Aruba Network Infrastructure Services

Network and Mobility Consulting from HPE Pointnext

Service overview

Aruba Network Infrastructure Services for Wired and Wireless Networks provides customers with access to Aruba Mobile First campus networking technology expertise to help them enable pervasive, intelligent, and secure network infrastructures. This infrastructure can support communication and embrace campus, cloud, and mobile business applications. These life-cycle services can provide the Consulting and Professional services needed to help you meet Microsoft networking performance metrics for your Microsoft® Office 365 and Skype for Business environment. Aruba Network Infrastructure Services can help customers to implement new, or improve existing networks by deploying Aruba products that are optimized to provide a high-quality voice and video experience. By leveraging HPE best practice approaches to assessing, designing, deploying and optimizing networks, HPE can help customers to enable users of Microsoft® Office 365, Skype for Business, or other popular voice and video applications to collaborate without experiencing delays, jitter, or dropped connections. These services can focus on the lifecycle of consulting and professional services needed for your campus LAN, as well as your indoor, outdoor, public, and private enterprise wireless WLAN projects. Depending on your specific requirements, these services can include:

- Assessment, design, remediation, integration, and deployment of Aruba Mobile First campus networking products

- Traffic analysis and simulation to help you validate readiness for your environment to support a Microsoft® Office 365 and Skype for Business deployment Site and/or event management to help you manage, operate, and maintain network performance

- Knowledge transfer to your IT team to help them take ownership of the HPE network and optimization best practices

- End-to-end program management and the HPE Trusted Network Transformation approach and methodology that can help you control costs while delivering the security features, pervasive, and flexible (BYO anything) connectivity that your enterprise needs

The service features table provides information on the features available under these network consulting services. The specific service features are custom priced and scoped in a mutually agreed and executed statement of work (SOW) based upon the customer's requirements.

Service benefits

- Provides access to HPE Networking technology expertise to help expedite LAN and WLAN assessment, design, integration, and optimization

- Delivers comprehensive customization, integration, and commissioning of Aruba Mobile First campus networking products

- Reduces implementation time and cost with onsite experience, consulting professional services, and knowledge transfer

- Helps mitigate costly installation risks and configuration errors

Service feature highlights

- Pre-deployment strategy, product, and service planning

- Predictive WLAN assessment and design (high-level design)

- LAN/WLAN assessment, site survey and remediation

- LAN/WLAN design LAN/WLAN deployment and integration

- Enterprise site and event management

- Knowledge transfer

- Project management

Specifications

Service features

Feature	Delivery specifications

Pre-deployment strategy, product, and service planning	This service is designed to provide the customer with a detailed, comprehensive, and actionable plan for network implementation or transformation, including proposals for implementation schedule, charges, and scope. An HPE technology consultant will conduct service planning meetings with the customer and the stakeholders to verify LAN and WLAN strategies, define requirements, collect information, document the initial consensus, and present wired and or wireless service plans.
	 During these meetings Hewlett Packard Enterprise will:
	 • Work with the customer to further develop the SOW service details, deliverables, and estimated timelines
	
	 • Review the existing customer policy and business operation documentation including, but not limited to, current network architecture, principles, security policies, and business objectives
	
	 • Define desired use cases that can help facilitate enhanced business operation efficiency and cost savings
	
	 • Develop a proposed project plan, including possible dates for design completion, verification testing, implementation integration, and optimization
	
	 • Create an integration verification testing (IVT) plan to be executed after deployment
	
	 • Determine the appropriate mix of technical and business resources necessary to implement the project
	
	 • Identify any additional information required to allow Hewlett Packard Enterprise to deploy resources and begin service delivery
	
	 Deliverables for this service can include the following:
	 • Use-case definitions
	
	 • Project plan, including:
	  – Quote for design services
	  – Rough order of magnitude (ROM) estimate of implementation costs
	  – Work breakdown structure (WBS) including proposed project and program schedule

Predictive WLAN assessment and design (high-level design)	The predictive WLAN site survey is performed remotely using RF planning software tools that display projected wireless coverage of wireless APs within buildings. This evaluation highlights the areas that need to be supported by the wireless local area network and determines the proper placement of necessary wireless APs.
	 This wireless site survey uses the customer-supplied floor plan drawings and site-specific information related to the intended use of the WLAN, building construction materials, the location of obstacles, and location of wiring closets that can affect a WLAN propagation and performance.
	 In the results of the survey, Hewlett Packard Enterprise provides the suggested quantity, placement, and associated wireless coverage areas of IEEE 802.11a/g/n wireless APs. In addition, Hewlett Packard Enterprise provides a representative HPE Networking bill of materials (BOM). Under this service feature, HPE can:
	 • Develop use cases that align with the customer's business objectives
	
	 • Analyze network access security configuration against the customer's desired network access business policies
	
	 • Evaluate and propose potential enhancements for mobile application support
	
	 • Analyze and propose potential enhancements for WLAN analytics
	
	 • Develop predicted AP locations based on RF planning tools
	
	 • Survey facility using an active AP in a subset of the facility locations to verify building construction and predictive model assumptions
	
	 • Identify significant sources of 802.11 and non-802.11 interference
	
	 • Develop the HPE design recommendations intended to help optimize the network to accommodate mobile applications, including the HPE recommendations on:
	  – RF coverage and quality
	  – End-to-end QoS settings
	  – Skype for Business WLAN capacity planning
	  – WLAN call quality check
	  – WLAN topology assessment
	 • Refine proposed AP locations and deployment types
	
	 • Capture information necessary for design report
	
	 • Develop design report
	
	 • Develop BoM and services pricing estimates
	
	 • Execute any required integration testing to help ensure new WLAN equipment integrates with existing network infrastructure
	
	 • Gain customer approval for the required changes to the customer's current network design to accommodate the Aruba WLAN controller implementation

- Modify initial project plans originally developed in the pre-deployment strategy, product, and service planning services including estimated initial and reoccurring equipment charges; implement services charges, operations services charges, and project schedules

Deliverables for this service can include the following:
- High-level design report includes:
  - Use case descriptions
  - WLAN management and reporting strategy
  - Proposed enhancements for mobile application support
  - Proposed enhancements for WLAN analytics
  - AP placement recommendations and simulations showing predicted coverage of proposed AP locations
  - High-level overview of the combined wired and wireless network topology and the RF design
  - Availability and redundancy strategy
  - Summary of interoperability issues
  - Strategy for authentication, authorization, and accounting on network devices
  - Strategy for user groups and their security policy
  - Estimated BOMs and rough order of magnitude services cost estimates
  - Readiness assessment describing proposed next steps and identifying any gaps between the current state and the desired end-state
- High-level change request based on assessment and design report
- Updated project plan
- IVT Plan
- Time and materials (T&M)-based deployment SOW proposal

LAN/WLAN site survey, assessment and remediation	This onsite service allows the customer to understand how their existing network is performing, identifies any deficiencies, and proposes and executes remediation. This service is also useful in identifying network readiness for mobile applications such as Office 365 and Skype for Business.
	Under this service feature, Hewlett Packard Enterprise can provide the following:
	• Review and analyze the existing design, configuration, and performance on the network based on the defined scope (if applicable)
	• Execute onsite evaluation of the customer's existing network using 802.11 radio frequency (RF) survey tools
	• Execute traffic simulation on the Wired LAN based on the defined scope and traffic type (if applicable)
	• Perform onsite evaluation of 802.11 and non-802.11 interference sources in UNII and ISM bands using spectrum analysis
	• Execute traffic analysis and simulation to help you validate readiness for your environment to support a Microsoft® Office 365 and Skype for Business deployment (if applicable)
	• Identify any required changes to the customer's current network infrastructure prior to the start of this service
	• Evaluate and provide recommendations for advanced WLAN configuration and optimization components, including:
	  – Evaluating the need for and configuration of high availability (HA) controllers and access points (APs)
	  – Evaluating the need for and configuration of HA for authentication infrastructure
	  – Evaluating the need for and configuration of mesh links
	  – Evaluating the need for and configuration of load balancer integration
	  – Providing optimization for high user density scenarios
	  – Evaluating the need for and configuration of outdoor links and access coverage
	  – Determining advanced network management requirements
	  – Providing advanced wireless intrusion prevention system (WIPS) detection and mitigation configurations
	• Determine and provide recommendations for:
	  – RF coverage and quality
	  – End-to-end QoS settings
	  – Skype for Business WLAN capacity planning
	  – WLAN call quality check
	  – WLAN topology assessment
	• Execute remediation as identified and accepted in the assessment and recommendation report
	  – Gain approval for the required changes to the customer's current network design to accommodate the Aruba WLAN controller implementation
	  – Develop IVT plan
	  – Execute remediation
	  – Perform IVT

• Update the assessment findings report to include as-built information

• Collect and provide backups of all in-scope device configurations

• Develop assessment report:

– Summary on data collected

– Tools monitor and data collection report (if applicable)

– Tools simulation report (if applicable)

– Identify gaps and provide remediation or design suggestions based on the findings

– Develop design recommendations for optimization of the network to accommodate pre-identified applications including but not limited to recommendations on:

▫ End-to-end quality of service (QOS) settings

▫ LAN/WLAN oversubscription planning

▫ WAN capacity design and optimization (where applicable)

Deliverables for this service can include the following:

• Assessment report

• SOW for cost and time estimation on remediation activities, if applicable

• Hardware quote for remediation activities, if applicable

LAN/WLAN design	The LAN/WLAN design service provides the customer a detailed LAN and/or WLAN design based on the remediation or design suggestions from the LAN/WLAN assessment (if applicable) or based on HPE best practices with consideration of future traffic requirements.

Under this service feature, Hewlett Packard Enterprise can provide the following:

• Develop high-level design diagram

– Topology diagram(s) that outline the physical and logical components of the design

• Develop detailed design document—design components may include but not limited to:

– Physical cabling or optics design

– Hardware platform suggestions

– Layer 2 components:

▫ VLAN design

▫ LACP design

▫ Uplink and access port configuration

▫ STP design

▫ CoS design

– Layer 3 components:

▫ Static route design

▫ Routing protocol design

▫ DSCP design

– High-availability LAN/WLAN design

– AP placement recommendations and mounting details

– WLAN controller design

– Security and management components:

▫ Remote access design

▫ Logging/SNMP design

▫ ACL design

▫ 802.1X design

▫ AAA design

▫ Management network design

– Integration details (if applicable)

Deliverables for this service can include the following:

• High-level design diagrams

• Detailed design document

• SOW for cost and time estimation on deployment and integration activities

• Hardware quote for deployment and implementation service

Wired LAN/WLAN deployment and integration	The LAN/WLAN deployment and integration service provides configuration, implementation, and integration service for campus LAN switches, WLAN Controllers and AP's according to the customer's application traffic and security requirements.

Activities in this service can include:
- Guidance for cable installation standards, moves, adds, and changes
- Review of cable test reports for each installed optical or copper cable (if applicable)
- Guidance on changes to the existing network related to connected devices where applicable
- Guidance on production network cutover procedures, where applicable
- Configuration of network devices as defined in the wired LAN/WLAN deployment and integration SOW and design originally developed as a result of the LAN/WLAN assessment and wired LAN/WLAN detailed design service, including:
  – Mobility controllers
  – AP's
  – Aruba LAN switches—basic configuration including VLANs, uplink configuration, access switch port configurations, stacking configurations, and other Layer 2 protocol configuration
  – DNS and DHCP servers (if required, in the detailed design)
  – Integration of LAN devices with existing network services such as Syslog, SMTP (for alerts), and out-of-band management (OOBM)
  – QoS configuration
  – Layer 3 configuration, if applicable
  – Security- and management-related configuration where applicable (802.1x configuration, AAA service, and ACLs)
  – Execution of WLAN and LAN interface optimization
  – Usage of appropriate tools to optimize network without user load to evaluate coverage and network quality against customer requirements
  – Assistance to customer in cutting over to new network
- Creation and execution of IVT plan
- Update and creation of as-built configuration
- Backups of all configurations for in-scope network devices

Deliverables for this service can include the following:
- Design documentation including as-built information
- Executed IVT plan
- Daily or weekly progress reports
- Device configuration backups

Network infrastructure enterprise site and/or event management	Hewlett Packard Enterprise can offer long-term or short-term HPE onsite consulting for Aruba Wireless Infrastructure monitoring, operation, and reporting for discrete events, or on a continuous basis. Under this service feature, Hewlett Packard Enterprise can provide the following:

- Arrive prior to service delivery to execute network readiness tests to help ensure that the network is operating as expected
- Monitor network performance during the event
- Respond to any issues identified during the event
- Develop a post-event summary report describing key network metrics during the event (bytes transferred, number of simultaneous clients, number of overall clients, and peak throughput)
- Provide the HPE recommendations intended to help optimize network performance during the event

Under this service feature, Hewlett Packard Enterprise can provide:
- Post-event summary report describing network performance metrics and a summary of all issues identified with recommended optimizations

Knowledge transfer and acceptance	To close out the Aruba Wireless Infrastructure Services engagement, the HPE technology consultant can present all documentation for each of the services indicated—survey, assessment, design, integration, and integration verification tests. The consultant can also provide reports summarizing the service activities, findings, and results. The HPE technology consultant can also provide a knowledge transfer session.

Under this service feature, Hewlett Packard Enterprise can provide:
- Summary of service activities, findings, and results
- Schedule and execute a knowledge transfer session to facilitate transfer of network operational control to the customer or the network operator

Project management	Hewlett Packard Enterprise provides comprehensive project management capabilities that combine a powerful, proven methodology that is aligned with industry best practices and is delivered by professional program and project managers. The HPE program managers implement a team partnership at different levels of each respective organization to manage the overall project. While taking a structured approach to project planning and implementation, the HPE project managers help to manage and monitor project deliverables and communicate progress until completion. These activities are inherent to the HPE project management methodology. To assist the customer with the execution of Aruba Network Infrastructure Services, Hewlett Packard Enterprise can provide a single-point-of-contact (HPE project manager), who is dedicated to directing services execution, answering questions, and providing documented status updates. This is carried out during all phases of the Aruba Network Infrastructure solution deployment. Under this service feature, Hewlett Packard Enterprise can provide: • Help in managing HPE and/or partner resources that can reduce impact and allow IT resources to stay focused on their core tasks and priorities • Help in phased execution of services designed to reduce deployment-related impacts to the customer's business operation • Help provide definition and clear project expectations, objectives, milestones, and deliverables designed to help reduce the risk associated with implementation of the solution • Help provide monitoring and tracking of the solution implementation to reduce the impact on business continuity and minimize implementation time and costs • Help in executing effective and flexible communication methods to provide a common understanding of the project's status • Help in managing changes to scope that can impact the schedule, quality, and costs to align the changes with priorities Under this service feature, Hewlett Packard Enterprise can provide: • Documented project plans • Weekly progress reports

Coverage

• Services will be provided during local HPE standard business days and hours excluding HPE holidays.

Customer responsibilities

The customer will:

• Ensure that all service prerequisites identified during the pre-deployment service planning activity have been met

• Be responsible for all current-state and future-state network architectures, designs, and integration projects, within the network environment

• Assign stakeholders to participate in planning meetings

• Ensure that provisions have been made for the Aruba wired and or wireless controller appliances to be racked, cabled, networked, and powered prior to the arrival of HPE personnel

• Ensure that the APs are mounted and cabled as per the wireless site survey report and that a spreadsheet is available with both the serial numbers and corresponding placement information

• Provide Hewlett Packard Enterprise 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, along with 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

  – Migration documentation from the customer's existing network infrastructure equipment

  – Integration specifications and documentation for any non-Aruba and/or non-HPE equipment

  – SSID-to-VLAN mapping

  – Security for each SSID

  – LDAP or RADIUS server to facilitate WLAN security where required

• Verify that the existing network this service will use is installed, configured, and operating in a proper state; this includes hostname, administrative management interfaces, SNMP, NTP, DNS server addresses, DHCP, logging, IP address assignments to all ports, VLANs, bridge groups, and trunks

• Make any modifications to the existing network that are required and identified during the planning stages of this service, prior to HPE arriving onsite to perform configuration and integration tasks

• Be responsible for developing (with the HPE assistance) and applying any configurations to third-party network equipment that are required to integrate with new Aruba products

• Be accountable for all existing and new cabling required

• Be responsible for any notifications to network operations and any change control documentation that must be completed

• Be accountable for formal cutover with HPE assistance

• Be responsible for end-user and/or application testing

• Be accountable for providing a final signoff and acceptance from a designated authority in writing within three (3) business days after the submission of final reports

• Install customer-installable firmware updates and patches

• Be responsible for all data backup and restore operations

• Designate a person from the customer's staff who will grant all approvals; provide information; ensure that all hardware, firmware, and software that the HPE service specialist will need to deliver this service are available and that software products are properly licensed; and be available to assist Hewlett Packard Enterprise in facilitating the delivery of this service

• Adhere to licensing terms and conditions regarding the use of any HPE service tools used to facilitate the delivery of this service, if applicable

• Perform other reasonable activities to help Hewlett Packard Enterprise identify or resolve problems, as requested by HPE

• Provide a suitable work area for delivery of the service, including access to an outside telephone line, power, and any network connections required

• Allow Hewlett Packard Enterprise full and unrestricted access to all locations where the service is to be performed

Service limitations

Hewlett Packard Enterprise will not modify any configurations of any equipment that is not part of the Aruba Network Infrastructure solution. Should testing failures occur and HPE deems that the reason(s) for the failures are outside the control of HPE including, but not limited to, failures due to faulty solution and/or existing design, additional charges may be incurred to address the failure(s) and/or stop the installation and restore the site to its pre-installation state.

General provisions and other exclusions

Our ability to deliver this service is dependent upon the customer's full and timely cooperation with Hewlett Packard Enterprise, as well as the accuracy and completeness of any information and data the customer provides to HPE.

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 Aruba Wireless Infrastructure Services contact a local HPE sales representative and reference the following product number:

• H1Y14A1#012 for Aruba Network Infrastructure Services

A mutually agreed and executed SOW will detail the precise Aruba Network Infrastructure Services that will be provided. It is also required for the customer to order and for Hewlett Packard Enterprise to provide these services. Depending on the point of purchase and the requested service options, other product numbers may apply. Consult a local HPE representative or HPE reseller regarding the product number that will best meet your specific needs.

For more information
For more information on HPE Support services, contact any of our worldwide sales offices or visit the following website:
hpe.com/pointnext

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