

SOFTWARE TECHNICAL SUPPORT – PRODUCT BOUNDARIES

INTRODUCTION

This document outlines the known limitations and boundaries of the Software Technical Support offering and is deemed included in and part of Software Technical Support Service Description. The limitations described herein clarify the scope of support, outline scenarios where additional services may be required, and help set product-specific expectations regarding what is and is not included in the standard service offering. This ensures transparency for both the Customer and support teams in addition to supporting efficient collaboration when resolving software-related incidents.

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OPERATING SYSTEMS AND HYPERVISORS

A. IBM AIX

1. Support Areas within Scope

DELIVERABLES	DESCRIPTION
Support with Kernel Panics and Crashes	Troubleshooting and providing remediation support on issues relevant to the operating system when the system experiences kernel panics, causing crashes and unexpected reboots.
Support with Package Dependency Conflicts	Troubleshooting and providing remediation support when conflicts arise as a result of installing, upgrading, or removing packages, relevant to the operating system.
SRC (System Resource Controller) Service Failures	Troubleshooting and providing remediation support when system services managed by SRC fail to start, stop unexpectedly, or exhibit erratic behaviour.
Support with Networking Issues	Troubleshooting and providing remediation support when network interfaces or services (e.g., sshd, etc) are not functioning correctly, leading to connectivity problems within the operating system.
Support with Storage and Filesystem Errors	Troubleshooting and providing remediation support when problems occur within the system disk devices, LVM, filesystems, or storage devices, such as corrupted filesystems, slow I/O, or out-of-space errors.
Software or Application Crashes	Troubleshooting and providing remediation support at the operating system level only after an application crashes or fails to execute properly, causing service disruptions. Appropriate vendor support related to the application/ software will still need to be engaged by the Customer.
Support with Virtual Memory and Swap Issues	Troubleshooting and providing remediation support on issues when high swap usage or virtual memory exhaustion leads to degraded performance or application crashes.

SERVICES/ FEATURES	INCLUDED IN SCOPE
SMIT (System Management Interface Tool)	Yes
Workload Partitions (WPARs)	Yes
Live Kernel Update (LKU)	Yes
PowerVM	Yes
AIX Live Update	Yes
JFS2 (Journaled File System 2) & JFS	Yes
Dynamic Logical Partitioning (DLPAR)	Yes
Secure Boot	Yes
RBAC (Role-Based Access Control) and Superuser Do	Yes
AIX Toolbox for Linux Applications	Yes
Network File System (NFS) & CIFS Support	Supported server activities in scope
Performance Monitoring Tools (nmon, topas, vmstat, iostat)	Yes
IBM AIX Runtime Expert	Yes
Error Logging (errpt, errlogger)	Yes
Integrated Security Features (IPSec, SSL, Kerberos, LDAP)	Supported server activities in scope

SERVICES/ FEATURES	INCLUDED IN SCOPE
AIX Trusted Execution	Yes
Cron & At Scheduling	Yes
Resource Control & Policy Management (RSET, WLM)	Yes
System Resource Controller (SRC)	Yes
Active Memory Expansion (AME)	Yes
AIX Network Installation Manager (NIM)	Assist with issues using NIM. Configuration/ setup activities out of scope.
Logical Volume Manager (LVM)	Yes
AIX Object Data Manager (ODM)	Yes
Electronic Service Agent (ESA)	Yes
Secure Shell (SSH)	Yes
AIX Virtual Memory Management	Yes
Network Interface Backup (NIB)	Yes
AIX Multipath I/O (MPIO)	Yes
AIX Fibre Channel Support	Yes
AIX Device Drivers and Kernel Extensions	Yes

2. Activities Out of Scope

- Preparation of Root Cause Analysis (RCA) reports and any other associated activities.
- Project work, including but not limited to planning associated with new servers, systems and services; system and application installations, moves and migrations
- Installation, initial configuration of any systems or day-to-day system administration tasks including but not limited to housekeeping of filesystems, printer management, system account credentials management, system health checks & performance reviews, backups and restoration activities, security compliance, documentation and training.
- Activities relating to the supply/ downloading or the deployment of software patches for any systems, including bug fixes, security updates or minor/major version upgrades. While the client is fully responsible for obtaining and implementing patches, PPT will assist if the client has issues within the patching process.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Any installation, configuration, troubleshooting, removal or replacement relating to a non-OS-based (usually 3rd party) application or product.
- License purchase, activation and compliance resolution
- Software and Application Compatibility Issues
- Automation and Orchestration Support
- Patch Management and Update Scheduling/ Coordination
- Application Hosting and Management
- Performance Analysis and/or Tuning
- Change Management activities, including but not limited to updating change records or attending CAB meetings.
- Underlying hardware issues.
- LAN/ WAN/ SAN network issues.
- Monitoring and Alerting
- ITSM (Ticketing System Integration)
- System Security Hardening Activities
- Clustering
- Virtual I/O Server
- iSeries Support

B. Oracle Linux

1. Support Areas within Scope

DELIVERABLES	DESCRIPTION
Support with Kernel Panics and Crashes	Troubleshooting and providing remediation support on issues relevant to the operating system when the system experiences kernel panics, causing crashes and unexpected reboots.
Support with Package Dependency Conflicts	Troubleshooting and providing remediation support when conflicts arise as a result of installing, upgrading, or removing packages using yum or dnf, relevant to the operating system.
Service Failures (Systemd Issues)	Troubleshooting and providing remediation support when services managed by systemd fail to start, stop unexpectedly, or exhibit erratic behavior.
Support with Networking Issues	Troubleshooting and providing remediation support when network interfaces or services (e.g., sshd, etc) are not functioning correctly, leading to connectivity problems within the operating system.
Support with Storage and Filesystem Errors	Troubleshooting and providing remediation support when problems occur within the system disk partitions, filesystems, or storage devices, such as corrupted filesystems, slow I/O, or out-of-space errors.
SELinux Permission Denials	Troubleshooting support when SELinux (Security-Enhanced Linux) denies access to resources, causing applications to malfunction or services to fail.
Software or Application Crashes	Troubleshooting and providing remediation support at the operating system level only after an application crashes or fails to execute properly, causing service disruptions. Appropriate vendor support related to the application/ software will still need to be engaged by the Customer.
Support with Virtual Memory and Swap Issues	Troubleshooting and providing remediation support on issues when high swap usage or virtual memory exhaustion leads to degraded performance or application crashes.

2. Activities Out of Scope

- Preparation of Root Cause Analysis (RCA) reports and any other associated activities.
- Project work, including but not limited to planning associated with new servers, systems and services; system and application installations, moves and migrations
- Installation, initial configuration of any systems or day-to-day system administration tasks including but not limited to housekeeping of filesystems, printer management, system account credentials management, system health checks & performance reviews, backups and restoration activities, security compliance, documentation and training.
- Activities relating to the supply/ downloading or the deployment of software patches for any systems, including bug fixes, security updates or minor/major version upgrades. While the client is fully responsible for obtaining and implementing patches, PPT will assist if the client has issues within the patching process.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Any installation, configuration, troubleshooting, removal or replacement relating to a non OS-based (usually 3rd party) application or product.
- License purchase, activation and compliance resolution
- Software and Application Compatibility Issues
- Automation and Orchestration Support
- Patch Management and Update Scheduling/ Coordination
- Application Hosting and Management
- Performance Analysis and/or Tuning
- Change Management activities, including but not limited to updating change records or attending CAB meetings.
- Underlying hardware issues.
- LAN/ WAN/ SAN network issues.
- Monitoring and Alerting
- ITSM (Ticketing System Integration)
- System Security Hardening Activities
- Clustering

C. Oracle Solaris

1. Support Areas within Scope

DELIVERABLES	DESCRIPTION
Support with Kernel Panics and Crashes	Troubleshooting and providing remediation support on issues relevant to the operating system when the system experiences kernel panics, causing crashes and unexpected reboots.
Support with Package Dependency Conflicts	Troubleshooting and providing remediation support when conflicts arise as a result of installing, upgrading, or removing packages, relevant to the operating system.
Service Failures	Troubleshooting and providing remediation support when system services fail to start, stop unexpectedly, or exhibit erratic behaviour.
Support with Networking Issues	Troubleshooting and providing remediation support when network interfaces or services (e.g., sshd, etc) are not functioning correctly, leading to connectivity problems within the operating system.
Support with Storage and Filesystem Errors	Troubleshooting and providing remediation support when problems occur within the system disk devices, LVM, ZFS, filesystems, or storage devices, such as corrupted filesystems, slow I/O, or out-of-space errors.
Software or Application Crashes	Troubleshooting and providing remediation support at the operating system level only after an application crashes or fails to execute properly, causing service disruptions. Appropriate vendor support related to the application/ software will still need to be engaged by the Customer.
Support with Virtual Memory and Swap Issues	Troubleshooting and providing remediation support on issues when high swap usage or virtual memory exhaustion leads to degraded performance or application crashes.

2. Activities Out of Scope

- Preparation of Root Cause Analysis (RCA) reports and any other associated activities.
- Project work, including but not limited to planning associated with new servers, systems and services; system and application installations, moves and migrations
- Installation, initial configuration of any systems or day-to-day system administration tasks including but not limited to housekeeping of filesystems, printer management, system account credentials management, system health checks & performance reviews, backups and restoration activities, security compliance, documentation and training.
- Activities relating to the supply/ downloading or the deployment of software patches for any systems, including bug fixes, security updates or minor/major version upgrades. While the client is fully responsible for obtaining and implementing patches, PPT will assist if the client has issues within the patching process.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Any installation, configuration, troubleshooting, removal or replacement relating to a non OS-based (usually 3rd party) application or product.
- License purchase, activation and compliance resolution
- Software and Application Compatibility Issues
- Automation and Orchestration Support
- Patch Management and Update Scheduling/ Coordination
- Application Hosting and Management
- Performance Analysis and/or Tuning
- Change Management activities, including but not limited to updating change records or attending Change Advisory Board meetings.
- Underlying hardware issues.
- LAN/ WAN/ SAN network issues.
- Monitoring and Alerting
- ITSM (Ticketing System Integration)
- System Security Hardening Activities
- Clustering
- Programming, scripting and/or coding

D. Red Hat Enterprise Linux

1. Support Areas within Scope

DELIVERABLE	DESCRIPTION
Support with Kernel Panics and Crashes	Troubleshooting and providing remediation support on issues relevant to the operating system when the system experiences kernel panics, causing crashes and unexpected reboots.
Support with Package Dependency Conflicts	Troubleshooting and providing remediation support when conflicts arise as a result of installing, upgrading, or removing packages using yum or dnf, relevant to the operating system.
Support with Slow Performance or Resource Contention	Troubleshooting and providing remediation support when the system or specific applications are running slowly due to high CPU, memory, or disk usage.
Service Failures (Systemd Issues)	Troubleshooting and providing remediation support when services managed by systemd fail to start, stop unexpectedly, or exhibit erratic behavior.
Support with Networking Issues	Troubleshooting and providing remediation support when network interfaces or services (e.g., sshd, httpd) are not functioning correctly, leading to connectivity problems.
Support with Storage and Filesystem Errors	Troubleshooting and providing remediation support when problems occur with disk partitions, filesystems, or storage devices, such as corrupted filesystems, slow I/O, or out-of-space errors.
SELinux Permission Denials	SELinux (Security-Enhanced Linux) denies access to resources, causing applications to malfunction or services to fail.
Support with Support with Authentication and User Management Issues	Troubleshooting and providing remediation support when problems arise with user authentication, password policies, or centralized authentication (e.g., LDAP, Kerberos).
Hardware Compatibility Issues	Troubleshooting and/or providing remediation support on issues when hardware components (e.g., network adapters, storage controllers, GPUs) are not functioning correctly or are incompatible with the current RHEL version.
Support with Virtual Memory and Swap Issues	Troubleshooting and providing remediation support on issues when high swap usage or virtual memory exhaustion leads to degraded performance or application crashes.

2. Activities Out of Scope

- Preparation of Root Cause Analyses (RCA) report.
- Will not support with project work.
- Installation, day-to-day system administration, or initial configuration of any systems.
- Activities relating to the supply/ downloading or the deployment of software patches for any systems, including bug fixes, security updates or minor/major version upgrades. However, PPT will remediate any issues encountered during the upgrade process once it has been responsibly undertaken by the Customer.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Activities related to the system move, removal or replacement.
- Any installation, configuration, or troubleshooting relating to a non-OS based (usually third party) application or product.

E. SUSE Linux Enterprise Server

1. Support Areas within Scope

DELIVERABLES	DESCRIPTION
Support with Kernel Panics and Crashes	Troubleshooting and providing remediation support on issues relevant to the operating system when the system experiences kernel panics, causing crashes and unexpected reboots.
Support with Package Dependency Conflicts	Troubleshooting and providing remediation support when conflicts arise as a result of installing, upgrading, or removing packages using Zypper, relevant to the operating system.
Service Failures (Systemd Issues)	Troubleshooting and providing remediation support when services managed by systemd fail to start, stop unexpectedly, or exhibit erratic behavior.

DELIVERABLES	DESCRIPTION
Support with Networking Issues	Troubleshooting and providing remediation support when network interfaces or services (e.g., sshd, etc) are not functioning correctly, leading to connectivity problems within the operating system.
Support with Storage and Filesystem Errors	Troubleshooting and providing remediation support when problems occur within the system disk partitions, filesystems, or storage devices, such as corrupted filesystems, slow I/O, or out-of-space errors.
SELinux Permission Denials	Troubleshooting support when SELinux (Security-Enhanced Linux) denies access to resources, causing applications to malfunction or services to fail.
Software or Application Crashes	Troubleshooting and providing remediation support at the operating system level only after an application crashes or fails to execute properly, causing service disruptions. Appropriate vendor support related to the application/ software will still need to be engaged by the Customer.
Support with Virtual Memory and Swap Issues	Troubleshooting and providing remediation support on issues when high swap usage or virtual memory exhaustion leads to degraded performance or application crashes.

2. Activities Out of Scope

- Preparation of Root Cause Analysis (RCA) reports and any other associated activities.
- Project work, including but not limited to planning associated with new servers, systems and services; system and application installations, moves and migrations
- Installation, initial configuration of any systems or day-to-day system administration tasks including but not limited to housekeeping of filesystems, printer management, system account credentials management, system health checks & performance reviews, backups and restoration activities, security compliance, documentation and training.
- Activities relating to the supply/ downloading or the deployment of software patches for any systems, including bug fixes, security updates or minor/major version upgrades. While the client is fully responsible for obtaining and implementing patches, PPT will assist if the client has issues within the patching process.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Any installation, configuration, troubleshooting, removal or replacement relating to a non OS-based (usually 3rd party) application or product.
- License purchase, activation and compliance resolution
- Software and Application Compatibility Issues
- Automation and Orchestration Support
- Patch Management and Update Scheduling/ Coordination
- Application Hosting and Management
- Performance Analysis and/or Tuning
- Change Management activities, including but not limited to updating change records or attending Change Advisory Board meetings.
- Underlying hardware issues.
- LAN/ WAN/ SAN network issues.
- Monitoring and Alerting
- ITSM (Ticketing System Integration)
- System Security Hardening Activities
- Clustering
- Programming, scripting and/or coding

F. VMware Solutions

1. Support Areas within Scope

DELIVERABLE	DESCRIPTION	VSPHERE AND VCENTER	VSAN	NSX NETWORKING	SITE RECOVERY MANAGER	ARIA	HORIZON
Error Log Analysis	Providing technical support on analysing system and application logs to identify the cause of errors.	Yes	Yes	Yes	No	Yes	Yes
vCenter User Management Queries	Providing technical support on adding, removing, or modifying users and groups within the Customer's VMware environment.	Yes	No	No	No	No	No
Datastore Management Queries	Providing technical support on managing capacity to function in an optimal manner.	Yes	Yes	No	No	No	No
Cluster Management Queries	Providing technical support on best practice configuration across the cluster to maximize performance and resilience within the Customer's environment.	Yes	Yes	Yes	No	No	No
Host Management Queries	Providing technical support on best practice configuration on ESXi hosts to maximize performance and resilience within the Customer's environment.	Yes	Yes	Yes	No	No	No
Performance Queries within the vCenter	Providing technical support on performance tuning to ensure that the customer's environment runs at optimal performance.	Yes	Yes	Yes	No	No	No
Virtual Machine Creation and Template Management Queries	Providing technical support on the creation and update of virtual machine templates from which to deploy the Customer's virtual estate.	Yes	No	No	No	No	No
Disaster Recovery (DR) Configuration Review	Issues that arise during the setup or post-execution of a disaster recovery (DR) process, where SRM is unable to effectively manage the failover to a secondary site.	No	No	No	Yes	No	No
Test Failover Scenarios/ Non-disruptive DR Testing	Issues which arise during the failover simulation of virtual machines (VMs) from a primary site (production) to a recovery site (disaster recovery) to validate disaster recovery (DR) plans without affecting the production environment.	No	No	No	Yes	No	No
Geo-replication of Workloads	Issues which arise during the process of replicating virtual machines (VMs) and their associated data between geographically dispersed sites.	No	No	No	Yes	No	No
Automated VM Failback	Issues encountered during the process of automatically returning virtual machines (VMs) from a recovery site back to the primary (or original) production site after a disaster or planned failover event has been resolved.	No	No	No	Yes	No	No
Horizon appliances Configuration Queries	Guidance on examining and interpreting error logs generated by various components within the VMware Horizon environment.	No	No	No	No	No	Yes
Horizon VDI User Management	Guidance on setting up and customizing various components and settings within the VMware Horizon environment to meet the specific requirements and	No	No	No	No	No	Yes

DELIVERABLE	DESCRIPTION	VSPHERE AND VCENTER	VSAN	NSX NETWORKING	SITE RECOVERY MANAGER	ARIA	HORIZON
	preferences of a customer's organization.						
Performance Queries within Horizon	Guidance on managing user accounts, access rights, entitlements, and profiles within the VMware Horizon environment. This encompasses various tasks and capabilities aimed at controlling user access to virtual desktops, published applications, and resources, as well as ensuring a seamless and secure user experience.	No	No	No	No	No	Yes
Virtual Desktop Deployment/Management Queries	Guidance on monitoring, optimizing, and ensuring the performance of the VMware Horizon environment to provide a responsive and reliable virtual desktop and application experience for end-users.	No	No	No	No	No	Yes
Service Engine Failures	Providing technical support to investigate and resolve service engine failures, including non-registration, crashes, or resource exhaustion.	No	No	No	No	Yes	No
Virtual Service Instability	Providing technical support to diagnose and stabilise virtual services that are intermittently down, misrouted, or unable to reach backend pool members.	No	No	No	No	Yes	No
Configuration Drift / Sync Errors	Providing technical support to detect and resolve inconsistencies in configuration across controller nodes or between GUI, CLI, and runtime state.	No	No	No	No	Yes	No
API or Automation Integration Issues	Providing technical support for resolving integration issues with orchestration tools or custom scripts, ensuring that automated workflows using AVI APIs function reliably and as intended.	No	No	No	No	Yes	No
Workflow Execution Failures (Aria Automation Orchestrator only)	Providing technical support to identify and resolve workflow execution failures.	No	No	No	No	Yes	No
Aria Automation Orchestrator Appliance or Service Health Problems	Providing technical support to assess and restore Aria Automation Orchestrator appliance or service health, including addressing Java Virtual Machine (JVM) issues, high resource usage, or service restarts.	No	No	No	No	Yes	No
Deployment Automation Failures (Aria Automation Orchestrator)	Providing technical support to diagnose and resolve automation failures in provisioning or resource deployment workflows.	No	No	No	No	Yes	No
Cluster Imbalance or Node Failures (Aria Operations)	Providing technical support on identifying and remediating cluster imbalance or node-level failures.	No	No	No	No	Yes	No

DELIVERABLE	DESCRIPTION	VSPHERE AND VCENTER	VSAN	NSX NETWORKING	SITE RECOVERY MANAGER	ARIA	HORIZON
Heap Usage and JVM Pressure	Providing technical support on JVM and memory tuning to reduce service restarts and performance degradation.	No	No	No	No	Yes	No
Failed Recovery or Rebalance Attempts	Providing technical support on issues encountered when restoring cluster balance and recovering failed nodes.	No	No	No	No	Yes	No
Management Pack or Adapter Failures	Providing technical support on issues encountered when diagnosing and restoring failed integrations with management packs or adapters to ensure uninterrupted data collection from critical systems like vCenter and NSX.	No	No	No	No	Yes	No

2. Aria Components within Scope

- a. Aria Operations
- b. Aria Automation
- c. Aria Operations for Logs
- d. Aria Suite Lifecycle
- e. Aria Operations for Networks

3. Activities Out of Scope

- Preparation of Root Cause Analysis (RCA) reports and any other associated activities.
- Installation, day-to-day system administration, or initial configuration of any VMware software solutions.
- Activities relating to the supply/ downloading or the deployment of software patches for any Broadcom/ VMware products, including bug fixes, security updates or minor/ major version upgrades. However, PPT will remediate any issues encountered during the upgrade process once it has been undertaken by the Customer.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Activities related to the removal or replacement of a VMware offering.
- Any installation, configuration, or troubleshooting relating to a third-party product.
- License activation and compliance resolution on VMware products with a subscription license.
- Patch Management and Update Scheduling/ Coordination.
- Performance Analysis and Tuning.
- Change Management activities, including but not limited to updating change records or attending CAB meetings.
- Underlying hardware issues.
- Monitoring and Alerting.
- ITSM (Ticketing System Integration).
- System Security Hardening Activities.

G. PROXMOX VE AND BACKUP SERVER SOFTWARE TECHNICAL SUPPORT

Park Place Technologies ("PPT") Software Technical Support (STS) for Proxmox VE (Virtual Environment) provides reactive troubleshooting, diagnosis, and guided remediation for existing Proxmox VE environments. Proxmox Backup Server (PBS) Software Technical Support is sold only as an add-on to an active Proxmox VE STS contract and is co-terminous with that contract. PBS support is reactive only and is not a managed backup service.

Support is delivered remotely. Access to Proxmox repositories, updates, and certain vendor resources may require an active Proxmox subscription, which remains the Customer's responsibility.

1. Proxmox VE Support Areas within Scope

DELIVERABLE	DESCRIPTION
Hypervisor Stability & Unexpected Node Behavior	Troubleshooting and remediation support for kernel panics, unexpected node reboots, or failures of core Proxmox VE services (pve-cluster, pvedaemon, pveproxy, and pvestatd) that affect existing workloads.
Virtual Machine & Container Runtime Faults	Troubleshooting and remediation support where existing KVM/QEMU virtual machines or LXC containers fail to start, become inaccessible, hang, or experience runtime errors, including snapshot, guest agent, and live migration failures.
Cluster Communication & Synchronization Errors	Troubleshooting cluster instability, including loss of quorum, Corosync ring or token failures, and pmxcfs (/etc/pve) synchronization errors that cause nodes to fall out of sync.
Storage Access & Availability Issues (ZFS, Ceph, LVM/LVM-Thin, iSCSI, NFS, CIFS/SMB, FC LUNs)	Troubleshooting and remediation support where existing storage becomes degraded, unavailable, read-only, or unresponsive, including Ceph OSD, MON, or PG health issues and ZFS pool degradation. Ceph support is limited to Ceph deployed as part of the covered Proxmox VE cluster.
Networking & Connectivity Break/Fix Issues	Reactive troubleshooting for connectivity loss, Linux bridge, bond, or VLAN issues, OVS/SDN issues, or network path failures affecting running services, limited to the Proxmox host network configuration.
Virtual Firewall & Access Control Malfunctions	Support for issues in which existing Proxmox firewall rules at the Datacenter, node, or guest level, security groups, or role-based permissions do not behave as configured.
Authentication & Directory Integration Errors	Assistance resolving failures involving existing authentication realms (PAM, Proxmox VE, LDAP, Active Directory, and OpenID Connect), two-factor authentication, API tokens, certificates, or login processes.
Proxmox Datacenter Manager (PDM) & Management Plane Issues	Troubleshooting failures affecting PDM or the management layer, including remote connectivity, node and cluster visibility, inventory synchronization, and management access across existing environments.
High Availability (HA) Failures	Troubleshooting support for failed or stuck failovers, unexpected HA resource states, and CRM/LRM, fencing, or watchdog behavior in existing HA groups.
Storage Replication & Scheduled Task Failures	Troubleshooting existing ZFS storage replication jobs (pvesr) and scheduled task execution (pvescheduler) when jobs fail, stall, or fall behind their configured schedule.
Native Backup (vzdump) Job Failures	Troubleshooting failed or incomplete native vzdump backup jobs to non-PBS targets (local, NFS, CIFS/SMB). Jobs targeting a Proxmox Backup Server require the PBS add-on.

2. PBS (Add-On) Support Areas within Scope

DELIVERABLE	DESCRIPTION
PBS Service Availability and Stability	Troubleshooting and remediation guidance when existing PBS services (proxmox-backup-proxy and proxmox-backup), datastore availability, or web/API management access fail or behave unexpectedly.
Backup Job Execution Failures	Troubleshooting failed or incomplete backup jobs from supported Proxmox VE workloads to an existing PBS target, including review of relevant logs and configuration behavior.
Datastore Access and Availability Issues	Assistance diagnosing issues when an existing PBS datastore becomes unavailable, degraded, locked, full, or unresponsive, including underlying chunk store and datastore mount errors.

DELIVERABLE	DESCRIPTION
Retention, Prune, Garbage Collection, and Verification Errors	Troubleshooting errors involving existing retention, prune, garbage collection, or verification tasks when those tasks fail or produce unexpected results.
PBS and Proxmox VE Integration Issues	Support for issues affecting the existing connection between Proxmox VE and PBS, including backup target visibility, authentication or API token failures, certificate fingerprint mismatches, and storage target behavior.
Restore Operation Failures	Troubleshooting failed restore attempts from existing PBS backups when the Customer initiates the restore and provides the required logs, error messages, and access to the environment.
Remote Sync Job Failures	Troubleshooting failures in existing PBS sync jobs (pull or push) between PBS instances or remotes when the job was previously configured and operational.
PBS Access, Authentication, and Permission Errors	Assistance resolving failures involving existing PBS users, roles, realms, API tokens, or access policies when access does not behave as configured.
Repository, Subscription, and Update Process Issues	Guidance and troubleshooting assistance where the Customer experiences errors accessing PBS repositories or applying updates, including repository access failures and subscription entitlement errors reported by the system.

3. Activities Out of Scope

- Preparation of Root Cause Analysis (RCA) reports or any associated activities.
 - Project work, including but not limited to planning for new Proxmox nodes, clusters, or storage systems; new VM, LXC, or storage deployments; planned migration projects; expansions; or redesigns of existing Proxmox environments. Troubleshooting a failed migration within an existing, previously operational cluster remains in scope.
 - Installation or initial configuration of any systems; day-to-day system administration tasks, including but not limited to installing or initially configuring Proxmox VE, PDM, PBS, Ceph, ZFS, or networking; adding or configuring PDM remotes; creating, modifying, or decommissioning VMs, containers, or storage; filesystem housekeeping; credential management; health checks; log reviews; system documentation; backup job setup; routine backup administration; disaster recovery planning or implementation; performing backup or restore operations on the Customer's behalf; user training; or procedural guidance.
 - Activities related to supplying, downloading, or deploying software patches for any systems, including bug fixes, security updates, and minor or major version upgrades, and the scheduling or coordination of patch and update activities. The Customer is responsible for obtaining and implementing patches; however, Park Place Technologies (PPT) will assist if the Customer encounters issues during the patching process.
 - Proactive monitoring of Proxmox environments.
 - Participation in, or troubleshooting during, a live disaster recovery invocation or disaster recovery test. Troubleshooting a Customer-initiated restore failure from an existing PBS backup remains in scope.
 - Troubleshooting of guest operating systems, including applications, services, and configuration inside the guest. Support is delivered at the hypervisor and guest lifecycle layer.
 - Installation, configuration, troubleshooting, removal, or replacement of non-operating-system-based, typically third-party, applications or products.
 - License and subscription key purchase, activation, and compliance resolution.
 - Software and application compatibility issues.
 - Automation, orchestration support or script development.
 - Application hosting and management.
 - Capacity planning.
-
- Performance analysis, optimization, or tuning, including latency and slow-operation investigation in environments that remain operational but degraded.
 - Change management activities, including but not limited to updating change records or attending Change Advisory Board (CAB) meetings.
 - Underlying hardware issues. Diagnosis is provided up to isolation of a suspected failed component; physical repair or replacement is covered under the applicable hardware maintenance contract.
 - LAN, WAN, or SAN network issues beyond the Proxmox host network configuration and host uplink, including switches, routers, fabric services, and SAN zoning or LUN presentation.
 - Monitoring and alerting.
 - ITSM (ticketing system integration).

- System security hardening activities.
- Support for standalone Proxmox Backup Server instances or any PBS instance that is not connected to a Proxmox VE environment covered by an active Proxmox VE Software Technical Support contract.
- External or standalone Ceph clusters that are not deployed and managed as part of the covered Proxmox VE cluster.
- PBS tape backup and tape library operations, including tape drive or changer configuration, media and pool management, and tape-based backup or restore troubleshooting.
- Support for Proxmox VE or PBS releases that have reached end of life, unless reviewed and confirmed prior to contract start. Where the vendor no longer provides fixes or updates for a release, remediation may be limited to diagnosis and workarounds.

H. Ubuntu, CentOS, Rocky Linux, and AlmaLinux SOFTWARE TECHNICAL SUPPORT

Park Place Technologies ("PPT") will provide reactive remote guidance and support ("Services") for operating system-level break/fix scenarios within Ubuntu, CentOS, Rocky Linux, and AlmaLinux. Support is limited to troubleshooting, diagnosis, remediation guidance, and operating system-level advice. The Customer remains responsible for system administration, implementation, patch acquisition, patch deployment, licensing, backups, and application/vendor engagement where required.

1. Support Areas within Scope

Deliverable	Description
Support with Kernel Panics and Crashes	Troubleshooting and providing remediation support on issues relevant to the operating system when the system experiences kernel panics, crashes, unexpected reboots, or abnormal system behavior.
Support with Package Dependency Conflicts	Troubleshooting and providing remediation support when conflicts arise as a result of installing, upgrading, or removing operating system packages. For Ubuntu, this includes issues related to apt/dpkg. For CentOS, Rocky Linux, and AlmaLinux, this includes issues related to yum or dnf.
Service Failures (Systemd Issues)	Troubleshooting and providing remediation support when services managed by systemd fail to start, stop unexpectedly, or exhibit erratic behavior.
Support with Networking Issues	Troubleshooting and providing remediation support when network interfaces or operating system network services, such as SSH, DNS, routing, or name resolution, are not functioning correctly and are causing connectivity problems within the operating system.
Support with Storage and Filesystem Errors	Troubleshooting and providing remediation support when problems occur within system disk devices, partitions, LVM, filesystems, or mounted storage, such as corrupted filesystems, slow I/O, mount failures, or out-of-space errors. ZFS is supported as set out in the Services/Features table below.
SELinux or AppArmor Permission Denials	Troubleshooting support when operating system security controls deny access to resources, causing applications or services to fail or malfunction. For CentOS, Rocky Linux, and AlmaLinux, this includes SELinux-related denials. For Ubuntu, this includes AppArmor-related denials.
Software or Application Crashes	Troubleshooting and providing remediation support at the operating system level only after an application crashes or fails to execute properly, causing service disruptions. Appropriate vendor support related to the application/software will still need to be engaged by the Customer.
Support with Virtual Memory and Swap Issues	Troubleshooting and providing remediation support when high swap usage, virtual memory exhaustion, memory pressure, or paging issues lead to degraded operating system performance or application crashes.
Support with Authentication and User Management Issues	Troubleshooting and providing remediation support when problems arise with operating system-level user authentication, password policies, sudo access, permissions, SSH login, or client-side integration with centralized authentication services such as LDAP or Kerberos. Support is limited to the operating system client configuration; administration, configuration, or troubleshooting of the directory or authentication server itself is out of scope.
Support with Slow Performance or Resource Contention	Reactive troubleshooting and providing remediation support in response to a reported incident where the operating system or specific workloads are running slowly due to high CPU, memory, disk, process, or I/O usage. Support is limited to identifying and resolving the cause of the reported degradation; ongoing performance analysis, tuning, and optimization are out of scope.
Support with Boot and Startup Issues	Troubleshooting and providing remediation support when the operating system fails to boot, enters emergency/rescue mode, or experiences startup failures related to operating system services, mounts, kernels, or configuration.
Support with Log Review and Operating System Error Analysis	Reviewing relevant operating system logs to assist in diagnosing operating system-level failures, service errors,

	authentication issues, storage errors, or recurring system events.
Hardware Compatibility Issues	Troubleshooting and/or providing remediation support at the operating system level when hardware components (e.g., network adapters, storage controllers, GPUs) are not recognized, fail to initialize, or are incompatible with the current operating system version. Support is limited to operating system-level driver, kernel module, and device configuration activity. Diagnosis, repair, or replacement of physical hardware faults is out of scope.

2. Services/Features Included in Scope

Services/Features	Included in Scope
Package Management	Yes. Ubuntu: apt/dpkg. CentOS, Rocky Linux, and AlmaLinux: yum or dnf.
Logical Volume Manager (LVM)	Yes
ZFS	Yes, for Ubuntu, where ZFS is distributed with the operating system. For CentOS, Rocky Linux, and AlmaLinux, ZFS is provided by a third-party, out-of-tree OpenZFS module and is out of scope.
systemd Service Management	Yes
Secure Shell (SSH)	Yes
SELinux	Yes. CentOS, Rocky Linux, and AlmaLinux.
AppArmor	Yes. Ubuntu (default mandatory access control framework).
Centralized Authentication (LDAP, Kerberos)	Yes. Troubleshooting of client-side integration only; directory server administration is out of scope.
Device Drivers and Kernel Modules	Yes, for modules distributed with the operating system, including ZFS on Ubuntu. Third-party or out-of-tree modules, including OpenZFS on CentOS, Rocky Linux, and AlmaLinux, are out of scope.

3. Activities Out of Scope

- Preparation of Root Cause Analysis (RCA) reports and any other associated activities.
- Project work, including but not limited to planning associated with new servers, systems and services; system and application installations, moves and migrations.
- Installation, initial configuration of any systems or day-to-day system administration tasks including but not limited to housekeeping of filesystems, printer management, system account credentials management, system health checks & performance reviews, backups and restoration activities, security compliance, documentation and training.
- Activities relating to the supply, downloading, or deployment of software packages and patches for any systems, including bug fixes, security updates or minor/major version upgrades. While the Customer is fully responsible for obtaining and implementing patches, PPT will assist if the Customer has issues within the patching process.
- Troubleshooting during a live disaster recovery invocation or disaster recovery test.
- Installation, configuration, troubleshooting, removal, or replacement relating to non-OS-based third-party applications or products.
- License purchase, activation and compliance resolution.
- Software and Application Compatibility Issues.
- Automation and Orchestration Support, unless explicitly included under a separate contracted support offering.
- Patch management and update scheduling/coordination.
- Application hosting and management.
- Performance Analysis and/or Tuning, including baselining, capacity planning, and optimization activity undertaken outside of a reported incident.
- Change management activities, including but not limited to updating change records or attending CAB meetings.
- Underlying hardware issues, including physical component fault diagnosis, repair, or replacement, and firmware or BIOS remediation.
- LAN/WAN/SAN network issues.
- Monitoring and alerting.
- ITSM or ticketing system integration.
- System security hardening activities.
- Clustering.
- Container platform, Kubernetes, OpenShift, Rancher, or orchestration platform configuration, administration, or troubleshooting unless explicitly included under a separate contracted support offering.
- Distribution upgrades, migrations between distributions, or conversion from CentOS to Rocky Linux, AlmaLinux, Ubuntu, or any other Linux distribution.
- Support for customer-developed scripts, custom-compiled kernels, unsupported repositories, or non-standard operating system modifications.

- Programming, scripting and/or coding.
- Production of software fixes. These distributions are community-maintained and PPT does not develop or supply patches, kernel fixes, or security errata, and does not provide or broker any upstream vendor subscription or entitlement (including Ubuntu Pro or Extended Security Maintenance). Where resolution requires an upstream code fix, PPT will provide remediation guidance and workarounds only.
- Support for end-of-life or unsupported operating system versions, unless specifically identified in the Customer Order Schedule or an approved service addendum. Where an end-of-life version is expressly identified and accepted (for example, CentOS Linux 7 and CentOS Linux 8, both of which have reached end of life), Services are limited to best-effort remediation guidance, as no upstream fixes or security errata are available.

I. HP-UX Software Technical Support

HP-UX Software Technical Support is available only for customers with supported HPE hardware under contractual hardware maintenance with Park Place Technologies and only for equipment covered during the applicable term as indicated on the Customer's Order Schedule. This service is not available as a standalone software-only offering.

1. Support Areas within Scope

PPT will provide reactive remote guidance and support ("Services") for the below deliverables:

Deliverable	Description
Support with Kernel Panics and System Crashes	Troubleshooting and providing remediation guidance for HP-UX operating system issues involving kernel panics, system crashes, unexpected reboots, abnormal halts, or boot instability.
Support with Boot and Startup Issues	Troubleshooting operating system-level boot failures, startup errors, recovery mode issues, or failures related to HP-UX system services, filesystems, or configuration.
Support with Software Depot and Package Dependency Conflicts	Troubleshooting issues related to HP-UX software depots, bundles, patches, or package dependency conflicts resulting from software installation, removal, or update activity.
Support with Service and Daemon Failures	Troubleshooting HP-UX system services, daemons, or startup processes that fail to start, stop unexpectedly, or behave inconsistently.
Support with Networking Issues	Troubleshooting operating system-level network issues, including interface configuration, routing, name resolution, SSH connectivity, or other HP-UX network service issues.
Support with Storage, Volume, and Filesystem Errors	Troubleshooting issues involving HP-UX filesystems, logical volumes, volume groups, mount failures, disk path issues, corrupted filesystems, slow I/O, or out-of-space conditions.
Support with Virtual Memory and Swap Issues	Troubleshooting high swap usage, memory exhaustion, paging issues, or virtual memory conditions that degrade operating system or application performance.
Support with User Authentication and Access Issues	Troubleshooting HP-UX operating system-level user login, password, shell, permissions, SSH access, or local authentication issues.
Software or Application Crash Support — OS-Level Only	Troubleshooting at the HP-UX operating system level when an application crashes or fails to execute properly. Application-specific vendor support remains the Customer's responsibility.
Log Review and Operating System Error Analysis	Reviewing HP-UX logs and operating system error output to support diagnosis of OS-level failures, recurring system events, storage issues, or service instability.
Hardware / OS Interaction Advisory	Providing guidance where HP-UX operating system behavior may be impacted by supported HPE hardware, firmware compatibility, device paths, or hardware-related events. Hardware remediation remains handled under the applicable HPE hardware maintenance agreement.

2. Activities Out of Scope

- Preparation of Root Cause Analysis reports and any other associated RCA activities.
- Project work including planning for new systems, platform modernization, migrations, system moves, or service transitions.
- Installation, initial configuration, or day-to-day administration of HP-UX systems.

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- Routine system administration tasks, including filesystem housekeeping, user account administration, printer management, backups, restorations, system health checks, documentation, or training.
- Supply, download, or deployment of HP-UX patches, updates, bug fixes, security fixes, or version upgrades.
- Patch management, update scheduling, or upgrade coordination.
- Troubleshooting issues during a live disaster recovery invocation or disaster recovery test.
- Installation, configuration, troubleshooting, removal, or replacement of non-OS-based third-party applications or products.
- Application-specific support, including SAP, Oracle Database, middleware, or other business applications running on HP-UX.
- License purchase, activation, entitlement validation, or compliance resolution.
- Software and application compatibility certification.
- Automation, scripting, orchestration, or custom tooling support.
- Performance analysis, capacity planning, or tuning beyond reactive break/fix troubleshooting.
- Change management activities, including updating change records or attending CAB meetings.
- LAN, WAN, SAN, or external network issues outside the HP-UX operating system.
- Monitoring and alerting services.
- ITSM or ticketing system integration.
- Security hardening, compliance remediation, vulnerability remediation, or audit support.
- Cluster design, cluster implementation, or ongoing cluster administration.
- Support for unsupported, modified, or custom-compiled HP-UX components unless explicitly approved.

HYPER CONVERGED INFRASTRUCTURE

A. HPE SimpliVity

HPE SimpliVity Software Technical Support is available only for customers under contractual hardware maintenance support with Park Place and only for equipment covered during the applicable term as indicated on the Customer's Order Schedule.

1. *Support Areas within Scope*

PPT will provide reactive remote guidance and support ("Services") for the below deliverables:

DELIVERABLE	DESCRIPTION
HPE SimpliVity vCenter and Hyper-V or HPE Morpheus VM Essentials Plug-in Issues	Troubleshooting issues with the HPE SimpliVity plug-in registration, visibility, permissions, or operations within vCenter or Hyper-V, including task failures initiated from the plug-in.
OmniStack Virtual Controller (OVC) Connectivity & Services	Troubleshooting OVC service status, IP connectivity, DNS/NTP sync, certificate trust, and related failures impacting SimpliVity operations.
OmniStack Accelerator Issues	Troubleshoot configuration problems with the OmniStack Accelerator physical/virtual.
Federation / Cluster Health Issues	Troubleshooting health warnings, node communication problems, or service disruptions within a SimpliVity federation or cluster; assisting with diagnosing misconfiguration to restore availability.
Arbiter Connectivity & Quorum	Troubleshooting Arbiter connectivity, quorum warnings, or failover risks that may affect data availability and cluster resiliency.
Datastore Capacity & Space Reclamation	Advisory and troubleshooting for free space alerts, oversubscription visibility, and space reclamation behavior in deduplicated/compressed SimpliVity datastores.
Backup & Restore Failures	Troubleshooting SimpliVity policy-based and ad-hoc backups, restore and mount operations, including catalogue visibility and retention anomalies.
Intercluster Replication & Remote Backups	Troubleshooting replication and remote backup scheduling, connectivity between sites, and common causes of out-of-date replicas or job failures.
Performance Degradation (Latency / IOPS / Throughput)	Troubleshooting when VMs/applications experience degraded performance; assistance focuses on SimpliVity/vSphere or Hyper-V layers and typical bottlenecks (not app-level tuning).

2. *Activities Out of Scope*

- Remediating SimpliVity Software License Issues.
- SimpliVity upgrade or update issues including security patching (Revision-locked).
- Node Expansion and Scaling Challenges.
- Installation, day-to-day system administration, or initial configuration of any SimpliVity add-on software solutions.
- Any installation, configuration, or troubleshooting relating to a third-party product.
- Activities related to the removal or replacement of a SimpliVity offering.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Root Cause Analysis.

Please note: SimpliVity Technical Support provides remote troubleshooting and guidance exclusively for HPE SimpliVity software and its immediate dependencies within VMware vSphere, Microsoft Hyper-V or HPE Morpheus VM Essentials Software environments. Supported components include the SimpliVity plug-ins for vCenter, Hyper-V or HPE VM Essentials Manager, OmniStack Virtual Controller (OVC), OmniStack Accelerator, federation/cluster health, Arbiter connectivity, SimpliVity datastores, backup/restore operations, intercluster replication, and SimpliVity-driven virtual machine operations. This service does not include support for broader VMware or Hyper-V platform features such as NSX networking, Site Recovery Manager (SRM), Horizon VDI, Hyper-V Replica, or lifecycle operations like upgrades, patching, and disaster recovery orchestration. Customers requiring assistance with advanced VMware, Hyper-V or VM Essentials products, or platform-wide operational scenarios, should consider purchasing additional software support to ensure comprehensive coverage across their environment.

3. *Partial Cluster Support Disclaimer*

Park Place Technologies ("PPT") is committed to delivering flexible, high-quality software support for SimpliVity environments, even in hybrid models where only a portion of the cluster is under PPT coverage and the remaining nodes are supported by the Original Equipment Manufacturer (OEM), such as HPE.

In these cases, PPT's services will remain strictly within the defined software support scope and will avoid making direct changes to OEM-supported nodes. While PPT will take every precaution to ensure a smooth and coordinated support experience, we cannot assume responsibility for issues related to OEM warranties stemming from a hybrid model. PPT recommends maintaining open communication with the OEM to help ensure continued compatibility and minimize any overlap in service responsibilities.

Our goal is to provide seamless support within mixed environments while helping customers maximize uptime.

B. Nutanix (including Nutanix Cloud Infrastructure, Nutanix Cloud Manager and Nutanix Unified Storage)

1. Support Areas within Scope

DELIVERABLE	DESCRIPTION	NUTANIX CLOUD INFRASTRUCTURE (within support)	NUTANIX CLOUD MANAGER (within support)	NUTANIX UNIFIED STORAGE (within support)
Cluster Performance Degradation	Troubleshooting issues when the cluster experiences slow response times, high resource usage, or bottlenecks affecting virtual machines (VMs) or applications.	Yes	No	Yes
Cluster Health Issues	Troubleshooting issues when the cluster reports health warnings, node failures, or service disruptions.	Yes	Yes	Yes
Storage Latency and I/O Bottlenecks	Troubleshooting issues with high storage latency or I/O bottlenecks, which may arise from overloaded disks or storage controllers.	Yes	No	Yes
VM Failures or Instability	Troubleshooting issues when VMs are crashing or experiencing instability.	Yes	No	No
Upgrade Failures	Troubleshooting issues during AOS or AHV upgrades by diagnosing incompatibility issues or incomplete installations.	Yes	Yes	Yes
Network Connectivity Issues	Troubleshooting issues with network connectivity problems that impact communication between VMs or nodes. Network Connectivity Issues are limited to the connection between and within the nodes.	Yes	Yes	Yes
Snapshot and Cloning Failures	Troubleshooting issues when snapshots or VM cloning processes fail due to corruption or storage limitations.	Yes	No	Yes
Replication and Sync Failures	Troubleshooting issues when data replication or synchronization between clusters fails.	Yes	Yes	Yes

DELIVERABLE	DESCRIPTION	NUTANIX CLOUD INFRASTRUCTURE (within support)	NUTANIX CLOUD MANAGER (within support)	NUTANIX UNIFIED STORAGE (within support)
Node Expansion and Scaling Challenges	Troubleshooting issues which arise when adding new nodes or scaling the cluster, especially if compatibility issues arise.	Yes	No	Yes
Snapshot Space and Storage Management	Troubleshooting issues which arise in managing snapshot space and optimizing storage configurations when VMs or storage pools run out of space.	Yes	No	Yes

2. Activities Out of Scope

- Preparation of Root Cause Analysis (RCA) reports and any other associated activities.
- Resolving Nutanix Software License Issues
- Installation, day-to-day system administration, or initial configuration of any Nutanix Add On software solutions.
- Licensing and Capacity Limitations queries
- Any installation, configuration, or troubleshooting relating to a third-party product.
- Activities related to the removal or replacement of a Nutanix offering.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Patch Management and Update Scheduling/ Coordination.
- Performance Analysis and Tuning.
- Change Management activities, including but not limited to updating change records or attending CAB meetings.
- Underlying hardware issues.
- Technical support on any product versions newer than the versions identified in previous section due to functional limitations and will require the Customer to have an active software support agreement with the Original Equipment Manufacturer for the Nutanix platform.

C. VxRail Technical Support

1. Support Areas within Scope

PPT will provide reactive remote guidance and support ("Services") for the below deliverables:

DELIVERABLE	DESCRIPTION
VxRail Manager Disconnect from vCenter	Troubleshooting issues with VxRail Manager network connectivity, service accounts, certificates to reestablish the functionality of the VxRail customizations within the vCenter.
VxRail Manager Account Issues	Troubleshooting and advice around common issues related to user access, and accounts connecting the VxRail manager to the vCenter.
VxRail Manager Storage Issues	Troubleshooting and advice around common issues with storage on the VxRail manager appliance.
VxRail Manager Certificate Issues	Troubleshooting and advice around common certificate related issues, pertaining to renewals, removal and resetting - on the VxRail manager appliance.
vSphere Certificate Issues	Troubleshooting and advice around common certificate related issues, pertaining to renewals, removal and resetting - on the vCenter and ESXI hosts.
VxRail Cluster Performance Degradation	Troubleshooting issues when the VxRail cluster experiences slow response times, high resource usage, or bottlenecks preventing normal virtual machine performance.
VxRail Cluster Health Issues	Troubleshooting issues when the VxRail cluster reports health warnings, node failures, or service disruptions. This may include diagnosing hardware failures or misconfigurations that prevent proper high availability (HA) or replication, helping restore full functionality.
VxRail vSAN Storage Connectivity Issues	Troubleshooting issues with host and cluster access to storage.

DELIVERABLE	DESCRIPTION
VxRail vSAN Compression and Deduplication Issues	Troubleshooting issues with the deduplication configuration of the vSAN.
VxRail vSAN Fault Tolerance and synchronization Issues	Troubleshooting issues with VxRail Fault tolerance and synchronization issues.
VxRail vSAN Stretched Clusters	Troubleshooting issues with VxRail in a stretched cluster environment.
VxRail Log Review and Analysis	Log review and analysis to facilitate troubleshooting current non-common issues.
Virtual Machine Failures or Instability	Troubleshooting issues when VMs are crashing or experiencing instability. Support is limited to the vCenter and ESXi layers; issues beyond this scope may require OEM engagement.
Virtual Network Connectivity Issues	Troubleshooting issues with network connectivity problems that impact communication between VMs or nodes. Support assists with diagnosing virtual network or VLAN misconfigurations.
Capacity Issues	Troubleshooting capacity issues, such as warnings related to exceeded storage or compute limits.
Snapshot and Cloning Failures	Troubleshooting issues that occur during snapshot or VM cloning processes.
Space and Storage Issues	Troubleshooting issues related to managing snapshot space and optimizing storage configurations when VMs or storage pools run out of space.

2. Activities Out of Scope

Please note: VxRail Technical Support provides remote troubleshooting and guidance exclusively for the VxRail appliance software and its immediate VMware dependencies, including VxRail Manager, vCenter, ESXi, and vSAN. This service does not include support for broader VMware platform features such as NSX networking, Site Recovery Manager (SRM), Horizon VDI, or lifecycle operations like upgrades, patching, and disaster recovery orchestration. Customers requiring assistance with advanced VMware products or platform-wide operational scenarios should consider purchasing Software Technical Support for the appropriate VMware product from PPT to ensure comprehensive coverage across their environment.

- Preparation of Root Cause Analysis (RCA) reports and any other associated activities.
- Resolving VxRail Software License Issues.
- VxRail upgrade or update issues including security patching (Revision-locked).
- Node Expansion and Scaling Challenges.
- Installation, day-to-day system administration, or initial configuration of any VxRail add-on software solutions.
- Any installation, configuration, or troubleshooting relating to a third-party product.
- Activities related to the removal or replacement of a VxRail offering.
- Troubleshooting of any issues during a live disaster recovery invocation or test.

3. Eligibility

VxRail Technical Support is available only for customers who are under contractual hardware maintenance support with Park Place and only with respect to equipment covered by such support during the applicable term as indicated in the customer's Order Schedule.

4. Partial Cluster Support Disclaimer

PPT is committed to delivering flexible, high-quality software support for VxRail environments, even in hybrid models where only a portion of the cluster is under PPT coverage and the remaining nodes are supported by the Original Equipment Manufacturer (OEM), such as Dell Technologies.

In these cases, PPT's services will remain strictly within the defined software support scope and will avoid making direct changes to OEM-supported nodes. While PPT will take every precaution to ensure a smooth and coordinated support experience, we cannot assume responsibility for issues related to OEM warranties stemming from a hybrid model. PPT recommends maintaining open communication with the OEM to help ensure continued compatibility and minimize any overlap in service responsibilities.

Our goal is to provide seamless support within mixed environments while helping customers maximize uptime.

STORAGE**A. Dell PowerScale****1. Support Areas within Scope:**

- NTP Configuration to sync time in Isilon Clusters
- SNMP Monitoring Configurations to monitor clusters.
- Managing and Monitoring Cluster Events
- Configure Alert channels, Alert rules and Email notifications
- Troubleshoot event related errors
- Configure external network such as groupnet, subnet and pool
- Configure internal network
- Troubleshoot network related errors
- Adding new nodes in the cluster
- Removing nodes from the cluster(Node smartfail)
- Managing cluster nodes(Shut down and reboot)
- Managing drives(Smartfail and Drive addition)
- Manage cluster(Reboot/ shutdown cluster)
- Manage isilon job operations (Job start and monitor)
- Defining job priority and impact policies
- Troubleshoot job related errors
- Configure protocol access auditing
- To setup configuration change auditing
- Analyze critical events and resolving such issues.

Management Software Support:

- Perform OneFS upgrades
- Perform node firmware upgrades
- Perform disk firmware upgrades (DSP)
- Patch installation
- Isilon/Powerscale GUI is down.
- Password resets

B. Dell PowerStore**1. Support Areas Within Scope:**

- Snapshot - Create/Delete/Restore
- Session mismatch issue
- Host misconfiguration issue
- Metro Remote Replication - configure/failover/Deletion
- Creation of new volume
- Expansion/Deletion of volume
- CIFS/NFS File system creation/deletion
- Access issues
- Data Collection issues
- Analyze Software After Hardware Replacement
- Any giveback Failover Issue Post Controller Replacement
- Health Check
- Troubleshooting
- Nodes failing to join or stay in the cluster
- Thin provisioning, deduplication, or compression not working

Management Software Support

- Perform pre/post upgrade check
- Unit code upgrade
- Perform disk firmware upgrades (DSP)
- Patch installation
- GUI Unavailability issues
- UI access Issue

C. Dell PowerVault MD**1. Support Areas within Scope:**

- Access Management
- Access Zone/ Controllers Configuration
- Add/ Remove Organize Storage
- Adding New Nodes
- Assigning Management IPs
- Discovery of New Storage
- Connect Host to Storage with iSCSI Connectivity/ FC Connectivity
- Map LUNs/ Volumes to Hosts
- Multipathing Software Configuration
- Register Host initiators on Storage
- Add/ Remove Disks from Disk Group
- Configure Disks with Required RAID Level
- Modify RAID Levels
- Any giveback Failover Issue Post Controller Replacement
- Assign Disks After Disk Replacement
- Modify Zoning Post Controller Replacement
- Troubleshooting
- Verify Connectivity in Case of Any Physical Connection Issue

D. Dell Compellent SC

1. Support Areas within Scope:

- Reconfiguration of Management IPs
- Best practice recommendations for storage
- Configuring and managing alert monitoring
- Connectivity/Login Issues
- Discovery of new storage
- OEM customer advisories
- Replay (Snapshot) Best Practices
- Admin Password Recovery Procedure
- Service alert review and diagnosis
- Configuration of Additional Storage Best Practices

Management Software Support:

- Dell Storage Manager Client
- Dell Enterprise Storage Manager
- Unisphere for SC
- SCOS CLI
- Dell Storage Manager Data Collector

E. Dell Compellent FS – FS8600

1. Support Areas within Scope:

- Reconfiguration of Management IPs
- Best practice recommendations for storage
- Configuring and managing alert monitoring
- Creation of New NAS Volumes & Shares Best Practices
- OEM customer advisories
- Safe Power Down/Power Up Procedures
- Software Upgrade Procedure
- Service alert review and diagnosis

Management Software Support:

- Fluid FS UI/CLI (UI Only)
- Dell Storage Manager Data Collector
- Dell Storage Manager Client

F. Dell Data Domain & PowerProtect

1. Support Areas within Scope:

- Service alert review and diagnosis
- General Admin (unfail/fail disk after replacement)
- Performance related issues
- Performance analysis
- General Network Issues (cannot ping device, cannot access device, etc)
- Disk Group creation

- Filesystem creation
- DD System Manager GUI

Management Software Support:

- DD Replicator
- VTL
- DD Boost
- DD Encryption
- MTree
- Snapshots
- CIFS
- Shares
- NFS
- Pools
- Cloud Tier
- DD Retention
- DD System Manager GUI (issue with the SW itself)
- Global Compression

G. Dell EqualLogic

1. Support Areas within Scope:

- Management IP Reconfiguration
- Best practice recommendations for storage
- Configuring and managing alert monitoring
- Discovery of new storage
- OEM customer advisories
- Safe Power Down/Power Up Procedures
- Software Upgrade Procedure
- Service alert review and diagnosis

Management Software Support:

- Group Manager
- EqualLogic CLI

H. Dell Symmetrix - DMX, VMAX & PowerMax

1. Support Areas within Scope:

- Assign SVP/MMCS Management IPs
- Best practice recommendations for storage
- Configuring and managing alert monitoring
- Connectivity/Login Issues
- Data structure analysis of invalid or corrupt raid member
- Discovery of new storage
- Hung, locked or failed SYMCLI scripts
- OEM customer advisories
- Performance related issues internal to VMAX storage (best effort on what is seen in the system)
- Secure Remote Access Server Support (remote access support similar to Dell's SRS)
- Service alert review and diagnosis
- Service Processor OS recovery image and backup archival

Management Software Support:

- Data Encryption: D@RE
- FASTVP (break/fix, highly depends on issue)
- HYPERMAX OS - Symmwin
- Optimizer (break/fix, mid-level analysis)
- Solutions Enabler - SYMCLI assistance (depends on the request level)
- SRDF/S, SRDF/A, SRDF/Star (basic analysis and TAG). Anything further is out of scope.
- TimeFinder/SNAP (best effort depending on request)
- Unisphere 360 (depends on the request level)
- User Management and Admin Functionality (if OOS, partner will vet)

I. Dell XtremIO X1 & X2

1. Support Areas within Scope:

- Assign XMS/SC Management IPs
- Best practice recommendations for storage

- Configuring and managing alert monitoring
- Hung, locked or failed XMCLI scripts
- OEM customer advisories
- Performance related issues internal to XIO storage (best effort to what is seen in the system)
- Secure Remote Access Server Support (remote access support similar to Dell's SRS)
- Service alert review and diagnosis
- Service Processor OS recovery image and backup archival
- XMS Connectivity/Login issues

Management Software Support:

- Xtremapp OS - XMCLI

J. Dell VNX & Unity

1. Support Areas within Scope:

- Assign SP/CS Management IPs
- Best practice recommendations for storage
- Configuring and managing alert monitoring
- Connectivity/Login Issues
- Data structure analysis of invalid or corrupt raid member
- Discovery of new storage
- Service alert review and diagnosis
- Service Processor FLARE OS image upgrade procedure

Management Software Support:

- Fast cache
- DeDuplication
- Data Encryption: D@RE
- VNX/Unity File side NAS
- FASTVP (break/fix, highly depends on issue)
- Performance Analyzer (only if system is licensed)
- PowerPath
- SANcopy
- MirrorView
- SNAPshots (best effort depending on request)
- Unisphere (depends on the request level)
- User Management and Admin Functionality (if OOS, partner will vet)

K. Dell Isilon Gen3, Gen4, Gen5 & Gen6

1. Support Areas within Scope:

- Adding New Nodes
- Assigning Management IPs
- Configuring and Managing Alerts
- Discovery of New Storage
- Initialization
- Joining Cluster
- Networking Configuration
- User Management
- Creating and Managing Volume Folders
- Setup SyncIQ Policy in Source
- Create on-Demand Snapshots
- Create/ Modify/ Delete Snapshot Profiles
- Verify Connectivity in Case of Any Physical Connection Issue
- Assign/ Update ACL/ POSIX Permissions when needed
- Creating Smb Shares/ NFS Exports
- Set Share Level/ Server Permission
- Map two Users/Groups in Case the Environment is Multiprotocol
- By Default N+2D:1N Assigned that can sustain two Drives Or 1 Node Failure against any Hardware Failures

Management Software Support:

- SW Break Fix Issues
- Blue Screen
- Capacity Management
- Password Resets

L. Dell RecoverPoint Gen4, Gen5 & Gen6

1. Support Areas within Scope:

- Add/ Remove Organize Storage
- Assigning Management IPs
- Configuring and Managing Alerts
- Discovery of New Storage
- Initialization
- User Management
- Creating and Managing Policy
- Creating Volumes/ Consistency Groups/ LUN's
- Reduction/ De-duplication/ Compression
- Set/ Update Volumes/ CG Attributes
- Volume/ CG Assignment
- Volume/ CG Deletion
- Volume/ CG Expansion
- Volume/ CG Migration
- Configure Zones on SAN Switches if FC Connections are being used
- Connect Host to Storage with ISCSI Connectivity/ FC Connectivity
- Map LUNs/ Volumes to Hosts
- Register Host initiators on Storage
- Configure Sync/ Async Replication between Source and Destination
- Create Live Volumes, Map Source and Destination Volumes
- Create multiple images at Data Replication
- Failover to Data Replication
- Failover with Synch (Drill) to Data Replication
- Manage Replication Operations
- Restore Data from Replication Volume
- Analyze Software After Hardware Replacement
- Verify Connectivity in Case of Any Physical Connection Issue

Management Software Support:

- SW Break Fix Issues
- Blue Screen
- Log in Issues
- Password Resets
- Performance Related Issues
- Unisphere/ GUI not Accessible

M. Dell Clariion

1. Support Areas within Scope:

- Add/ Remove Organize Storage
- Assigning Management IPs
- Configuring and Managing Alerts
- Discovery of New Storage
- Initialization
- User Management
- Creating and Managing Volume Folders
- Creating Volumes/ Consistency Groups/ LUN's
- Reduction/ De-duplication/ Compression
- Set/ Update Volumes/ CG Attributes
- Volume/ CG Assignment
- Volume/ CG Deletion
- Volume/ CG Expansion
- Configure Zones on SAN Switches if FC Connections are being used
- Connect Host to Storage with ISCSI Connectivity/ FC Connectivity
- Create Initiator Group on Storage
- Host Parameter Settings
- Map LUNs/ Volumes to Hosts
- Register Host initiators on Storage
- Add/ Remove Disks from Disk Group
- Configure Disks with Required RAID Level
- Modify RAID Levels
- Configure Sync/ Async Replication between Source and Destination
- Create Live Volumes, Map Source and Destination Volumes
- Manage Replication Operations
- Restore Data from Replication Volume
- Apply Snapshot Profiles
- Create on-Demand Snapshots

- Create/ Modify/ Delete Snapshot Profiles
- Analyze Software After Hardware Replacement
- Assign Disks After Disk Replacement
- Modify Zoning Post Controller Replacement
- Verify Connectivity in Case of Any Physical Connection Issue

Management Software Support:

- SW Break Fix Issues
- Blue Screen
- Capacity Management
- Log in Issues
- Password Resets
- Performance Related Issues
- Unisphere/ GUI not Accessible

N. Dell Celerra

1. Support Areas within Scope:

- Add/Remove Organize Storage
- Assigning Management IPs
- Discovery of New Storage
- Initialization
- User Management
- Creating NAS Server
- Managing File Systems
- Creating and Managing Shared Folders
- Control Station Reboot
- Datamover Registration & Management
- Control Station Configuration & Management
- Configuration with Backend Storage
- Control Station Upgrade

Management Software Support:

- SW Break Fix Issues
- Blue Screen

O. NetApp FAS, AFF, V-Series, E & EF-Series

1. Support Areas within Scope:

- Changing Management IPs
- Best practice recommendations for storage
- Configuring and managing alert monitoring
- Networking Best Practices
- Discovery of new storage
- Health Checks - ASUP Review
- OEM customer advisories
- CIFS/Active Directory Connectivity
- CIFS/NFS Access & Permissions Recommendations
- Service alert review and diagnosis

P. Hitachi VSP, HUS, USP & HNAS

1. Support Areas within Scope:

- Assign SVP Management IPs
- Best practice recommendations for storage
- Configuring and managing alert monitoring
- Data structure analysis of invalid or corrupt raid member
- Discovery of new storage
- OEM customer advisories
- Performance Related Issues and log review
- Secure Remote Access Server Support (remote access support similar to Dell's SRS)
- Service alert review and diagnosis
- Service Processor OS recovery image and backup archival

Management Software Support:

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- Hitachi Command Suite/Device Manager (depends on depth of request)
- HNAS CLI and BALI (depends on scope)
- Local Replication - Shadow Image/Thin Image
- NAS Manager
- Remote Replication - Universal Replicator/TrueCopy
- Replication Manager
- Storage Navigator
- Storage Virtualization Operating System (SVOS)
- Tuning Manager
- User Management and Admin Functionality (if OOS, partner will vet)
- Volume Security - Data retention recovery (protected LUNs)

Q. IBM DS8xxx, Storwize, FlashSystem, A9000, XIV & SVC Storage Systems

1. Support Areas within Scope:

- Support for Usage Questions
- Diagnostic Report Analysis
- T3 System Recovery
- Assistance with Quorum Device Location and Status
- System Health checks - Analysis of Support Data
- Storwize and Disk Storage Manager Network Troubleshooting
- Storwize and Disk Storage Manager Adding Systems Advice
- XIV Management GUI Re-install and Configuration Support
- Assistance with Determining Current Ficon + Fibre Adapter Specifications and Capabilities
- DS8000 HMC Setup
- DS8000 HMC Backup and Restoration Support

R. IBM Automated Tape Libraries & VTS's - TS4500, TS3500, 3494, TS77xx

1. Support Areas within Scope:

- Hardware Upgrade Advice
- Hardware Installation and Discontinuance Advice
- Data Migrations to other IBM ATL and VTS Systems
- Assistance with IBM Tape Solution Storage Manager GUI
- Diagnostic Report Analysis
- Assistance with Location and Recovery of Missing PVOL + LVOLs
- System Health Checks
- Assistance with Restoration of TS3000 Maintenance Console
- Assistance with Restoration of TS3000 Maintenance Console GUI Access
- Assistance with Determining Current Ficon, Fibre, Escon Adapter Specifications and Capabilities
- Support for Usage Questions
- Diagnostic Report Analysis

S. HPE Primera

1. Support Areas Within Scope:

- Access Zone/ Controllers Configuration
- Adding New Nodes
- Assigning Management IPs
- Configuring and Managing Alerts
- Initialization
- Networking Configuration
- User Management
- Remote Copy issues
- Copy Volume
- Creating Volumes/ Consistency Groups/ LUN's
- Reduction/ De-duplication/ Compression
- Storage Efficiency and Optimization
- Thin/Thick Provisioning
- Configure Zones on SAN Switches if FC Connections are being used
- Connect Host to Storage with iSCSI Connectivity/ FC
- Connectivity
- Create Initiator Group on Storage
- Host Parameter Settings

- Map Volumes to Hosts
- Multipathing Software Configuration
- Register Host initiators on Storage
- LDAP related issues
- Application Set related Issues
- Connection Lost issues
- Add/ Remove Disks from Disk Group
- Configure Sync / Async Replication between Source and Destination
- Create multiple images at Data Replication
- Manage Replication Operations
- Restore Data from Replication Volume
- Apply Snapshot Profiles
- Create on-Demand Snapshots
- Create/ Modify/ Delete Snapshot Profiles
- Analyze Software After Hardware Replacement
- Any giveback Failover Issue Post Controller Replacement
- Health Check
- Modify Zoning Post Controller Replacement
- Troubleshooting Performance Related Issues
- Configure Zones on SAN Switches if FC Connections are Available
- Connect Host to SAN Switch with FC Connectivity
- Zoning of FC Ports with Host initiators

Management Software Support:

- UI access Issue
- Dashboard User Capacity Discrepancy issues

T. HPE 3PAR

1. Support Areas within Scope:

- Add/ Remove Organize Storage
- Assigning Management Ips
- Configuring and Managing Alerts
- Discovery of New Storage
- Initialization
- User Management
- Creating and Managing Volume Folders
- Creating Volumes/ Consistency Groups/ LUN's
- Reduction/ De-duplication/ Compression
- Set/ Update Volumes/ CG Attributes
- Thin Provisioning/ Thin LUN/ Thick LUN/ Compressed LUN
- Volume/ CG Assignment
- Volume/ CG Deletion
- Volume/ CG Expansion
- Volume/ CG Migration
- Configure Zones on SAN Switches if FC Connections are being used
- Connect Host to Storage with ISCSI Connectivity/ FC Connectivity
- Create Initiator Group on Storage
- Map LUNs/ Volumes to Hosts
- Register Host initiators on Storage
- Apply Snapshot Profiles
- Conventional Volume Management
- Create/ Modify/ Delete Snapshot Profiles
- Capacity Management
- Log in Issues
- Performance Related Issues
- Management Console not Accessible

U. HPE Nimble CS, AFxxxx, AFxx & HF Series

1. Support Areas within Scope:

- Configuring and Managing Alerts
- Initialization
- User Management
- Configure Sync/ Async Replication between Source and Destination
- Create Live Volumes, Map Source and Destination Volumes
- Restore Data from Replication Volume
- Analyze Software After Hardware Replacement
- Verify Connectivity in Case of Any Physical Connection Issue

Management Software Support:

- SW Break Fix Issues
- Blue Screen
- Capacity Management
- Password Resets
- Performance Related Issues

V. HPE Alletra

HPE Alletra Software Technical Support is available only for customers under contractual hardware maintenance support with Park Place and only for equipment covered during the applicable term as indicated on the Customer's Order Schedule. Alletra Software Technical Support is available only on Alletra hardware platforms supported by PPT.

1. Support Areas within Scope

PPT will provide reactive remote guidance and support ("Services") for the below deliverables:

DELIVERABLE	DESCRIPTION
Alletra Management Console Issues	Troubleshooting issues with Alletra GUI, access, authentication, certificate and configuration errors.
Software-Reported Health & Events Interpretation	Review array software alerts/events and advise corrective steps; where hardware intervention is indicated, PPT will guide engagement with OEM/hardware maintenance.
Performance Degradation	Troubleshooting latency, IOPS, throughput, and bottlenecks affecting applications or VMs.
Capacity & Space Management	Guidance on Storage provisioning via CLI or HPE OneView, troubleshooting capacity alerts, oversubscription, and space reclamation.
Snapshot & Cloning Failures	Troubleshooting failures in snapshot or cloning processes.
Replication & Remote Copy Issues	Troubleshooting replication setup, connectivity, and job failures.
Firmware & Software Compatibility	Advising on supported versions, patch recommendations, and compatibility issues.
Log Review & Analysis	Reviewing logs to facilitate troubleshooting of non-common issues within the Alletra software stack.
Network Connectivity Issues	Troubleshooting network or VLAN misconfigurations impacting Alletra communication.
Host & Fabric Advisory Checks	Validate host connectivity parameters (multipathing state, iSCSI target visibility, FC zoning reachability) and provide guidance; host/hypervisor administration remains customer responsibility.

2. Activities Out of Scope

- Remediating Alletra Software License Issues.
- Alletra upgrade or update issues including security patching (Revision-locked).
- Node Expansion and Scaling Challenges.
- Installation, day-to-day system administration, or initial configuration of any Alletra add-on software solutions.
- Any installation, configuration, or troubleshooting relating to a third-party product.
- Activities related to the removal or replacement of a Alletra offering.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- HPE OneView, HPE GreenLake, and HPE InfoSight.
- Root Cause Analysis.

W. HPE StoreOnce

HPE StoreOnce Software Technical Support is available only for customers under contractual hardware maintenance support with Park Place and only for equipment covered during the applicable term as indicated on the Customer's Order Schedule.

1. Support Areas within Scope

PPT will provide reactive remote guidance and support ("Services") for the below deliverables:

DELIVERABLE	DESCRIPTION
StoreOnce Management Console Issues	Troubleshooting issues with StoreOnce GUI, access, authentication, certificate and configuration errors.
Backup & Restore Failures	Troubleshooting failures in backup jobs, restore operations, and catalog visibility.
Replication & Remote Copy Issues	Troubleshooting replication setup, connectivity between StoreOnce appliances/sites, and job failures.
Deduplication & Compression Issues	Troubleshooting deduplication and compression configuration, performance, and space reclamation.
Software-Visible Health & Alerts Interpretation	Interpret StoreOnce software-reported health/events and advise next actions, including engagement of OEM/hardware maintenance where hardware remediation is indicated.
Capacity & Space Management	Troubleshooting capacity alerts, oversubscription, and space reclamation behaviour.
Firmware & Software Compatibility	Advising on supported versions, patch recommendations, and compatibility issues.
Log Review & Analysis	Reviewing logs to facilitate troubleshooting of non-common issues within the StoreOnce software stack.
Network Connectivity Issues	Troubleshooting network or VLAN misconfigurations impacting StoreOnce communication.

2. Activities Out of Scope

- Remediating StoreOnce Software License Issues.
- StoreOnce upgrade or update issues including security patching (Revision-locked).
- Node Expansion and Scaling Challenges.
- Installation, day-to-day system administration, or initial configuration of any StoreOnce add-on software solutions.
- Any installation, configuration, or troubleshooting relating to a third-party product.
- Activities related to the removal or replacement of a StoreOnce offering.
- Troubleshooting of any issues during a live disaster recovery invocation or test.
- Root Cause Analysis.

X. Everpure (formerly Pure Storage)

Pure FlashArray Software Technical Support is attached to and included with Pure FlashArray hardware break-fix maintenance and is sold and delivered together as a single bundled offering; the services are inseparable and may not be purchased or delivered independently.

1. Support Areas within Scope

Deliverable	Description
System Access & Authentication Support	Troubleshooting of management access and management IP connectivity (including controller management interfaces and Virtual IP), login issues, user authentication, RBAC, LDAP/AD integration, and TLS certificates for GUI, CLI, and APIs.
Array Health & Operational Support	Ongoing health checks, service alert review, diagnostic bundle analysis, audit log review, operational validation using Purity GUI, CLI, and REST APIs, and troubleshooting of alert delivery and notifications (SNMP, SMTP, syslog).
Configuration & Best-Practice Guidance	Best-practice recommendations for FlashArray configuration, host personality settings, multipathing, capacity monitoring, and general operational choices.
Storage Provisioning & Data Services Support	Assistance with volume lifecycle operations, volume-to-host mappings, Protection Groups, snapshots, retention policies, and data restore activities.
Replication & Disaster Recovery Support	Support for asynchronous replication, ActiveCluster (synchronous) and ActiveDR (continuous async), including pod creation/join issues, baseline syncs, role reversals, failover events, DR drills, and recovery validation.
Networking & Connectivity Support	Troubleshooting of management, replication, and storage networking (iSCSI, NVMe-TCP), including host connectivity and registration issues (WWNs, IQNs, NQNs).
Performance & Capacity Management	Performance troubleshooting (latency, IOPS, throughput), capacity threshold review, and guidance on data reduction and QoS controls (where supported by Purity version).
Hardware-Adjacent Software Validation	Software-side verification following hardware events, including DFM onboarding/rebuild validation, shelf discovery checks, and post-replacement Purity audits.
Platform & Integration Support	Support for VMware integrations (VAAI, VASA, vVols), REST API and purecli usage, and CloudSnap (best effort, license-dependent).
Security & Compliance Features (Informational)	Verification and informational support for Data-at-Rest Encryption (DARE), audit logging, and syslog forwarding.
Purity OS Operational Support	Support for Purity operating system functionality excluding version upgrades or major change activities.

2. Activities out of Scope

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- Procurement, download, distribution, deployment, execution, scheduling, or management of software patches, hotfixes, updates, or version changes (minor/patch/major).
- Purity//FA software upgrades of any kind (minor, patch, major); customers obtain/apply updates per EULA or via Pure Professional Services.
- Patch management coordination, update scheduling, release planning, maintenance window coordination, CAB participation, or change record updates.
- Distribution, deployment, or hosting of Pure-signed firmware bundles, microcode, or any Pure intellectual property.
- Remediation of issues requiring system root access and/or proprietary OEM service tools.
- Installation, initial configuration, or changes to existing working configurations of systems.
- Day-to-day system administration/managed services activities (including operational housekeeping, backups/restoration as an operational service, documentation, and training).
- Project work, including planning associated with new servers/systems/services; system and application installations; moves and migrations.
- Application hosting, administration, or managed services.
- Hands-on execution, ownership, or control of live disaster recovery invocations or failover tests (including customer-directed recovery decisions).
- Troubleshooting of issues during a live disaster recovery invocation or test.
- Architecture design or redesign, including ActiveCluster/ActiveDR topology changes or re-architecture.
- Performance analysis beyond reactive troubleshooting, including optimization, tuning, or benchmarking.
- Capacity planning, growth forecasting, or long-term sizing exercises.
- Troubleshooting of guest operating systems.
- Installation, configuration, troubleshooting, removal, or replacement relating to non-OS-based (typically third-party) applications or software products.
- Software/application compatibility assessments (software and application compatibility issues).
- System security hardening activities.
- SafeMode configuration changes of any kind (enable/disable, retention window changes, eradication delay changes).
- External Key Management (KMIP) configuration.
- License procurement, activation, or compliance remediation (license purchase/activation/compliance resolution).
- Enterprise LAN/WAN/SAN network ownership or remediation (external network issues).
- RAID configuration or hot spare management (not applicable / not user-configurable on FlashArray architecture).
- Remediation of issues arising due to system relocations for systems not under maintenance with Park Place (may require separate T&M engagement).
- Ownership, deployment, configuration, or management of monitoring and alerting platforms (monitoring and alerting activities).
- ITSM / ticketing system integrations.
- Automation and orchestration support; programming/scripting/coding or custom script development.
- Pure1 cloud portal access, configuration, monitoring, alerting, or troubleshooting.
- Phone Home / Pure ES telemetry or tenancy configuration.
- pureuser root account password reset activities.
- FlashArray File Services (SMB/NFS), including file system configuration, shares/exports, quotas, and directory management.
- Cloud services or features without an applicable customer-owned license (e.g., CloudSnap without the appropriate license).
- Backup technologies/integrations not applicable to FlashArray block services (e.g., DD Boost, VTL, NDMP).
- FlashBlade platforms (only FlashArray //X, //C, and //M are covered).
- Preparation of formal Root Cause Analysis (RCA) reports or equivalent documentation.