**SOLUTION HIGHLIGHTS**

NETSCOUT’s Solution with Smart Data Can Help You:

- **Achieve Visibility Without Borders™** – for any service, any cloud, any network, any workload
- Gain seamless end-to-end **Smart Visibility** into:
  - Hybrid networks (Physical and Virtual)
  - Multi-cloud environments (Public and Private)
  - Edge Cloud, network slicing, and north/south, east/west traffic for public and private cloud applications and services
  - Multi-vendor solutions across physical, virtual, and hybrid networks
  - Multi-generational networks across multi-domains of mobile technologies 2G/3G/4G/5G/WIFI
- Extend insights with unrestricted universal data model that is **3GPP 15 compliant**
- Plan roll-out and drive tests for **propagation modelling** to identify geographic hotspots
- **Lower Total Cost of Ownership (TCO)** and investments via our software model

**Visibility Without Borders**

Successful digital transformation relies on an expanded universe of network connections. Implementing virtual technologies like Network Function Virtualization (NFV), Software Defined Networks (SDN), edge cloud, orchestration, and automation in a multi-cloud hybrid network ecosystem introduces more complexity and chaos.

Carrier service providers (CSPs) need a single, real-time view into these connections. NETSCOUT® software monitoring solution is designed for the cloud, is vendor agnostic and offers true Visibility Without Borders.

From 2G to 5G, physical to virtual, virtual to hybrid, multi-cloud to hybrid cloud, Wi-Fi, cloud computing platforms, or edge computing; the NETSCOUT solution scales to any cloud, any network, any workload and removes borders that may hinder end-to-end visibility.

**Complexity Challenge**

As complexity increases within the Software Defined Data Center (SDDC) at each layer – underlay, virtual, overlay, and orchestration and management - successful network management requires visibility into performance for both north/south and east/west traffic.

Once implemented, NFV will grow the flow of east/west traffic within the data center. To assure service continuity, end-to-end visibility must extend to virtual components in a multi-cloud, multi-layer, multi-services domain environment.
Smart Visibility for Every Phase of Any Technology Life Cycle

NETSCOUT’s carrier-grade solution is designed for the cloud and ensures service assurance continuity throughout any technology life cycle, including 5G. The solution covers:

- RAN Planning and Optimization
- Proactive Service Assurance
- End-to-End Session Analysis
- Big Data Automated Analytics
- Troubleshooting and Monitoring

The NETSCOUT Solution

NETSCOUT’s solution provides key elements for a smarter approach that delivers greater business insights and quicker decisions based on Smart Data at every phase of the 5G life cycle.

Smart Data

Smart Data is Ultra-HD meta data that is derived from packet data and is machine learning, automation, and analytics friendly. Smart Data is built on a universal data model that is based on 3GPP Release 15 and 16. It supports 5G None Standalone (NSA), 5G Standalone (SA), Control and User Plane Separation (CUPS), NFV, Automation, and edge cloud. Smart Data provides Smart Visibility and deeper insights into the end-to-end customer experience.

Flexible Tools

NETSCOUT’s tools are vendor agnostic and built on an open framework that uses Smart Data, bringing to life real-time data enablement with industry-standard open APIs. This ecosystem of tools provides the flexibility to address stakeholders’ requirements across the organization – Operations, Engineering and Marketing – allowing them to extract the information they choose, with easy workflows to illuminate root cause and deepen insights, 24x7, at any phase of the 5G life cycle.

<table>
<thead>
<tr>
<th>Actions</th>
<th>Tool</th>
<th>Description</th>
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<tbody>
<tr>
<td>RAN Planning and Optimization</td>
<td>TrueCall®</td>
<td>Automatically engineer the network for growth and performance.</td>
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<tr>
<td>End-to-End Session Analysis</td>
<td>nGenius® Session Analyzer</td>
<td>Gain visibility into complex sessions, reduce troubleshooting, and monitor network expansion.</td>
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<tr>
<td>Proactive Service Assurance</td>
<td>nGeniusONE®</td>
<td>Apply multi-dimension analysis and collect forensic evidence in near real-time to manage service proactively.</td>
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<tr>
<td>Big Data Analytics</td>
<td>nGenius Business Analytics</td>
<td>Continuously gain business insights and address Return on Investment (ROI) through the creation of custom Key Performance Indicators (KPIs) and data mining.</td>
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