



# Aruba Wireless Infrastructure Services

## HPE Network and Mobility Consulting

Aruba Wireless Infrastructure Services provide customers with access to Aruba mobile first campus networking technology expertise to help them enable pervasive, intelligent, and secure wireless infrastructures that can support communication and allow them to embrace cloud and mobile business applications. These services are intended to support secure, reliable, bring your own (BYO) everything connectivity while helping to make life simpler for IT with automation and centralized management.

Aruba Wireless Infrastructure Services can help customers improve existing WLANs and deploy new Aruba WLANs that are optimized to provide a high-quality voice and video experience so employees who use Microsoft® Office 365, Skype for Business, or other popular voice and video applications can collaborate with anyone without experiencing delays, jitter, or dropped connections.

These services focus on the lifecycle of consulting and professional services needed for your indoor, outdoor, public, and private enterprise wireless LAN (WLAN) projects. Depending on your specific WLAN services requirements, services can include:

- Assessment, design, remediation, integration and deployment of Aruba mobile first campus networking products
- 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 to control costs while delivering the security features, pervasive, flexible (BYO anything) wireless connectivity that customers and employees want

The service features in the table below provides information on the service features available under these network consulting services. The specific service features provided will be custom priced and scoped in a mutually agreed and executed SOW based upon the Customer's requirements.

### Service benefits

- Provides access to HPE Networking technology expertise to help expedite WLAN assessment, design, integration and optimization
- Delivers comprehensive customization, integration, and commissioning of Aruba mobile first campus networking products
- Designed to reduce implementation time and cost with onsite experience, consulting, and professional services knowledge transfer
- Can help to mitigate costly installation risks and configuration errors

### Service feature highlights

- Pre-deployment strategy, product, and service planning
- WLAN Site Survey, Assessment and Remediation
- Predictive WLAN Survey, Assessment, and High Level Design
- Onsite WLAN Assessment and Detailed Design
- WLAN Deployment and Integration
- WLAN Enterprise Site and/or Event Management

- Knowledge transfer and Acceptance
- Project management

**Table 1. Service features**

Feature	Delivery specifications
<b>Pre-deployment strategy, product, and service planning</b>	<p>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 stakeholders to verify WLAN strategies, define requirements, collect information, document the initial consensus, and present wireless service plans.</p> <p>During these meetings HPE will:</p> <ul style="list-style-type: none"> <li>• Work with the Customer to further develop the SOW service details, deliverables, and estimated timelines</li> <li>• Review existing Customer policy and business operation documentation including, but not limited to, current network architecture, principles, security policies, and business objectives</li> <li>• Define desired use cases that can help facilitate enhanced business operation efficiency and cost savings</li> <li>• Develop a proposed project plan, including possible dates for design completion, verification testing, implementation/integration, and optimization</li> <li>• Develop an integration verification testing (IVT) plan to be executed after deployment</li> <li>• Determine the appropriate mix of technical and business resources necessary to implement the project</li> <li>• Identify any additional information required to allow HPE to deploy resources and begin service delivery</li> </ul> <p>Deliverables for this service can include the following:</p> <ul style="list-style-type: none"> <li>• Use Case Definitions</li> <li>• Project plan including: <ul style="list-style-type: none"> <li>– Quote for design services</li> <li>– Rough Order of Magnitude (ROM) estimate of implementation costs</li> <li>– Work Breakdown Structure (WBS) including proposed project/program schedule</li> </ul> </li> </ul>
<b>WLAN Site Survey, Assessment and Remediation</b>	<p>This onsite service will allow the Customer to understand how their existing network is performing, identify any deficiencies, and propose and execute remediation. This service is also useful in identifying network readiness for mobile applications like Office 365 and Skype for Business.</p> <p>Under this service feature, HPE can provide the following:</p> <ul style="list-style-type: none"> <li>• Execute onsite evaluation of the Customer's existing network using 802.11 RF survey tools</li> <li>• Execute onsite evaluation of 802.11 and non-802.11 interference sources in UNII and ISM bands using spectrum analysis</li> <li>• Gain approval for the required changes to the Customer's current network design to accommodate the Aruba WLAN controller implementation</li> <li>• Identify any required changes to the Customer's current network infrastructure prior to the start of this service</li> <li>• Evaluate and provide recommendations for advanced WLAN configuration and optimization components, including: <ul style="list-style-type: none"> <li>– Evaluate need for and configuration of high availability (HA) for controllers and access points (APs)</li> <li>– Evaluate need for and configuration of HA for authentication infrastructure</li> <li>– Evaluate need for and configuration of mesh links</li> <li>– Evaluate need for and configuration of load balancer integration</li> <li>– Provide optimization for high user-density scenarios</li> <li>– Evaluate need for and configuration of outdoor links and access coverage</li> <li>– Determine advanced network management requirements</li> <li>– Provide advanced Wireless Intrusion Prevention System (WIPS) detection and mitigation configurations</li> </ul> </li> <li>• Evaluate and provide recommendations for: <ul style="list-style-type: none"> <li>– RF coverage and quality</li> <li>– End-to-end QoS settings</li> <li>– Skype for Business WLAN capacity planning</li> <li>– WLAN call quality check</li> <li>– WLAN topology assessment</li> </ul> </li> <li>• Execute remediation as identified and accepted in the assessment and recommendation report <ul style="list-style-type: none"> <li>– Gain approval for the required changes to the Customer's current network design to accommodate the Aruba WLAN controller implementation</li> <li>– Develop Integration Verification Test (IVT) Plan</li> <li>– Execute remediation</li> </ul> </li> </ul>

- Execute IVT
- Update the assessment findings report to include as-built information
- Collect and provide backups of all in-scope device configurations

---

### **Predictive WLAN Assessment and Design High-Level Design**

The Predictive WLAN Site Survey is performed remotely using radio frequency (RF) planning software tools that display projected wireless coverage of wireless access points (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, location of obstacles, and location of wiring closets that can affect a WLAN propagation and performance.

In the results of the wireless site survey, HPE will provide the suggested quantity, placement, and associated wireless coverage areas of IEEE 802.11a/g/n wireless APs. In addition, HPE will provide a representative HPE networking bill of materials (BOM).

Under this service feature, HPE can provide the following:

- Develop use cases that align with the Customer's business objectives
- Analyze network access security configuration against Customer's desired network access business policies
- Analyze 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 HPE design recommendations intended to help optimize the network to accommodate mobile applications, including 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 Bill of Materials (BoM) and services pricing estimates
- Execute any required integration testing to help ensure new WLAN equipment will integrate 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
- Modification of initial project plans originally developed in the Pre-Deployment Strategy, Product and Service Planning service including estimated initial and reoccurring equipment charges, implementation services charges, operations services charges, and project schedules

Under this service feature, HPE can provide the following:

- WLAN Site Survey and Design Summary Report:
  - HPE's AP placement recommendations
  - BOM
  - Deployment Services Pricing Estimate
  - Deployment SOW Proposal
  - Update to Project Plan (originally developed in Pre-Deployment Strategy, Product, and Service Planning service)
  - Roles and Responsibilities document
- Design Report, including:
  - Physical and Logical Architecture Design
  - AP physical installation design
  - WLAN controller architecture
  - WLAN management architecture
  - User Role design (use cases)
  - SSID design
  - RF coverage and capacity design
  - LAN infrastructure dependency analysis
  - IVTs will be created, but not executed

---

### **Onsite WLAN Assessment and Detailed Design**

This service can assist the Customer with the development of a comprehensive WLAN solution and plan for deploying an efficient, mobility-enabling wireless network services in their facilities. Implementation charges, schedule, and network performance are all key inputs into the solution design. Design can include optimizations for mobile applications including Office365 and Skype for Business.

Under this service feature, HPE can provide the following:

- Execute requirements and use case analysis and develop Assessment and Design Report
- Develop use cases that align with customer business objectives
- Analyze network access security configuration against desired network access business policies
  - Conduct WLAN management interview to identify primary WLAN management and reporting requirements
  - Deploy, if necessary, a network discovery tool
  - Analyze and propose potential enhancements for mobile application support
  - Analyze and propose potential enhancements for WLAN analytics
  - Develop predicted AP locations based on radio frequency (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 HPE design recommendations intended to help optimize the network to accommodate mobile applications including 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
  - Develop Bill of Materials and services cost estimates
  - Execute any required integration testing to ensure new WLAN equipment will integrate with existing network infrastructure
- Identify any gaps that must be remediated either before or during the deployment effort and determine recommended next steps and optimal project sequencing
- 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 service including estimated initial and reoccurring equipment costs, implementation services cost, operations services costs, and project schedules
  - Develop an Integration Verification Test (IVT) Plan
  - Develop proposed SOW based on customer-approved Design Report

Deliverables for this service are as follows:

- Assessment and Design Report including HPE AP Placement recommendations and mounting details
  - Analysis of proposed use cases
  - Network discovery output
  - Mobile engagement enhancement strategy
  - WLAN analytics enhancement strategy
  - Analysis and description of significant (discovered) interference sources
  - Bill of Materials
  - Deployment Services Pricing Estimate
  - Deployment Statement of Work Proposal
  - Update to Project Plan (originally developed in Pre-Deployment Strategy, Product, and Service Planning Service)
  - Roles and Responsibilities Document
  - Physical and Logical Architecture Design
  - AP Physical Installation Design
  - WLAN Controller Architecture
  - WLAN Management Architecture
  - User Role design (use cases)
  - SSID Design
  - RF Coverage Design
  - Security and Network Access Policy Design
  - LAN Infrastructure Dependencies
  - Switch type, count, and location, including power, enclosure, and HVAC analysis and planning
  - Photos representing each type of AP installation planned for use in the project
  - Readiness assessment describing proposed next steps and identifying any gaps between the current state and the desired end-state
  - Intended CAT6 and fiber cable pathways in CAD format and installation requirements
- Change Requests based on Assessment and Design Report
- Update to initial project plans originally developed in the Pre-deployment strategy, product, and service planning service including initial and reoccurring equipment costs, implementation services cost, operations services costs, and project schedules
- Integration Verification Test (IVT) Plan

- Develop proposed SOW based on customer-approved Design Report

---

### WLAN Deployment and Integration

The WLAN Deployment and Integration service provides configuration of Aruba wireless LANs. The Customer will receive a high-performing WLAN enabling mobile applications like Office 365 and Skype for Business.

Activities in this service include:

- Provide technical guidance including the following areas:  
Provide guidance for cable installation standards, AP moves, adds, changes, enclosures, and physical AP mounting  
Review a cable test report for each installed optical or copper cable in the redline package.
- Configure network devices as defined in the WLAN Deployment and Integration Statement of Work and Design Report originally developed in the Onsite WLAN Assessment and Detailed Design service including:
  - Mobility Controllers
  - Access Points
  - Wired Switches
  - Uninterruptable Power Supplies
  - DNS and DHCP Servers (if required in the detailed design)
  - Integrate the WLAN with existing network services such as Syslog, SMTP (for alerts) and out-of-band Management (OOBM)
  - Configure applicable SSIDs, guest portals, and authentication methods
  - Execute WLAN and LAN interface optimization
  - Use appropriate tools to optimize network without user load to evaluate coverage and network quality against Customer requirements.
  - Assist customer in cutting over to new network
- Update the design report to include as-built configuration
- Execute Integration Verification Test (IVT) Plan originally developed in the Onsite WLAN Assessment and Detailed Design Service
- Update the Physical Logical Correlation Sheet (PLCS) describing each AP's physical location, the switch hostname or rack label the AP is connected to, each AP's MAC address, each AP's serial number, each AP's model number, model numbers for any connected antennas, and notes for each AP describing the orientation of all connected antennas
- Release a daily report in e-mail format describing, for each day HPE representatives are onsite, that day's accomplishments, any issues, risks, or concerns that are identified, and estimation of project status, and plans for the next day and remainder of the week.
- Provide backups of all configurations for in-scope devices

Deliverables for this service can include the following:

- Installation guidance documents and recommendations on inside cable plant acceptance
- Deployment of the components and configurations identified in the Design Report and in accordance with the accepted SOW, both originally developed in the Remote/Onsite WLAN Assessment and Detailed Design service
- Updated Design Report including as-built information
- Executed IVT Plan
- Updated Physical Logical Correlation Sheet
- Daily/weekly progress reports
- Device configuration backups

---

### WLAN Enterprise Site and/or Event Management

HPE 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, HPE 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, peak throughput, etc.)
- Provide HPE recommendations intended to help optimize network performance during the event

Under this service feature, HPE 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 the Customer with all documentation for each of the services indicated (survey, assessment, design, integration, and integration verification tests), and can provide reports summarizing the service activities, findings, and results. The HPE technology consultant can also provide a knowledge transfer session.

Under this service feature, HPE 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

HPE 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.

HPE's 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, 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 Wireless Infrastructure Services, HPE can provide a single-point-of contact HPE project manager who is dedicated to directing services execution, answering questions, and providing documented status updates during all phases of the Aruba wireless infrastructure solution deployment.

Under this service feature, HPE can provide:

- Provide help in managing HPE and/or partner resources that can help to reduce impact and allow the Customer's IT resources to stay focused on their core tasks and priorities
- Help provide a phased execution of services designed to help 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 help reduce the impact on business continuity and help reduce implementation time and costs
- Help execute effective and flexible communication methods to provide a common understanding of the project's status
- Help manage changes to scope that can impact the schedule, quality, and costs to align the changes with priorities

Under this service feature, HPE can provide:

- Documented Project Plans
  - Weekly progress reports
- 

## Service limitations

HPE will not modify any configurations of any equipment that is not part of the Aruba Wireless 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.

## 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, etc., within the network environment
- Assign stakeholders to participate in planning meetings
- Ensure that provisions have been made for the Aruba 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 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
- 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 HPE's assistance) and applying any configurations to third-party network equipment that are required in order to integrate with new Aruba products
- Be responsible 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 responsible for formal cutover with HPE's assistance
- Be responsible for end-user and/or application testing
- Be responsible 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, on behalf of the Customer, will grant all approvals; provide information; ensure that all hardware, firmware, and software that the HPE service specialist will need in order to deliver this service are available and that software products are properly licensed; and otherwise be available to assist HPE 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 HPE 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 HPE full and unrestricted access to all locations where the service is to be performed

## Coverage

- This service is available on regular HPE work days excluding weekend days and HPE holidays, and during country-specific HPE standard business hours.

## **General provisions/Other exclusions**

HPE's 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.

## **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 Wireless Infrastructure Services

A mutually agreed and executed SOW will detail the precise Aruba Wireless Infrastructure Services that will be provided and is required in order for the Customer to order and for HPE to provide these services. Depending on the point of purchase and the requested service options, other product numbers may apply. Please 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 Hewlett Packard Enterprise support services, contact any of our worldwide sales offices or visit the following website:

[www.hpe.com/services/support](http://www.hpe.com/services/support)