ARRCUS
NETWORK DIFFERENT™

DATASHEET

The ArcOS® Network Operating System

Cloud-native programmable NOS to modernize the next generation of 5G, Distributed AI Data Center, Edge and Cloud infrastructure

The industry's first internet-scale, independent network operating system, ArcOS, enables organizations to cost- effectively build massively scalable infrastructures across physical, virtual, and cloud network environments.

The Modern Network Operating System

Arrcus has taken a revolutionary approach to architect and deliver an independent, Linux-based 64-bit network operating system, ArcOS, that powers the next generation of network infrastructure. ArcOS, based on modern architectural tenets, is a fully programmable, massively scalable, modular, extensible software that enables customers to cost-effectively design, deploy, and manage their network infrastructure. Built from first principles using open standards, ArcOS offers a simple, scalable, secure, and seamless networking solution by providing superior bandwidth, low latency, fast convergence, and high availability at the lowest total cost of ownership.

White Box Economics

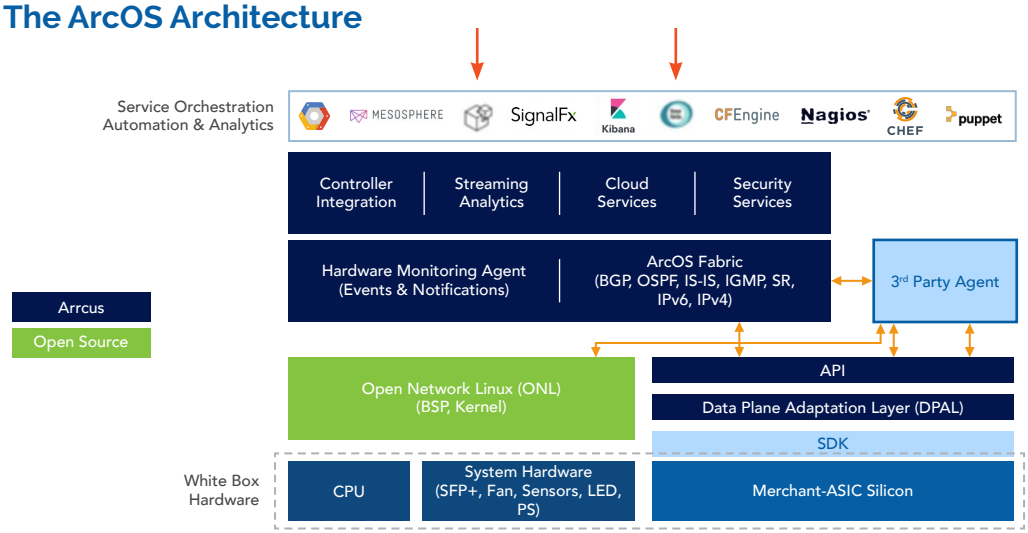
The ArcOS platform is software-driven and hardware-agnostic. Network teams can build a switch or a router on any white box or brite box hardware, enabling companies to reclaim and maximize existing investments

ArcOS delivers superior performance, resiliency, programmability, and security across the entire network – fundamental requirements of modern network infrastructure.

- With a multi-process, multi-thread architecture, ArcOS uses a multi-core CPU effectively to deliver high performance.
- Built to be highly robust and resilient, ArcOS enables process restartability to keep multiple processes running independent of each other.
- ArcOS runs on any type of workload – physical, virtual, or container and operates in any location – a datacenter, a PoP, or the cloud.
- An ArcOS-based network is ultra-responsive with its fully programmable, standards-based (built on open APIs), and highly scalable thereby delivering operational efficiencies and lower costs (both CAPEX and OPEX).
- ArcOS has security built into its DNA. Through image verification, secure routing, and a SecOps toolkit, ArcOS enables secure configuration, operation, and monitoring of network devices.
- Built-in YANG/OpenConfig/REST API support enables network operators to easily integrate into their existing environments.

In addition, ArcOS offers native streaming telemetry capabilities with the data secured through TLS connections.

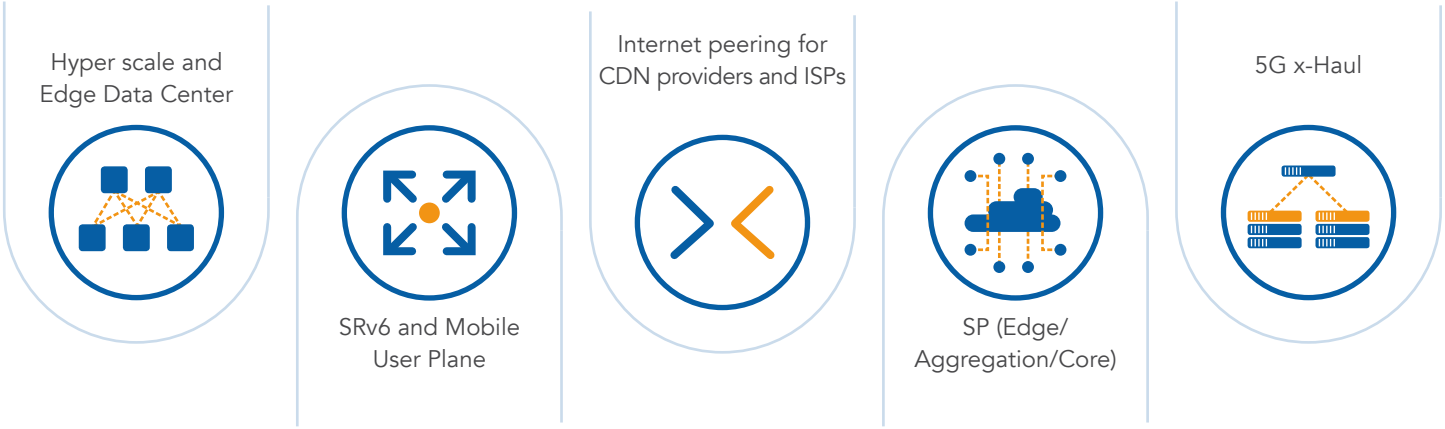
The ArcOS Architecture



ArcOS, based on Debian Linux, is an open system that can be easily integrated with other Linux distributions as well while also providing network operators the flexibility of installing third-party applications (using Debian packages).

ArcOS in Action

The ArcOS along with the ACE platform modernizes 5G, Telco networks, Distributed AI clouds from Edge to DC to Multi-cloud and and addresses a wide array of use case



ArcOS Technical Specifications

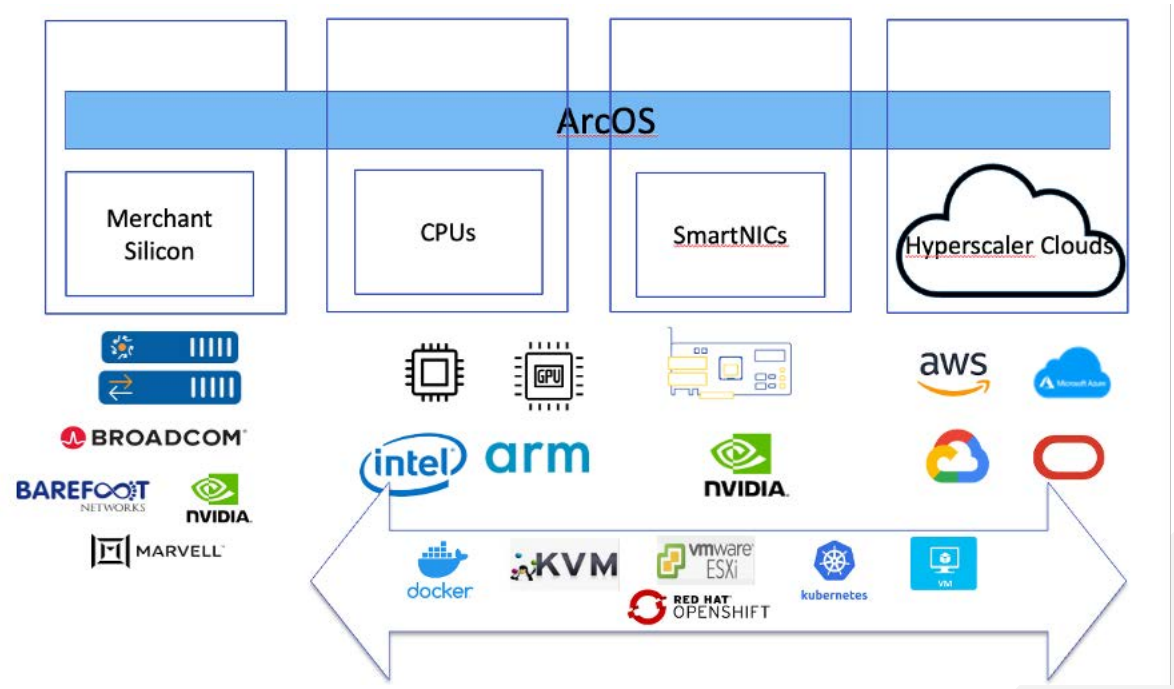
Functionality	Description
Operating System	• Open Network Linux (ONL) support (Linux 4.14) • Debian package support
Hardware Layer Management	• Hardware adaptation layer to support different merchant-silicon SDKs and a variety of Board Support Packages (BSP) from a collection of ODMs
Advanced System Management	• ONIE-automated boot sequence • Zero Touch Provisioning (ZTP) for initial config • Image signing and verification, TACACS+, RADIUS • Secure management interface VRF • EEM/Event handler
Layer 2 Features	• Spanning Tree Protocol (STP) • L2/L3 port channel, LACP • L2 security: Bridge isolation, BDU guard, storm control • VRRP • DHCP relay • QinQ • MAC ACL

ArcOS Technical Specifications (Continued)

Functionality	Description	
IP / Layer 3 Features	• IPv4/IPv6 routing: Static, IS-IS, IS-IS-MT, OSPF • BGP (iBGP, eBGP, L3VPN, LS-SPF, LSVR underlay PIC Edge, next hop tracking, 4-byte ASN, BGP Aggregate…), VRF support • BFD IPv4/IPv6 for BGP, IS-IS, connected, and static • Multi-hop BFD	• Micro-BFD for L3 LAG (RFC 7130) • 128-way ECMP and resilient hashing • IPv4 over IPv6 and IPv6 over IPv4 • VXLAN - • BGP unnumbered • Dynamic Load Balancing (DLB) • uRPF loose and strict mode
SRv6 Routing and Mobile User Plane	• SRv6 (RFC 8402) • IS-IS extensions for Segment Routing • SRv6 L3VPN (both VRF and global table) • Topology-Independent Loop Free Alternate (TI-LFA) and micro-loop avoidance • IS-IS Flexible Algorithm (Flex Algo) • Stateless GTP-SRv6 translation • Static and Dynamic delay metric, ASLA Support • SR TE Policy	• Micro-SID (uSID) • SR Policy configuration • Deep packet buffer support • Software-based data plane (VPP) • Merchant silicon data plane, with line-rate throughput • TI-LFA with Shared Risk Link Group (SRLG)
Label-based Features	• LDP, LDPv6 – Ping and traceroute – IGP-Sync for IS-IS • MPLS label in BGP (RFC3107) • Segment Routing MPLS (SR-MPLS) – BGP-LU, EPE, IS-IS extensions	• Segment Routing IPv6 (SRv6) – IS-IS TI-LFA, IS-IS uLoop avoidance – SRH, uSID forwarding – OAM
Overlay / VPN Features	• EVPN/VXLAN • EVPN/MPLS • E-Line, E-LAN	• L3VPN over SRv6 • L3VPN over MPLS • EVPN VXLAN Gateway (VXLAN to MPLS)
Resiliency	• Process restartability (support for BGP, RIB, FIB, IS-IS, OSPF, RPOL) • Graceful Restart (BGP, IS-IS) • BGP graceful shutdown	• Non-stop forwarding (NSF) • Maintenance Mode (BGP, IS-IS, OSPF) • Rapid Software Upgrade (RSU)
QoS, Flow Control and Security	• Queuing/Scheduling (DWRR, WRED, ECN, strict priority), shaping • Priority Flow Control (PFC) • BGP MD5 auth, TTL • BGP Flowspec	• ACL: L2, IPv4, IPv6, TCP flags, UDF-based CoPP, Control-Plane ACL • DSCP/MPLS EXP based classification and marking Policer 1r2c (Actions: Tx, Drop) Ingress/Egress
Network Management and Monitoring	• LLDP • Management over IPv4 and IPv6 • SSHv2 • Port Mirroring • Packet Mirroring to CPU w/ filtering • Syslog Label Statistics	• SNMP • SNMP MIBs • SNMP walk, get • 3rd-party integrations – Ansible – Prometheus
Telemetry	• sFlow® gNMI • Arrcus Proprietary • Streaming platform: Kafka • Data format: JSON • Platform hardware state	• Resource utilization events Control plane state (RIB, BGP, etc.) and statistics ACL, interface statistics • SRv6 statistics • gNMI support for mMultiple sensor groups
Extensibility	• Linux tools • Bash shell access and scripting	• Native KVM/QEMU support
Programmable Frameworks	• ArcAPI (Python API) • REST API • RESTCONF	• NETCONF • OpenConfig YANG models
Timing/Synchronization	• PTP/1588SyncE/IEEE1588v2 • Boundary Clock (BC), Transport Clock (TC)	• G.8275.1, .2 profile • Grand Master Clock (GM)

Arrcus: One NOS, Multiple Form Factors Hardware Compatibility

Openness and disaggregation are essential components of next-generation networks. Open networks are more adaptable and innovative, as they allow customers to choose from a wider range of hardware and software components from different vendors. Arrcus supports a wide range of energy-efficient merchant silicon, accelerators and hardware options from multiple original design manufacturers (ODMs), offering customers unprecedented choices of speeds (from 1 to 800 Gigabit Ethernet interfaces, and soon 1600 Gigabit Ethernet) and switch types (shallow and deep buffers).



About Arrcus

Arrcus is a leading provider of networking software solutions that empower businesses to achieve unparalleled scalability, performance, and reliability in their infrastructure. Arrcus is disrupting the industry with disaggregated solutions that deliver innovative, agile, and cost-effective networking, allowing enterprises to break free from traditional, monolithic systems and embrace a more flexible, efficient, and scalable approach to modern networking. 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, strategic partners, and top-tier VCs. The company is headquartered in San Jose, Calif.

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