

# Prepare for 5G networks

Modernize your radio access network with Red Hat and Altiostar



Global mobile data traffic is expected to increase

# 407%

between 2018 and 2022.<sup>1</sup>

## Relentless demand for mobile broadband

Demand for mobile bandwidth continues to grow as customers access new services and applications. To remain competitive, telecommunications companies must cost-effectively expand their network while also improving user experience.

Radio access networks (RANs) are an expensive element in mobile networks. They often require specialized hardware that can be difficult to upgrade and scale. As a result, RANs often become a source of performance problems that affect customer experience.

Red Hat and Altiostar offer a virtualized RAN (vRAN) solution that addresses these issues to help you deliver more customer value, reduce capital and operational costs, and prepare for the future.

## Modernize and virtualize your radio access network

The Red Hat® and Altiostar solution delivers full RAN functionality using network functions virtualization (NFV) infrastructure from Red Hat and RAN technology from Altiostar. This approach decouples baseband functions from the underlying hardware and creates a software fabric that spans both Long-Term Evolution (LTE) and 5G networks. Within the solution architecture, virtualized baseband units (vBBU) process and dynamically allocate resources to remote radio units (RRUs) based on the current network needs. Baseband functions are split between central units (CUs) and distributed units (DUs) that can be deployed in aggregation centers or in central offices using a distributed architecture.

Virtualized CUs and DUs (vCUs and vDUs) run as virtual network functions (VNFs) within the Red Hat NFV infrastructure. As a leading open source technology vendor, Red Hat delivers the entire software stack needed for NFV, including Red Hat OpenStack® Platform, Red Hat Enterprise Linux®, and Red Hat Ceph® Storage running on commercially available off-the-shelf (COTS) hardware. Co-engineering and integration throughout the Red Hat software stack increases interoperability, reliability, performance, manageability, and security across your NFV environment.

RAN standards require deterministic, low-latency, and low-jitter signal processing. Red Hat provides performance features and optimizations – including Real-Time Red Hat Enterprise Linux and automatic non-uniform memory access (NUMA) balancing, CPU pinning, and Advanced Programmable Interrupt Controller virtualization (APICv) capabilities in Red Hat OpenStack Platform – to meet the needs of workloads located at the network edge.

Altiostar's vRAN technologies support many network topologies, allowing you to choose the location and connectivity of all network components. Configure your network to pool resources across multiple cell sites, scale capacity based on conditions, and ease support and maintenance requirements. Connect solution components using a variety of transport networks for fast, economical deployments that make use of currently available infrastructure.



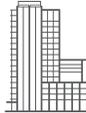
facebook.com/redhatinc

@redhat

linkedin.com/company/red-hat

redhat.com

<sup>1</sup> Statista, "Global mobile data traffic from 2017 to 2022" 2019. [statista.com/statistics/271405/global-mobile-data-traffic-forecast](https://www.statista.com/statistics/271405/global-mobile-data-traffic-forecast).



### About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

**North America**  
1888 REDHAT1  
www.redhat.com

**Europe, Middle East, and Africa**  
00800 7334 2835  
europe@redhat.com

**Asia Pacific**  
+65 6490 4200  
apac@redhat.com

**Latin America**  
+54 11 4329 7300  
info-latam@redhat.com



facebook.com/redhatinc  
@redhat  
linkedin.com/company/red-hat

redhat.com  
F17782\_v2\_0619\_KVM

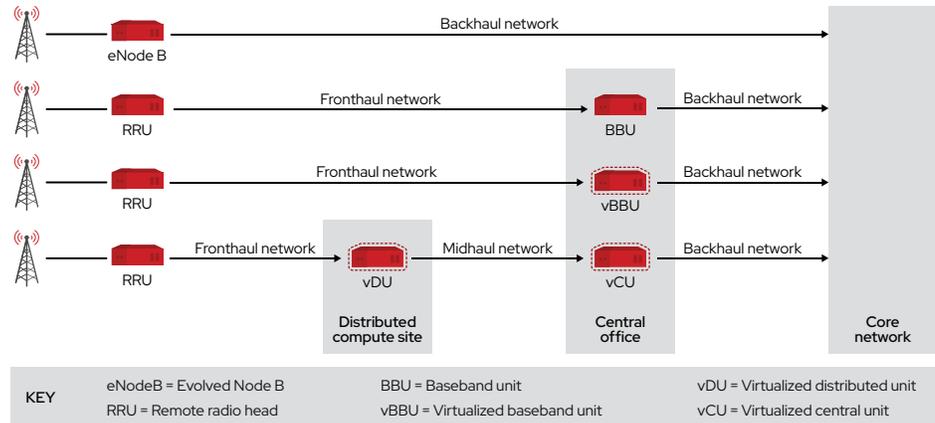


Figure 1. Virtualized RAN element connections

## Reduce costs through network flexibility

Cost control and business efficiency are key concerns for telecommunications companies. The Red Hat and AltioStar solution can help your business manage expenses and increase efficiency using a flexible network architecture. With an open source, industry-standard foundation, you can choose the hardware that best fits your needs and budget. Flexible component connectivity lets you use both existing and new transport networks to maximize the return on existing investments and reduce new capital expenditures. Additionally, a virtualized deployment approach reduces operational expenses.

## Prepare for future change and uncertainty

The telecommunications industry continues to change rapidly. The Red Hat and AltioStar vRAN solution helps you prepare for future innovation and growth. The virtualized foundation lets you more easily upgrade and add new containerized services and technologies like 5G and Internet of Things (IoT) using the same underlying infrastructure. You can also take advantage of long-term traffic growth with a network infrastructure that scales dynamically.

## Learn more

Mobile traffic continues to increase, providing revenue opportunities for telecommunications companies. The Red Hat and AltioStar vRAN solution can help you take advantage of this growth, reduce costs, and prepare for future uncertainty. Contact your Red Hat or AltioStar sales representative to learn about modernizing your RAN to better support your business.

**Learn more at [redhat.com/telco](https://redhat.com/telco) and [altioStar.com](https://altioStar.com).**