



INTELLYX BRAINBLOG

ALIGNING MODERN APPLICATION PERFORMANCE WITH BUSINESS INTENT

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In this complex, multifaceted world, two facts remain constant: first, applications run over networks, both local and wide area, including that most important network of all, the Internet. And second, application performance is more critical than ever. Customers, employees, partners, and everyone else interacting with an organization require that all applications to run fast and securely, every time.

As information technology evolves, the fundamental notion of an application has undergone several disruptive shifts.

The original notion of an application was a simple, standalone computer program, running on one computer for a particular purpose.

Then came timesharing. And client/server architectures. The Internet and the World Wide Web. Applications became distributed, Internet-based, running on multiple architectural tiers.

Today we have the cloud – not just one cloud, but many clouds, both public and private. On-premises environments contain a mix of virtualization and a hodgepodge of legacy systems.

And yet, applications are more important than ever, be they running in workloads in hybrid IT environments, third-party SaaS applications, or the apps we all run on our phones.

Businesses large and small depend more than ever on their applications, both for providing customer value as well as supporting the needs of their employees – wherever they are.

And today, employees – as well as customers – might be anywhere. Branch offices. Retail locations. Working from home or the local coffee shop. Connecting from a hotel room or a customer location. Anywhere in the world.

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APPLICATION PERFORMANCE AS A BUSINESS CHALLENGE

Modern applications may depend upon networks more than ever before, but no organization can afford to think of its applications as network-centric. Instead, it is imperative to consider apps to be business-centric.

Managing application performance, therefore, becomes a matter of business intent. What does the organization expect from a particular application? What is its purpose? How is it supposed to behave? How important is it to the goals of the business?

For applications that run over long distances, longer than the cabling or Wi-fi in a single location can support – which accounts for the vast majority of apps in most organizations – one of the most important tools for managing application performance is software-defined wide-area networking (SD-WAN).

By abstracting the network, SD-WAN vendors seek to give their customers the ability to ‘turn the knobs’ on the networks that support their applications, giving them control over which networking technology those apps use and how such apps must behave.

Just one problem: most SD-WAN solutions on the market give customers the wrong set of knobs.

Vendors of such products consider them to be networking tools, so they naturally come with networking-oriented controls: network paths. Latency. Jitter. Reachability. Loss. Bandwidth.

Those vendors see the world in terms of network packets, so every tool approaches problems from that perspective.

THE RIGHT SET OF KNOBS

Network engineers are perfectly at home with turning the knobs for these controls. But the people responsible for the business are not.

Today’s SD-WAN administrator likely has a networking background, but is more likely to work with business managers to ensure applications perform according to the business intent.

The starting point is thus with the applications themselves. Which ones are important for a given business context?

In a retail location, for example, the point-of-sale (PoS) applications are of paramount importance, while routine office applications are important, but less so than PoS. Customer Wi-fi should also be up and running at all times, but as Wi-fi expands the threat surface, the organization must take special care to secure it properly. And the social media employees enjoy, hopefully on their breaks? The lowest importance of all.

In a different context – say a physician’s office, or a marketing department, or an engineering firm – the apps will be different, and so will their priorities. Once the administrator has identified the relevant applications, therefore, they must select the business priority.

Next, the administrator selects the available network paths. Today, many organizations supplement expensive MPLS links with less expensive, but less reliable commercial broadband. Each has its pros and cons, and the choice is often a business decision.

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Performance is likely to be high on the list – but performance means different things to different people and the apps they use. Some businesses prioritize online video highly, while others place it at the bottom of the list – or want to block it entirely.

Engineering firms may want to open large files like computer-aided design files over the network. And retail PoS systems may have to maintain a steady stream of data back to the home office.

The admin will also likely want to take into account the performance of apps running in the cloud as well. How critical is Salesforce or Workday or ServiceNow for the particular office or location in question? Does the organization need to integrate such a SaaS app with local apps? How fast should such integrations run in order to meet the business need?

Security is also a critical 'knob' the admin must turn. They will likely want to define the security perimeter for remote offices and retail locations. Which applications should be able to traverse this boundary? The admin will want to build secure contexts into the application network, based upon the business parameters that represent the intent of the organization.

Finally, the admin may want to make some compliance decisions as well, for example, which path application flows are allowed to take based upon regulatory or other compliance concerns. From a technical standpoint, such concerns are entirely arbitrary; it falls to someone who understands the business context to make sufficient sense of such rules in order to apply them properly.

NOW, ENSURE BUSINESS INTENT IN REAL-TIME

The knob-turning metaphor helps to distinguish between SD-WAN solutions that focus on network parameters vs. those that focus on business intent, but it falls short in one important regard: once you turn the knobs, you're done. But in the real world, applications, networks, and the rest of the IT infrastructure are in a constant state of flux – and there's no way the poor admin will be turning the knobs all the time.



That's why business intent-based SD-WAN products like CloudGenix AppFabric leverage real-time machine learning that processes data about application and network behavior in real-time.

The result: real-time, automated decision making that aligns application and network performance with business intent, all the time, every time.

THE INTELLYX TAKE

For many years, the only way that corporations could establish long-distance network links was via WANs, either before the Internet became a viable commercial tool, or during the period where it was too slow and unreliable to replace expensive WAN links.

Today, Internet technologies like commercial broadband have changed this equation, and thus the entire notion of a WAN has shifted from a corporate must-have to a question of which combination of WAN technologies is best for the job.

Combine this evolution in WANs with the evolution in the nature of applications, the importance of the cloud, and the broader digital context for enterprises today, and it soon becomes clear that SD-WAN solutions that deal with packets are providing the wrong knobs to the business.

ABOUT THE AUTHOR



Jason Bloomberg is a leading IT industry analyst, Forbes contributor, keynote speaker, and globally recognized expert on multiple disruptive trends in enterprise technology and digital transformation. He is ranked #5 on Analytica's [list of top Digital Transformation influencers for 2018](#) and #15 on Jax's [list of top DevOps influencers for 2017](#), the only person to appear on both lists.

As founder and president of Agile Digital Transformation analyst firm Intellyx, he advises, writes, and speaks on a diverse set of topics, including digital transformation, artificial intelligence, cloud computing, devops, big data/analytics, cybersecurity, blockchain/bitcoin/cryptocurrency, no-code/low-code platforms and tools, organizational transformation, internet of things, enterprise architecture, SD-WAN/SDX, mainframes, hybrid IT, and legacy transformation, among other topics.

Mr. Bloomberg's articles in Forbes are often viewed by more than 100,000 readers. During his career, he has published over 1,200 articles (over 200 for Forbes alone), spoken at over 400 conferences and webinars, and he has been quoted in the press and blogosphere over 2,000 times.

Mr. Bloomberg is the author or coauthor of four books: *The Agile Architecture Revolution* (Wiley, 2013), *Service Orient or Be Doomed! How Service Orientation Will Change Your Business* (Wiley, 2006), *XML and Web Services Unleashed* (SAMS Publishing, 2002), and *Web Page Scripting Techniques* (Hayden Books, 1996). His next book, *Agile Digital Transformation*, is due within the next year.

At SOA-focused industry analyst firm ZapThink from 2001 to 2013, Mr. Bloomberg created and delivered the Licensed ZapThink Architect (LZA) Service-Oriented Architecture (SOA) course and associated credential, certifying over 1,700 professionals worldwide. He is one of the original Managing Partners of ZapThink LLC, which was acquired by Dovel Technologies in 2011.

Prior to ZapThink, Mr. Bloomberg built a diverse background in eBusiness technology management and industry analysis, including serving as a senior analyst in IDC's eBusiness Advisory group, as well as holding eBusiness management positions at USWeb/CKS (later marchFIRST) and WaveBend Solutions (now Hitachi Consulting), and several software and web development positions.

ABOUT INTELLYX

Intellyx is the first and only industry analysis, advisory, and training firm focused on agile digital transformation.

Intellyx works with enterprise digital professionals to cut through technology buzzwords and connect the dots between the customer and the technology – to provide the vision, the business case, and the architecture for agile digital transformation initiatives.

ABOUT CLOUDGENIX

CloudGenix (<http://www.cloudgenix.com>) is the software-defined wide-area network (SD-WAN) leader, revolutionizing networking by transforming legacy WANs into a radically simplified, secure, application-defined fabric and unified hybrid WAN. Enabling application-specific, service-level agreements (SLAs), CloudGenix controls network application performance based upon application-performance SLAs and business priority. CloudGenix ION (Instant-On Network) simplifies how WANs are designed and managed, enabling customers to build "networks without networking," and achieve more than twice the performance at less than half the cost while extending data center-class security to the network edge. Founded in 2013 by a team that has delivered industry-leading products in networking, SDN, cloud, security and web-scale applications, CloudGenix serves world-class financial services, legal, retail and technology organizations.