

Overview

HPE Scalable Object Storage with Scality RING

HPE Scalable Object Storage with Scality RING is a software-defined storage platform that runs on HPE ProLiant and Apollo Servers and is designed for multi-application environments with mixed-workload performance requirements at petabyte scale. The RING collapses traditional object storage and NAS, and addresses storage workloads that do not require expensive flash-based SAN, including file, object, and VM workloads. Leveraging the power and flexibility of the HPE Apollo and ProLiant DL servers Scality RING provides an enterprise-class storage solution designed to scale linearly across multiple active sites and thousands of servers. Acting as a single, distributed system, this combination supports scaling beyond petabyte and hosting an unlimited number of objects. Powered by a rich choice of protocols and interfaces, and a wide range of data protection schemes, Scality RING provides high throughput with a predictable, linear performance pattern. The software enables continuous uptime through hardware failures, capacity expansions, software upgrades, and hardware upgrades. A unique hardware-agnostic architecture enables customers to take advantage of future innovations in Hewlett Packard Enterprise components and models in the ProLiant server family, and media enhancements in speed, capacity, and architecture.

Enterprises and Service Providers are challenged to build scale-out storage infrastructures that support multiple application workloads and provide the highest data resiliency with the current technical limitations and costs of current traditional vendors. To stay flexible, efficient and cost-effective, Scality RING provides different mechanisms for protecting data including replication and erasure coding achieving up to 14 9s of durability. Organizations wishing to deploy a Hewlett Packard Enterprise + Scality storage infrastructure can do so without having to make significant changes to their applications. Scality RING supports object (S3/REST), file (SMB/NFS) and OpenStack protocols, easily integrating into many standard and custom applications.

Regulatory compliance protects data from manipulation or accidental deletion. Used with archives of emails, recorded phone calls, medical records, public meeting notes, financial transactions, tax records, and much more. Regulatory compliance may be added to a new or existing RING with the Scality RING Compliance connector. The Scality iCAS compliance solution runs on an external gateway. Meets HIPAA, GxP, SOX, SEC 17a-4, PCI-DSS and more.

What's New:

Scality iCAS Compliance Solution for regulatory compliance.

Models

Scality HDD RING SKUS	Scality RING Single Site Perpetual License per TB (Min 200TB) E-LTU for HPE Servers NOTE: Required Licensing SKU for Perpetual Single Site License – a minimum of 200TB is required on initial deployments. Single site installation only. If multiple site, P8Y91AAE is required. 10a = Perpetual License	P8Y89AAE
	Scality RING Single Site Hardware Lifetime License per TB (Min 200TB) E-LTU for HPE Servers NOTE: Required Licensing SKU for HW Lifetime Single Site License – a minimum of 200TB is required on initial deployments. Single site installation only. If multiple site, P8Y92AAE is required. 10b = Hardware License	P8Y90AAE
	Scality RING Geo Perpetual License per TB (Min 200TB) E-LTU for HPE Servers NOTE: Required Licensing SKU for Perpetual Multi site License – a minimum of 200TB is required on initial deployments. Multi-site installation only. If single site, P8Y89AAE is required. 11a = Perpetual License	P8Y91AAE
	Scality RING Geo Hardware Lifetime License per TB (Min 200TB) E-LTU for HPE Servers NOTE: Required Licensing SKU for HW Lifetime Multi site License – a minimum of 200TB	P8Y92AAE

Overview

is required on initial deployments. Multi-site installation only. If single site, P8Y90AAE is required. 11b = Hardware License

Scality RING Connector for Email App (per TB) from 200TB up to 1000TB E-LTU	P8Y93AAE
Scality RING Engineer Professional Services (per Day) E-LTU	P8Y94AAE
Scality RING Installation Package (up to 3 Geographical Sites) E-LTU	P8Y95AAE
Scality RING Capacity Expansion Professional Services per TB of Usable Capacity Expansion E-LTU	P8Y96AAE

NOTE: For upgrades of capacity - mandatory with addition of capacity

Scality RING Paid POC 5-10 Days Scality Engineer on Site E-LTU	P8Y97AAE
Scality RING Advanced 3-day Operation Training with Scality Engineer E-LTU	P8Y98AAE
Scality RING Certification Course (base) per Person E-LTU	P8Y99AAE
Scality RING Dedicated Care Service - Yearly Fee E-LTU	P8Z00AAE
Scality RING 24/7 Maintenance and Support per TB (Min 200TB) per year E-LTU for HPE Servers	P8Z01AAE

NOTE: Required on every Scality deal.

Scality RING Compliance Single HA Connector for Compliance and WORM Application E-LTU	Q1C84AAE
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NOTE: Supports up to 3 business applications. License for use on two physical connector servers operating with active/passive fail-over.

Scality RING Compliance Dual HA Connector for Compliance and WORM Application E-LTU	Q1C85AAE
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NOTE: Supports up to 6 business applications. License for use on four physical connector servers operating as two active/passive fail-over pairs.

Scality RING Test Compliance Connector E-LTU	Q1C86AAE
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NOTE: A lower priced license for Proof Of Concept testing only, not for production.

Scality RING Compliance Installation and Configuration Package E-LTU	Q1C87AAE
Scality RING 24x7 Maintenance for Single Compliance Connector with Bug Fix and Free Upgrade E-LTU	Q1C88AAE
Scality RING 24x7 Maintenance for Dual Compliance Connector with Bug Fix and Free Upgrade E-LTU	Q1C89AAE

Standard Features

Key Features

Hardware-agnostic, runs on any HPE ProLiant server

Although the Scality RING software is fully hardware-agnostic, designed for industry standard servers with support for SSD & HDDs, Hewlett Packard Enterprise and Scality have qualified on select HPE ProLiant and Apollo servers.

Customers can rapidly adopt new hardware and media innovations, with no need for data migration on hardware refresh. Support is simpler and deployments are highly adaptable. Overall, this significantly reduces acquisition and operating costs and increases project flexibility.

Supports mixed applications & workloads

Scality has the performance and latency characteristics to manage mixed storage workloads in a single pool that encompasses file, object, and OpenStack applications. This enables data consolidation to increase utilization and economies of scale, and eliminate storage silos.

Customers can reduce time to market by integrating existing applications using standard protocols and rich API's. Applications can simply leverage other interfaces (such as object) in the future.

Continuous uptime through hardware failures and maintenance

Customers can maintain availability through hardware failures, capacity expansions, software upgrades, and hardware generations, with minimal intervention. This enables carrier-grade service levels and improved end user satisfaction.

Scales to petabytes and beyond

A RING storage infrastructure scales out linearly as a single system across multiple active sites, thousands of servers, hundreds of petabytes, and unlimited objects without adding administrators or additional disparate components. This enables massive consolidation and significantly reduces operating costs.

One Storage Pool	No storage silos: object storage technology abstracts underlying storage servers to create a uniformly scalable storage pool, and data is concurrently accessible by file and object interfaces.
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Peer-to-peer Shared Nothing Design	Unique RING topology with peer-to-peer architecture & scalable (CHORD protocol) routing mechanism.
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Carrier-grade Uptime	Designed to keep running through hardware failures, hardware refreshes, capacity upgrades, and software upgrades.
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End-to-End Parallelism	Both the access layer and the storage layer are independently scalable to thousands of nodes, all of which can be accessed directly and concurrently.
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Flexible Deployment	A RING environment may be deployed to a single site, stretched over multiple sites, or replicated locally and/or across sites.
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Advanced & Flexible Data Protection	<ul style="list-style-type: none"> • Replication up to 6 copies (object level replicas) • ARC (Erasure Coding) to reduce overhead for large objects • Configurable data protection policy at the object level • All customer configurable – policy driven.
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Geo-distribution	Active/Active storage pools across physical datacenters, Active/Active selective replication at the S3 bucket-level, and asynchronous mirrored clusters for higher-latency DR configurations.

Standard Features

Customizable Availability and Failure Domains

Tolerate site failure and multiple rack/server/disk failures

Self-healing

Self-healing after component failures

Rich Management Portal and CLI

Full management and control with Supervisor and CLI

- Full Topology View: RING status with Zone, Server & Node details.
 - SNMP MIB support and graphical usage monitoring
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Simple Operations & Management

- System capacity and performance expansion
 - Automated disk failure detection and handling framework
 - Automatically rebuild failed drive data on remaining drives
 - Automated storage rebalancing
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Object Main Features

- Scality HTTP/REST (Sproxyd)
 - Feature-rich S3 APAL with Active Directory integration, IAM support with v2 and v4 authentication, bucket and object ACLs, and utilization statistics
 - CDMI
 - Virtually unlimited object capacity
 - No size limit on objects (including multi-part upload for RS2)
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File Main Features

- Fully parallel and POSIX compliant file system
 - NFS v3, SMB 3.0 (based on Samba 3.5 or later) & FUSE
 - Persistent shared cache across physical connectors
 - Software load-balancing supporting continuous ingest during connector failure
 - Unique internal distributed database (MESA) – for full scale-out support of object key values, file system metadata and POSIX methods, and block volumes
 - Kerberos-based authentication: NFS client authentication (supports ADS)
 - Space quotas for NFS & SOFS
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Near-linear Performance Scalability

- Object performance:
 - Small object (4KB) performance per Scality server (replication mode): 6060 GETs/sec
 - Medium object (1MB) performance per Scality server (replication mode): 1,117 MB/sec (1.1 GB/sec)
 - Large object (10MB) performance per Scality server (ARC 4/2 mode): 1,143 MB/sec (1.1 GB/sec)
 - File performance:
 - Very large file (1GB) file reads per Scality server (replication mode): 2.8GB/sec
 - Very large file (1GB) file reads per Scality server (ARC 4/2 mode): 1.7 GB/sec
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Read-ahead Cache for Sequential IOs

System detects sequential access patterns and repeatedly doubles the amount of data fetched into cache.

Standard Features

Cache Striping Optimization for Small File Random IO System by default reads only the requested number of bytes into cache (avoids fetching whole stripes – unless sequential access is detected as above).

Scality Software Warranty Scality provides worldwide, 24-hour, support for the Scality RING software solution. Customers are provided with complete installation services and given access to advanced services such as proactive health checks and migration assistance.

Configuration Information - Factory Integrated Models

NOTE: Sizing for storage servers should be tailored to the specific workload requirement. Data protection strategy and average file size should be taken into account for optimal configuration. As such it is recommended that you engage with your Hewlett Packard Enterprise representative to document your individual solution needs and design an environment with required services to deploy.

HPE ProLiant Server Hardware

HPE ProLiant DL360p Gen9 Server and HPE ProLiant DL380 Gen9 Server

A space efficient dual socket server with industry-leading features built to protect your investment with reliability, accessibility, and serviceability designed in.

HPE Apollo 4510 and 4530 Servers

The HPE Apollo 4500 systems are purpose-built for bulk storage and data analytics applications

HPE Apollo 4200 Gen9 Server

The HPE Apollo 4200 Server is a 2S/2U storage server optimized for storage density, performance, configuration flexibility and affordability.

HPE Pre-installation options

HPE Scalable Object Storage with Scality RING can be ordered pre-installed for easy deployment. Services include customized configurations tailored to customer requirements. All standard HPE Scalable Object Storage ProLiant and Apollo models and options are supported. The RING cluster will be installed and validated before shipping. See your HPE representative for more information on how to order this service.

Warranty of DL360

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:

<http://h20564.www2.hpe.com/hpsc/wc/public/home>

Warranty of DL380

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

NOTE: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:

<http://h20564.www2.hpe.com/hpsc/wc/public/home>

Configuration Information - Factory Integrated Models

Warranty of Apollo 4500

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

NOTE: Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: <http://h20564.www2.hpe.com/hpsc/wc/public/home>

Warranty of Apollo 4200

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

NOTE: Server Warranty includes 3-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: <http://h20564.www2.hpe.com/hpsc/wc/public/home>

Service and Support

Models

Service and Support

HPE Technology Services for Industry Standard Servers

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability powered by a rich portfolio of consulting and support services designed to add value to our core products and solutions Connect to Hewlett Packard Enterprise to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HPE Support Services

HPE support services offer complete care and support expertise with committed response choices that are designed to meet your IT and business needs.

Recommended HPE Support Services for optimal satisfaction with your HPE product

Optimized Care HPE Proactive Care with 6 hour call-to-repair commitment, three year Support Service

HPE Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice when your products are connected to Hewlett Packard Enterprise. This Service combines three years' proactive reporting and advice with our highest level reactive coverage – Hewlett Packard Enterprise's 24x7, six hour hardware call-to-repair. Hewlett Packard Enterprise is the only leading manufacturer who makes this level of coverage available as a standard service offering for your most valuable servers. In addition, this service includes collaborative software support for Independent Software Vendors software (Red Hat, VMWare, Microsoft, etc) running on your HPE ProLiant/Apollo server.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855enw.pdf>

Standard Care HPE Proactive Care with 24x7 coverage, three year Support Service

HPE Proactive Care helps prevent problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice when your products are connected to Hewlett Packard Enterprise. This Service combines three years' proactive reporting and advice with our 24x7 coverage, four hour hardware response time. In addition, this service includes collaborative software support for Independent Software Vendors software (Red Hat, VMWare, Microsoft, etc) running on your HPE ProLiant/Apollo server.

<https://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855enw.pdf>

Related Services HPE Installation of ProLiant Add On Options Service

This easy-to-buy, easy-to-use HPE Care Pack service helps ensure that your new HPE hardware or software is installed smoothly, efficiently, and with minimal disruption of your IT and business operations.

HPE Proactive Select Service

Provides a flexible way to purchase Hewlett Packard Enterprise best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months.

<https://www.hpe.com/h20195/V2/GetPDF.aspx/4AA2-3842ENW.pdf>

NOTE: Additional Support Services can be found at [HPE Support Services Central](https://www.hpe.com/us/en/services.html)

<https://www.hpe.com/us/en/services.html>

Connect your devices

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Achieve up to 77%¹ reduction in down time, near 100%² diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts,

Service and Support

automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

NOTE:

1. IDC Whitepaper
2. HPE CSC Reports 2014-2015

HPE Support Center

Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise Authorized Channel experts, access support resources or collaborate with peers. Learn more [HPE Support Center](#). HPE's Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalize IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Support Service or Hewlett Packard Enterprise contractual support agreement.

NOTE: HPE's Support Center Mobile App is subject to local availability

Parts and materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

For more information

To learn more on services for HPE ProLiant Servers, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit:

<https://www.hpe.com/us/en/servers.html>

Technical Specifications

Scality RING Specifications	Interfaces	<p>Object Storage:</p> <ul style="list-style-type: none"> • Amazon S3-compatible APIs • HTTP / REST (Scality sproxyd) • CDMI (SNIA Cloud Data Management Interface) • OpenStack Swift API <p>File Storage / NAS:</p> <ul style="list-style-type: none"> • FUSE: POSIX-compliant Linux filesystem (Scality sfused) • NFS v3 • SMB 3.0 (based on Samba 3.5 and later) • FTP & AFP for legacy applications <p>Block Storage:</p> <ul style="list-style-type: none"> • OpenStack Cinder (Scality REST block driver)
	Licensing Requirements	<p>Licensing for the Scality RING software is based on usable capacity. Only the original data counts against this capacity. For example, a 10 MB file replicated 5 times counts only as 10 MB of used capacity.</p> <p>The software licensing can be selected for either a single site or multi-geo configuration.</p> <ul style="list-style-type: none"> • The core bundle includes: <ul style="list-style-type: none"> • HTTP/REST • OpenStack Swift • S3-compatible PAI • FUSE (Filesystem) • CIFS/NFS • CDMI • OpenStack Cinder VM support <p>A connector for Email applications is available at additional cost.</p>
	Operating System Support	<p>CentOS 6 and up on x86_64 Red Hat 6 and up on x86_64 Ubuntu 12.04 LTS (Precise) on amd64 Ubuntu 14.04 (Trusty Tahr) on amd64</p>
	Hardware Requirements:	<p>Scality RING has been tested and validated on select HPE servers listed in the configuration section.</p>
Environment-friendly Products and Approach	End-of-life Management and Recycling	<p>Hewlett Packard Enterprise offers end-of-life HPE product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hpe.com/recycle. To recycle your product, please go to: http://www.hpe.com/recycle. or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.</p> <p>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site at: http://www.hpe.com/recycle. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.</p>

Summary of Changes

Date	Version History	Action	Description of Change
28-Nov-2016	From Version 7 to 8	Changed	Overview and Service and Support sections were updated
		Added	SKUs added in Overview section: Q1C84AAE, Q1C85AAE, Q1C86AAE, Q1C87AAE, Q1C88AAE, Q1C89AAE.
15-July-2016	From Version 6 to 7	Changed	Overview, Standard Features, Configuration Information, and Technical Specifications sections were updated. URLs were changed to hpe.com.
29-April-2016	From Version 5 to 6	Changed	Overview, Standard Features, Configuration Information - Factory Integrated Models, Service and Support, and Technical Specifications sections were updated.
22-Jan-2016	From Version 4 to 5	Changed	Overview section was updated.
01-Dec-2015	From Version 3 to 4	Changed	Overview, Standard Features, Configuration Information - Factory Integrated Models, and Service and Support sections were updated.
		Added	SKUs added in Overview section: P8Y89AAE, P8Y90AAE, P8Y91AAE, P8Y92AAE, P8Y93AAE, P8Y94AAE, P8Y95AAE, P8Y96AAE, P8Y97AAE, P8Y98AAE, P8Y99AAE, P8Z00AAE, P8Z01AAE.
		Removed	Discontinued SKUs deleted: K5C92AAE, K5C93AAE, K5C94AAE, K5C95AAE, K5C96AAE, K5C97AAE, K5C98AAE, K5C99AAE, K5D08AAE, K5D09AAE, K5D10AAE, K5D11AAE, K5D12AAE, K5D13AAE, K5D14AAE, K5D15AAE, K5D16AAE, K5D17AAE, L4Y35AAE, L4Y36AAE, L4Y39AAE.
27-Mar-2015	From Version 2 to 3	Removed	Discontinued SKUs deleted: L4Y37AAE, L4Y38AAE
9-Feb-2015	From Version 1 to 2	Changed	Overview section was updated
		Added	SKUs added on models section: L4Y35AAE, L4Y36AAE, L4Y37AAE, L4Y38AAE, L4Y39AAE.



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c04434896 - 15067 - Worldwide - V8 - 28-November-2016