Rethink Branch IT: Orchestrating a Successful Strategy for the Ideal Branch Converged Infrastructure

A primer for successfully delivering the branch of the future

Branch offices and other remote sites are the growth engines of today's global enterprises. Looking for ways to better serve customers, transact business, and enable employees in far-flung locations, organizations continue to expand their footprint, opening additional sites to place the right resources and capabilities where they are needed.

For many enterprises, such expansion requires supporting critical business applications and data at each remote site – particularly in regions with inadequate connectivity, where it is impractical to serve applications from a distant data center over the wide area network (WAN), Internet, or cloud. Of course, this local support can come with a hefty price tag, as $4 billion are spent annually on branch office IT[1].

The problem here is that as organizations continue to extend their reach, the cost of supporting branch locations and remote operations can quickly eat up margins and even hinder future growth. Another issue with this model is that some fundamental IT challenges remain unaddressed. Most importantly, that data is often at risk for loss. While organizations invest in backup solutions, they only add to the price tag, and copying data or restoring remote sites is often too time consuming and unreliable.

Extended downtime at remote locations is another IT challenge. When issues arise, it can take days, even weeks, for enterprises to dispatch equipment and skilled IT resources to troubleshoot and fix problems.

To address these challenges, many organizations are looking at ways to simplify branch IT. One increasingly popular approach is moving to a branch converged infrastructure, which ideally combines server virtualization, storage delivery, and WAN optimization into a single solution. In essence, the full power, resiliency, and efficiency of the data center can be extended to the edges of the distributed enterprise without sacrificing the performance benefits typically associated with maintaining services locally.

Orchestrating an end-to-end strategy will empower organizations to take full advantage of branch converged infrastructure. A successful strategy consists of:

- Completing an upfront branch office assessment
- Developing an airtight business case
- Fostering a collaborative environment amongst traditionally siloed IT functions
- Architecting the right solution with a sound design, testing, and implementation plan

[1] "IDC – Riverbed Total Addressable Market Study," November, 2013

Completing a branch office assessment

Before developing a business case for branch converged infrastructure, organizations need to conduct a branch office assessment. Completing this upfront analysis feeds several subsequent portions of the convergence strategy, particularly the total cost of ownership (TCO) for the business case. This remote site "true up" also aids the planning, design, and implementation phase by helping scope and size the solution to accommodate various office needs while matching the requirements of disparate IT functions.

But just as important, the branch office assessment is an opportunity for IT leaders to get a strong grasp of what currently exists across remote sites. All too often, branch sites are neglected or overlooked due to their distance from the core of the business or because other initiatives take precedence.

When conducting this upfront assessment, account for the number of network connections generated across each remote site, the amount of compute needed for virtualization, and storage capacity needs. More specifically, document the following items:

- Number of servers and compute requirements per branch
- Application types (file sharing, printing, etc.)
- Data type per application (video, email, files, etc.)
- Capacity used per application
- Projected growth in data per application
- Number of users per branch (include the maximum number of concurrent users)
- The number of network connections and current bandwidth utilization

With branch converged infrastructure, the full power, resiliency, and efficiency of the data center can be extended to the edges of the distributed enterprise without sacrificing the performance benefits typically associated with maintaining services locally.

Building the business case: demonstrate the simplicity and lower TCO

Even with the challenges and costs imposed by traditional approaches of managing branch IT, 57% of organizations with remote office footprints report they will continue fulfilling infrastructure requirements with hardware components from different vendors[2]. But developing a comprehensive business case will compel organizations to shift away from this traditional approach.

The business case should serve two distinct, yet equally important purposes:

1. Educating IT leaders on the simplified, improved model
2. Showcasing the reduced TCO of managing IT in remote locations to business leaders

Educating IT leaders

When addressing key IT stakeholders, reiterate the pain points of the current branch model that contribute to the overall cost of doing business this way, and highlight how convergence can alleviate these issues and simplify daily operations without impacting performance. Ask a series of "what-if" questions to begin reframing these stakeholders' perspectives of what suitable strategies are for disaster recovery, supporting new sites,

[2] "ROBO Trends Survey," Enterprise Strategy Group, March 2015

deploying new, revenue-generating services, and ensuring business continuity.

For instance, ask:

- **What if a server or site crashes and data can't be recovered?** While backup processes are in place to mitigate the impact of data loss, this is a manual process requiring human involvement, making it prone to oversight and error. Even the most vigilant of organizations can lose hours worth of data if an outage occurs.
- **What if we're storing too much data in our remote locations?** Consider where the company's intellectual property is stored. An average of 50% of today's data is being housed at remote locations[3], far away from the security of the central data center. What would the circumstances be if company data was lost due to theft, natural disaster, or any other unplanned event?
- **What if we're not getting our data to subject matter experts in a timely enough fashion?** While critical data is often collected at remote sites, the expertise and resources that make use of it could be located hundreds of miles away. Does the business need faster, more reliable access to this information to feed downstream or upstream workflows?
- **What if a new site needs to be quickly set up? What if a new service needs to be deployed within an existing site?** Determine how much time and money will go into provisioning and deploying the necessary infrastructure, including travel and expenses for dispatching extra IT personnel. How might revenue be positively affected if the new site or service is deployed at a much faster pace? Branch converged infrastructure, by its very nature, improves IT's responsiveness to the business, while also lowering the capital and operational costs of setting up and managing new sites or services.

[3] "Data Center and Branch Office Resiliency Survey," Riverbed, February, 2015

Asking these questions, among others, helps demonstrate how the current branch IT model is outdated and difficult to manage. These questions also give those who develop the business case a powerful way of communicating the easier, safer, and more cost-effective approach.

Showcasing a lower TCO to business leaders

Business case developers should be prepared to show how consolidating branch infrastructure is not only a proven cost-cutting measure, but also one that drastically improves business performance (and ultimately, end-user and customer experiences) and data protection. The initial branch office assessment will provide the inputs needed to calculate the projected reductions in the TCO of managing branch IT. The take-home point is that branch convergence will pay returns year-over-year by eliminating costly annual items such as hardware purchases, support contracts, and renewals.

Depending on the size of an organization's server footprint in its remote sites, the savings from no longer needing to cool, power, and allocate space for as many server rooms will also help reduce costs. Bear in mind that nearly 60% of organizations have at least 10 physical servers at a typical remote office, and 30% have 25 or more[4]. So for organizations currently evaluating a server refresh or updates to other costly systems, the savings realized through branch IT consolidation will be even more tangible.

Another angle to take with business leaders is highlighting the overinvestment in branch IT. To accommodate projected business growth, organizations may procure additional hardware to support future sites, as well as existing sites where additional compute or storage may be needed to support new applications and more users. But if business projections are off, chances are these branch assets are heavily underutilized. The same could be said about expensive purchases in the data center, where robust storage delivery devices

[4] "ROBO Trends Survey," Enterprise Strategy Group, March 2015

and other systems are hardly leveraged because most data remains at the edge. Branch converged infrastructure, on the other hand, is more elastic, allowing organizations to scale up and down as required to make better use of data center architectures. In today's dynamic world, such scalability helps the business by empowering IT to quickly provision and deploy new applications and services that could greatly impact the bottom line.

Lastly, prepare a similar series of "what-if" questions – this time tailored to business leaders – to highlight how productivity, operational efficiency, and business performance is negatively impacted by the current branch IT model. For example, ask:

- **What if a site goes down unexpectedly?** Pinpoint how long it currently takes to restore a site, and determine how much outages cost the business (in terms of lost productivity, missed sales, unrecognized revenue, etc.). Keep in mind that branch converged infrastructure can help shrink recovery windows from hours to minutes[5].
- **What if our front-line workers can't do their jobs because applications are underperforming?** Again, determine how much productivity and revenue are lost when downtime occurs, this time from an application-centric context.
- **What if our customers have poor experiences at our remote locations due to slow applications and services?** Consider how brands are impacted when customers begin to complain or threaten to move on to the competition.
- **What if we suffer a data breach or can't recover lost information?** How would that impact the company in terms of lost productivity, missed or abandoned transactions, and diminished reputation?
- **What if we could lower staffing costs and/or reallocate resources to other initiatives?** Business and IT leaders can reallocate savings toward projects that allow them to better connect with customers, transact business, or serve employees – the rationale behind establishing the remote sites in the first place.

Pose these questions to business leaders to help collect the data points needed to estimate the reduced TCO of managing branch IT via a converged infrastructure. Apply the lowered projections across dozens, if not hundreds of branches and other remote sites, factor in less downtime and data loss, and it's easy to see how the cost savings, improved agility, and better operational efficiency can help bolster today's distributed enterprises.

Business case bonus: supporting other IT initiatives

Business case developers should also emphasize how consolidating IT in remote sites is a critical enabler of other strategic IT initiatives. IT now underpins most day-to-day business processes, and almost 90% of total technology spending will take place outside of IT by the end of the decade[6]. So when building a case for branch converged infrastructure, it's important to highlight how the new architecture can support other high-profile projects. This includes:

- **Data security:** Tightening security measures is the number one initiative for many CIOs in 2015. With branch converged infrastructure, data is removed from high-risk places and stored in the data center, where it is easier to protect and retain through mature enterprise-class practices such as array-based snapshots, replication, and deduplication.
- **Continuing consolidation and virtualization efforts:** Consolidation and virtualization continue to be major IT initiatives. Branch converged infrastructure builds on proven techniques pioneered

[5] "Convergence for the Branch Office: Transforming Resiliency and TCO with Riverbed SteelFusion," Taneja Group, April 2014

[6] "Gartner Says Every Budget is Becoming an IT Budget," Gartner, Inc., October 22, 2012

by data center providers, extending consolidation and virtualization efforts out to branch sites where the business benefits and value can scale exponentially.

- **Moving workloads to the cloud:** Branch convergence and cloud-based initiatives are natural complements. They both share the ability to pool IT resources, quickly spin up new resources, and scale capacity up or down to meet dynamic business needs. More importantly, bringing more IT back to the data center while converging server, storage, and networking components into a single framework may make an organization's underlying infrastructure more "cloud ready."
- **Reducing IT costs and improving efficiency:** Though budgets may be growing, 68% of IT leaders report cutting IT costs and becoming more efficient is a medium or high priority[7]. The cost savings made possible by branch converged infrastructure are fairly evident. But by reducing the administrative burden of managing branch services and eliminating tedious processes like completing backups, skilled IT personnel can focus more time on higher-value initiatives.

Fostering collaboration among various IT teams

Bridging the often-siloed IT functions of network, server, storage, and virtualization is critical to the success of branch converged infrastructure. While all IT projects introduce dependencies across teams, fostering a collaborative environment is even more imperative here.

Why? Because when dealing with an integrated model like converged infrastructure, multiple teams now become dependent on the same solution. So it is essential to identify where and how these traditional silos should access and interact with the converged solution.

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Engaging these teams during the branch office assessment will pay dividends down the road when it is time to architect the solution. The analysis is an opportunity to begin educating other IT constituents about the benefits of branch convergence, while doing a crosscheck for unique solution requirements.

Inform these teams that the new model isn't disrupting what is done on a day-to-day basis, but instead is simplifying how they use and manage infrastructure at the branch. Opening the lines of communication at this stage helps gain advocacy for the project. Moreover, it will also encourage these teams to begin collaborating – an effort that will make them feel comfortable and better prepared during the implementation phase.

An important distinction to make here is that branch converged infrastructure does not require these disparate functions to develop cross-domain expertise. The right solution will seamlessly fit into an organization's current IT hierarchy, allowing each respective team to continue focusing on their core competencies. The only difference is that if and when adjustments are made to the solution, the lines of communication must stay open so that each team clearly understands how the change affects the other functions.

The basic rule of thumb here is to follow established change management processes. Whatever guiding principles an organization has followed during their data center consolidation and server virtualization projects

[7] "2015 IT Budget Trends," Tech Pro Research

should be applied to the branch locations and other remote sites.

Designing, implementing, and maintaining a sound architecture

Like any IT project, comprehensive planning equates to higher success rates. Completing the branch office assessment, building a sound business case, and fostering a collaborative environment among separate IT functions will expedite the next phase of the strategy: designing and implementing the solution.

Complete site surveys and templates

Start by repurposing the branch office assessment into a site survey, double-checking for storage and compute needs, as well as determining which applications should be centralized from the remote sites to the data centers. Nearly a quarter of organizations report that branch offices manage some infrastructure purchasing decisions, and 40% say these sites manage some application spending[8]. So it is important to account for additional IT assets that were recently provisioned and deployed, particularly if they were done so without headquarters' knowledge.

Along with the site survey, another best practice is to categorize the various remote sites by type (e.g., administrative site, manufacturing site, warehouse, retail site, etc.). More than likely, these various site types share similar solution requirements. Categorizing them allows an organization to develop site templates, making it that much easier to document needs across the various location types.

For example, if a branch is a revenue-generating location, such as a retail outlet, or a manufacturing site, maximum uptime is essential. With high-value sites like these, high availability and failover configurations need to be factored into the site design.

Secondly, consider the cache requirements for the various site types. Some locations may need immediate access to certain data sets at all times, so pre-warmed cache may be preferred. This is important in environments where WAN outages cannot be tolerated.

Speaking of the WAN, centralizing data and applications means users in branch offices will be more dependent on WAN connectivity. When scoping the WAN optimization component of the solution, account for current WAN and data storage capacity needs, as well as the number of users and network connections that need to be supported in each branch.

Finally, future workload demands also need to be factored into the site requirements. Are there any planned application deployments that will affect a site's compute requirements? How many more users will these site types need to support? Account for projected business growth, along with increases in application loads and hardware capacity requirements, when completing site surveys and templates.

Develop a data migration strategy

Like other consolidation technologies, a convergence solution purpose-built for the branch should integrate seamlessly with other well-known technologies. This should make the physical racking and stacking of the solution fairly simple.

To ensure the data migration process is also seamless, where data is initially pulled from the existing hardware to the branch converged solution, organizations should apply existing principles that have been leveraged within the data center. These include physical to virtual migration techniques and file-sharing copy processes. And to further simplify matters, a comprehensive data migration strategy should be incorporated, which includes:

- Outlining storage and application dependencies, network dependencies and limitations, and physical and virtual data movement and associated downtimes.

[8] "ROBO Trends Survey," Enterprise Strategy Group, March 2015

- Identifying the appropriate services, applications, and data sets for initial consolidation. Organizations may wish to only centralize a subset of branch IT assets initially, particularly if significant investments were recently made to refresh certain application servers or other hardware. The dynamic nature of branch converged infrastructure will allow IT to easily consolidate additional services as business and technical needs dictate.
- Understanding current network utilization, including predictive analysis for how much bandwidth may be consumed once the applications are centralized in the data center. Application and network performance management tools can help streamline this process to a significant degree, while also providing the analytics and insights needed to improve performance and end-user experiences before, during, and after migration.

Solution testing and phased rollouts ensure complete success

To further increase the likelihood of branch convergence success, another best practice is developing a test plan, where the solution is validated in a lab environment. Thorough testing before rolling out to production sites helps verify new processes while ensuring that key performance service-level agreements are adhered to, that recovery point and recovery time objectives are achieved, and that other user-acceptance criteria are met. Once the test plan is executed, the solution can easily be deployed to production sites.

When deploying the solution, consider a phased rollout. Doing so will minimize business disruption while proving the effectiveness of the branch converged infrastructure. The initial phase should focus on the sites that are the easiest to support. This may consist of sites that are closest to the organization's central IT hub. Alternatively, consider piloting the solution at a series of smaller locations to mitigate the impact of any hiccups or performance glitches.

With proper orchestration amongst traditionally siloed IT functions and a complete strategy focusing on design, testing, and a phased implementation, organizations will be well positioned to take advantage of the business value enabled by branch converged infrastructure.

Now's the time to rethink branch IT

IT environments and the businesses they power are constantly evolving as a result of today's hybrid enterprise. With data volumes growing by 40% annually[9], what is a properly working model today might very well be overtaxed just two years later. Such growth underscores the importance of consolidating branch IT today.

With proper orchestration amongst traditionally siloed IT functions and an end-to-end strategy focusing on design, testing, and a phased implementation, organizations will be well positioned to take advantage of branch converged infrastructure while delivering on a multitude of key IT and business priorities.

[9] "The Digital Universe of Opportunities: Rich Data and the Increasing Value of the Internet of Things," IDC, April 2014

About Riverbed® and the Branch of the Future

Riverbed is the leader in application performance infrastructure, delivering the most complete platform for the hybrid enterprise to ensure applications perform as expected, data is always available when needed, and performance issues can be proactively detected and resolved before impacting business performance. Riverbed enables hybrid enterprises to transform application performance into a competitive advantage by maximizing employee productivity and leveraging IT to create new forms of operational agility. Riverbed's 26,000+ customers include 97% of the Fortune 100 and 98% of the Forbes Global 100.

Through the Riverbed Application Performance Platform™, Riverbed is uniquely delivering the branch of the future today, which encourages companies to rethink branch IT with zero branch IT.

Riverbed® SteelFusion™: The first and only hyper-converged infrastructure for branch IT that enables 100% consolidation of branch data and servers from remote sites into data centers, delivering complete data security and centralized data protection, without compromising on any of the benefits of running branch services locally for your users.

Riverbed® SteelHead™: The #1 WAN optimization solution that guarantees application service levels across remote sites while maximizing end-user productivity, enhancing IT visibility and control, and reducing costs.

Riverbed® SteelCentral™: The only performance management and control suite that combines user experience, application, and network performance management, providing the end-to-end visibility organizations need when consolidating critical services from branch offices to the data center.

Riverbed Professional Services: Expert lifecycle consulting and technical education services designed to help enterprises reduce risks, accelerate adoption, and discover new opportunities to improve business performance with the Riverbed Application Performance Platform. With a track record of 90% on-time, on-budget projects and client satisfaction scores that consistently measure 9.7 out of 10, enterprises around the world trust Riverbed Professional Services to help them plan, build, and optimize the branch of the future.

To learn more about Riverbed's vision for the branch of the future, please visit http://www.riverbed.com/zerobranchIT/

About Riverbed

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