

IBM FlashSystem 9500 models deliver increased performance, scalability, capacity, and connectivity

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At a glance

IBM FlashSystem[®] 9500 machine type 4666 delivers 48 drives in a single 4U form factor, increasing the performance, capacity, and connectivity of the high-end FlashSystem offering. It combines the NVMe storage of IBM FlashCore[®] Modules with IBM Spectrum[®] Virtualize software and is supported by IBM[®] Storage Insights with IBM Storage Expert Care service and support options.

FlashSystem 9500R is a precabled, preconfigured rack containing a pair of FlashSystem 9500 control enclosures using the clustering technology of IBM Spectrum Virtualize to linearly scale the system to meet the requirements of a particular environment

FlashSystem 9500 utility model UH8 delivers a variable capacity system, where billing is based on actually provisioned space above the base. The base subscription is covered by a three-year lease that entitles you to utilize the base capacity at no additional cost. If storage needs increase beyond the base capacity, usage is billed based on the average daily provisioned capacity per terabyte, per month, on a quarterly basis.

Overview

FlashSystem 9500 NVMe control enclosures feature:

- Two node canisters, each with two 24-core processors and options for up to 1.5 GB memory to deliver a system total of 3 TB memory
- Up to twelve (six per canister) I/O adapter features for 32 Gb Fibre Channel (FC) and 10/25 Gb and 100 Gb Ethernet connectivity
- Support for up to forty-eight NVMe flash drive options
- 4U, 19-inch rack mount enclosure

FlashSystem 9500 supports two 12 Gb SAS expansion enclosure models. FlashSystem 9000 small form factor (SFF) Expansion Enclosure Model AFF supports up to twenty-four 2.5-inch flash drives, while FlashSystem 9000 large form factor (LFF) High-Density (HD) Expansion Enclosure Model A9F supports up to ninety-two flash drives in a 3.5-inch carrier. SFF and LFF HD expansion enclosures can be intermixed within a FlashSystem 9500 system.

Model AH8 FlashSystem 9500 systems can scale up to 232 drives with the attachment of FlashSystem 9000 expansion enclosures. FlashSystem 9500 systems can be clustered with another FlashSystem 9500 system to help deliver high

availability, greater performance, capacity, and connectivity. Attachment and intermixing of existing machine type 9846 or 9848 expansion enclosure models A9F and AFF with machine type 4666 FlashSystem 9500 controller and expansion models is supported, providing all components within a system have consistent service and support levels

FlashSystem 9500R is available as a precabled, preconfigured rack with a dedicated FC network for clustering. Available with a pair of clustered FlashSystem 9500 systems, it can be ordered as FlashSystem 9502R and added to in the field with additional expansion enclosures.

All FlashSystem 9500 function capabilities are provided through IBM Spectrum Virtualize software and licensed through IBM Spectrum Virtualize Software for FlashSystem 9500 (5639-011). For additional information about FlashSystem 9500 functional capabilities and software, see the materials listed in the [Reference information](#) section.

FlashSystem 9500 utility models are intended for use where variable billing is required to meet a solution's requirements. IBM Storage Insights is used to monitor the system and is required in the utility model space. The local project office will work with the Storage Insights data to determine the actual physical data provisioned in the system. This data will be compared to the base system capacity subscription, and any provisioned capacity beyond that base subscription will be billed per terabyte, per month, on a quarterly basis.

Key requirements

Machine type 4666 FlashSystem 9500 requires IBM Spectrum Virtualize Software for FlashSystem 9500 8.5, or later, for operation. Use of the software is entitled through the acquisition of IBM Spectrum Virtualize software licenses.

FlashSystem 9500 function capabilities are provided through IBM Spectrum Virtualize software and licensed through IBM Spectrum Virtualize Software for FlashSystem 9500 (SW PID 5639- 011) for control enclosures and IBM Spectrum Virtualize Software for FlashSystem 9000 Expansions (SW PID 5639-EB2) for expansion enclosures.

FlashSystem 9500 control enclosures support external storage virtualization. Use of the external virtualization capability is entitled through the acquisition of IBM Spectrum Virtualize Software for SAN Volume Controller (PID 5641-VC8 in AAS and PID 5725-M19 in Passport Advantage^(R)).

A three-month registration of software maintenance (SWMA) for 5639-012 is required if IBM Storage Expert Care is not ordered with the system. [IBM Storage Insights](#) is used to monitor the system and is required in the utility model space. For a comprehensive list of supported environments, devices, and configurations, see the [IBM System Storage Interoperation Center \(SSIC\)](#) website.

Planned availability date

- March 4, 2022: All IBM FlashSystem 9500 models and features, except as noted below
- April 15, 2022: Feature numbers AHPJ, AHPQ, AHPR, AHPS, and AHPT
- April 22, 2022: Feature numbers FSRS, 4651, AL0S, AL0B, AL0C, AL0P, AL01, AL02, AGJP, ACZA, and ACZF
- June 3, 2022: Feature number AHPU
- December 16, 2022: Feature number AHPV

Availability within a country is subject to local legal requirements.

Description

IBM FlashSystem 9500 pushes further into the high-end enterprise space with a 4U, 48 drive storage controller that is designed to meet modern high-performance storage requirements such as ultra-low latency, cost-effectiveness, operational efficiency, and mission-critical reliability.

Creating clear differentiation between the other products in the FlashSystem family, FlashSystem 9500 offers twice the performance, twice the number of drives, and twice the connectivity of the midrange FlashSystem 7300. You can choose the platform to meet your workload demands and with IBM Expert Care, independently choose the support and service to go with it.

Built on a flash-optimized design with an end-to-end NVMe strategy, FlashSystem 9500 delivers extremely low latencies to multicloud environments. Combining IBM Spectrum Virtualize and IBM FlashCore technologies with innovative, flexible, and powerful NVMe storage, these systems can help transform infrastructure efficiency. The inclusion of IBM Storage Insights helps optimize your storage infrastructure using predictive analytics.

FlashSystem 9500R enables clients to order a rack containing a preassembled and configured cluster of FlashSystem 9500 controllers. These systems include a dedicated FC network for clustering and linear scaling of capacity and performance.

FlashSystem 9500 hardware components

FlashSystem 9500 NVMe Control Enclosure Model AH8

- Two node canisters, each with two 24-core processors and integrated hardware-assisted compression acceleration
- Cache options from 1 TB to 3 TB per control enclosure
- 10/25 Gb and 100 Gb Ethernet ports for iSCSI and NVMe RDMA connectivity
- 32 Gb FC ports
- 12 Gb SAS ports for expansion enclosure attachment
- Forty-eight slots for NVMe flash drives
- 4U, 19-inch rack mount enclosure
- Hot-swappable batteries and AC power supplies

FlashSystem 9000 SFF Expansion Enclosure Model AFF

- Two expansion canisters
- 12 Gb SAS ports for control enclosure and expansion enclosure attachment
- Twenty-four slots for 2.5-inch SAS flash drives
- 2U, 19-inch rack mount enclosure with AC power supplies

FlashSystem 9000 LFF HD Expansion Enclosure Model A9F

- Two expansion canisters
- 12 Gb SAS ports for control enclosure and expansion enclosure attachment
- Ninety-two slots for 2.5-inch SAS flash drives in a 3.5-inch carrier
- 5U, 19-inch rack mount enclosure with AC power supplies

FlashSystem 9500R rack

- Preassembled, installed, and configured by IBM, these racks contain:
 - A pair of clustered FlashSystem 9500 control enclosure Models AH8, which can be specified by ordering a FlashSystem 9502R
 - 32G Gb FC switches for dedicated FC clustered network

- Additional components can be added to the rack after delivery to meet the growing needs of the business

FC and Ethernet connectivity with intermix flexibility

FlashSystem 9500 systems can be configured with twelve I/O adapter features to provide up to forty-eight 32 Gb FC ports, up to twenty 10/25 Gb Ethernet (iSCSI, NVMe RDMA capable) ports, and up to twelve 100 Gb Ethernet (iSCSI, NVMe RDMA capable). Two 1 Gb Ethernet ports are provided for management and service actions.

The optional I/O cards that provide FC and Ethernet connectivity are installed in pairs, in independently removable cages allowing for service actions with less disruption.

IBM FlashCore Modules and industry-standard NVMe drive options

FlashSystem 9500 is designed for IBM FlashCore Modules, storage-class memory drives, and industry-standard NVMe flash drives.

FlashCore Modules have an increased effective capacity, which if the workload allows, can store up to three times the physical capacity of the drive. The 19.2 TB and 38.4 TB drives are PCIe Gen 4-based technology which combined with the updated FlashSystem 9500 architecture, offer greater bandwidth and performance. These can be augmented with storage-class memory drives to accelerate your top tier workloads.

Deployments requiring higher scalability and density can take advantage of FlashSystem 9000 expansion enclosures using 12 Gb SAS flash drives.

The following NVMe FlashCore Modules are supported in FlashSystem 9500 control enclosures:

- 4.8 TB NVMe FlashCore Module
- 9.6 TB NVMe FlashCore Module
- 19.2 TB NVMe FlashCore Module
- 38.4 TB NVMe FlashCore Module

The following NVMe storage-class memory drive is supported in FlashSystem 9500 control enclosures:

- 1.6 TB NVMe Storage Class Memory drive

The following NVMe industry-standard drives are supported in FlashSystem 9500 control enclosures:

- 1.92 TB NVMe flash drive
- 3.84 TB NVMe flash drive
- 7.68 TB NVMe flash drive
- 15.36 TB NVMe flash drive
- 30.72 TB NVMe flash drive

The following 12 Gb SAS industry-standard drives are supported in FlashSystem 9000 expansion enclosures:

- 1.92 TB 12 Gb SAS flash drive (2.5-inch and 3.5-inch form factor features)
- 3.84 TB 12 Gb SAS flash drive (2.5-inch and 3.5-inch form factor features)
- 7.68 TB 12 Gb SAS flash drive (2.5-inch and 3.5-inch form factor features)
- 15.36 TB 12 Gb SAS flash drive (2.5-inch and 3.5-inch form factor features)
- 30.72 TB 12 Gb SAS flash drive (2.5-inch and 3.5-inc form factor features)

All drives are dual-port and hot-swappable. Drives of the same form factor and connector type can be intermixed within an enclosure. SFF and LFF HD expansion enclosures can be intermixed behind the SFF control enclosure.

Scalable configurations respond to growing capacity needs

A single FlashSystem 9500 control enclosure can support up to three FlashSystem 9000 SFF expansion enclosures or one FlashSystem 9000 LFF HD expansion enclosure for a combined maximum of 232 NVMe and SAS drives per system. Intermixing of expansion enclosures in a system is supported. Expansion enclosures are designed to be dynamically added with virtually no downtime, helping to quickly and seamlessly respond to growing capacity demands.

Further scalability can be achieved with virtualization of external storage. When FlashSystem 9500 virtualizes an external storage system, capacity in the external system inherits the functional richness and ease of use of FlashSystem 9500.

Designed for high availability

FlashSystem 9500 is designed to offer high system and data availability with the following features:

- HyperSwap^(R) support
- Dual-active, intelligent node canisters with mirrored cache
- Dual-port flash drives with automatic drive failure detection and RAID rebuild
- Redundant hardware, including power supplies and fans
- Hot-swappable and client replaceable components
- Automated path failover support for the data path between the server and the drives

IBM Spectrum Virtualize for FlashSystem 9500

IBM Spectrum Virtualize combines a variety of IBM technologies, including deduplication, compression, thin provisioning, and SCSI Unmap, HyperSwap (high-availability solution), Easy Tier^(R) (automatic and dynamic data tiering), encryption of internal and external virtualized storage, FlashCopy^(R) (snapshot), and remote data replication. These technologies are designed to enable FlashSystem 9500 to offer a rich set of functional capabilities and deliver extraordinary levels of storage efficiency when used together.

For additional information about FlashSystem 9500 functional capabilities and software, see the materials listed in the [Reference information](#) section.

IBM Storage Insights

Cloud-based IBM Storage Insights provides a single dashboard that gives you a clear view of all your IBM block storage. You'll be able to make better decisions by seeing trends in performance and capacity. Storage health information enables you to focus on areas needing attention and when IBM support is needed, Storage Insights simplifies uploading logs, speeds resolution with online configuration data, and provides an overview of open tickets all in one place. Storage Insights Pro is a subscription service available separately or as part of IBM Storage Expert Care Premium that provides longer historical views of data, more reporting and optimization options, and supports IBM file and block storage together with third party storage.

There is no ordering required. For registration and installation information, see the [IBM StorageInsights Enrollment](#) website.

IBM Storage Expert Care

IBM FlashSystem 9500 is an IBM installed product and is being released with a one-year warranty and the ability to include IBM Storage Expert Care Advanced or Premium.

Coverage summary for IBM Storage Expert Care is detailed in the [Terms and conditions](#) section.

Utility models

FlashSystem utility models are provided for clients who can benefit from a variable capacity system, where billing is based only on actually provisioned space. The hardware is leased through IBM Global Finance on a three-year lease, which entitles the client to utilize up to 35% of the total system capacity at no additional cost. If storage needs increase beyond that 35% capacity, usage is billed based on the average daily provisioned capacity per terabyte, per month, on a quarterly basis.

Example: A client has a FlashSystem 9500 utility model with 4.8 TB NVMe drives, for a total system capacity of 115 TB. The base subscription for such a system is 40.25 TB. During the months where the average daily usage is below 40.25 TB, there is no additional billing.

The system will monitor daily provisioned capacity and will average those daily usage rates over the month term. The result is the average daily usage for the month.

If a client uses 45 TB, 42.5 TB, and 50 TB in three consecutive months, Storage Insights will calculate the overage as follows, rounding to the nearest terabyte:

Average daily	Base	Overage	To be billed
45	40.25	4.75	5 TB
42.5	40.25	2.25	2 TB
50	40.25	9.75	10 TB

The total capacity billed at the end of the quarter will be 17 TB per month in this example. Flash drive expansions may be ordered with the system, in all supported configurations.

The local project office will compile the usage information from Storage Insights on a quarterly basis. This data will be compared to the base system capacity subscription, and any provisioned capacity beyond that base subscription will be billed per terabyte, per month, on a quarterly basis. The calculated usage is based on the average use over a given month. In a highly variable environment, such as managed or cloud service providers, this subscription enables the system to be utilized only as much as is necessary during any given month. Usage may increase or decrease, and will be billed accordingly. Provisioned capacity is considered capacity that is reserved by the system. In thick-provisioned environments, this will be the capacity that is allocated to a host, whether it has data written or not. For thin-provisioned environments, the data that is actually written is used. This is because of the different ways in which thick and thin provisioning utilize flash drive space.

Accessibility by people with disabilities

Accessibility Compliance Reports (previously known as a VPAT) containing details on accessibility compliance to standards, including the Worldwide Consortium Web Content Accessibility Guidelines, European Standard EN 301 349, and US Section 508, can be found on the [IBM Accessibility Conformance Report Request](#) website.

Statement of general direction

FlashSystem 9500 has been designed to support 64 Gb FC IO cards. IBM intends to make these available in 2023, or as the market demands.

FlashSystem 9500 will support forty-eight 4.8, 9.6, and 19.2 TB NVMe FlashCore Modules, and twenty-four 38.4 TB FlashCore Modules with this release. IBM intends to support forty-eight 38.4 TB NVMe FlashCore Modules to give a maximum capacity of 4.5 PB per controller in 2022.

FlashSystem 9500 will support up to 16,000 host-mappable volumes with this release. IBM intends to support 32,000 host-mappable volumes.

Statements by IBM regarding its plans, directions, and intent are subject to change or withdrawal without notice at the sole discretion of IBM. Information regarding potential future products is intended to outline general product direction and should not be relied on in making a purchasing decision. The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. Information about potential future products may not be incorporated into any contract. The development, release, and timing of any future features or functionality described for IBM products remain at the sole discretion of IBM.

Reference information

For additional information about FlashSystem 9500 software, see Software Announcement [222-024](#), dated February 8, 2022.

For complete information about the IBM Storage Expert Care Service and Support offerings, see Services Announcement [621-015](#), dated August 17, 2021.

Product number

Description	Machine type	Model	Feature
IBM FlashSystem 9500 SFF NVMe Control Enclosure	4666	AH8	
IBM FlashSystem 9500 Utility Model SFF NVMe Control Enclosure	4666	UH8	
1024 GB Base Cache	4666	AH8	ACGM
1024 GB Cache Upgrade	4666	AH8	ACGN
1024 GB Cache Upgrade	4666	AH8	ACGP
480 GB M.2 Boot drive Pair	4666	AH8	ACGU
4 Port Fibre Channel Adapter Cards with Transceivers (Pair)	4666	AH8	AHBB
2 Port 25GbE RoCE Adapter Card (Pair)	4666	AH8	AHBH
2 Port 25GbE iWARP Adapter Card (Pair)	4666	AH8	AHBJ
2 Port 100GbE RoCEv2 Adapter Card (Pair)	4666	AH8	AHB8
SAS Expansion Enclosure Attach Card (Pair)	4666	AH8	AHBA
32 Gb FC LW SFP Transceivers (Pair)	4666	AH8	ACHV

Description	Machine type	Model	Feature
10 GbE SW SFP + Transceivers (Four)	4666	AH8	ACHQ
25 GbE SW SFP28 Transceivers (Four)	4666	AH8	ACHP
100GbE QSFP28 SR4 Transceivers (Four)	4666	AH8	ACHX
10GbE SFP+ RJ45 Transceivers (Four)	4666	AH8	ACJ2
Encryption Enablement	4666	AH8	ACE9
Encryption USB Flash Drives (Four Pack)	4666	AH8	ACEA
4.8 TB 2.5 Inch NVMe Flash Core Module	4666	AH8	AHS9
9.6 TB 2.5 Inch NVMe Flash Core Module	4666	AH8	AHSA
19.2 TB 2.5 Inch NVMe Flash Core Module	4666	AH8	AHSB
38.4 TB 2.5 Inch NVMe Flash Core Module	4666	AH8	AHSC
1.92 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTH
3.84 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTI
7.68 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTJ
15.36 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTK
30.72 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTL
1.6 TB 2.5 Inch NVMe Storage Class Memory Drive	4666	AH8	AHTM
1m OM3 Fiber Cable (LC)	4666	AH8	ACSQ
2m OM3 Fiber Cable (LC)	4666	AH8	ACSU
5m OM3 Fiber Cable (LC)	4666	AH8	ACSR
10m OM3 Fiber Cable (LC)	4666	AH8	ACSS
25m OM3 Fiber Cable (LC)	4666	AH8	ACST
Power Cords - PDU C19 to C20	4666	AH8	AHP5
Power Cords - Europe, 2.5M, 16A/250Vac, C19 to CEE7-VII	4666	AH8	AHPJ
Power Cords - Australia / New Zealand, 2.5M, 15A/250Vac, C19 to AS/NZA 3112	4666	AH8	AHPK

Description	Machine type	Model	Feature
Power Cords - UK/EMEA, 2.5M, 13A/250Vac, BS 1363/A	4666	AH8	AHPL
Power Cords - Israel, 2.5M, 16A/250Vac, C19 to SI 32	4666	AH8	AHPQ
Power Cords - Argentina, 2.5M, 15A/250Vac, C19 to IRAM 2073	4666	AH8	AHPR
Power Cords - China, 2.5M, 15A/250Vac, C19 to GB 2099.1	4666	AH8	AHPS
Power Cords - Brazil, 2.5M, 16A/250Vac, C19 to NBR 14136	4666	AH8	AHPT
Power Cords - Korea, 2.5M, 16A/220Vac, C19 to KSC 8305	4666	AH8	AHPU
Power Cords - India , 2.5M, 15A/250Vac, C19 to IS 6538	4666	AH8	AHPV
VersaStack Solution Indicator	4666	AH8	AHZC
Red Hat ^(R) OpenShift ^(R) Indicator	4666	AH8	AJGH
Product will be contained in a LinuxONE III LT2 rack	4666	AH8	AL0Z
FlashSystem Rack Product Indicator	4666	AH8	FSRS
Rack Indicator, rack #1	4666	AH8	4651
FlashSystem 9500R Integration	4666	AH8	AL0S
FlashSystem 9500R SAN24B-6 Switch duct	4666	AH8	AL0B
FlashSystem 9500R SAN32C-6 Switch Duct	4666	AH8	AL0C
FlashSystem 9500R power rail	4666	AH8	AL0P
Rack component mounted in position 1	4666	AH8	AL01
Rack component mounted in position 2	4666	AH8	AL02
Shipping and Handling - No Charge	4666	AH8	AG00
Shipping and Handling	4666	AH8	AGJN
Shipping and Handling - Rack	4666	AH8	AGJP

Description	Machine type	Model	Feature
RFID Tag AG/AP: 902-928 Mhz	4666	AH8	A2EV
RFID Tag EMEA: 865.6-867.8 Mhz	4666	AH8	A2EW
TAA Compliance	4666	AH8	0983
Bulk Order Indicator	4666	AH8	5555
No Rules Order Indicator	4666	AH8	ADNR
Order Type 1 Indicator - CTO	4666	AH8	ADN1
Order Type 2 Indicator - MTM Only	4666	AH8	ADN2
Order Type 3 Indicator - FC Only	4666	AH8	ADN3
BP Post-Sale Services: 1 Day	4666	AH8	SVBP
IBM Systems Lab Services Post-Sale Services: 1 Day	4666	AH8	SVCS
Other IBM Post- Sale Services: 1 Day	4666	AH8	SVNN
SP Hard Drive/ Media Retention - Storage 3 years	4666	AH8	B0NQ
SP Hard Drive/ Media Retention - Storage 5 years	4666	AH8	B0PF
Expert Care Indicator	4666	AH8	ALH0
EC Advanced 1 Year	4666	AH8	ALK1
EC Advanced 2 Year	4666	AH8	ALK2
EC Advanced 3 Year	4666	AH8	ALK3
EC Advanced 4 Year	4666	AH8	ALK4
EC Advanced 5 Year	4666	AH8	ALK5
EC Premium 1 Year	4666	AH8	ALL1
EC Premium 2 Year	4666	AH8	ALL2
EC Premium 3 Year	4666	AH8	ALL3
EC Premium 4 Year	4666	AH8	ALL4
EC Premium 5 Year	4666	AH8	ALL5
Remote code load exception	4666	AH8	AHY2
Expert Care Advanced 1 hour Committed Contact 1 Year	4666	AH8	ALK7
Expert Care Advanced 4 hour Committed Contact 1 Year	4666	AH8	ALK8
Expert Care Advanced 4 hour	4666	AH8	ALK9

Description	Machine type	Model	Feature
Committed Fix 1 Year			
Expert Care Advanced 6 hour Committed Fix 1 Year	4666	AH8	ALKA
Expert Care Advanced 8 hour Committed Fix 1 Year	4666	AH8	ALKB
Expert Care Advanced 12 hour Committed Fix 1 Year	4666	AH8	ALKC
Expert Care Advanced 24 hour Committed Fix 1 Year	4666	AH8	ALKD
Expert Care Advanced 48 hour Committed Fix 1 Year	4666	AH8	ALKE
Expert Care Advanced 72 hour Committed Fix 1 Year	4666	AH8	ALKF
Expert Care Advanced 1 hour Committed Contact 2 Year	4666	AH8	ALKG
Expert Care Advanced 4 hour Committed Contact 2 Year	4666	AH8	ALKH
Expert Care Advanced 4 hour Committed Fix 2 Year	4666	AH8	ALKJ
Expert Care Advanced 6 hour Committed Fix 2 Year	4666	AH8	ALKK
Expert Care Advanced 8 hour Committed Fix 2 Year	4666	AH8	ALKL
Expert Care Advanced 12 hour Committed Fix 2 Year	4666	AH8	ALKM
Expert Care Advanced 24 hour Committed Fix 2 Year	4666	AH8	ALKN
Expert Care Advanced 48 hour Committed Fix 2 Year	4666	AH8	ALKP
Expert Care Advanced 72 hour Committed Fix 2 Year	4666	AH8	ALKQ
Expert Care Advanced 1 hour Committed Contact 3 Year	4666	AH8	ALKR

Description	Machine type	Model	Feature
Expert Care Advanced 4 hour Committed Contact 3 Year	4666	AH8	ALKS
Expert Care Advanced 4 hour Committed Fix 3 Year	4666	AH8	ALKT
Expert Care Advanced 6 hour Committed Fix 3 Year	4666	AH8	ALKU
Expert Care Advanced 8 hour Committed Fix 3 Year	4666	AH8	ALKV
Expert Care Advanced 12 hour Committed Fix 3 Year	4666	AH8	ALKW
Expert Care Advanced 24 hour Committed Fix 3 Year	4666	AH8	ALKX
Expert Care Advanced 48 hour Committed Fix 3 Year	4666	AH8	ALKY
Expert Care Advanced 72 hour Committed Fix 3 Year	4666	AH8	ALKZ
Expert Care Advanced 1 hour Committed Contact 4 Year	4666	AH8	ALC7
Expert Care Advanced 4 hour Committed Contact 4 Year	4666	AH8	ALC8
Expert Care Advanced 4 hour Committed Fix 4 Year	4666	AH8	ALC9
Expert Care Advanced 6 hour Committed Fix 4 Year	4666	AH8	ALCA
Expert Care Advanced 8 hour Committed Fix 4 Year	4666	AH8	ALCB
Expert Care Advanced 12 hour Committed Fix 4 Year	4666	AH8	ALCC
Expert Care Advanced 24 hour Committed Fix 4 Year	4666	AH8	ALCD
Expert Care Advanced 48 hour Committed Fix 4 Year	4666	AH8	ALCE
Expert Care Advanced 72 hour	4666	AH8	ALCF

Description	Machine type	Model	Feature
Committed Fix 4 Year			
Expert Care Advanced 1 hour Committed Contact 5 Year	4666	AH8	ALCG
Expert Care Advanced 4 hour Committed Contact 5 Year	4666	AH8	ALCH
Expert Care Advanced 4 hour Committed Fix 5 Year	4666	AH8	ALCJ
Expert Care Advanced 6 hour Committed Fix 5 Year	4666	AH8	ALCK
Expert Care Advanced 8 hour Committed Fix 5 Year	4666	AH8	ALCL
Expert Care Advanced 12 hour Committed Fix 5 Year	4666	AH8	ALCM
Expert Care Advanced 24 hour Committed Fix 5 Year	4666	AH8	ALCN
Expert Care Advanced 48 hour Committed Fix 5 Year	4666	AH8	ALCP
Expert Care Advanced 72 hour Committed Fix 5 Year	4666	AH8	ALCQ
Expert Care Premium 1 hour Committed Contact 1 Year	4666	AH8	ALL7
Expert Care Premium 4 hour Committed Contact 1 Year	4666	AH8	ALL8
Expert Care Premium 4 hour Committed Fix 1 Year	4666	AH8	ALL9
Expert Care Premium 6 hour Committed Fix 1 Year	4666	AH8	ALLA
Expert Care Premium 8 hour Committed Fix 1 Year	4666	AH8	ALLB
Expert Care Premium 12 hour Committed Fix 1 Year	4666	AH8	ALLC
Expert Care Premium 24 hour Committed Fix 1 Year	4666	AH8	ALLD

Description	Machine type	Model	Feature
Expert Care Premium 48 hour Committed Fix 1 Year	4666	AH8	ALLE
Expert Care Premium 72 hour Committed Fix 1 Year	4666	AH8	ALLF
Expert Care Premium 1 hour Committed Contact 2 Year	4666	AH8	ALLG
Expert Care Premium 4 hour Committed Contact 2 Year	4666	AH8	ALLH
Expert Care Premium 4 hour Committed Fix 2 Year	4666	AH8	ALLJ
Expert Care Premium 6 hour Committed Fix 2 Year	4666	AH8	ALLK
Expert Care Premium 8 hour Committed Fix 2 Year	4666	AH8	ALLL
Expert Care Premium 12 hour Committed Fix 2 Year	4666	AH8	ALLM
Expert Care Premium 24 hour Committed Fix 2 Year	4666	AH8	ALLN
Expert Care Premium 48 hour Committed Fix 2 Year	4666	AH8	ALLP
Expert Care Premium 72 hour Committed Fix 2 Year	4666	AH8	ALLQ
Expert Care Premium 1 hour Committed Contact 3 Year	4666	AH8	ALLR
Expert Care Premium 4 hour Committed Contact 3 Year	4666	AH8	ALLS
Expert Care Premium 4 hour Committed Fix 3 Year	4666	AH8	ALLT
Expert Care Premium 6 hour Committed Fix 3 Year	4666	AH8	ALLU
Expert Care Premium 8 hour Committed Fix 3 Year	4666	AH8	ALLV
Expert Care Premium 12 hour	4666	AH8	ALLW

Description	Machine type	Model	Feature
Committed Fix 3 Year			
Expert Care Premium 24 hour Committed Fix 3 Year	4666	AH8	ALLX
Expert Care Premium 48 hour Committed Fix 3 Year	4666	AH8	ALLY
Expert Care Premium 72 hour Committed Fix 3 Year	4666	AH8	ALLZ
Expert Care Premium 1 hour Committed Contact 4 Year	4666	AH8	ALD7
Expert Care Premium 4 hour Committed Contact 4 Year	4666	AH8	ALD8
Expert Care Premium 4 hour Committed Fix 4 Year	4666	AH8	ALD9
Expert Care Premium 6 hour Committed Fix 4 Year	4666	AH8	ALDA
Expert Care Premium 8 hour Committed Fix 4 Year	4666	AH8	ALDB
Expert Care Premium 12 hour Committed Fix 4 Year	4666	AH8	ALDC
Expert Care Premium 24 hour Committed Fix 4 Year	4666	AH8	ALDD
Expert Care Premium 48 hour Committed Fix 4 Year	4666	AH8	ALDE
Expert Care Premium 72 hour Committed Fix 4 Year	4666	AH8	ALDF
Expert Care Premium 1 hour Committed Contact 5 Year	4666	AH8	ALDG
Expert Care Premium 4 hour Committed Contact 5 Year	4666	AH8	ALDH
Expert Care Premium 4 hour Committed Fix 5 Year	4666	AH8	ALDJ
Expert Care Premium 6 hour Committed Fix 5 Year	4666	AH8	ALDK

Description	Machine type	Model	Feature
Expert Care Premium 8 hour Committed Fix 5 Year	4666	AH8	ALDL
Expert Care Premium 12 hour Committed Fix 5 Year	4666	AH8	ALDM
Expert Care Premium 24 hour Committed Fix 5 Year	4666	AH8	ALDN
Expert Care Premium 48 hour Committed Fix 5 Year	4666	AH8	ALDP
Expert Care Premium 72 hour Committed Fix 5 Year	4666	AH8	ALDQ
Generic Bezel	4666	AH8	ACZA
Generic Packaging	4666	AH8	ACZF
STaaS Indicator	4666	AH8	AHY1
JEMT Indicator	4666	AH8	0021
1024 GB Base Cache	4666	UH8	ACGM
1024 GB Cache Upgrade	4666	UH8	ACGN
1024 GB Cache Upgrade	4666	UH8	ACGP
480 GB M.2 Boot drive Pair	4666	UH8	ACGU
4 Port Fibre Channel Adapter Cards with Transceivers (Pair)	4666	UH8	AHBB
2 Port 25GbE RoCE Adapter Card (Pair)	4666	UH8	AHBH
2 Port 25GbE iWARP Adapter Card (Pair)	4666	UH8	AHBJ
2 Port 100GbE RoCEv2 Adapter Card (Pair)	4666	UH8	AHB8
SAS Expansion Enclosure Attach Card (Pair)	4666	UH8	AHBA
32 Gb FC LW SFP Transceivers (Pair)	4666	UH8	ACHV
10 GbE SW SFP + Transceivers (Four)	4666	UH8	ACHQ
25 GbE SW SFP28 Transceivers (Four)	4666	UH8	ACHP
100GbE QSFP28 SR4 Transceivers (Four)	4666	UH8	ACHX
10GbE SFP+ RJ45 Transceivers (Four)	4666	UH8	ACJ2
Encryption Enablement	4666	UH8	ACE9

Description	Machine type	Model	Feature
Encryption USB Flash Drives (Four Pack)	4666	UH8	ACEA
4.8 TB 2.5 Inch NVMe Flash Core Module	4666	UH8	AHS9
9.6 TB 2.5 Inch NVMe Flash Core Module	4666	UH8	AHSA
19.2 TB 2.5 Inch NVMe Flash Core Module	4666	UH8	AHSB
38.4 TB 2.5 Inch NVMe Flash Core Module	4666	UH8	AHSC
1.92 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTH
3.84 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTI
7.68 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTJ
15.36 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTK
30.72 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTL
1.6 TB 2.5 Inch NVMe Storage Class Memory Drive	4666	UH8	AHTM
1m OM3 Fiber Cable (LC)	4666	UH8	ACSQ
2m OM3 Fiber Cable (LC)	4666	UH8	ACSU
5m OM3 Fiber Cable (LC)	4666	UH8	ACSR
10m OM3 Fiber Cable (LC)	4666	UH8	ACSS
25m OM3 Fiber Cable (LC)	4666	UH8	ACST
Power Cords - PDU C19 to C20	4666	UH8	AHP5
Power Cords - Europe, 2.5M, 16A/250Vac, C19 to CEE7-VII	4666	UH8	AHPJ
Power Cords - Australia / New Zealand, 2.5M, 15A/250Vac, C19 to AS/NZA 3112	4666	UH8	AHPK
Power Cords - UK/EMEA, 2.5M, 13A/250Vac, BS 1363/A	4666	UH8	AHPL
Power Cords - Israel, 2.5M, 16A/250Vac, C19 to SI 32	4666	UH8	AHPQ
Power Cords - Argentina, 2.5M, 15A/250Vac, C19 to IRAM 2073	4666	UH8	AHPR
Power Cords - China, 2.5M,	4666	UH8	AHPS

Description	Machine type	Model	Feature
15A/250Vac, C19 to GB 2099.1			
Power Cords - Brazil, 2.5M, 16A/250Vac, C19 to NBR 14136	4666	UH8	AHPT
Power Cords - Korea, 2.5M, 16A/220Vac, C19 to KSC 8305	4666	UH8	AHPU
Power Cords - India , 2.5M, 15A/250Vac, C19 to IS 6538	4666	UH8	AHPV
VersaStack Solution Indicator	4666	UH8	AHZC
Red Hat OpenShift Indicator	4666	UH8	AJGH
Product will be contained in a LinuxONE III LT2 rack	4666	UH8	AL0Z
Shipping and Handling - No Charge	4666	UH8	AG00
Shipping and Handling	4666	UH8	AGJN
RFID Tag AG/AP: 902-928 Mhz	4666	UH8	A2EV
RFID Tag EMEA: 865.6-867.8 Mhz	4666	UH8	A2EW
TAA Compliance	4666	UH8	0983
Bulk Order Indicator	4666	UH8	5555
No Rules Order Indicator	4666	UH8	ADNR
Order Type 1 Indicator - CTO	4666	UH8	ADN1
Order Type 2 Indicator - MTM Only	4666	UH8	ADN2
Order Type 3 Indicator - FC Only	4666	UH8	ADN3
BP Post-Sale Services: 1 Day	4666	UH8	SVBP
IBM Systems Lab Services Post-Sale Services: 1 Day	4666	UH8	SVCS
Other IBM Post-Sale Services: 1 Day	4666	UH8	SVNN
SP Hard Drive/ Media Retention - Storage 3 years	4666	UH8	B0NQ
SP Hard Drive/ Media Retention - Storage 5 years	4666	UH8	B0PF
Expert Care Indicator	4666	UH8	ALH0
EC Advanced 1 Year	4666	UH8	ALK1
EC Advanced 2 Year	4666	UH8	ALK2

Description	Machine type	Model	Feature
EC Advanced 3 Year	4666	UH8	ALK3
EC Advanced 4 Year	4666	UH8	ALK4
EC Advanced 5 Year	4666	UH8	ALK5
EC Premium 1 Year	4666	UH8	ALL1
EC Premium 2 Year	4666	UH8	ALL2
EC Premium 3 Year	4666	UH8	ALL3
EC Premium 4 Year	4666	UH8	ALL4
EC Premium 5 Year	4666	UH8	ALL5
Remote code load exception	4666	UH8	AHY2
Expert Care Advanced 1 hour Committed Contact 1 Year	4666	UH8	ALK7
Expert Care Advanced 4 hour Committed Contact 1 Year	4666	UH8	ALK8
Expert Care Advanced 4 hour Committed Fix 1 Year	4666	UH8	ALK9
Expert Care Advanced 6 hour Committed Fix 1 Year	4666	UH8	ALKA
Expert Care Advanced 8 hour Committed Fix 1 Year	4666	UH8	ALKB
Expert Care Advanced 12 hour Committed Fix 1 Year	4666	UH8	ALKC
Expert Care Advanced 24 hour Committed Fix 1 Year	4666	UH8	ALKD
Expert Care Advanced 48 hour Committed Fix 1 Year	4666	UH8	ALKE
Expert Care Advanced 72 hour Committed Fix 1 Year	4666	UH8	ALKF
Expert Care Advanced 1 hour Committed Contact 2 Year	4666	UH8	ALKG
Expert Care Advanced 4 hour Committed Contact 2 Year	4666	UH8	ALKH
Expert Care Advanced 4 hour Committed Fix 2 Year	4666	UH8	ALKJ

Description	Machine type	Model	Feature
Expert Care Advanced 6 hour Committed Fix 2 Year	4666	UH8	ALKK
Expert Care Advanced 8 hour Committed Fix 2 Year	4666	UH8	ALKL
Expert Care Advanced 12 hour Committed Fix 2 Year	4666	UH8	ALKM
Expert Care Advanced 24 hour Committed Fix 2 Year	4666	UH8	ALKN
Expert Care Advanced 48 hour Committed Fix 2 Year	4666	UH8	ALKP
Expert Care Advanced 72 hour Committed Fix 2 Year	4666	UH8	ALKQ
Expert Care Advanced 1 hour Committed Contact 3 Year	4666	UH8	ALKR
Expert Care Advanced 4 hour Committed Contact 3 Year	4666	UH8	ALKS
Expert Care Advanced 4 hour Committed Fix 3 Year	4666	UH8	ALKT
Expert Care Advanced 6 hour Committed Fix 3 Year	4666	UH8	ALKU
Expert Care Advanced 8 hour Committed Fix 3 Year	4666	UH8	ALKV
Expert Care Advanced 12 hour Committed Fix 3 Year	4666	UH8	ALKW
Expert Care Advanced 24 hour Committed Fix 3 Year	4666	UH8	ALKX
Expert Care Advanced 48 hour Committed Fix 3 Year	4666	UH8	ALKY
Expert Care Advanced 72 hour Committed Fix 3 Year	4666	UH8	ALKZ
Expert Care Advanced 1 hour Committed Contact 4 Year	4666	UH8	ALC7
Expert Care Advanced 4	4666	UH8	ALC8

Description	Machine type	Model	Feature
hour Committed Contact 4 Year			
Expert Care Advanced 4 hour Committed Fix 4 Year	4666	UH8	ALC9
Expert Care Advanced 6 hour Committed Fix 4 Year	4666	UH8	ALCA
Expert Care Advanced 8 hour Committed Fix 4 Year	4666	UH8	ALCB
Expert Care Advanced 12 hour Committed Fix 4 Year	4666	UH8	ALCC
Expert Care Advanced 24 hour Committed Fix 4 Year	4666	UH8	ALCD
Expert Care Advanced 48 hour Committed Fix 4 Year	4666	UH8	ALCE
Expert Care Advanced 72 hour Committed Fix 4 Year	4666	UH8	ALCF
Expert Care Advanced 1 hour Committed Contact 5 Year	4666	UH8	ALCG
Expert Care Advanced 4 hour Committed Contact 5 Year	4666	UH8	ALCH
Expert Care Advanced 4 hour Committed Fix 5 Year	4666	UH8	ALCJ
Expert Care Advanced 6 hour Committed Fix 5 Year	4666	UH8	ALCK
Expert Care Advanced 8 hour Committed Fix 5 Year	4666	UH8	ALCL
Expert Care Advanced 12 hour Committed Fix 5 Year	4666	UH8	ALCM
Expert Care Advanced 24 hour Committed Fix 5 Year	4666	UH8	ALCN
Expert Care Advanced 48 hour Committed Fix 5 Year	4666	UH8	ALCP
Expert Care Advanced 72 hour Committed Fix 5 Year	4666	UH8	ALCQ

Description	Machine type	Model	Feature
Expert Care Premium 1 hour Committed Contact 1 Year	4666	UH8	ALL7
Expert Care Premium 4 hour Committed Contact 1 Year	4666	UH8	ALL8
Expert Care Premium 4 hour Committed Fix 1 Year	4666	UH8	ALL9
Expert Care Premium 6 hour Committed Fix 1 Year	4666	UH8	ALLA
Expert Care Premium 8 hour Committed Fix 1 Year	4666	UH8	ALLB
Expert Care Premium 12 hour Committed Fix 1 Year	4666	UH8	ALLC
Expert Care Premium 24 hour Committed Fix 1 Year	4666	UH8	ALLD
Expert Care Premium 48 hour Committed Fix 1 Year	4666	UH8	ALLE
Expert Care Premium 72 hour Committed Fix 1 Year	4666	UH8	ALLF
Expert Care Premium 1 hour Committed Contact 2 Year	4666	UH8	ALLG
Expert Care Premium 4 hour Committed Contact 2 Year	4666	UH8	ALLH
Expert Care Premium 4 hour Committed Fix 2 Year	4666	UH8	ALLJ
Expert Care Premium 6 hour Committed Fix 2 Year	4666	UH8	ALLK
Expert Care Premium 8 hour Committed Fix 2 Year	4666	UH8	ALLL
Expert Care Premium 12 hour Committed Fix 2 Year	4666	UH8	ALLM
Expert Care Premium 24 hour Committed Fix 2 Year	4666	UH8	ALLN
Expert Care Premium 48 hour	4666	UH8	ALLP

Description	Machine type	Model	Feature
Committed Fix 2 Year			
Expert Care Premium 72 hour Committed Fix 2 Year	4666	UH8	ALLQ
Expert Care Premium 1 hour Committed Contact 3 Year	4666	UH8	ALLR
Expert Care Premium 4 hour Committed Contact 3 Year	4666	UH8	ALLS
Expert Care Premium 4 hour Committed Fix 3 Year	4666	UH8	ALLT
Expert Care Premium 6 hour Committed Fix 3 Year	4666	UH8	ALLU
Expert Care Premium 8 hour Committed Fix 3 Year	4666	UH8	ALLV
Expert Care Premium 12 hour Committed Fix 3 Year	4666	UH8	ALLW
Expert Care Premium 24 hour Committed Fix 3 Year	4666	UH8	ALLX
Expert Care Premium 48 hour Committed Fix 3 Year	4666	UH8	ALLY
Expert Care Premium 72 hour Committed Fix 3 Year	4666	UH8	ALLZ
Expert Care Premium 1 hour Committed Contact 4 Year	4666	UH8	ALD7
Expert Care Premium 4 hour Committed Contact 4 Year	4666	UH8	ALD8
Expert Care Premium 4 hour Committed Fix 4 Year	4666	UH8	ALD9
Expert Care Premium 6 hour Committed Fix 4 Year	4666	UH8	ALDA
Expert Care Premium 8 hour Committed Fix 4 Year	4666	UH8	ALDB
Expert Care Premium 12 hour Committed Fix 4 Year	4666	UH8	ALDC

Description	Machine type	Model	Feature
Expert Care Premium 24 hour Committed Fix 4 Year	4666	UH8	ALDD
Expert Care Premium 48 hour Committed Fix 4 Year	4666	UH8	ALDE
Expert Care Premium 72 hour Committed Fix 4 Year	4666	UH8	ALDF
Expert Care Premium 1 hour Committed Contact 5 Year	4666	UH8	ALDG
Expert Care Premium 4 hour Committed Contact 5 Year	4666	UH8	ALDH
Expert Care Premium 4 hour Committed Fix 5 Year	4666	UH8	ALDJ
Expert Care Premium 6 hour Committed Fix 5 Year	4666	UH8	ALDK
Expert Care Premium 8 hour Committed Fix 5 Year	4666	UH8	ALDL
Expert Care Premium 12 hour Committed Fix 5 Year	4666	UH8	ALDM
Expert Care Premium 24 hour Committed Fix 5 Year	4666	UH8	ALDN
Expert Care Premium 48 hour Committed Fix 5 Year	4666	UH8	ALDP
Expert Care Premium 72 hour Committed Fix 5 Year	4666	UH8	ALDQ
Variable Usage 1TB/month	4666	UH8	AE00
Variable Usage 10TB/month	4666	UH8	AE01
Variable Usage 100TB/month	4666	UH8	AE02
Non Ship MES	4666	UH8	AQQQ

Business Partner information

If you are an IBM Business Partner acquiring IBM products or services directly from IBM, you may link directly to Business Partner information for this announcement.

[BP Attachment for Announcement Letter 122-007](#)

Publications

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Services

IBM Systems Lab Services

Systems Lab Services offers infrastructure services to help build hybrid cloud and enterprise IT solutions. From servers to storage systems and software, Systems Lab Services can help deploy the building blocks of a next-generation IT infrastructure to empower a client's business. Systems Lab Services consultants can perform infrastructure services for clients online or onsite, offering deep technical expertise, valuable tools, and successful methodologies. Systems Lab Services is designed to help clients solve business challenges, gain new skills, and apply best practices.

Systems Lab Services offers a wide range of infrastructure services for IBM Power^(R) servers, IBM Storage systems, IBM Z^(R), and IBM LinuxONE. Systems Lab Services has a global presence and can deploy experienced consultants online or onsite around the world.

For assistance, contact Systems Lab Services at ibmsls@us.ibm.com.

To learn more, see the [IBM Systems Lab Services](#) website.

IBM Consulting

As transformation continues across every industry, businesses need a single partner to map their enterprise-wide business strategy and technology infrastructure. IBM Consulting is the business partner to help accelerate change across an organization. IBM specialists can help businesses succeed through finding collaborative ways of working that forge connections across people, technologies, and partner ecosystems. IBM Consulting brings together the business expertise and an ecosystem of technologies that help solve some of the biggest problems faced by organizations. With methods that get results faster, an integrated approach that is grounded in an open and flexible hybrid cloud architecture, and incorporating technology from IBM Research^(R) and IBM Watson^(R) AI, IBM Consulting enables businesses to lead change with confidence and deliver continuous improvement across a business and its bottom line.

For additional information, see the [IBM Consulting](#) website.

IBM Technology Support Services (TSS)

Get preventive maintenance, onsite and remote support, and gain actionable insights into critical business applications and IT systems. Speed developer innovation with support for over 240 open-source packages. Leverage powerful IBM analytics and AI-enabled tools to enable client teams to manage IT problems before they become emergencies.

TSS offers extensive IT maintenance and support services that cover more than one niche of a client's environment. TSS covers products from IBM and OEMs, including servers, storage, network, appliances, and software, to help clients ensure high availability across their data center and hybrid cloud environment.

For details on available services, see the [Technology support for hybrid cloud environments](#) website.

IBM TechU

Improve your knowledge in hybrid cloud and AI solutions. TechU provides the most recent content so that you can learn, engage, and increase your skills with IBM Technology specialists.

A one-year, renewable digital TechU membership provides access to IBM Systems online education to help address your technical enablement needs for existing and new projects.

Submit questions or comments to techuid@us.ibm.com.

For additional details, see the [IBM TechU](#) website.

IBM Expert Labs

Expert Labs can help clients accelerate their projects and optimize value by leveraging their deep technical skills and knowledge. With more than 20 years of industry experience, these specialists know how to overcome the biggest challenges to deliver business results that can have an immediate impact.

Expert Labs' deep alignment with IBM product development allows for a strategic advantage as they are often the first in line to get access to new products, features, and early visibility into roadmaps. This connection with the development enables them to deliver First of a Kind implementations to address unique needs or expand a client's business with a flexible approach that works best for their organization.

For additional information, see the [IBM Expert Labs](#) website.

IBM Security^(R) Expert Labs

With extensive consultative expertise on IBM Security software solutions, Security Expert Labs helps clients and partners modernize the security of their applications, data, and workforce. With an extensive portfolio of consulting and learning services, Expert Labs provides project-based and premier support service subscriptions.

These services can help clients deploy and integrate IBM Security software, extend their team resources, and help guide and accelerate successful hybrid cloud solutions, including critical strategies such as zero trust. Remote and on-premises software deployment assistance is available for IBM Cloud Pak^(R) for Security, IBM Security QRadar^(R)/QRoC, IBM Security SOAR/Resilient^(R), IBM i2^(R), IBM Security Verify, IBM Security Guardium^(R), and IBM Security MaaS360^(R).

For more information, contact Security Expert Labs at sel@us.ibm.com.

For additional information, see the [IBM Security Expert Labs](#) website.

IBM support

For installation and technical support information, see the [IBM Support Portal](#).

Additional support

IBM Garage™

IBM Garage is a framework for accelerating digital transformation. It helps you generate innovative ideas and equips you with the practices, technologies, and expertise to turn those ideas into business value in weeks. When you work with IBM Garage you bring pain points into focus. You empower your team to take manageable risks, adopt leading technologies, speed up solution development, and measure the value of everything you do. IBM Garage has experts and services to address a broad array of use cases, including capabilities for business transformation, hybrid cloud, analytics and AI, infrastructure systems, security, and more. To learn more, see the [IBM Garage for Systems](#) website.

Technical information

Specified operating environment

Physical specifications

- Height: 17.43 cm (6.8 in.)
- Width: 44.6 cm (17.6 in.)
- Depth: 82.6 cm (32.6 in.)
- Approximate weight:
 - Empty: 18.66 kg (41.2 lb)
 - Fully configured: 70.5 kg (155.5 lb)

To assure installability and serviceability in non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

Standards

Note: This product was designed, tested, manufactured, and certified for safe operation. It complies with IEC 60950-1 and/or IEC 62368-1 and where required, to relevant national differences/deviations (NDs) to these IEC base standards. This includes, but is not limited to: EN (European Norms including all Amendments under the Low Voltage Directive), UL/CSA (North America bi-national harmonized and marked per accredited NRTL agency listings), and other such derivative certifications according to corporate determinations and latest regional publication compliance standardized requirements.

- Regulatory Model ID (RMID, for control system base platform): *FBIII*

(Relevant machine type - models may also be used to supplement identification for worldwide co-compliance filings or registrations with regulatory bodies.)

Operating environment

Air temperature:

- Operating: 5°C to 35°C (41°F to 95°F) from 0 to 3048 m (0 to 10,000 ft). Above 950 m, de-rate maximum air temperature 1 degree per 300 m
- Nonoperating: 1°C to 45°C (34°F to 113°F)

Relative humidity:

- Operating: 8% - 80% noncondensing
- Nonoperating: 8% - 80% noncondensing

Electrical power:

- Voltage range: 200 - 240 V AC

- Frequency: 50 - 60 Hz
- Power: 3300 W (Power will vary with configuration and system usage. Maximum shown)
- Heat dissipation (BTU per hour): 11258 Btu/h
- Acoustical noise emission: 8.2 bels (idling), 8.8 bels (operating)

Homologation

This product is not certified for direct connection by any means whatsoever to interfaces of public telecommunications networks. Certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions.

Hardware requirements

Go to the [IBM SSIC](#) website for the latest hardware requirements and compatibility information.

Software requirements

Machine type 4666 FlashSystem 9500 requires IBM Spectrum Virtualize Software for FlashSystem 9500 8.5, or later, for operation. Use of the software is entitled through the acquisition of IBM Spectrum Virtualize software licenses.

FlashSystem 9500 function capabilities are provided through IBM Spectrum Virtualize software and licensed through IBM Spectrum Virtualize Software for FlashSystem 9500 (PID 5639-011) for control ensures and IBM Spectrum Virtualize Software for FlashSystem 9000 Expansions (PID 5639-EB2) for expansion enclosures.

FlashSystem 9500 control enclosures support external storage virtualization. Use of the external virtualization capability is entitled through the acquisition of IBM Spectrum Virtualize Software for SAN Volume Controller (PID 5641-VC8 in AAS and PID 5725-M19 in Passport Advantage).

A three-month registration of SWMA for 5639-012 is required if IBM Storage Expert Care is not ordered with the system. [IBM Storage Insights](#) is used to monitor the system and is required in the utility model space. For a comprehensive list of supported environments, devices, and configurations, see the [IBM SSIC](#) website.

Limitations

Drive considerations

Distributed RAID 1 is recommended for array configurations of three, four, or five drives.

Distributed RAID 1 and 6 are recommended for array configurations of six drives depending on capacity and performance requirements.

Distributed RAID 6 is recommended for array configurations with seven or more drives

Support for 38.4 TB FlashCore modules will initially be limited to just twenty four drives, plus up to 12 storage-class memory drives. For other drive capacities, up to the maximum of forty-eight drives will be supported.

Note: See the *Configuration Limits and Restrictions for IBM FlashSystem 9500* document at the [IBM Systems Support](#) site for details.

FlashCore Modules:

- Distributed RAID 6 (min. 6, max. 48)
- Distributed RAID 1 (min. 2, max. 16)

- FlashCore Modules in the same RAID array must be of the same capacity

Industry standard NVMe drives:

- Distributed RAID 6 (min. 6, max. 128)
- Distributed RAID 1 (min. 2, max. 16)
- Industry-standard NVMe drives in the same RAID array must be of the same capacity

Storage-class memory drives:

- Distributed RAID 6 (min. 6, max.12)
- Distributed RAID 1 (min. 2, max. 12)
- Storage Class Memory drives in the same RAID array must be of the same capacity

Supported memory configurations

Base memory	ACGN Plant or Field upgrade	ACGP Plant or Field upgrade	Total memory
1024GB	-	-	1024 GB
1024GB	2048 GB	-	2048 GB
1024GB	1024 GB	1024 GB	3096 GB

Expansion enclosure attachment rules

Machine type	Model	Max. quantity of SAS chains per controller or node pair	Max. quantity of expansion enclosures per SAS chain (AFF / A9F)	Max. quantity of drive slots per SAS chain	Max. quantity of SAS drive slots per system	Max. quantity of SAS drive slots per clustered system
4666	AH8, UH8	2	3 / 1	92	184	368

2U expansion enclosures and 5U expansion enclosure mix rules:

	Maximum # of drive slots per SAS expansion string				
	5U				
2U		0	1	2	3
	0	0	24	48	72
	1	92			

Note that a 5U expansion enclosure cannot be mixed with 2U expansion enclosures.

Encryption

Encryption may be subject to limitations and restrictions for supported configurations, environments, and use. See the *Configuration Limits and Restrictions for IBM FlashSystem 9500* document at the [IBM Systems Support](#) site for details.

I/O card rules

Each canister has six I/O card slots, grouped into pairs and contained within an I/O cage. These I/O cages can contain a pair of 32 Gb FC cards (AHBB), or a pair of matched 25 Gb Ethernet cards (AH1F or AH1G), or a single 100 Gb Ethernet card (AH1H). A 12 Gb SAS card (AHBA) can be combined with a 32 Gb FC or 25 Gb Ethernet card.

- I/O cage one must contain a pair of 32 Gb FC cards, or a matched pair of 25 Gb iWARP or RoCE cards or a single 100 Gb Ethernet card.
- I/O cage two can contain a pair of 32 Gb FC cards, or a 32 Gb FC card with a 12 Gb SAS card, or a 25Gb Ethernet card with a 12 Gb SAS card, or a single 100 Gb Ethernet card or can be left empty.
- I/O cage three can contain a pair of 32 Gb FC cards, or a matched pair of 25 Gb iWARP or RoCE cards, or a single 100 Gb Ethernet card, or can be left empty.

FC cards (AHBB) are supplied with the appropriate optics, Ethernet cards (AH1F, AH1G and AH1H) are not supplied with any optics. Supported optics (ACHQ, ACHP and ACHX) and RJ45 adapters (ACJ2) can be purchased with the control enclosure, or the client may supply their own cables (MPO FC cables, AOC, DAC, and splitters) if they are listed as supported in the product documentation.

All Ethernet cards can be used with the iSCSI protocol. 25Gb iWARP Ethernet cards can also be used for clustering. 25Gb and 100Gb RoCE Ethernet cards can be used for NVMe RDMA.

Rack rules

FlashSystem 9500R represents a limited set of possible configurations.

Each FlashSystem 9500R order must contain these components:

- Two 4666 Model AH8 control enclosures
- Two 8960-F24 or two 8977-T32 FC switches
- One 7965-S42 rack with appropriate PDUs required to power components within the rack
- All components in the rack must include feature codes FSRS and 4651
- For 4666 AH8 the first, largest capacity enclosure will include feature code AL01, with the subsequent enclosure using AL02 in capacity order
- 4666 AH8 with AL01 must also have AL0S, AL0P, and AGJP included

Following the initial order, each AH8 can be upgraded through MES.

Additional components can be ordered separately and added to the rack within the configuration limitations of the FlashSystem 9500. Clients will be required to ensure space, power, and cooling requirements are met. If assistance is needed with the installation of these additional components beyond the service provided by IBM SSR install, IBM Lab Services are available.

Planning information

Cable orders

Cables are required for the following:

- I/O connectivity to servers and fabric components
- Expansion enclosure attachment
- System management

As a convenience, a limited selection of cables can be ordered with FlashSystem 9500 machines. See the [Product number](#) section for feature numbers.

Cables, along with installation services, are also available from IBM Network Integration and Deployment Services, an IBM Global Services offering.

I/O connectivity cables

Cables are required to connect the FlashSystem 9500 I/O ports to server or fabric ports.

32 Gb FC: FlashSystem 9500 requires a 50.0/125 micrometer fiber optic cable terminated with an LC Duplex connector. The following can be ordered with FlashSystem 9500 control enclosure models:

- 1-meter OM3 fiber cable (LC)
- 2-meter OM3 fiber cable (LC)
- 5-meter OM3 fiber cable (LC)
- 10-meter OM3 fiber cable (LC)
- 25-meter OM3 fiber cable (LC)

10/ 25 Gb Ethernet: When using optical connectors, the FlashSystem 9500 requires 50.0/125 micrometer fiber optic cable terminated with an LC Duplex connector. The following fiber optic cables can be ordered with FlashSystem 9500 control enclosure models:

- 1-meter OM3 fiber cable (LC)
- 2-meter OM3 fiber cable (LC)
- 5-meter OM3 fiber cable (LC)
- 10-meter OM3 fiber cable (LC)
- 25-meter OM3 fiber cable (LC)

10/25 GbE ports can be used with a 10GBASE-T (RJ45), available to order with the FlashSystem 9500 control enclosure models

10/25 GbE and 100GbE I/O ports can be used with client supplied active and passive cables as listed in the product documentation.

100 Gb Ethernet: When using QSFP28 optical connectors, the FlashSystem 9500 requires OM3 or OM4 MPO fiber cables.

System management cables

FlashSystem 9500 requires a Category 5 or Category 5E Ethernet cable terminated with an 8P8C modular connector (RJ45 compatible connector). This cable is not available for ordering with the machine and must be supplied by the client.

Security, auditability, and control

This product uses the security and auditability features of the preloaded application software.

The client is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and conditions

Volume orders

Contact your IBM representative.

IBM Global Financing

Yes

Products - terms and conditions

Warranty period

Warranty and additional coverage options	Coverage summary ¹
Warranty Period:	One year standard warranty
Service Level:	IBM On-Site Repair -- 24x7 Same Day
Service upgrade options²	
IBM Storage Expert Care Advanced	Available in 1-5 years IBM On-Site Repair -- 24x7 Same Day Software Maintenance IBM Storage Expert Care Services: <ul style="list-style-type: none">• Guidance on installation, usage, and configuration• Automated ticket management and alerting• Predictive support• Storage Insights entitlement
IBM Storage Expert Care Premium	Available in 1-5 years IBM On-Site Repair -- 24x7 Same Day Software Maintenance IBM Storage Expert Care Services: <ul style="list-style-type: none">• Guidance on installation, usage, and configuration• Automated ticket management and alerting• Predictive support• Storage Insights Pro entitlement• Remote code upgrades (two per year)³• Technical Account Manager• 30 minutes response on severity 1 or 2 issues

¹ An IBM Storage Expert Care Service upgrade option is highly recommended .

² See complete coverage details in the announcement letters listed below.

³ On-Site code upgrades are available through the acquisition of chargeable feature code #AHY2- Remote code load exception.

To obtain copies of the IBM Statement of Limited Warranty, contact your reseller or IBM. An IBM part or feature installed during the initial installation of an IBM machine is subject to the full warranty period specified by IBM. An IBM part or feature that replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature are the same as those for the machine in which it is installed.

For complete information about the IBM Storage Expert Care Service and Support offerings, see Services Announcement [621-015](#), dated August 17, 2021.

Warranty service

If required, IBM provides repair or exchange service depending on the types of warranty service specified for the machine. IBM will attempt to resolve your problem over the telephone, or electronically through an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines on-site service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. If applicable to your product, parts considered Client Replaceable Units (CRUs) will be provided as part of the machine's standard warranty service.

Service levels are response-time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country-specific and location-specific information.

On-site Service

At IBM's discretion, you will receive specified CRU service, or IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

Service level is:

- IBM On-site Repair 24 hours per day, 7 days a week, same day response.

Warranty service

IBM is now shipping machines with selected non-IBM parts that contain an IBM field replaceable unit (FRU) part number label. These parts are to be serviced during the IBM machine warranty period. IBM is covering the service on these selected non-IBM parts as an accommodation to their clients, and normal warranty service procedures for the IBM machine apply.

International Warranty Service

International Warranty Service allows you to relocate any machine that is eligible for International Warranty Service and receive continued warranty service in any country where the IBM machine is serviced. If you move your machine to a different country, you are required to report the machine information to your Business Partner or IBM representative.

The warranty service type and the service level provided in the servicing country may be different from that provided in the country in which the machine was purchased. Warranty service will be provided with the prevailing warranty service type and service level available for the eligible machine type in the servicing country, and the warranty period observed will be that of the country in which the machine was purchased.

The following types of information can be found on the [International Warranty Service](#) website

- Machine warranty entitlement and eligibility
- Directory of contacts by country with technical support contact information
- Announcement Letters

IBM Storage Expert Care is not transferrable and is valid only in the country of purchase.

Warranty service upgrades

IBM Storage Expert Care is designed to improve product resiliency and reliability, and reduce the operational costs associated with managing and maintaining increasingly complex and integrated IT environments. IBM Storage Expert Care

simplifies and standardizes the support approach for the IBM FlashSystem portfolio to keep your organization's systems operating at peak performance.

All service upgrades for Machine Type 4666 are provided through IBM Storage Expert Care services. Service levels are response-time objectives and are not guaranteed. For complete information about the IBM Storage Expert Care Service and Support offerings, see Services Announcement [621-015](#), dated August 17, 2021.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines on-site service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts.

Maintenance service options

Maintenance services

IBM Storage Expert Care is designed to improve product resiliency and reliability, and reduce the operational costs associated with managing and maintaining increasingly complex and integrated IT environments. IBM Storage Expert Care simplifies and standardizes the support approach for the IBM FlashSystem portfolio to keep your organization's systems operating at peak performance.

All maintenance services for Machine Type 4666 are provided through IBM Storage Expert Care services. Service levels are response-time objectives and are not guaranteed. For complete information about the IBM Storage Expert Care Service and Support offerings, see Services Announcement [621-015](#), dated August 17, 2021.

On-site Service

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose.

Service levels are:

- On-Site Repair, Monday through Friday (excluding holidays), 8am to 5pm, next business day.
- On-Site Repair, Monday through Friday (excluding holidays), 8am to 5pm, 4 hour response objective. Response times are objectives and are not guaranteed.
- On-Site Repair, 7 days a week, 24hrs/day.
- On-Site Repair, 7 days a week, 24hrs/day, 2 hour response objective. Response times are objectives and are not guaranteed.

Non-IBM parts service

Under certain conditions, IBM provides services for selected non-IBM parts at no additional charge for machines that are covered under warranty service upgrades or maintenance services.

This service includes hardware problem determination (PD) on the non-IBM parts (for example, adapter cards, PCMCIA cards, disk drives, memory) installed within IBM machines and provides the labor to replace the failing parts at no additional charge.

If IBM has a Technical Service Agreement with the manufacturer of the failing part, or if the failing part is an accommodations part (a part with an IBM FRU label), IBM may also source and replace the failing part at no additional charge. For all other non-IBM parts, customers are responsible for sourcing the parts. Installation labor is

provided at no additional charge, if the machine is covered under a warranty service upgrade or a maintenance service.

Usage plan machine

No

IBM hourly service rate classification

Two

When a type of service involves the exchange of a machine part, the replacement may not be new, but will be in good working order.

General terms and conditions

Field-installable features

Yes

Model conversions

No

Machine installation

Installation is performed by IBM. IBM will install the machine in accordance with the IBM installation procedures for the machine. In the United States, contact IBM at 1-800-IBM-SERV (426-7378). In other countries, contact the local IBM office.

Graduated program license charges apply

No

Licensed Internal Code and Licensed Machine Code

This product does not contain Licensed Internal Code or Licensed Machine Code.

Educational allowance

A reduced charge is available to qualified education clients. The educational allowance may not be added to any other discount or allowance.

The educational allowance is 15% for the products in this announcement.

Prices

For additional information and current prices, contact your local IBM representative or IBM Business Partner.

The following are newly announced models and features on the specified models of the IBM System Storage 4666 machine type:

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
IBM FlashSystem 9500 SFF NVMe Control Enclosure	4666	AH8		Both	No	

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
IBM FlashSystem 9500 Utility Model SFF NVMe Control Enclosure	4666	UH8		Both	No	
1024 GB Base Cache	4666	AH8	ACGM	Initial	No	No
1024 GB Cache Upgrade	4666	AH8	ACGN	Both	No	No
1024 GB Cache Upgrade	4666	AH8	ACGP	Both	No	No
480 GB M.2 Boot drive Pair	4666	AH8	ACGU	Initial	No	No
4 Port Fibre Channel Adapter Cards with Transceivers (Pair)	4666	AH8	AHBB	Both	No	No
2 Port 25GbE RoCE Adapter Card (Pair)	4666	AH8	AHBH	Both	No	No
2 Port 25GbE iWARP Adapter Card (Pair)	4666	AH8	AHBJ	Both	No	No
2 Port 100GbE RoCEv2 Adapter Card (Pair)	4666	AH8	AHB8	Both	No	No
SAS Expansion Enclosure Attach Card (Pair)	4666	AH8	AHBA	Both	Yes	No
32 Gb FC LW SFP Transceivers (Pair)	4666	AH8	ACHV	Both	No	No
10 GbE SW SFP+ Transceivers (Four)	4666	AH8	ACHQ	Both	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
25 GbE SW SFP28 Transceivers (Four)	4666	AH8	ACHP	Both	No	No
100GbE QSFP28 SR4 Transceivers (Four)	4666	AH8	ACHX	Both	No	No
10GbE SFP+ RJ45 Transceivers (Four)	4666	AH8	ACJ2	Both	No	No
Encryption Enablement	4666	AH8	ACE9	Both	No	No
Encryption USB Flash Drives (Four Pack)	4666	AH8	ACEA	Both	No	No
4.8 TB 2.5 Inch NVMe Flash Core Module	4666	AH8	AHS9	Both	No	No
9.6 TB 2.5 Inch NVMe Flash Core Module	4666	AH8	AHSA	Both	No	No
19.2 TB 2.5 Inch NVMe Flash Core Module	4666	AH8	AHSB	Both	No	No
38.4 TB 2.5 Inch NVMe Flash Core Module	4666	AH8	AHSC	Both	No	No
1.92 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTH	Both	No	No
3.84 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTI	Both	No	No
7.68 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTJ	Both	No	No
15.36 TB 2.5 Inch	4666	AH8	AHTK	Both	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
NVMe Flash Drive						
30.72 TB 2.5 Inch NVMe Flash Drive	4666	AH8	AHTL	Both	No	No
1.6 TB 2.5 Inch NVMe Storage Class Memory Drive	4666	AH8	AHTM	Both	No	No
1m OM3 Fiber Cable (LC)	4666	AH8	ACSQ	Both	No	No
2m OM3 Fiber Cable (LC)	4666	AH8	ACSU	Both	No	No
5m OM3 Fiber Cable (LC)	4666	AH8	ACSR	Both	No	No
10m OM3 Fiber Cable (LC)	4666	AH8	ACSS	Both	No	No
25m OM3 Fiber Cable (LC)	4666	AH8	ACST	Both	No	No
Power Cords - PDU C19 to C20	4666	AH8	AHP5	Both	No	No
Power Cords - Europe, 2.5M, 16A/250V~, C19 to CEE7-VII	4666	AH8	AHPJ	Both	No	No
Power Cords - Australia / New Zealand, 2.5M, 15A/250V~, C19 to AS/NZS 3112	4666	AH8	AHPK	Both	No	No
Power Cords - UK/ EMEA, 2.5M, 13A/250V~,	4666	AH8	AHPL	Both	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
BS 1363/A						
Power Cords - Israel, 2.5M, 16A/250Vac, C19 to SI 32	4666	AH8	AHPQ	Both	No	No
Power Cords - Argentina, 2.5M, 15A/250Vac, C19 to IRAM 2073	4666	AH8	AHPR	Both	No	No
Power Cords - China, 2.5M, 15A/250Vac, C19 to GB 2099.1	4666	AH8	AHPS	Both	No	No
Power Cords - Brazil, 2.5M, 16A/250Vac, C19 to NBR 14136	4666	AH8	AHPT	Both	No	No
Power Cords - Korea, 2.5M, 16A/220Vac, C19 to KSC 8305	4666	AH8	AHPU	Both	No	No
Power Cords - India , 2.5M, 15A/250Vac, C19 to IS 6538	4666	AH8	AHPV	Both	No	No
VersaStack Solution Indicator	4666	AH8	AHZC	Initial	No	No
Red Hat OpenShift Indicator	4666	AH8	AJGH	Initial	No	No
Product will be contained in a LinuxONE III LT2 rack	4666	AH8	AL0Z	Initial	No	No
FlashSystem Rack Product Indicator	4666	AH8	FSRS	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Rack Indicator, rack #1	4666	AH8	4651	Initial	No	No
FlashSystem 9500R Integration	4666	AH8	AL0S	Initial	No	No
SAN24B-6 Switch duct	4666	AH8	AL0B	Initial	No	No
SAN32C-6 Switch Duct	4666	AH8	AL0C	Initial	No	No
Power Rail	4666	AH8	AL0P	Initial	No	No
Rack component mounted in position 1	4666	AH8	AL01	Initial	No	No
Rack component mounted in position 2	4666	AH8	AL02	Initial	No	No
Shipping and Handling - No Charge	4666	AH8	AG00	Initial	No	No
Shipping and Handling	4666	AH8	AGJN	Initial	No	No
Shipping and Handling - Rack	4666	AH8	AGJP	Initial	No	No
RFID Tag AG/ AP: 902-928 Mhz	4666	AH8	A2EV	Initial	No	No
RFID Tag EMEA: 865.6-867.3 Mhz	4666	AH8	A2EW	Initial	No	No
TAA Compliance	4666	AH8	0983	Initial	No	No
Bulk Order Indicator	4666	AH8	5555	MES	No	No
No Rules Order Indicator	4666	AH8	ADNR	Both	No	No
Order Type 1 Indicator - CTO	4666	AH8	ADN1	Initial	No	No
Order Type 2 Indicator	4666	AH8	ADN2	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
- MTM Only						
Order Type 3 Indicator - FC Only	4666	AH8	ADN3	MES	No	No
BP Post-Sale Services: 1 Day	4666	AH8	SVBP	Both	No	No
IBM Systems Lab Services Post-Sale Services: 1 Day	4666	AH8	SVCS	Both	No	No
Other IBM Post-Sale Services: 1 Day	4666	AH8	SVNN	Both	No	No
SP Hard Drive/ Media Retention - Storage 3 years	4666	AH8	B0NQ	Initial	No	No
SP Hard Drive/ Media Retention - Storage 5 years	4666	AH8	B0PF	Initial	No	No
Expert Care Indicator	4666	AH8	ALH0	Initial	No	No
EC Advanced 1 Year	4666	AH8	ALK1	Initial	No	No
EC Advanced 2 Year	4666	AH8	ALK2	Initial	No	No
EC Advanced 3 Year	4666	AH8	ALK3	Initial	No	No
EC Advanced 4 Year	4666	AH8	ALK4	Initial	No	No
EC Advanced 5 Year	4666	AH8	ALK5	Initial	No	No
EC Premium 1 Year	4666	AH8	ALL1	Initial	No	No
EC Premium 2 Year	4666	AH8	ALL2	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
EC Premium 3 Year	4666	AH8	ALL3	Initial	No	No
EC Premium 4 Year	4666	AH8	ALL4	Initial	No	No
EC Premium 5 Year	4666	AH8	ALL5	Initial	No	No
Remote code load exception	4666	AH8	AHY2	Initial	No	No
Expert Care Advanced 1 hour Committed Contact 1 Year	4666	AH8	ALK7	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 1 Year	4666	AH8	ALK8	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 1 Year	4666	AH8	ALK9	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 1 Year	4666	AH8	ALKA	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 1 Year	4666	AH8	ALKB	Initial	No	No
Expert Care Advanced 12 hour Committed Fix 1 Year	4666	AH8	ALKC	Initial	No	No
Expert Care Advanced 24 hour Committed Fix 1 Year	4666	AH8	ALKD	Initial	No	No
Expert Care Advanced 48 hour	4666	AH8	ALKE	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Committed Fix 1 Year						
Expert Care Advanced 72 hour Committed Fix 1 Year	4666	AH8	ALKF	Initial	No	No
Expert Care Advanced 1 hour Committed Contact 2 Year	4666	AH8	ALKG	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 2 Year	4666	AH8	ALKH	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 2 Year	4666	AH8	ALKJ	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 2 Year	4666	AH8	ALKK	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 2 Year	4666	AH8	ALKL	Initial	No	No
Expert Care Advanced 12 hour Committed Fix 2 Year	4666	AH8	ALKM	Initial	No	No
Expert Care Advanced 24 hour Committed Fix 2 Year	4666	AH8	ALKN	Initial	No	No
Expert Care Advanced 48 hour Committed Fix 2 Year	4666	AH8	ALKP	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Expert Care Advanced 72 hour Committed Fix 2 Year	4666	AH8	ALKQ	Initial	No	No
Expert Care Advanced 1 hour Committed Contact 3 Year	4666	AH8	ALKR	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 3 Year	4666	AH8	ALKS	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 3 Year	4666	AH8	ALKT	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 3 Year	4666	AH8	ALKU	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 3 Year	4666	AH8	ALKV	Initial	No	No
Expert Care Advanced 12 hour Committed Fix 3 Year	4666	AH8	ALKW	Initial	No	No
Expert Care Advanced 24 hour Committed Fix 3 Year	4666	AH8	ALKX	Initial	No	No
Expert Care Advanced 48 hour Committed Fix 3 Year	4666	AH8	ALKY	Initial	No	No
Expert Care Advanced	4666	AH8	ALKZ	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
72 hour Committed Fix 3 Year						
Expert Care Advanced 1 hour Committed Contact 4 Year	4666	AH8	ALC7	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 4 Year	4666	AH8	ALC8	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 4 Year	4666	AH8	ALC9	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 4 Year	4666	AH8	ALCA	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 4 Year	4666	AH8	ALCB	Initial	No	No
Expert Care Advanced 12 hour Committed Fix 4 Year	4666	AH8	ALCC	Initial	No	No
Expert Care Advanced 24 hour Committed Fix 4 Year	4666	AH8	ALCD	Initial	No	No
Expert Care Advanced 48 hour Committed Fix 4 Year	4666	AH8	ALCE	Initial	No	No
Expert Care Advanced 72 hour Committed	4666	AH8	ALCF	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Fix 4 Year						
Expert Care Advanced 1 hour Committed Contact 5 Year	4666	AH8	ALCG	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 5 Year	4666	AH8	ALCH	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 5 Year	4666	AH8	ALCJ	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 5 Year	4666	AH8	ALCK	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 5 Year	4666	AH8	ALCL	Initial	No	No
Expert Care Advanced 12 hour Committed Fix 5 Year	4666	AH8	ALCM	Initial	No	No
Expert Care Advanced 24 hour Committed Fix 5 Year	4666	AH8	ALCN	Initial	No	No
Expert Care Advanced 48 hour Committed Fix 5 Year	4666	AH8	ALCP	Initial	No	No
Expert Care Advanced 72 hour Committed Fix 5 Year	4666	AH8	ALCQ	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Expert Care Premium 1 hour Committed Contact 1 Year	4666	AH8	ALL7	Initial	No	No
Expert Care Premium 4 hour Committed Contact 1 Year	4666	AH8	ALL8	Initial	No	No
Expert Care Premium 4 hour Committed Fix 1 Year	4666	AH8	ALL9	Initial	No	No
Expert Care Premium 6 hour Committed Fix 1 Year	4666	AH8	ALLA	Initial	No	No
Expert Care Premium 8 hour Committed Fix 1 Year	4666	AH8	ALLB	Initial	No	No
Expert Care Premium 12 hour Committed Fix 1 Year	4666	AH8	ALLC	Initial	No	No
Expert Care Premium 24 hour Committed Fix 1 Year	4666	AH8	ALLD	Initial	No	No
Expert Care Premium 48 hour Committed Fix 1 Year	4666	AH8	ALLE	Initial	No	No
Expert Care Premium 72 hour Committed Fix 1 Year	4666	AH8	ALLF	Initial	No	No
Expert Care Premium	4666	AH8	ALLG	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
1 hour Committed Contact 2 Year						
Expert Care Premium 4 hour Committed Contact 2 Year	4666	AH8	ALLH	Initial	No	No
Expert Care Premium 4 hour Committed Fix 2 Year	4666	AH8	ALLJ	Initial	No	No
Expert Care Premium 6 hour Committed Fix 2 Year	4666	AH8	ALLK	Initial	No	No
Expert Care Premium 8 hour Committed Fix 2 Year	4666	AH8	ALLL	Initial	No	No
Expert Care Premium 12 hour Committed Fix 2 Year	4666	AH8	ALLM	Initial	No	No
Expert Care Premium 24 hour Committed Fix 2 Year	4666	AH8	ALLN	Initial	No	No
Expert Care Premium 48 hour Committed Fix 2 Year	4666	AH8	ALLP	Initial	No	No
Expert Care Premium 72 hour Committed Fix 2 Year	4666	AH8	ALLQ	Initial	No	No
Expert Care Premium 1 hour Committed	4666	AH8	ALLR	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Contact 3 Year						
Expert Care Premium 4 hour Committed Contact 3 Year	4666	AH8	ALLS	Initial	No	No
Expert Care Premium 4 hour Committed Fix 3 Year	4666	AH8	ALLT	Initial	No	No
Expert Care Premium 6 hour Committed Fix 3 Year	4666	AH8	ALLU	Initial	No	No
Expert Care Premium 8 hour Committed Fix 3 Year	4666	AH8	ALLV	Initial	No	No
Expert Care Premium 12 hour Committed Fix 3 Year	4666	AH8	ALLW	Initial	No	No
Expert Care Premium 24 hour Committed Fix 3 Year	4666	AH8	ALLX	Initial	No	No
Expert Care Premium 48 hour Committed Fix 3 Year	4666	AH8	ALLY	Initial	No	No
Expert Care Premium 72 hour Committed Fix 3 Year	4666	AH8	ALLZ	Initial	No	No
Expert Care Premium 1 hour Committed Contact 4 Year	4666	AH8	ALD7	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Expert Care Premium 4 hour Committed Contact 4 Year	4666	AH8	ALD8	Initial	No	No
Expert Care Premium 4 hour Committed Fix 4 Year	4666	AH8	ALD9	Initial	No	No
Expert Care Premium 6 hour Committed Fix 4 Year	4666	AH8	ALDA	Initial	No	No
Expert Care Premium 8 hour Committed Fix 4 Year	4666	AH8	ALDB	Initial	No	No
Expert Care Premium 12 hour Committed Fix 4 Year	4666	AH8	ALDC	Initial	No	No
Expert Care Premium 24 hour Committed Fix 4 Year	4666	AH8	ALDD	Initial	No	No
Expert Care Premium 48 hour Committed Fix 4 Year	4666	AH8	ALDE	Initial	No	No
Expert Care Premium 72 hour Committed Fix 4 Year	4666	AH8	ALDF	Initial	No	No
Expert Care Premium 1 hour Committed Contact 5 Year	4666	AH8	ALDG	Initial	No	No
Expert Care Premium	4666	AH8	ALDH	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
4 hour Committed Contact 5 Year						
Expert Care Premium 4 hour Committed Fix 5 Year	4666	AH8	ALDJ	Initial	No	No
Expert Care Premium 6 hour Committed Fix 5 Year	4666	AH8	ALDK	Initial	No	No
Expert Care Premium 8 hour Committed Fix 5 Year	4666	AH8	ALDL	Initial	No	No
Expert Care Premium 12 hour Committed Fix 5 Year	4666	AH8	ALDM	Initial	No	No
Expert Care Premium 24 hour Committed Fix 5 Year	4666	AH8	ALDN	Initial	No	No
Expert Care Premium 48 hour Committed Fix 5 Year	4666	AH8	ALDP	Initial	No	No
Expert Care Premium 72 hour Committed Fix 5 Year	4666	AH8	ALDQ	Initial	No	No
Generic Bezel	4666	AH8	ACZA	Initial	No	No
Generic Packaging	4666	AH8	ACZF	Initial	No	No
STaaS Indicator	4666	AH8	AHY1	Initial	No	No
JEMT Indicator	4666	AH8	0021	Initial	No	No
1024 GB Base Cache	4666	UH8	ACGM	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
1024 GB Cache Upgrade	4666	UH8	ACGN	Both	No	No
1024 GB Cache Upgrade	4666	UH8	ACGP	Both	No	No
480 GB M.2 Boot drive Pair	4666	UH8	ACGU	Initial	No	No
4 Port Fibre Channel Adapter Cards with Transceivers (Pair)	4666	UH8	AHBB	Both	No	No
2 Port 25GbE RoCE Adapter Card (Pair)	4666	UH8	AHBH	Both	No	No
2 Port 25GbE iWARP Adapter Card (Pair)	4666	UH8	AHBJ	Both	No	No
2 Port 100GbE RoCEv2 Adapter Card (Pair)	4666	UH8	AHB8	Both	No	No
SAS Expansion Enclosure Attach Card (Pair)	4666	UH8	AHBA	Both	Yes	No
32 Gb FC LW SFP Transceivers (Pair)	4666	UH8	ACHV	Both	No	No
10 GbE SW SFP+ Transceivers (Four)	4666	UH8	ACHQ	Both	No	No
25 GbE SW SFP28 Transceivers (Four)	4666	UH8	ACHP	Both	No	No
100GbE QSFP28 SR4 Transceivers (Four)	4666	UH8	ACHX	Both	No	No
10GbE SFP+	4666	UH8	ACJ2	Both	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
RJ45 Transceivers (Four)						
Encryption Enablement	4666	UH8	ACE9	Both	No	No
Encryption USB Flash Drives (Four Pack)	4666	UH8	ACEA	Both	No	No
4.8 TB 2.5 Inch NVMe Flash Core Module	4666	UH8	AHS9	Both	No	No
9.6 TB 2.5 Inch NVMe Flash Core Module	4666	UH8	AHSA	Both	No	No
19.2 TB 2.5 Inch NVMe Flash Core Module	4666	UH8	AHSB	Both	No	No
38.4 TB 2.5 Inch NVMe Flash Core Module	4666	UH8	AHSC	Both	No	No
1.92 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTH	Both	No	No
3.84 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTI	Both	No	No
7.68 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTJ	Both	No	No
15.36 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTK	Both	No	No
30.72 TB 2.5 Inch NVMe Flash Drive	4666	UH8	AHTL	Both	No	No
1.6 TB 2.5 Inch NVMe	4666	UH8	AHTM	Both	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Storage Class Memory Drive						
1m OM3 Fiber Cable (LC)	4666	UH8	ACSQ	Both	No	No
2m OM3 Fiber Cable (LC)	4666	UH8	ACSU	Both	No	No
5m OM3 Fiber Cable (LC)	4666	UH8	ACSR	Both	No	No
10m OM3 Fiber Cable (LC)	4666	UH8	ACSS	Both	No	No
25m OM3 Fiber Cable (LC)	4666	UH8	ACST	Both	No	No
Power Cords - PDU C19 to C20	4666	UH8	AHP5	Both	No	No
Power Cords - Europe, 2.5M, 16A/250Vac, C19 to CEE7-VII	4666	UH8	AHPJ	Both	No	No
Power Cords - Australia / New Zealand, 2.5M, 15A/250Vac, C19 to AS/NZS 3112	4666	UH8	AHPK	Both	No	No
Power Cords - UK/ EMEA, 2.5M, 13A/250Vac, BS 1363/A	4666	UH8	AHPL	Both	No	No
Power Cords - Israel, 2.5M, 16A/250Vac, C19 to SI 32	4666	UH8	AHPQ	Both	No	No
Power Cords - Argentina,	4666	UH8	AHPR	Both	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
2.5M, 15A/250V~, C19 to IIRAM 2073						
Power Cords - China, 2.5M, 15A/250V~, C19 to GB 2099.1	4666	UH8	AHPS	Both	No	No
Power Cords - Brazil, 2.5M, 16A/250V~, C19 to NBR 14136	4666	UH8	AHPT	Both	No	No
Power Cords - Korea, 2.5M, 16A/220V~, C19 to KSC 8305	4666	UH8	AHPU	Both	No	No
Power Cords - India , 2.5M, 15A/250V~, C19 to IS 6538	4666	UH8	AHPV	Both	No	No
VersaStack Solution Indicator	4666	UH8	AHZC	Initial	No	No
Red Hat OpenShift Indicator	4666	UH8	AJGH	Initial	No	No
Product will be contained in a LinuxONE III LT2 rack	4666	UH8	AL0Z	Initial	No	No
Shipping and Handling - No Charge	4666	UH8	AG00	Initial	No	No
Shipping and Handling	4666	UH8	AGJN	Initial	No	No
RFID Tag AG/ AP: 902-928 Mhz	4666	UH8	A2EV	Initial	No	No
RFID Tag EMEA:	4666	UH8	A2EW	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
865.6-867.3 Mhz						
TAA Compliance	4666	UH8	0983	Initial	No	No
Bulk Order Indicator	4666	UH8	5555	MES	No	No
No Rules Order Indicator	4666	UH8	ADNR	Both	No	No
Order Type 1 Indicator - CTO	4666	UH8	ADN1	Initial	No	No
Order Type 2 Indicator - MTM Only	4666	UH8	ADN2	Initial	No	No
Order Type 3 Indicator - FC Only	4666	UH8	ADN3	MES	No	No
BP Post-Sale Services: 1 Day	4666	UH8	SVBP	Both	No	No
IBM Systems Lab Services Post-Sale Services: 1 Day	4666	UH8	SVCS	Both	No	No
Other IBM Post-Sale Services: 1 Day	4666	UH8	SVNN	Both	No	No
SP Hard Drive/ Media Retention - Storage 3 years	4666	UH8	B0NQ	Initial	No	No
SP Hard Drive/ Media Retention - Storage 5 years	4666	UH8	B0PF	Initial	No	No
Expert Care Indicator	4666	UH8	ALH0	Initial	No	No
EC Advanced 1 Year	4666	UH8	ALK1	Initial	No	No
EC Advanced 2 Year	4666	UH8	ALK2	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
EC Advanced 3 Year	4666	UH8	ALK3	Initial	No	No
EC Advanced 4 Year	4666	UH8	ALK4	Initial	No	No
EC Advanced 5 Year	4666	UH8	ALK5	Initial	No	No
EC Premium 1 Year	4666	UH8	ALL1	Initial	No	No
EC Premium 2 Year	4666	UH8	ALL2	Initial	No	No
EC Premium 3 Year	4666	UH8	ALL3	Initial	No	No
EC Premium 4 Year	4666	UH8	ALL4	Initial	No	No
EC Premium 5 Year	4666	UH8	ALL5	Initial	No	No
Remote code load exception	4666	UH8	AHY2	Initial	No	No
Expert Care Advanced 1 hour Committed Contact 1 Year	4666	UH8	ALK7	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 1 Year	4666	UH8	ALK8	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 1 Year	4666	UH8	ALK9	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 1 Year	4666	UH8	ALKA	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 1 Year	4666	UH8	ALKB	Initial	No	No
Expert Care	4666	UH8	ALKC	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Advanced 12 hour Committed Fix 1 Year						
Expert Care Advanced 24 hour Committed Fix 1 Year	4666	UH8	ALKD	Initial	No	No
Expert Care Advanced 48 hour Committed Fix 1 Year	4666	UH8	ALKE	Initial	No	No
Expert Care Advanced 72 hour Committed Fix 1 Year	4666	UH8	ALKF	Initial	No	No
Expert Care Advanced 1 hour Committed Contact 2 Year	4666	UH8	ALKG	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 2 Year	4666	UH8	ALKH	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 2 Year	4666	UH8	ALKJ	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 2 Year	4666	UH8	ALKK	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 2 Year	4666	UH8	ALKL	Initial	No	No
Expert Care Advanced 12 hour Committed	4666	UH8	ALKM	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Fix 2 Year						
Expert Care Advanced 24 hour Committed Fix 2 Year	4666	UH8	ALKN	Initial	No	No
Expert Care Advanced 48 hour Committed Fix 2 Year	4666	UH8	ALKP	Initial	No	No
Expert Care Advanced 72 hour Committed Fix 2 Year	4666	UH8	ALKQ	Initial	No	No
Expert Care Advanced 1 hour Committed Contact 3 Year	4666	UH8	ALKR	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 3 Year	4666	UH8	ALKS	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 3 Year	4666	UH8	ALKT	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 3 Year	4666	UH8	ALKU	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 3 Year	4666	UH8	ALKV	Initial	No	No
Expert Care Advanced 12 hour Committed Fix 3 Year	4666	UH8	ALKW	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Expert Care Advanced 24 hour Committed Fix 3 Year	4666	UH8	ALKX	Initial	No	No
Expert Care Advanced 48 hour Committed Fix 3 Year	4666	UH8	ALKY	Initial	No	No
Expert Care Advanced 72 hour Committed Fix 3 Year	4666	UH8	ALKZ	Initial	No	No
Expert Care Advanced 1 hour Committed Contact 4 Year	4666	UH8	ALC7	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 4 Year	4666	UH8	ALC8	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 4 Year	4666	UH8	ALC9	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 4 Year	4666	UH8	ALCA	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 4 Year	4666	UH8	ALCB	Initial	No	No
Expert Care Advanced 12 hour Committed Fix 4 Year	4666	UH8	ALCC	Initial	No	No
Expert Care Advanced	4666	UH8	ALCD	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
24 hour Committed Fix 4 Year						
Expert Care Advanced 48 hour Committed Fix 4 Year	4666	UH8	ALCE	Initial	No	No
Expert Care Advanced 72 hour Committed Fix 4 Year	4666	UH8	ALCF	Initial	No	No
Expert Care Advanced 1 hour Committed Contact 5 Year	4666	UH8	ALCG	Initial	No	No
Expert Care Advanced 4 hour Committed Contact 5 Year	4666	UH8	ALCH	Initial	No	No
Expert Care Advanced 4 hour Committed Fix 5 Year	4666	UH8	ALCJ	Initial	No	No
Expert Care Advanced 6 hour Committed Fix 5 Year	4666	UH8	ALCK	Initial	No	No
Expert Care Advanced 8 hour Committed Fix 5 Year	4666	UH8	ALCL	Initial	No	No
Expert Care Advanced 12 hour Committed Fix 5 Year	4666	UH8	ALCM	Initial	No	No
Expert Care Advanced 24 hour Committed	4666	UH8	ALCN	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Fix 5 Year						
Expert Care Advanced 48 hour Committed Fix 5 Year	4666	UH8	ALCP	Initial	No	No
Expert Care Advanced 72 hour Committed Fix 5 Year	4666	UH8	ALCQ	Initial	No	No
Expert Care Premium 1 hour Committed Contact 1 Year	4666	UH8	ALL7	Initial	No	No
Expert Care Premium 4 hour Committed Contact 1 Year	4666	UH8	ALL8	Initial	No	No
Expert Care Premium 4 hour Committed Fix 1 Year	4666	UH8	ALL9	Initial	No	No
Expert Care Premium 6 hour Committed Fix 1 Year	4666	UH8	ALLA	Initial	No	No
Expert Care Premium 8 hour Committed Fix 1 Year	4666	UH8	ALLB	Initial	No	No
Expert Care Premium 12 hour Committed Fix 1 Year	4666	UH8	ALLC	Initial	No	No
Expert Care Premium 24 hour Committed Fix 1 Year	4666	UH8	ALLD	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Expert Care Premium 48 hour Committed Fix 1 Year	4666	UH8	ALLE	Initial	No	No
Expert Care Premium 72 hour Committed Fix 1 Year	4666	UH8	ALLF	Initial	No	No
Expert Care Premium 1 hour Committed Contact 2 Year	4666	UH8	ALLG	Initial	No	No
Expert Care Premium 4 hour Committed Contact 2 Year	4666	UH8	ALLH	Initial	No	No
Expert Care Premium 4 hour Committed Fix 2 Year	4666	UH8	ALLJ	Initial	No	No
Expert Care Premium 6 hour Committed Fix 2 Year	4666	UH8	ALLK	Initial	No	No
Expert Care Premium 8 hour Committed Fix 2 Year	4666	UH8	ALLL	Initial	No	No
Expert Care Premium 12 hour Committed Fix 2 Year	4666	UH8	ALLM	Initial	No	No
Expert Care Premium 24 hour Committed Fix 2 Year	4666	UH8	ALLN	Initial	No	No
Expert Care Premium	4666	UH8	ALLP	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
48 hour Committed Fix 2 Year						
Expert Care Premium 72 hour Committed Fix 2 Year	4666	UH8	ALLQ	Initial	No	No
Expert Care Premium 1 hour Committed Contact 3 Year	4666	UH8	ALLR	Initial	No	No
Expert Care Premium 4 hour Committed Contact 3 Year	4666	UH8	ALLS	Initial	No	No
Expert Care Premium 4 hour Committed Fix 3 Year	4666	UH8	ALLT	Initial	No	No
Expert Care Premium 6 hour Committed Fix 3 Year	4666	UH8	ALLU	Initial	No	No
Expert Care Premium 8 hour Committed Fix 3 Year	4666	UH8	ALLV	Initial	No	No
Expert Care Premium 12 hour Committed Fix 3 Year	4666	UH8	ALLW	Initial	No	No
Expert Care Premium 24 hour Committed Fix 3 Year	4666	UH8	ALLX	Initial	No	No
Expert Care Premium 48 hour Committed	4666	UH8	ALLY	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Fix 3 Year						
Expert Care Premium 72 hour Committed Fix 3 Year	4666	UH8	ALLZ	Initial	No	No
Expert Care Premium 1 hour Committed Contact 4 Year	4666	UH8	ALD7	Initial	No	No
Expert Care Premium 4 hour Committed Contact 4 Year	4666	UH8	ALD8	Initial	No	No
Expert Care Premium 4 hour Committed Fix 4 Year	4666	UH8	ALD9	Initial	No	No
Expert Care Premium 6 hour Committed Fix 4 Year	4666	UH8	ALDA	Initial	No	No
Expert Care Premium 8 hour Committed Fix 4 Year	4666	UH8	ALDB	Initial	No	No
Expert Care Premium 12 hour Committed Fix 4 Year	4666	UH8	ALDC	Initial	No	No
Expert Care Premium 24 hour Committed Fix 4 Year	4666	UH8	ALDD	Initial	No	No
Expert Care Premium 48 hour Committed Fix 4 Year	4666	UH8	ALDE	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
Expert Care Premium 72 hour Committed Fix 4 Year	4666	UH8	ALDF	Initial	No	No
Expert Care Premium 1 hour Committed Contact 5 Year	4666	UH8	ALDG	Initial	No	No
Expert Care Premium 4 hour Committed Contact 5 Year	4666	UH8	ALDH	Initial	No	No
Expert Care Premium 4 hour Committed Fix 5 Year	4666	UH8	ALDJ	Initial	No	No
Expert Care Premium 6 hour Committed Fix 5 Year	4666	UH8	ALDK	Initial	No	No
Expert Care Premium 8 hour Committed Fix 5 Year	4666	UH8	ALDL	Initial	No	No
Expert Care Premium 12 hour Committed Fix 5 Year	4666	UH8	ALDM	Initial	No	No
Expert Care Premium 24 hour Committed Fix 5 Year	4666	UH8	ALDN	Initial	No	No
Expert Care Premium 48 hour Committed Fix 5 Year	4666	UH8	ALDP	Initial	No	No
Expert Care Premium	4666	UH8	ALDQ	Initial	No	No

Description	Machine type	Model	Feature	Initial / MES / Both / Support	CSU	RP MES
72 hour Committed Fix 5 Year						
Variable Usage 1TB/ month	4666	UH8	AE00	MES	No	No
Variable Usage 10TB/ month	4666	UH8	AE01	MES	No	No
Variable Usage 100TB/ month	4666	UH8	AE02	MES	No	No
Non Ship MES	4666	UH8	AQQQ	MES	No	No

CSU = Customer setup

RP MES = Returnable parts MES

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