



DEPLOYMENT AND INTEGRATION SERVICES FOR HPE EZMERAL CONTAINER PLATFORM

Advisory and Professional Services from HPE Pointnext Services

SERVICE OVERVIEW

Deployment and Integration Services for HPE Ezmeral Container Platform provide the design and deployment of HPE Ezmeral Container Platform. During the delivery of these services, HPE will work with the Customer to plan, design, and deploy the HPE Ezmeral Container Platform solution as well as required app images as agreed during the requirement gathering session. This service is delivered both remotely and on-site.

SERVICE BENEFITS

- Complements the Customer IT team with globally available Advisory and Professional Services assistance from HPE Pointnext Services
- Implement and optimize the Customer's virtualized AI and Data Analytics solution to its full potential—maximizing HPE Ezmeral Container Platform product ROI
- Provides access to HPE Ezmeral Container Platform technology expertise to expedite assessment, design validation, deployment, and integration
- Delivers expert assistance to the Customer on how to deploy and operate their new HPE Ezmeral Container Platform environment
- Applies HPE deployment and integration best practices for the Customer to simplify and reduce implementation time that can mitigate costly installation and configuration errors
- Provides valuable knowledge transfer to the Customer to leverage the HPE Ezmeral Container Platform product features
- Validates that the Customer's HPE Ezmeral Container Platform deployment is fully commissioned and operational

SERVICE FEATURE HIGHLIGHTS

- Service Planning
- HPE Ezmeral Container Platform QuickStart Service
- HPE Ezmeral Container Platform Essential Service
- HPE Ezmeral Container Platform Advanced Service
- HPE Ezmeral Container Platform Premium Service
- HPE Ezmeral Container Platform App Store Development Service
- HPE Ezmeral Container Platform Single Image or ML Notebook Development Service
- HPE Ezmeral Container Platform Tailored Image Design Service
- HPE Ezmeral Container Platform Custom Consulting Service

TABLE 1. Service features

Feature	Delivery specifications
Service planning	<p>Service planning is delivered remotely and is designed to provide the Customer with a detailed plan and schedule for the delivery of the Services for HPE Ezmeral Container Platform.</p> <p>During service planning, HPE will conduct service planning meetings with the designated stakeholders to communicate the list of service activities and confirm that all predeployment prerequisites have been addressed.</p> <p>During these meetings, HPE will:</p> <ul style="list-style-type: none"> • Work with the Customer to review the service details, deliverables, and estimated timelines • Review Customer-provided documents, which include, but are not limited to, HPE Ezmeral Container Platform Controller and Worker host servers architecture, node storage, network architecture (public and container network), scope definition, principles, and security requirements, in order to effectively scope and plan for the services • Identify any additional changes to the existing environment required to prepare for the integration of new HPE products and document them in the delivery plan and schedule • Detail any product licensing and HPE prerequisites that must be fulfilled for HPE to perform the services • Identify any additional information required to allow HPE to deploy resources and begin service delivery <p>HPE will create a mutually agreeable project plan and schedule and determine the appropriate mix of technical and business resources necessary to implement the project.</p> <p>As part of service planning, HPE will facilitate a Workshop for each of the service options chosen. The workshop is designed to determine and document the scope and requirements of the desired use case.</p> <p>Scope areas include, but are not limited to:</p> <ul style="list-style-type: none"> • HPE Ezmeral Container Platform resource planning system and infrastructure preparation • Operations • Storage connectivity • Custom app image development • Workload management • Disaster recovery • Business and technical outcomes • Discovery of the Customer's analytics infrastructure, security policies, and data governance models <p>Upon successful completion of the workshop, HPE will then develop the solution architecture documentation and functional testing plan. Once complete and with Customer consensus, HPE will deploy the HPE Ezmeral Container Platform in line with the project plan and schedule.</p>
HPE Ezmeral Container Platform QuickStart Service	<p>This service is for Proof of Concept (POC), which provides requirement assessment, solution development, design validation, and configuration of HPE Ezmeral Container Platform for installations of up to 100-core CPU.</p> <p>HPE will:</p> <ul style="list-style-type: none"> • Facilitate a requirement gathering workshop • Review and verify readiness of the necessary infrastructure for the deployment of the HPE Ezmeral Container Platform • Install and configure the HPE Ezmeral Container Platform • Perform functional testing on all components • Customize one existing app image included in the HPE Ezmeral Container Platform App Store • Provide knowledge transfer to Customer stakeholders throughout delivery of the service, which includes an overview of the HPE Ezmeral Container Platform, app image development, and testing <p>Upon completion of the service, the Customer will have a fully functional HPE Ezmeral Container Platform environment to manage the workload associated to the agreed use case(s).</p> <p>The following deliverable will be provided to the Customer in either hard- or soft-copy depending on the Customer's requirements:</p> <ul style="list-style-type: none"> • Solution Design Document • Test Plan and Results for Platform, and Applications



TABLE 1. Service features (continued)

Feature	Delivery specifications
HPE Ezmeral Container Platform Essential Service	<p>Provides requirement assessment, solution development, design validation, and configuration of HPE Ezmeral Container Platform for installations above 100-core CPU and up to 240-core CPU. It also caters to the development of a HPE Ezmeral Container Platform App Store with up to two single app images.</p> <p>HPE will:</p> <ul style="list-style-type: none"> • Facilitate a requirement gathering workshop • Review and verify readiness of the necessary infrastructure for the deployment of the HPE Ezmeral Container Platform • Install and configure the HPE Ezmeral Container Platform • Perform functional testing on all components • Create app images as agreed during the workshop • Provide knowledge transfer to Customer stakeholders throughout delivery of the service, which includes an overview of the HPE Ezmeral Container Platform, app image development and testing <p>Upon completion of the service, the Customer will have a fully functional HPE Ezmeral Container Platform environment to manage the workload associated to the agreed use case(s).</p> <p>The following deliverable will be provided to the Customer in either hard- or soft-copy depending on the Customer's requirements:</p> <ul style="list-style-type: none"> • Solution Design Document • Runbook for Platform and Applications
HPE Ezmeral Container Platform Advanced Service	<p>Provides requirements assessment, solution development, design validation, and configuration of HPE Ezmeral Container Platform for installations above 240-core CPU and up to 480-core CPU. It also caters to the development of a HPE Ezmeral Container Platform App Store with up to four single app images.</p> <p>HPE will:</p> <ul style="list-style-type: none"> • Facilitate a requirement gathering workshop • Review and verify readiness of the necessary infrastructure for the deployment of the HPE Ezmeral Container Platform • Install and configure the HPE Ezmeral Container Platform • Perform functional testing on all components • Create app images as agreed during the workshop • Provide knowledge transfer to Customer stakeholders throughout delivery of the service, which includes an overview of the HPE Ezmeral Container Platform, app image development, and testing <p>Upon completion of the service, the Customer will have a fully functional HPE Ezmeral Container Platform environment to manage the workload associated to the agreed use case(s).</p> <p>The following deliverable will be provided to the Customer in either hard- or soft-copy depending on the Customer's requirements:</p> <ul style="list-style-type: none"> • Solution Design Document • Runbook for Platform and Applications
HPE Ezmeral Container Platform Premium Service	<p>Provides requirement assessment, solution development, design validation, and configuration of HPE Ezmeral Container Platform for installations above 480-core CPU and up to 1200-core CPU. It also caters to the development of a HPE Ezmeral Container Platform App Store with up to six single app images and design of one tailored app image.</p> <p>HPE will:</p> <ul style="list-style-type: none"> • Facilitate a requirement gathering workshop • Review and verify readiness of the necessary infrastructure for the deployment of the HPE Ezmeral Container Platform • Install and configure the HPE Ezmeral Container Platform • Perform functional testing on all components • Create app images as agreed during the workshop • Provide knowledge transfer to Customer stakeholders throughout delivery of the service, which includes an overview of the HPE Ezmeral Container Platform, app image development, and testing <p>Upon completion of the service, the Customer will have a fully functional HPE Ezmeral Container Platform environment to manage the workload associated to the agreed use case(s).</p> <p>The following deliverable will be provided to the Customer in either hard- or soft-copy depending on the Customer's requirements:</p> <ul style="list-style-type: none"> • Solution Design Document • Runbook for Platform and Applications



TABLE 1. Service features (continued)

Feature	Delivery specifications
HPE Ezmeral Container Platform App Store Development Service	<p>Provides requirement assessment, solution development, design validation, and configuration of the HPE Ezmeral Container Platform App Store. As a prerequisite, the Customer must purchase the HPE Ezmeral Container Platform QuickStart, Essential, Advanced, or Premium Service.</p> <p>During the delivery of this service, HPE will:</p> <ul style="list-style-type: none"> • Conduct a planning workshop to assess the Customer's AI and Data Analytics requirements • Determine and document the scope and requirements of the desired use cases, its images, and its operations. Scope areas are, but not limited to: <ul style="list-style-type: none"> – Image-class definition – Data ingestion – Data storage – Data processing and machine learning – View or output – Business and technical outcomes • Assess the Customer's analytics infrastructure, security policies, and data governance models • Create the App Store image design document and functional testing plan • Develop and test the application images • Deploy and test all aspects of the application cluster orchestration lifecycle <p>Upon completion of the service, the Customer will have fully functional app images associated to the agreed use case. The following deliverables will be provided to the Customer in either hard- or soft-copy depending on the Customer's requirements:</p> <ul style="list-style-type: none"> • Solution Design Document • Runbook for Platform and Applications
HPE Ezmeral Container Platform Single Image or ML Notebook Development Service	<p>This service is designed to add on a single image to the Customer's App Store. It provides requirements assessment, solution development, design validation, and configuration for a HPE Ezmeral Container Platform Single Image Solution or ML Notebook. As a prerequisite, the Customer must purchase either of the HPE Ezmeral Container Platform QuickStart, Essential, Advanced, or Premium Configuration Service. During the delivery of this service, HPE will:</p> <ul style="list-style-type: none"> • Conduct a planning workshop to assess the Customer's AI and Data Analytics requirements. • Determine and document the scope and requirements of the desired use cases, its images, and its operations. Scope areas include but are not limited to: <ul style="list-style-type: none"> – Image-class or ML Notebook definition – Data ingestion – Data storage – Data processing and machine learning – View or output – Business and technical outcomes • Assess the Customer's analytics infrastructure, security policies, and data governance models • Create the App Store image or ML Notebook design document and functional testing plan • Develop and test the app images • Deploy and test all aspects of the application cluster orchestration lifecycle <p>Upon completion of the service, the Customer will have fully functional app images associated to the agreed use case. The following deliverables will be provided to the Customer in either hard- or soft-copy depending on the Customer's requirements:</p> <ul style="list-style-type: none"> • Solution Design Document • Runbook for Platform and Applications



TABLE 1. Service features (continued)

Feature	Delivery specifications
HPE Ezmeral Container Platform Tailored Image Design Service	<p>Provides requirements assessment and solution design/configuration of a HPE Ezmeral Container Platform Tailored Image solution, and generates a time-and-material quote for the development of the same.</p> <p>As a prerequisite, the Customer must purchase either of the HPE Ezmeral Container Platform QuickStart, Essential, Advanced, or Premium Configuration Service. During the delivery of this service, HPE will:</p> <ul style="list-style-type: none"> • Conduct a planning workshop to assess the Customer's AI and Data Analytics requirements. • Determine and document the scope and requirements of the desired use cases, its images, and its operations. Scope areas include, but are not limited to: <ul style="list-style-type: none"> – Image-class definition – Data ingestion – Data storage – Data processing and machine learning – View or output – Business and technical outcomes • Assess the Customer's analytics infrastructure, security policies, and data governance models • Evaluate the business and technical requirements for all desired app images • Create the App Store image design document and functional testing plan • Present the findings, user stories, workflow designs, and app image requirements • Provide an estimate level of effort and a time-and-materials pricing to develop and test the desired app images • Determine the next steps <p>Upon completion of the service, the Customer will have a full design and an estimated development effort for all desired app images. The following deliverables will be provided to the Customer in either hard- or soft-copy depending on the Customer's requirements:</p> <ul style="list-style-type: none"> • Solution Design Document • Estimated level of effort to develop the image
HPE Ezmeral Container Platform Custom Consulting Service	<p>Provides requirements assessment, solution development, design validation, and configuration of HPE Ezmeral Container Platform for over 1200 core CPUs.</p> <p>HPE will:</p> <ul style="list-style-type: none"> • Facilitate a requirement gathering workshop • Review and verify readiness of the necessary infrastructure for the deployment of the HPE Ezmeral Container Platform • Install and configure the HPE Ezmeral Container Platform • Perform functional testing on all components • Create app images as agreed during the workshop • Provide knowledge transfer to Customer stakeholders throughout delivery of the service, which includes an overview of the HPE Ezmeral Container Platform, app image development and testing <p>Upon completion of the service, the Customer will have a fully functional HPE Ezmeral Container Platform environment to manage the workload associated to the agreed use case(s).</p> <p>The following deliverable will be provided to the Customer in either hard- or soft-copy depending on the Customer's requirements:</p> <ul style="list-style-type: none"> • Solution Design Document • Runbook for Platform and Applications

COVERAGE

This service is available on regular HPE Workdays (excluding weekend days and HPE holidays) during country specific HPE standard business hours.

CUSTOMER RESPONSIBILITIES

The Customer will:

- Assign a primary stakeholder to participate in the service planning meeting and follow-on service activity.
- Ensure that a primary stakeholder or designated staff person is assigned and who, on behalf of the Customer, will grant all approvals; provide information; confirm that the hardware, firmware, and software needed to deliver this service are available and make sure that software products are properly licensed; and otherwise be available to assist HPE in facilitating the delivery of this service.



The designated primary contact will be:

- Responsible for all Customer aspects of the assigned work efforts
- Authorized to take all decisions relative to the project, including identification and assignment of Customer resources
- Available and able to interface with HPE assigned resources on day-to-day issues throughout the project
- Authorized to sign status reports and approve project changes
- Able to coordinate all work efforts and meeting schedules
- Responsible for all service prerequisites—including, but not limited to, those identified during service planning—and ensure they have been met prior to delivery of remote and/or on-site services development and configuration services

The designated primary contact will also:

- Provide suitable virtual private network (VPN) or other suitable connectivity as required for the delivery of remotely delivered services
- Allow HPE full and unrestricted network access to all locations where the service is to be performed on-site
- Provide access to network service such as NTP, DNS, default gateways and routes, and any remediation, if needed
- Offer access to external systems including but not limited to: Active Directory (AD), Lightweight Directory Access Protocol (LDAP) with Transport Layer Security (TLS), Key Distribution Center (KDC), Kerberos (Krb5), Domain Name Systems (DNS), Network Time Protocol (NTP), administrator, end user, and existing storage systems such as Hadoop Distributed File Systems (HDFS) and Network File Systems (NFS)
- Ensure that all products associated with the tasks to be performed by HPE are ordered and available on-site prior to the start of the services and/or the arrival of the HPE assigned HPE specialist on-site
- Provide HPE the following for application workbench (including but not limited to)
 - Define and document the user stories related to the application images to be developed
 - Manually install application image (.bin) file
 - Uninstall distributions or tools not required as part of implementation
 - Create and test the application images
 - Manually install software on utility nodes (Docker containers) to understand the feasibility, as well as identify specific services or user interfaces that need to be exposed
 - Develop suite of tests with end user group for testing
 - Create finalized image based on user input
- Provide HPE with the current network architecture, standards, and detailed design documentation that may include, but is not limited to:
 - Project plans and schedules
 - Network topology diagrams
 - Rack placement diagrams
 - Cable maps (device and end station cable numbers, patch panel designation and port numbers, device port numbers, and VLAN information)
 - IP address maps
 - Network environment administrative and management parameters and variables (hostname, administration, users, authorization, administrative IP address, management passwords, SNMP, NTP, DNS server addresses, DHCP, and logging)
 - Current-state information for Spanning Tree, Layer 2 protection mechanism, link aggregation, and advanced VLAN configuration
 - SSID-to-VLAN mapping
 - Security for each SSID
 - LDAP or RADIUS server to facilitate wired and wireless LAN security where required
- Make any modifications to the existing network including validation of connectivity to all end points that are required and identified during the planning stages of this service prior to HPE performing configuration and integration tasks



- Advise HPE of any special security, health, and safety matters applicable to the Customer site where the service is to be provided
- Provide to HPE, on request, any information that HPE may reasonably request about the execution of the service
- Coordinate all required internal/third-party participation and cooperation
- Assign or make available experienced subject-matter and technical experts, upon request or as needed
- Provide HPE with the necessary access to Customer building facilities and computer room facilities, as well as access credentials for logging into all HPE Ezmeral Container Platform related infrastructure and services for the service planning, as required
- Purchase or provide all hardware, software, licenses, staff, current maintenance contracts, and environments necessary for HPE to deliver the service
- Be responsible for developing and applying any configurations to network equipment, cabling, notifications, and change control documentation
- Provide a suitable work and meeting area commensurate with the number of on-site HPE consultants and Customer subject-matter experts assigned to the analysis, including desks, chairs, telephones, and internet/HPE network access through a VPN

Ensure that the infrastructure configurations meet the following minimum recommended requirements:

Browser requirements:

- Chrome: Version 68.0.3440.106 (Official build) (64-bit)
- Firefox: 61.0.2 (64 bit)

On-premises host requirements (Physical or Virtual Machines):

- 1 x HPE Ezmeral Container Platform Controller: 20 cores, 192 GB RAM, 600 GB Boot Disk, 2 x 2 TB Raw Block Device, 2 10 Gb NIC cards
- 1 x HPE Ezmeral Container Platform Shadow: 20 cores, 192 GB RAM, 600 GB Boot Disk, 2 x 2 TB Raw Block Device, 2 10 Gb NIC cards
- 1 x HPE Ezmeral Container Platform Arbiter: 20 cores, 192 GB RAM, 600 GB Boot Disk, 2 x 2 TB Raw Block Device, 2 10 Gb NIC cards
- 3 x HPE Ezmeral Container Platform Worker: 20 cores, 192 GB RAM, 600 GB Boot Disk, 2 x 2 TB Raw Block Device, 2 10 Gb NIC cards
- 1 x HPE Ezmeral Container Platform Gateway: 8 cores, 32 GB RAM, 600 GB Boot Disk
- If using GPUs, use NVIDIA® Quadro or Tesla GPUs with all drivers

Operating system requirements:

- 64-bit Red Hat® Enterprise Linux® or CentOS operating systems:
 - 7.4 (minimum kernel version for a new HPE Ezmeral Container Platform installation is 7.4[3.10.693.el7.x86_64])
 - 7.6 (recommended for a fresh HPE Ezmeral Container Platform installation; alternatively, If you are upgrading from a previous version that is running on RHEL/CentOS 7.3[3.10.0-514.el7.x86_64] or earlier, then you must upgrade the OS to 7.6, 7.5, or 7.4 with the minimal kernel required [3.10.0-693])

SERVICE LIMITATIONS

- HPE does not modify any configurations of any equipment that is not part of the HPE Ezmeral Container Platform solution.
- Customer acknowledges and agrees that HPE may use resources outside the country of purchase for delivery of these services.
- On-site service assistance will be provided at one physical location in the country where the service is sold. The Customer should check with their local HPE authorized representative to find out whether a specific location is eligible for this service.

GENERAL PROVISIONS/OTHER EXCLUSIONS

- To the extent HPE processes personal data on the Customer's behalf in the course of providing services, the HPE Data Privacy and Security Agreement Schedule—HPE Support and Professional Services found at hpe.com/info/Customer-privacy.html shall apply.
- Services for HPE Ezmeral Container Platform are governed by HPE standard terms for professional services.



Data sheet

- Our ability to deliver this service is dependent upon the Customer's full and timely cooperation with HPE, as well as the accuracy and completeness of any information and data the Customer provides to HPE.
- Upon receipt of an acceptable order, HPE will contact the Customer within seven business days to organize a service delivery date. Service delivery dates are subject to resource availability and may be scheduled up to 30 days from the order acceptance date. Service eligibility will expire at the end of 12 months/365 days from the date of purchase if not used. Under no circumstances shall the Customer be entitled to a credit or refund of any unused services.
- Services are either performed remotely or at the Customer's site, based upon services identified in the Service features table.
- Allow HPE to connect to their network both on-site and remotely for HPE to perform the services as required.

ORDERING INFORMATION

Availability of service features and service levels may vary according to local resources and may be restricted to eligible products and geographic locations. To obtain further information or to order deployment and integration services for HPE Ezmeral Container Platform, contact a local HPE sales representative and reference the following product number(s):

- HG0U6A1—HPE Ezmeral Container Platform QuickStart Service
- HU1E1A1—HPE Ezmeral Container Platform Essential Service
- HU1E2A1—HPE Ezmeral Container Platform Advanced Service
- HU1E3A1—HPE Ezmeral Container Platform Premium Service
- HU1E4A1—HPE Ezmeral Container Platform App Store Development Service*
- HU1E5A1—HPE Ezmeral Container Platform Single Image or ML Notebook Development Service*
- HU1E6A1—HPE Ezmeral Container Platform Tailored Image Design Service*
- HU1E7A1—HPE Ezmeral Container Platform Custom Consulting SVC*
- HU1E8A1—HPE Ezmeral Container Platform Consulting 5-day onsite SVC
- HU1E9A1—HPE Ezmeral Container Platform Consulting 1-day onsite SVC
(cannot be ordered standalone and requires purchase of HU1E8A1—HPE Ezmeral Container Platform Consulting 5-day onsite SVC)
- HU1FOA1—HPE Ezmeral Container Platform Consulting 1-day remote SVC

* In order to purchase these services, one of the prerequisite services, such as HPE Ezmeral Container Platform QuickStart Service, HPE Ezmeral Container Platform Essential Service, HPE Ezmeral Container Platform Advanced Service, or HPE Ezmeral Container Platform Premium Service, must also be purchased.

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