



I D C A N A L Y S T C O N N E C T I O N



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Sharpening the Edge of Organizations

April 2015

The proliferation of mobile devices and cloud-based services used by both customers and employees is redefining the edge of organizations — branch offices, storefronts, remote locations — and the nature of customer engagements at edge locations. Both the volume of data moving between the edge and the datacenter and the types of applications being deployed at the edge are placing ever greater stress on existing networks and IT teams tasked with deploying, protecting, and managing IT assets at edge locations.

The following questions were posed by Riverbed to Rick Villars, vice president for Datacenter and Cloud research at IDC, on behalf of Riverbed's customers.

Q. Everybody is talking about how cloud and anytime/anywhere access are transforming the way that we engage with customers. How are these changes affecting the roles of employees in branch offices, storefronts, and remote locations at the edge of the organization?

A. The growing importance of cloud-based services and today's always connected individual are dramatically altering how businesses engage with and deliver services to their customers. Nowhere are these changes more critical and challenging than at the edge of the organization — in the storefront, in the branch office, in the remote location.

Thanks to mobile devices, customers have incredible amounts of access to information about products and services as well as the availability of those products and services. In the past, an employee at the edge was responsible for delivering that information to the customer. The role of employees at the boundary of the company is not just to provide information about the product but also to suggest something that responds to the unique and specific needs of customers, which requires more aggressive use of existing data and insights on a real-time basis.

Organizations need new applications, new datasets, and new services at their edge, where employees are guiding customers with personalized offerings, diagnosing patients' conditions more quickly, or developing/manufacturing custom products for partners.

Q. How are these changes affecting the way organizations roll out IT at "the edge?"

A. The range of applications, data, and services required at traditional branch locations continues to increase, but another major change affecting IT today is that the edge of an organization isn't just within traditional stores or branch offices anymore. Increasingly, the edge is at the customer's location, wherever that may be. For example, a healthcare organization may want to deliver medical services to doctors in a separate private practice or a smaller regional hospital, or a consumer products company may be extending the reach of its brands into retail partners' locations through the deployment of smart kiosks for digital signage.

As more and more organizations look to deploy their IT assets in customer and partner locations, they are raising a whole new set of challenges for IT teams in both organizations. Both need a solution that links their security systems to their customer's or supplier's security system. The provider of the service is also tasked with managing all of these distributed assets and reducing the cost of managing these resources.

Q. How effective are existing remote IT solutions at addressing these new needs?

- A. One of the biggest problems for companies that are trying to respond to these new requirements is that existing IT assets deployed at the edge are completely inadequate.

IT assets at edge locations are rife with hidden costs. If you look at a company's spending on physical servers and storage, much of that spend is in the datacenter. When you start adding up the costs of service and support for IT assets, however, you very quickly discover that more than half of all the IT spend in many companies is linked to getting information out to the edge and managing those edge devices. You have to manage and protect the data and applications. You have to provide the right level of network connectivity so that employees on the front lines stay productive, businesses remain nimble, and customers continue to be engaged.

A second big concern is risk. Today, more and more companies recognize that the data being generated and collected at the edge, the data that's being used to enable better sales at the edge, is under minimal control. Companies often aren't certain that this data is secure enough to meet compliance and privacy guidelines. They also aren't sure that it's being backed up for long-term use or that it's quickly retrievable and recoverable in case of a disaster. Organizations are facing a lot of risk when it comes to the data that's out at the edge right now because of how the systems are deployed and connected.

The most important and frustrating concern for companies, however, is that the edge is the slowest part of their IT environment when it comes to change. The amount of time it takes to develop, launch, and roll out new applications at the edge is often measured in years because you have to go out and physically install software and data on new devices or physically touch installed devices. This manual approach is incompatible with the pace of change demanded by employees and customers at the edge. In retail and healthcare, they want to see changes in weeks or even days. Overcoming this lack of agility in rolling out new services at the edge is the key requirement of any branch-optimized IT solution.

Q. What are the barriers that prevent organizations from more aggressively deploying IT for new services at edge locations?

- A. The first barrier is a lack of effective data control. Do I have a centralized way of managing all that data that's deployed out the edge, ensuring that it's being deployed securely and that it's being replicated and controlled? Can I quickly recover it, or deploy it to new places, without exposing myself to security or privacy risk?

The second big barrier is managing those assets themselves — for example, the cost of doing patches and maintenance as well as upgrading devices and systems is very prohibitive for companies. It slows down their ability to roll out a new service and exposes them to security risks. Minimizing the number of hardware and network connections at the edge, as well as the complexity of those systems, will be critical to lowering this barrier.

The last barrier is the unpredictability of the network performance. If all networks were the same, if demand across all sites was the same, organizations would be much more comfortable with the IT resources deployed at their edge locations. The reality is, however, that there are rapid spikes in demand, as well as network performance that is better in some

locations and worse in others because of multiple network providers. Organizations need solutions that guarantee consistent service in an inconsistent world.

Q. What are the key new capabilities that organizations need to deliver better services at their edge locations?

A. We cluster better edge capabilities into three big buckets. The first bucket is more effective data management — data control that runs the gamut from having a consistent security mechanism you can set centrally and deploy remotely to having a consistent way of doing data protection and data backup. The most important aspect is being able to make changes quickly so that you don't have to go out and physically touch every device. You can set a policy centrally and deploy the new rules and practices across all the different assets.

The second bucket is business continuity. More and more, the edge location is where organizations need to provide their most advanced and sophisticated services. In cases of disaster or other failure, recovery is absolutely critical to maintaining and improving customer satisfaction and customer relationships. Likewise, having a system that lets you quickly deploy new assets without having to roll trucks or spend time configuring devices is also critical. Business continuity should be part of the design of the edge application and service.

The last bucket is application agility and updates. Application agility is the ability to have the same hardware assets in the locations but be able to quickly roll out a new service or application and make sure that it's being deployed in all the appropriate locations at the right time. Agility in delivering the capabilities and the service, and having a platform that allows for rapid application enhancement, is critical for companies that must now rely on improving their capabilities at the edge to make their business more successful.

ABOUT THIS ANALYST

As vice president of Datacenter and Cloud research, Richard Villars is a senior member of IDC's IT Infrastructure research team, which assesses the development and adoption of solutions for datacenter transformation and exploitation of rapidly evolving technologies in the areas of Big Data and Cloud. He develops IDC's viewpoints on the evolution of converged IT infrastructure as well as the adoption of public and private cloud solutions. He advises clients on the impact of open systems, software, and network efforts on organizations' infrastructure, deployment, procurement, and management practices.

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