Use Case: 5G Readiness

Driving 5G Readiness and In-service Monitoring for Mobile Operators

A fifth of global mobile connections are forecast to be running on 5G networks by 2025—growing to more than half for those in North America. As global operators look to ready their own infrastructure for exciting new 5G services, they need a technology partner to validate which parts of their networks are already capable of carrying specific 5G service slices and they need granular insight to support upgrades or rearchitect other network areas currently not able to carry these services on day one.

Post-launch, operators are also demanding independent, highly accurate capabilities to actively monitor in-service performance.

5G readiness challenges

Current 5G networks are largely built on existing 4G backhaul and an adapted evolved packet core (EPC), which serves both 4G and 5G sites. As such, many operators will need to overhaul their mobile backhaul to support 5G speeds and performance requirements, increasing cell site capacity to 10Gbps.

Among the challenges facing operators readying their networks for 5G are:

- Unable to verify the readiness of individual 5G slices by testing transport characteristics in an efficient and cost effective manner
- Finding a single provider to verify readiness, provide insight on testing and correcting transport issues, and to continuously monitor in-service (i.e. full lifecycle approach)
- Current tooling for performance monitoring is not granular enough to assure that the network can support strict SLAs (packet loss and latency sensitive requirements of new service slices)
- High operational cost of site visits involving initial service activation testing
- Need to minimize carbon footprint for all service rollouts

At a glance

- Global operators are upgrading mobile backhaul to support 5G speeds and performance requirements, increasing cell site capacity to 10Gbps
- They require a single technology partner to verify 5G network readiness, test and correct transport issues, and monitor continuously in-service per slice
- Accedian Skylight provides fully automated discovery and deployment, initial service activation testing and highly granular in-life performance monitoring of new services
- The Skylight SFP compute sensor can be deployed in a highly efficient, low cost and scalable way for assurance and troubleshooting
- Accedian helps to minimize 5G slice deployment/enablement costs and maximize deployment quality through remote testing capabilities per-slice and per-CoS
- Operators partnering with Accedian Skylight can accelerate 5G rollouts with confidence, prioritizing which slices they can go live with and in what order
- First-time-right deployment process and continuous in-service monitoring help to minimize operational costs and MTTR (mean time to resolution), plus maximize customer satisfaction
- Operators now have the confidence they need to offer value-added services and meet strict business SLAs to differentiate and drive profits

Solving 5G readiness challenges with Accedian Skylight

The Accedian Skylight platform offers the following multi-layered architecture featuring three key elements: sensors, virtualized orchestration, and performance analytics.

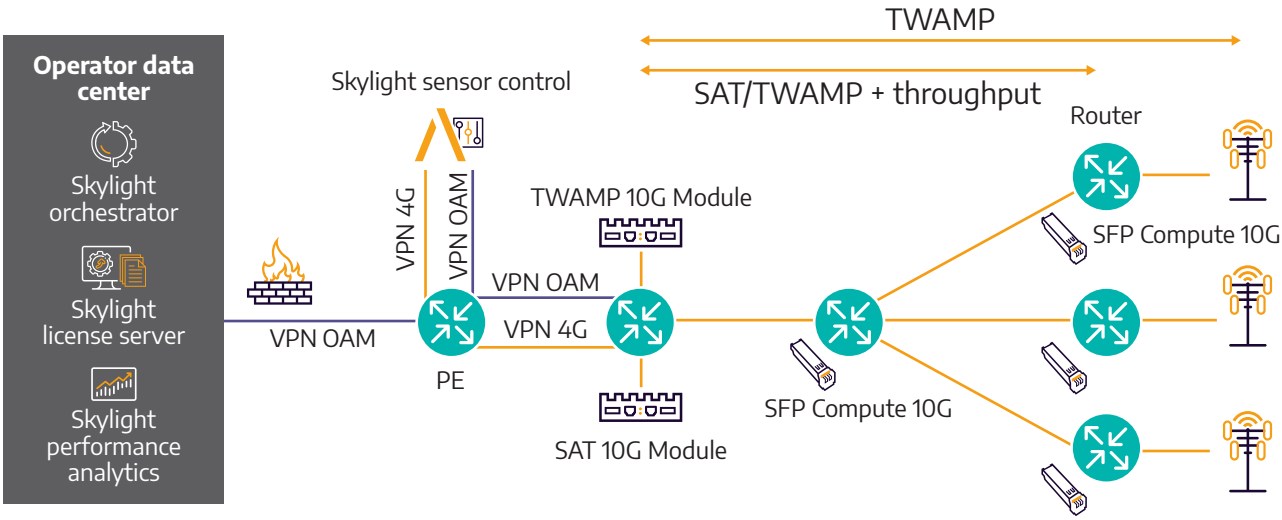

Figure 1: 5G readiness – automating site turn-up with Skylight

Skylight sensors can be deployed in a highly efficient, low cost, and scalable way. A single SFP compute device, for example, can monitor thousands of destinations through hundreds of VLANs or virtual routing and forwarding instances (VRFs), effectively assuring and troubleshooting both physical and virtual layers.

Accedian Skylight delivers the following:

- Fully automated discovery and deployment, and initial service activation testing. Operators can turn on a site and start performance monitoring as soon as the site communication is available, minimizing the number of site visits
- Any transport issues can be detected and corrected to an optimal level before enabling live service of the slice
- The same solution can be used for ongoing in-life performance monitoring of new services (active monitoring for packet loss, jitter, delays, etc.)
- Flowmeter bandwidth metering for microburst detection (1ms sampling rates)
- Lowest sample rate and highest accuracy in the industry for time-based KPIs
- Unique combination of active and passive monitoring techniques available within the solution for full L2-L7 stack visibility, for the network and application/service layer
- Single pane of glass for visualization, reporting and analytics of all Accedian active and passive monitoring data, plus third-party data
- Real-time telemetry feed of performance KPIs to SDN controllers and slice orchestrators supporting tangential closed-loop automation use cases
- Single solution for 3G/4G in-life monitoring and 5G readiness, plus 5G in-life monitoring

Business value gained

For its mobile operator customers Accedian Skylight can offer performance monitoring of 3G, 4G and 5G from a single solution—driving deployment and operational cost savings, plus ease-of-management. There is a range of other business benefits pre- and post-5G service activation including:

- Minimizes 5G slice deployment/enablement costs and maximizes deployment quality by providing remote testing capabilities per-slice and per-class of service (CoS)
- Accelerates 5G rollouts with rapid time-to-market for new services and the agility to react to new marketing campaigns
- Gives operators the confidence that services based on a slice will work before going live. This builds brand reputation, improves end-user quality of experience (QoE) and reduces customer churn
- Allows the operator to prioritize which slices they can go-live with and in what order
- Minimizes operational costs and MTTR for any issues and maximizes customer satisfaction by ensuring "first-time-right" deployment process and continuous in-service monitoring to detect any anomalies as the service ramps up
- Gives operators the confidence to offer value-added services and meet strict business SLAs to differentiate and drive profits. These are all important for higher revenue enterprise customers and private network campus deployments

The future – what's next?

The opportunities for Accedian Skylight to add value don't end there.

New containerized Skylight sensor agents can run on a range of different devices—including edge compute appliances, mobile handsets, and cloud installations—to drive enhanced visibility. Accedian Skylight also has performance analytics capabilities and end-customer portal options. These could be packaged up by operators and offered to end customers to help them visualize the services and customer experience they deliver. Machine learning-powered analytics drive improved visibility, rapid troubleshooting and pre-emptive fixes to keep KPIs on track.

About Accedian

Accedian is a leader in performance analytics, cybersecurity threat detection, and end user experience solutions for service providers and mid-to-large size enterprises. The Accedian Skylight platform offers granular end-to-end visibility within "the massive multi" – multi-layer, multi-cloud, and multi-vendor networks. Accedian's open and scalable platform removes roadblocks to innovation, enabling cloud-native analytics and empowering customers to launch new assured services based on 5G, SD-WAN and edge technologies. Power your future with secure network performance. To learn more, visit accedian.com.

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