

The Foundation to Support Modern Operations

Platforms and systems continue to be the core of IT Operations

In today's era of business transformation, an organization's competitive edge is increasingly defined by its technology platforms. Numerous examples exist of traditional companies being quickly overtaken by dynamic, fast-growing digital entrants. Acknowledging this reality, organizations are grappling with the challenge of adapting their platforms to meet current and future business needs. Some are striving to evolve from stable and reliable platforms to ones that are more agile. Others excel at cloud-based experimentation but struggle to implement these innovations efficiently. Both scenarios highlight the need for platforms and systems that are tailored to achieve specific organizational objectives.

Platforms and systems continue to be the core of IT operations. Without effectively implementing these fundamental components, achieving a satisfactory return on investment from these endeavors is unlikely and meeting business objectives becomes a challenge.

Clarifying Systems and Platforms

A system is a specific software or hardware unit that executes code to deliver a service, for example, a server, virtual machine, or business application. In contrast, a platform refers to a broader, more integrated environment that enables different systems and applications to interact and function together. Examples include a virtual compute cluster, a Kubernetes cluster, a cloud computing platform, or a mainframe. While a system may be suitable for the needs of a small

project, platforms get work done at scale. While systems can operate independently of platforms, platforms inherently rely on the presence of systems.

Platforms also include connectivity and data storage generally be consistently available, subject to security requirements. A platform will also generally specify additional functions a system would need to operate at scale such as monitoring services, data resilience services, data protection services, and other useful capabilities.

Consider the transportation network in a city. The individual systems are the subway trains, city buses, and automobiles. Each of these functions independently, catering to passengers with different needs. The interconnected roads and railways act as platforms, facilitating the safe and efficient movement of commuters through the city. Like modern enterprises, cities are dynamic environments with constant changes, necessitating that roadway systems (platforms) evolve in response to the city's evolving landscape and emerging commuter trends.

Tailoring Systems to Specific Environments

Much like how various transportation vehicles are required for varying passenger needs, diverse types of systems are essential for distinct areas within an enterprise. The requirements for a system in an edge computing environment can significantly differ from those in a central data

Case Study

National Specialty Healthcare Payer

CHALLENGE:

The client needed to integrate IT systems following an acquisition. They required additional compute and storage capacity to manage increased workloads while ensuring compatibility with existing systems and minimizing disruption.

HOW WE HELPED:

The Evolving Solutions team collaborated with the client to deliver an infrastructure update tailored to their integration needs. Key steps included:

- Providing additional UCS resources to address increased demands from the acquisition.
- Configuring and testing the new infrastructure to ensure compatibility with existing systems.
- Supporting the client's team in deploying and stabilizing the new environment, allowing them to focus on application migrations.

RESULTS:

The client's refreshed and expanded UCS environment was fully operational within three months. The updated infrastructure provided the compute and storage capacity necessary to integrate the acquired company's IT systems. Additionally, it extended the lifespan of existing systems while positioning the organization for future growth.

center. This variation also applies to different workload types within an organization. For instance, a system handling financial transactions demands high reliability, availability, and resilience, as any downtime can lead to considerable financial repercussions. Such a system necessitates robust security measures and a reliable backup system. On the other hand, a server that collects sensory data at the computer edge needs to emphasize real-time data processing, low latency, and environmental adaptability to align with the requirements of on-site, real-time monitoring. Such systems probably won't require the same level of investment in backup and monitoring as a system dealing with financial data.

Platform Essentials for Modern Operations

A fundamental role of platforms is to align the right resources to the right workload. To achieve that in today's digital landscape, platforms must be developer-friendly. Developers are the architects of digital innovation and the code they create brings innovation to businesses. This development process hinges on robust pipelines and continuous delivery mechanisms that enable rapid creation of new features and timely resolution of code issues. In modernized IT operations, we don't create anything by clicking "Next" in a wizard. When new systems need to be deployed to meet fluctuating workload demands, the required configurations

for networking, software, and security must be delivered through code, because in today's world, code makes things, patches them, and updates them.

In addition to being optimized for workloads, platforms need to be optimized for each aspect of modern operations including modern networking, pipelines and automation, observability, and data availability and protection while ensuring security throughout your IT environment.

Regardless of prior successes you may have had in implementing platforms, the clock is ticking in terms of that success because things are changing so fast. If you cannot change your platforms quickly enough you will fall short of delivering what the business needs, primarily agility and speed. For instance, when a company initiates a pilot program, platforms should empower developers to rapidly establish new environments through automation. Similarly, if a pilot gains traction, the platform should be capable of scaling up or down fluidly to accommodate fluctuating user demand. In essence, platforms today

are more than just infrastructure. They are dynamic ecosystems that must continually evolve to support the fast-paced, innovative, and scalable needs of modern digital enterprises.

Securing Platforms and Systems

One of the biggest challenges in securing platforms and systems is ensuring that business and regulatory controls are applied consistently across a very diverse range of technologies from a diverse range of vendors. Our philosophy is that you need to look for tools and processes to normalize this diversity to create a consistent way to manage security across platforms and systems. For example, reporting on security and compliance in an AWS EKS cluster is much different than how this reporting works for a mainframe. Because there's no single tool that can do this, automation becomes very important for providing this consistency in reporting and validating audit controls and compliance across disparate platforms.

When a breach occurs, time is precious. Since threat actors use automation to launch attacks, automated security in the data center is the only practical way to respond. Manual response and remediation will likely overlook key actions that will create holes that threat actors can exploit. The security industry is already providing this type of automation through security orchestration, automation, and remediation (SOAR) platforms, which automate remediation and help ensure an attack doesn't spread. So, having an automation playbook for different kinds of remediations is an important part of securing platforms and systems.

Another security consideration is to ensure that software patching is up to date. For cloud environments, organizations should ensure that their code repository for infrastructure as code is protected from deletion, ransomware, or other risks. Organizations also need to protect code repositories from corruption because a nefarious actor can, for example, introduce difficult-to-find lines of code that may deploy a bot whenever a new server is deployed.

Incorporating AI into Platforms and Systems

Most platforms have built-in AI to do some level of performance tuning and in many cases, traditional

Action Recommendations

Implementing an effective platforms and systems strategy that meets current and future business needs can be challenging, but here are three steps to get you started:



Review your application strategy to ensure you have a systems and platform strategy aligned to the needs and impact of your applications.



Consider approaches to a platform that minimizes vendor lock-in. By using automation and configuration standards, you can reap the benefits of a consistent platform without choosing only one provider.



Align your platform strategy with your business's reliability, performance, security, and availability requirements and each individual workload. Plan for the skills and education your team will need to be successful and deliver the expected outcomes.

observability tools provide some level of AI-driven optimization insight. It's a characteristic of Kubernetes and is a feature of infrastructure optimization tools, which manage and continuously

optimize hybrid cloud environments with intelligent automation.

AI for observability is evolving. To take advantage of future capabilities, organizations need to normalize log data using consistent metadata across platforms and systems. To support the environment more broadly with AI, organizations also need some sort of centralized logging. Centralization enables organizations to use log data to its fullest extent. AI will be able to actively monitor an environment to spot trends, make recommendations, and enable organizations to tune performance across an entire platform rather than a single system. In addition, with proactive log data collection, organizations can have better predictability for performance and failure.

Code-building generative AI is already helping data center professionals automate things like

cluster deployments with consistent and specific characteristics, enabling data centers to do more with fewer people, which leads to improved security because there are fewer opportunities for error.

To ensure AI is integrated appropriately into your platforms and systems, start by defining outcomes before picking a tool. Don't get distracted by a vendor's "great feature" before defining outcomes, or you may risk spending more money on an AI initiative than the value it generates. This is a common issue with many AI programs.

automation playbooks, such as automatically starting an Ansible script to isolate certain a high-value environment or to take a snapshot of your transactional data, so in the event that a bad actor does get through, you have a copy of data to compare and contrast with known good copies.

Understanding Your Needs Upfront

While the ability to adapt your platforms and systems is critical, that doesn't mean you can afford not to get things right the first time.

Case Study

Client: Community Financial Organization

CHALLENGE:

The client needed to modernize and simplify a legacy three-tier IT infrastructure to enhance performance and reliability while minimizing downtime during the transition. It was crucial to implement a scalable solution that addressed compute, storage, and data protection needs while positioning the organization for future growth.

HOW WE HELPED:

The Evolving Solutions team partnered with the client to design and deploy a hyper-converged infrastructure (HCI) solution tailored to their requirements. Key elements of our approach included:

- Recommending a hyper-converged approach leveraging two integrated solutions to deliver a strong framework for compute, storage, and data protection.
- Executing a detailed migration plan to transition workloads and data with minimal disruption.
- Providing comprehensive knowledge transfer and ongoing support for client's IT team to manage the new environment.

RESULTS:

The client's IT infrastructure was successfully modernized with a seamless transition of all workloads to a new hyper-converged platform within a tight timeline. The project integrated scalable solutions for compute, storage, and data protection. It also enabled disaster recovery capabilities between data centers, which minimized operational risks. Finally, it also positioned the organization to leverage advanced features, such as micro-segmentation and multi-tenancy, to support future business needs.

Overcoming the fallout of inadequately planned or poorly executed strategies is often a luxury you can't afford. Proprietary solutions must be carefully evaluated and scrutinized as the time and cost of later transitioning to another solution platform can be excessive. For example, opting for a proprietary solution like VMware also commits you to specific monitoring tools compatible with it. Each platform carries inherent costs, which need to be factored into the decision-making process.

Beyond the constraints of proprietary solutions, companies can inadvertently lock themselves in other ways. Too often, companies build solutions based on their current skill sets and the "way we've always done it" mindset. While you want to build on your knowledge bases and current foundation, you want to bring in new technologies as well.

Another way enterprises corner themselves is making cost optimization choices based on upfront costs and accepting the shortcomings of this initial decision. Ultimately, the expense of addressing these shortcomings can significantly surpass the initial savings, emphasizing the need for a more forward-thinking and holistic approach in platform and system selection.

In today's business landscape, the key to addressing opportunities and challenges effectively

lies in having the right systems and platforms in place. While organizations excel in their core business areas, they often lack the comprehensive knowledge, experience, and specialized personnel required to optimize these crucial technological components. This is where external expertise becomes valuable.

How Evolving Solutions Can Help

Platforms and systems have been central to Evolving Solutions since our inception. Our team's extensive experience and client engagement skills mean that we're well-versed in common challenges, saving you the cost and time of navigating hurdles that we have seen time and time again.

Our technical teams consist of seasoned professionals who have experience as both customers and consultants. It's more than just understanding technology. We understand how to align it precisely with your business objectives. Our expertise involves evaluating the pros and cons of various technologies as we work with them daily across a diverse range of environments. From assisting in the intricate selection of a platform to providing insights on cloud migration strategies, our goal is to expedite the realization of value from your investments.



We're here to help your organization build a modern operations environment.

Let's Get to Work!