands the CPU Core License;
2. Each License increases supports 2Core.

- **14.8 Windows Server 2016 Additional 2**

**Core,English,Standard ,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-English-Standard-expands the CPU Core License;
2. Each License increases supports 2Core.

- **14.9 Windows Server 2016 Additional 16 Core,Chinese,Data center,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-Chinese-DataCenter-expands the CPU Core License;
2. Each License increases supports 16Core.

- **14.10 Windows Server 2016 Additional 16 Core,English,Data center,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-English-DataCenter-expands the CPU Core License;
2. Each License increases supports 16Core.

- **14.11 Windows Server 2016 Additional 4 Core,Chinese,Data center,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-Chinese-DataCenter-expands the CPU Core License;
2. Each License increases supports 4Core.

- **14.12 Windows Server 2016 Additional 4 Core,English,Data center,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-English-DataCenter-expands the CPU Core License;
2. Each License increases supports 4Core.

- **14.13 Windows Server 2016 Additional 2 Core,Chinese,Data center,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-Chinese-DataCenter-expands the CPU Core License;
2. Each License increases supports 2Core.

- **14.14 Windows Server 2016 Additional 2 Core,English,Data center,x86,64bit,General OEM COA Lic,No DVD,No Product Service,No CAL**

1. Windows Server 2016-English-DataCenter-expands the CPU Core License;
2. Each License increases supports 2Core.

- **14.15 Client Access License (CAL),1 Device,for Windows Server 2016/2012/2012R2,Chinese,General OEM,without product services**

1. The Windows Server 2016-Chinese Version-expands Device CAL License;
2. Each License increases 1pcs device side access authority.

- **14.16 Client Access License (CAL),1 Device,for Windows Server 2016/2012/2012R2,English,General OEM,without product services**

1. The Windows Server 2016-English Version-expands Device CAL License;
2. Each License increases 1pcs device side access authority.

- **14.17 Client Access License (CAL),10 Device,for Windows Server 2016/2012/2012R2,Chinese,General OEM,without product services**

1. The Windows Server 2016-Chinese Version-expands Device CAL License;
2. Each License increases 10pcs device side access authority.

- **14.18 Client Access License (CAL),10 Device,for Windows Server 2016/2012/2012R2,English,General OEM,without product services**

1. The Windows Server 2016-English Version-expands Device CAL License;
2. Each License increases 10pcs device side access authority

- **14.19 Client Access License (CAL),1 User,for Windows Server 2016/2012/2012R2,Chinese,General OEM,without product services**

1. The Windows Server 2016-Chinese Version-expands User CAL License;
2. Each License increases 1pcs user side access authority.

- **14.20 Client Access License (CAL),1 User,for Windows Server 2016/2012/2012R2,English,General OEM,without product services**

1. The Windows Server 2016-English Version-expands User CAL License;
2. Each License increases 1pcs user side access authority.

- **14.21 Client Access License (CAL),10 User,for Windows Server 2016/2012/2012R2,Chinese,General OEM,without product services**

1. The Windows Server 2016-Chinese Version-expands User CAL License;
2. Each License increases 10pcs user side access authority.

- **14.22 Client Access License (CAL),10 User,for Windows Server 2016/2012/2012R2,English,General OEM,without product services**

1. The Windows Server 2016-English Version-expands User CAL License;
2. Each License increases 10pcs user side access authority.

- **14.23 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2019,Chinese,1 User,without Service,General OEM**

If you need to use Remote Desktop Services, please choose.

- **14.24 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2019,English,1 User,without Service,General OEM**

If you need to use Remote Desktop Services, please choose.

- **14.25 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2019,Chinese,1 Device,without Service,General OEM**

If you need to use Remote Desktop Services, please choose.

- **14.26 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2019,English,1 Device,without Service,General OEM**

If you need to use Remote Desktop Services, please choose.

- **14.27 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2019,Chinese,5 User,without Service,General OEM**

If you need to use Remote Desktop Services, please choose.

- **14.28 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2019,English,5 User,without Service,General OEM**

If you need to use Remote Desktop Services, please choose.

- **14.29 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2019,Chinese,5 Device,without Service,General OEM**

If you need to use Remote Desktop Services, please choose.

- **14.30 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2019,English,5 Device,without Service,General OEM**

If you need to use Remote Desktop Services, please choose.

- **14.31 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2016,Chinese,1 Device,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.32 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2016,English,1 Device,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.33 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2016,Chinese,5 User,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.34 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2016,English,5 User,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.35 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2016,Chinese,1 User,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.36 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2016,English,1 User,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.37 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2012/2012R2,Chinese,1 Device,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.38 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2012/2012R2,English,1 Device,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.39 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2012/2012R2,Chinese,5 User,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.40 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2012/2012R2,English,5 User,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.41 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2012/2012R2,Chinese,1 User,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

- **14.42 Operating System Software,Remote Desktop Services Client Access License For Windows Server 2012/2012R2,English,1 User,without Service,General OEM**

1. Optional
2. One server is configured with one RDS CAL license.
3. The standard edition and data center edition are not distinguished.
4. The purchasing quantity is subject to actual requirements.

**15. ===Enhanced software===**

- **15.1 RAS features lift kit (ECC, eMCA2, SDDC, PFA)**

Operator oversea specific software, except Brazil.

- **15.2 Memory expansion kit**

Operator oversea specific software, except Brazil.

- **15.3 Hard Disk expansion kit**

Operator oversea specific software, except Brazil.

- **15.4 Integrated Network features (NCSI)**

Operator oversea specific software, except Brazil.

- **15.5 A firmware upgrade (to support remote batch upgrade function BMC, BIOS, CPLD and other firmware)**

Brazil-specific software.

- **15.6 Serial port redirection (SOL) (originally only output from the proximal end of the serial cable system serial data output redirected to a network device, and can accept input remote network devices for easy Remote Maintenance)**

Brazil-specific software.



- **15.7 Hard Disk Pre-diagnostic tools**

Brazil-specific software.

- **15.8 Virtual KVM (virtual local keyboard, monitor, and mouse to the remote device tool)**

Brazil-specific software.

- **15.9 Virtual Media (including virtual CDROM, virtual folder, virtual floppy and other virtual media)**

Brazil-specific software.

- **15.10 Intelligent energy management (including power capping, power statistics history and dynamic energy-saving technology)**

Brazil-specific software.