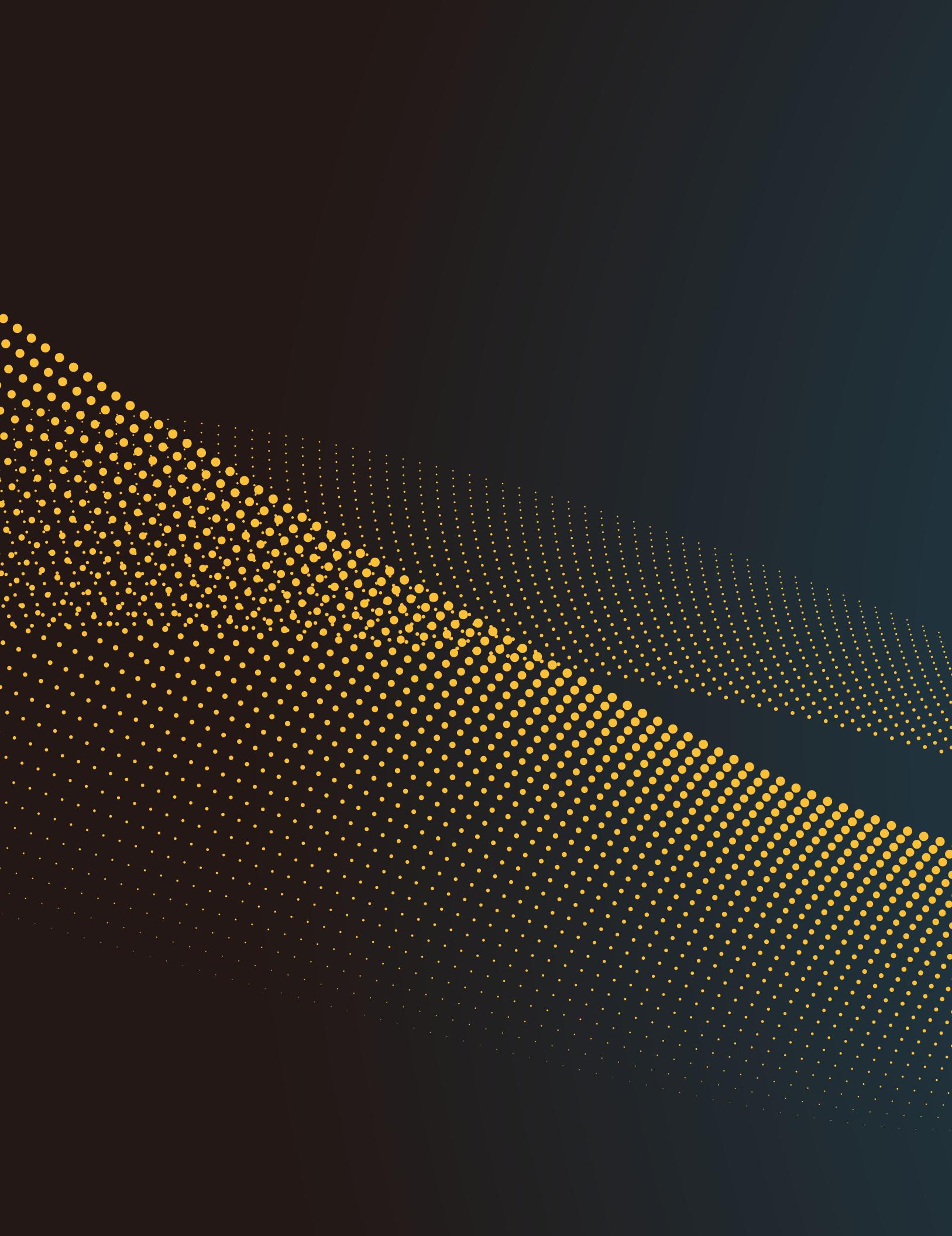


Converging IT to Meet Your Mission Needs

Industry Perspective





Executive Summary

Traditionally, government data centers house large collections of disparate servers, storage and networking equipment that support specific applications. Multiple vendors often supply these components, creating a lot of work for agency IT professionals who must ensure that all those solutions work together and are integrated into the overall IT infrastructure.

Legacy systems often include multiple generations of software, with different support staff managing each system. This creates additional silos between IT and operations teams, which can be problematic when trying to navigate IT upgrades.

Simply put, these traditional methods of managing government data centers are no longer sustainable.

How can government agencies, particularly at the federal level, better manage these ever-increasing volumes of data and their IT infrastructures? The answer lies in converged infrastructure (CI). Rather than running many separate systems across a data center, CI combines servers, storage and networking into a single unit. It often includes applications, too. This solution can improve IT simplicity, speed, responsiveness, dependability and affordability.

In the following pages, you'll learn more about the state of government data centers and IT systems, how CI can help and what solutions and strategies can get your agency started on managing a more seamless IT infrastructure.

You'll also hear from experts at IronBrick on navigating government IT and converged best practices:

- **Jeff Morrow**, Co-founder and Vice President National Security Programs
- **Paul Selby**, Vice President of Sales
- **Steve Miller**, Director of Consulting

After reading this resource, you'll have a better understanding of the data center challenges government faces and how CI can address them.

The State of Government IT Systems

For many federal agencies, each IT need seems to come with a new, separate IT solution. This has complicated infrastructure for many agencies because as agencies keep adding disparate solutions, they start to become cumbersome components that IT teams must manage with their old IT infrastructure. In fact, maintaining disparate, legacy systems still dominated fiscal 2017 IT spending.

"What we found in the federal landscape is legacy, siloed environments across agencies. Each has a single initiative or goal," Steve Miller said. "There are diverse workloads across multiple instances and redundant teams, as well as disparate hardware with different brands, models and configurations."

The CIO Council's January 2017 State of Federal IT report reveals that, despite IT modernization efforts in federal government, there is an overabundance of legacy systems and redundancies that "have resulted in inefficiencies and an inability for agencies to take full advantage of advancements in technology."

When government fails to keep up with IT modernization, agencies fail to meet their No. 1 mission: delivering quality services to the public. Agencies are already struggling to keep up with citizens' demands for high-performing websites, applications and digital interfaces.

IT silos and redundancies also pose problems for IT teams trying to manage these data centers and infrastructures. According to a 2017 Meritalk survey of 150 federal IT managers, three out of four respondents said data center workload plus data and user demands have increased in the past three years. Another 58 percent say their agency's current data centers are struggling to keep up with growing demands.

So what does this current IT environment for government mean? "Government is having problems with efficiency," Jeff Morrow said. "There's confusion as to who has the responsibility for which elements. There are a lot of silos around the operations and management of those environments."

The state of government IT can be summed up into two primary issues, Miller said:



- 1. Communication and visibility between teams:**
"One department may not know the goals of another and lack the coordinated effort to ensure all members of the team are on the same playing field."



- 2. Agility and speed of delivery:**
"If there's a new mission or new infrastructure, the team has to start from scratch. But you really need more consistency, standardization and scalability to deliver better IT services in a timelier manner."

Government cannot afford to continue the status quo. Instead, agencies need data center transformation that empowers IT and accelerates mission performance. CI can help the federal government do just that.



What is Convergence?

As opposed to owning and managing disparate hardware, CI offers a more flexible self-service model in which resources are consumed on demand. Rather than multiple IT assets in independent silos, CI bundles hardware components with a management platform or software to orchestrate and provision the resources as a single integrated system.

CI can serve several purposes for agencies, including:

- **Data analytics**
- **Storage**
- **Workforce productivity**
- **Agency-specific applications**
- **Business processing**
- **Virtual desktop infrastructures**

Traditional data center design requires application servers, backup appliances, networks and storage systems to be individually configured and linked together. Often, a dedicated IT team manages each component separately.

In contrast, CI offers branded and supported products in which all the components — servers, software and storage — reside natively on a hardware appliance. With convergence, the same services provided in stacks of equipment can be achieved in one integrated box.

Vendors typically sell converged systems as a platform. In some instances, that bundle will comprise multivendor components, but everything is prebuilt. Support is also handled through a single vendor, which makes resolving problems much easier.

"With converged infrastructure, you can have a single vendor to work with," Paul Selby said. "One organization is responsible for the support of the whole infrastructure."

CI not only means reducing IT complexities, but also improving mission performance for agencies.

"Right now, there is more data than we know what to do with," Selby added. "There are thousands of hours of video and petabytes of data without the resources to take advantage of all of the information contained within the data. We need to be able take that information and transform it into knowledge. Taking data and turning it into actionable intelligence is really what our goal should be."

CI can help agencies manage the influx of data, improve collaboration among IT teams and ensure improved agility and speed in IT services delivery.

***The goal of CI is simple:
reduce complexity in data
center management.***

The Benefits of Converged Infrastructure

Many needs are driving government's adoption of convergence, including cost reduction, data protection, scalability, and improved IT performance and mission achievement.

A significant advantage to buying a converged system is the peace of mind that comes with purchasing one validated platform. A typical CI stack is preconfigured to address the needs of a specific workload such as a virtual desktop infrastructure or database applications.

"A converged solution provides a holistic platform," Morrow said. "It can be any application. Converged solution architectures are designed for use in various deployment scenarios whether at the agency's main data center or out in the field at a remote location — anywhere information needs to be accessed and processed for applications and analytical purposes, with a variety of different outcomes."

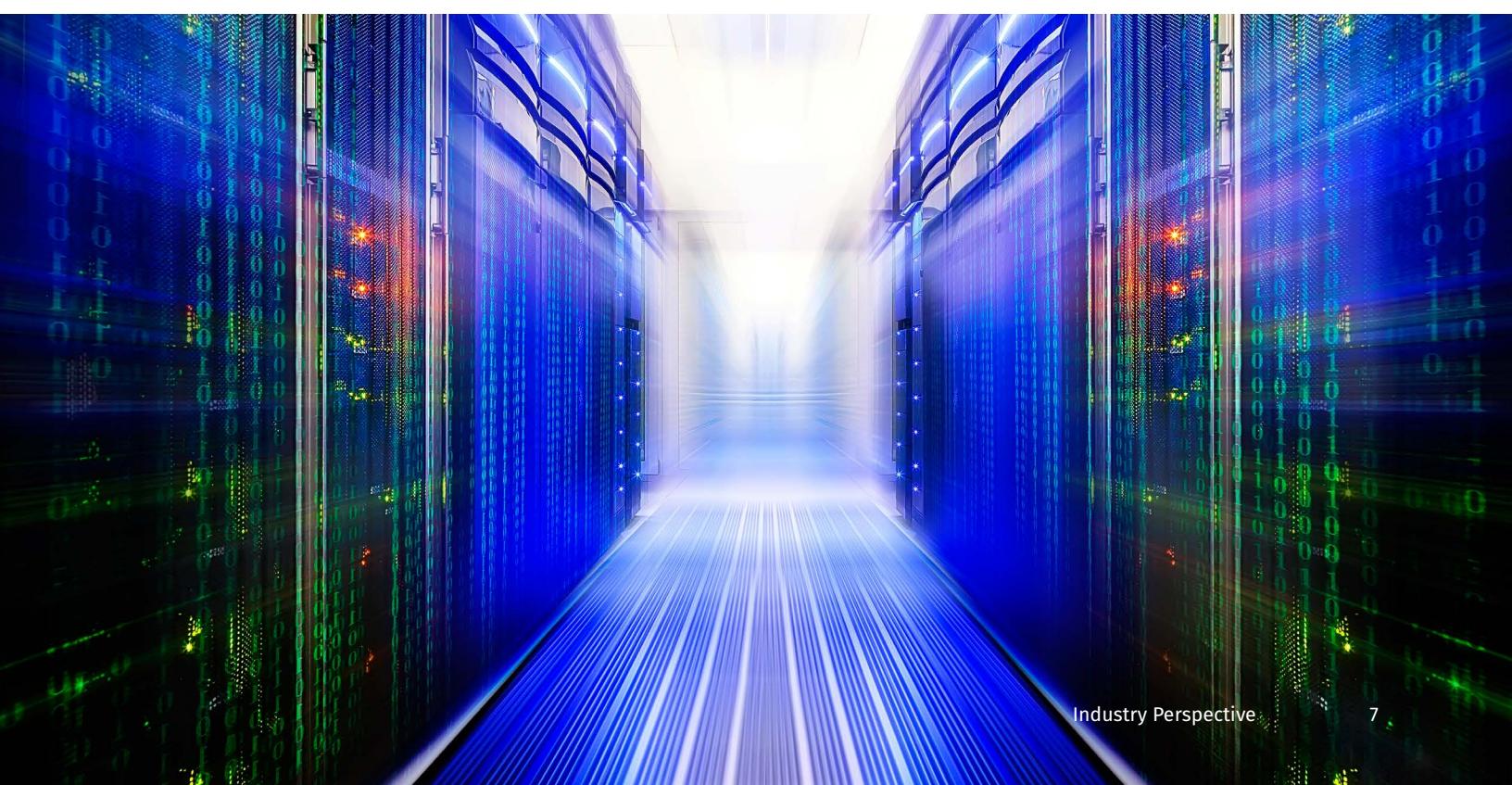
Additionally, CI products enable users to independently fine-tune improvements and

management over IT architectures. The vendor supplying the converged system provides a single point of contact for maintenance and server issues.

CI can revolutionize almost any IT platform. Some of the top benefits government workers cited in the MeriTALK study are reduced IT budgets (88 percent), support for mission-critical workloads (77 percent) and improved operational efficiency (57 percent).

Once CI is in place, devices can easily serve more than one group or location within an organization, which allows capacity to more closely match needs. Furthermore, agency leaders don't have to worry about spending money on unused capabilities. This is because CI's smaller physical footprint in the data center helps reduce the costs associated with cabling, cooling and power. Older equipment can also be phased out in favor of newer resources.

Overall, CI can help federal agencies keep IT resources streamlined and under control.

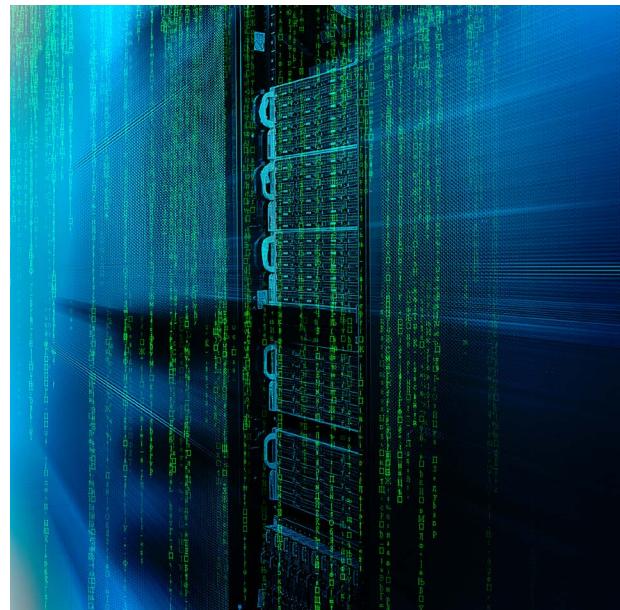


Creating the Right IT Ecosystem

Before your agency can get started with CI, it's important to set up the proper IT environment, or a thriving "IT ecosystem," which is more conducive to CI implementation.

"The IT ecosystem is what we're focused on at IronBrick. It's not about the storage, the servers or computing assets. It's really about the services to the end users and modernizing the IT ecosystem to deliver those services rather than providing specific IT components."

-Paul Selby, Vice President of Sales, IronBrick



For your agency to create the right IT ecosystem conducive to CI success, it's important to follow these best practices and recommendations:

- 1. Identify use cases.** With data, user and workload volumes increasing, consider where CI solutions would work best for your agency. Determine what IT strategies and investments it can best support and in which environments CI would be most beneficial.
- 2. Champion buy-in.** Identify key personnel in the organization who can effectively drive the change your agency needs to implement CI. When leaders hear about convergence for the first time, they might think it's simply a solution that combines IT and data centers. CI can reduce cluttering in data centers, but the benefits far surpass organization. When discussing CI with senior decision-makers, reference other agency success stories, especially those that emphasize improved operational efficiency, deployment turnarounds and mission success.
- 3. Streamline IT organizations.** Set your IT groups up with the right information to effect change from within. Assign roles accordingly and understand what parts of the project need to be addressed. For example, make sure your storage and networks are managed from a single pane of glass, meaning all teams have the same visibility. Foster collaboration by bringing teams together in person, if possible.
- 4. Prepare to scale.** As you start to implement the converged technology, you may see IT innovation opportunities quickly expand. For example, you might want to use all the streamlined data your agency has to launch a huge open data project. But don't get too ambitious and overreach your agency's capabilities. Instead, start by incorporating convergence into your agency's IT strategy and go for the smaller wins. As you implement, lay the groundwork for future IT expansion.

Converging Partners and Platforms

Agencies need a virtualized, flash-based, automated and orchestrated platform that eliminates redundancies while helping teams process all the data that's out there. CI platforms such as FlexPod simplify and modernize IT with continuous innovation.

The FlexPod data center platform is a cloud-ready, pre-validated solution that brings together computer, storage and network components from Cisco and NetApp and integrates them into a single architecture. FlexPod offers a comprehensive, integrated architecture for large enterprise data centers — those that demand agile platforms with high availability and scalability.

What makes IronBrick's go-to-market solution unique is the convergence of industry partners to make the solution as seamless and agile as possible.

"What we do at IronBrick is create an ecosystem of partners," Selby said. "Think of IronBrick as a boutique systems integrator that helps agencies achieve their missions. We build the virtual teams and put together a variety of industry partners to help solve their problems."

Not only are industry partners brought together in a collaborative and holistic manner, but their solutions are also integrated in a secure manner. IronBrick has demonstrated success in removing complexities that many agencies face by introducing a secure supply chain, which fosters collaboration and communication amongst distributed engineering teams at the forefront of solution design and acquisition.

"We introduce a secure supply chain to an organization from a converged standpoint," Morrow said. "We're talking about 10-12 unique technologies into one solution. Our proven performance with this integrated approach has helped agencies to streamline system deployment from weeks to days, reduce traditional data management activities and exponentially impact mission objective timelines"

To put it into perspective, FlexPod is a platform comprised of top products from two industry leaders, Cisco and NetApp. FlexPod solutions include Cisco Unified Computing System (Cisco UCS) servers, Cisco Nexus switches and NetApp flash storage systems. With this type of convergence, engineered systems can be deployed in days/ weeks, applications can run 20 times faster, and require eight times less space and 16 times less power. Plus, agencies can free up their IT teams from the manual labor of data center management so they can focus on other critical mission objectives such as IT innovation. Lastly, IT teams are forced to be more communicative about any issues rather than dealing with them in a siloed manner.

Conclusion

The current state of federal IT is no longer sustainable. Modern demands mean government must change the way it purchases, builds and delivers IT solutions.

CI offers a way to combine leading industry networks, storage, services and solutions into one manageable data center platform. IronBrick offers federal agencies a way to partner with leading private-sector companies in a way that doesn't require managing disparate solutions and vendors.

The future of IT is already here. With CI, government has a chance to stay ahead of IT modernization by enabling IT teams to focus less on managing data centers and more on innovation. Most importantly, agencies can meet the public's growing demands.

About IronBrick

IronBrick's innovative solutions transform federal IT platforms by solving their most important and complex challenges. Our results are achieved by leveraging our long-standing partnerships with leading technology companies. Our value is demonstrated by focusing on our customers' highest priorities: data center to cloud, and security to big data & analytics.

To learn more about what IronBrick can do for your agency, visit us at ironbrick.com.



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About GovLoop

GovLoop's mission is to inspire public sector professionals by serving as the knowledge network for government. GovLoop connects more than 250,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C., with a team of dedicated professionals who share a commitment to the public sector.

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