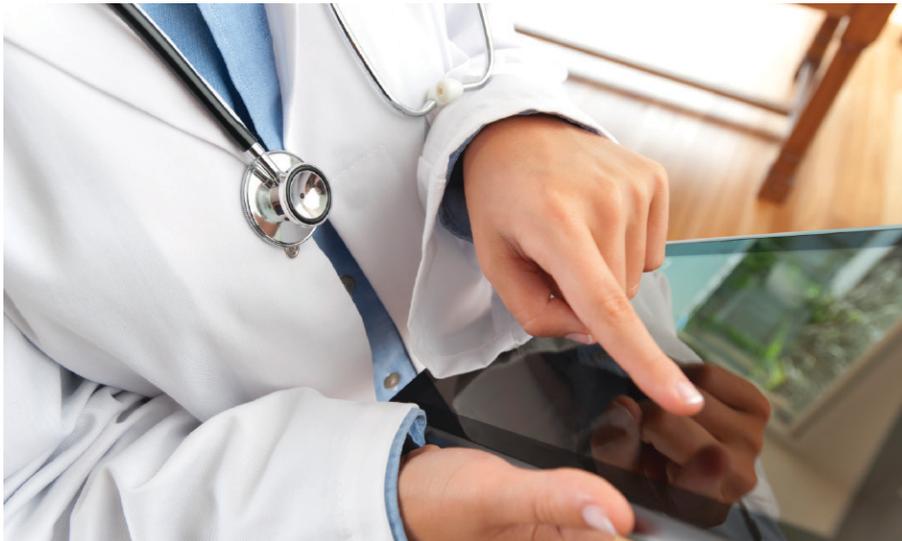


Service Assurance in Healthcare



CIO's in healthcare organizations today are implementing innovative next generation technologies to improve the overall efficiency, quality, speed and security of patient care. Technology advancements into IP convergence, Network Functions Virtualization (NFV), Software Defined Networking (SDN), Virtualization, Cloud, Mobility, WiFi, Web, and the evolving Internet are top of the list. Any disruption in that flow can mean delayed patient care approvals, diagnostic test results, medical image analysis, or e-prescription services.

Rapid triage and faster MTTR for issues impacting high-quality service delivery of EMR, radiology imaging, HL7 and other healthcare applications

When slowdowns and outages occur, traffic flows through the network become the eyes and ears of this fully connected world, enabling holistic service assurance and triaging capabilities. NETSCOUT® harnesses traffic flow information to proactively monitor and manage these inherent complexities in a cost-effective manner, delivering dramatic CapEx and OpEx reductions and ensuring high quality patient experience.

A patient's hospital experience is going to be impacted by the performance of several different application services. The effect of disruptions in communications with patient information, admissions, diagnostic tests, insurance coverage and billing can mean delays in administering treatment or worse.

OUR APPROACH

NETSCOUT's approach to service assurance is built on a foundation of High Quality Data and real-time High Quality Analytics. Based on network traffic, NETSCOUT's patented Adaptive Service Intelligence™ (ASI) technology provides the most robust data source available to ensure that high quality services are delivered to the business

by measuring the actual transactions and dependencies of the service. NETSCOUT analytics are the industry leading standard for scalability and ease-of-use, enabling proactive service triage. Leveraging ASI, nGeniusONE® Service Assurance platform delivers unmatched capabilities that ensure the reliable and uninterrupted delivery of critical healthcare applications including electronic medical records (EMR) and imaging services.

The benefit of this approach is that the nGeniusONE platform with ASI technology, NETSCOUT's patented state-of-the-art Deep Packet Inspection engine, gets the right information to the right person at the right time delivering the fastest MTTR. Logical, intuitive workflows have been developed with data reduction in mind to reduce the mountain of data and statistics found in high volume, globally distributed, complex IP networks down to the rich, actionable intelligence generated from ASI metadata. By minimizing the amount of noise and maximizing the essential information, IT organizations have greater effectiveness in troubleshooting complex service-impacting issues with the NETSCOUT solutions.

*Average cost of unplanned downtime in Healthcare Data Centers - \$918K / incident**

OUR SOLUTIONS

NETSCOUT delivers solutions that support both the wired and wireless infrastructures in healthcare organizations. For the wired environment, the nGeniusONE platform provides unmatched visibility into IP-based business and healthcare services along with contextual workflows to speed problem resolution that is both easy for a Level 1 responder to use and powerful for an expert to operate. Rather than look at individual elements in isolation, nGeniusONE provides an overarching view into the performance

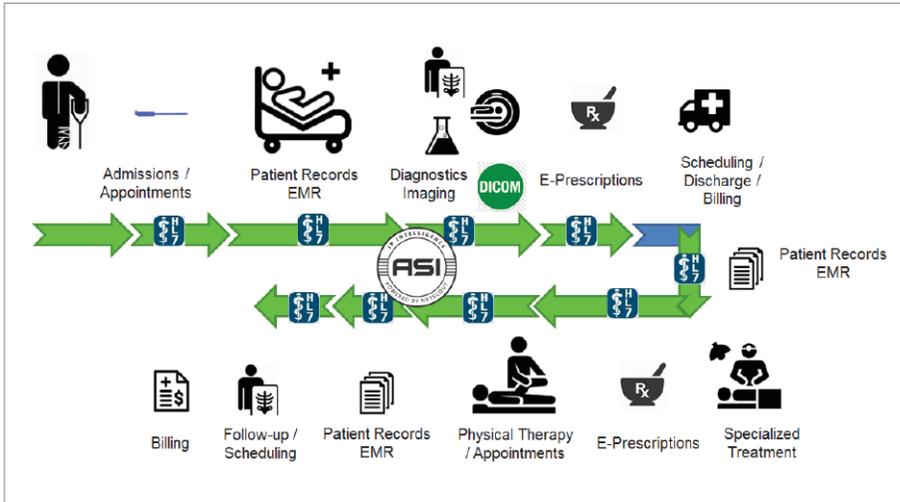


Figure 1: From the point a patient walks in the door of a medical center, their experience is going to be affected by a variety of software applications, across different facilities, for several different patient care services. Any disruption in quality performance or availability of patient information, appointment scheduling, imaging services or accounting will have patient care impacting results – delaying treatment or worse. NETSCOUT delivers service assurance solutions for both wired and wireless infrastructures in healthcare organizations.

characteristics of the components associated with service delivery. This exposes underlying service dependencies between such services as EMR and Radiology and the individual applications servers, their backend Databases, and all the necessary service enablers such as DNS, DHCP, and authentication like LDAP, Active Director or Radius. This helps IT operations to more effectively manage health, availability and patient experience issues, and improves the teams' ability to proactively identify the root cause of problems.

nGeniusONE platform with ASI technology supports over 1,000 voice, video and data applications

The nGeniusONE platform is powered by ASI, NETSCOUT's patented next generation Deep Packet Inspection engine that efficiently delivers real-time performance metrics. ASI generates Key Performance Indicators (KPIs) from analysis of traffic utilization, application and database servers and network errors. Providing analysis of over 1,000 voice, video and data applications, including healthcare specific services like EMR, DICOM imaging and e-prescription, the solution is further enriched with data from individual Health Layer 7 fields and a specialized HL7 Service Monitor. With scalability to support 100Gbps speeds, the nGeniusONE platform is designed for use in both physical and virtual environments in the world's largest and most demanding healthcare, enterprise and service provider networks.

For the wireless environment, NETSCOUT offers the OptiView XG Network Analysis Tablet for network and application analysis as the fastest way to discover root cause. Quickly troubleshoot 802.11ac WLAN performance issues, configuration problems, co-channel interference, and slow clients.

OUR VALUE TO HEALTHCARE ORGANIZATIONS

For Healthcare organizations, NETSCOUT solutions are designed to respond to service disruptions with a combination of powerful capabilities that encompasses strategic wired to wireless environments. With NETSCOUT, healthcare IT organizations can:

- Proactively triage and reduce MTTR for EMR, e-prescription and HL7 performance degradations before they become service outages through analysis of response times, as well as key monitors for service and network-related errors.
- Improve planning for bandwidth intensive imaging services (PACS) with traffic-based network capacity analysis for all services throughout the healthcare ecosystem.
- Introduce new 802.11ac WLAN projects with confidence using great data and analysis from OptiView XG.
- Solve problems rapidly to maintain quality VoIP, telemedicine and collaboration services.
- Streamline and simplify IT operations with comprehensive service delivery management.
- Reduce operational costs and complexity with broad reach and use by IT.
- Achieve comprehensive coverage of systems, services and vulnerabilities today and in the future.

The solutions for wired and wireless environments from NETSCOUT enables healthcare IT staff to ensure a high quality patient care experience.

*2016 Ponemon Institute and Emerson Network Power Survey - January 2016

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