



IBM System Storage N series N7550T offers enterprise-class Fibre Channel, iSCSI, and NAS storage with gateway options

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At a glance

IBM® System Storage® N series Model C20 is designed to provide:

- High data availability and system-level redundancy
- Support of concurrent block I/O and file serving over Ethernet and Fibre Channel (FC) storage area network (SAN) infrastructures
- High throughput and fast response times
- Support for enterprise customers requiring network attached storage (NAS), with FC or Internet Small Computer System Interface (iSCSI) connectivity
- Attachment of FC, SAS, and SATA disk expansion units

Overview

IBM System Storage N7550T storage controllers include Model C20, an active/active dual-node base unit.

Model C20 is designed to provide fast data access, simultaneous multiprotocol support, expandability, upgradability, and low maintenance requirements. Model C20 can be configured as gateway.

New Model C20 is designed to provide:

- High data availability and system-level redundancy to address the needs of business-critical and mission-critical applications
- Single, integrated architecture designed to support concurrent block I/O and file serving over Ethernet and FC SAN infrastructures
- High throughput and fast response times for database, email, and technical applications
- Support for enterprise customers requiring unified access to NAS via FC or iSCSI
- Attachment of FC, SAS, and Serial Advanced Technology Attachment (SATA) disk expansion units designed to allow deployment in multiple environments, including data retention, NearStore, disk-to-disk backup scenarios, and high-performance, mission-critical I/O intensive operations

N7550T supports EXN1000 SATA storage expansion units, EXN4000 FC storage expansion units, and EXN3000 series SAS/SATA expansion units. At least one storage expansion unit must be attached to the N series system.

Key prerequisites

The IBM System Storage N series requires FC, NFS, CIFS, or iSCSI protocol function.

Planned availability date

June 7, 2013

Availability of programs with an encryption algorithm in France is subject to French government approval.

Description

IBM System Storage N7550T system is designed to interoperate with products capable of data transmission in the industry-standard iSCSI, CIFS, FCP, FCoE, and NFS protocols. Supported systems include IBM System p® , IBM System i® (NFS only), IBM System x® , and IBM System z® (NFS only) servers. N7550T systems consist of Model C20 and associated software.

Model C20 can be configured, via optional features, to be either storage controller or gateway. Dual-node configurations include clustered failover (CFO) support (via required feature), designed to provide failover and failback function, helping improve overall availability.

Model C20 must be mounted in a standard 19-inch rack. Models do not include storage in the base chassis.

Physical attributes

Attribute	C20
Number of controllers	2
Rack space required	6U
Quad core 2.3 GHz CPU	4
Random access memory (GB)	96
1 Gb Ethernet ports	4
8 Gb Fibre Channel ports (onboard)	8
10 Gb Ethernet ports (onboard).	8
6 Gb SAS ports (#1079)	8 ¹
8 Gb Fiber ports (#1080).	8 ¹
SAS disk drives supported	1200
FC disk drives supported	1008
PCIe expansion slots	8 ²
Serial console ports	2
LAN management (RLM) ports . . .	2
Redundant power supplies	Yes
Redundant cooling fans	Yes

¹ At least one of either features #1079 or #1080 must be ordered with the N7550T. Features #1079 and #1080 are mutually exclusive.

² There are 6 PCIe slots per controller, default 1 slot is used by feature #1079 or #1080, 1 slot is used by NVRMA. 4 slots left per controller for the other optional adapters.

Optional adapter features can be used to increase the maximums as follows.

Maximums	C20
FC loops (dual-path)	12
SAS stacks (dual-path).	5
10 Gb Ethernet ports	24

10 Gb FCoE ports	16
EXN1000 expansion units . . .	72
EXN3000 expansion units . . .	50
EXN3200 expansion units . . .	25
EXN3500 expansion units . . .	50
EXN4000 expansion units . . .	72

Note: Each platform is limited by the maximum number of adapters that can be installed.

The N7550T storage controller may be ordered without an accompanying expansion unit, but requires at least one storage expansion unit to be operational. The EXN1000, EXN3000, EXN3200, EXN3500, or EXN4000 satisfy this requirement. Partially populated expansions are supported with a minimum of six disks for the system (four disks for solid state disks).

The EXN1000 storage expansion unit provides a 3U rack-mountable disk enclosure containing 5, and up to a maximum of 14, SATA disk drives.

The EXN4000 storage expansion unit provides a 3U rack-mountable disk enclosure containing 5, and up to a maximum of 14, FC disk drives.

The EXN3000 storage expansion unit is a 4U rack-mountable disk enclosure containing 4, and up to a maximum of 24, SAS or SATA disk drives.

The EXN3200 storage expansion unit is a 4U rack-mountable disk enclosure containing 48 SATA disk drives.

The EXN3500 storage expansion unit is a 2U rack-mountable disk enclosure containing 4, and up to a maximum of 24, SAS or SATA disk drives.

The maximum raw storage capacity of the N7550T series systems is determined by the number of disk drives supported. N7550T Model C20 supports up to 1200 hard drive spindles.

EXN1000 SATA storage expansion units must not share an FC loop with EXN4000 FC storage expansion units. A maximum of six storage expansion units are supported on a single FC loop. A maximum of ten storage expansion units are supported on a single SAS stack except EXN3200. EXN3200 supports maximum five expansion units on a single SAS stack.

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on accessibility compliance can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Product number

Description	Machine	Model	Feature
N7550T Model C20	2867	C20	
Hardware features:			
2-Port Gigabit Ethernet adapter		C20	1012
2-Port 4 Gbps FC HBA for disk attachment		C20	1014
2-Port 4 Gbps FC HBA for tape attachment		C20	1015
Quad-port Gigabit Ethernet (copper)		C20	1028
4-Port 4 Gbps FC HBA - disk		C20	1029
4-Port 4 Gbps FC target		C20	1030
2-Port 8 Gbps FC target HBA		C20	1036
Fibre Channel wrap plug - LC		C20	1044
FC cable, 50u, 31m, LC/LC		C20	1051
FCoE SFP+ copper cable, 5m		C20	1055

Quad-port SAS adapter, 6 Gb	C20	1061
2-port FCoE target adapter - optical	C20	1063
2-port FCoE target adapter - Cu	C20	1064
8 Gb MetroCluster VI FC HBA	C20	1066
8 Gb SnapMirror over FC HBA	C20	1067
Flash Cache II 512 GB	C20	1071
Flash Cache II 1 TB	C20	1072
Dual-port, 10GbE NIC, SFP+	C20	1078
Quad port 8 Gb FC HBA	C20	1079
Quad port 6 Gb SAS HBA	C20	1080
4 port, 8 Gbps FC adapter	C20	1081
4 port, 1 GbE optical adapter	C20	1082
10GbE SFP+ - Embedded NIC	C20	2013
SFP+ optical module for 1078	C20	2014
Licensed Function indicators:		
Data ONTAP Essentials	C20	A901
CIFS initial	C20	A902
CIFS secondary	C20	A903
FCP initial	C20	A904
FCP secondary	C20	A905
iSCSI initial	C20	A906
iSCSI secondary	C20	A907
NFS initial	C20	A908
NFS secondary	C20	A909
SnapLock Compliance	C20	A90A
SnapLock Enterprise	C20	A90B
Data ONTAP	C20	A900
SnapRestore	C20	A90C
SnapMirror	C20	A90D
SnapVault	C20	A90E
FlexClone	C20	A90F
SnapManager Suite	C20	A90G
Complete Bundle	C20	A90H
MetroCluster	C20	A90J
Flash Cache II	C20	A90L
Data ONTAP Essentials - GW	C20	A911
CIFS initial - GW	C20	A912
CIFS secondary - GW	C20	A913
FCP initial - GW	C20	A914
FCP secondary - GW	C20	A915
iSCSI initial - GW	C20	A916
iSCSI secondary - GW	C20	A917
NFS initial - GW	C20	A918
NFS secondary - GW	C20	A919
SnapLock Compliance - GW	C20	A91A
SnapLock Enterprise - GW	C20	A91B
Data ONTAP - GW	C20	A910
SnapRestore - GW	C20	A91C
SnapMirror - GW	C20	A91D
SnapVault - GW	C20	A91E
FlexClone - GW	C20	A91F
SnapManager Suite - GW	C20	A91G
Complete Bundle - GW	C20	A91H
MetroCluster - GW	C20	A91J
Flash Cache II - GW	C20	A91L
Host software:		
SnapDrive for UNIX™ - AIX®	C20	8024
SnapDrive for UNIX - Solaris	C20	8025
SnapDrive for UNIX - HP-UX	C20	8026
SnapDrive for UNIX - Linux™	C20	8027
SnapDrive for Windows™	C20	8050
ONTAP DSM for Windows MPIO	C20	8052
SnapManager/Oracle - WIN	C20	8129
SnapManager/Exchange - Host	C20	8131
SnapManager/VI - Host	C20	8133
SnapMgr Hyper-V - Host	C20	8135
SnapManager for SAP - win	C20	8140
SnapManager for SQL - Host	C20	8141
SnapManager for Oracle	C20	8143

SnapManager for SAP	C20	8145
SnapManager SharePoint-Host	C20	8147
SM SharePoint Mgmt. Bundle	C20	8149
Single Mbox Recovery 100pk	C20	8150
Single Mbox Recovery 500pk	C20	8151
Single Mbox Recovery 1000pk	C20	8152
Single Mbox Recovery 2500pk	C20	8153
Single Mbox Recovery 5K pk	C20	8154
Single Mbox Recovery 10K pk	C20	8155
Single Mbox Recovery 50K pk	C20	8156
SMBR CA-ARCSERVE Extract Wiz	C20	8158
SMBR Tivoli® Tape Extract Wiz	C20	8159
SMBR Legato Tape Extract Wiz	C20	8160
SMBR NetBackup Extract Wiz	C20	8161
SMBR PST Tape Extract Wiz	C20	8162
SMBR HP Extract Wiz	C20	8163
SMBR Commvault Galaxy Ex Wiz	C20	8164
SMBR UltraBac Extract Wizard	C20	8165
SMBR Agent for Adv Search	C20	8166
SMBR Content Analysis Wizard	C20	8167
SMBR Administrative Server	C20	8168
SMSP FileShare Connector	C20	8187
SMSP Storage Manager	C20	8188
SMSP Archive Manager	C20	8189
OnCommand Core	C20	8255
Power cords:		
PDU power cord, 42U Rack	C20	9000
Power cord, Cont. Europe	C20	9001
Power cord, UK	C20	9002
Power cord, Japan	C20	9003
Power cord, North America	C20	9004
Power cord, Australia/N.Z.	C20	9005
Power cord, Switzerland	C20	9006
Power cord, Argentina	C20	9007
Power cord, China	C20	9008
Power cord, Denmark	C20	9009
Power cord, India/S.Africa	C20	9010
Power cord, Israel	C20	9011
Power cord, Italy	C20	9012
Power cord, N.America 250V	C20	9013
Power cord, Brazil	C20	9014
Power cord, Taiwan	C20	9015
Power cord, Taiwan 250V	C20	9016
Installation:		
Plant install in 2101 rack	C20	9201
Field install rack mount kit	C20	9202
Uninstalled code authorization	C20	9550
Gateway indicator	C20	9551
MES ordering:		
MES order indicator	C20	9555
IBM Global Finance transaction:		
IGF Transaction indicator	C20	9556
Port/loop counts:		
Num. of FC target ports	C20	9557
Num. of FC Storage loops	C20	9558
Num. of SATA Storage loops	C20	9559
Dual-path FC cabling	C20	9560
Num. of SAS Storage stacks	C20	9561

Publications

The following publications are shipped with the product.

Title	Order number
Shipped as hardcopy:	
IBM System Storage N7X50 Series Filer Installation and Setup Instructions	GA32-0949
IBM System Storage N7X50 Series Gateway Installation and Setup Instructions	GA32-0950

Shipped on CD-ROM:

IBM System Storage N7X50 Series Hardware and Service Guide	GA32-0948
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On the web, all above, and:

IBM System Storage N series Introduction and Planning Guide	GA32-0543
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All of the publications are available on the N series support website

<http://www.ibm.com/storage/support/nseries/>

Publications are only available for download for existing IBM N series customers who have registered their N series products on the N series support site.

Product publications are available in English. IBM may translate key product publications.

When completed, translations will be available through country ordering systems and the N series Support website.

Services

Global Technology Services®

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an On Demand Business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

<http://www.ibm.com/services/>

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

<http://www.ibm.com/services/continuity>

For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications

- Width: 44.52 cm (17.53 in)
- Depth:
 - 73.66 cm (29 in) with cable management arms
 - 61 cm (24 in) without cable management arms
- Height: 26.21 cm (10.32 in)
- Weight: 59 kg (130.1 lb)

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

Operating environment

- Temperature:
 - Maximum range: 10°C to 40°C (50°F to 104°F)
 - Recommended: 20°C to 25°C (68°F to 77°F)
 - Non-operating: -40°C to 70°C (-40°F to 158°F)
- Relative humidity:
 - Maximum operating range: 20% - 80% (non-condensing)
 - Recommended operating range: 40% - 55%
 - Non-operating range: 10% - 95% (non-condensing)
 - Maximum wet bulb: 28°C
 - Maximum altitude: 3050 m (10,000 ft)

Note: Operating at extremes of environment may increase failure probability.

- Wet bulb (caloric value): 2270 Btu/hr
- Maximum electrical power: 100 - 240 V ac, 12 - 8 A per node, 50 - 60 Hz
- Nominal electrical power: 100 - 120 V ac, 6.9 A; 200 - 240 V ac, 3.5 A, 50 - 60 Hz
- Noise level:
 - 66 dBa at 1 m at 23°C
 - 8.1 bels at 1 m at 23°C

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

Licensed machine code (LMC)

The N7550T system requires Data ONTAP 8.1.2, or later. Some N7550T features and functions may not be available or supported in all environments. Current information on supported environments, prerequisites, and minimum operating systems levels is available at

<http://www.ibm.com/servers/storage/nas>

Current license terms for the machine code provided with this product prohibit transfer of the machine code without approval from NetApp.

Licensed functions

Data ONTAP feature is *required* on the N7550T platform. In addition, for dual-node models, the CFO function is required. The Data ONTAP Essentials feature includes CFO.

Licensed functions require the selection of N7550T Model C20 features and the acquisition of the corresponding IBM 2870 Model 67B function authorization features.

Software requirements

Current information on servers, operating systems, host adapters, and connectivity products supported by the N7550T are available at

<http://www.ibm.com/servers/storage/nas>

The required 2870 license features are the same as for the equivalent 2867 Model C20.

Limitations

- The N7550T is supported only in rack installations.
- This product is functional with the System i and OpenPower™ platforms. However, on System i, support is available only on Linux on Power® and AIX partitions, not i5/OS™.
- Current license terms for the machine code provided with this product prohibit transfer of the machine code without approval from NetApp.

Planning information

Customer responsibilities

Following good safety practice, IBM recommends that three or more people install this product.

Physical configuration and installation planning for the 2867 is a customer responsibility. Information about physical configuration and installation requirements, including equipment, site, and power requirements, can be found in the *IBM System Storage N7550T series Filer Installation and Setup Instructions - GA32-0949*.

A customer-supplied Ethernet cable is required to connect the machine to a server or Ethernet network.

You are responsible for downloading or obtaining from IBM, and installing designated Machine Code (microcode, basic input/output system code (called "BIOS"), utility programs, device drivers, and diagnostics delivered with an IBM machine) and other software updates in a timely manner from an IBM Internet website or from other electronic media, and following the instructions that IBM provides. You may request IBM to install Machine Code changes; however, you may be charged for that service.

Cable orders

Fibre Channel cables are required to connect an expansion unit to a N7550T system. Cables can be purchased using expansion unit features.

Installability

Estimated time to unpack an N7550T, install it in the rack, and perform a simple discovery and configuration, is two hours.

Security, auditability, and control

This product uses the security and auditability features of host hardware, host software, and/or application software to which it is attached.

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

Global Technology Services

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings, for the efficient installation, implementation, or integration of this product.

Terms and conditions

Volume orders: Contact your IBM representative.

Warranty period

Three years

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. 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 effective on its date of installation. 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.

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 via an IBM website. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability. If applicable to your product, parts considered Customer 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 and location specific information.

This product is covered by the following type(s) of service:

CRU Service and On-site for other selected parts

Customer Replaceable Unit Service IBM provides replacement CRUs to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM upon your request. CRUs are designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) CRU.

Tier 1 CRU

Installation of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

For machines with on-site same-day response service IBM will replace a Tier 1 CRU part at your request, at no additional charge.

Tier 2 CRU

You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge.

Based upon availability, CRUs will be shipped for next business day delivery. IBM specifies, in the materials shipped with a replacement CRU, whether a defective CRU must be returned to IBM. When return is required, 1) return instructions and a container is shipped with the replacement CRU and 2) you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

The following parts have been designated as Tier 1 CRU parts:

- AC power cord
- AC power supply
- Disk drive
- Cables
- Memory modules
- Wrap plug
- Operator panel

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.

- 9 hours per day, Monday through Friday, excluding public or national holidays, next business day response. Calls must be received by 15:00 local time in order to qualify for next business day response.

Maintenance Services

On-site Service

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

- 11 hours per day, Monday through Friday, excluding holidays, next-business-day response, call registration before 15:00
- 18 hours per day, 6 days per week, excluding holidays, next-business-day response, call registration before 20:00
- 11 hours per day, Monday through Friday, excluding holidays, same-business-day response, call registration before 12:00 (noon)
- 18 hours per day, 6 days per week, excluding holidays, same-business-day response, call registration before 18:00

CRUs

If your problem can be resolved with a CRU (e.g., keyboard, mouse, speaker, memory, or hard disk drive), and depending upon the maintenance service offerings in your geography, IBM will ship the CRU to you for you to install. CRU information

and replacement instructions are shipped with your machine and are available from IBM upon your request.

Based upon availability, CRUs will be shipped for next business day delivery. IBM specifies, in the materials shipped with a replacement CRU, whether a defective CRU must be returned to IBM. When return is required, 1) return instructions and a container is shipped with the replacement CRU and 2) you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

Customer Replaceable Unit Service and On-site Service for other selected parts

On-site and Customer Replaceable Unit Service is available in your geography. Refer to the information above for On-site Service. Below, you will find additional information pertaining to CRU service available for your product.

CRUs are designated as being either a Tier 1 or a Tier 2 CRU.

Tier 1 CRUs

Installation of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation.

Machines with On-site Same-day Response Service IBM will replace a Tier 1 CRU part at your request, at no additional charge.

Tier 2 CRUs You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge.

The following parts have been designated as Tier 1 CRU parts:

- AC power cord
- AC power supply
- Disk drive
- Cables
- Memory modules
- Wrap plug
- Operator panel

Features and models for which there are maintenance charges:

Machine type-
model-feature

2867-C20-A901
2867-C20-A902
2867-C20-A903
2867-C20-A904
2867-C20-A905
2867-C20-A906
2867-C20-A907
2867-C20-A908
2867-C20-A909
2867-C20-A90A
2867-C20-A90B
2867-C20-A900
2867-C20-A90C
2867-C20-A90D
2867-C20-A90E
2867-C20-A90F
2867-C20-A90G
2867-C20-A90H
2867-C20-A90J
2867-C20-A90L
2867-C20-A911
2867-C20-A912

2867-C20-A913
2867-C20-A914
2867-C20-A915
2867-C20-A916
2867-C20-A917
2867-C20-A918
2867-C20-A919
2867-C20-A91A
2867-C20-A91B
2867-C20-A910
2867-C20-A91C
2867-C20-A91D
2867-C20-A91E
2867-C20-A91F
2867-C20-A91G
2867-C20-A91H
2867-C20-A91J
2867-C20-A91L
2867-C20-8024
2867-C20-8025
2867-C20-8026
2867-C20-8027
2867-C20-8050
2867-C20-8052
2867-C20-8052
2867-C20-8129
2867-C20-8131
2867-C20-8133
2867-C20-8135
2867-C20-8140
2867-C20-8141
2867-C20-8143
2867-C20-8145
2867-C20-8147
2867-C20-8149
2867-C20-8150
2867-C20-8151
2867-C20-8152
2867-C20-8153
2867-C20-8154
2867-C20-8155
2867-C20-8156
2867-C20-8158
2867-C20-8159
2867-C20-8160
2867-C20-8161
2867-C20-8162
2867-C20-8163
2867-C20-8164
2867-C20-8165
2867-C20-8166
2867-C20-8167
2867-C20-8168
2867-C20-8187
2867-C20-8188
2867-C20-8189
2867-C20-8255

Warranty service upgrades

Usage plan machine

No

IBM hourly service rate classification

One

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.

Maintenance service offerings

These machines are eligible under Terms and Conditions of the IBM ServiceSuite® , the IBM Enterprise Service Agreement (ESA) or under the IBM Maintenance Agreement. Consult your IBM Representative for details.

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.

The *IBM System Storage N7550T Series Filer Installation and Setup Instructions* specifies site preparation, physical requirements, and installation (operating) environment and any cabling included in the installation along with the approximate installation time in hours. Customer requests for installation of items not covered in the installation guide may be performed at IBM's hourly service rate designated for the machine.

Graduated program license charges apply

No

Licensed machine code

This product contains, or is provided together with, code which is licensed to the user, not sold. That code is copyrighted and may be the property of IBM , its suppliers or other third parties. You are authorized to use the code to the extent set forth in the applicable license agreements provided with the product. You may also obtain a copy of applicable license agreement by contacting your IBM representative.

Current license terms for the machine code provided with this product prohibit transfer of the machine code without approval from NetApp.

Machine using machine code: 2867-C20.

IBM may release changes to the machine code. IBM plans to make the machine code changes available for download from the IBM System Storage technical support website

<http://www-947.ibm.com/support/entry/portal/downloads>

If the machine does not function as warranted and your problem can be resolved through your application of downloadable machine code, you are responsible for downloading and installing these designated machine code changes as IBM specifies. If you would prefer, you may request IBM to install downloadable machine code changes; however, you may be charged for that service.

Prices

For all local charges, contact your IBM representative.

IBM Global Financing

IBM Global Financing offers competitive financing to credit-qualified customers to assist them in acquiring IT solutions. Offerings include financing for IT acquisition, including hardware, software, and services, from both IBM and other manufacturers or vendors. Offerings (for all customer segments: small, medium, and large enterprise), rates, terms, and availability can vary by country. Contact your local IBM Global Financing organization or visit

<http://www.ibm.com/financing>

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Corrections

(Corrected on June 13, 2013)

The Maximums table in the Description section has been updated.