Interview: Dr. Mazin Yousif

Data center transformation and cloud expansion

Today's complex digital transformation efforts increasingly demand visibility without borders. Editor in chief of IEEE Cloud Computing Magazine Mazin Yousif digs into the details around data center transformation and cloud expansion.

When it comes to digital transformation, there seems to be a significant gap between expectations and reality. While companies overwhelming agree that digital technology holds massive potential to reinvent the way they do business, many do not fully grasp the magnitude of change necessary to achieve digital nirvana. In fact, a survey Forrester Research conducted in 2018 found that many digital transformation efforts were in a sorry state. Consider the following:

- While 56% of firms report digital transformation efforts, investment levels and project scope are limited.
- Only 31% of companies are worried about security when it comes to digital transformation—a startling number given the frequency and magnitude of malicious attacks today.
- While three of four executives think emerging technology is key to transformation, only 17% are investing in artificial intelligence.
- Even SaaS investments aren't as big as they could be, as 45% of companies haven't invested in SaaS.

Marketing Manager Steve Horneman sat down with Dr. Yousif, Editor in Chief at IEEE's Cloud Computing Magazine, to get a sense of the challenges of digital transformation.

Dr. Yousif is the Chief Technology Officer – Oil & Gas – at DXC technology. Before that, he was vice president of digital transformation and Chief Technology Officer for the Royal Dutch Shell Global account at T-Systems, International.

Horneman: What's driving these disappointing results across digital transformation initiatives?

Yousif: Achieving digital transformation requires significant changes\ across technology, processes, culture, and resources reskilling. And that's a tall order for many companies, who struggle with commitment level, understanding project complexity, and a lack of clarity around vision.

Horneman: Do enterprises have to start by rethinking what digital transformation is and what it isn't?

Yousif: digital transformation is a never-ending journey to deliver technology and optimize processes to improve your ability to serve customers. What it is not is a journey with a clearly defined end point. The moment you think your digital transformation journey is complete is the moment you start falling behind. What we're really talking about is investing in your ability to be competitive and better serve customers. In that context, the concept of an end date is a moving target with multiple points along the journey.

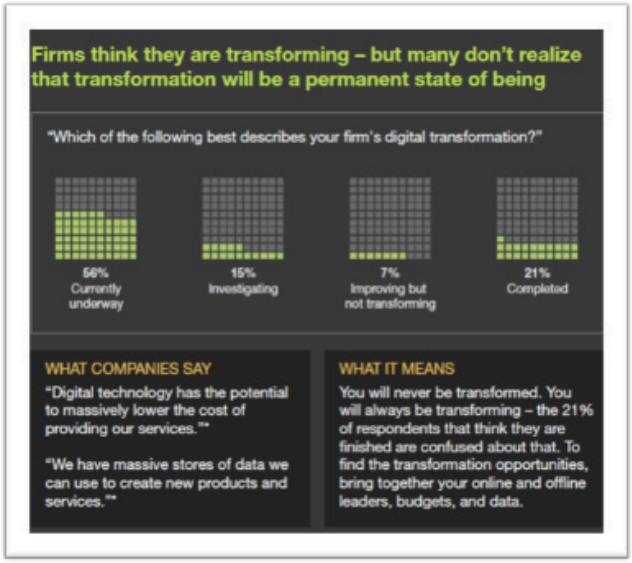
Horneman: So why are so many enterprises afraid of committing to, or even starting digital transformation?

Yousif: The complexity involved could leave anyone frozen. In addition to needed culture change, there are so many things to assess—both technological and financial—and myriad dependencies to consider.

Which apps can you move (or not move) to the cloud? Does our network have the capacity needed for digital transformation? Should you use containers and microservices? What about cloud native? Do you need to reskill your employees? That's just for starters. Let's throw in security issues and access concerns, in a world with emerging data privacy regulations that vary by region. You get the picture.

This takes a long time and comes with enormous challenges akin to changing the wheels of the car while driving. As an IT leader, you cannot be responsible for a disruption in digital services. That's a disaster, for the business, and for your career.

It's like that first week of dieting in the new year. Just getting started can be the most difficult task. If you can just start, perhaps you can build upon your progress, note the small wins and begin to think about, and make larger more aggressive goals. The alternative is to grab the cake and a knife and watch your competition run circles around you.



Source: Forrester Research

Horneman: So what's the sticking point?

Yousif: Many cloud providers have suites of visibility/analytics tools that work for their own environment, like AWS and Azure. However, most organizations have multiple cloud providers and the cloud provider's tools do not provide end-to-end visibility. So how do you get a unified view with multiple disparate tools? How do you provide an end-to-end visibility – one sufficient for what is on-prem and what is in the cloud? How do you understand your on-prem running concurrently with your AWS and Azure deployments? How do you measure your SLA from the perspectives of performance and security?

This is the center of the storm for the apprehension around digital transformation. It is about a loss of control and a loss of visibility into what have always been your most critical assets.

Can you give the C-Suite the ability to have a dashboard view across all environments? This is what they are looking for. This is main reason for the painful step-by-step processes and uncertainty due to lack of visibility and transparency.

Horneman: Is there no way to improve this process?

Yousif: Customers need visibility without borders. By that, I mean they need to be able to monitor IP communication across aggregation points and other sensitive locations to provide network, infrastructure, and application insights.

The most optimal way to do so is to look at data on the wire—not at the source and not at the destination, but activity on the wire. Having the ability to look at data running on the wire and use it for to understand performance and security behavior through analytics is what you get from NETSCOUT. That is a unique combination. Most tools are good at one of those things, and for that single environment alone. NETSCOUT removes barriers and blind spots in a way that has not been possible before thanks to its rich Smart Data.

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Horneman: Is there any way to simplify digital transformation?

Yousif: When it comes to technology considerations, many companies struggle because digital transformation requires a very complex technology design space with considerable interdependencies across systems, applications, data centers, clouds, partners, and networks. Moreover, interactions in that design space—including application migration, moving data around, and satisfying workloads needs—need to happen with little to no impact on the business. Needless to say, this is easier said than done. However, I believe with the right tools, adequate patience, and enhanced processes, you can build a more deliberat and intentional process that alleviates the pain and streamlines digital transformation implementation.

Horneman: What's causing the pain and anxiety?

Yousif: The default answer is again complexity, but it's a bit more than that. What's anxiety-producing isn't just making the switch, it's not having anywhere near the same level of visibility into the performance or security of your assets on an ongoing basis. You feel you lose control over your digital assets when you move them to the cloud, as they often reside across multiple SaaS and cloud partners. Now, everything from the performance to the security surrounding your data and applications is in the control of and managed by someone else. That is painful worrisome.

Horneman: What's hybrid cloud visibility like today?

Yousif: Many cloud providers (e.g., Amazon and Microsoft) have suites of visibility/analytics tools for their own environment on their premises. However, most organizations have multiple cloud providers and also may have on-prem deployments. Having disparate tools monitoring these environments doesn't give the necessary visibility or understanding of how they are performing together and how they are doing from a security perspective. Besides, they do not provide end-to-end visibility—such tools give you individual slices, not the full picture. Multiple tools, the time needed to stitch these views together, and then trying to get meaningful data on the performance and security of the overall asset portfolio is very difficult. Besides, all this needs to be done by the internal IT organization, which in many instances lack sufficient resources for such tasks.

Horneman: Does NETSCOUT's Smart Data approach solve this problem?

Yousif: IT professionals are faced with an increasing pressure to drive technology transformation while managing risk. To deliver the continuous level of user experience required by today's digital businesses, you need pervasive visibility into all devices and their interdependencies. NETSCOUT has a unique ability to look at data running on the wire, do deep packet inspection, and extract KPIs that can be analyzed for a wide range of issues from performance to security. By using NETSCOUT's Smart Data-driven approach across your digital landscape—encompassing hybrid cloud, virtual network, and DevOps environments—you'll be able to get the visibility and right data, fast, to the people and the systems that need it. By relying on wire data, and then powerful analytics, NETSCOUT is able to piece together those disparate views across hybrid cloud environments, a capability currently missing from many enterprise IT toolkits.

This visibility without borders concept that NETSCOUT has is powerful for the C-Suite as well. The CFO is concerned about ROI metrics across AWS, Azure, and on-prem investments. Performance and security visibility are of much interest to the CIO and the CISO. And the CEO and the board want the ability to have a single dashboard view across all KPIs and environments.

Horneman: What does digital transformation look like in five or ten years?

Yousif: Great question. Anyone who says they know is kidding themselves. The conventional wisdom today is that most everything will eventually end up in the public cloud or in some hybrid model. Nice and simple. What we know for sure is that cybersecurity attacks will continue to happen and likely in more a hostile manner, driven by machine learning and AI. So, regardless of location—public cloud, private cloud, hybrid cloud, colo ?? —odds are high that you will get hacked and lose data.

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Enterprises will go through a long transition period before they reach a good data-driven state. Meaning, you will see enterprises, and at the same time, have cloud (including private, public and hybrid) and colo,?? flat, hierarchical and MPLS networks, data scattered all over inside the enterprise and cloud and more – simply an untidy (messy) situation. No matter what this ends up being, business will need holistic visibility and analytics into the performance and security of their most critical assets.

NETSCOUT is extremely valuable in this hybrid, as well as transitional, world we are living in today and will continue to be for quite some time. As we go further down the path of digital transformation to a more data-driven organization, the intelligence NETSCOUT can extract from the network becomes even more essential.

Listen to Dr. Yousif's views on cloud computing in the enterprise here

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