Proc Folder: 209741

Doc Description: Addendum No. 01 - Backup Hardware

Software System Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No		Version
2016-05-23	2016-06-02 13:30:00	CRFQ	0702 TAX1600000006	2

BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON   WV   25305

US

VENDOR

Vendor Name, Address and Telephone Number:

Cincinnati Bell Technology Solutions
400 Metro Place North
Dublin, Ohio 43017

06/02/16 09:35:32
WV Purchasing Division

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers
(304) 558-2063
michelle.l.childers@wv.gov

Signature X _____   FEIN# 74-2724593   DATE 1/June/2016

All offers subject to all terms and conditions contained In this solicitation

Page : 1   FORMID:WV-PRC-CRFQ-001

The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia State Tax Division to establish a contract for the one time purchase of a backup hardware and software system for the Agency. The backup system will be installed by the Agency in three (3) locations, whi will be the Revenue Center in Charleston, WV, the Office of Technology, Data Center in Charleston, WV and at an offsite location in Clarksburg WV. Installation of backup system Is not part of this solicitation.

Invoice to		Ship To	
OPERATIONS DIVISION		INFORMATION TECHNOLOGY DIVISION	
TAX DIVISION OF		TAX DIVISION OF	
PO BOX 11748		1001 LEE STREET	
CHARLESTON	WV25339-1748	CHARLESTON	WV 25301
US		US	

Line	Comm n Desc	Qty	Unit Issue	Unit Price	Total Price
	Cost of System	1.00000	LS		

Comm Code	Manufacturer	Specification	Model#
71151106			

Extended Description :

Total Cost of New Backup Hardware System

ADDITIONAL TERMS AND CONDITIONS

S_ee attached document(s) for additional Terms and Conditions

- HP Products provided are manufactured certified through Hewlett Packard.
- CBTS does not accept credit card purchases

Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
21 - InfoTechnology

Proc Folder: 209741

Doc Description: Addendum No. 01 - Backup Hardware Software System

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No		Version
2016-05-23	2016-06-02 13:30:00	CRFQ 0702 TAX1600000006		2

BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON WV 25305

US

VENDOR

Vendor Name, Address and Telephone Number:

Cincinnati Bell Technology Solutions
400 Metro Place North
Dublin, Ohio 43017

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers
(304) 558-2063
michelle.l.childers@wv.gov

Signature X _(signature)_ FEIN# 74-2724593 DATE 1 / June / 2016

All offers subject to all terms and conditions contained in this solicitation

FORM ID:WV-PRC-CRFQ-001

Addendum

Addendum No. 01 issued to publish and distribute the attached information to the vendor community.
****

The West Virginia Purchasing Division Is soliciting bids on behalf of the West Virginia State Tax Division to establish a contract for the one time purchase of a backup hardware and software system for the Agency. The backup system will be Installed by the Agency in three (3) locations, which will be the Revenue Center in Charleston, WV, the Office of Technology, Data Center in Charleston, WV and at an offsite location in Clarksburg, WV. installation of backup system is not part of this solicitation.

Invoice to	SHIP TO
OPERATIONS DIVISION	INFORMATION TECHNOLOGY DIVISION
TAX DIVISION OF	TAX DIVISION OF
PO BOX 11748	1001 LEE STREET
CHARLESTON WV25339-1748	CHARLESTON WV 25301
US	US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Cost of System	1.00000	LS		

Comm Code	Manufacturer	Specification	Model#
71151106			

Extended Description :

Total Cost of New Backup Hardware System

SOLICITATION NUMBER: CRFQ TAX1600000006
Addendum Number: 01

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

[   ] Modify bid opening date and time

[   ] Modify specifications of product or service being sought

[✓] Attachment of vendor questions and responses

[   ] Attachment of pre-bid sign-in sheet

[   ] Correction of error

[   ] Other

Description of Modification to Solicitation:

This addendum is issued to modify the solicitation per the attached documentation and the following:

1. To publish vendor question and answers.

No other changes.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.

2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

Backup Hardware and Software System
CRFQ TAX1600000006
Vendor Questions and Answers

Q1.) For the CIFS/NFS connectivity, what speed connection is required? (i.e. 1GbE, 10GbE Copper, 10Gb Optical, etc.)

    A1.) 1 GbE Copper

Q2.) For the VM backups, are image-level backups required for the Windows/LINUX VMs?

    A2.) Yes

Q3.) For the 8TB of Revenue Center data, how much is file, how much is virtual and how much is DB?

    A3.) File: 70%
    Database: 30%

Q4.) For the 17TB of Data Center data, how much is file, how much is virtual and how much is DB?

    A4.) File: 28%
    Database: 65%
    Virtual: 7%

Q5.) For the 25TB of Clarksburg data, how much is file, how much is virtual and how much is DB?

    A5.) Clarksburg is a target of replication only (Revenue Center + Data Center) and has no data of its own.

Q6.) The active tier backups will be stored on disk for 30 days. Is there a need for longer retention tape-out?

    A6.) No tape backup is required.

Q7.) What is their current data protection strategy for Oracle, SQL, and DB2?

    A7.) Oracle: Disk-based backup using EXPDP and RMAN.
    SQL Server: Disk-based backup using SQL Server BACKUP script.
    DB2: Tape Based backup using Backup Exec

Q8.) Since Veeam is software only, we will not be presenting as a CIFS, NFS, or iSCSI mount point. Would you be interested in appliance or general purpose disk based storage?

    A8.) No.

Q9.) How many HP UX servers are in place? What is used to protect them?

A9.) There is only 1 production HP/UX server and only the Oracle database is backed using EXPDP and RMAN to disk.

Q10.) How many Windows Server 2003 servers are in place? How many are virtual machines / physical machines? When will they be upgraded, since they are end-of-life?

A10.) There are currently 3 Windows Server 2003 Servers in place these three physical machines will be decommissioned in 6 to 12 months depending on other projects.

Q11.) How many physical CPU sockets reside on these production hosts between all three sites?

A11.) 33

Q12.) What are the manufacturers for the storage SANs?

A12.) All current SAN environments are EMC.

Q13.) Three sites are listed:

A13.)

- The Revenue Center

Number of Machines	OS
3 File Servers	Windows Server 2003
1 Domain Controller	Windows Server 2008
7 File and Process Servers	Windows Server 2012 r2

- The office of Technology (Charleston)

Number of Machines	OS
1 HP-UX Server	HP-UX
12 Host Servers	ESX
2 Database Servers	Windows Server 2008 Data Center
39 VMs	Windows Server 2008 Data Center

- The office of Technology (Clarksburg) (0) Zero Servers

Q14.) Specifically how many servers need data protection at each site?

    a. Are all servers (in need of protection) 2-processor servers?
       Aa.) Yes

    b. What operating systems are running on the servers (Windows, Linux, vmware, or a mix)? So that we can accurately quote a solution, please be specific.

Ab.)   See Above

Q15.) Please verify that the proposed system must have 750TB of usable disk space.

> **A15.)** The system requires 25 TB over 30 days which is a logical 750 TB before any deduplication.

Q16.) 1.1.3 – I'm unclear on how much data needs to be protected, and where it is. From what this says, it must "protect 25TB of prod data", but it goes on to describe 3 sites:

> **A16.)** SITE A: - Revenue Center – 8TB daily
> SITE B: - Data Center – 17TB daily
> SITE C: - Clarksburg – 25TB daily
>
> Site A (Revenue Center) and Site B (Data Center) will be replicated to the third site C (Clarksburg). Site C (Clarksburg) has no data of its own to backup.

Q17.) For a total of 50TB for a full backup. Is the source data footprint 25TB, or 50TB, or "25TB per site" (75TB total)? What is the distribution of that data, per site?

> **A17.)**

Site	Site Data	Replication Received
Revenue Center	8 TB	0 TB
Data Center	17 TB	0 TB
Clarksburg	0 TB	25 TB

Q18.) 3.1.1.4 - Is the need to have replication from the Revenue Center to Clarksburg, and from the Data Center to Clarksburg? Or is the replication need from any one of the 3 sites to both of the other sites?

> **A18.)** The need is to replicate from the Revenue Center to Clarksburg and from the Data Center to Clarksburg. The Revenue Center and Data Center do not need to replicate to one another.

Q19.) Is the inter-site connectivity an MPLS/common network? If "YES", what is the connection speed at Clarksburg location? If "NO", what is the connection speed from each site to each other site?

> **A19.)** Yes 1Gbps Circuit from Clarksburg to Building 6 Data Center
> The Revenue Center connects to the Vault which is connected to the Data Center.

Q20.) 3.1.1.10/11 For AD-HOC restores, is the requirement for restores from the primary site only, or from any remote-site copies, as well? (Can secondary, offsite copies be DR type copies, requiring additional steps for recovery?)

A20.)   Ad hoc restores from Primary Site

Q21.) 3.1.1.12, 3.1.1.13, 3.1.1.14 – Does this requirement mean the backup solution must also be a CIFS/NFS and ISCSI server/NAS? So client hosts can backup via a file copy to CIFS/NFS/ISCSI devices presented from the backup solution?

A21.)   Yes, CIFS/NFS/iSCSI services are to allow clients to backup or restore via a file copy. CIFS/NFS/iSCSI do not have to be the exclusive means to perform backups and restores.

Q22.) 3.1.3.3 States: The Vendor must provide escalating, multilevel support services. This service must be twenty-four (24) hours a day, seven (7) days a week, three hundred-sixty-five (365) days a year (phone, email, chat), with a non-critical response time of fours (4) hours, and a critical response time of (2) hours. The determination of what qualifies as a critical event is at the sole discretion of the Agency.

A22.)   Critical means that backups/restores/replications cannot proceed without vendor support.

Q23.) Can we get a more precise (specific) explanation of what is meant by non-critical and critical response times and what is meant by a non-critical and critical events? A critical event connotes different definitions to different vendors and may cause one vendor to bid a much higher level of support that is actually not required by the specifications?

A23.)   Critical response times refer to the amount of time the vendor has to respond to an event that halts the system from completing its backup function. Non-critical response times refer to the amount of time the vendor has to respond to a request for inquiry, or problem with service that is functioning and protecting data but may not be operating in a way that may or may not be desired.

Q24.) Is a signed WV-96 required for this procurement?

A24.)   Yes

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:CRFQ1072 TAX1600000006

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

X Addendum No. 1   Addendum No. 6
_ Addendum No. 2   Addendum   No. 7
_ Addendum No. 3   Addendum No. 8 _
_ Addendum No. 4   Addendum No. 9
_ Addendum No. 5   Addendum No. 10 —

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Cincinnati Bell Technology Solutions (CBTS)
_____
Company

_____
Authorized Signature

_____
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

Revised 05/04/2016

Item	Part Number		Description		Brand of Equipment Bid	Part Number Bid		unit of measure	Qty	Unit Cost	Extended Cost
3.1.1	TF542AAE		HP DP perTB 10-49TB SW E-LTU		HP	TF542AAE		Lump Sum	1	$ 285,500.00	$ 285,500.00
	HM610A3		HPE SW Enterprise Standard 3yr Support		HP	HM610A3					
	HM610A3	R1J	Software R1J Supp		HP	HM610A3	R1J				
	HH445A1		HP Data Protector Adv Install SVC		HP	HH445A1					
	HM995A1		HP BigData Trng Units		HP	HM995A1					
	BB915B		HPE StoreOnce 5100 HIT 48TB System		HP	BB915B					
	BB916B		HPE StoreOnce 5100 HIT 48TB Upgrade Kit		HP	BB916B					
	BB916B	0D1	Factory integrated		HP	BB916B	0D1				
	BB926A		HPE StoreOnce 10GbE Network Card		HP	BB926A					
	BB926A	0D1	Factory integrated		HP	BB926A	0D1				
	BB888A		HPE StoreOnce 4500/5100 Catalyst LTU		HP	BB888A					
	BB888A	0D1	Factory integrated		HP	BB888A	0D1				
	BB892A		HPE StoreOnce 4500/5100 Sec Pack LTU		HP	BB892A					
	BB892A	0D1	Factory integrated		HP	BB892A	0D1				
	BB949A		HPE StoreOnce 10GbE Netwrk Exp LTU		HP	BB949A					
	BB949A	0D1	Factory integrated		HP	BB949A	0D1				
	BB945A		HPE StoreOnce 5100 48TB Upg Kit LTU		HP	BB945A					
	BB945A	0D1	Factory integrated		HP	BB945A	0D1				
	H1K92A3		HPE 3Y Proactive Care 24x7 Service		HP	H1K92A3					
	H1K92A3	QBS	HPE Catalyst 42/4500 LTU Support		HP	H1K92A3	QBS				
	H1K92A3	ST3	HPE StoreOnce Sec Pk 42/4500 LTU Support		HP	H1K92A3	ST3				
	H1K92A3	XDR	HPE StoreOnce 5100 48TB Backup Supp		HP	H1K92A3	XDR				
	H1K92A3	XDS	HPE StoreOnce 5100 48TB Upgrade Kit Supp		HP	H1K92A3	XDS				
	HA113A1		HPE Installation Service		HP	HA113A1					
	HA113A1	5KK	HPE StoreOnce Basic Installation SVC		HP	HA113A1	5KK				
	HF383A1		HPE Training Credits for Storage SVC		HP	HF383A1					
	HA124A1		HP Technical Installation Startup SVC		HP	HA124A1					
	HA124A1	5T7	HPE StoreOnce Sing N Catalys Startup SVC		HP	HA124A1	5T7				
	HA124A1	55Q	HPE StoreOnce System startup SVC		HP	HA124A1	55Q				

SPECIFICATIONS

-h PURPOSE AND SCOPE: The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia State Tax Division to establish a contract for the one time purchase of a backup hardware and software system for the Agency. The backup system will be installed by the Agency in three (3) locations, which will be the Revenue Center in Charleston, WV, the Office of Technology, Data Center in Charleston, WV and at an offsite location in Clarksburg, WV. Installation of backup system is not part of this solicitation.

2. DEFINITIONS: The temls listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.

2.1 "Contract Item" means a data backup system as more fully described by these specifications.

2.2 "Pricing Page" means the pages, contained in wvOASIS or attached as Exhibit A, upon which Vendor should list its proposed price for the Contract Items.

2.3 "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.4 "Data Deduplication" is a specialized data compression technique for eliminating duplicate copies of repeating data. Related and somewhat synonymous terms are intelligent (data) compression and single-instance (data) storage.

2.5 "FIPS" stands for federal information processing standards, which are U.S. government security standards that specify requirements for cryptography modules.

2.6 "ISCSI" (internet small computer system interface) is an ip-based protocol standard for storage networking.

2.7 "NFS" (network file system) is a distributed file system protocol allowing a user on a client computer to access files over a computer network.

2.8 "CIFS" (common Internet file system) is the native file sharing protocol for Windows 2000 and later and allows file system shares across intranets and the Internet.

2.9 "Replication" is the process of copying data within an an-ay to another space within the same an-ay, to a separate local an-ay, or to a distant array. The purpose may be to relocate the data, to safeguard the data at a second location, or to locate the data at a secondary processing site so that operations may resume from there.

2.10 "TB" stands for terabyte, which is a multiple of the unit byte for digital information.

3. GENERAL REQUIREMENTS:

3.1 Mandatory Contract Item Requirements: Contract Item must meet or exceed the mandatory requirements listed below.

3.1.1 General Vendor Specifications

3.1.1.1 The West Virginia State Tax Division requires and will perf0lm a criminal background check for each Vendor employee, as well as the employees of all sub-Vendors, who will be required to enter the State of West Virginia office buildings as part of this project. The West Virginia State Tax Division will not allow any Vendor or sub-Vendors access to the building until the background checks are completed and acceptable. At the beginning of the contract the Vendor will provide the Tax Division with the names, home addresses, home contact numbers, and work assignments of each employee who will be working under the contract for criminal background investigation purposes. Any changes, deletions, or additions to this list will be furnished immediately as they occur to the State Tax Division.

3.1.1.2 The vendor must list the costs of all items (hardware, software, and services) being bid in its response to this solicitation. This *must also include the total cost of the bid including a three year warranty.*

3.1.1.3 The new system at each location (Revenue Center in Charleston, WV, Office of Technology Data Center in Charleston, WV, and Clarksburg) must protect a minimum of 25 Terabytes (TB) of production data. This data will be backed up daily, and have a 30 day retention period. The protection of 25 TB of production data must include a logical protection of 750 TB. The Revenue Center will need to back up 8 TB daily, the Data Center will need to back up 17 TB daily, and the Clarksburg site will need to back up 25 TB daily.

Each StoreOnce 5100 is comprised of 48TB base and (2) 48TB Capacity upgrade kits totaling 108TB of Usable storage. At 8:1 ratio, the total storage needed over 30 days will be 750TB of protected storage.

3.1.1.4 Must provide automated replication of backed-up data between all 3 sites. All three sites must be capable of performing backups, and of sending and receiving replicated data to and from the other sites. The current line speed between the Revenue Center and the Office of Technology Data Center is 100 megabits, but an upgrade to a 1 gigabit circuit is currently underway.

Each StoreOnce 5100 is comprised of 48TB base and (2) 48TB Capacity upgrade kits totaling 108TB of Usable storage. At 8:1 ratio, the total storage needed over 30 days will be 750TB of protected storage. Automated retention and replication management across different backup media, storage tiers and locations for compliance and efficient long-term data retention, is one of the features that Data Protect has to offer.

3.1.1.5 Data deduplication must be provided and supported by all devices and software in the system.

HPE StoreOnce deduplication enables network efficient offsite data replicati All HPE StoreOnce systems use StoreOnce Federated data deduplication to significantly reduce the amount of data that needs to be replicated, enabling the use of lower bandwidth, lower cost links to transmit data offsite.

With HPE StoreOnce Catalyst, movement of deduplicated data across the enterprise is even easier. There's no need to deduplicate and rehydrate at each step, data can be replicated from these sites to a central data center or disaster recovery site in deduplicated form, reducing network bandwidth requirements. backup and replication jobs may be seamlessly managed by the backup application at your central data center.

Ref. HPE StoreOnce Systems Pg.5

3.1.1.6 The backup system must allow for encrypting data that is backed up, both in flight and at rest using FIPS 140-2-validated cryptographic libraries.

The HPE StoreOnce Security Pack provides for Data at Rest and Data in Fli; encryption which prevents unauthorized access to data on disk that has been los stolen, or discarded, as well as, data being transmitted between devices. It also offers secure erase functionality. These functions can be configured on an application or store basis and are not restricted to the whole appliance. HPE StoreOnce Security pack is available for all HPE StoreOnce products.

NOTE: ** Data in Flight encryption via IPSec is supported on StoreOnce Catalyst only. In addition, write performance may be impacted, however performance improvements should be seen after first ingest.

3.1.1.7   Must be capable of backing up data on the following Agency owned and operational operating systems and environments running on all capable hardware platforms.

3.1.1.7.1   HP-UX version v3 11.31 (ia64) and later
3.1.1.7.2   VMWare ESXi 6 and later
3.1.1.7.3   Windows Server 2003 and later

The listed environments are supported on StoreOnce as it pertains to the requirements. The full list of supported platforms is located in the document und the referenced page.
Linux Red Hat/SUSE/Debian/OEL/CentOS
IBM AIX
Windows /XP/2003/2008/Vista/7/2008 R2/2012/2012 R2
HPE-UX
NFS/shared disk
CIFS
NDMP NAS filer
Ref. HPE Data Protector software Pg.12

3.1.1.8   Must be capable of backing up the following Agency owned and operational application and data programs. The client's production environments must run interrupted during this process.

3.1.1.8.1   Oracle 1Og and later
3.1.1.8.2   SQL Server 2000 and later
3.1.1.8.3   IBM DB2

The listed environments are supported on StoreOnce as it pertains to the requirements. The full list of supported platforms is located in the document und the referenced page. (SQL 2000 backups will use its native backup tools to backu databases to a location that will be automatically backed up with Data Protector.
Oracle®
MS SQL
MS SharePoint
Ref. HPE Data Protector software Pg.12

3.1.1.9   Must support 'ondemand' client backups and file restores.

Application consistent recovery: leading business application integrations extend backup, automated point-in-time recovery, and granuiar restores to application owners enabling them to manage, drive and service their own backup and recove requirements based on the backup infrastructure defined by IT
Ref. HPE Data Protector software Pg.1

3.1.1.10   Must support adhoc data restore from any previous backup within
            any defined retention period.

> **Application consistent recovery: leading business application integrations extend
> backup, automated point-in-time recovery, and granular restores to application
> owners enabling them to manage, drive and service their own backup and recove
> requirements based on the backup infrastructure defined by IT**
> Ref. HPE Data Protector software Pg.1

3.1.1.11   Must support ad-hoc data restore of any individual database,
            folder, or file that has been backed up.

> **Application consistent recovery: leading business application integrations extend
> backup, automated point-in-time recovery, and granular restores to application
> owners enabling them to manage, drive and service their own backup and recove
> requirements based on the backup infrastructure defined by IT**
> Ref. HPE Data Protector software Pg.1

3.1.1.12   Must be capable of supporting or acting as a NFS mount point.

> **Additional Operating System supported via:**
> **NFS/shared disk**
> **CIFS**
> **NDMP NAS filer**
>
> Ref. HPE Data Protector software Pg.12

3.1.1.13   Must be capable of supp01ting or acting as a CIFS mount point.

Additional Operating System supported via:
NFS/shared disk
CIFS
NDMP NAS filer

Ref. HPE Data Protector software Pg.12

3.1.1.14   Must be capable of supporting or acting as an   SCSI mount point.

Supported Storage networking protocols:
iSCSI (SCSI over TCP/IP), FCIP (FC over IP) and iFCP
(Internet FC Protocol)
Ref. HPE Data Protector software Pg.13

3.1.1.15   Backup system should be hard disk based. A magnetic tape solution will not be accepted.

The StoreOnce consists of 4TB High density Disks
totaling 108TB usable storage, expanding across 3 trays.

3.1.2   Training

3.1.2.2 The Vendor must provide a minimum of three 3 days of on-site training (8 hours per day) for a minimum of three (3) End-Users in Charleston, WV. Training will cover the operational use of equipment and software. Travel costs and accommodations must be included in the overall cost of the backup system.

The training that is provided with this solution is Big Data Training from
HP. This includes 36 credits which covers 3 people training to cover the
management and administration of the StoreOnce and Data Protector.

3.1.3   Service and Support Level

3.1.3.2   The Vendor must warrant and maintain the backup system for a period of thirty-six months (36) months, effective upon acceptance of the equipment by the Agency. During this thirty six (36) month period, the Vendor shall make any necessary repairs, replace any

defective parts, perform preventive maintenance, install engineering changes and modifications to hardware and software and otherwise maintain the system at no additional cost to the Agency.

3yr Proactive Care has been issued to this solution to provide coverage. Proactive Care consists of 4hr 24x7 service on all hardware and software.

3.13.3   The Vendor must provide escalating, multilevel support services. This service must be twenty-four (24) hours a day, seven (7) days a week, three hundred-sixty-five (365) days a year (phone, email, chat), with a non-critical response time of four (4) hours, and a critical response time of two (2) hours. The determination of what qualifies as a critical event is at the sole discretion of the Agency.

3.1.4   Specifications for System Acceptance

The agency will formally accept the system after the hardware and software have been installed and confirmed to be working properly for thirty (30) consecutive days without any problems, outages or failures. The Agency will issue a request for Change Order to the West Virginia Purchasing Division stating acceptance of the system, thereby beginning the thirty-six (36) months of wan-anty as specified in 3.1.3.2.

Prior to an Acceptance of the system the following criteria must be also met; successful testing of all components, validating full functionality.

4.   CONTRACT AWARD:

4.1   Contract Award: The Contract is intended to provide Agencies with a purchase price for the Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.

4.1.1   Vendor should provide with their bid a copy of any and all Software Terms and Conditions or licenses that the State of West Virginia or the Agency will have to agree to or accept as a part of this solicitation. This information will be required before Purchase Order is issued.

4.1.2   Vendor should include a copy of any Maintenance Terms and Conditions or Licenses that the State of West Virginia or the Agency will be required to agree to and accept as a part of this solicitation. This information will be required before Purchase Order is issued.

4.2   Pricing Page: Vendor should complete the Pricing Page by (Exhibit A) by entering the total price for the system (including delivery, training, and 36-month wan-anty.) The Vendor must complete the Pricing Page in full as failure to complete the Pricing Page in its entirety may result in the Vendor's bid being disqualified.

Vendor should type or electronically enter the information into the Pricing Page to prevent en-ors in the evaluation.

Vendor must submit Brand including Model Numbers of equipment they are submitting with their submitted Exhibit "A" response. This infonnation must be submitted with their bid submission.

Vendor should provide product brochures with their submitted bid response. This information may be required before award of contract.

Vendors who wish to respond to a Centralized Request for Quotation (CRFQ) online may submit infonnation through the State's wvOASIS Vendor Self-Serve (VSS) system. Vendors should download the Exhibit "A" Price Page that is attached to this to the CRFQ and published to the VSS. Vendors must complete this form with their price information as well as Brand and Model of equipment being submitted and include as an Attachment with their online response.

If unable to respond online the Vendor must submit the Exhibit "A" Price Page with their submitted bid response prior to the scheduled bid opening date.

Vendor should type or electronically enter the information into the Pricing Page to prevent errors in the evaluation.

5. PAYMENT:

   5.1   Payment: Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia.

6. DELIVERY AND RETURN:

   6.1   Shipment and Delivery: Vendor shall ship the Contract Items immediately after being awarded this Contract and receiving a purchase order. Vendor shall deliver the Contract Items within thirty (30) calendar days after receiving a purchase order. Contract Items must be delivered between the hours of 9:00 A.M. and 3:00 P.M. to the Agency located at 1001 Lee Street, Charleston, WV 25301. Please note that the Charleston location does not have a loading dock.

   6.2   Late Delivery: The Agency placing the order under this Contract must be notified in writing if the shipment of the Contract Items will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the Contract, and/or obtaining the Contract Items from a third party.

         Any Agency seeking to obtain the Contract Items from a third party under this provision must first obtain approval of the Purchasing Division.

   6.3   Delivery Payment/Risk of Loss: Vendor shall deliver the Contract Items F.O.B. Destination to the Agency's location.

   6.4   Return of Unacceptable Items: If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return

within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

6.5 Return Due to Agency Error: Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

7 VENDOR DEFAULT:

7.1 The following shall be considered a vendor default under this Contract.

7.1.1 Failure to provide Contract Items in accordance with the requirements contained herein.

7.1.2 Failure to comply with other specifications and requirements contained herein.

7.1.3 Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.

7.1.4 Failure to remedy deficient performance upon request.

7.2 The following remedies shall be available to Agency upon default.

7.2.1 Immediate cancellation of the Contract.

7.2.2 Immediate cancellation of one or more release orders issued under this Contract.

7.2.3 Any other remedies available in law or equity.

8 CONTRACT MANAGEMENT:

8.1 Contract Manager: During its performance of this Contract, Vendor must designate

and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address and customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager: Chris Burns

Telephone Number: 614-634-3200

FAX Number: **614-634-3200**

EMAIL Address: Christopher.burns@Cbts.net

State of West Virginia
VENDOR PREFERENCE CERTIFICATE

Certification and application is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. ☐ **Application is made for 2.5% vendor preference for the reason checked:**
Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,

☐ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification;

☐ Bidder is a resident vendor partnership, association, or corporation with at least eighty percent of ownership interest of bidder held by another entity that meets the applicable four year residency requirement; or,

☐ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,

2. ☐ **Application is made for 2.5% vendor preference for the reason checked:**
Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,

3. ☐ **Application is made for 2.5% vendor preference for the reason checked:**
Bidder is a nonresident vendor that employs a minimum of one hundred state residents, or a nonresident vendor which has an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia and employs a minimum of one hundred state residents, and for purposes of producing or distributing the commodities or completing the project which is the subject of the bidder's bid and continuously over the entire term of the project, on average at least seventy-five percent of the bidder's employees or the bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years and the vendor's bid; or,

4. ☐ **Application is made for 5% vendor preference for the reason checked:**
Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,

5. ☐ **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,

6. ☐ **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

7. ☐ **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules*.**
Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) rescind the contract or purchase order; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: _CDTS_

Signed: _____

Date: _1/June/2016_

Title: _Regional Director_

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

_____Christopher Burns CBTS Account Manager_____
(Name, Title)

_____CHRISTOPHER Burns CBTS_____
(Printed Name and Title)
400 Metro Place
Dublin,oh Ohio43017
(Address)

614-634-3200/same
(Phone Number/Fax)

Christopher.burns@cbts.net
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS,Icertify that Ihave reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this hid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Cincinnati Bell Technology Services (CBTS)
(Company)

_____Regional Director_____
(Authorized Signature) (Representative Name, Title)

_____Timothy Lonsway   Regional Director_____
(Printed Name and Title of Authorized Representative)

_____1 / June / 2016_____
(Date)

_____614 806 0038_____
(Phone Number) (Fax Number)

Revised 05/04/2016

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: _Cincinnati Bell Technology Services_

Authorized Signature: _____ Date: _6/1/16_

State of _Ohio_

County of _Franklin_ , to-wit:

Taken, subscribed, and sworn to before me this _1st_ day of _June_ , 20_16_

My Commission expires _7/17_ , 20_16_

AFFIX SEAL HERE

NOTARY PUBLIC _____

Kenneth E. Buhr
Notary Public, State of Ohio
My Commission Expires 07-17-2016

Purchasing Affidavit (Revised 08/01/2015)

Executive Summary for State of West Virginia Backup RFQ

The State of West Virginia is requesting an RFQ to refresh their current backup solution which consists of Avamar hardware located in two separate locations (State Capitol Complex and Data Center in Flatwoods, WV). CBTS has reviewed and recommends that best fits the required needs of State of West Virginia, is StoreOnce 5100 at each location. The Data Protector is the software that will handle all policies and automation of the backups and replication.

Why HPE StoreOnce Backup?

As data continues to grow exponentially, IT managers continue to look for efficient, cost-effective solutions to manage this growth and protect critical business information. Data protection challenges affect nearly all businesses—small, medium-sized, and large enterprises. Meeting shrinking backup windows and ensuring enhanced disaster recovery, remote office data protection, and data restoration are critical needs. In addition, to help reduce the capacity required to store information, deduplication technology is a must-have for businesses.

State of West Virginia needs a deduplication solution that simplifies management of your IT infrastructure, enables shorter backup windows, and enables faster data restoration. Such a solution is HPE StoreOnce Backup systems, based on the HPE StoreOnce Federated deduplication technology developed within Hewlett Packard Enterprise (HPE) Labs. Using a single deduplication algorithm, HPE StoreOnce Backup works across State of West Virginia's enterprise data protection hardware and software platforms. HPE StoreOnce Backup seamlessly integrates with your existing backup applications, enabling flexible integration in both SAN and virtualized environments. HPE StoreOnce Backup Systems are designed to deliver enterprise-wide data.

Features and Benefits

Federated Deduplication

HPE StoreOnce Backup delivers a unified solution for seamless data movement across the enterprise with cost-effective virtual backup machines ideal for smaller remote offices, high performance, dedicated appliances for larger sites, and highly scalable, powerful systems for your data center.

Federated deduplication is supported by HPE Data Protector and many of HPE StoreOnce Backup's data protection software partners, such as Symantec NetBackup, Symantec Backup Exec, BridgeHead Software, and using HPE StoreOnce plug-ins for direct backup from Oracle RMAN and Microsoft SQL Server.

Scalability without Planned Downtime

HPE StoreOnce Backup's scale-out architecture allows State of West Virginia to grow as your business needs dictate, and not be limited by technology or vendor constraints. Choose capacity points available through virtual backup solutions or dedicated appliances that start small and allow State of West Virginia to add in virtual capacity, shelves, or nodes as needed.

Backup with Industry Leading performance

Hewlett Packard Enterprise offers industry-leading restore speeds with its StoreOnce product line; up to 119% of ingest performance in the high end appliance. This ensures when you have a system failure you can restore your data in the shortest time possible and minimize downtime

- Up to 22 TB/hr backup speeds with HPE StoreOnce 4900 and 5100

Why choose HPE Data Protector

HPE Big Data believes that in your data center— where data is growing exponentially and infrastructure has to scale in all directions—the backup and recovery approach you rely on must provide a high degree of intelligence and automation to address your needs today and into the future. With this understanding, HPE Adaptive Backup and Recovery offers a game-changing technology that combines adaptive intelligence and advanced application and infrastructure integration to help State of West Virginia gain transparency, predictability, and business resiliency within your IT environments.

As an industry leader in information management, governance, and analytics, HPE is the only vendor that delivers a full portfolio of solutions, from software to hardware, storage, networking, professional services, support, and education. They offer a proven, long-standing reputation in the backup and recovery market, with more than 60,000 customers world-wide trusting HPE Autonomy solutions and advice to safeguard their information—the most vital asset in most businesses today.

HPE brings years of expertise and experience working with IT organizations to solve their data protection and management challenges. HPE also has a strong history of delivering breakthrough technology to solve evolving backup needs for IT organizations.

HPE Data Protector software

An intelligent approach to data protection
Built on a unified architecture that leverages analytics and automation, HPE Data Protector delivers comprehensive protection, real-time intelligence, and guided optimization enabling organizations backup and recovery environment to be just as agile as the infrastructure and workloads of today's IT environments. With an adaptive approach to backup and recovery, organizations will achieve simple, reliable, and cost-effective protection of information.

By standardizing the backup and recovery of information spread across locations, applications, formats, storage platforms, operating systems, and hypervisors, Data Protector provides assurance for mission critical information from the core to the edge, across physical, virtual, and cloud infrastructures.

Data Protector delivers:

Comprehensive Protection, based on a unified architecture, delivers a centrally managed and standardized backup and disaster recovery process that extends from the core datacenter to the edge of your business.

Operational Intelligence, from real-time analytics, delivers actionable insight and awareness for rapid root-cause analysis, bridging data protection gaps, and proactive planning of future data protection needs.

Guided Optimization, using recommendations and dynamic reporting, results in cost and risk reductions, balanced resource utilization, automated job prioritization, and identification and resolution of data protection inefficiencies across the backup infrastructure.

Key product highlights
Real-time Operational Intelligence: personalized/customizable dashboards and reports, intelligent scheduling, root-cause analysis, scenario-based modeling and predictive analytics for resource balancing, and identification and resolution of potential conflicts and contentions

Zero Downtime Backup/Instant Recovery: array-based snapshot integrations provide rapid protection and recovery while removing the burden that traditional backup technologies have on the production environment

Storage optimization: with compression, federated deduplication, storage management and analytics, organizations achieve increased scalability and cost efficiency, and better utilization of the IT infrastructure

Automated Disaster Recovery: centralized bare metal recovery from physical to physical, physical to virtual, virtual to virtual, and virtual to physical from any backup set at no additional cost

Application consistent recovery: leading business application integrations extend backup, automated point-in-time recovery, and granular restores to application owners enabling them to manage, drive and service their own backup and recovery requirements based on the backup infrastructure defined by IT

Advanced virtual server protection: hypervisor integrations, and support, offer virtual machine protection inheritance, tiered recovery options, process automation, analytics and visualization for virtual environments

Standardized protection: a unified and flexible architecture enables centralized protection across

Overview

heterogeneous environments, disparate operating systems and critical applications from core datacenters to remote sites

Information Retention: automated retention and replication management across different backup media, storage tiers and locations for compliance and efficient long-term data retention

What's new in HPE Data Protector 9.05

HPE Data Protector 9.05 provides enhanced security, accelerated VMware virtual machine backup, integration with HPE StoreOnce RMC, support for recently announced LTO-7 tape drives and libraries, and updates to reflect the Hewlett Packard Enterprise branding.
Virtualization

- Parallel vmdk backup - makes virtual machine backup more efficient and faster through parallel processing of multiple virtual disks even within the same virtual machine

Security

- FIPS 140-2 encryption - certified cryptology module for disk agent software encryption

HPE integrations

- HPE StoreOnce RMC integration – delivers centralized management and reporting of the backup process for greater transparency, control and ability to prove compliance as needed.
- StoreOnce Catalyst support for AIX and Solaris – provides Catalyst over IP and fiber channel support, and Federated Catalyst support for AIX and Solaris, expanding the support that is already available for Windows, Linux, and HPE-UX platforms.
- LTO-7 support - support for the LTO-7 media, drives, and libraries
- HPE Storage Optimizer GUI integration – enables the access of the Storage Optimizer UI directly from the Data Protector GUI.

3rd Party Integration Enhancements

- Expanded support for EMC Data Domain Boost to AIX and Solaris platforms and support for Boost over Fiber Channel (FC) for all supported platforms.
- Usability
- HPE rebranding and versioning – updates include logo changes, copyright updates and changes to company name. Additionally, the individual client/agent versions are now displayed according to the patch bundle installed.

  Command Line Interface (CLA) enhancements - include add/remove a client from a backup specification and setting of include and exclude parameters to enable bulk editing of backup specifications in large environments.

HPE Backup Navigator

HPE Backup Navigator is a highly interactive and intuitive reporting application that combines strong visualization and real-time operational analytics to simplify and optimize the backup and recovery experience for HPE Data Protector environments.

- Intelligent dashboards - Dashboard reports provide valuable insights into the key performance indicators of the backup and recovery process, and more importantly, they're interactive and customizable allowing the IT administrator to filter, change, and modify views
- Real-Time predictive analytics - Gain visual foresight into the backup and recovery process based on

Overview

daily use, along with trending and forecasting algorithms to reveal future performance and capacity gaps and requirements specific to your data set characteristics, infrastructure capabilities, and organizational requirements

- Rapid root-cause analysis and problem solving - Proactively detect and address potential resource conflicts and systematic/systemic issues before they cascade into outages and data loss that negatively impact business operations.
- Collaboration and cross-system support - Automate the report creation process, allowing them to be scheduled and shared with stakeholders within the organization, or securely isolated and made available to external customers relying on the backup and recovery service. The same information can be exported in a variety of formats for inclusion into other organizational systems.
- Flexible reporting - Extensible reports can be customized and tailored to match the specific needs of the operator, organization, or customer, relying on the details for decision-making and taking appropriate action.
- "What-if" scenario evaluation - Get intelligent insights into current backup and recovery operations before new datasets are included into the process. Such insights can identify whether or not service-level agreements would remain achievable, the impacts to the backup infrastructure (physical capacity, network load, device loads, etc.), and the best ways to balance the demands of new datasets within the existing infrastructure.

What's new in HPE Backup Navigator 9.30

- New reports are to cover virtualization environment, drives, and HPE Data Protector
- Enhanced event notification and management
- Support for the remote HPE Backup Navigator agents installation on Windows
- Severity filtering in the session output reports
- Support for SUSE Linux Enterprise 12

HPE Data Protector Operations Manager integration

HPE Data Protector Smart Plug-in for HPE Operations Manager 9.0 and HPE Data Protector Management Pack 9.0 enable real-time intelligent monitoring, analysis, isolation, remediation and reporting solution for HPE Data Protector environments. By continually monitoring the health and state of each component of the backup and recovery infrastructure, IT administrators are actively updated. HPE Data Protector Smart Plug-in for HPE Operations Manager is an extension to HPE Operations Manager while HPE Data Protector Management Pack is offered as an extension for Microsoft Systems Center Operations Manager. These products provide the following benefits:

- Real-time discovery, visualization and utilization analysis - proactively monitor, cross-correlate, and auto-detect issues that impact backup and recovery operations in heterogeneous virtualized and physical infrastructures
- Instant diagnostics and actionable insight – separates cause from effect and dramatically accelerates diagnosis in simple or complex backup infrastructures providing IT administrators with actionable information by pinpointing the real root cause of data protection problems more quickly and accurately
- Context-sensitive issue isolation with assistive remediation – configurable alerting for correlated events, sustained conditions and escalations enabling the IT staff to remain abreast of critical issues in the backup and recovery infrastructure with assistive troubleshooting to resolve issues before they affect those who rely on the data protection service
- Collaboration and cross-system support - Automate the report creation process, allowing them to be scheduled and shared with stakeholders within the organization, or securely isolated and made available to external customers relying on the backup and recovery service. The same information can be exported in a variety of formats for inclusion into other organizational systems.

Overview

- Flexible visualization and reporting – intelligent insights into the current backup and recovery infrastructure presented graphically and tailored to the needs of the IT administrator enabling them to discover ways to improve utilization, identify unused components to better load balance workloads, identify whether or not Recovery Point Objectives and service-level agreements remain achievable, and visualize the precise information needed to enable proactive decision making and taking the most appropriate action associated with the report content
- Manage and control backup and recovery operations – context-sensitive orchestration of the HPE Data Protector backup and recovery technology stack (backup target(s)-to-cells-to-cell managers-to-backup agents) and control over the actions that can be taken on each to achieve a well-defined and fully optimized data protection posture

Hardware Support and Software Pre-Requisites

Hardware support

- Broad coverage of HPE-UX, Windows, Solaris, Tru64, OpenVMS, NetWare, Linux, AIX, and other operating environments
- ZDB/IR support for HPE P9000/P6000/P4000/3PAR, and ZDB support for NetApp and EMC Symmetrix disk arrays
- Built in software Backup to disk such as File Library and software de-dupe storage supports any direct connected storage that the server's operating system supports
- Disk-based backup appliances from HPE, EMC, Quantum, etc.
- HPE Tape libraries, StorageTek, ADIC, IBM, etc.
- For detailed information on Hewlett Packard Enterprise Data Protector support matrices please visit: http://www.hp.com/go/dataprotector

Software Pre-Requisites

Cell Manager Requirements	The Data Protector Session Manager does not support the IDB on a file system that is mounted as NFS type.

On Systems Running HPE-UX (IA64)

The Cell Manager must meet the following minimum requirements:

- The Soft File Limit per Process on the Cell Manager should be at least 1024.
- 8 GBRAM (For recovery of the Internal Database, twice as much total RAM is required.)
- For each parallel backup session 40 MB of RAM are required and 5 - 8 MB per data segment size. For example, if you want to run 60 parallel backup sessions 3 GB of RAM plus 512 MB for data segments are needed.
- 1.5 GB of free disk space + approximately up to 2% of planned data to be backed up (for use by the IDB).It is recommended to modify the kernel parameters as follows:
    - Set the kernel parameter shmmax (maximum size of a shared memory segment) to at least 2.5 GB. To check the configuration, execute:
    - kcusage shmmax
    - For recovery of the Internal Database, the parameter should be set to twice the above value.
    - Set the kernel parameter maxdsiz_64 (max data segment size) to at least 134217728 bytes (128 MB), and the kernel parameter semmnu (number of semaphore undo structures) to at least 256.
    - After committing these changes, recompile the kernel and reboot the machine.

Hardware Support and Software Pre-Requisites

On Systems Running Windows   The Cell Manager must meet the following minimum requirements:

- 4 GB of total RAM. For recovery of the Internal Database, twice as much total RAM is required. Each parallel backup session requires 40 MB of RAM. For example, 60 parallel backup sessions requires 3 GB of RAM.
- 1.5 GB of free disk space + approximately up to 2% of planned data to be backed up (for use by the IDB)2 × size_of_the_biggest_package_to_be_installed + 10 MB of disk space needed on the system driveOn Windows Server 2008 systems, the firewall must also be configured to accept "Remote Service Administration" (NP) connections (port 445).
- On Windows Server 2008 systems, administrative privileges are required to install Data Protector
- For viewing online help on the Data Protector Cell Manager, Internet Explorer 8.0 or later is required. Compatibility view should be disabled for locally stored websites. Mozilla Firefox 17.0.5 (Extended Support Release) or later. Other Web browsers may fulfill this requirement as well, but have not been tested.

On Linux Systems   The Cell Manager must meet the following minimum requirements:

- 4 GB of total RAM. For recovery of the Internal Database, twice as much total RAM is required. For each parallel backup session 40 MB of RAM are required and 5 - 8 MB per data segment size. This means that, for example, if you want to run 60 parallel backup sessions 3 GB of RAM plus 512 MB for data segments are needed.
- 1.5GB of free disk space + approximately up to 2% of planned data to be backed up (for use by the IDB).If the version of libstdc++ on the system is not 5 (for example libstdc++.so.6 instead of libstdc++.so.5) you need to install the compatibility package compat-2004 or compat-libstdc++.
- To install the Java GUI Server on Red Hat Enterprise Linux 4.0, the libstdc++-4.0.2-8.fc4.x86_64.rpm package is required. If yours system does not already contain a 64-bit version of libstdc++. So. 5 then you must install it with libstdc++-3.3.3-7.x86_64.rpm.
- Requirements for viewing online Help on the Data Protector Cell Manager are the same as on Data Protector Clients.

Installation Server and Client System Requirements

Installation Server Requirements

On Systems Running
HPE-UX

The Installation Server must meet the following minimum requirements:

- 512 MB of available RAM
- 1.5 GB of free disk space
- The inetd daemon must be installed and running

On Systems Running
Windows Server

The Installation Server must meet the following minimum requirements:

- 512 MB of available RAM
- 2 GB of disk space
- Administrative privileges are required to install Data Protector 8.10. You must also configure a user account whose credentials will be used during remote installation.

On Systems Running
Linux

The Installation Server must meet the following minimum requirements:

- 512 MB RAM
- 1.5 GB of disk space
- The inetd or xinetd daemon must be installed and running

Deduplication Store Server Requirements

- It is recommended to have a dedicated Deduplication Server

	CPU speed (GHz) / Number of cores	Physical memory dedicated to the StoreOnce Software	Number of disks (dedicated to the store)
Minimum requirements	2.8 / 2 core	4 GB RAM	1
Recommended requirements	2.8 / 4-6 cores	6 GB RAM	4 or more using RAID 5

Client System Requirements

On Systems Running
UNIX

- The prerequisite for remote installation of the Data Protector client is the following:
- The inetd or xinetd (on Linux) daemon must be up and running on the remote client system. The prerequisite for viewing online Help on the Data Protector client is the following:

QuickSpecs

Installation Server and Client System Requirements

Disk space and RAM requirements of Data Protector UNIX clients

The following table shows the minimum disk space and RAM requirements for the various Data Protector clients:

Client System	RAM (MB)	Disk Space (MB)
Disk Agent	64 (recommended 128)	20
Media Agent	64 (recommended 128)	20
Integration modules	64 (recommended 128)	20
English Documentation & Help	N/A	100

NOTE: The figures indicate requirements for the components only. For example the "disk space" figure does not include space allocation for the operating system, page file or other applications.

HPE-UX Systems

When installing or upgrading remotely, the minimal available disk space in the folder /tmp should be the same size as the biggest package being installed.

For HPE-UX 11.11, the IPv6NCF11i bundle or TOUR/IPv6 support is required to enable the Internet Protocol version 6 (IPv6).

Solaris Systems

When installing a Media Agent, make sure that the following entry is in the file /etc/system: set semsys:seminfo semmni=100

When installing or upgrading remotely, the minimal available disk space in folders /tmp and /var/tmp should be the size of the biggest package being installed.

On Systems Running Windows

The prerequisites for Windows user interface installation and remote installation on the client are:

- On Microsoft Windows XP Professional systems, Service Pack 3 must be installed.
- On Microsoft Windows Server 2003 systems, Service Pack 2 must be installed.
- For viewing the Help, you need a Web browser that is able to run under the same account as the Data Protector GUI process. JavaScript must be enabled in the Web browser. The following Web browsers are supported:
  - Windows Internet Explorer 8.0 or later. Compatibility view should be disabled for locally stored websites.
  - Mozilla Firefox 17.0.5 (Extended Support Release) or later
- Other Web browsers may fulfill this requirement as well, but have not been tested.

Installation Server and Client System Requirements

The following table presents the minimum available RAM and disk space requirements for different Data Protector Windows client components:

Client System	RAM (MB)	Disk Space (MB)
User Interface	512[1]	150[2]
Disk Agent	64 (recommended 128)	20
Media Agent	64 (recommended 128)	20
Integration modules	64 (recommended 128)	20
English Documentation & Help	N/A	85

NOTES:

[1]Memory requirements for the GUI system vary significantly with the number of elements that need to be displayed at a time. This consideration applies to the worst case (like expanding a single directory). You do not need to consider all directories and file names on a client, unless you want to expand all directories while viewing. It has been shown that 2 MB of memory is required per 1,000 elements (directories or file names) to display, plus a base requirement of 50 MB. So the 256 MB of RAM is enough to display the maximum number of file names.

[2]Regarding the disk space, keep in mind that the page file alone should be able to grow to about 3 times the physical memory.

The figures indicate requirements for the components only. For example the "disk space" figure does not include space allocation for the operating system, page file or other applications.

Newer Windows Operating Systems and Service Packs

Windows versions subsequent to Windows XP Service Pack 2 and Windows Server 2003 introduce an improved version of the Internet Connection Firewall (ICF), under a new name as Microsoft Firewall. The firewall is turned on by default. During the installation of a new Data Protector client using the Installation Server, the installation agent is started on the remote computer. The Installation Server then connects to this agent through the Data Protector cell port (by default 5555). However, if Microsoft Firewall is running, the connection cannot be established and the installation fails.

To resolve this, perform one of the following steps:

- Configure Windows Firewall to allow connections through a specific port.
- If the omnirc variable OB2FWPASSTHRU is set on the Installation Server, the installation agent automatically registers itself with Windows Firewall and the installation continues normally.

Installation Server and Client System Requirements

Java web reporting	To use Data Protector Java web reporting, the following prerequisites must be fulfilled:

A supported Web browser must be installed on the system. A supported Java runtime environment must be installed on the system and enabled in the Web browser

A supported Java runtime environment must be installed on the system and enabled in the Web browser

Microsoft Internet Explorer:

The default web browser security settings prevent webpages from running scripts or using ActiveX controls. To allow the web browser to run scripts and use ActiveX controls in order to enable Data Protector Web Reporting, click Allow blocked content in the Internet Explorer Information bar. To permanently allow blocked content, select Tools > Internet Options > Advanced, locate the Security section and select the option Allow active content to run in files on My Computer. |
| Local Client Installation | UNIX clients are installed locally using the installation script omnisetup.sh. You can install the client locally from the HPE-UX DVD-ROM and import it to the Cell Manager using automated procedure.

For the installation procedure see the HPE Data Protector installation and licensing guide. |
| Upgrade | The procedures for upgrading to Data Protector 9.0 from Data Protector 6.2, 7.0, 8.0 and 8.1 are documented in the HPE Data Protector Installation and Licensing guide. To upgrade from an even earlier version, you first need to upgrade to one of the above mentioned Data Protector versions, and then upgrade to Data Protector 9.0 following the instructions in the HPE Data Protector Installation and Licensing Guide. |

Requirements for HPE Data Protector Services on Windows Server 2003 and Windows Server 2008

HPE Data Protector uses four services:

Inet	Backup client service
CRS	Cell Manager service
RDS	Cell Manager Database service
UI-Proxy	User Interface proxy service

By default, Inet and RDS services are running under the Local System account, and CRS and UIProxy services are running under the Administrator account.
You can change the account information for any of these services. However, the following are minimum requirements that must be met by the new accounts:

QuickSpecs

Installation Server and Client System Requirements

Service	Resource	Minimum resource permission required by service
RDS	Data _ Protector _ program _ data\db40(WindowsServer2008) Data _ Protector _ home\db40 HKLM\ SOFTWARE\Hewlett Packard Enterprise\OpenView\OmniBackII	Full access Read
CRS	Data _ Protector _ program _ data (WindowsServer2008) Data _ Protector _ home HKLM\ SOFTWARE\Hewlett Packard Enterprise\OpenView\OmniBackII	Full access Full access
Inet	Backup and Restore Take Ownership	
UIProxy	HKLM\ SOFTWARE\Hewlett Packard Enterprise\OpenView\OmniBackII	Read

Files installed in the %SystemRoot%\ system32 folder	The following files are placed (depending on the components selected) into %SystemRoot%\ system32 folder on Windows systems:

BrandChgUni.dll   This is a resource library. It is used only internally; however, it Also contains the path to registry settings, so it must be located In a well-known location where it can be accessed by Integration libraries.

libarm32.dll   This is a NULL shared library for ARM instrumentation. It may be replaced by third-party monitoring software.

ob2informix.dll   This library is used to integrate with the Informix Server database.

snmpOB2.dll   This library is used to implement system SNMP traps.

Backup Agents	Windows /XP/2003/2008/Vista/7/2008 R2/2012/2012 R2; Novell OES; HPE-UX; Sun Solaris; Linux Red Hat/SUSE/Debian/OEL/CentOS,; IBM AIX; SGI IRIX;; SCO OpenServer,; OpenVMS; MacOS Additional operating systems supported via: - NFS/shared disk, CIFS - NDMP NAS filer: - HPE X9000 - HPE NAS 8000 - HPE Storage Server NAS - Network Appliance filers - EMC Celerra - Hitachi BluArc
Application Agents	- Oracle®, Informix, Sybase, MS SQL Server, MS SQL, MS Exchange, MS SharePoint, MS DPM, SAP, SAP DB/MaxDB, Baan IV, Lotus Notes, Lotus Domino, DB2, Autonomy LiveVault and Autonomy Connector Framework Server - Full virtual platform integration with VMware vSphere, ESXi and ESXI server using vStorage API for Data Protection (VADP) and VMware Consolidated BackupVM-level support for Citrix XenServer, HPE Integrity Virtual Machine, MS Virtual Server, MS Windows 2008/2008R2 Hyper-V Backup device servers - with robotic control (for control of tape drives and tape library systems, including shared tape libraries) - Windows XP/2003/2008/2008 R2, HPE-UX, Sun Solaris, Novell NetWare OES, Linux Red Hat/SUSE/Debian, OpenVMS, IBM Aix - Granular Recovery agent for SharePoint 2007 & 2010; VMware vSphere, Exchange 2010
High Availability Applications	- Clusters: RH & SLES Clusters, Microsoft® Cluster Server, HPE MC/Serviceguard, VERITAS Cluster, Tru64 Cluster, Novell Netware Cluster, OpenVMS Cluster and HPE EFS Clustered Gateway - Zero-downtime backup: HPE Business Copy XP/P9000 and Continuous Access XP/P9000, HPE Business Copy EVA HPE Continuous Access EVA, HPE SAN/iQ Snapshots, HPE 3PAR Virtual Copy, HPE P2000 Snapshots , EMC TimeFinder and EMC SRDF, EMC CLARiiON SnapView-Snapshots and NetApp snapshots - Instant recovery: HPE Disk Array XP/P9000, EVA and P4000

QuickSpecs

Application Platforms

Management Platforms	Management Systems	• Windows • HPE-UX • Linux
	Manager-of-Managers	• Windows • HPE-UX • Linux

Supported Backup Devices	Supported Technologies	• Data Protector supports a wide range of HPE and non-HPE disk and tape devices. For a full list, check the compatibility matrices on hp.com/go/dataprotector. • DDS, DLT, DLT1, Super DLT, QIC/Travan, Magneto-Optical, Mammoth M2, Eliant, IBM 3590 (Magstar), STK 9840, STK 9940, AIT and LTO Ultrium. • Supported range of standalone backup devices, auto changers, library systems and silos from Hewlett Packard Enterprise, StorageTek, Sony, Dell, Seagate, ADIC, ATL, Spectralogic, Exabyte, Quantum, Breece Hill, Overland Data and others. • Supported range of disk devices from Hewlett Packard Enterprise, EMC, IBM, Quantum, Sepaton, FalconSttor, and Exagrid • One Button Disaster Recovery • Support for StoreOnce Software Deduplication • Support for Backup device server (Media Agent) with Deduplication.

Storage Networking	Supported Technologies	• Storage configurations in SAN • iSCSI (SCSI over TCP/IP), FCIP (FC over IP) and iFCP (Internet FC Protocol)

For the latest platform, integration, cluster and device support information and other details, please consult: http://www.hp.com/go/dataprotector

Licenses, Services and Warranties

Distribution Media	DVD (physical), download (electronic)

Documentation	Data Protector software manuals are available in PDF format. Install the PDF files during the Data Protector software setup procedure by selecting the English Documentation (Guides, Help) component on Windows or the OB2-DOCS component on UNIX. Once installed, the manuals reside in the <Data_Protector_home>\docs directory on Windows and in the /opt/omni/doc/C/ directory on UNIX. Data Protector software support matrices can be found at the above mentioned locations in the support_matrices sub-directory. You can also find the manuals in PDF format at http://support.openview.hp.com/selfsolve/manual

Data Protector software also provides Help topics and context-sensitive (F1) Help for Windows and UNIX platforms. You can access the Help from the top-level directory of any installation DVD-ROM without installing Data Protector:

- Open DP_help.chm (on Windows)
- Unpack the zipped tar file DP_help.tar.gz, and access the Help system through DP_help.htm (on UNIX)

The latest version of the Acrobat Reader software is available at: http://www.adobe.com.
Documentation
The HPE Data Protector documentation set consists of the following guides:

HPE Data Protector Getting Started Guide
This guide provides an overview of the basic Data Protector functionality and is designed to help you get started with the product

HPE Data Protector Concepts Guide
This guide describes Data Protector concepts and provides background information on how Data Protector works. It is intended to be used with the task-oriented online Help.

HPE Data Protector Installation and Licensing Guide
This guide describes how to install the Data Protector software, taking into account the operating system and architecture of your environment. This guide also gives details on how to upgrade Data Protector, as well as how to obtain the proper licenses for your environment.

HPE Data Protector Troubleshooting Guide
This guide describes how to troubleshoot problems you may encounter when using Data Protector.

HPE Data Protector Disaster Recovery Guide
This guide describes how to plan, prepare for, test, and perform a disaster recovery.

HPE Data Protector Integration Guides
These guides describe how to configure and use Data Protector to back up and

Licenses, Services and Warranties

restore various databases and applications. They are intended for backup administrators or operators. There are six guides:

- HPE Data Protector Integration Guide for Microsoft Applications: SQL Server, SharePoint Server, and Exchange Server
  This guide describes the integrations of Data Protector with the following Microsoft applications: Microsoft SQL Server, Microsoft SharePoint Server, and Microsoft Exchange Server.
- HPE Data Protector Integration Guide for Oracle and SAP
  This guide describes the integrations of Data Protector with Oracle Server, SAP R/3, and SAP MaxDB.
- HPE Data Protector Integration Guide for IBM Applications: Informix, DB2, and Lotus Notes/Domino
  This guide describes the integrations of Data Protector with the following IBM applications: Informix Server, IBM DB2 UDB, and Lotus Notes/Domino Server.
- HPE Data Protector Integration Guide for Sybase, Network Node Manager, and Network Data Management Protocol Server
  This guide describes the integrations of Data Protector with Sybase Server, HPE Network Node Manager, and Network Data Management Protocol Server.
- HPE Data Protector Integration Guide for Virtualization Environments
  This guide describes the integrations of Data Protector with virtualization environments: VMware Virtual Infrastructure and VMware vSphere, Microsoft Hyper-V, and Citrix XenServer.
- HPE Data Protector Integration Guide for Microsoft Volume Shadow Copy Service
  This guide describes the integration of Data Protector with the Microsoft Volume Shadow Copy Service. This guide also documents application writer specifics.

HPE Data Protector Zero Downtime Backup Concepts Guide
This guide describes Data Protector zero downtime backup and instant recovery concepts and provides background information on how Data Protector works in a zero downtime backup environment. It is intended to be used with the task-oriented HPE Data Protector Zero Downtime Backup Administrator's Guide and the HPE Data Protector Zero Downtime Backup Integration Guide.

HPE Data Protector Zero Downtime Backup Administrator's Guide
This guide describes how to configure and use the integration of Data Protector with HPE P6000 EVA Disk Array Family, HPE P9000 XP Disk Array Family, HPE P4000 SAN Solutions, NetApp and EMC Symmetrix Remote Data Facility and TimeFinder. It is intended for backup administrators or operators. It covers the zero downtime backup, instant recovery, and the restore of file systems and disk images.

HPE Data Protector Zero Downtime Backup Integration Guide
This guide describes how to configure and use Data Protector to perform zero downtime backup, instant recovery, and standard restore of Oracle Server, SAP R/3, Microsoft Exchange Server, and Microsoft SQL Server databases.

HPE Data Protector Integration Guide
This guide describes how to configure and use the following:

Licenses, Services and Warranties

- IBM Informix Server integration, IBM DB2 UDB integration, and IBM Lotus Notes/Domino Server integration.
- Microsoft SQL server integration, Microsoft SQL Server 2007/2010/2013 integration, Microsoft SharePoint Server VSS based solution, Microsoft Exchange Server 2007 integration, Microsoft Exchange Server 2010 integration, and Microsoft Exchange Single Mailbox integration.
- Oracle Server integration, SAP R/3 integration, SAP MaxDB integration, and SAP HANA Appliance integration. I
- Sybase Server integration, Network Data Management Protocol Server integration, and NetApp SnapManager solution.
- VMware - Virtual Environment integration and Microsoft Hyper-V - Virtual Environment integration.

HPE Data Protector Deduplication White Paper
This technical white paper describes how Data Protector integrates with Backup to Disk devices introducing support for deduplication. By supporting deduplication, several new concepts are added to Data Protector, including a new device type, the Backup to Disk device, and two interface types - the StoreOnce Software deduplication and the StoreOnce Backup System. Backup to Disk devices and deduplication are both discussed in detail in this document.

HPE Data Protector Integration with Autonomy IDOL Server White Paper
This technical white paper describes the integration of Data Protector with Autonomy IDOL Server, which introduces e-discovery for enterprise environments where Data Protector is used as the data protection application. The white paper guides you through all usage aspects of the Data Protector IDOL Server integration: installation and configuration, indexing Data Protector backup images, restoring on a basis of full content search, and troubleshooting. Where needed, cross-references point to Data Protector and IDOL Server documentation.

HPE Data Protector Integration with Autonomy LiveVault White Paper
This technical white paper describes the integration of Data Protector with Autonomy LiveVault®, which introduces cloud backup for enterprise environments where Data Protector is used as the data protection application. The white paper guides you through all usage aspects of the Data Protector LiveVault integration: installation and configuration, backup policy management, cloud backup, restore of data from the LiveVault cloud to a system in the Data Protector cell (cloud restore) and troubleshooting. Where needed, cross-references point to Data Protector and LiveVault documentation.

HPE Data Protector Product Announcements, Software Notes, and References
This guide gives a description of new features of the latest release of HPE Data Protector software. It also provides information on installation requirements, required patches, and limitations, as well as known issues and workarounds.

HPE Data Protector Command Line Interface Reference
This guide describes the Data Protector command-line interface, command options and their usage as well as providing some basic command-line examples.

QuickSpecs

Licenses, Services and Warranties

Software Licensing

NOTE: Beginning with Data Protector 8.10, new license key passwords will be issued. All old passwords (issued for DP versions prior to 8.10) are no longer valid and not recognized by HPE Data Protector 8.10. For newly purchased licenses, you need to select the product version (7.00 or earlier, 8.00 or 8.10) when requesting a password. A password generated for HPE Data Protector 8.10 will not work with any previous version of Data Protector. Existing Data Protector customers need to have a valid active support agreement in place, covering the quantity and types of licenses eligible to upgrade their license passwords.

HPE Data Protector supports 2 licensing schemes:

- Traditional licensing based on features and backup targets - available for all versions of HPE Data Protector software
- Capacity Based Licensing - available with HPE Data Protector 7.01 and above

Traditional Licensing

Data Protector supports essentially 3 different backup targets (snapshot, disk and tape). Depending on which one used the customer would license one or all targets as they also can be combined. In addition the customer can control performance of the backup by parallelizing use of targets.

The product structure is modular and offers a lot of flexibility. You can order the license that provides the Data Protector software functionality, which best meets the specific requirements of your environment. The Data Protector software 7.0 product structure and licensing consists of three main categories:

- The Starter Packs: A management server (Cell Manager) is supported on HPE-UX,
  Windows and Linux.
- Backup targets such as tape drive licenses, referred to as Drive Extensions, for one drive, advanced backup to disk and Zero Downtime Backup both licensed by capacity
- Data Protector Functional Extensions: The functional extensions licenses are required once per instance (system, library and terabyte) for on-line backup of databases and applications, the Manager-of-Managers functionality, for libraries with more than 60 media slots, encryption, Instant Recovery, NDMP, Granular Recovery Extension,

NOTE: The UNIX product licenses operate on the UNIX, Windows and Novell NetWare platforms, providing the functionality regardless of the platform, while the Windows product licenses operate on the Windows, Novell NetWare and Linux platforms only. Passwords are bound to the Cell Manager and are valid for the entire Data Protector cell. Clients do not require any license for file system or disk image backups.

Capacity Based Licensing
The capacity based product structure is introduced in Data Protector 7 Update 1 (DP 7.01) release. It is based on the volume of primary data protected by HPE Data Protector. The capacity is measured in "Front End Terabytes" or Front End TB. The total amount of Front End Terabytes is defined as the aggregate amount of source data from the largest full backup per backup specification under retention.   The

Licenses, Services and Warranties

following features are included in the capacity based license:

- Cell Managers & Manager of Managers
- Tape Drives and Libraries
- Online Backup & Granular Recovery Extensions
- Zero Downtime Backup & Instant Recovery
- Advanced Backup to Disk & NDMP
  NOTE: Software encryption is NOT included and must be ordered separately

The complementary products that are sold separately are:

- Distribution Media (DVD sets)
- Media Operations*
- IDOL Server (req. to take advantage of the inclusive IDOL integration)
- HPE Cloud Backup "protection plan" to use the integrated Cloud Backup
- HPE Backup Navigator
- HPE DP Extended Online Backup
- DP ZDB for non HPE Storage Arrays
- Data Protector Management Pack
- Data Protector Smart Plug-in for HPE Operations Manager

*HPE Data Protector Media Operations is only available for DP version 7.0x.

NOTE: Traditional and Capacity product structures can be utilized by the same customer but they cannot be combined on the same Cell Manager or MoM environment. The complementary products listed are the exception to this as these license can be combined with both Data Protector Traditional and Capacity Based Licensing methods. Migration from traditional product structure to capacity based product structure is supported – please contact your authorized Hewlett Packard Enterprise sales representative for details. Both licensing models are valid for any size of environment.

NOTE: For more information on IDOL integration and Integrated Cloud Backup, please contact your Hewlett Packard Enterprise sales representative.

Additional license authorizations and restrictions applicable to your software product are found at: http://www.hp.com/go/SWLicensing

---

Software Warranty

Hewlett Packard Enterprise warrants only that the software media will be free of physical defects for a period of ninety (90) days from delivery. For more information about HPE Global Limited Warranty and Technical Support, visit: http://h40059.www4.hp.com/warranty/support/tc.php

Licenses, Services and Warranties

HPE Software Support

HPE Foundation Care 24x7 Service
HPE Foundation Care 24x7 connects you to Hewlett Packard Enterprise 24 hours a day, seven days a week for assistance on resolving issues - hardware onsite response within four hours and software call back within two hours after opening your case. Make HPE your first call for hardware or software questions; Collaborative Support is included in all Foundation Care Services for this product and provides troubleshooting assistance on software such as Microsoft Server, Red Hat Linux, VMware and more. Three years' coverage recommended with HPE Care Pack Service.

HPE Foundation Care Next Business Day Service
HPE Foundation Care Next Business Day connects you to HPE during business hours for assistance on resolving issues - features next business day hardware onsite response and software call back within two hours after opening your case. Make HPE your first call for hardware or software questions; Collaborative Support is included in all Foundation Care Services for this product and provides troubleshooting assistance on software such as Microsoft Server, Red Hat Linux, VMware and more. Three years' coverage recommended with HPE Care Pack Service.

PLEASE **NOTE:** Support is NOT bundled with the software license and must be ordered separately. Orders that do not include a minimum of a 1-year support contract will be rejected.

For more information on these support offerings, please see:
http://www.hp.com/go/hpsoftwaresupport.

HPE Services: Scalable, Flexible and Reliable

The HPE QuickStart Services provide customers with improved speed and confidence in IT infrastructure deployment, and prepare their IT staff and processes for operational success. These services are a suite of scalable, clearly defined service engagements that provide product and solution deployment consistent with HPE specifications. QuickStart Services help ensure a successful implementation, improve the productivity of your technical staff and allow your IT resources to stay focused on their core tasks and business priorities.

For more information contact your Hewlett Packard Enterprise sales representative or authorized business partner.

QuickSpecs

Licenses, Services and Warranties

HPE Autonomy Education

Autonomy Education is a well-established training department that strives at all times to deliver the best possible learning experience. With a team of experienced trainers and subject matter experts from around the world, our department offers you well designed training courses that range from Infrastructure Technologies, Pan-Enterprise Search, eDiscovery, Content Management, Customer Interactions through to Business Process Management, Records Management and eCommerce.

To learn more about Autonomy's training offerings, including course detail, please visit Course Training Schedule page:
https://registration.autonomy.com/autonomy/schedule.php?
CType=Archiving+%26+Records+Management&PType=Power

HPE Financial Services

HPE Financial Services provides innovative financing and financial asset management programs to help customers cost-effectively acquire, manage, and ultimately retire their HPE solutions. For more information on these services, please contact your Hewlett Packard Enterprise sales representative or visit:
http://www.hp.com/go/hpfinancialservices

Configuration Information

Traditional Licensing

All UNIX Licenses-To-Use (LTU) can be used for Microsoft Windows, NetWare, Linux systems if applicable

Step 1 - Starter Packs

Product Name		Description	Part Number
HPE Data Protector		License Only	
Starter Packs		for HPE-UX	B6951BA
		for Windows	B6961BA
		for Linux	B6961CA
	E-Delivery	for HPE-UX	B6951BAE
	E-Delivery	for Windows	B6961BAE
	E-Delivery	for Linux	B6961CAE
		Media Only (DP 9.0)	
		English	TD586EA
		French	TD586EF
		Japanese	TD586EJ
		Simplified Chinese	TD586ES
		Media Only (DP 9.0)	
	E-Delivery	English	TD586EAE
	E-Delivery	French	TD586EFE
	E-Delivery	Japanese	TD586EJE
	E-Delivery	Simplified Chinese	TD586ESE
		Media Only (DP 8.1)	
		English	TD586DA
		French	TD586DF
		Japanese	TD586DJ
		Simplified Chinese	TD586DS
		Media Only (DP 8.1)	
	E-Delivery	English	TD586DAE
	E-Delivery	French	TD586DFE
	E-Delivery	Japanese	TD586DJE
	E-Delivery	Simplified Chinese	TD586DSE

NOTE: Please, make sure that latest patches are applied, in order to have access to the latest functionality and level of localization. Patches can be found at http://support.openview.hp.com/selfsolve/patches

The Starter Pack license is the foundation of a Data Protector backup environment and is required in all installations. It includes the license-to-use (LTU) for:

- one management server (cell manager) on the specified platform
- unlimited number of backup clients (agents) on any platform
- one drive license (B6951xx contains 1xB6953AA, and B6961xx contains

Configuration Information

1xB6963AA)
- built in media management
- libraries up to 60 slots
- System Disaster Recovery options
- sophisticated reporting (in Data Protector GUI and via the web)
- service-centric management through integrations into HPE software. This license is obligatory.

Individual licenses are required for additional drives and additional functionality All UNIX Starter Pack licenses can also be used as a substitute for a Windows, NetWare, and or Linux Starter Pack.

The base Data Protector media kit consists of 3 DVDs, including HPE Data Protector for all platforms, all integrations into other HPE software, and electronic manuals.

NOTES:

- In case the Cell Manager is running in a cluster using the same virtual IP address for all nodes in the cluster, only one starter pack is required.
- In case the Cell Manager is running in a virtual machine environment one starter pack is required for each individual Cell Manager IP Address.

Step 2 - Drive and Library Extensions

HPE Data Protector Backup Drive		Description	Part Number
		for UNIX, NAS, SAN	B6953AA
	E-Delivery	for UNIX, NAS, SAN	B6953AAE
HPE Data Protector Backup Drive		Description	Part Number
		for Windows, NetWare, Linux (Intel))	B6963AA
	E-Delivery	for Windows, NetWare, Linux (Intel)	B6963AAE

For SAN, UNIX, NAS:
Includes the license-to-use (LTU) for one drive, directly attached to a UNIX, OpenVMS system, a NAS device or used in a SAN.

A drive can be a tape drive, a file device, or Magneto Optical drive.
You need as many licenses as there are drives in use at any point in time. This is typically the total number of configured drives to allow all drives to be used simultaneously.

- Drive licenses cannot be shared between multiple Cells.
- This license can also be used as a substitute for the Windows, NetWare, and Linux license. However, if the drive is not used in a SAN, it is more affordable to use B6963AA.
- This license is required for NAS systems managed via NDMP (for example Network Appliance Filers and EMC Celerra File Servers), or NAS systems requiring a Data Protector proprietary Device Server (Media Agent), (for example HPE NAS 8000). NAS systems powered by Windows, NetWare, or standard Linux, which can run a standard Data Protector Device Server (Media Agent), require only the Data Protector drive extensions for Windows, NetWare, Linux (B6963AA).

For Windows, NetWare, Linux:
Includes the license-to-use (LTU) for one drive directly attached to a Windows, NetWare, or Linux (Intel) system. A drive can be a tape drive, a file device), or Magneto Optical drive.
You need as many licenses as there are drives in use at any point in time. This is typically the total number of configured drives to allow all drives to be used simultaneously.

- Drive licenses cannot be shared between multiple Cells.
- In case that multiple systems access the drive in a SAN, the drive extension for UNIX, NAS, SAN (B6953AA) is required. A Fiber Channel point-to-point connection is not considered a SAN.
- This license is valid for drives attached to NAS devices powered by Windows, NetWare or Linux, which can run a standard Data Protector Device Server (Media Agent).

For supported drives please refer to the Data Protector support matrixes at the following web link: http://www.hp.com/go/dataprotector

HPE Data Protector Library extension		Description	Part Number E-Delivery
		with 61-250 slots	B6957BA
		with unlimited slots	B6958BA
		upgrade to unlimited slots library	B6958CA
	E-Delivery	with 61-250 slots	B6957BAE
	E-Delivery	with unlimited slots	B6958BAE
	E-Delivery	upgrade to unlimited slots library	B6958CAE

Includes the license-to-use (LTU) for managing tape libraries with the number of physically available slots within one Data Protector Cell. Required once per library.

- STK silos using ACSLS and GRAU/EMASS library systems using DAS require the unlimited slots license.
- This license is based on the physical slots inside the library, not logical slots. For example Data Protector allows partitioning a physical 120 slots library into two logical 60 slots libraries. Still one 61 - 250 slots library extension is required
- Libraries with the capability to create virtual partitions also require the license based on the number of physically available slots once per physical library.
- In case of library sharing between multiple Cells, the Manager-of-Managers LTU is required for each Cell to license the library across all Cells with one license. Otherwise, one license is required for each Cell.
- For supported libraries please refer to the Data Protector support matrixes under: http://www.hp.com/go/dataprotector

Step 3 - Functional Extensions

HPE Data Protector On-line extension	Description	Part Number E-Delivery

Configuration Information

	for UNIX	B6955BA
	for Windows, Linux	B6965BA
E-Delivery	for UNIX	B6955BAE
E-Delivery	for Windows, Linux	B6965BAE

Includes the license-to-use (LTU) to perform on-line backup of databases and applications running on the specified platform. Required per server, it does not matter how many databases are running on the system. Even if databases of different types are running on the same system, only one license is required. As a general rule, every system responsible for storing application data to be protected in an online state requires a Data Protector online backup LTU.

- If a system runs multiple partitions, this LTU is required for each partition.
- In a cluster environment, each system participating in the cluster requires a LTU.
- In an Oracle RAC (Real Application Cluster) each cluster node with an installed Application Agent requires one Online Backup LTU.
- Online Backup LTUs are required when using Zero Downtime Backup to protect applications.
- Open file backup and restore using the Windows file system snapshot feature VSS (Volume Shadow copy Service) does not require the Online Backup LTU. However, Online Backup of databases, which are not part of the operating system, requires this Online Backup extension. System configuration backup does not require the Online Backup LTU.
- Required for MS Exchange Single Mailbox backup
- Each node with a configured Oracle DataGuard standby database in Data Protector requires this license.
- Not required for HPE Network Node Manager Online Backup
- Not required for HPE Systems Insight Manager Online Backup.
- For supported databases please refer to the Data Protector support matrixes at: http://www.hp.com/go/dataprotector

Online Backup Licensing in Virtual Environments

- vStorage API for data protection (VADP) and VMware ESX/ESXi Server backup require one Online Backup LTU for Windows, Linux license per ESX/ESXi server
  NOTE: VCB-host, vCenter Server and the VMware vCloud Director integration doesn't require a separate license as it is covered by the license per ESX host
- Microsoft Hyper-V environments require one Online Backup LTU for Windows, Linux license per physical Hyper-V server.
- Additional Online Backup LTU is highly recommended for each virtual machine that contains application-specific agents.
- For virtual environments, the same licensing requirements apply for array assisted snapshots - see ZDB&IR licensing description for more details.
- Online backup of an application/database on a VMware Virtual Machine requires one license per virtual machine. Previous script-based solutions can continue to be used without additional licensing, but those scripts are no longer supported by HPE and need to be maintained by the customer on versions Data Protector 6.1 and beyond.

Configuration Information

Online Backup Licensing for Microsoft SharePoint

- For SharePoint environments, an Online Backup LTU is required for each physical system that contains persistent data, such as content databases or index servers.

HPE Data Protector Granular Recovery Extension		Description	Part Number
		for 1-server	TB737AA
	E-Delivery	for 1-server	TB737AAE

Includes the license to restore single items from a backup done on a single server with a Data Protector Online Backup extension (in this case the DP Online Backup LTU is required).

For other backup sources like offline backups or 3rd party backup of the GRE supported applications, one GRE license is needed per target server to which items will be recovered with GRE. The GRE license is locked to that server for 1 year; afterwards it can be used for a different server

Granular Recovery Extension Licensing for Microsoft SharePoint

- For SharePoint environments, a Granular Recovery Extension is required for each physical server that contains a content database which backup acts as a source for recovering a single document, a directory or an entire site.

Granular Recovery Extension Licensing for VMware

- For VMware, a Granular Recovery Extension (GRE) license is required for each ESX server that hosts one or multiple VM virtual machines during backup and which files are recovered using GRE.

One DP Online Backup LTU is required per system to perform a backup that can be used for Granular Recovery.

Granular Recovery Extension Licensing for Exchange
The Granular Recovery Extension (GRE) for Microsoft Exchange 2010 requires a GRE license for each Exchange server that hosts one or multiple databases that needs to be backed up.

HPE Data Protector Encryption extension		Description	Part Number
		for 1-server/workstation	BB618AA
		for 10-servers/workstations	BB618BA
	E-Delivery	for 1-server/workstation	BB618AAE
	E-Delivery	for 10-servers/workstations	BB618BAE

Includes the license-to-use (LTU) and media to encrypt all backup data of one HPE Data Protector client server or workstation with the HPE Data Protector AES 256 bit encryption software. Required once for each HPE Data Protector client (Agent / Application Agent) with encryption configured.

- Tape drive based encryption is free of charge and does not require this license.
- In a cluster environment, each system participating in the cluster requires a

Configuration Information

LTU.

HPE Data Protector Manager-of-Managers extension		Description	Part Number
		for UNIX	B6956AA
		for Windows	B6966AA
E-Delivery		for UNIX	B6956AAE
E-Delivery		for Windows	B6966AAE

Includes the license-to-use (LTU) for each Data Protector management server (Cell Manager), running on the specified platform, to be part of a Manager-of-Managers environment.

- Required to share tape libraries between multiple Data Protector cells.
- Required in addition to the Cell Manager license.
- Ideal solution for central backup management of branch offices.
- B6956AA (Unix MoM) can also be used for a Windows management server (Cell Manager) if required

HPE Data Protector Advanced Backup to Disk extension		Description	Part Number E-Delivery
		for 1 TB	B7038AA
		for 10 TB	B7038BA
		for 100 TB	B7038CA
E-Delivery		for 1 TB	B7038AAE
E-Delivery		for 10 TB	B7038BAE
E-Delivery		for 100 TB	B7038CAE

Includes the license-to-use (LTU) for 1 TB of backup disk storage. Required once per terabyte (TB) usable native capacity of backup disk storage.
- The "Advanced Backup to Disk" license is required to backup to a Data Protector File Library and to a Data Protector Backup To Disk Device Type, and can be used instead of drive licenses to backup to a Virtual Tape Library.

- Usable native capacity of a HPE Data Protector Backup To Disk device is the size on disk of the Backup To Disk device consumed by all protected HPE Data Protector backups. This includes Data Protector StoreOnce Software Store, StoreOnce Catalyst, Data Domain Boost, Smart Cache and Cloud.

- For Automated Replication Synchronization, only the source repository needs to be licensed to the source Cell Manager and the target repository needs to be licensed to the target Cell Manager.

- The capacity contained in the Cloud Backup to Disk type will not count towards the Advanced Backup to Disk license capacity for the Data Protector 9.01 version of VMware Object Copy to HPE Helion cloud functionality.

- Usable native capacity of a HPE Data Protector File Library is the available size on disk for the file library, as reported by the file system.

- HPE Data Protector synthetic full and virtual full backup: Virtual full backups and the incremental backups to be consolidated into a synthetic / virtual full backup

Configuration Information

must be stored in the HPE Data Protector file library, which requires this license.
- Usable native capacity of a Virtual Tape Library (VTL) is the size on disk of the virtual tape library consumed by all protected HPE Data Protector backups as reported by the VTL.

- For each VTL you can choose whether to use the backup to disk or tape drive licensing model. Within one VTL, both concepts cannot be mixed.
- By default, HPE Data Protector treats VTL devices as ordinary libraries (such as SCSI II libraries). To utilize the advanced backup to disk licenses, the device must be marked as a VTL during the device configuration. See the online Help index entry: "virtual tape library" for more information.
- If the VTL has a built-in capability to migrate backup data to cheaper disk or tape, the migrated storage capacity must also be fully licensed. No drive and library licenses are required for the tape library exclusively controlled by the VTL, but the used capacity of all tapes in the physical tape library must be licensed. In some cases it may be more cost-effective to use the tape drive licensing model instead (B6953AA and B6963AA). This requirement does not apply when HPE Data Protector object copy is used to migrate the backup data to another disk or tape.
  - Licensing for HPE VLS Automigration - Automigration is a VLS media copy feature in Data Protector and can free up additional capacity on a VLS device by migrating data. Therefore, licensing for the migrated data is required, and the capacity of the media used for migration needs to be added to the total disk capacity of the VLS. In some cases it may be more cost effective to switch to drive licensing completely, as described above.
  - Licensing for VTL Replication: In cases where Data Protector is actively managing source and target devices in a replication set-up, licensing is required for both devices. In cases where Data Protector is not actively managing the target device, only the source device needs to be licensed. This includes the VLS Echo Copy feature, which is treated as replication.

- If HPE Data Protector is using the VTL exclusively, it is recommended to license a quantity matching the capacity of the VTL. HPE calls the physical VTL capacity "usable native capacity". Other vendors call it "raw capacity"
- If Advanced Backup to Disk licensing was purchased before July 1st, 2008, Hewlett Packard Enterprise is fully committed to protect customers' investments. This means you can choose to use this license for the VTL under the previous licensing terms: "Usable native capacity of a VTL is the space occupied by protected backups and protected backup copies and mirrors according to the Data Protector internal database. To keep virtual tape library licensing stress free and simple a compression rate of 2:1 is assumed for VTLs with no extra charge." Please note that using the previous model only makes sense if you do not use compression or deduplication technology. Otherwise, a better value is provided through the new licensing model.
- Due to this size on disk licensing concept, compression rates and deduplication rates do not need to be considered. The RAID configuration also does not need to be considered.
- 1 TB = 1024 GB, 1 GB = 1024 MB, 1 MB = 1024 KB, 1 KB = 1024 bytes
- In case of central licensing with MoM, at minimum 1 TB needs to be assigned to

Configuration Information

each Cell using the Advanced Backup to Disk functionality.

HPE Data Protector Zero Downtime Backup (ZDB) extension		Description	Part Number
		for UNIX 1TB	B7025CA
		for UNIX 10 TB	B7025DA
		for Linux 1 TB	TD588AA
		for Linux 10TB	TD589AA
		for Windows 1TB	TD590AA
		for Windows 10TB	TD591AA
	E-Delivery	for UNIX 1TB	B7025CAE
	E-Delivery	for UNIX 10 TB	B7025DAE
	E-Delivery	for Linux 1 TB	TD588AAE
	E-Delivery	for Linux 10TB	TD589AAE
	E-Delivery	for Windows 1TB	TD590AAE
	E-Delivery	for Windows 10TB	TD591AAE

Includes the license-to-use (LTU) for one terabyte (TB) of "used primary disk space capacity" of UNIX, Linux, or Windows based backup, utilizing the snapshot capabilities of the disk array supported by Data Protector

"Used primary disk space capacity" is the total capacity of all primary disks on the disk array used by of UNIX, Linux, or Windows systems The primary disks contain the application data and are protected by Data Protector.
In the case of the ZDB for Windows:

- via VSS disk array hardware provider
- or via Data Protector disk array native agents

The total capacity of primary disks represents the total true usable capacity of these disks; independent of the total size of the application data. Data Protector does not require licenses for the capacity consumed by the secondary volumes, mirrors, and snapshots that are used for data protection.

Used capacity differs from raw capacity in that RAID overhead is excluded. This means the RAID configuration does not need to be considered.

Please, be aware that the ZDB licenses for UNIX or Linux can also be used for Linux and Windows systems

For Zero Downtime Backup protection of VMware the ZDB for UNIX or Linux license is required.

NOTE: A Data Protector Online Backup LTU (B6955BA, B6965BA) is additionally required per system to protect all applications using ZDB.

For supported applications please refer to the Data Protector support matrixes available at: http://www.hp.com/go/dataprotector

HPE Data Protector	Description	Part Number

Configuration Information

Instant Recovery extension		for UNIX 1TB	B7028AA
		for UNIX 10 TB	B7028DA
		for Linux 1 TB	TD592AA
		for Linux 10TB	TD593AA
		for Windows 1TB	TD594AA
		for Windows 10TB	TD595AA
	E-Delivery	for UNIX 1TB	B7028AAE
	E-Delivery	for UNIX 10 TB	B7028DAE
	E-Delivery	for Linux 1 TB	TD592AAE
	E-Delivery	for Linux 10TB	TD593AAE
	E-Delivery	for Windows 1TB	TD594AAE
	E-Delivery	for Windows 10TB	TD595AAE

Includes the license-to-use (LTU) for one terabyte (TB) of "used primary disk space capacity" of UNIX, Linux, or Windows based backup utilizing the snapshot capabilities of the disk array supported by Data Protector.

"Used primary disk space capacity" is the total capacity of all primary disks on the disk array that are used by UNIX, Linux, or Windows systems. The primary disks contain the application data and are protected by Data Protector

In the case of the IR for Windows:

- via VSS disk array hardware provider
- or via Data Protector disk array native agents

The total capacity of primary disks represents the total true usable capacity of these disks; independent of the total size of the application data. Data Protector does not require licenses for the capacity consumed by the secondary volumes, mirrors, and snapshots that are used for data protection.

Used capacity differs from raw capacity in that RAID overhead is excluded. This means the RAID configuration does not need to be considered.

Instant Recovery license is not required for VMware VADP array snapshot retention or recovery from snapshot operations.

Please, be aware that these IR licenses for UNIX can also be used for Linux and Windows systems.

NOTE: Requires an equivalent licensing of Zero Downtime Backup.

HPE Data Protector Direct Backup using NDMP		Description	Part Number E-Delivery
		Direct Backup for NDMP, 1TB LTU	B7022BA
		Direct Backup for NDMP, 10TB LTU	B7022DA
		Direct Backup for NDMP, 100TB LTU	TD186AA
	E-Delivery	Direct Backup for NDMP, 1TB LTU	B7022BAE
	E-Delivery	Direct Backup for NDMP, 10TB LTU	B7022DAE
	E-Delivery	Direct Backup for NDMP, 100TB LTU	TD186AAE

Configuration Information

Includes the license-to-use (LTU) to backup 1 TB, 10 TB or 100 TB of 1 NDMP Server. Required once per terabyte (TB) used disk space, for each file server being backed up via NDMP (e.g. Network Appliance Filers or EMC Celerra File Servers).

- Used disk space capacity is the total capacity of all volumes of the file server being backed up via NDMP. This amount represents the total usable capacity of these volumes, and matches with their configured LDEV sizes

HPE Data Protector Media Operations		Description	Part Number
		Entry Level	B7100AA
		Enterprise	B7101AA
		Unlimited media	B7102AA
		Media	TD587BA
E-Delivery		Entry Level	B7100AAE
E-Delivery		Enterprise	B7101AAE
E-Delivery		Unlimited media	B7102AAE
E-Delivery		Media	TD587BAE

NOTE: HPE Data Protector Media Operations is only available for DP version 7.0x.

The Entry Level includes the license-to-use (LTU) for 2000 media, one management server and unlimited clients.

The Enterprise includes the license-to-use (LTU) for 10 000 media, one management server and unlimited clients.

The unlimited includes the license-to-use (LTU) for unlimited media, one management server and unlimited clients.

Media refers to the total number of tape media to be tracked in the Data Protector Media Operations internal database. The entry level and enterprise level licenses can be used in any combination to match the customer's total number of tape media to be tracked.
- Data Protector Media Operations is not included in the Data Protector starter packs DVDs and has to be ordered separately via TD587BA or TD587BAE.
NOTE: Media Operations doesn't work with DP 8.x versions. This applies to DP 7.0.x and prior versions only.

Configuration Information

Single Server Editions

HPE Data Protector, Single Server Edition		Description	Part Number E-Delivery
		LTU Only	
		for HPE-UX	B7020BA
		for Windows	B7030BA
	E-Delivery	for HPE-UX	B7020BAE
	E-Delivery	for Windows	B7030BAE
		Migration To Starter Pack	
		for HPE-UX	B7021AA
		for Windows	B7031AA
	E-Delivery	for HPE-UX	B7021AAE
	E-Delivery	for Windows	B7031AAE

Includes the license to backup one single server on the specified platform with an unlimited number of UNIX and/or Windows workstations, one backup drive; and the ability to manage one autochanger/library with up to 10 slots.

The Single Server Edition for Windows can only manage Windows workstations

To obtain the following functionality the Single Server Edition has to be migrated to the Starter Pack via the migration LTU:

- additional backup clients (agents) on any platform
- additional backup drives
- the ability to manage autoloaders/libraries with more than 10 slots
- systems disaster recovery
- sophisticated reporting (in the Data Protector GUI and via the web)
- SAN support (with the management server for HPE-UX)
- service-centric management through integrations into HPE Software

Once migrated, additional drives as well as further additional functionality can be ordered via separate LTUs.

To order the migration LTU, a single server edition LTU is required.

NOTE: An upgrade from Single Server edition to Capacity Based license model is not supported.

HPE Data Protector Capacity Based Licensing

Capacity Tiers	Description	Part Number E-Delivery
	LTU Only	
	DP per TB, 1-9 TB LTU	TF521AA
	DP per TB, 10-49TB LTU	TF542AA

Configuration Information

	DP per TB, 50-99 TB LTU	TF543AA
	DP per TB, 100-249 TB LTU	TF544AA
	DP per TB, 250-499 TB LTU	TF558AA
	DP per TB, 500-1000 TB LTU	TF561AA
	DP per TB, >1000TB	TF582AA
E-Delivery	DP per TB, 1-9 TB LTU	TF521AAE
E-Delivery	DP per TB, 10-49TB LTU	TF542AAE
E-Delivery	DP per TB, 50-99 TB LTU	TF543AAE
E-Delivery	DP per TB, 100-249 TB LTU	TF544AAE
E-Delivery	DP per TB, 250-499 TB LTU	TF558AAE
E-Delivery	DP per TB, 500TB-1 PB LTU	TF561AAE
E-Delivery	DP per TB, >1PB	TF582AAE
	Media Only (DP 9.0)	
	English	TD586EA
	French	TD586EF
	Japanese	TD586EJ
	Simplified Chinese	TD586ES
	Media Only (DP 9.0)	
E-Delivery	English	TD586EAE
E-Delivery	French	TD586EFE
E-Delivery	Japanese	TD586EJE
E-Delivery	Simplified Chinese	TD586ESE
	Media Only (DP 8.1)	
	English	TD586DA
	French	TD586DF
	Japanese	TD586DJ
	Simplified Chinese	TD586DS
	Media Only (DP 8.1)	
E-Delivery	English	TD586DAE
E-Delivery	French	TD586DFE
E-Delivery	Japanese	TD586DJE
E-Delivery	Simplified Chinese	TD586DSE

It is based on the volume of primary data protected by HPE Data Protector. The capacity is measured in "Front End Terabytes" or Front End TB. The total amount of Front End Terabytes is defined as the aggregate amount of source data from the largest full backup per backup specification under retention. For example:

- For a full & incremental backup concept, only full are considered
- For an incremental forever, a "synthetic" full is taken as base
  NOTE: 1 PB = 1024 TB, 1 TB = 1024 GB, 1 GB = 1024 MB, 1 MB = 1024 KB, 1 KB = 1024 bytes

The capacity purchase tier in Data Protector capacity based license scheme is determined by the total TB of DP capacity license owned by the customer.

Configuration Information

For Example:

- An initial purchase of a 63 TB would be at the HPE DP per TB, 50-99 TB tier: 63X TF543AAE

Here is an example scenario where a customer purchases an 8 TB of DP capacity first and then makes subsequent purchases of a 5TB and a 50 TB of DP capacity. Here is what each order will include:

- An initial purchase of an 8 TB capacity will be at the HPE DP per TB, 1-9 TB tier: 8X TF521AA
- The second purchase of 5 more TB will be at HPE DP per TB, 10-49 TB tier: 5X TF542AA
- The next purchase of 50 TB will be HPE DP per TB, 50-99 TB tier: 50X TF543AA

In case of central licensing with MoM, at minimum 1 TB needs to be assigned to each Cell Manager.

The capacity based license includes the following features of HPE Data Protector software:

- Cell Managers & Manager of Managers
- Tape Drives and Libraries
- Online Backup & Granular Recovery Extensions
- Zero Downtime Backup & Instant Recovery
- Advanced Backup to Disk & NDMP
  NOTE: Software encryption is NOT included and must be ordered separately

The complementary products that are sold separately are:

- Distribution Media (DVD sets)
- Media Operations*
- IDOL Server (req. to take advantage of the inclusive IDOL integration)
- HPE Cloud Backup "protection plan" to use the integrated Cloud Backup
- HPE Backup Navigator
- HPE DP Extended Online Backup
- DP ZDB for non HPE Storage Arrays
- Data Protector Management Pack
- Data Protector Smart Plug-in for HPE Operations Manager

*HPE Data Protector Media Operations is only available for DP version 7.0x.
NOTE: For more information on IDOL integration and Integrated Cloud Backup, please contact your Hewlett Packard Enterprise sales representative.

Here are some example scenarios for Capacity Based licensing:

- If a customer has 200 TB of data to protect and backs up to a dedupe store that only uses 20 TB they would still need 200 TB capacity license
- If a customer has 100 TB of data but only protects 10 TB of this data they would only need a 10 TB capacity license
- If a customer backs up the same 10 TB multiple times, only a 10 TB capacity

Configuration Information

license is needed.

HPE Data Protector Complementary Products

HPE Backup Navigator		Description	Part Number E-Delivery
		LTU Only	
		HPE Backup Navigator per TB, 1-9TB SW LTU	A8G54AA
		HPE Backup Navigator per TB, 10-49TB SW LTU	A8G55AA
		HPE Backup Navigator per TB, 50-99TB SW LTU	A8G56AA
		HPE Backup Navigator per TB, 100-249TB SW LTU	A8G57AA
		HPE Backup Navigator per TB, 250-499TB SW LTU	A8G58AA
		HPE Backup Navigator per TB, 500-1000TB SW LTU	A8G59AA
		HPE Backup Navigator 1PB+ SW LTU	A8G60AA
	E-Delivery	HPE Backup Navigator per TB, 1-9TB SW E-LTU	A8G54AAE
	E-Delivery	HPE Backup Navigator per TB, 10-49TB SW E-LTU	A8G55AAE
	E-Delivery	HPE Backup Navigator per TB, 50-99TB SW E-LTU	A8G56AAE
	E-Delivery	HPE Backup Navigator per TB, 100-249TB SW E-LTU	A8G57AAE
	E-Delivery	HPE Backup Navigator per TB, 250-499TB SW E-LTU	A8G58AAE
	E-Delivery	HPE Backup Navigator per TB, 500-1000TB SW E-LTU	A8G59AAE
	E-Delivery	HPE Backup Navigator 1PB+ SW E-LTU	A8G60AAE
HPE Extended Online Backup		This license is valid for use with either Traditional or Capacity based Data Protector implementations. One LTU is required per TB of primary data protected by HPE Data Protector. The capacity calculation is the same as for the Data Protector capacity based licensing.	
		HPE Backup Navigator Single Cell Manager up to 10TB SW LTU	H7U58AA
DP SPI for HPE Ops Mgr	E-Delivery	HPE Backup Navigator Single Cell Manager up to 10TB SW E-LTU	H7U58AAE
		This license is valid for use with either Traditional or Capacity based	

DP Management Pack

for a single Data Protector Cell Manager with up to 10TB of full backup capacity of data that is protected by Data Protector. For additional Cell Managers or capacity above 10TB upgrade using H7U59AAE. The capacity calculation is the same as for the Data Protector capacity based licensing.

	HPE Backup Navigator Single Cell Manager Upgrade LTU	H7U59AA
E-Delivery	HPE Backup Navigator Single Cell Manager Upgrade LTU	H759AAE

This license is valid for use with either Traditional or Capacity based Data Protector implementations. One LTU is required per Backup Navigator Single Cell Manager to upgrade to multiple Data Protector Cell Managers and enable capacity expansion with HPE Backup Navigator capacity licenses. H7U58AAE + H7U59AAE = (qty 10 of A8G55AAE). The capacity calculation is the same as for the Data Protector capacity based licensing.

	Media Only (Backup Navigator 9.3) English	H7P25EA
E-Delivery	Media Only (Backup Navigator 9.3) English	H7P25EAE

	Description	Part Number
	LTU Only	
	HPE DP Extended Online backup for Win/Lin LTU	H7U62AA
E-Delivery	HPE DP Extended Online backup for Win/Lin E-LTU	H7U62AAE

This license is valid for use with either Traditional or Capacity based Data Protector implementations. Includes the license-to-use (LTU) to perform on-line backup of MySQL databases and applications running on the specified platform. Required per server, it does not matter how many databases are running on the system. As a general rule, every system responsible for storing MySQL application data to be protected in an online state requires a Data Protector Extended online backup LTU.

	HPE DP SPI for HPE Ops Manager SW LTU	H7U60AAE
E-Delivery	HPE DP SPI for HPE Ops Manager SW E-LTU	H7U60AAE

Configuration Information

	Media Only (DP SPI for HPE Ops Mgr 9.0)	
	English	H7U61AA
E-Delivery	English	H7U61AAE

This license is valid for use with either Traditional or Capacity based Data Protector implementations. One LTU is required per Data Protector Cell Manager. Includes integration with HPE Operations Manager.

	HPE DP Management Pack SW LTU	H7P27AA
E-Delivery	HPE DP Management Pack SW E-LTU	H7P27AAE

	Media Only (DP Management Pack 9.0)	
	English	H7P26BA
E-Delivery	English	H7P26BAE

This license is valid for use with either Traditional or Capacity based Data Protector implementations. One LTU is required per Data Protector Cell Manager. Includes integration with Microsoft System Center Operations Manager.

Zero Downtime Backup for non-HPE Arrays

	Description	Part Number
	LTU Only	
	DP ZDB non HPE Array UX 1TB SW LTU	H7P92AA
	DP ZDB non HPE Array UX 10TB SW LTU	H7P93AA
	DP ZDB non HPE Array Lin 1TB SW LTU	H7P94AA
	DP ZDB non HPE Array Lin 10TB SW LTU	H7P95AA
	DP ZDB non HPE Array Win 1TB SW LTU	H7P96AA
	DP ZDB non HPE Array Win 10TB SW LTU	H7P97AA
E-Delivery	DP ZDB non HPE Array UX 1TB SW E-LTU	H7P92AAE
E-Delivery	DP ZDB non HPE Array UX 10TB SW E-LTU	H7P93AAE
E-Delivery	DP ZDB non HPE Array Lin 1TB SW E-LTU	H7P94AAE
E-Delivery	DP ZDB non HPE Array Lin 10TB SW E-LTU	H7P95AAE
E-Delivery	DP ZDB non HPE Array Win 1TB SW E-LTU	H7P96AAE

Configuration Information

E-Delivery	DP ZDB non HPE Array Win 10TB SW E-LTU	H7P97AAE

For more information on Hewlett Packard Enterprise Data Protector software

- General web page: http://www.hp.com/go/dataprotector (**NOTE:** The latest HPE Data Protector software support matrices can be found by clicking "Support Matrices" from this page)
- Direct link to QuickSpecs with detailed product specifications, ordering information and more: http://www.hp.com/go/QuickSpecs

To learn more about HPE's Information solutions, visit http://www.hp.com/go/im

QuickSpecs

Summary of Changes

Date	Version History	Action	Description of Change:
January 22, 2016	From Version 53 to 54	Changed	Content updated on the entire document
September 04, 2015	From Version 52 to 53	Changed	Changes were made throughout quickspecs
April 24, 2015	From Version 51 to 52	Changed	Updated the Integration Guide detail, Backup Navigator 9.1 product numbers, Capacity license description
February 13, 2015	From Version 50 to 51	Changed	Changes on the Licenses, Services and Warranties Section
January 16, 2015	From Version 49 to 50	Changed	Changes were made throughout quickspecs
August 4, 2014	From Version 48 to 49	Changed	Changes were made throughout quickspecs
May 9, 2014	From version 47 to 48	Changed	Updated HP Software Suppor
January 17, 2014	From Version 46 to 47	Changed	Changes made to the Overview: Key Product Highlights, Software Licensing and Configuration Information sections.
September 1, 2013	From Version 45 to 46	Changed	Changes made to the Countries available under Media
June 10, 2013	From Version 44 to 45	Changed	Changes made throughout the QuickSpec
December 4, 2012	From Version 43 to 44	Changed	Changes made in the Overview, Installation Server and Client System Requirements, and Configuration.
October 24, 2012	From Version 42 to 43	Changed	Changes made throughout the QuickSpec
September 14, 2012	From Version 41 to 42	Changed	Changes made to the Configuration Information section
August 26, 2012	From Version 40 to 41	Changed	Changes made throughout the QuickSpec
June 29, 2012	From Version 39 to 40	Changed	Changes made to Installation Server and Client System Requirements and Configuration sections.
May 11, 2012	From Version 38 to 39	Changed	Changes made throughout the QuickSpec
December 21, 2011	From Version 37 to 38	Changed	Changes made throughout the QuickSpec
September 7, 2011	From Version 36 to 37	Changed	Minor edit made in Step 3 of the Configuration section
June 24, 2011	From Version 35 to 36	Changed	Minor edits were made throughout
June 9, 2011	From Version 34 to 35	Removed	Mentions of StorageWorks were removed
June 2, 2011	From Version 33 to 34	Removed	Duplicate text was removed from Step 3
April 8, 2011	From Version 32 to 33	Changed	Changes were made throughout

QuickSpecs

Summary of Changes

July 9, 2010	From Version 31 to 32	Changed	Revisions were made throughout the QuickSpec, including changing Data Protector to version 6.11, completely revising Configuration Information and adding all mentions of Granular recovery
March 26, 2010	From Version 30 to 31	Added	To learn more, visit www.hp.com/im was added to the Copyright.
October 16, 2009	From Version 29 to 30	Changed	HP Services: Scalable, Flexible and Reliable was updated in the Licenses, Services and Warranties section and Step 3 of the Configuration Information section.
June 12, 2009	From Version 28 to 29	Changed	Updated version numbers for HP-UX (PA-RISC) and HP-UX (IA64) for Software Pre-Requisites in the Hardware and Software Pre-Requisites section Modified link for Software Warranty in the Licenses, Services and Warranties section Revised part numbers for HP-UX, Sun Solaris and Windows for HP Data Protector, Single Server Edition in the Configuration Information section Removed Licenses history from HP Software Support 9x5 and added Rapid call-back for the most critical (Severity 1) problems to HP Software Support 24x7 for Software Support in the Licenses, Services and Warranties section Removed link from HP Services: Scalable, Flexible and Reliable in the Licenses, Services and Warranties section
April 3, 2009	From Version 27 to 28	Changed	HP Data Protector On-line extension and HP Data Protector Advanced Backup to Disk extension were updated in Step 3 of the Configuration section and Business Problems and Customer Benefits were removed with the Customer Benefits section.
January 9, 2009	From Version 26 to 27	Added	NOTE to HP Software Support in the Licenses, Services and Warranties section.
December 29, 2008	From Version 25 to 26	Changed	Changes were made throughout the entire QuickSpec, excluding the Application Platforms section
June 27, 2008	From Version 24 to 25	Added	Added a note to the Licenses, Services and Warranties/Software Product Support section
		Changed	Minor grammatical and formatting changes were made throughout the Quickspec
January 25, 2008	From Version 23 to 24	Changed	Changed the title and all occurrences of "HP Data Protector Software" to "HP Data Protector software"
September 7, 2007	From Version 22 to 23	Changed	Changes made within the What's New section and in Step 2 of the Configuration Information section.
July 13, 2007	From Version 21 to 22	Changed	Changes made within the Configuration Information section only

QuickSpecs

Summary of Changes

June 19, 2007	From Version 20 to 21	Changed	Changes made throughout the QuickSpec except for the Application Platforms section
June 11, 2007	From Version 19 to 20	Added	Added EMEA version
April 13, 2007	From Version 18 to 19	Changed	Step 2 of the Configuration Information section was reformatted.
February 12, 2007	From Version 17 to 18	Changed	Changes made throughout the entire QuickSpec except for the Hardware Support and Application Platforms sections. NOTE that the title has changed.
November 24, 2006	From Version 16 to 17	Changed	The URL in the Software Product Support object was changed. The Part Number for Windows, Netware, Linux in HP OpenView Storage Data Protector Backup Drive was corrected
November 13, 2006	From Version 15 to 16	Changed	Updated the What's New section and the CONFIGURATION INFORMATION section was rewritten
September 1, 2006	From Version 14 to 15	Changed	Updated the What's New section and Step 1 in the CONFIGURATION INFORMATION section
June 2, 2006	From Version 13 to 14	Changed	Updated Steps 1 and 3 in the CONFIGURATION INFORMATION section
		Added	Added a NOTE to the CONFIGURATION INFORMATION section
May 5, 2006	From Version 12 to 13	Changed	Removed the "not" from "cannot" in Step 3 of the Configuration Information Section
April 24, 2006	From Version 11 to 12	Changed	The entire QuickSpec was rewritten
August 1, 2005	From Version 10 to 11	Changed	A URL in Step 3 of the Configuration Information section was corrected.
January 14, 2005	From Version 9 to 10	Changed	Only minor grammatical corrections were made
November 3, 2004	From Version 8 to 9	Changed	Only minor grammatical corrections were made.
November 1, 2004	From Version 7 to 8	Changed	The entire QuickSpec was rewritten
June 23, 2004	From Version 6 to 7	Changed	The only change was made in the Backup Agents section of Application Platforms
February 24, 2004	From Version 5 to 6	Removed	Removed mention of EVA models from the Data Protector models section.
October 9, 2003	From Version 4 to 5	Changed	Configuration information
September 30, 2003	From Version 3 to 4	Changed	Changes for this announcement applied to all sections of the QuickSpec. Please note the title has been changed as well. Models and Configuration Information: Cell Manager has been replaced with Starter Pack.

QuickSpecs

Summary of Changes

August 25, 2003	From Version 2 to 3	Changed	Document was reformatted.
July 23, 2003	From Version 1 to 2	Changed	2 URLs were updated

f ✚ in ✉
Sign up for updates
★ Rate this document

Hewlett Packard Enterprise

C04109270 - 11671 - Worldwide - V54 - 22-January-2016