HCL SMARTWiFi Platform

Cost effective, secure WiFi platform for centrally managed networks

HCL SMARTWiFi is a cloud-native, containerized secure WiFi network management platform for use by communication service providers (CSP) and managed service providers (MSP). HCL SMARTWiFi is ideal for large scale WiFi deployments that support various devices while remaining safe, secure, and consistent. Using open technologies, SMARTWiFi centrally manages access points (AP) for WiFi deployments across multiple sites to improve performance for WLAN networks. The result is an optimized user experience with improved connectivity and simplified management.

HCL SMARTWiFi Platform offers:

- Powerful and intuitive cloud-based AP management that eliminates the complexity of on-premises wireless controller hardware
- Advanced features such as radio resource management, band steering, and load balancing to improve network performance
- Lower total cost of ownership (TCO) than traditional offerings with a 40-60% savings based on volume and choice of access points
| Business Benefits |

- Highly scalable with cloud agility to accommodate growth
- Flexibility to deploy WiFi 6 solutions in the cloud
- Lowers TCO by 40-60%
- Intuitive dashboard with integrated cloud management and control function
- Cloud-based policy management for secure access point configuration
- Proven product, built using open technologies
- Zero touch provisioning with plug-and-play capability

| Key Features |

**Access Point Management**
- Bulk access point configuration
- Powerful dashboard monitors the real-time health of access points and traffic path controller to AP
- Role-based administration to configure multiple user accounts
- Seamless switch over to Trusted Wireless Access Gateway (TWAG) in case of connection failure

**Reporting and Analytics**
- Near real-time data reporting
- Actionable insights using network traffic data segmented by client and AP
- Location analytics measure visitor’s bandwidth, visit length, and repeat visit rate over time
- Extensive data storage capabilities to store streaming data

**Simple and Secure**
- Supports WPA3
- Industry-leading encryption and authentication methods
- Rogue AP detection protects network
- Scheduled or demand based seamless upgrades
- Generate and manage pro-active alarms for scheduled and unscheduled alerts

**Integration and Support**
- Communicate with OSS/BSS and other third-party components (REST API, RPC, and https)
- Dual-stack support for IPv4 and IPv6 connectivity capabilities
- Hotspot 2.0 enables seamless roaming
- Automated PPPoE, enabling one-time login via single authorizing DSL service

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| Cost effective and high performance network management without compromising security |

HCL SMARTWiFi meets high user expectations by providing exceptional security and support. Support for WPA3 with industry-leading encryption and authentication methods means worry-free access. Rogue AP detection detects any access points that may be spoofing the SSID. Seamless updates and alarms can be scheduled or delivered on demand, supporting a secure experience without interruption.

| Flexible and scalable solution supports WiFi 6 |

HCL SMARTWiFi supports management of the latest WiFi 6 (802.11ax) access points. Access points with all previous standards and protocols such as 802.11a/b/g/n/ac are also securely supported, which enables your network to address a variety of use cases.
### Specifications

#### Radio Features and Wi-Fi Standards
- 802.11ax, 802.11a/b/g/n and 802.11ac Wave II
- 802.11d, 11k, 11m, 11r, 11u, 11v, 11i, 11i, 11e, 11h, 11w
- Compliance with all WiFi standards
- HOTSPOT 2.0
- Beamforming with Multiuser Multiple Input Multiple Output (MU-MIMO)
- Fast transition

#### Security
- WPA3 based client authentication
- Access Control Lists (ACL) at both L2 and L3
- Pre-Shared Key or PSK and 802.1X
- Client exclusion
- LDAP captive portal
- Client monitoring
- MAC address filtering for client and AP
- Rogue AP detection

#### Enhanced Network Capabilities
- DHCPv6
- Multiple interface vlan for WLAN
- Local Breakout (LBO) /Offload, PnP
- Zero touch provisioning with support for at least 32 SSIDs
- Point-to-Point Protocol over Ethernet (PPPoE)
- WLAN-VLAN mapping
- Ethernet over GRE (EoGRE) support
- Per SSID bandwidth control/per user

#### Management and Troubleshooting
- Packet capture
- Auto update scheduling
- Performance management and fault monitoring
- Alarm customization
- Bulk AP provisioning
- Syslog export support
- Client emulation
- Firmware upgrade management
**Plug-in Support**
- REST API, RPC, https support
- Parental control
- OSS/BSS integration
- Speed test app integration
- Auto commissioning
- Mobile application plug-in for home use cases

**Customization**
- TWAG, AAA, staging server, captive portal
- Orchestration with Robin.io, bare metal, Kubernetes (k8s)
- SIM, non-SIM, “open Authentication” based UE connectivity
- LTE/5G co-existence
- Support for all ISP topologies
- Dual stack

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**Sizing Guidelines**

The HCL SMARTWiFi Platform supports access point hardware with following specifications:

- Indoor AP (Wi-Fi 6): 4x4 MIMO (2.4 GHz) and 4x4 MIMO (5 GHz) concurrent
- Indoor AP (Wi-Fi 6): 2x2 MIMO (2.4 GHz) and 2x2 MIMO (5 GHz) concurrent

**Scaling**

<table>
<thead>
<tr>
<th>vCPUs WLC</th>
<th>vCPUs analytics</th>
<th>RAM WLC</th>
<th>RAM analytics</th>
<th>Storage WLC</th>
<th>Storage analytics</th>
<th>APs</th>
<th>Concurrent users</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>264</td>
<td>80 GB</td>
<td>1088 GB</td>
<td>250 GB</td>
<td>166 TB</td>
<td>10,000</td>
<td>500 K</td>
</tr>
<tr>
<td>800</td>
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<td>800 GB</td>
<td>1088 GB</td>
<td>2500 GB</td>
<td>166 TB</td>
<td>100,000</td>
<td>5 M</td>
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</tbody>
</table>

**Staging Server Infrastructure requirements**

<table>
<thead>
<tr>
<th></th>
<th>No. of nodes</th>
<th>vCPUs</th>
<th>RAM</th>
<th>Disk space</th>
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</thead>
<tbody>
<tr>
<td>Master Node</td>
<td>3</td>
<td>2</td>
<td>8 GB</td>
<td>50 GB</td>
</tr>
<tr>
<td>Minion Node</td>
<td>2</td>
<td>4</td>
<td>8 GB</td>
<td>50 GB</td>
</tr>
<tr>
<td>DB nodes</td>
<td>3</td>
<td>4</td>
<td>8 GB</td>
<td>50 GB</td>
</tr>
<tr>
<td>NFS Server</td>
<td>2</td>
<td>2</td>
<td>8 GB</td>
<td>100 GB</td>
</tr>
<tr>
<td>Load Balancer</td>
<td>3</td>
<td>2</td>
<td>8 GB</td>
<td>50 GB</td>
</tr>
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