FROM THE SERVER CLOSET TO THE CLOUD

Breaking the Client/Server Barrier with
Virtual Desktop Infrastructure

REPLY
VALOREM

Executive Summa-

Legacy client/server applications common to retail, manufacturing, healthcare, and other verticals are often a barrier to cloud adoption. In this article, we discuss how virtual desktops can provide a stepping stone to modernization. This approach improves resilience and reduces cost and risk—all while creating the foundation for leveraging cloud-native services and development methodologies.

The Server in the Closet:
A Barrier to IT Modernization

Most businesses recognize the value of cloud technology and are actively engaged in migration or cloud-native development. However, sometimes the path to the cloud is not clear. If modernization means ripping and replacing existing, functional systems, the cost, complexity, and risk of such a move can cause the organization to hesitate.

This is often the case with traditional client/server apps commonly found in retail stores, warehouses, factories, and healthcare facilities. Despite the futuristic vision of cloud IT, businesses of all sizes still rely on local hardware to get work done. From a business perspective, these systems are great candidates for moving to the cloud. The cost and complexity of supporting tens, hundreds, or thousands of server boxes across many locations is high, often requiring a team of traveling professionals. Hardware is often grossly overprovisioned—

or suffers from performance issues. Rolling out security, feature, and OS updates is a logistical nightmare.

If the servers contain sensitive data, managing compliance and security risk is truly daunting—especially when it's difficult to prevent direct physical access to the hardware. Finally, given the recent shift to remote work across industries due to COVID-19, many businesses are finding that they want more flexibility to access IT systems and applications from anywhere without having to navigate outdated VPNs.

A Different Approach
is Needed

However, many organizations stumble when trying to modernize these applications. They're just not built for the cloud, making a simple "lift and shift" (also known as "rehosting") complicated.

Dependencies between the two halves of the system mean you can't just rehost the application server in the cloud and connect to it from a PC. Traditional remote desktop services (RDS) might be a solution, but they are often expensive to license and can create serious latency issues. Furthermore, these applications often rely on traditional file servers rather than modern storage architectures.

The obvious answer is to modernize the application itself before migrating—but this is a daunting proposition in many cases. You might face poorly maintained and poorly documented code, arcane architectures, and outdated technologies. Despite their fragility, these systems are often business-critical and can't incur significant downtime. Faced with an expensive and risky modernization project, many organizations choose a strategy of duct tape and hope, leaving their businesses chained to armies of blinking boxes.
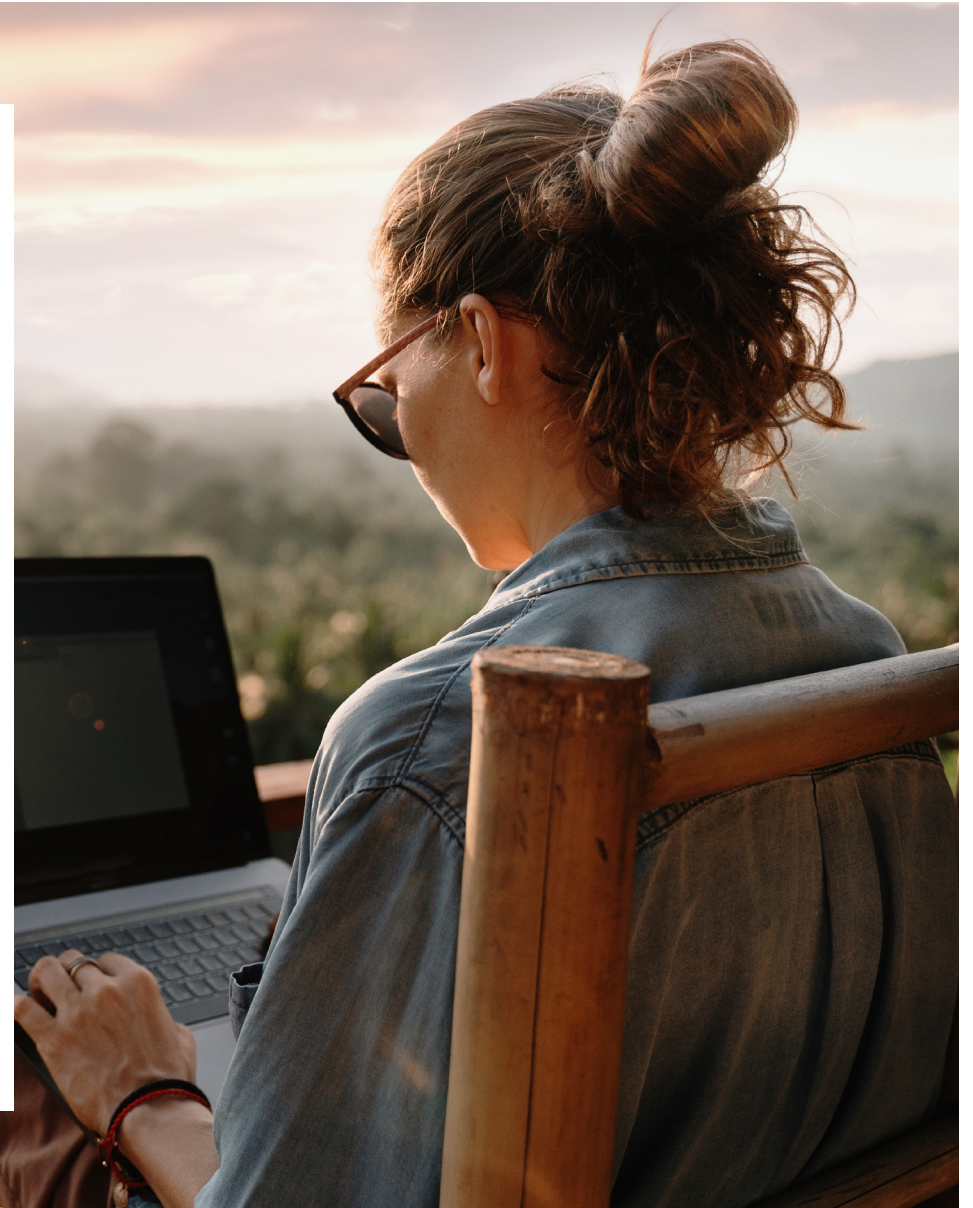
Enter **Virtual Desktops**

However, there is a solution that allows for incremental modernization without breaking the bank—or the business. In these cases, using Windows Virtual Desktop (WVD) can be a great solution. WVD is a robust, scalable desktop and app virtualization service that runs on the cloud.

With this solution, you can lift and shift traditional application servers to the cloud and connect to them with virtual desktops accessible from any type of client—even mobile devices. This allows you to take advantage of many of the benefits of the cloud, reduce the risk and cost associated with managing dispersed hardware fleets, and set your IT up for incremental modernization in ways that are not possible in an on-premises solution. It's easy and inexpensive to start with a proof of concept—there's no need to procure and manage additional hardware just to experiment with new approaches.

A **Real-World** Example

We recently used WVD and Azure to help a client whose business was threatened by COVID-19. The company operated thousands of walk-in centers providing financial services to consumers, each one running its own instance of a custom client/server application. Unfortunately, the application was only accessible from on-premises Windows clients. When stay-at-home orders forced employees to work remotely during the height of their busy season, the company had only a couple of weeks to pivot and avoid catastrophic revenue impact.

To help them, we conceived, iterated, and deployed a solution that enabled over 6,000 financial professionals to continue serving customers from home. Using WVD and Windows Azure, we were able to rapidly rehost the application in the cloud and provide access to users from their personal devices. Because the virtual desktops are self-contained, they don't require users to store sensitive data on their own devices—everything stays within the cloud-hosted apps.

What this example shows, is that using WVD makes it possible to rapidly migrate client/server apps with little to no interruption. The immediate goal in this case was business continuity in a crisis, but the long-term strategy is modernization. The client is now well-positioned to begin moving to a web services model at its own pace.
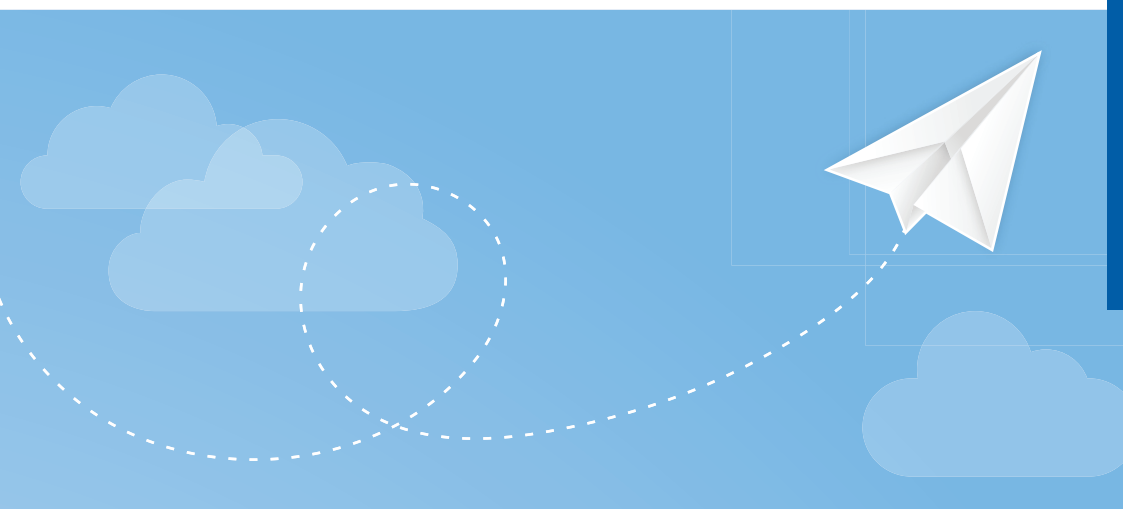
Why Accelerate
Client/Server Migration?

While this rehosting approach should be considered a temporary waypoint on the journey to full modernization, it has significant benefits on its own. It can help reduce the cost and risk associated with large fleets of on-premises hardware. Instead of managing hundreds of individual servers, you are managing virtual infrastructure from a single pane of glass.

In an era when retailers and other location-intensive businesses are looking for every possible means to reduce costs, rehosting with WVD and Azure is an attractive proposition. For example, taking advantage of the unique multisession capabilities of WVD can save you a lot on Windows licenses.
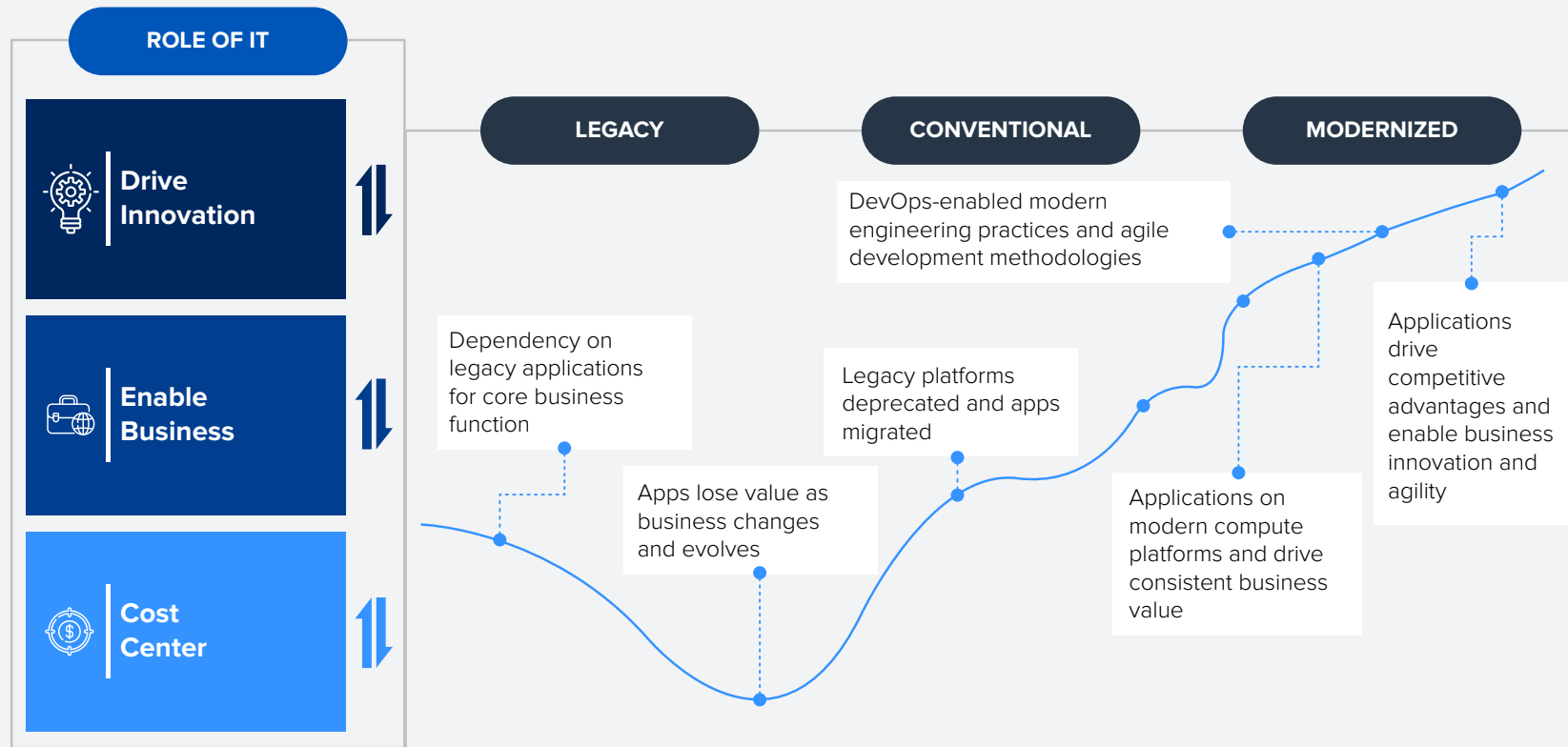
Once you have a stable configuration, you can scale it up or down depending on your needs—much more easily than when you have physical hardware to worry about. It also provides a great deal of flexibility to deploy pop-up locations and repurpose real estate.

You also gain levels of resilience and redundancy that were formerly impossible. You no longer have to worry about someone taking a location offline for a week because they spilled a cup of coffee on the server. With the rise of 5G, it's possible to create redundant networking configurations to ensure your locations never go offline. Of course, the sooner you can move to the cloud, the sooner you can begin the modernization journey in earnest.

The Cloud Modernization Journey

ROLE OF IT

Drive Innovation

Enable Business

Cost Center

LEGACY **CONVENTIONAL** **MODERNIZED**

DevOps-enabled modern engineering practices and agile development methodologies

Dependency on legacy applications for core business function

Apps lose value as business changes and evolves

Legacy platforms deprecated and apps migrated

Applications on modern compute platforms and drive consistent business value

Applications drive competitive advantages and enable business innovation and agility

Looking at the cloud modernization journey above, most companies will consider a solution like WVD when they reach the legacy inflection point where apps are starting to lose value. Rehosting client/server apps using WVD helps you migrate faster than trying to modernize beforehand. Once you're in the cloud, you have a lot more options for building value.

Once your system is stabilized in the cloud, time and resources that were formerly spent keeping hardware running can be repurposed to optimization and innovation. You have more time to spend creating value-added services rather than just keeping the lights on.

On Azure, you can connect your legacy apps to modern services through containerization and decomposing specific app functionality using microservices. Rather than doing a "big bang" modernization where you rewrite the entire code base all at once, you can experiment with new approaches at low cost and risk. When a new idea is proven, you can seamlessly move it to production without affecting day-to-day operations.

The Importance of an
Experienced Partner

While we've proven that it's robust and production-ready, lifting and shifting a client/server application to the cloud using WVD is not an out-of-the-box solution. Depending on the application, it can require some tinkering with the underlying code, and setting up the architecture on Azure is a bespoke process that's a little different for every organization.

The benefits typically far outweigh the cost, but it definitely pays to have a partner who has done this before. At Valorem, we've helped many customers migrate legacy applications so they can immediately benefit from the cloud while setting the stage for future modernization.

Before that begins, however, we always take a step back and look at the whole cloud strategy. Having a clear path beyond migration to modernization will help you get the transformational value you need to stay competitive. We take an end-to-end approach that helps you get value now and continue building on it for the future.

Getting full value from the cloud requires a strategic, phased approach. At Valorem, we have the experience and breadth of skills to assist you wherever you are on the journey. Our relentless focus on business value drives our technology approach—never the other way around. Regardless of the technology you choose, we know that what ultimately matters are the impact on your customers and your employees—and the value you bring to the world.

Let's talk about how you can break through the barriers of legacy technology. Contact Valorem today.

Cloud Strategy

- Cloud Raodmap

- Architecture

- Cloud Strategy

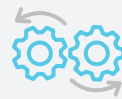- Organizational Alignment

- Change Management

Cloud Adoption

- Azure Foundations

- Infrastructure Migration

- Disaster Recovery

- Hybrid Cloud

- Governance

Cloud Optimization

- Cost Optimization

- Governance

- monitoring

- Cloud Management

DevOps

- DevOps Strategy

- Implementation

- Change Management