

The ArcOS® Network Operating System

Incomparable flexibility for the Datacenter, the Edge, and the Cloud

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 while delivering superior performance, security, and deployment flexibility

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ArcOS SW Release Version: 4.3.1 (Q3CY21)

The Modern Network Operating System

Arcus 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.

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

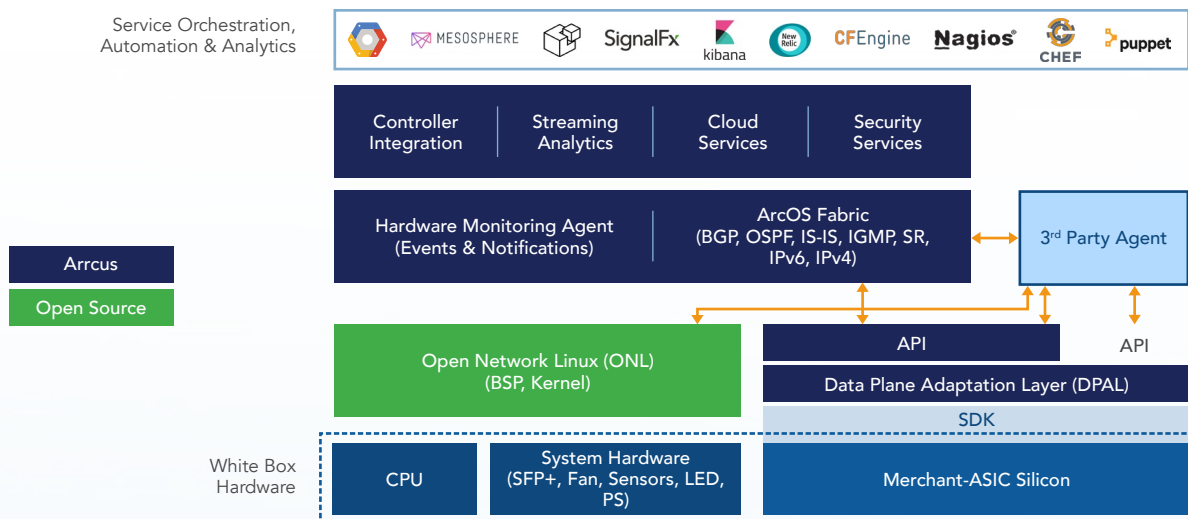
- With a multi-process, multi-thread architecture, ArcOS uses a multi-core CPU effectively to deliver high performance.
- Built to be highly robust and resilient, ArcOS enables process restartability to keep multiple processes running independent of each other.
- ArcOS runs on any type of workload – 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 intergrade into their existing environments.

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

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

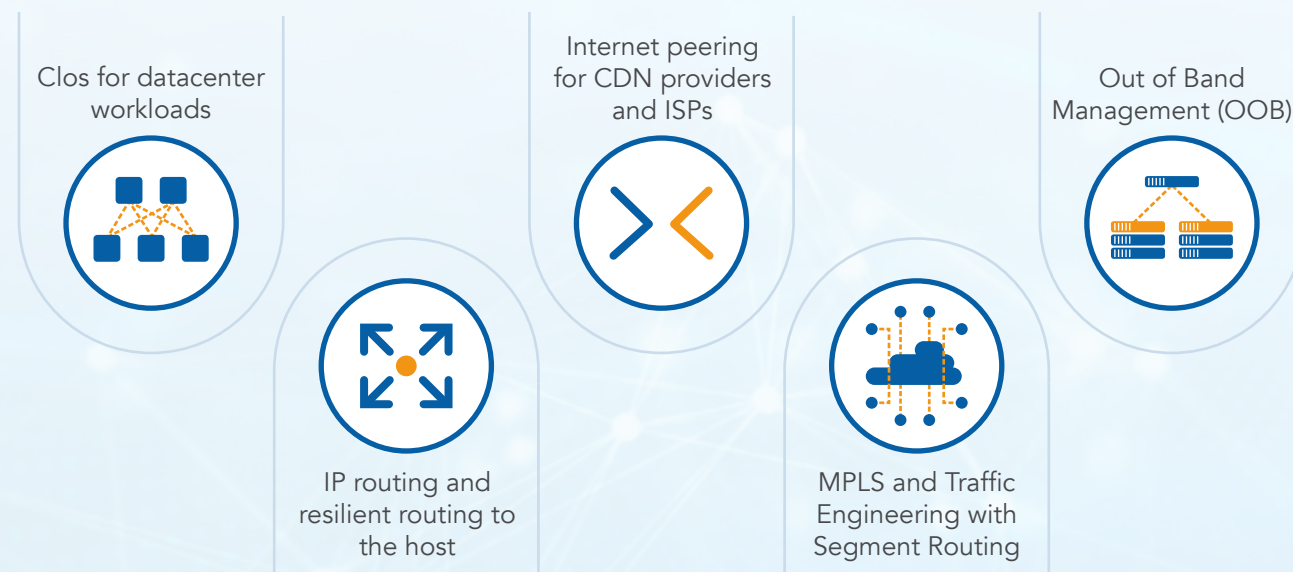
The ArcOS Architecture



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

Common ArcOS use cases include:



ArcOS Technical Specifications

Functionality	Description
Operating System	<ul style="list-style-type: none"> • Open Network Linux (ONL) support • Debian package support
Hardware Layer Management	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Spanning Tree Protocol (STP) • L2/L3 port channel, LACP • L2 security: Bridge isolation, BDU guard, storm control • VRRP • DHCP relay
IP / Layer 3 Features	<ul style="list-style-type: none"> • 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, Best External, BGP-SR ...), VRF support • BFD IPv4/IPv6 for BGP, IS-IS, connected, and static • Micro-BFD for L3 LAG (RFC 7130) • 128-way ECMP and resilient hashing • IPv4 over IPv6 and IPv6 over IPv4 • VXLAN • IPv6 SLAAC • IPv4 NLRI with v6 next hop (RFC 5549)
Label-based Features	<ul style="list-style-type: none"> • LDP, LDPv6 <ul style="list-style-type: none"> – ping and traceroute – IGP-Sync for IS-IS • MPLS label in BGP (RFC3107) • Segment Routing MPLS (SR-MPLS) <ul style="list-style-type: none"> – BGP-LU, EPE, IS-IS extensions • Segment Routing IPv6 (SRv6) <ul style="list-style-type: none"> – IS-IS TI-LFA, IS-IS uLoop avoidance – SRH, uSID forwarding – OAM – Ingress ACL
Overlay / VPN Features	<ul style="list-style-type: none"> • EVPN/VXLAN • EVPN/VPWS • L3VPN over SRv6 • L3VPN over MPLS • L3VPN over Segment Routing • BGP Add Path support for L3VPN

ArcOS Technical Specifications

Functionality	Description	
Resiliency	<ul style="list-style-type: none"> • 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 and Security	<ul style="list-style-type: none"> • Queuing/Scheduling (DWRR, WRED, ECN, strict priority), shaping • BGP MD5 auth, TTL • BGP Flowspec 	<ul style="list-style-type: none"> • ACL: L2, IPv4, IPv6, TCP flags, UDF-based, L3 Sub-interface • CoPP, Control-Plane ACL • CoS (802.1p) classification • DSCP/MPLS EXP based classification and marking • Policer 1r2c (Actions: Tx, Drop) Ingress/Egress
Network Management and Monitoring	<ul style="list-style-type: none"> • LLDP • Management over IPv4 and IPv6 • SSHv2 • Port Mirroring • Packet Mirroring to CPU w/ filtering 	<ul style="list-style-type: none"> • Syslog • AAA • SNMP • SNMP MIBs • SNMP walk, get • 3rd-party integrations <ul style="list-style-type: none"> – Ansible – Prometheus
Telemetry	<ul style="list-style-type: none"> • sFlow® • gNMI • Arcus Proprietary <ul style="list-style-type: none"> – Streaming platform: Kafka – Data format: JSON 	<ul style="list-style-type: none"> • Platform hardware state • Resource utilization events • Control plane state (RIB, BGP, etc.) and statistics • ACL, interface statistics • SRv6 statistics
Extensibility	<ul style="list-style-type: none"> • Linux tools • Bash shell access and scripting 	<ul style="list-style-type: none"> • Native KVM/QEMU support
Programmable Frameworks	<ul style="list-style-type: none"> • ArcAPI (Python API) • REST API • RESTCONF 	<ul style="list-style-type: none"> • NETCONF • OpenConfig YANG models

Hardware Compatibility

Arcus certifies the operation of ArcOS for all devices on the [Hardware Compatibility List](#) (HCL). All platforms on the HCL come pre-installed with [ONIE](#), the open network install environment for bare metal hardware.

Support

Arcus is committed to providing world-class 24/7/365 support and services to help customers unleash the full potential of ArcOS.

For more information, visit www.arccus.com/support

How to Buy

ArcOS is commercially available through a flexible licensing model providing customers the right to use ArcOS on the compatible open networking hardware.

For details, please email: networkdifferent@arccus.com