RUCKUS®
COMMSCOPE

VIRTUAL SMARTZONE

Full-featured network control with the flexibility and savings of the cloud

For service providers and enterprises, managing large-scale wired and wireless networks is difficult and complex. It requires a converged control and management architecture that's easy to use, reliable and delivers consistently great user experience. For years, organizations have trusted RUCKUS® SmartZone network controllers. Now we've made controlling your large-scale networks and managed network services even easier.

The Virtual SmartZone network controller—everything you love about SmartZone with the flexibility, on-demand scalability, and low upfront costs of the cloud.

The challenge

Large wired and wireless networks can get very complicated in a hurry. Before you know it, you're managing hundreds or even thousands of wireless access points (APs) and wired switches and supporting multiple Wi-Fi and network-as-a-service (WaaS/NaaS) businesses across complex multitenant architectures.
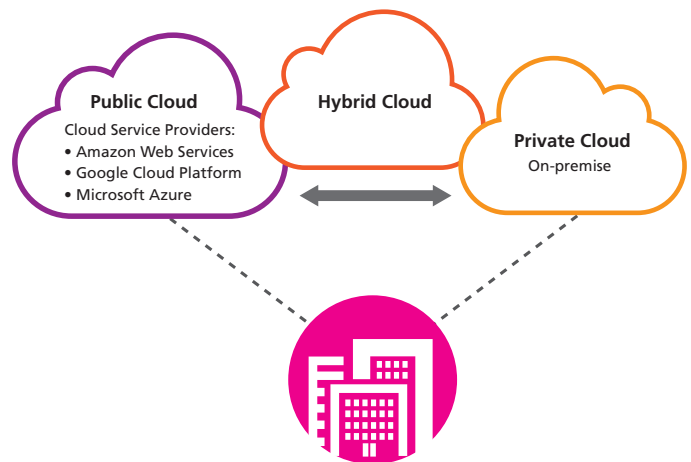
Historically, controlling large decentralized networks and managed services involved a sprawling infrastructure of physical network controllers that are expensive to deploy, maintain and scale. Providing additional capacity to meet growing demand meant acquiring, deploying and configuring more boxes. Providing reliable, high-quality performance to users across this ecosystem was hard enough; managing the economics was even harder. Not anymore.

Cloud changes everything

The cloud is transforming the economics of all types of service delivery—including the management of wireless and wired LANs. Cloud technology eliminates the costs and hassles of buying, deploying, operating, maintaining, and scaling physical appliances. Instead, organizations can deploy and consume services from the cloud, and seamlessly scale them up and down as needed.

Service providers and large enterprises are now able to manage their networks via:

- **Public cloud**, on infrastructure hosted by a hyperscale cloud provider such as Google Cloud Platform, Amazon Web Services, or Microsoft Azure
- **Private cloud**, either hosted in an on-premises data center or on private/dedicated infrastructure in a public cloud
- **Hybrid cloud**, where some parts of the service or data live on premises while others are hosted in a public cloud

Public Cloud
Cloud Service Providers:
• Amazon Web Services
• Google Cloud Platform
• Microsoft Azure

Hybrid Cloud

Private Cloud
On-premise

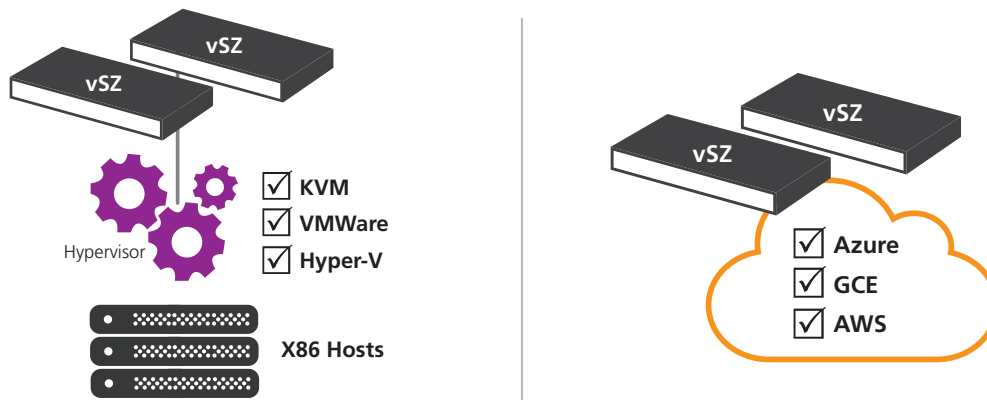# Virtual SmartZone: The best of both worlds

Virtual SmartZone provides all the full-featured capabilities of CommScope's industry-leading RUCKUS SmartZone network controller plus the flexibility, scalability and cost-efficiency of the cloud. Virtual SmartZone deploys easily and runs seamlessly in any private, public or hybrid cloud environment.

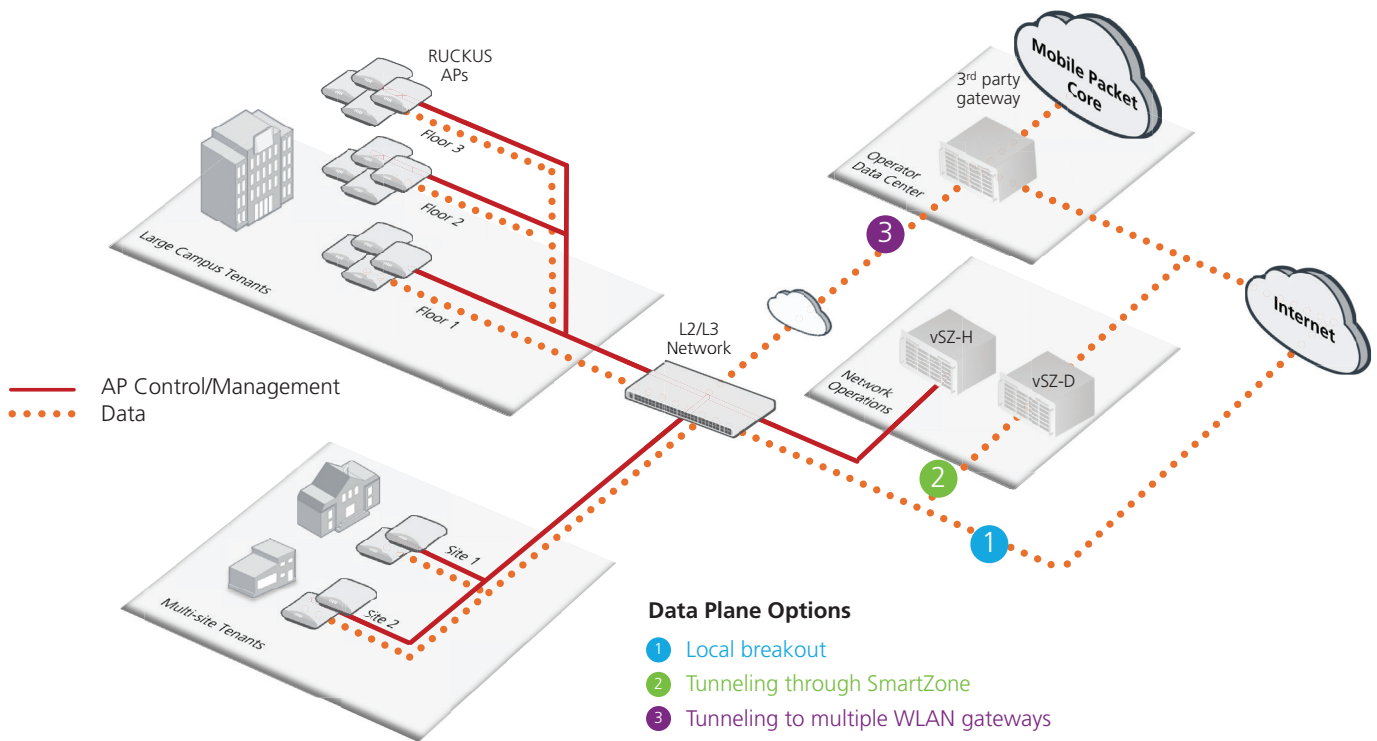With Virtual SmartZone, you can:

- **Support cloud-readiness:** Deploy in any private, public or hybrid cloud environment with support for all popular hyperscale cloud providers.
- **Lower costs:** By virtualizing your network controller installation, you can focus your capital investments where they're needed most, while making your network more flexible. All you need is a commercial off-the-shelf x86 server running any popular hypervisor. SmartZone clusters can scale up to 450,000 clients, 30,000 APs and 1,500 switches.
- **Easily deliver great WaaS and NaaS:** Use our open APIs to integrate with your management system and allow third-party tools to invoke the full range of SmartZone functions and configurations. Use sophisticated zone and domain segmentation, and our containerized architecture, to support complex multitenant environments.
- **Reduce IT workloads:** Control wired switches, wireless APs, private cloud NaaS offerings, and enterprise network elements all from a single dashboard. Manage the complete network lifecycle—configuration, monitoring, provisioning, discovery, planning, troubleshooting, performance management, security and reporting. SmartZone's intuitive web interface gives you visibility from the wireless edge to the network core.
- **Provide a superior user experience:** When paired with RUCKUS Analytics, Virtual SmartZone provides comprehensive visibility into network operations, accelerates real-time network and client troubleshooting, identifies, prioritizes and recommends remediation steps for service issues, and aids in capacity planning.

How it works

Virtual SmartZone deploys on any standard virtual machine, like KVM, VMware or Hyper-V, and uses minimal resources—four cores, 16 gigabytes of RAM and 100-gigabyte disk storage.

Like physical SmartZone network controllers, Virtual SmartZone gives you the flexibility to support a wide range of architectures and customer/tenant requirements. With control plane/data plane separation and multiple data planes support , Virtual SmartZone lets you optimize latency and quality of experience across different environments. Simultaneously control multiple remote sites involving various data plane models—local breakout, tunneling through the network controller, tunneling to multiple WLAN gateways—with a single SmartZone instance. You can also support multiple high-availability strategies for cluster redundancy and AP and switch survivability to deliver the nonstop connectivity your users and customers expect.

Legend:
— AP Control/Management
· · · · · Data

Data Plane Options
1 Local breakout
2 Tunneling through SmartZone
3 Tunneling to multiple WLAN gateways

The Virtual SmartZone advantage

You don't have to sacrifice cloud economics and flexibility to get carrier-class control of your network. Virtual SmartZone gives you:

- **Powerful network management wherever you need it:** Run Virtual SmartZone on any popular virtualization architecture (VMware, Nutanix, Microsoft), and in any of the leading public clouds (Microsoft Azure, Amazon Web Services, Google Cloud).

- **Consolidated wired/wireless management:** Deploy, monitor, and troubleshoot your wireless APs and wired switches through a single interface.

- **Automated discovery and provisioning:** Eliminate guesswork and decrease deployment times and manual effort by provisioning APs and switches automatically.

- **Unmatched scale:** A single Virtual SmartZone instance can manage 10,000 APs, 150,000 clients and up to 20 Gbps of throughput. Use 3+1 active clustering to bump up capacity to 30,000 APs, 450,000 clients and up to 60 Gbps of aggregate throughput.

- **Ultra-high resiliency:** Protect your business and customers from catastrophic failures with intra-cluster and inter-cluster failover. Use geo-redundancy with active/active clusters to gain higher availability than traditional hot-standby models.

- **Fast troubleshooting:** Use tools like Visual Connection Diagnostics to quickly troubleshoot and resolve wireless client problems. And draw on SmartZone "super KPIs" to quickly spot the signs of degrading user experience.

- **Host complex managed services:** With support for multi-tenancy, domain segmentation and containerization, you can deliver secure managed networking services and support multi-tiered service levels.

- **Advanced features and services:** Take advantage of rogue AP detection and mitigation, adaptive band balancing, load balancing, hotspot and guest services, capacity-based admission control, and more.

Conclusion

Managing a large-scale network—delivering services relied on by thousands or even millions of users—is hard enough on its own. Why add the high costs and complexity of dedicated physical appliances if you don't have to? With Virtual SmartZone, you get the cost savings, flexibility, and on-demand scalability of the cloud, without sacrificing the features and reliability you expect from RUCKUS.

Virtual SmartZone reflects our promise to support customers today while preparing them for tomorrow. No matter how technology evolves, you can count on us for innovative design and solid strategies to keep you out in front. It's part of our larger commitment to help you achieve favorable business outcomes.

For more information on Virtual SmartZone, contact your RUCKUS representative or visit us at ruckusnetworks.com.

About RUCKUS Networks

RUCKUS Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.

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