



Lenovo PDU Quick Reference Guide - North America

Last Update: 18 July 2016

A “cheat sheet” on Lenovo’s currently available PDU offerings for North America

Provides a summary of the key specifications of the PDUs

Includes a reference of available line cords, with photos of the connectors

Includes links to additional power and cooling related resources

Rani Doughty

David Watts



Abstract

The following PDU quick reference guide contains technical information on all currently available Lenovo® PDU offerings for North America using the North American Electrical Convention. These countries include:

- ▶ United States
- ▶ Canada
- ▶ Mexico
- ▶ Saudi Arabia
- ▶ Japan
- ▶ Philippines
- ▶ Some of Brazil

The PDUs in this guide are broken up into the following three categories:

- ▶ *Basic PDUs*: These do not have the ability to be monitored or switched (outlet on/off).
- ▶ *Monitored PDUs*: These have the ability to be monitored but not switched.
- ▶ *Switched and Monitored PDUs*: These have the ability of both monitoring and switching.

At Lenovo Press, we bring together experts to produce technical publications around topics of importance to you, providing information and best practices for using Lenovo products and solutions to solve IT challenges.

See a list of our most recent publications at:

<http://lenovopress.com>




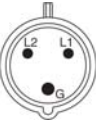
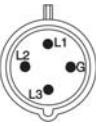
Contents

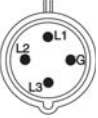


Basic PDUs	3
Monitored PDUs.	5
Switched and Monitored PDUs	5
Line cord options	6
Installation and Users' manuals	8
Lenovo Press product guides.	9
Power and cooling support.	9
Change history	9
Authors	10
Notices	12
Trademarks	13

Basic PDUs

Table 1 shows all of the available North American Basic PDU offerings from Lenovo and their technical specifications.

Table 1 Lenovo North American Basic PDU offerings

PDU	Rack height	Input: Voltage / Phase / Frequency / Amperage	Output: Voltage (V) / Capacity per PDU (W) / Power Limit per PDU (A) ^a / Power Limit per Outlet (A) / Power Limit per Group (A) ^b	Outlets	Line cord
00YE443 DPI Universal Rack PDU	1U half rack width	100-240VAC 1 Phase 50-60 Hz 16A	<ul style="list-style-type: none"> ▶ 120VAC / 1800W / 15A / 10A / - ▶ 200VAC / 3000W / 15A / 10A / - ▶ 208VAC / 3120W / 15A / 10A / - ▶ 240VAC / 3600W / 15A / 10A / - 	7x C13	Table 4 on page 6
39Y8905 DPI NEMA Rack PDU	1U half rack width	100-127VAC 1 Phase 50-60 Hz 15A	<ul style="list-style-type: none"> ▶ 100VAC / 1500W / 15A / 10A / - ▶ 120VAC / 1800W / 15A / 10A / - ▶ 127VAC / 1905W / 15A / 10A / - 	6x NEMA L5-15R	Fixed: 9ft NEMA L5-15P 
39Y8938 Front End PDU	1U half rack width	100-127VAC 1 Phase 50-60 Hz 30A	<ul style="list-style-type: none"> ▶ 100VAC / 2400W / 24A / 16A / - ▶ 120VAC / 2880W / 24A / 16A / - ▶ 127VAC / 3048W / 24A / 16A / - 	3x C19	Fixed: 2.5m NEMA L5-30P 
39Y8939 Front End PDU	1U half rack width	200-240VAC 1 Phase 50-60 Hz 30A	<ul style="list-style-type: none"> ▶ 200VAC / 4800W / 24A / 16A / - ▶ 208VAC / 4992W / 24A / 16A / - ▶ 220VAC / 5280W / 24A / 16A / - ▶ 230VAC / 5520W / 24A / 16A / - ▶ 240VAC / 5760W / 24A / 16A / - 	3x C19	Fixed: 2.5m NEMA L6-30P 
39Y8940 Front End PDU	1U half rack width	200-208VAC 1 Phase 50-60 Hz 60A	<ul style="list-style-type: none"> ▶ 200VAC / 9600W / 48A / 16A / - ▶ 208VAC / 9984W / 48A / 16A / - 	3x C19	Fixed: 2.5m IEC-309 60amp 2P+G 
39Y8941 DPI C13 Enterprise PDU	1U	200-208VAC 1 Phase 50-60 Hz 30A/60A	<ul style="list-style-type: none"> ▶ 200VAC / 4800W / 24A / 10A / - ▶ 208VAC / 4992W / 24A / 10A / - 	12x C13	Table 5 on page 8
			<ul style="list-style-type: none"> ▶ 200VAC / 9600W / 48A / 10A / - ▶ 208VAC / 9984W / 48A / 10A / - 		Table 6 on page 8
39Y8948 DPI C19 Enterprise PDU	1U	200-208VAC 1 Phase 50-60 Hz 30A/60A	<ul style="list-style-type: none"> ▶ 200VAC / 4800W / 24A / 16A / - ▶ 208VAC / 4992W / 24A / 16A / - 	6x C19	Table 5 on page 8
			<ul style="list-style-type: none"> ▶ 200VAC / 9600W / 48A / 16A / - ▶ 208VAC / 9984W / 48A / 16A / - 		Table 6 on page 8
39Y8923 DPI C19 Enterprise PDU	1U	200-208VAC 3 Phase 50-60 Hz 60A	<ul style="list-style-type: none"> ▶ 200VAC / 16620W / 83A / 16A / 27A (16A per breaker) ▶ 208VAC / 17292W / 83A / 16A / 27A (16A per breaker) 	6x C19	Fixed: 4.3m IEC-309 60A 3ph 

PDU	Rack height	Input: Voltage / Phase / Frequency / Amperage	Output: Voltage (V) / Capacity per PDU (W) / Power Limit per PDU (A) ^a / Power Limit per Outlet (A) / Power Limit per Group (A) ^b	Outlets	Line cord
71762NX Ultra Density Enterprise PDU	1U	200-208VAC 1 Phase 50-60 Hz 30A/60A	▶ 200VAC / 4800W / 24A / 10A (C13), 16A (C19) / -	9x C19 3x C13	Table 5 on page 8
			▶ 208VAC / 4992W / 24A / 10A (C13), 16A (C19) / -		Table 6 on page 8
71763NU Ultra Density Enterprise PDU	1U	200-208VAC 3 Phase 50-60 Hz 60A	▶ 200VAC / 16627W / 83.1A / 10A (C13), 16A (C19) / 27.7A (16A per breaker) ▶ 208VAC / 17292W / 83.1A / 10A (C13), 16A (C19) / 27.7A (16A per breaker) ^b	9x C19 3x C13	Fixed: 4.3m IEC-309 60A 3ph 
00YJ776 0U 36 C13/6 C19 30A 1 Phase PDU	0U	200-240VAC 1 Phase 50-60 Hz 30A	▶ 200VAC / 4800W / 24A / 10A (C13), 16A (C19) / - ▶ 208VAC / 4992W / 24A / 10A (C13), 16A (C19) / - ▶ 220VAC / 5280W / 24A / 10A (C13), 16A (C19) / - ▶ 230VAC / 5520W / 24A / 10A (C13), 16A (C19) / - ▶ 240VAC / 5760W / 24A / 10A (C13), 16A (C19) / -	6x C19 36x C13	Attached: 3.0m NEMA L6-30P 
00YJ779 0U 21 C13/12 C19 60A 3 Phase PDU	0U	200-240VAC 3 Phase 50-60 Hz 60A	▶ 200VAC / 17280W / 86.4A / 10A (C13), 16A (C19) / 32A ▶ 208VAC / 17971W / 86.4A / 10A (C13), 16A (C19) / 32A ▶ 220VAC / 19008W / 86.4A / 10A (C13), 16A (C19) / 32A ▶ 230VAC / 19872W / 86.4A / 10A (C13), 16A (C19) / 32A ▶ 240VAC / 20736W / 86.4A / 10A (C13), 16A (C19) / 32A	12x C19 21x C13	Attached: 3.0m IEC-60309 3ph 
44T0966 Higher Voltage DC PDU	1U	240-380VDC - - 90A	▶ 240VDC / 21600W / 90A / 15A / -	6x RF-203P	Attached: 4.3m Line Cord Hardwired to PDU ^c

a. This number represents the de-rated amperage.

b. For additional information on grouping see the North American PDU guide at:

<http://support.lenovo.com/au/en/documents/lnvo-powinf>


c. For additional information on the HVDC PDU refer to the following Lenovo Press paper:

<http://lenovopress.com/redp5180>

Monitored PDUs

Table 2 shows all of the available North American Monitored PDU offerings from Lenovo and their technical specifications.

Table 2 *Lenovo North American Monitored PDU offerings*

PDU	Rack height	Input: Voltage / Phase / Frequency / Amperage	Output: Voltage (V) / Capacity per PDU (W) / Power Limit per PDU (A) ^a / Power Limit per Outlet (A) / Power Limit per Group (A) ^b	Outlets	Line cord
39M2816 DPI C13 Enterprise PDU+	1U	200-208VAC 1 Phase 50-60 Hz 30A/60A	▶ 200VAC / 4800W / 24A / 10A / - ▶ 208VAC / 4992W / 24A / 10A / -	12x C13	Table 5 on page 8
			▶ 200VAC / 9600W / 48A / 10A / - ▶ 208VAC / 9984W / 48A / 10A / -		Table 6 on page 8
44X3193 DPI C13 Enterprise PDU+	1U	200-208VAC 3 Phase 50-60 Hz 60A	▶ 200VAC / 16627W / 83.1A / 10A / 27.7A ▶ 208VAC / 17292W / 83.1A / 10A / 27.7A	12x C13	Fixed: 4.3m IEC 309 3P+G 

a. This number represents the de-rated amperage.


b. For additional information on grouping see the North American PDU guide at:

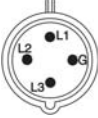

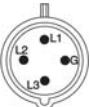
<http://support.lenovo.com/au/en/documents/lnvo-powinf>

Switched and Monitored PDUs

Table 2 shows all of the available North American Monitored PDU offerings from Lenovo and their technical specifications.

Table 3 *Lenovo North American Switched and Monitored PDU offerings*

PDU	Rack height	Input: Voltage / Phase / Frequency / Amperage	Output: Voltage (V) / Capacity per PDU (W) / Power Limit per PDU (A) ^a / Power Limit per Outlet (A) / Power Limit per Group (A) ^b	Outlets	Line cord
46M4004 1U C13 Switched and Monitored PDU	1U	200-208VAC 1 Phase 50-60 Hz 30A/60A	▶ 200VAC / 4800A / 24A / 10A / - ▶ 208VAC / 4992A / 24A / 10A / -	12x C13	Table 5 on page 8
			▶ 200VAC / 9600A / 48A / 10A / - ▶ 208VAC / 9984A / 48A / 10A / -		Table 6 on page 8
46M4005 1U C13 Switched and Monitored PDU	1U	200-208VAC 3 Phase 50-60 Hz 60A	▶ 200VAC / 16627W / 83.1A / 10A / 27.7A ▶ 208VAC / 17292W / 83.1A / 10A / 27.7A	12x C13	Fixed: 4.3m IEC 309 3P+G 

PDU	Rack height	Input: Voltage / Phase / Frequency / Amperage	Output: Voltage (V) / Capacity per PDU (W) / Power Limit per PDU (A) ^a / Power Limit per Outlet (A) / Power Limit per Group (A) ^b	Outlets	Line cord
46M4002 1U 9 C19 / 3 C13 Switched and Monitored PDU	1U	200-208VAC 1 Phase 50-60 Hz 30A/60A	<ul style="list-style-type: none"> ▶ 200VAC / 4800A / 24A / 16A (C19), 10A (C13) / - ▶ 208VAC / 4992A / 24A / 16A (C19), 10A (C13) / - 	9x C19 3x C13	Table 5 on page 8
			<ul style="list-style-type: none"> ▶ 200VAC / 9600A / 48A / 16A (C19), 10A (C13) / - ▶ 208VAC / 9984A / 48A / 16A (C19), 10A (C13) / - 		Table 6 on page 8
46M4003 1U 9 C19 / 3 C13 Switched and Monitored PDU	1U	200-208VAC 3 Phase 50-60 Hz 60A	<ul style="list-style-type: none"> ▶ 200VAC / 16627W / 83.1A / 16A (C19), 10A (C13) / 27.7A ▶ 208VAC / 17292W / 83.1A / 16A (C19), 10A (C13) / 27.7A 	9x C19 3x C13	Fixed: 4.3m IEC 309 3P+G 
00YJ781 0U 20 C13/4 C19 Switched and Monitored 30A 1 Phase PDU	0U	200-240VAC 1 Phase 50-60 Hz 24A	<ul style="list-style-type: none"> ▶ 200VAC / 4800W / 24A / 10A (C13), 16A (C19) / - ▶ 208VAC / 4992W / 24A / 10A (C13), 16A (C19) / - ▶ 220VAC / 5280W / 24A / 10A (C13), 16A (C19) / - ▶ 230VAC / 5520W / 24A / 10A (C13), 16A (C19) / - ▶ 240VAC / 5760W / 24A / 10A (C13), 16A (C19) / - 	4x C19 20x C13	Attached: 3.0m NEMA L6-30P 
00YJ783 0U 12 C13/12 C19 Switched and Monitored 60A 3 Phase PDU	0U	200-240VAC 3 Phase 50-60 Hz 48A	<ul style="list-style-type: none"> ▶ 200VAC / 17280W / 86.4A / 10A (C13), 16A (C19) / 32A ▶ 208VAC / 17971W / 86.4A / 10A (C13), 16A (C19) / 32A ▶ 220VAC / 19008W / 86.4A / 10A (C13), 16A (C19) / 32A ▶ 230VAC / 19872W / 86.4A / 10A (C13), 16A (C19) / 32A ▶ 240VAC / 20736W / 86.4A / 10A (C13), 16A (C19) / 32A 	12x C19 12x C13	Attached: 3.0m IEC-60309 3ph 

a. This number represents the de-rated amperage.


b. For additional information on grouping see the North American PDU guide at:


















<http://support.lenovo.com/au/en/documents/lno-powinf>

Line cord options

Table 4 lists the available country specific line cord options available for the DPI Universal Rack PDU (00YE443).

Table 4 DPI Universal Rack PDU Line Cord Options

Line cord description	Country	PDU Part number	From C19 to 
North American line cord options			

Line cord description	Country	PDU Part number	From C19 to 
4.3m NEMA L5-20 20A 16A / 100-127V Single Phase (LV)	North America	41Y9222	
4.3m NEMA L6-20 20A 16A / 200-240V Single Phase (HV)	North America	40K9772	
39M5388 - 2.0m IEC320 C19 to C20 1phase 16A / 100-250VAC Optional: 39M5389 - 2.5m IEC320 C19 to C20 1phase 16A / 100-250VAC	All	All PDUs	
International line cord options			
4.3m SABS 164 single phase 16A / 230V	South Africa	40K9770	
4.3m CEE7-VII single phase 16A / 230V	Europe	40K9766	
4.3m BS 1363 / A single phase 13A / 230V	Hong Kong / UK	40K9767	
4.3m AS / NZ 3112 single phase 15A / 230V	Australia / New Zealand	40K9773	
4.3m GB 2099.1 single phase 16A / 220V	China	40K9774	
4.3m 16A/250V C19 to NBR 14136 line cord	Brazil	69Y1989	
4.3m IS6538 single phase 16A / 240V line cord	India	40K9776	
4.3m IRAM 2037 single phase 16A / 220V line cord	Argentina	40K9777	
4.3m SI 32 single phase 16A / 230V line cord	Israel	40K9771	
4.3m CEI 23-16 single phase 16A / 230V line cord	Italy	40K9768	
4.3 meter Dmk/Swiss C19 - Dmk/Swiss line cord	Denmark/ Switzerland	40K9769	
4.3m 16A / 250V C19/SEV 1011 T23 line cord	Switzerland	81Y2391	
4.3m, 16A/125V, C19 to CNS 10917-3 line cord	Taiwan	41Y9229	




Line cord description	Country	PDU Part number	From C19 to
4.3m, 16A/250V, C19 to CNS 10917-3 line cord	Taiwan	41Y9230	
4.3m, 15A/100V, C19 to JIS C-8303 line cord	Japan	41Y9232	
4.3m 15A/200V, C19 to JIS C-8303 line cord	Japan	41Y9233	

Table 5 lists the line cord options available for the 30A DPI Enterprise C13 PDU (39Y8941), DPI Enterprise C19 PDU (39Y8948), Ultra Density Enterprise PDU (71762NX), DPI Enterprise PDU+ (39M2816), Switched and Monitored PDU (46M4004, 46M4002).

Table 5 Line cord options for 30A PDU: 39Y8941, 39Y8948, 71762NX, 39M2816, 46M4004, 46M4002




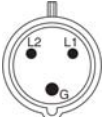
Line cord description	Part number	Feature code	From UTG Connector to
DPI 30A (4.3m) Cord NEMA L6-30P 30A (24A derated)	40K9614	6012	
			

Table 6 lists the line cord options available for the 60A DPI Enterprise C13 PDU (39Y8941), DPI Enterprise C19 PDU (39Y8948), Ultra Density Enterprise PDU (71762NX), DPI Enterprise PDU+ (39M2816), Switched and Monitored PDU (46M4004, 46M4002)

Table 6 Line cord options for 60A PDU: 39Y8941, 39Y8948, 71762NX, 39M2816, 46M4004, 46M4002

Line cord description	Part number	Feature code	From UTG Connector to
			
DPI 60A (4.3m) Cord IEC 309 2P+G 60A (48A derated)	40K9615	6013	

Installation and Users' manuals

The following list contains links to the Installation Manuals for the UPS units.

- ▶ DPI Universal Rack PDU and DPI NEMA Rack PDU
ftp://ftp.software.ibm.com/systems/support/system_x_pdf/02r2738.pdf
- ▶ Front End Rack PDU
ftp://ftp.software.ibm.com/systems/support/system_x_pdf/02r2739.pdf
- ▶ DPI Enterprise C13 and C19 PDU and PDU+

ftp://ftp.software.ibm.com/systems/support/system_x_pdf/43v6030.pdf

- ▶ Ultra Density Enterprise PDU
<http://www.ibm.com/support/entry/portal/docdisplay?ln docid=MIGR-5076527>
- ▶ 0U C13 C19 PDU
<http://www.ibm.com/support/entry/portal/docdisplay?ln docid=MIGR-5085549>
- ▶ 1U Switched and Monitored PDU
<http://www.ibm.com/support/entry/portal/docdisplay?ln docid=MIGR-5084069>
- ▶ 0U Switched and Monitored PDU
<http://www.ibm.com/support/entry/portal/docdisplay?ln docid=MIGR-5086798>

Lenovo Press product guides

The following product guides contain more information about the PDU units.

- ▶ Lenovo 0U Basic Power Distribution Units
<http://lenovopress.com/TIPS0797>
- ▶ 0U and 1U Switched and Monitored PDUs
<http://lenovopress.com/TIPS0819>
- ▶ 1U Switched and Monitored Power Distribution Units
<http://lenovopress.com/TIPS0775>

Power and cooling support

To calculate the power draw of your configurations, download the Power Configurator tool:

<http://support.lenovo.com/au/en/documents/lnvo-pwrconf>

For further details on power and cooling Lenovo systems, download the power and cooling guides from the following link:

<http://support.lenovo.com/au/en/documents/lnvo-powinf>

For questions and support on all rack, stack and power products, please e-mail power@lenovo.com

Change history

Changes in the July 18, 2016 update

- ▶ Removed the following withdrawn PDUs:
 - 46M4116, 0U 24 C13 Switched and Monitored PDU
 - 46M4134, 0U 12 C13 / 12 C19 Switched and Monitored PDU

Changes in the June 14, 2016 update

- ▶ Added the following new PDUs:
 - 00YJ776, 0U 36 C13/6 C19 30A 1 Phase PDU
 - 00YJ779, 0U 21 C13/12 C19 60A 3 Phase PDU
 - 00YJ781, 0U 20 C13/4 C19 Switched and Monitored 30A 1 Phase PDU
 - 00YJ783, 0U 12 C13/12 C19 Switched and Monitored 60A 3 Phase PDU

Changes in the April 11, 2016 update

- ▶ Removed the following withdrawn PDUs:
 - 46M4119, 0U 24 C13 Switched and Monitored 32A PDU
 - 46M4122, 0U 24 C13 16A 3 Phase PDU
 - 46M4125, 0U 24 C13 30A 3 Phase PDU
 - 46M4128, 0U 24 C13 30A PDU
 - 46M4131, 0U 24 C13 32A PDU
 - 46M4140, 0U 12 C19/12 C13 50A 3 Phase PDU
 - 46M4167 1U 9 C19 / 3 C13 Switched and Monitored PDU

Changes in the March 15, 2016 update

- ▶ Added part number information for the Universal Rack PDU
- ▶ Changed line cord part number information for the Universal Rack PDU
- ▶ Added additional international line cord options for the Universal Rack PDU
- ▶ Fixed a few broken links in the tables
- ▶ Updated web address for the Power Configurator tool and the power and cooling guides

Authors



Rani Doughty is a hardware specialist and data center consultant with a background in System x®, BladeCenter®, and Flex System™. She currently works with the world-wide Lenovo Data Center Services (DCS) team as a developer of the Power Configurator and is responsible for world-wide rack, stack, power and cooling support for pre and post sale installations. She has 13 years of technical experience in the x86 field. She holds an MBA and honors degree in IT from the University of Ballarat (Australia). She has written and presented world-wide extensively on IBM Systems Director, pre and post sale tools, and infrastructure planning.



David Watts is a Senior IT Consultant and the program lead for Lenovo Press. He manages residencies and produces pre-sale and post-sale technical publications for hardware and software topics that are related to System x, ThinkServer, Flex System, and BladeCenter servers. He has authored over 300 books and papers. David has worked in the IT industry, both in the U.S. and Australia, since 1989, and is currently based in Morrisville, North Carolina. David holds a Bachelor of Engineering degree from the University of Queensland (Australia).

Thanks to the following people for their contributions:

▶ Matthew Archibald

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service.

Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
1009 Think Place - Building One
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary.

Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk.

Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

This document REDP-5266-00 was created or updated on July 18, 2016.

Send us your comments in one of the following ways:

- ▶ Use the online **Contact us** review Redbooks form found at:
ibm.com/redbooks
- ▶ Send your comments in an email to:
redbooks@us.ibm.com

Trademarks

Lenovo, the Lenovo logo, and For Those Who Do are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. These and other Lenovo trademarked terms are marked on their first occurrence in this information with the appropriate symbol (® or ™), indicating US registered or common law trademarks owned by Lenovo at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of Lenovo trademarks is available on the Web at <http://www.lenovo.com/legal/copytrade.html>.

The following terms are trademarks of Lenovo in the United States, other countries, or both:

BladeCenter®
Flex System™

Lenovo®
Lenovo(logo)®

System x®

The following terms are trademarks of other companies:

Other company, product, or service names may be trademarks or service marks of others.