

SOLUTION BRIEF

Xhaul and C-RAN Service Assurance Solution

Supporting Mobile Network Operators to maximize the performance of their Fronthaul and C-RAN investments to support high bandwidth, low latency digital services



The evolution of the RAN

As data consumption increases exponentially in mobile networks, the radio access network (RAN) is evolving to become more centralized and, ultimately cloudified. The new C-RAN will help increase network coverage, capacity and efficiency. C-RAN introduces new network nodes - the RRH (Radio Resource Head) and the BBU (Base Band Unit); a new fronthaul network; and new protocols, CPRI (Common Public Radio Interface), OBSAI (Open Base Station Architecture Initiative) and eCPRI (enhanced CPRI).

Assure end-to-end performance

With the introduction of fronthaul, Mobile Network Operators (MNOs) need to manage its performance in conjunction with the backhaul network (MPLS /Carrier Ethernet), and the entire transport network must be treated as an end-to-end, integrated whole.

Infovista’s Xhaul and C-RAN Service Assurance solution assures performance of multi-technology backhaul and fronthaul (Xhaul) as an integrated transport network. It assures high quality of connectivity, mobility and integrity over the associated C-RAN network to support forthcoming high-bandwidth, dynamic, digital services.

THE CHALLENGE

The technical and commercial success of NFV and 5G services highly depends on the QoS delivered by IP-ized transport networks.

Delivering always available, high reliability, and low latency services across multi-vendor hybrid networks requires higher performance levels from underlying transport networks.

- Assuring the quality of video, data and voice services running on a centralized and cloudified C-RAN
- Overcoming siloed management of backhaul and fronthaul networks
- Assuring networks for resilience, scalability and availability, to support digital services
- Obtaining a visually consolidated end-to-end, service-level view across multiple domains and equipment vendors

THE SOLUTION

For MNOs adopting C-RAN and fronthaul, Vistalnsight offers an advanced end-to-end transport management solution that assures both fronthaul and backhaul (Xhaul) in an integrated manner, with the additional benefit of C-RAN specific performance assurance. It provides:

- Dynamic, real-time assurance
- A mediation layer that monitors all network elements (legacy and future) for access and core networks, in a multi-vendor ecosystem
- End-to-end transport (Xhaul) performance visualization and root cause analysis
- Fronthaul reporting together with associated KPIs and their relationship to the C-RAN
- Pro-active alarm and threshold control, plus performance event generation
- Configurable reporting, analytical workflows and self-service dashboards to meet specific SLA requirements
- A vendor-agnostic platform supporting hundreds of equipment vendors out-of-the-box, allowing users to add/amend/edit KPIs and support any network equipment
- Optional cloud-based delivery model to minimize capex

Figure 1. Overlapping Xhaul topologies

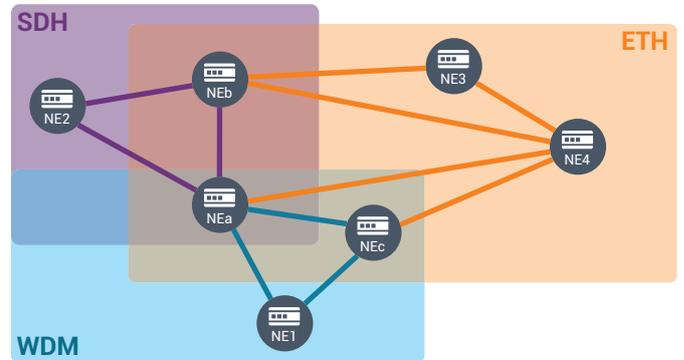
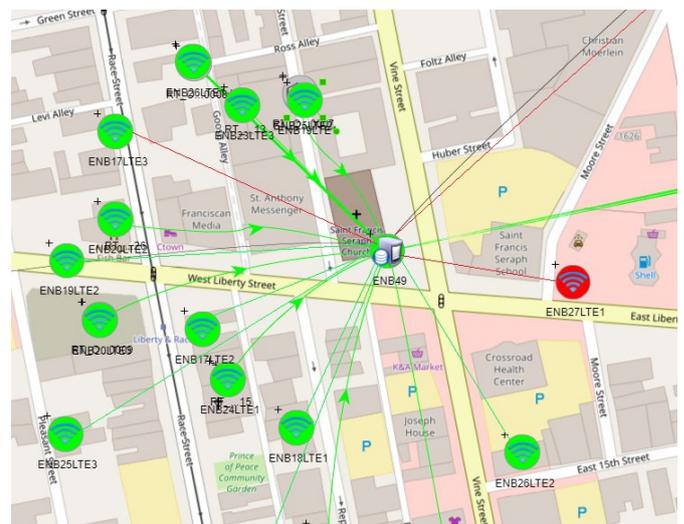


Figure 2. C-RAN network performance map



Infovista's Xhaul and C-RAN Service Assurance solution assures performance of multi-technology backhaul and fronthaul (Xhaul) as an integrated transport network.

BENEFITS

SUPPORT FOR EARLY ADOPTION OF DIGITAL, IOT AND 5G SERVICES

- Support rollout of high bandwidth, high throughput, low latency services for digital, IoT and early-5G service adopters
- Pre-packaged portal dashboard for comprehensive KPIs for C-RAN network elements and data services.

MAXIMIZE CUSTOMER ACQUISITION AND RETENTION

- Deliver real-time, highly-competitive SLA and performance visibility required by corporate customers and industry verticals
- Increase the visibility and performance of high-bandwidth and low latency digital services

REDUCE OSS COSTS WITH CONSOLIDATED SERVICE ASSURANCE FOR ALL STAKEHOLDERS

- Deploy a single repository of performance data with fully configurable, multi-stakeholder views
- Automate data collection and service mapping with an NFV/SDN-ready platform
- Right-size the network by identifying areas of the network that may be over- or underutilized

MINIMIZE COSTLY SLA VIOLATIONS

- Predict degradation through baselining, forecasting and performance event management
- Define business calendar and maintenance windows to avoid customer debate
- Match service level objectives to customer-specific network KPIs

FEATURES

- Multi-tenant data collection and reporting
- Tiered-reporting templates from basic network-level SLA compliance to value-added, self-service analysis with thresholding and notifications.
- Dashboards with geo-location to present the NE location and relevant KPI information
- Drill down capabilities from map and report-level for deeper root cause analysis
- Monitoring of CPRI/OBSAI/eCPRI interfaces for key BER, latency and jitter assurance
- Assurance of VxLTE accessibility, retainability, availability and mobility KPIs
- Busy hour traffic reporting at network element level (e.g., RRH, BBU) and service level (e.g., VoLTE, ViLTE etc.)
- Utilization, uplink/downlink throughput, handover success rates, drop rates and other performance metrics for RRH groups and related BBUs.
- Predictive network learning and alerting, using adaptive threshold capabilities to identify abnormal C-RAN performance, with usage forecasts
- Sophisticated, fully configurable reporting including custom KPI definitions, performance events and workflows
- Extensible, vendor-agnostic collection and integration of service and resource KPIs
- Cloud-based, customer SLA reporting option via SaaS

CONNECTING YOUR SERVICE PERFORMANCE TO WHAT MATTERS MOST, YOUR CUSTOMERS



USE CASES

CORPORATE SLA REPORTING

- Portal-based customer reporting, highlighting SLA compliance status
- Configurable, self-serve dashboards, adaptive thresholding and benchmarking
- Service desk login for customer SLA compliance visibility

REAL-TIME TROUBLESHOOTING OF NETWORK ISSUES

- Service degradation reporting
- Real-time performance events, plus threshold crossing alerts
- Intelligent contextual drill down from all reports and applications to raw counters

CAPACITY PLANNING AND RIGHT-SIZING

- Analyze opportunities for consolidation of resources (e.g. BBU) to save capex
- Forecast areas of growth requiring bandwidth upgrades, load steering etc.

SUPPORT NETWORK-AS-A-SERVICE

- Automated provisioning of customer and service data from external sources
- Programmable and scheduled data collection and reporting
- Offer network connectivity services and service analytics

INCREMENTAL REVENUE GENERATION

- Tiered reporting spanning basic to advanced features that can be directly monetized or bundled with higher-level service tiers.

WHY INFOVISTA?

HIGH SCALABILITY

- Multi-tenant service assurance platform, supporting billions of transactions per day, to manage some of the largest mobile and fixed networks globally, and assuring one of the largest backhaul networks in the world.

AUTOMATED PLATFORM

- Highly available platform with automated OSS ecosystem integration such as orchestration, inventory and fault management functions, data import and export and network/service discovery.

BUILT-IN COLLABORATION

- A web-based customer portal in which users can share, edit or design reports with their colleagues and other stakeholders both inside and outside the operator.

MULTI-VENDOR MEDIATION PLATFORM

- An open API based, cloud-ready, flexible mediation platform that can acquire and process all mobile network performance data across multi-vendor transport, access and core networks, based on real-time analytics. It offers dynamic customization to adapt to the changing network environment especially in NFV/SDN domains.

About Infovista

Infovista, the leader in modern network performance, provides complete visibility and unprecedented control to deliver brilliant experiences and maximum value with your network and applications. At the core of our approach are data and analytics, to give you real-time insights and make critical business decisions. Infovista offers a comprehensive line of solutions from radio network to enterprise to device throughout the lifecycle of your network. No other provider has this completeness of vision. Network operators worldwide depend on Infovista to deliver on the potential of their networks and applications to exceed user expectations every day. Know your network with Infovista.

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