

Commonwealth of Kentucky



SteelFusion serves as the foundation for a statewide IT modernization effort that is saving more than \$900,000 annually while better protecting critical data and reducing user frustration

State's size and rural nature stretch IT to the breaking point

For the agencies that serve Kentucky's citizens, IT delivery is complicated by the state's large size, rural nature, and limited connectivity. With the exception of offices in the capital of Frankfort, most state government facilities are served by 10-Mbps network connections at best. For many more remote locations, a T1 line (1.5 Mbps) is all that's available.

These bandwidth limitations, along with latency caused by long distances between cities, can jeopardize critical operations that depend on the network, such as backing up data to a central repository, thus crippling the performance of centralized applications and affecting employee productivity. Also, the distance between Frankfort and remote offices makes it difficult to deploy and maintain IT equipment. Replacing a failed server, or

recovering from an unplanned IT outage of any sort, for instance, has to be done in person and can take up to a week.

Travis Wagers, information systems manager for the Kentucky Transportation Cabinet's Office of Information Technology, explains how his agency was affected by these issues: "Our larger offices—those with around 100 people or so—had 10-Mbps circuits and were equipped with three physical servers for CAD and other project-related data, for example, used regularly in the design, upkeep and architecture of the state roadways. The backups for those servers were never completing, or they were failing, or taking all weekend into Monday and Tuesday because of the interruption of services."

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Travis Wagers
Information Systems Manager,
Kentucky Transportation Cabinet's Office of Information Technology

Failed backups put large amounts of project data at risk of complete loss. “That design data is irreplaceable,” says Wagers. “With the nature of the data that would have been lost, it would have been catastrophic. I mean, we are talking millions and millions of dollars. And seeing our back-ups not complete, and that they were physical servers, that’s what made it so scary and why we needed a solution so very badly.”

And in addition to significant cost of data loss, backups rolling over into the workweek reduced productivity, and a failed server cost the agency at least \$10,000 a day in lost productivity.

Wagers did what he could to work around these issues, such as coordinating the timing of backups so that all offices weren’t backing up at once. He upgraded some 10-Mpbs circuits to 25-Mpbs, and was considering doing that for more offices, realizing this would be expensive and wouldn’t address latency or the affect of someone streaming video or audio would have on the link. Nor would it would address issues related to maintaining the offices’ physical servers.

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“So when an agency comes in and says, ‘Hey, I need more bandwidth. I’m having X, Y, Z problem out here,’ I can tell them with confidence, ‘You know what, you don’t need more bandwidth. SteelFusion will take care of the bandwidth issue, and give you a path to more secure data, continuous productivity, and, on top of it all, lower your monthly spend?’”

William Paynter
Vice President of Business Development, Tier3

A better solution came from Tier3 Technologies, which contracts with Kentucky’s Commonwealth Office of Technology (COT) to provide IT solutions as a managed service. Tier3 had previously deployed Riverbed® SteelHead™ for WAN optimization across the state to amp up network throughput and accelerate application performance. “The SteelHead appliances were giving them an effective bandwidth increase of up to 4x,” says William Paynter, vice president of business development at Tier3.

When Paynter learned in 2011 that Riverbed was launching a solution that directly addressed the challenges that are unique to IT organizations dealing with ROBO, or edge IT, by specifically centralizing all remote data, and therefore ensuring data security, and centralizing and accelerating complex IT operations for near instant recovery from outages and provisioning of new sites and remote services, all while optimizing performance, he couldn’t wait to show it to Wagers and his counterparts at other agencies.

In Brief

Challenges

- Deliver data and applications to government offices across the state while dealing with constraints posed by long distances and limited bandwidth
- Eliminate the financial risk of data loss at remote sites
- Minimize productivity losses caused by site downtime

Solution

- A Software-Defined Edge solution powered by SteelFusion that centralizes remote IT infrastructure, data and complex operations for 38 state agencies across 64 locations to date—that improves on past IT performance and utility

Benefits

- Delivered as a service by Riverbed reseller Tier3, SteelFusion eliminates IT headaches, saves significant cost to the state, keeps valuable data safe and improves overall productivity at remote sites

SteelFusion is a “life saver” for state’s transportation agency

That solution, Riverbed® SteelFusion™, is a unique solution for software-defining edge IT by uniquely integrating industry standard virtualization, intelligent storage cache, and SteelHead’s industry-leading WAN optimization. This hyper-converged edge solution is deployed in a dual-ended appliance, with the core in the data center or cloud, where edge applications and data are centralized, and the receiving end on-site in the edge office to which a working set of data is projected.

With Wagers’ permission, Tier3 installed a SteelFusion appliance in the transportation agency’s Elizabethtown office, one of its most problematic in terms of failed backups. “When we got SteelFusion in there, instead of taking days and days and days and never completing, backups were now just getting done,” says Wagers.

His agency now has SteelFusion Edge appliances in each of its offices across the state—an improvement Wagers refers to as a “big win” and “life saver” for several reasons. First, faster backups have eliminated the potential loss of irreplaceable project data posed by the incomplete and failed backup attempts of the past. Second, having replaced physical servers in the remote offices with virtual machines (VMs) running on the SteelFusion appliance, the

agency no longer risks days-long server outages and the tens of thousand of dollars in lost productivity they caused. “All of a sudden,” explains Wagers, “our entire environment was safe, backing up, and if we wanted to deploy something new, we could spin it up in an hour, and not buy hardware, and ship it out there, get a tech onsite to build it. All that stuff’s gone so it really made a huge impact right off the bat.”

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Cost savings related to the agency's use of SteelFusion is dramatic – to date, the use of SteelFusion is saving Kentucky over \$900,000/year on bandwidth and server hardware alone. Of that, the transportation agency's 12 SteelFusion 3100 appliances save approximately \$44,772 per month in lower bandwidth costs, and save \$3,000 per month on virtualizing the servers from physical ones, totaling more than \$573,000 in savings annually.

Additional SteelFusion benefits:

- By eliminating the time Wagers and his staff used to spend dealing with backup-related issues, SteelFusion frees them up to take on more forward-looking IT projects such as moving everyone to Office 365.
- Built-in Quality of Service functionality lets Wagers prioritize network traffic so that critical data and applications have priority over applications like YouTube and Facebook.

These benefits extend well beyond Kentucky's transportation department. Of the 95 SteelHeads originally deployed across Kentucky by Tier3, 70% have already been upgraded to SteelFusion, transforming IT at other Kentucky agencies including public advocacy, the department of corrections, state parks, medical examiners, police, and health and family services.

For the Commonwealth of Kentucky, SteelFusion is a critical step in its IT modernization effort to make government more responsive to citizens. As Wagers says, to summarize, "We saved money. We modernized our infrastructure. Back-ups are now completing. If we want to spin-up a new server there is no buying a new server and waiting for it to come in. The time to deployment has been reduced significantly because we can leverage our existing VMs. So, we have future-proofed our infrastructure."

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About Riverbed

Riverbed, at more than \$1 billion in annual revenue, 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 28,000+ customers include 97% of the *Fortune* 100 and 98% of the *Forbes* Global 100. Learn more at riverbed.com.

The Riverbed logo consists of the word "riverbed" in a lowercase, sans-serif font. The "river" portion is in a dark grey color, and the "bed" portion is in a bright orange color.