

PROVEN WI-FI SOLUTION

Easily extend monitoring and troubleshooting applications to include small cell technologies, such as Wi-Fi.

- Proactive alarming on subscriber authentication failures relevant to network conditions
- Hop-by-hop visibility to handover events
- Complete correlation of Wi-Fi, LTE, IMS and packet core segments
- Access-agnostic service performance monitoring
- Insights for offload decisions and policy validation
- Multi-domain support spans technology boundaries

Benefits for Network Operations

- Avoid network outages
- Accelerate troubleshooting times
- Lower associated costs
- Improve team productivity
- Reduce ticket backlogs

Benefits for Network Engineering

- Cost-effectively support increasing traffic rates
- Spend CAPEX wisely
- Improve network efficiency
- Dynamically balance traffic

Wi-Fi Offload Monitoring

Enabling Cost-Effective Data Growth

Ensure Subscriber Wi-Fi Experience to Encourage Adoption and Savings

As an LTE operator, you live on the front lines of unprecedented and continued data traffic growth. And, while you may have already invested heavily in building out your network, chances are you still have concerns about keeping up with increasing demands. With licensed spectrum a rare and costly pursuit, many operators are experiencing the benefits of Wi-Fi offload as part of an overall small cell strategy for a number of reasons:

- Alleviates the need for additional licensed spectrum
- Widely and ubiquitously available
- Readily supported by many devices
- Immune to radio interference
- Coexists with other small cell technologies

Despite the obvious advantages, transforming technical viability into tangible cost savings will not happen automatically. In order to achieve offload targets of nearly 30%, operators must accelerate Wi-Fi adoption and encourage ongoing use. The draw of access convenience, “free” data service and an extended battery life can only go so far—to win with Wi-Fi, a quality experience is required.

Addressing Your Wi-Fi Challenges

Offering Wi-Fi access to your subscribers comes with an added responsibility to treat the technology as you would any other access method. While the barrier to entry may be lower from a deployment standpoint, the complexities associated with new technology rollouts persist. Only NETSCOUT'S Wi-Fi solution can arm you with the visibility you need to meet your aggressive offload objectives.

Subscriber Issues

The most critical challenges facing operators who want to drive subscriber adoption of Wi-Fi involve authentication and handover performance. Largely within the realm of Network Operations teams, issues that impact accessibility and retainability require immediate action and swift resolution. In the end, a good experience with Wi-Fi will pave the way for continued subscriber use and increased operator savings.

Network Issues

As with any new technology, network tuning plays a major part of service launch and maintenance. The combination of new elements, multiple node vendors, ever-evolving specifications and interoperability requirements will produce a myriad of unexpected and never-before seen problems. To stay informed of emerging issues and avoid widespread network outages, even the most experienced engineers will rely heavily on access to timely and actionable network and service performance information.

Capex Spending

While the economics of Wi-Fi are more favorable than macro network equivalents, blind spending is still a risk without the proper insights. Network Engineering teams need to understand resource utilization across the entire network in order to make the best decisions when it comes to optimizing performance and tracking the effectiveness of network design.

Innovative Solution Delivers Results

As a natural extension of deployed core network and LTE access monitoring system investments, NETSCOUT'S Wi-Fi offload solution leverages a familiar IrisView toolset to improve visibility and enhance the productivity of your troubleshooting and design teams.

Focused on the ePDG node, the solution monitors the SWn, SWm, S2b interfaces to the following core capabilities:

SIM-based Authentication

Ensure the subscriber experience and promote access through Wi-Fi. The NETSCOUT solution enables proactive alarming on subscriber authentication failures based on relative network conditions.

Automatic correlation of the end-to-end subscriber activity from authentication to service accessibility enables immediate and meaningful connections. To swiftly resolve issues, it does this within the context of affected gateway nodes and AAA/HSS servers.

Authentication issues can block access and put Wi-Fi offload targets at risk. NETSCOUT'S solution provides the visibility you need to overcome barriers and get subscribers connected.

Solution Capabilities

Call Trace and Packet Analysis

- Tracking of offloaded subscriber sessions from authentication to service delivery
- Correlation of Wi-Fi, LTE and IMS interworking and IMS network information
- In-depth packet analysis on the interfaces around the ePDG

Service Assurance

- Proactive real-time alarms based on key network and service KPIs
 - Comprehensive and customizable ePDG performance KPIs
 - Multi-dimension (APN, HS, Applications) KPI support
 - Easy drill down from KPIs to subscriber packets
 - Effective network change control and outage prevention
 - Access-agnostic views for cellular and Wi-Fi network usage comparisons
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Seamless Handover Tracking

Enable reporting, monitoring and troubleshooting across technical borders with visibility to every hop. For subscribers with active data sessions, staying within the same coverage area isn't always possible. A seamless handover between access resources is required to support session continuity. NETSCOUT provides complete visibility to every step in handovers between Wi-Fi and LTE access networks within a single view.

Gateway Performance Monitoring

As a single and critical point of failure for Wi-Fi offload activities, the ePDG is susceptible to failures originating from a variety of sources. Whether the network is compromised by vendor specification interpretations or interoperability issues introduced during software upgrades, NETSCOUT'S real-time monitoring and multi-protocol correlation capabilities ensure network uptime. This ability to link associated Wi-Fi call segments to IMS and packet core segments accelerates the isolation of emerging problems before a widespread outage occurs.

Access-Agnostic Service Quality

When subscriber access methods change on a day-to-day basis, noticeable fluctuations in the quality of service can negatively impact ongoing use of Wi-Fi. To keep traffic offload initiatives progressing and realize a potential CAPEX savings of up to 20%, service availability and quality must be maintained regardless of the access type. NETSCOUT enables meaningful comparisons through service KPIs, reports and alarms for both Wi-Fi and LTE activity. In addition, drill-through investigation from KPIs to subscriber packets enables troubleshooting when and where service degradation occurs for a more seamless session experience.

Rich, Actionable Intelligence

With Wi-Fi offload options available, operators can choose to take a more active role in managing capacity while maintaining optimal service quality. Informed decisions require insights into actual subscriber use and network resource utilization. With NETSCOUT, the analytics you need is always at your fingertips whether analyzing usage patterns for different access technologies or validating policies applied across multi domain, multi-hop, multi-data sources. With a more complete picture of your network, offload targets are achieved in record time.

Solution Enablers

NETSCOUT solutions are comprised of a device-agnostic collection and correlation layer that feeds workflow modules and applications.

GeoProbe G10

Designed specifically to address high bandwidth IP interfaces and data center applications, the GeoProbe G10 offers unrivaled scalability that is well-suited for monitoring Wi-Fi offload activity.

IrisView

As the framework behind the monitoring portfolio, IrisView provides a seamless user experience for all applications within the framework—regardless of the underlying data source.

In addition, single sign-on access to all toolsets and G10 administration enables consolidation of applications into a manageable portal display to improve productivity.

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