

Grandstream Networks, Inc.

GWN76xx - Link Aggregation Guide



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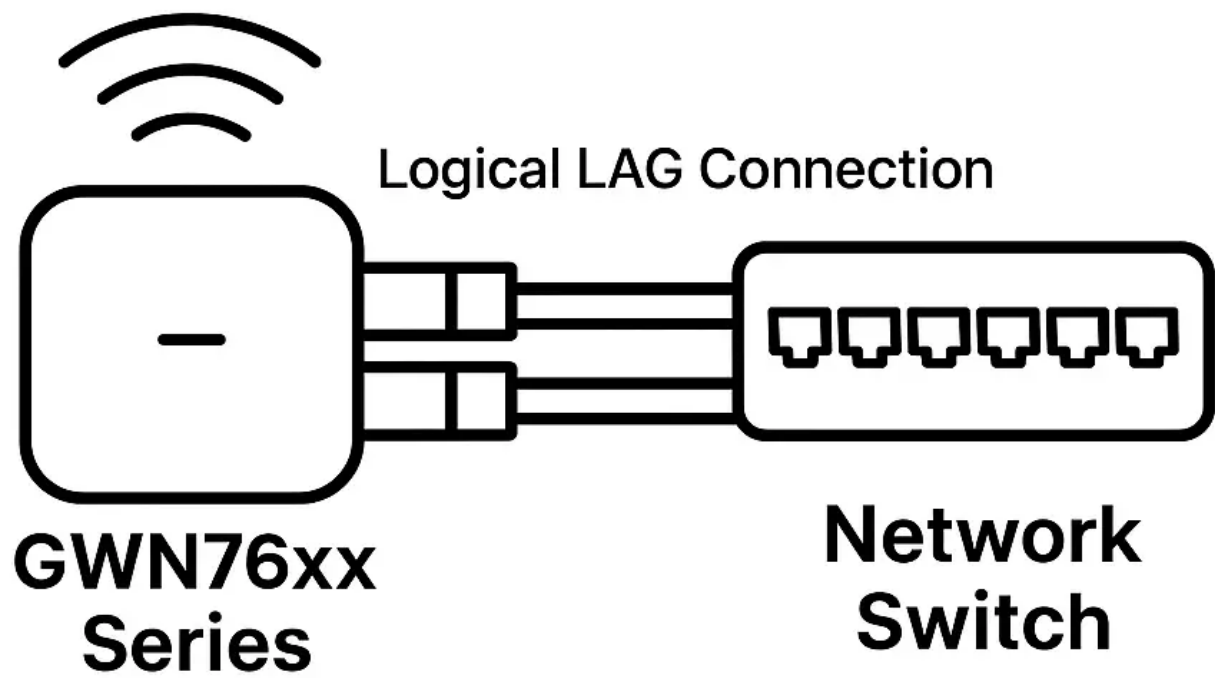
Overview

Link Aggregation (also known as Port Bonding or LAG) enables GWN76xx access points to combine multiple physical Ethernet interfaces into a single, logical uplink. This increases the total available bandwidth, provides redundancy in case of link failure, and ensures more stable wired performance in high-density wireless deployments.

GWN access points support both:

- **LACP (Link Aggregation Control Protocol):** dynamic negotiation with supported switches.
- **Static Link Aggregation:** manually configured, without protocol exchange.

This guide provides configuration requirements, supported models, best practices, and deployment examples to help users integrate link aggregation seamlessly with switches in enterprise Wi-Fi environments.



Basic Link Aggregation Setup

Supported Models

The following GWN76xx access points include multiple Ethernet ports and support link aggregation features. This enables combining ports into a logical uplink for increased throughput and redundancy.

Model	Link Aggregation Support
GWN7664	Supported
GWN7664LR	Supported
GWN7664E	Supported
GWN7664ELR	Supported
GWN7672	Supported

GWN7670	Supported
GWN7674	Supported
GWN7670LR	Supported
GWN7670ELR	Supported

Supported models

Link Aggregation Best Practices

To ensure reliable operation when deploying link aggregation between a GWN76xx access point and another device, follow these best practices:

- **Aggregation Mode Matching**
Make sure both devices involved in the link aggregation (e.g., an access point and a switch) use the same aggregation mode either **LACP** or **Static**. Mixed configurations may prevent the link from functioning correctly.
- **Consistent Port Speeds**
Link aggregation is most reliable when all ports in the group operate at the same Ethernet speed. Using different speeds (e.g., combining a 1G port with a 2.5G port) may cause reduced performance or negotiation failure, depending on the specific devices. To avoid unpredictable results, use matching speeds across all connected ports.
- **Port Configuration Symmetry**
Ensure that the same number of ports are selected and configured identically on both ends. Any mismatch in selected ports or settings can cause the aggregation to fail.
- **Enable After Physical Setup**
For a smoother experience, complete the physical setup and configure link aggregation on the other device first (e.g., the switch) before enabling it on the access point. This helps prevent temporary disconnects during negotiation.
- **Use Reliable Cabling**
Damaged or low-quality Ethernet cables can interfere with link negotiation and cause instability. Always use well-tested cables suitable for your Ethernet speed.

Example Deployment Scenario

This section illustrates how to deploy Link Aggregation between a supported GWN76xx access point and a compatible network device. In this example, we use the GWN7664 access point connected to a GWN7822P switch. The goal is to demonstrate a practical configuration using two Ethernet cables to create a logical uplink, increasing bandwidth and providing redundancy in case one link fails.

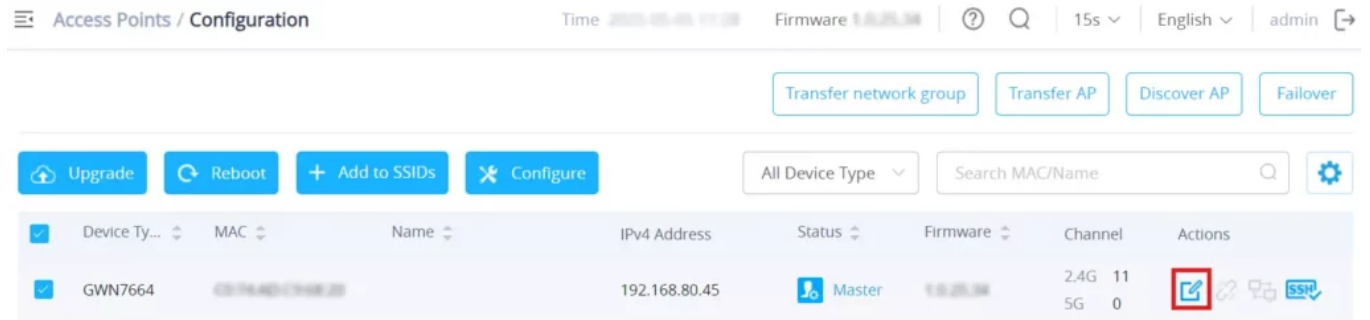
This scenario can be replicated with any other compatible access point and device that supports LACP or Static aggregation, as long as port compatibility and configuration best practices are followed.



Link Aggregation between GWN76xx AP and GWN78xx Switch

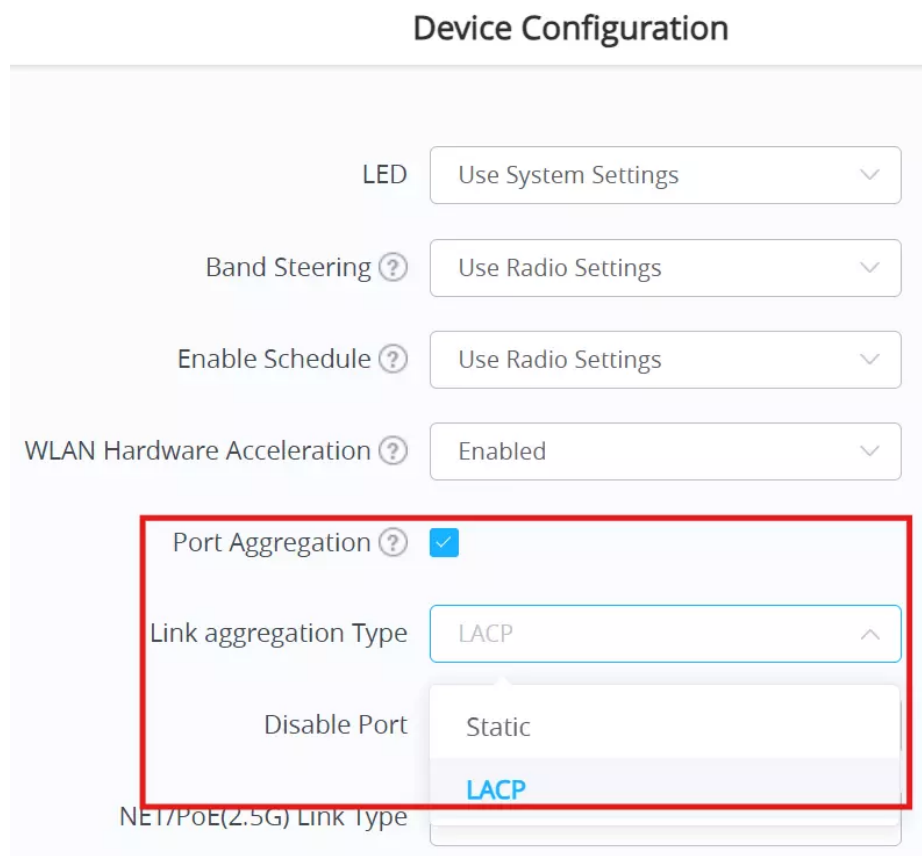
Step 1: Configure Access Point

1. **Login** to the GWN76xx web UI or controller interface.
2. Navigate to **Access Points -> Configuration** and locate the target AP.
3. Click the **edit icon** to access the device configuration screen.



Access Points -> Configuration page

4. In the **Device Configuration** section:
 - Enable **Port Aggregation**.
 - Select a **Link Aggregation Type**:
 - Static - for manual configuration.
 - LACP - for dynamic negotiation with the connected device.



Enable Port Aggregation on the Access point

Make sure both Ethernet ports are connected to the other device and support the selected aggregation type.

Step 2: Configure Device (e.g. Switch)

- 1. Login to the GWN78xx switch web UI.
- 2. Go to **Switching -> Link Aggregation**, then click the **edit icon** on an available LAG group.

Link Aggregation

Group

LAG Settings

LACP

Load Balance Mode

MAC Address

Cancel

OK

LAG	Description	Type	Link Status	Active Member	Inactive Member	Operation
LAG1	Port Aggregation Switch to AP	LACP	Up	1/0/1-1/0/2	--	
LAG2	--	Static	Down	--	--	
LAG3	--	Static	Down	--	--	

List of LAG groups on GWN78xx switch

- 3. Set the **Type** to match the AP (LACP or Static), and select the ports connected to the AP.
- 4. Make sure to use ports of the **same speed** on both ends (e.g., 1G+1G or 2.5G+2.5G) to avoid compatibility issues. Different speeds may cause the link aggregation to function improperly or fall back to a lower speed.

Group > Edit Group

Description

Port Aggregation Switch to AP

0~128 characters

Type

LACP

*Port

Static

LACP

Click on port to select/unselect

2

1

4

3

6

5

8

7

10

9

12

11

14

13

16

15

18 2.5G

17 2.5G

20 2.5G

19 2.5G

22 2.5G

21 2.5G

24 2.5G

23 2.5G

25 SFP+

26 SFP+

27 SFP+

28 SFP+

Cancel

OK

Choose the LAG type and ports matching the AP side

- 5. Once applied, the switch will show **Link Status: Up** and list active members when the connection is properly established.

Link Aggregation

Group

LAG Settings

LACP

Load Balance Mode

MAC Address

Cancel

OK

LAG	Description	Type	Link Status	Active Member	Inactive Member	Operation
LAG1	Port Aggregation Switch to AP	LACP	Up	1/0/1-1/0/2	--	
LAG2	--	Static	Down	--	--	
LAG3	--	Static	Down	--	--	

LAG status showing both links active for redundancy