Two Approaches to Managing Wireless Access Point Networks in the Cloud

Why Cloud-Based Management?

Recently, the use of mobile devices at work (Bring Your Own Device, BYOD) has become increasingly popular. At the same time, developments in cloud computing technology have made it easier for network administrators to manage their networks effectively.

TP-LINK developed the Auranet Controller to facilitate easy management of all Auranet Series access points, making it an indispensable part of your business Wi-Fi solution. However, users who would like to manage highly scalable and mobile networks without hosting a LAN PC might find a cloud-based management system more suitable.

For business Wi-Fi network administrators, there are generally two approaches to cloud management. The first involves utilizing the cloud platform provided by wireless device manufacturers and the second involves building a management system on third-party cloud. Both approaches are discussed in greater detail below.

1. Using the Device Manufacturer’s Cloud Platform

Some wireless device manufacturers have built their own cloud management platforms, which provide users with an easy way to manage their wireless networks. With the cloud infrastructure and platform provided by the manufacturers, administrators are free from the hassle of building and maintaining their own cloud servers. All network administrators need to do is set up a cloud account, import wireless devices to the system, and make sure the network is in good condition.

TP-LINK is developing a cloud-based management system which allows administrators to access the dashboard at any time, from any location by simply logging into a browser-based platform, thereby eliminating the need for Ethernet cables and software installation files. The accompanying app also allows administrators to monitor network conditions in real time from their mobile devices.
The following list outlines the main features of TP-LINK’s cloud-based management system. More detailed marketing materials will be released as the project evolves.

a. Intuitive Real-Time Monitoring
b. Automatic Device Provisioning
c. Multi-Level Administration
d. Captive Portal for Guest Wi-Fi
e. Load Balancing and Access Control
f. App Management

2. Using a Third Party Cloud Platform

In addition to the cloud platforms provided by manufacturers, administrators may choose to use other cloud-based network management methods. By installing the controller software on a third-party cloud platform (e.g. Amazon AWS), administrators will be able to log into the controller software and manage the devices without hosting a controller on the LAN.

Those using TP-LINK solutions can install Auranet Controller on the cloud, which provides an effective workaround and allows them to manage Auranet access points in the cloud. Please refer to How to Deploy Auranet Controller on a Private Cloud (AWS EC2) for more details. An instructional video can also be found on our YouTube page.
The following list outlines the highlights of TP-LINK’s Auranet Controller software. Please refer to Free EAP Controller Software for more details.

a. Centralized Management Platform
b. Multi-Site Management from a Single Location via Centralized Controller
c. Intuitive Real-Time Monitoring
d. Captive Portal for Customizable Guest Authentication

**How Are These Methods Different?**

It should be noted, however, that there are some limitations to the workaround using a third-party cloud platforms. Here we use Auranet Controller and the cloud-based management system offered by TP-LINK as our examples in order to illustrate the differences of these two approaches.

First, running the Auranet Controller using cloud resources from a third-party service provider requires additional efforts to set up, configure, and maintain the platform. On the other hand, all you need to use TP-LINK’s cloud service is the URL of the system and an account to log into.

Second, managing devices in different locations/subnets (*i.e.* L3 management) with Auranet Controller installed on the private cloud makes the process more complex.
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Users need to run and configure the EAP Discover Utility in order to adopt devices in branched networks, which is not necessary when using the cloud-based management system.

Third, the features that are available when using the workaround are the same as those offered by the Auranet Controller. However, offer fewer features than a cloud-based management system, in terms of network monitoring and provisioning.

Conclusion

Table 1: Main Differences between Cloud Management Approaches

<table>
<thead>
<tr>
<th>Features</th>
<th>Manufacturer’s Cloud Platform</th>
<th>Third-Party Cloud Platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Building</td>
<td>More Feature-Rich</td>
<td>Same as Auranet Controller</td>
</tr>
<tr>
<td>L3 Management</td>
<td>Unnecessary</td>
<td>Complicated</td>
</tr>
<tr>
<td>APP Management*</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

*At present, only Cisco Meraki offers an app alongside their cloud platform.

Table 2: Cloud Management Systems Offered by Other Manufacturers

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Management System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco Meraki</td>
<td>System Manager</td>
</tr>
<tr>
<td>Aruba</td>
<td>Aruba Central</td>
</tr>
<tr>
<td>Aerohive</td>
<td>HiveManager</td>
</tr>
<tr>
<td>Netgear</td>
<td>Business Central Wireless Manager</td>
</tr>
</tbody>
</table>

The main benefit of the cloud service provided by other companies (e.g. Ubiquiti, D-Link) is essentially that it allows administrators to access local controller software via a cloud platform. The second approach outlined above can be used to achieve a similar effect.