

GIGACORE

Release notes.

Version 1.9.1



GigaCore v1.9.1

This release v1.9.1 supersedes v1.9.0 – All features, improvement and fixed that were implemented for 1.9.0 remain, with the addition of the improvements and fixes as outlined at the end of this document.

We advise users to upgrade to v1.9.1 for best performance.

Related products:

- GigaCore O26-I
- GigaCore S30-I
- GigaCore 30i
- GigaCore 20t
- GigaCore 18t
- GigaCore 16t
- GigaCore 16tf
- GigaCore 16i
- GigaCore 10t
- GigaCore 10i
- GigaCore 10t-IP

Introduced in 1.9.0

New models:

This firmware introduces support for GigaCore S30-I.

New features:

- Seamless recovery when a gPTP grandmaster leaves the network. GigaCore will now remember the time of the gPTP grandmaster when the grandmaster itself leaves the network and GigaCore itself, becomes gPTP grandmaster. This avoids large time jumps since these jumps can cause issues like audio artifacts in Milan-AVB networks.
- To avoid inconsistent time synchronization or sudden time jumps on endpoints when a new GigaCore is added to the network that will take the grandmaster role, GigaCore now has improved behavior to first detect the time of an existing grandmaster. This is available for gPTP and PTPv2. This feature is enabled by default and can be disabled through API.
- The QSFP+ ports on GigaCore O26-I can now be configured in 'breakout' mode through webUI, 4x10Gbps [Fig.1]. In this mode, one physical QSFP+ can act as 4 separate logical ports. The Port LED's will also reflect this state when it is selected as the port then acts as 4 independent 10Gbps ports whose state can be monitored with 4 independent LED's [Fig.2].
- GigaCore O26-I supports now 4096 multicast forwarding database entries, which means that more IGMP multicast registrations are possible on this model.
- New IGMP-related API functionality is available under `/api/groups/group/<group\_id>/igmp` to 'drop_igmp' and 'drop_mld'



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- This can be used to configure the switch as a multicast 'core' switch for a specific group. This makes it possible to create dedicated networks in which more multicast streams can circulate than can be handled by the multicast forwarding database of a single switch. More about why this functionality might be useful can be found here: <https://support.luminex.be/portal/en/kb/articles/large-scale-multicast-networks-core-leaf-design>
- API is added to configure forward error correction (FEC) mode for SFP ports in the API. This can resolve issues with fiber connections to certain devices.

Fig 1►



Fig 2►



Improvements:

- Boundary clocks that receive valid PTPv2 traffic on certain ports will now function even if the connected device did not register for PTPv2 multicast through IGMP. This improvement is meant to support edge devices that do not join the PTPv2 multicast group but do transmit PTPv2 traffic, so they can also receive PTPv2 multicast data once activity is detected on the port.
- Pure Layer2 multicast is always flooded by the switch. This does not apply to AVB multicast streams and Layer3 (IGMP and MLD) multicast streams. Previously, specific Layer2 multicast MAC addresses were already flooded, but to accommodate a wider range of applications without reducing the available multicast forwarding database (MFDB) entries, this is now done for all applicable Layer2 multicast MAC addresses.

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- VLAN IDs that are already known through dynamic reservation can now also be used as the VLAN ID for groups to act as a static VLAN. This improves interoperability with certain switches from other manufacturers.
- WebUI improvements:
 - Improved error reporting in the web interface.
 - WebUI now uses port speed naming consistent with Araneo. FDX (full duplex) indication is removed from speeds of 1Gbps or higher since these speeds are always full duplex.
 - Improved alignment of the DHCP server checkbox.
 - The close button in the ‘manage certificate’ mode now accepts clicking the whole button instead of just the ‘close’ text.
 - The tooltip for Milan operating mode warnings in ‘auto’ detection mode has been improved to correctly state the expected mode instead of just ‘auto’.
 - The PoE icon is now also visible when PoE is disabled and light theme is used.
 - The WebUI will show an info message indicating that renewing DHCP leases might be needed when modifying Group settings that could affect DHCP functionality.

Bug Fixes:

- Improved handling of ATDECC (Milan control) packets helps optimize CPU usage on GigaCore switches and supports stable operation in Milan-AVB environments.
- Improved handling of very large multicast networks reduces CPU load on the switch and helps maintain responsive, stable operation, even in demanding network environments.

Introduced in 1.9.1

Improvements:

- Fan speed control now takes temperature flags from SFP modules into account.

Bug Fixes :

- A fix has been implemented to avoid unnecessary internal logging and CPU processing in the following conditions:
 - When PTPv2 messages are received in non-PTPv2 ports.
 - On the O26-I with only 1PSU connected.
- A bug has been fixed to avoid switch-lockup caused very occasionally by a racing condition in the snooping table.
- A fix has been implemented at the gPTP and PTPv2 levels to improve stability when the control plane is handling high levels of traffic. This also improves CPU efficiency.



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- Fixed a bug that allowed forwarding invalid and unwanted Layer 2 (non-IP) broadcast messages that were injected into the network by a third-party device with a multicast source address.

