

6.2.2.85 GTP of Backup Solution

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Backup Solution			
SL	Item Name	Detail Required Specification	Bidder's Response
1	Brand Name & Version	To be mentioned by the bidder.	
2	Country of Manufacturer	To be mentioned by the bidder.	
3	Country of origin	To be mentioned by the bidder	
4	Quality	The proposed solution should be established in Gartner's Magic Leaders Quadrant continuously for last 03 years.	
5	Deployment	The Backup Software Should be deployed on Virtual Environment/Physical Environment	
		The data protection solution should support deployment in Software, Appliance or Container form factors and BYOS	
		The software should support deployment in third-party hardware.	
6	Platform Support	The proposed solution should be capable of taking backup/ restores from various latest platforms including below operating systems and hypervisors • Microsoft Windows Server • Red Hat Enterprise Linux • CentOS • SUSE Linux Enterprise Server • HP-UX • IBM AIX • Solaris • Nutanix • VMware ESXi • Hyper-V • Oracle Linux and Oracle VM • Citrix • HPE VME • And more	
		Backup Management Server should be running on Linux	
		The data protection solution must support the ability to restore to multiple parallel locations to enhance business recovery operations and operational flexibility	
7	Software License	The backup software licenses should be perpetual license with 3 Years maintenance support service.	
		5TB front end data capacity-based and 30 hosts/VM based licensing. Backup job & restore should not be stopped if the license exceeds or expired.	
		Anomaly detection and malware scanning license/feature should be included with the offer.	
		Proposed software should have all-inclusive licensing model - one license, all features.	

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		For host/instance-based license there should not be any limitation of capacity during taking the backup & restore.	
		Proposed Software License should integrate with the offered backup hardware and also work with all OEM storage.	
8	Disaster Recovery	The backup management server should be created in active-passive mode and failover capability should be available. The proposed solution should have the capability to perform DC-DR replication for the backup of VMs and databases.	
		The proposed solution should not require any additional licenses to perform Disaster Recovery related tasks.	
9	Failover/Failback Capabilities	The proposed solution should provide planned/unplanned failover and failback capabilities without any additional licenses.	
10	Centralized Management	The backup software should provide centralized management / Single interface for management of all backup (file system and E- mail) activities across physical servers, VMs and SaaS based applications such as Microsoft Exchange, Microsoft 0365 etc.	
11	Workload Support	The data protection solution must support container workloads for backup of data used by containers	
		The data protection solution must have support for P2V, V2P, P2P, V2V, V2C, C2V target recovery environments.	
		The data protection solution must be a Nutanix HCI/vSAN certified	
		The data protection solution must provide integrated tape support without using 3rd party bidders to tape out and also provide Fiber channel tape out support	
		The solution must support Agentless file recovery from VM images.	
		The proposed solution should be capable of backing up OpenShift environment.	
		Proposed solution should support big data technology including Hadoop, Cassandra, IBM-GPFS, MongoDB standalone and sharded cluster and Splunk, RSA.	
		The proposed solution should provide capability to perform in-place and cut-off -place restore for Kubemetes.	
12	Operational Features	The data protection solution must not require additional licenses and/or fees to enable the use of cloud tiering or replication.	
		The data protection solution should be provided with integrated DR	
		orchestration tool which can automate the recovery of Virtual Machines between DC and DR site if required.	
		The solution should be able to replicate backed up data in de-duplicated format (for bandwidth optimization).	
		The data protection solution should support for ever incremental backup & there should not be a need to do a full backup again.	
		The data protection solution should support multiple service level based on data type and should have ability to prioritize backup/restore based on the data classification	

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		The data protection solution must be able to set job priority for replication of data for DR purposes	
13	Database support	The proposed backup solution must include Agent/Modules for online backup of files, applications, and databases such as Oracle, MS SQL, DB2, Sybase, MySQL, MariaDB, Postgres, MongoDB, Exchange, SharePoint and distributed databases/filesystems like NoSQL, MongoDB, Bigdata and Hadoop with the DB user.	
		The proposed solution must support granular restores.	
		The proposed solution must support Oracle Real Application Clusters (RAC) & ASM Disks running on multiple operating systems (AIX, Solaris, HP-UX, Linux & Windows)	
		Proposed solution must support instant access for SQL database	
14	Storage SupportC	Backup Software should have capability to integrates into all major storage alliances like HPE, Dell Technologies, HITACHI, Lenovo, NetApp, Pure Storage, IBM etc. with Snapshot Processing for optimized RPO and R TO	
		Backup software should be able to backup data to tapes (like LTO) for long term retention	
15	Security	Proposed software must have ransomware resiliency built-in to protect business data from ransomware attack	
		The proposed solution should have ability to protect all mount paths associated with disk libraries configured from a Backup/Media Server against Ransomware attacks.	
		The data protection solution must have role-based access control for users to perform specific actions	
		Proposed solution shall have capability to integrate SIEM Solution.	
		The data protection solution must maintain an audit trail to track the operations of the users and the changes that they have made.	
		The Solution should follow the National Institute of Standards and Technology (NIST) Cybersecurity Framework.	
		The proposed software should comply with 3-2-1 backup strategy.	
16	Two Factor Authentication	The proposed solution should have the capability to enable two factor authentication for the management console access. That is enabling a PIN (Personal Identification Number) along with the passwords.	
17	Data Reduction & compression	The data protection solution must support intelligent, fixed and variable deduplication technology.	
		Backup Software must provide Source (Client & Media Server) & Target base data Deduplication capabilities. It should provide Global deduplication across backup jobs and different workloads.	
		The data protection solution must offer aggressive deduplication ratio without the use of 3rd party arrays/tools (Ratio Rate should be mentioned by the Bidder)	
		Deduplication feature should work with NVMe, SSD, SAS & NL-SAS technologies.	
18	Reporting & analytics	Proposed solution should be able to provide comprehensive reporting of media, backup server, jobs, analytics for unified backup and 3rd party storage insights	





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19	Encryption	It should support the following algorithms and provide better security in deployment across sites - BLOWFISH, GOST, Serpent, AES, Twofish, 3-DES, etc. The solution should be FIPS 140-2 Certified	
20	Support & Maintenance	The Supplier shall ensure OEM Provided 24/7 support & maintenance including Supplier provided Local Support and Maintenance for 05 years period. Deployment should be done by Professional service.	
21	Disk Based Backup Appliance	• Same as the server OEM. • Offered appliance shall be certified to work with at-least 3 Backup application vendor ISV like HPE, Veritas, Dell-EMC, Veeam, Commvault etc. • Offered device shall be offered with Minimum of 50TB Useable space after RAID6 scalable to at-least 170TB usable space by using not more than 8TB drives. • Offered device shall have separate dedicated drives for Operating System of appliance and shall not participate in data backup • Offered device shall support emulation of VTL • Should be provided with 2x dual-port 25G SFP28 adapter with 10G SFP+ SR transceivers and 2x dual port 32Gbps FC host port for SAN based backup. • Offered device shall have integrated de-duplication license, low bandwidth replication license so that only unique non duplicated block transfers to remote / DR location. • Shall deliver minimum 60:1 efficiency. • Offered device shall support receiving non duplicated data from remote locations or branch office directly from the application servers / Client servers in low bandwidth mode without using any backup or replication-based device at remote location / Branch office. • The proposed device shall support rated write performance of minimum 10 TB per hour and when enabled with source level de-deduplication, shall have rated performance of at least 25 TB/hr • Offered appliance shall leverage snapshot performance with storage-integrated backups to provide up to flash speed data protection and copy data management with less cost and less complexity than legacy solutions. • 3 Years collaborative warranty with 24x7 mission critical one-point support from OEM, same day response.	
22	License	• The license period shall have at least 03 years and will be calculated from the first day of system handover.	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

6.2.2.86 GTP of Virtualization Solution

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Virtualization Solution			
SL	Item Name	Detail Required Specification	Bidder Response
1	Platform	The offered Hypervisor software shall be qualified for both Intel and AMD architecture and shall have capability to provide high availability.	
2	Hypervisor Vendor	The offered hypervisor shall be either from Broadcom VMware, HPE, Microsoft or Nutanix.	
3	Guest Operating System	The offered Hypervisor shall be supported with all leading Guest Operating Systems.	
4	Availability Features	1. The offered Hypervisor shall support migration of a running virtual machine from one host to another within the same cluster with zero downtime. 2. The offered Hypervisor shall automatically restart virtual machines on another host in the same cluster in the event of an unexpected host failure within the cluster. 3. The offered Hypervisor shall dynamically schedule the placement of virtual machines within a cluster based upon optimal workload distribution across the cluster. 4. The offered Hypervisor shall support migration the virtual disk(s) of a running of virtual machine from one storage datastore to another with zero downtime.	
5	External Storage Integration	The offered Hypervisor shall support running virtual machines on external storage via iSCSI, NFS, and Fibre Channel	
6	Resource Allocation	The offered Hypervisor management engine shall have a concept of grouping of resources into a common identity, comprises of resources like Clouds, hosts, VMs, network, resource pools, data stores etc. so that required users can be assigned to it.	
7	User Profile	The offered hypervisor management engine shall allow users to configure their username, password, email, theme, 2FA, Linux and Windows VM login credentials from the console	
8	Private Cloud Integration	The offered Hypervisor management engine shall support additional private cloud provider and hypervisor, preferably VMware, from the common interface without any additional coding.	
9	Service Plans	1. The offered hypervisor Management engine shall allow administrator to create service plan or t-shirt size based on CPU, Memory and Storage and shall be available to users while creating / provisioning the instance / VMs 2. Services plan shall also have the option to provide custom ranges and flexibility to provisioning users for providing predefined limit for number of additional volumes, customization of Volumes, number of cores etc.	
10	Expansion / Shrink	The offered Hypervisor shall support both expansion and shrinking of VM cluster.	
11	RBAC	Access to grouping of resources shall be controlled through appropriate roles while assigning to users. Roles shall provide access to resources	

		using appropriate permissions.	
12	Virtual Machine Management	The offered Hypervisor shall support below features for Virtual Machine Management: a. Create / Delete / Restart / Start / Stop / Suspend and Discovery of Virtual machines. b. Snapshot operations – Create / Delete / revert of Virtual machines c. Tagging – Add / Delete / Edit tagging for Virtual Machines. d. Live Migration of VM, VM HA and Pin virtual machine to a specific host. e. Cloning of VM, Clone to VM Template. f. Virtual Hardware Management - Add and remove virtual hardware such as hard disks, network interfaces, CPU and memory from a managed virtual machine.	
13	Virtual Images	1. The offered hypervisor software shall provide the flexibility to bring / upload OS images. 2. While uploading the OS image, it shall be possible to define the location and provide the flexibility to use internal space within the hypervisor cluster or using appropriate available S3 bucket or file share.	
14	Licensing	Vendor shall ensure that offered Hypervisor is licensed per socket or core count based on below server requirement details with 3Years 24x7 OEM/ISV support and subscriptions. - Virtualization Server Type1: 5 Unit. Each Server with 2x 24-Core - Virtualization Server Type1: 5 Unit. Each Server with 2x 32-Core All server shall be configured with all-inclusive license and BoQ must be shared with details explanation and documents.	
15	Global Search	The offered Hypervisor shall provide global search to facilitate search of Instances, Users, cloud, group, hosts and networks.	
16	Dashboard	Consolidated dashboard for the offered Hypervisor shall highlight the overall environment status, System Status, Alarms, log history, Instance status, Instance status by configured clouds, cluster workloads etc.	
17	Activity Report	1. The offered Hypervisor management engine shall provide activity report like provisioning tasks, Users related tasks etc. 2. It shall be able to search the specific activity.	

[The Tenderer should complete all the columns as required]

Signature:

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Duly authorised to sign the Tender for and on behalf of the Tenderer

6.2.2.87 GTP of Business Continuity and Disaster Recovery Manager

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Business Continuity and Disaster Recovery Manager			
SL	Item Name	Detail Required Specification	Bidder Response
1	Brand	To be mentioned by the bidder.	
2	Part no.	To be mentioned by the bidder.	
3	Key Capability	1. Offered software shall be based upon the foundation of Continuous Data Protection while supporting both local and remote data Protection. 2. Offered software shall support both Backup and disaster recovery capabilities on-premises, at on-premises DR locations, and in public clouds like Azure, AWS, and GCP. 3. The offered software shall be an IT Resilience Orchestration and Automation software and shall be able to provide SLA reports and RPO monitoring at all times. 4. Offered software shall provide automated failover and fallback after initiating the DR execution as per defined policies. 5. Offered software shall be able to generate automated alerts if the RPO level increases beyond the prescribed limit.	
3	Licensing	1. Offered software licensing shall be based on the number of protected VMs. The vendor shall provide the license for 20 Protected VMs with 3 years subscription and 24x7 maintenance. 2. The license shall be agnostic to the Virtualization platform and the same offered license shall be able to protect VMs on-premises using VMware Virtualization, Microsoft Hyper-V virtualization, AWS, Azure, and Google Cloud Platform VMs. 3. The vendor shall provide the license for all mentioned functionalities (Both Primary and DR) in the RFP document.	
4	Supported Virtualization Platform	1. Offered Software shall be supported on the following platform: a) VMware Virtualization - vSphere. b) Microsoft Hyper-V c) AWS Cloud d) Azure Cloud e) Google Cloud Platform	
5	Always On Replication	Offered Software shall have the in-built native capability of Always on Replication instead of using Snapshot / Clone technology for both local as well as DR data protection. Offered Software shall not have any software agent within the given production virtual machines. Offered software shall have flexibility for delivering less than 10 seconds RPO for both Local data Protection as well as remote data Protection after excluding the link latency. Offered software shall be able to create thousands of checkpoints, separated by less than 10 seconds, for minimal RPO and RTO using journal-based or equivalent technology.	
6	Data Protection across Platforms	Offered Software shall be true virtualization agnostic so that the Protected VM can be VMware vSphere based and Recover VM can be either Hyper-V, AWS, Azure, or GCP VM or vis-à-vis or any cross-combination of listed platforms.	

		Offered software shall be true storage agnostic so that Primary copy and Backup / DR protection can be on heterogeneous storage.	
7	Application consistency	Offered Software shall have the capability for creating an Application consistent group for multi-VM application for data consistency during backup and recovery. Offered software shall have the capability for defining the boot order of the VMs within the application consistent group during the failover operation for reducing the overall RTO. Offered software shall not put any limitation on the number of Application-consistent groups or the vendor shall support at least 256 application-consistent groups for data consistency. Offered Software shall not put any limitation on the number of VMs within the Application-consistent groups or the vendor shall support at least 2048 VMs within application-consistent groups for data consistency. If required - The customer shall be able to replicate the VMs within the application consistent group to multiple Application consistency groups for better data protection. It shall be possible for both Local data Protection as well as remote data protection. Offered software shall be able to prioritize the replication of VM traffic within the application consistency group as per organization needs at low, medium, and high levels and shall do automatic bandwidth usage. The application consistency group shall allow ad-hoc backup support (One-time backup) either for the entire consistency group or selected Virtual machines within the group.	
8	WAN Optimization	Offered software shall also support WAN optimization technologies like compression when protecting the information at the DR location. Offered software shall also have the capability to switch ON / OFF the WAN optimization technology depending upon the type of VMs or application consistent group.	
9	Long Term Retention	The offered Software shall support Backup and long-term retention, as per customer data retention and backup policies to various media. It shall support High-speed SSD / NVMe drives enabled datastore for short-term backups (Daily and weekly). It shall support various Long-term repositories (Daily, weekly, Monthly, and Yearly backups) based upon S3 interface, NFS, SMB, AWS Storage Gateway, Amazon S3, Microsoft Azure storage, and purpose-built backup appliances from heterogeneous storage vendors. Offered Software shall provide the scheduling engine for Daily, weekly, monthly, and yearly backup. For yearly backups, the offered software shall allow you to select the first day or last day of the month along with the number of years for backups. Offered software shall have the capability for storing the yearly backup at least for 1 years.	
10	Disaster Recovery (Failover)	The proposed Software shall have the capability for doing Failover from the Primary location to the DR location in automated mode so that there shall be no need to create the VM manually at the DR location. The proposed software shall have the capability for selecting the restore point or checkpoint, as per organization requirement,	

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		while doing the failover from the Primary location to the DR location.	
		The proposed software shall have the capability for selecting the boot order of the VM at the DR location during the failover process to minimize the overall RTO	
		The proposed software has the capability for configuring the reverse protection (DR to Primary location) after successful failover from the Primary location to the DR location.	
		The proposed software shall have a flexible commit policy so that the environment can be rolled back to the Primary location if the planned DR failover is not successful due to unforeseen events or any unknown reason.	
		Proposed software shall also have a flexible commit policy in minutes to hours so that after failover operations can be thoroughly checked before announcing the successful failover.	
		For planned failover – the Failover policy shall provide the flexibility to the customer for shutting down the primary site virtualized environment for minimal RPO.	
11	DR Drill (Test Failover)	The proposed Software shall have the capability for doing a DR Drill (Test Failover) from the Primary location to the DR location in an automated mode so that there shall be no need to create the VM manually at the DR location.	
		The proposed software shall have the capability for selecting the restore point or checkpoint, as per organization requirement, while doing the test failover from the Primary location to the DR location.	
		The proposed software shall have the capability for selecting the boot order of the VM at the DR location during the test failover process to minimize the overall RTO	
		The proposed software has the capability for selecting and configuring the separate test network at the DR location for DR Drill operations.	
		The proposed software shall have the capability to clean up the DR location after completing the DR Drill operations. There shall be no manual task at the DR location for cleaning operations.	
		Software shall provide the drop-down to the customer to acknowledge the successful completion of the DR drill.	
		The customer shall have the flexibility to do the DR Drill operations for an individual VM inside the application consistency group instead of doing it for all VMs within the consistency group.	
12	Bandwidth Throttling	Offered software shall automatically adjust the bandwidth usage across sites for given application consistency groups depending upon the defined prioritization level.	
		Offered software shall be able to throttle the bandwidth between the Primary and DR locations from the overall available bandwidth.	
		Offered software shall also be able to throttle the bandwidth for a specific period.	
		Offered software shall also have a bandwidth regulation mechanism for troubleshooting.	
13	Ransomware Protection	Offered software shall have a strong mechanism for ransomware protection and shall be achieved with minimum RPO.	
		Offered software shall have the capability for creating the checkpoint at every 5 seconds of data protection so that	






		the customer can select the required checkpoint while restoring the files during the ransomware attack and can achieve the lowest RPO.	
		Offered software shall have the capability for storing the latest data information, at least for a month, on the faster storage devices of NVMe or SSD and remaining day information on the slowest media automatically. This is to ensure that recovery from ransomware attacks is really quick.	
14	File / Folder restore	Offered software shall allow the restoration of selected files from well-known backups/checkpoints without restoring the full virtual machine.	
		Offered software shall provide the flexibility to restore the files at the original location and shall provide the flexibility to an administrator for downloading the selected files so that they can be restored at the required location/system.	
15	VM / Application consistency group restore	Offered software shall provide the flexibility for restoring the selected VM and Deleted VMs	
		While restoring the VMs / Deleted VMs – the restore engine shall provide the flexibility for changing the IP address either using Static IP or DHCP IP scheme.	
		VM restoration engine shall provide the flexibility for changing the network setting during the restoration process.	
		Offered software shall also provide the flexibility for restoring the complete application consistency group.	
16	Reporting	Offered Software shall have an in-built reporting engine and shall provide at least the following reports: In case the vendor doesn't support the below reports then the vendor shall ensure that appropriate commercialized IT Resilience Orchestration and Automation software is factored in the bid.	
		Application consistency group performance reports - It shall clearly show the over-data protection SLA (RPO) being achieved by the Application throughout the day along with IOPS, Throughput, and wan bandwidth consumption.	
		Recovery reports - It shall allow an administrator to have recovery reports for Failover, failback, DR-drill, Successful backup and recovery, failed backups, and recovery.	
		Resources report - It shall provide the resource reports consumed by VMs within the application consistency group.	
		Data Protection Report - It shall provide the complete data protection report over some time.	
17	Management	Offered software shall have GUI-based management which shall show critical parameters of Average RPO for the complete site, Number of VMs being protected, Number of Application consistency groups along with their status and health, Site topology, IOPS, WAN traffic, Compression, events, and running tasks etc.	
18	Analytics	Offered software shall provide cloud-based Analytics at no additional cost to the customer and shall provide the following capabilities:	
		Average RPO for a site within a day, Week, or month.	
		Pictorial view of all sites along with interconnectivity and local sites without replication.	
		Detailed breakup of each site depicting incoming and outgoing VMs and application consistency groups.	
		SLA report of each application consistency group including RPO	



		Detailed protection status for each VM and its respective SLA including RPO	
		Detailed storage capacity analysis where backups are going to be stored.	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

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