Assuring the Enterprise in the Digital Era – Healthcare

Digital transformation (DX) trends and new business models in the data-centric economy

Knowing what's happening on the network is important; knowing why it's happening is the new commercial imperative for the digital enterprise

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Digital transformation is changing the game

The world of business is undergoing a seismic shift in business process and customer experience brought on by the rapid evolution of technology and connectivity. As the forces of change continue to accelerate and enterprise agility becomes more software-centric and unified, today's forward-thinking businesses need to recognize a simple, universal truth: digital transformation (DX) is leading the charge toward the future.

Based on this truth, NETSCOUT® sought to identify market insights on the business challenges involved in DX. Hence, in March 2017, NETSCOUT commissioned Vanson Bourne, an independent global research firm, to research DX readiness and its immediate impact on global businesses.

Vanson Bourne surveyed 400 IT and business decision makers in the U.S., UK, Germany, and France on the challenges they face, their preparedness, market position and what they hope to achieve. The survey looked at the attitudes held towards the pace of digital change across several key industries, including the healthcare sector.

While 'going digital' is a major undertaking, assuring the delivery of business services that are always available and always working is what bonds the customer to the organization over time.

Faced with escalating levels of interconnectivity and service inter-dependencies that now exist, the priority for the digitally transforming healthcare organization is to leverage information in order to gain insight into service delivery, operations and business performance. Clearly, organizations are aware of the need for DX. **Almost eight in ten (79%) survey respondents believe that DX is an urgent requirement for their organization**.

The majority of executives polled also stated that their organization measures ROI on technological/IT investments. More than half measured ROI by looking at operational efficiency, customer experience, security benefits, and financial returns. Eight in ten organizations that measure ROI on technological/IT investments such as mobility, artificial intelligence/robotics and machine learning expect that cloud solutions, and IT security would have a positive ROI.

Ensuring uninterrupted flow of information to improve diagnosis and treatment

As another information-driven industry undergoing change, the healthcare industry continues to be transformed by many pervasive technologies such as Internet of Things (IoT), anything-as-a-service (XaaS), big data, and unified communications. Facilitated by many new digital technologies, each in turn is enabling both healthcare workers and patients to benefit from ubiquitous and real-time access to critical, medical data.

Although the shift from relying on physical assets to digital assets in the industry's value chain is underway, its impact in the future will become even more profound and prevalent. The ongoing transformation promises to enhance healthcare service provision, from diagnosis to post-care, while improving the relationship between patients, caregivers and other stakeholders. Processes will become increasingly automated, efficient and autonomous.

With digital services already deeply integral to healthcare, covering electronic medical records (EMR), electronic health records (EHR), digital imaging, e-prescription services, and enterprise resource planning (ERP) systems, DX is going to increasingly enhance and refine operational processes, improve the patient experience, and reduce costs. For example, one of the critical components for healthcare providers is the continuous monitoring of EHR transactions. The ability to assess performance metrics and EHR transaction activity (response time analysis) is crucial for successful clinical practice and health services, and within some countries it's a regulatory requirement. In addition, respondents to our research from the private healthcare sector felt that it would only take an average of four months for their organizations to experience the benefits of succeeding with digital transformation.

Widely deployed in healthcare environments, wireless (Wi-Fi) connectivity continues to deliver improvements in the flexibility and efficiency of clinical services. While providing access to life-critical information such as EMRs and EHRs, the technology also supports patient monitoring devices, 'smart' beds and remote access to x-rays and scans. As an access technology, it is well suited to meet the growing connectivity demands of real-time information among clinicians, patients and staff.

Also accelerating the transformation within the industry and playing a pivotal role in the daily practice of medical care is the adoption of IoT. By bringing the digital and physical worlds together, the vast amount of data provided is shaping both patient and care team behavior. For example, when attending to a critically-ill infant in a high dependency neo-natal unit, it can be difficult to pick up a phone. Yet technology exists for hands-free wireless communications, allowing staff to safely communicate while holding newborn babies. While integrating IoT with existing clinical processes, infrastructure and tools adds a new level of complexity, it is playing a significant role in terms of agility and speed to manage and measure patient health over time, either as an inpatient or an outpatient at home. Any disruption to services, however, would be unacceptable.

If health is more important than anything else, then access to healthcare data, whether in raw form for analysis or in correlated data sets, is indispensable for physicians, nurses, pharmacists, insurers, and patients themselves. Confidence in delivering the best patient care is therefore only possible with timely access to information. That's why continuous monitoring of traffic-based data and real-time analytics is mission-critical for determining the best treatment pathways and achieving successful patient outcomes while meeting healthcare expectations.

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An important DX goal for the industry was the advent of Health Level 7 (HL-7), a standard that provides the healthcare sector with many benefits. The internationally-agreed set of protocols promotes global health data interoperability between different computer systems. When supported within digital healthcare systems, it enables the transmission and exchange of information between healthcare providers for delivering a host of critical care services, including administrative and clinical data, electronic medical records, radiology and digital imaging and e-prescription services.

Healthcare is undoubtedly a data-driven industry, with patient outcomes depending on the uninterrupted and secure flow of information to deliver the requisite diagnosis and treatment. To make that happen requires service assurance. By leveraging traffic data as a primary source for continuous performance monitoring and analytics, service assurance delivers real-time actionable insight to assure service delivery and provide comprehensive reporting to different functions within the healthcare organization. The same approach can use complementary data sources such as synthetic transactions or NetFlow to gain end-to-end visibility, from the physical and virtual data center to the network edge and cloud.

Overall, DX is driving many advances within the healthcare industry. Many providers are now improving patient care by adopting a variety of applications that rely on trouble-free, real-time access to information in their IT environment. Bring-your-own-device (BYOD) initiatives, Wi-Fi expansion, secure email systems, unified communications (UC) and voice-over-IP (VoIP) coupled with telemedicine are all, or will be, inextricably linked in the healthcare service-delivery chain. But they are stretching network resources to capacity. As a result of this transition, the adoption of new digital services continues to drive the industry's critical need for service assurance both now and in the future. Afterall, patients are no longer passive recipients of healthcare; they are now recognized as active value-seeking consumers. So, the end result must ultimately be better patient care.

A healthy solution: NETSCOUT's service assurance and security solution provides holistic visibility across the entire service delivery infrastructure from the wireless edge to the core to the data center and into the cloud. This is achieved by continuous end-to-end monitoring and analysis of the traffic and application data flowing over hybrid cloud environments. The analysis of the monitored data provides end-to-end, service-level visibility in hybrid cloud environments that simplify the complexity, mitigate risks, accelerate IT agility, and promote operational excellence.

The rapid pace of change

Although DX is a journey some organizations have already begun, many have yet to start. To be competitive and keep up with the connected world of digital business, many organizations are discarding the 'old' mindset in order to realize new digital approaches in customer engagement and business growth. Fueled by the exponential growth in mobile devices, high-speed broadband, 4G, and connected 'things,' our increasingly interconnected world is going to place ever larger demands on the data-driven business.

Harnessing intelligence from the data, or smart data, within this digital landscape is therefore paramount. It will enable the transformation needed for staying ahead of the unfolding trends and disruptions that face many businesses. **Nearly six in ten (59%) research respondents agree that the pace of digital change is accelerating uncontrollably** and as organizations strive to meet ever higher customer expectations and stave off competition, digital transformation strategies will help many define a new business future.

Turning data into actionable smart data: In order to support DX initiatives, healthcare organizations need business analytics powered by smart data that is well-structured, contextual, available in real time, and based on end-to-end pervasive visibility across the entire healthcare organization. Since every action and transaction traverses the operation through traffic flows, a.k.a. wire-data, it is the best source of information to glean actionable insight from in this digitally connected world.

NETSCOUT's patented Adaptive Service Intelligence™ (ASI) technology generates smart data based on software-centric pervasive instrumentation of traffic-flows that are collected and processed at the source – from physical and virtual (SDN/NFV) infrastructure on-premises, software-defined data centers (SDDC) and hybrid cloud environments - to produce service contextual metadata in real time. This allows IT to gain critical insights into service delivery, business operations and other vital business performance indicators.

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About NETSCOUT

Today's healthcare organization is a rich and complex array of applications, services, software, and hardware. Your operation and reputation rely on the "Always On" availability of these systems and services. At NETSCOUT, we are in the business of keeping all those discrete pieces running in harmony and without interruption.

As a leading technology provider, we are delivering next-generation business assurance solutions. We know traffic data is the singular source of truth when it comes to dealing with resource constraints, disparate tools, IT silos, outdated processes, network complexity, and exponential data growth. NETSCOUT's nGeniusONE® Service Assurance platform with Adaptive Service Intelligence (ASI) technology enables top-down service management and traffic-based intelligence across complex, converged IT environments. With our platform, you gain essential visibility into the relationships and interrelated nature of the entire IT environment to effectively triage service issues.

ASI technology continuously monitors the service delivery environment to identify performance issues and provides insight into network-based security threats, helping teams to quickly resolve issues that can cause business disruptions or impact user experience. ASI is at the core of everything we do, from the nGeniusONE Service Assurance platform to our security assurance solutions; Arbor Advanced DDoS and Advanced Threat solutions. Application assurance is key to transforming the data center, and with the introduction of software appliances, ASI technology allows deeper visibility into the interactions of the different components of modern applications. This is the case whether they run in the data center or in multi-cloud environments, and this service intelligence is also the basis for building and discovering new insights into operations, including security and system planning.

In an increasingly complex, vulnerable and connected world, our service assurance and security assurance solutions, with smart data technology, enables top-down service management and traffic-based intelligence across complex, converged IT environments, providing extraordinary performance, service quality and operational excellence. With NETSCOUT, you gain the confidence to operate, innovate and compete at the highest level.

Contact us to learn more: https://www.netscout.com/company/contact-us

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