

7 Core Practices to Achieve Data Center Modernization

Executive Summary

There's no shortage of information available to help IT organizations embrace such fundamental changes as digital transformation, hybrid IT, and moving to the cloud. In theory, you might think this volume of information should mean IT organizations have everything they need to successfully modernize their data center operations.

Yet, Insight surveys show some still-significant struggles by IT organizations. Many continue to struggle to bridge the gap between where they are now and where they need to be. This often manifests as a growing gap between IT's current state and its future, desired state.

The road to hybrid IT: Bridging the great divide

Current state

For many, this consists of:

- Many day-to-day operations still managed on-premises.
- Only 42% of legacy application workloads are optimized for cloud.¹
- Budgets, processes, and people still trying to juggle both "Mode 1" applications and behaviors while also supporting next-generation, "Mode 2" workloads.

Future state

Here are a few, common views:

- A hybrid/public cloud-based IT "as a service" paradigm.
- IT services are provisioned and delivered to consumers (i.e., developers) automatically, via standard, code-based mechanisms like IAC and APIs.
- Mode 2: Agile delivery of innovative applications and resources.

There are many questions about how best to proceed from one's current state to the future state. There are security concerns. There are challenges surrounding budget, logistics, and how best to manage it all. There's often a lack of people and skills. There are also challenges adjusting to — and meeting — organizational expectations of time to value for such a move. Navigating these areas of uncertainty and change is a lot to take on for any IT organization.

How can your organization gain the right answers to better bridge this gap? How can you continue to make healthy progress toward your own future state while maintaining your current, day-to-day operations?

This whitepaper distills several core insights from the field about what tends to work (and what doesn't) when it comes to bridging gaps, changing minds, and speeding the move toward tomorrow's desired future data center.

Would it surprise you to learn that most such insights are not about the technology needed to get there?

Core insight #1: Be prepared to invest in both sides

Many organizations are eager to move to a full, public cloud-based OpEx cost model. This eagerness and investment, however, is often tempered by a still difficult truth: Your current state, on-premises environment is not likely to go away overnight. In fact, the majority of companies with earlier success with cloud still embrace a hybrid IT mindset where some workloads are deployed in a public cloud while others remain on-premises.

Despite the growing angst against “technical debt,” many organizations may still need to invest in more or better on-premises hardware or software to meet their day-to-day needs to store and protect data or to deliver quality IT services to the business. For this reason, don’t be surprised if this interim phase still requires a stair-step of local investment all while investment is underway in public cloud initiatives.

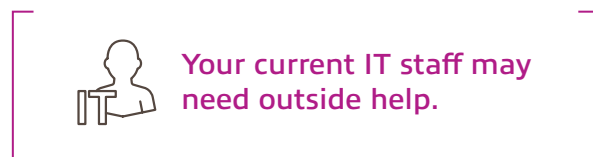
Don’t assume, however, that any on-premises “traditional” hardware acquisition will be a wasted investment as you progress toward modernization. In the case of AI, modernization of compute, network, storage, security, etc., is likely necessary to support the extraordinary tax on compute, movement, security, and storage of massive data lakes. It is important, though, to ensure the investment you make will be good at supporting your new modernization initiatives.

Organizations should still address current on-premises challenges across all areas of the data center. One great example is with data protection. Many IT organizations have growing needs to protect large data sets and finite storage capacities. This may require further, interim investment in on-premises architecture to help them upgrade or improve data protection. In addition, there may be a need to invest in foundational, cloud-ready technology and application investments to support future cloud environments.

Core insight #2: Free your people

When speaking with organizations about their plans to move to the cloud, a common complaint is: “It’s taking us too long to get there.” Unfortunately, you don’t have to meet too many members of IT to glimpse part of the reason why.

IT teams are often too busy doing the business of day-to-day operations to progress much on tomorrow’s cloud vision. Recently, one key IT staffer even had to cut a critical cloud meeting short in order to handle an IT, out-of-space “fire drill.”



Some organizations may opt to hire another team just to work on future-state innovation or a consultant to assess, develop a strategy, and/or help with execution of the plan.

Others may offload day-to-day IT operations functions to some type of managed service provider. We have seen IT organizations do this and subsequently **free over 1,000 IT hours** for such projects as digital transformation, innovation, and data center modernization.

And, just as your IT people need more time to assimilate and learn, they also need to be freed from the unspoken demand to have all the answers for IT’s future state. Here as well, it’s important to give them time to learn while allowing them to take advantage of the expertise and recommendations of partners experienced in transforming IT organizations.

Change does cost money. There is a lot of promise to transformation, including greater agility, the potential of cost savings, innovation to improve customer experiences, etc. However, it will take time and investments to transform.

However, done well, there is greater upside: transformation.

Core insight #3: Manage (and reset) expectations

There can be an occasional disconnect between executive expectations about “a move to cloud,” Artificial Intelligence or Machine Learning (AI/ML), and how long it may actually take to realize full value of a particular move.

Specifically, in regards to widespread AI/ML initiatives, it may be necessary to reset expectations with management. This may even mean establishing a more realistic timeline, such as 12–18 months, before they can truly transform data into information and then drive value from that information.

IT organizations may need to do the same with the shift to app-centric, Mode 2, and the cloud.

This doesn't mean IT becomes the perpetual nay-sayer standing in the way of progress. Rather, it's more of a reset of expectations that defines the phased nature of the change and its more realistic timelines. You might say, for example, “While we won't see the full impact of this initiative for [18 months, 2 years, etc.], you can expect to see these positive changes [in the first 6 months, 12 months, etc.]”

How do you know what's realistic?

Do you need help defining what's realistic, then setting expectations accordingly? Consider leveraging outside experts to assist you in setting future direction, future architecture, and realistic timelines.



- **Take advantage of external assessments.** To help them, Insight clients often find it useful to undertake an external **assessment** of their IT organization's current state, its current workloads, and its organizational readiness to move to one or more cloud platforms.



- **Inventory workloads.** Also, take the time to understand current workloads (along with their interdependencies). This is critical to help your IT organization understand where you are first before solidifying plans to go somewhere else. Having a solid inventory of workloads is also critical to understanding your ROI.

The findings of such work can help support a more realistic future-state roadmap and timeline.

Core insight #4: Identify and train them up

Start identifying those IT staffers who are particularly passionate about the upcoming transformation and who are proven self-starters. These are also the ones you might earmark to take on some newly created IT transformation roles later in the process.

Give these self-starters and other members of your IT team the time to invest in reading, study, and added training. The goal? To help them learn, understand, strategize, and prepare for the new language of DevOps, the new ways of consuming infrastructure resources, new cloud paradigms, and what they mean for tomorrow's modern data center.

This means giving them access to the training resources they need. But, it doesn't mean sending your people to sessions about the latest storage array features. It might mean, instead, sending them to cloud conferences where they learn how other IT organizations are grappling with (and solving) the challenges of this brave new world of hybrid IT and public cloud.

If there are any stark gaps in IT team capabilities, look to hire more resources who can contribute to the growing knowledge base of your team.

Future goal: This training investment can also help teams get ready for a more formal IT reorganization later in the process. This may likely involve a change in job titles and responsibilities to better align with Mode 2 objectives. Here is a small glimpse at a few, emerging titles we have begun to see: vice president of innovation, vice president of IT transformation, chief transformation officer, chief strategy officer, chief digital officer, DevOps engineer, and cloud architect.

Core insight #5: Build cultural bridges

Seeding change and getting executive buy-in are not new concepts. Any successful IT initiative usually has these characteristics in abundance. Transforming the data center from Mode 1 to Mode 2 is not just one change, but a seismic shift in process and the way of doing business.

This means IT teams that have been operating in silos will need to work together. Ultimately, they are likely to be combined and restructured, with new roles, new job titles, etc.

While formal restructuring may wait, it's never too early to start building cultural bridges and setting future expectations. The efforts of DevOps and DevSecOps have already begun this journey with many organizations.

It's time to continue it by breaking down the cultural and operational walls between:



Infrastructure team members
(storage admins, IT admins, DBAs)



Application developers
(Agile and DevOps, included)



Security team members

This can happen on both an informal and formal basis: Cross-team lunches, casual gatherings, cross-invites to team meetings, etc. The important part is getting to know the language, priorities, needs, and mindsets of the "other side."

This is a good time to also seek input from team members about the upcoming changes. Encourage open dialogues and solicit the opinion of your IT team. Many of them know the business well and want the opportunity to help shape future changes for the benefit of the business.

Core insight #6: Establish a cloud architecture board

As you move from Mode 1/legacy to app-centric Mode 2 operations, there comes a point where you will need to formalize the process, policies, governance, and operations model for such areas as hybrid and public cloud.

While this may have been happening as more of an ad-hoc effort in the early stages, it's important for the IT organization to have a consistent operating model and set of practices that each member follows to deploy, manage, and secure new application workloads, all while controlling cloud costs.

You may decide not to call this group or set of individuals a formal "cloud architecture board." You might call it the innovation team or something else. Whatever you call it, consider including individuals from application development or DevOps (who can speak to workload requirements), IT infrastructure (who can weigh in on such areas as multicloud, public, hybrid, or private cloud implications) and security (who can highlight potential security issues).

Duties of this team or board may include areas, such as:



Creating governance policies and guidelines that the board and IT organization will follow



Reviewing application architectures before they are deployed



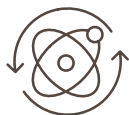
Creating the process of deployment (previously traditional change management)



Creating the process of on-going application oversight and management in a cloud environment

Core insight #7: Build technical bridges

As your IT organization moves from its current state to future state, there are interim steps your team can take.



- **Technology refresh cycles.** They may be interim opportunities, such as refresh cycles, to invest wisely in on-premises infrastructure. When these occasions arise, IT organizations should start looking at how a technology refresh can be used to support the organization's future-state roadmap. This might mean, for instance, looking at hardware upgrades that include strong cloud integration, open APIs, Infrastructure as Code (IAC), and the ability to automate or standardize the delivery of infrastructure resources.



- **Standardize and automate current operations.** Instead of waiting for a new, future public cloud reality, start implementing incremental changes now in your on-premises environment. This means embracing the concepts of IAC, automation, and standardized ways to deploy application workloads and resources. This can ease the pain when moving to a public cloud and the app-centric, Mode 2 world (which requires automated, standardized deployments). Adding standardization, automation, and such areas as IAC may be difficult for some organizations. Again, advice here is to seek help from partners with experience automating legacy IT operations.

Conclusion

Modernizing your data center to achieve your own future state — an agile business — is not easy. Applying these core insights can help make the process go more smoothly.

Continue to receive guidance from peers, experts, and trusted partners who can offer more information to help you make the right decisions about your application workloads, your budget, and the development of your IT staff.

If you have a specific question or challenge that was not answered here, [why not reach out to us](#) and see how we can help? We have helped many IT organizations navigate this same journey and would be happy to work with you on your unique areas of need.

Contact Insight to hear more about [data center modernization](#) or to learn how IT leaders are advancing their business with [managed services](#).

1 IDG Research Services. (September 2018). The Challenge of Change: IT in Transition, 20. Insight. solutions.insight.com

Driving innovation with digital transformation

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