



Introduction of EAP Adoption

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This guide applies to:

EAP110 / EAP115 / EAP225 / EAP245 / EAP320 / EAP330 / EAP115-Wall / EAP225-Wall / EAP110-Outdoor / EAP225-Outdoor / EAP Controller (Omada Software Controller) / OC200

EAP adoption is the first step to manage EAPs in batches. Once adopted, any changes in the management page will be applied to all managed EAPs.

This article introduces the process of EAP adoption in details, including *changes of EAP status* and *interactions* during adoption.

1 Changes of EAP Status During Adoption




When adopting an EAP, the controller takes a few minutes to establish a connection with it, and then issue the configuration. During this period, the EAP entry moves from the Pending list to the Connected list, and the status of EAP changes.

The following table shows the status change of EAPs connected in two ways: the wired connection and wireless connection.

 **Note:**

Only EAPs support the mesh function can be managed via a wireless connection. Currently, EAP225-Outdoor with firmware version 1.3.0 or above and EAP225 V3 with firmware version 2.5.0 or above are available.

Table 1-1 Changes of the Status When Adopting EAPs Connected in Two Ways

Connection Way	Change of Status
Wired Connected	Pending → (Provisioning) → (Configuring) → Connected
Wireless Connected	Pending  → (Adopting ) → Connected 

With the status changing, the EAP changes from a Pending EAP to an adopted EAP. Statuses in the bracket are transition statuses.

The following introduces all the EAP status related to the adoption.

1.1 Statuses of Pending EAPs





When an EAP is first discovered by the controller, it will be listed in the Pending list with one of the following statuses: Pending, Pending  and Managed by others. Only EAPs in the status of Pending or Pending  can be adopted to the controller.

Table 1-2 Statuses of Pending EAPs

Status	Explanation
Pending	By default, all the EAPs with a wired network connection are in the Pending status when first discovered by Omada Controller.
Pending 	The factory default EAP with mesh functions and connected wirelessly is in the Pending  status when it is first discovered by Omada Controller.
Managed By Others	The EAP that has been managed by another controller before will be in the Managed By Others status if it is located on the same network as the controller. You can provide the username and password to unbind the EAP from the existing controller and begin adoption in the current controller.

1.3 Transition Statuses





Transition statuses appear briefly during the adoption, which means that the adoption goes on wheels. They are: Provisioning, Configuring, and Adopting .

Table 1-3 Transition Statuses

Status	Explanation
Provisioning	Provisioning is the first transition status when adopting an EAP with a wired connection. In the Provisioning status, the controller is trying to establish the connection with the EAP.
Configuring	Configuring is the second transition status when adopting an EAP with a wired connection. In the Configuring status, the controller issues configuration commands to it.
Adopting 	Adopting  is the transition status when adopting an EAP with a wireless connection. In the Adopting  status, the controller is trying to establish the connection with the EAP and issues configuration commands to it.

1.4 Statuses of Adopted EAPs



If the EAP is adopted successfully, its status will become Connected or Connected . Otherwise, the EAP will remain Pending.

Table 1-4 Statuses of Adopted EAPs

Status	Explanation
Connected	The EAP is connected to the network with a wired connection and can be managed by the controller.
Connected 	The EAP is connected to the network wirelessly and can be managed by the controller.

2 Interactions During Adoption

During adoption, the interaction between the EAP and controller can be divided into three steps: Discovering, Establishing and Configuring, and Maintaining.

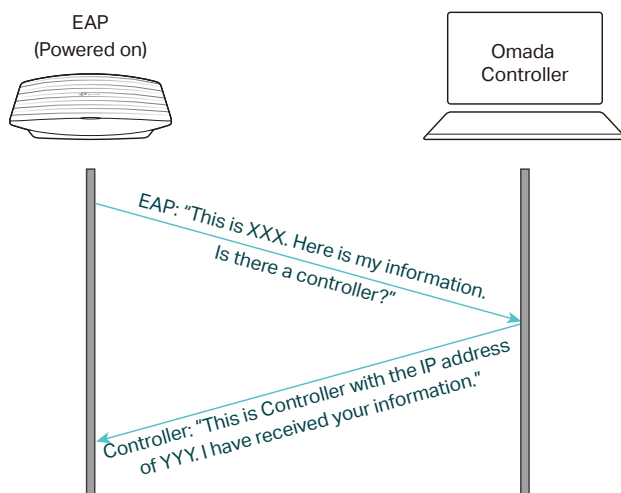
2.1 Discovering

When the EAP is powered on, it sends a message to port 29810 to broadcast its information. Once the controller receives the message, it displays the information of the EAP in the pending list and responds to the EAP with a unicast message.

The interactions are different based on different network topologies.

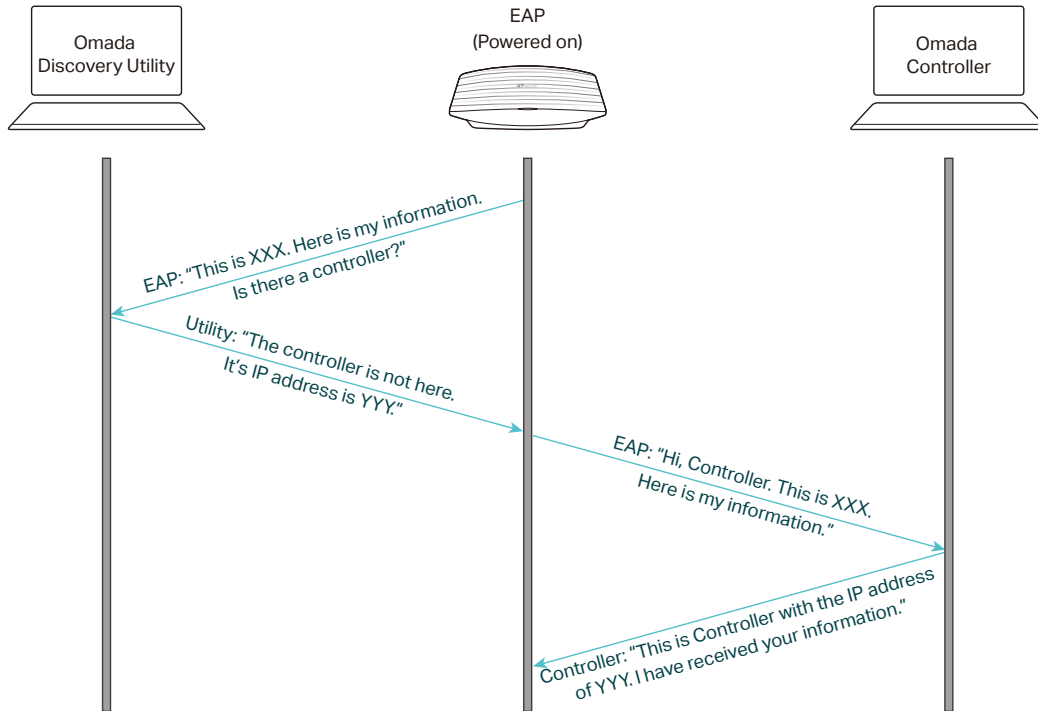
If the EAP is on the same subnet with the controller, the controller can receive the message directly (as shown in Figure 2-1).

Figure 2-1 Interactions During Discovering (the EAP is on the Same Subnet with the Controller)



If not, the EAP can get the IP address of the controller from EAP Discover Utility and inform the controller of its information via a unicast UDP message (as shown in Figure 2-2).

Figure 2-2 Interactions During Discovering (the EAP is on a Different Subnet with the Controller)

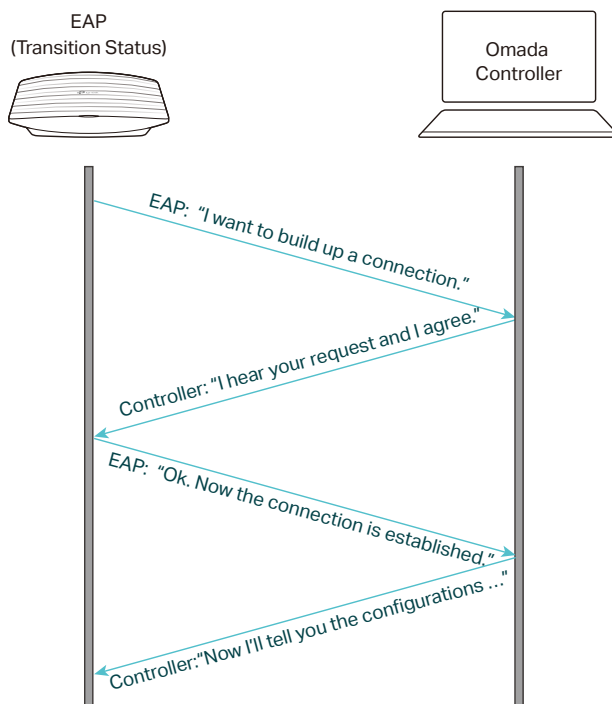


2.2 Establishing and Configuring

Once the EAP gets the reply from the controller, it will ask to establish the connection. After that, the controller will deliver the configurations downwards to the EAP.

The following picture shows simplified interactions during Establishing and Configuring.

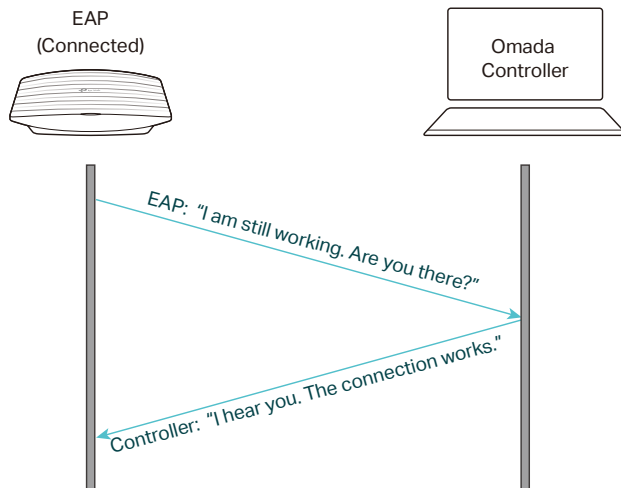
Figure 2-3 Interactions During Establishing and Configuring



2.3 Maintaining

To maintain the connection, the EAP should send a keepalive message to the controller every 10 seconds. The following picture shows simplified interactions during Maintaining.

Figure 2-4 Interactions During Maintaining



If the EAP does not get the reply for some reasons, it will wait for 30–50 seconds and resend the keepalive message 3 times. If there is still no response, the EAP will turn back to the first step (Discovering) to get the connection again.

3 Related Articles

[How to Adopt EAPs in Controller Mode?](#)

[What should I do when the controller fails to discover the EAP?](#)

[What should I do if Omada Software Controller/OC200 cannot adopt Omada EAP?](#)