In our hyperconnected world, sustained transformation of the networking infrastructure layer is required to create strategic advantages. With the emergence of 5G networks and edge computing architectures, enterprises and providers are demanding greater intelligence, agility, simplicity, and flexibility to support their application-oriented business models. To meet these demands, network architectures are becoming more routing-centric with a distributed data center CLOS model that’s closer to the end user. Border Gateway Protocol (BGP) is a core component of this routing-centric network architecture.

In an autonomous system running BGP protocol, BGP routers must exchange routing information with each other. As network size increases, a full-mesh BGP design becomes extremely difficult and costly to manage. One solution to address that challenge is to use a route reflector-based design, which drastically improves scaling by utilizing a “BGP speaker” (aka “route reflector”) to reflect the routes it learns from one router to other routers—eliminating the need for a BGP full-mesh configuration.

Based on the groundbreaking ArcOS®, the Arrcus Route Reflector (ArcRR) delivers industry-leading path scale and convergence times by leveraging the 64-bit, multi-threaded, multi-process ArcOS implementation. ArcRR is purpose-built for various environments and can be deployed on Open Linux over bare metal servers, virtual machines over Virtual Box, KVM, or ESXi hypervisor, and Docker containers. It also supports a wide range
of deployment options in the data center, central office, POP, and private or public cloud scenarios—giving network operators unparalleled freedom and flexibility while delivering high performance.

Internet Secured Route Reflection

It’s clear that a secure internet routing infrastructure is critical to a thriving digital economy. Internet route leaking—due to misconfiguration or falsely announcing ownership of groups of IP addresses—can lead to the corruption of BGP routing tables and have significant ramifications for the global economy. It was reported in 2018 that there were about 14,000 incidents that affected 10% of all autonomous systems on the internet and that those security problems are further growing in scale and complexity.

While internet routes may enter an autonomous system through multiple border routers, they converge at route reflection points, which is an ideal location for route security validation. Resource public key infrastructure (RPKI) for route origin validation (ROV) is an industry-standard mechanism to detect internet route leaking. Integrating ArcRR with the Arrcus RPKI/ROV software solution enhances security and results in an efficient network operational model.

ArcOS

ArcOS is a fully programmable, microservices-based, scale-out network operating system built from first principles. Based on Debian Linux, key ArcOS elements include:

- Robust, resilient control plane at internet scale
- Support for IPv4/IPv6/MPLS/segment routing forwarding
- The intelligent data plane adaptation layer (DPAL™)
- Data model-driven telemetry for control plane, data plane, and device environmental
- Consistent YANG/OpenConfig/REST APIs for easy programmatic access
About Arrcus

Arrcus was founded to enrich human experiences by interconnecting people, machines, and data. Our mission is to provide software-powered network transformation for the interconnected world. 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

Key Benefits of ArcRR

Massive performance and scale
- Maximum system uptime with carrier grade high availability
- 100 million BGP paths
- Intelligent Route Policy Engine (IRPE)

Simplified operations
- Provisionless dynamic peer group
- Vendor-neutral OpenConfig/YANG provisioning and telemetry

Rich deployment options
- Cost-optimized traffic engineering and fast convergence
- Multiple scale-up and scale-out options
- IPv6-ready
- Robust clustering

Learn more

Visit www.arrcus.com to find out how Arrcus can enable your organization’s network transformation initiatives with the best-in-class route reflector software, ArcRR.

Network Different – with Arrcus