

Arrcus Open MLAG: Delivering Simple, Scalable, Open Standards-Based All-Active Multihoming Solution

Key Benefits

- Deployment ease and flexibility with use of non-proprietary and standards-based technologies
- Scale-out ability to extend beyond two peer devices, providing higher redundancy
- Variety of design choices providing flexible solution deployment options
- Improved network resource efficiency through cost, bandwidth, and front panel port savings

Solution Overview

The Arrcus Open MLAG solution is standards-based, simple, provides all-active multihoming, and removes the dependency on peer-link(s). The solution can be deployed in any existing IP CLOS deployments and is transparent to the rest of the network. This enables a simple migration of legacy MLAG TORs to Open MLAG TORs without domain-wide service interruption. The solution provides the same all-active LAG for the multi-homed hosts, but the key differentiator of the Open MLAG solution is the use of standards-based BGP EVPN to provide redundancy. This is a huge benefit because EVPN protocol not only has well-defined capabilities and forwarding operations but is also extensively deployed and is multi-vendor. The solution uses BGP EVPN to synchronize MAC addresses and ARP/ND entries between Open MLAG peers, to control flooding and BUM traffic blocking behaviors as per the RFCs.

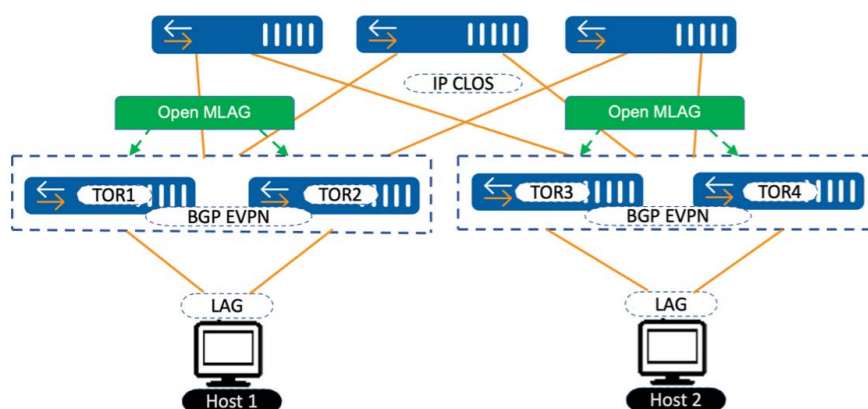


Figure 1: Arrcus Open MLAG solution providing all-active multihoming to the hosts

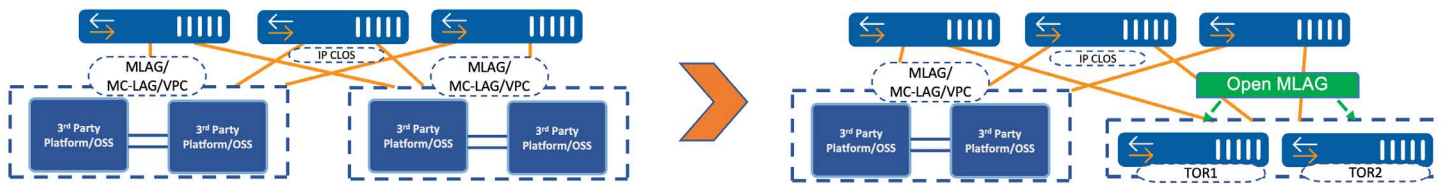


Figure 2: IP CLOS fabric with proprietary MLAG migrating to Arrcus Open MLAG TORs

Arrcus Open MLAG Solution Benefits

Deployment ease and flexibility with use of non-proprietary and standards-based technologies

The Arrcus Open MLAG solution significantly simplifies deployment of all-active nodes providing redundancy to a host. With the use of well-known standard-based protocols and non-proprietary technologies such as BGP EVPN, Open MLAG eases network configuration, operations, and tooling requirements. Each vendor-proprietary solution available today comes with its unique set of bugs, nuances and subtleties, requiring the customer to build vendor-specific configuration and operations knowledge especially during initial bring-up and troubleshooting. Arrcus Open MLAG leverages BGP EVPN, which is widely known and a well-defined protocol and has proven to improve scale and performance of control plane. With a wide variety of underlay routing protocols at the user's disposal, one can get a high-performing and resilient Layer 3 solution to achieve all-active multihoming via Arrcus Open MLAG.

Scale-out ability to extend beyond two peer devices, providing higher redundancy

Fundamentally, legacy MLAG (MC-LAG or VPC) can only provide a dual-homing solution with a pair of network nodes and fails to address newer use cases where hosts may need more than two upstream redundant paths. One of the key benefits of the Arrcus Open MLAG solution is its ability to scale beyond two Top Of Rack (TOR) devices, as shown in Fig. 3, getting rid of the redundancy and scale limitations imposed by legacy solutions. This ability spawns from the use of open standards-based EVPN protocol and no requirement of peer-links between the participating nodes.

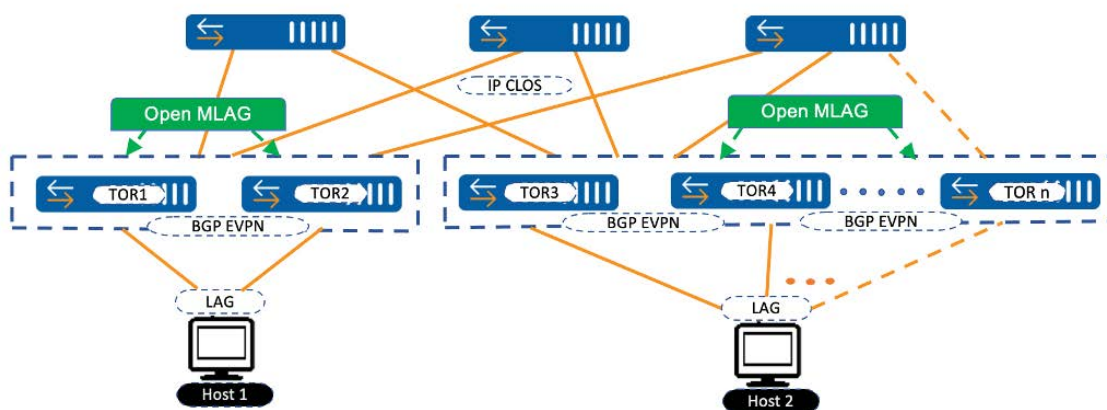


Figure 3: Arrcus Open MLAG scaling to n number of nodes providing higher redundancy

Variety of design choices providing flexible solution deployment options

Arrcus Open MLAG has absolutely no requirement for a dedicated peer-link between the participating network nodes. However, the solution is flexible enough that if some customers already have their racks designed with dedicated peer-links, then Open MLAG solution does provide an option to continue to use those after migration. The only requirement is that there needs to be IP reachability between the loopbacks of Open MLAG peers, which can also be achieved via the various underlay protocol options available to the customer. This design flexibility also enables users to have a simple migration from legacy to Arrcus Open MLAG solution.

Improved network resource efficiency through cost, bandwidth, and front panel port savings

Legacy MLAG solutions require peer-links to connect the MLAG nodes. This mandates an operator to burn front panel port(s) in establishing and provisioning these peer-links. The advent of 50G and 100G server connections means that the peer-links now have to be provisioned with higher speed front panel ports and greater bandwidth to account for traffic flow over these links during failure scenarios. Considering cost and logistics associated with each port, these bandwidth-expensive peer-link connections are not justifiable. As Arrcus Open MLAG solution does not require users to connect peer-links; it can provide the same functionality without any extra ports, allowing the traffic to flow over the CLOS fabric during a failure scenario and significantly save cost and capacity in a network.

Solution Requirements

REQUIREMENTS	DESCRIPTION
ArcOS	Arrcus Open MLAG node devices require ArcOS release 4.2.1A or later
ArcIQ	An AI-driven deep visibility and analytics platform (ArcIQ release 2.1.1 or later) that delivers real-time transformational insights and telemetry at scale. It is an optional solution component that can be deployed either in the cloud or on premise
Platforms	Broadcom XGS Trident 3-based devices

Learn more

Visit www.arrcus.com to find out how Arrcus can enable your organization's IT transformation with the best-in-class ArcOS BGP-EVPN solution.

Network Different – with Arrcus

About Arrcus

Arrcus was founded to enrich human experiences by interconnecting people, machines, and data. Our mission is to democratize the networking industry by providing best-in-class software, the most flexible consumption model, and the lowest total cost of ownership (TCO). The Arrcus team consists of world-class technologists who have an unparalleled record in shipping industry-leading networking products, complemented by industry thought leaders, operating executives, and strategic company builders.

The company is headquartered in San Jose, California.

For more information, go to www.arrcus.com or follow @arrcusinc.

 www.arrcus.com 2077 Gateway Place, Suite 400, San Jose, CA