AI for Networks
Networks for AI

SONiC

Aviz Certified Community SONiC (CCS) Release Notes CCS 1.0

Overview

Aviz CCS is a set of switch OS images built and certified by Aviz and qualified with a list of specific hardware platforms from a range of hardware partners. Aviz CCS is based on Community SONiC, enhanced with additional features and fixes based on Aviz' long experience of supporting community SONiC production deployments with enterprise and telco customers. The release notes for Aviz CCS release 1.0 serves as a reference for customers and partners to understand the capabilities, hardware support, and deployment considerations for Aviz CCS 1.0.

Key contents of this document include:

- **Supported Features:** Detailed coverage of Layer 2, Layer 3, QOS, Telemetry and management features available in CCS 1.0, including enhancements over the baseline Community SONiC.
- **Supported Hardware (HW SKUs):** A list of validated hardware platforms, along with a feature matrix mapping specific capabilities to each supported SKU.
- **Scalability Information:** Maximum supported scale for various resources and features per hardware SKU, providing guidance for network planning and deployment.
- **Customer Use Cases:** Sample scenarios demonstrating practical applications of CCS 1.0 in real-world networking environments.
- **Known Limitations:** Documented constraints and limitations to help set expectations for feature behavior and performance.

This release document serves as a single source of truth for understanding CCS 1.0's functional capabilities, hardware support, and recommended deployment scenarios, enabling network architects and operators to plan and deploy CCS 1.0 effectively.

Supported Features

This section presents an overview of the key networking features in CCS 1.0. For clarity, the features are organized by functional category, offering a clear view of the system's Layer 2, Layer 3, QOS, Telemetry and Management capabilities.

Features with a (*) are those that are in addition to what the current Community SONiC baseline includes. Aviz will make the SONiC source-code available for those features and will work with the community to get them upstreamed into future community baseline releases.

Layer 2 (L2)

- VLANs (Trunk/Access)
- Link Aggregation (LAG/LACP)
- Static LAG*
- LLDP
- PVST*
- BPDU Guard
- Root Guard
- 802.1x*
- MCLAG*
- Port Speed/FEC Configuration
- Port Breakout

Layer 3 (L3)

- BGP
- BGP Unnumbered
- Router Port/Port-Channel
- SVI
- Sub-Interface
- Static Routes
- ECMP
- DHCP Relay*
- BFD
- EVPN
- L2-VXLAN
- L3-VXLAN
- VRF
- VRRP*
- SAG*

Quality of Service (QoS)

- 802.1p Mapping
- DSCP Mapping
- Storm Control

Telemetry

- sFlow
- Streaming Telemetry (ONES)*
- ERSPAN

Management

- ZTP
- FMCLI*
- CoPP
- ACL IPv4
- ACL IPv6
- NTP
- Syslog
- Tacacs+
- Radius*
- SNMP v1/v2/v3

Supported Hardware SKUs (HW SKU)

This section provides the list of supported hardware SKUs that have been validated with Aviz CCS 1.0.

Value Driver	Hardware SKU (HWSKU)	Port Speed	ASIC Details	Community Codebase
Celestica	DS1000	48x1G, 8x10G	Broadcom TD3-X2	202411
Celestica	DS3000	32x100G	Broadcom TD3-X7	202411
Celestica	DS4101	32x800G	Broadcom TH4	202411
Cisco	8101-32FH	32x400G	S1 Q200	202411
EdgeCore	AS7326	48x10G/25G, 8x100G	Broadcom TD3-X7	202411
EdgeCore	AS7726	32x100G	Broadcom TD3-X7	202411
NVIDIA	SN2201	48x1G, 4x100G	Spectrum 1	202411
NVIDIA	SN2010	18x10G/25G, 4x100G	Spectrum 1	202411
NVIDIA	SN2100	16x100G	Spectrum 1	202411
NVIDIA	SN2700	32x100G	Spectrum 1	202411
NVIDIA	SN3420	48x10G/25G, 12x100G	Spectrum 2	202411
NVIDIA	SN3700	32x200G	Spectrum 2	202411
NVIDIA	SN3800	64x100G	Spectrum 2	202411
NVIDIA	SN4600C	64x100G	Spectrum 3	202411
NVIDIA	SN4600	64x200G	Spectrum 3	202411
NVIDIA	SN4700	32x400G	Spectrum 3	202411
Wistron	6512	32x400G	Marvell TL7	202411

Feature Support Matrix

Below is a table showing feature support across the hardware SKUs included in this release.

		Broadcom			Marvell	NVIDIA			CISCO
	ASIC	TD3-X2	TD3-X7	TH4	TL7	SP1	SP2	SP3	S1 Q200
	HWSKUs	DS1000	DS3000, AS7726, AS7326	DS4101	Wistron 6512	SN2100, SN2010, SN2201, SN2700	SN3420, SN3700, SN3800	SN4600C, SN4600, SN4700	8101-32FH
L2 Features	Ports. (Speed, FEC)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	VLAN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	LACP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Static LAG	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	LLDP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PVST	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	802.1x	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	BPDU Guard	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Root Guard	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	MCLAG	Yes	Yes	Yes	No	No	No	No	No
	Port Breakout	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes-Via config_db.json
L3 Features	BGP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	BGP Unnumbered	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Routed Port/PCH	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	SVI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Subinterface	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes - With restriction
	Static Routes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	ECMP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	DHCP Relay	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	BFD	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	EVPN	No	Yes	No	No	No	No	No	No
	L2-VXLAN	No	Yes	No	No	No	No	No	No
	L3-VXLAN	No	Yes	No	No	No	No	No	No
	VRF	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	VRRP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	SAG	No	Yes	No	No	No	No	No	No
QOS	802.1p Mapping	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	DSCP Mapping	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Storm Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Telemetry	sFlow	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Streaming Telemetry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	ERSPAN	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Management	ZTP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	FMCLI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	CoPP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	ACL IPv4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	ACL IPv6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	NTP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Syslog	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Tacacs+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Radius	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	SNMPv1/v2/V3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Scalability

The Scalability Matrix provides the maximum supported scale for various resources on each hardware SKU in this release. It offers guidance on system limits, helping customers design networks that meet performance, capacity and reliability requirements.

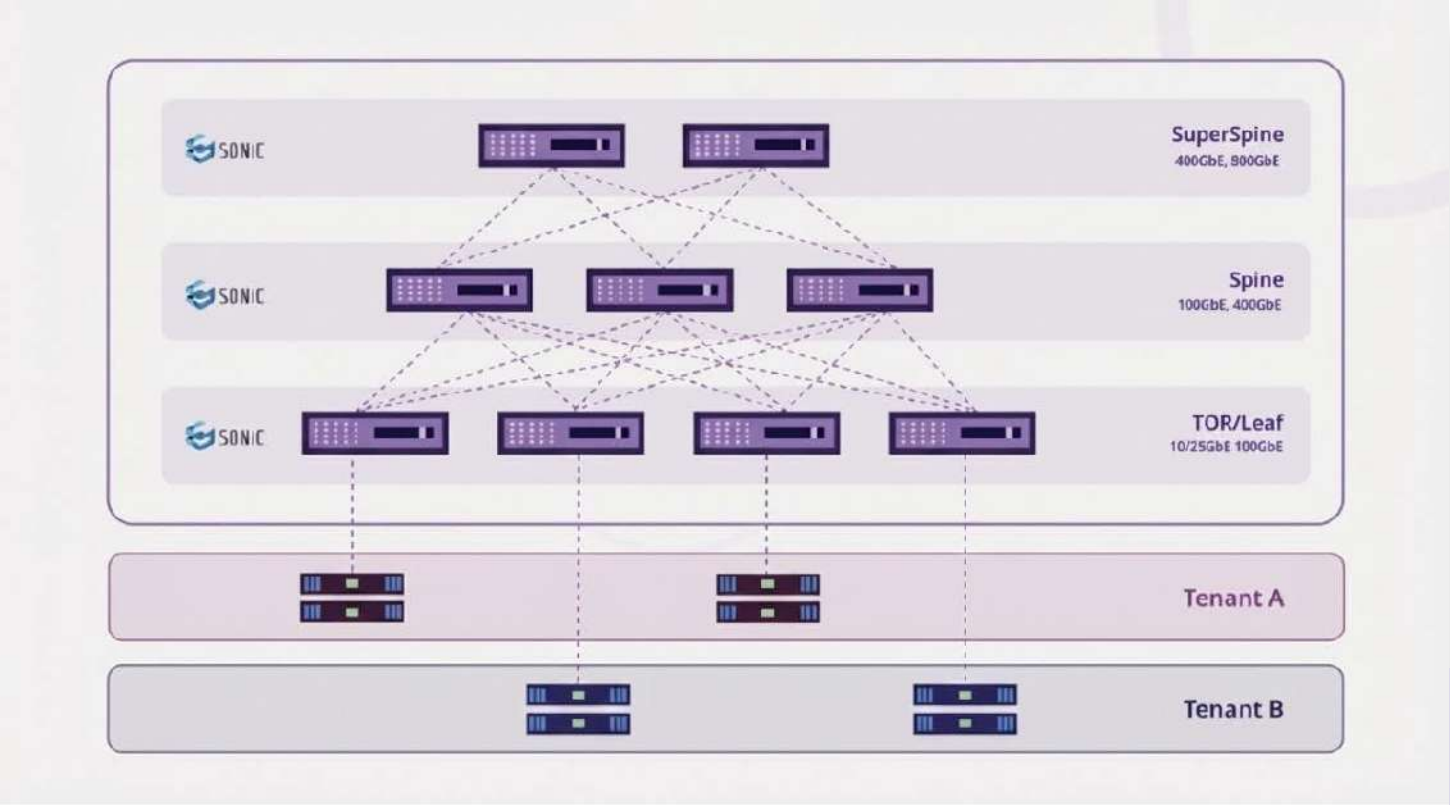
		Broadcom			Marvell	NVIDIA			CISCO
	ASIC	**TD3-X2**	**TD3-X7**	**TH4**	**TL7**	**SP1**	**SP2**	**SP3**	**S1 Q200**
	HWSKUs	**DS1000**	**DS3000, AS7726, AS7326**	**DS4101**	**Wistron 6512**	**SN2100, SN2010, SN2201, SN2700**	**SN3420, SN3700, SN3800**	**SN4600C, SN4600, SN4700**	**8101-32FH**
Scale	VLAN Scale	4K	4K	4K	4K	4K	4K	4K	4K
	L2 MAC Scale	64K	32K	8K	TBD	54K	128K	TBD	TBD
	ARP Scale	32K	32K	16K	TBD	54K	32K	TBD	TBD
	IPv4 Route Scale	6K	60K	TBD	TBD	54K	65K	TBD	TBD
	IPv6 Route Scale	1.5K	32K	TBD	TBD	64K	32K	TBD	TBD
	ACL Scale	1K	1K	1K	TBD	895	12K	TBD	TBD
	VXLAN Scale	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A

Use cases

IP CLOS

In a traditional IP CLOS deployment, Aviz CCS 1.0 enables a scalable and resilient leaf–spine fabric built entirely on Layer 3 routing. Leaf switches provide server or top-of-rack connectivity, while spine switches act as a high-bandwidth, non-blocking core. With BGP and ECMP, the fabric achieves efficient load balancing, uniform latency, and fast convergence across the network.

IP CLOS designs are ideal for environments that require predictable performance and horizontal scalability, such as modern data centers, high-performance compute clusters, large-scale enterprise infrastructures, and cloud or edge deployments. By avoiding overlays or tunneling mechanisms, this architecture delivers operational simplicity while supporting growth in both traffic and node density.

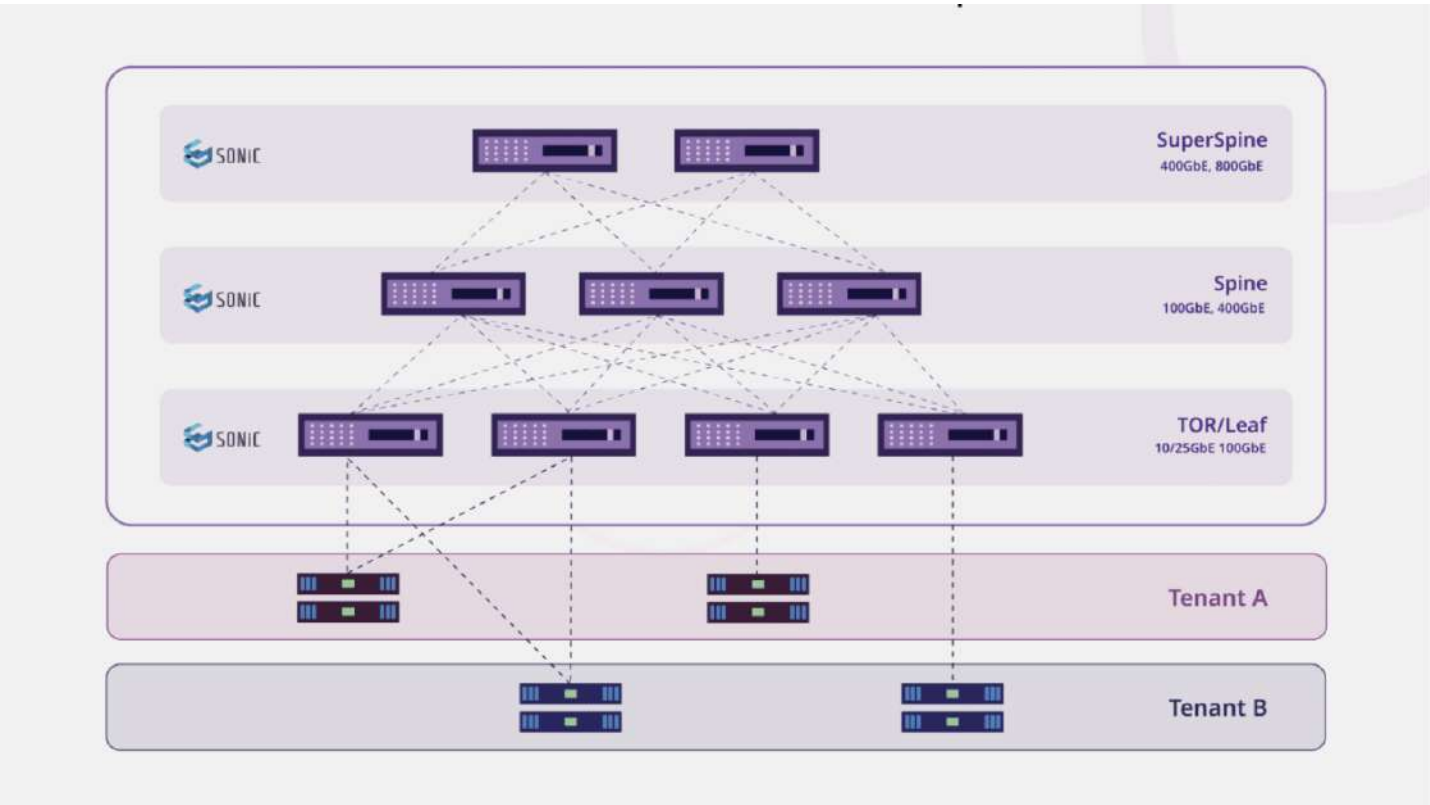


VXLAN and BGP-EVPN

In a VXLAN BGP-EVPN deployment, Aviz CCS 1.0 transforms a standard IP CLOS fabric into a fully virtualized, multi-tenant overlay network with advanced Layer 2 and Layer 3 extension capabilities. While the underlay remains a resilient leaf–spine topology built on Layer 3 routing, the overlay introduces VXLAN tunneling with BGP EVPN as the control plane, enabling scalable MAC and IP distribution across the fabric.

VXLAN BGP-EVPN allows each leaf switch to operate as a VTEP (VXLAN Tunnel Endpoint), supporting distributed anycast gateways and seamless host mobility across the network. The EVPN control plane eliminates traditional flood-and-learn behavior by providing control-plane-based MAC/IP learning, ARP suppression, and efficient BUM replication. This results in reduced broadcast traffic and improved convergence for dynamic and virtualized workloads.

This architecture is ideal for environments that require tenant isolation, workload mobility, and elastic scale—such as cloud data centers, multi-tenant enterprise networks, container platforms, and virtualized compute clusters. By combining open standards with a programmable overlay, VXLAN BGP-EVPN enables operators to achieve flexibility, segmentation, and operational consistency without compromising the deterministic performance of the underlying CLOS fabric.



Customer Access to Aviz CCS and Aviz Support Options

Customers can download the Aviz CCS images and corresponding documentation from **www.aviznetworks.com** without a fee.

Aviz provides a range of support options via our ONES portfolio for customers deploying Aviz CCS in their networks.
Aviz SONiC Support and Aviz NetOps for Aviz CCS is available via Aviz ONES offers. For more detail check the **Aviz ONES datasheet** or contact your Aviz sales representative (sales@aviznetworks.com).