

AppSense User Virtualization Platform

The strategic role of user virtualization

It's time for
technology to
bend to the will
of the individual

AppSense®

You are the technology



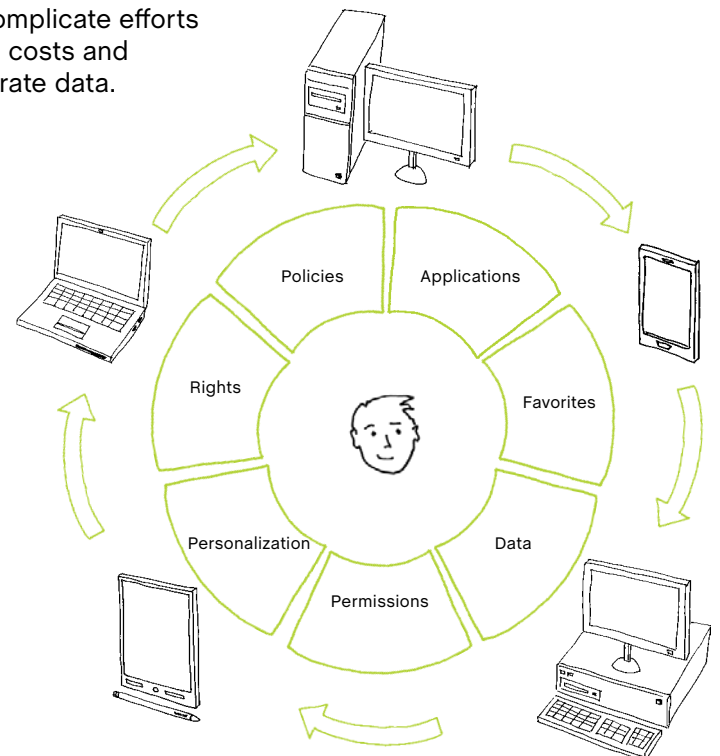
The desktop is evolving to manage user complexity

The evolving corporate desktop

Corporate computing has entered a period of unprecedented transformation. While PCs remain the predominant computing platform in most organizations, a new generation of virtual desktop and application delivery methods present new efficiency and security opportunities to corporate IT teams. However, many IT executives are finding the road to a next-generation virtual desktop architecture to be more complex and costly than expected.

For many IT executives, it feels like a “perfect storm.” Strategic infrastructure initiatives are stalling, key projects like Windows 7 migration can no longer be delayed, and iPads and other new devices are finding their way into enterprises faster than tools, processes, and security policies can adapt.

Meanwhile, an increasingly mobile workforce and a wave of non-traditional computing devices such as tablets and smartphones further complicate efforts to control IT operations costs and protect sensitive corporate data.





The business impact of user complexity

Whether an organization is using traditional desktop and laptop PCs, virtual desktop technology, or a combination, the most significant desktop management costs often have very little to do with the cost of the computing device or baseline back-end data center infrastructure. While hardware costs are easiest to quantify, the most significant costs of managing a corporate desktop or device can most often be linked to factors such as:

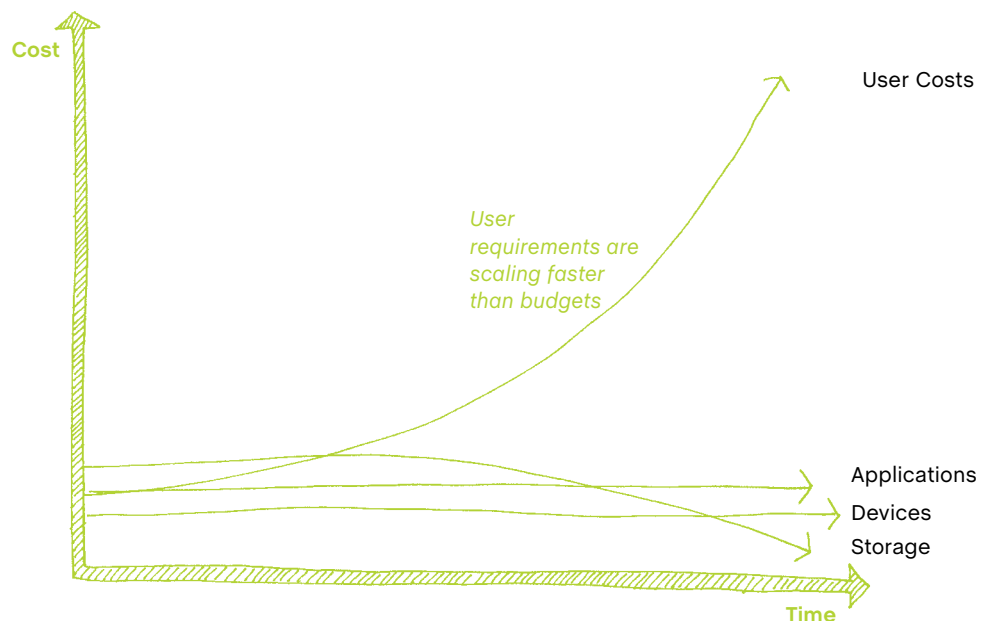
- Migrating users to new machines or new operating systems
- IT resource utilization for user support
- Lost productivity by highly compensated users as a result of system issues
- Ensuring the security of sensitive corporate information being accessed by users
- Reacting to infrastructure downtime or broader disaster recovery scenarios

As use of desktop and application virtualization expands, further complexity arises. For example:

- When users consume applications and/or desktops from Microsoft Remote Desktop Session Host or Citrix XenApp infrastructure, how can the actions of one user be prevented from impacting others on the shared infrastructure?
- As use of virtual desktop infrastructure (VDI) expands, how can IT deliver a personalized experience that users will embrace without causing storage and operational costs to skyrocket?

These areas of complexity share a common thread: **users**. Lower IT operations costs are best achieved through standardization and centralization. Yet, the moment computing resources are made available to users, standardization gives way to personalization and centralization gives way to the practical need for mobility. As a result, even as hardware, software, and infrastructure costs gradually fall, overall costs rise faster than IT budgets can keep pace.

Most frightening for today's IT executive is the fact that this trend will only accelerate as the IT "consumerization" trend continues to gain momentum.



General IT infrastructure and operations cost trends

Managing the user not the device

The role of user virtualization

User virtualization ushers in a new era for IT by unlocking the user layer from devices, operating systems, and applications. For the first time, IT needs to manage only a single instance of the user, eliminating the arduous task of running unique configurations on every device.

User virtualization enables IT teams to:

- Decouple all aspects of the user from the underlying desktop, operating system, and hardware
- Manage each user's unique 'digital personality' through a central, policy-controlled framework
- Deploy user personalization on-demand across any desktop or application delivery model

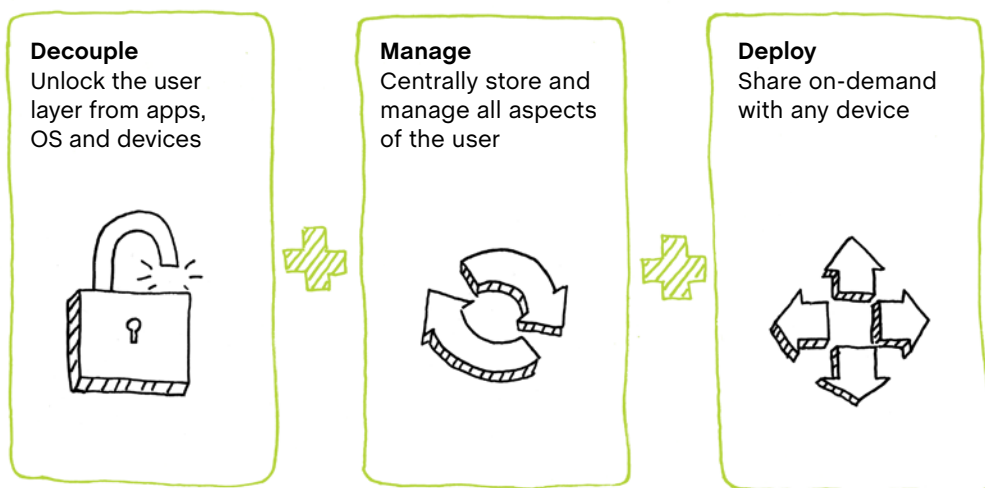
The result is the final missing piece required for IT to achieve a "componentized" desktop where each core element can be managed independently, dramatically reducing cost and complexity.

User virtualization is a transformative approach that profoundly simplifies the management of today's mobile workers, migrations, and the exploding number of devices. Isolating the user layer lets IT precisely administer users without impairing their experience. Thousands of users can be easily managed with policy templates, and automatically reconfigured by device, location, or application. The user experience remains secure, predictable, and personalized, with bulletproof reliability. Lockdown policies meant to constrain configurations are no longer necessary. IT can give users complete freedom of choice to use whichever devices suit them, and deploy a user-specific desktop to any device in any location at any time.

Working with AppSense, forward-thinking executives at thousands of leading enterprises have already freed IT from user complexity, achieving new levels of productivity and liberating their workforce from the chains of device-based management policy.

Moreover, while the point technology solutions of the past addressed small portions of a user's overall digital persona, AppSense user virtualization is a comprehensive solution that empowers enterprise IT teams to:

- Remove user complexity
- Precisely control every user
- Deliver bulletproof reliability
- Provide freedom of choice for both IT and users



A shift from monolithic desktops to a more manageable "componentized" desktop.



The AppSense User Virtualization Platform

The key enabling technology that unlocks the promise of user virtualization is the AppSense User Virtualization Platform (UVP). In much the same way that moving desktop execution and application delivery to the virtual world requires a scalable, high-performance infrastructure, the same requirement exists as managing the user becomes a core element of an enterprise desktop strategy. For this reason, the AppSense User Virtualization Platform was designed with the flexibility, scalability, and reliability to meet the needs of even the most demanding global enterprises.

Through an integrated client/server architecture, the AppSense UVP is capable of decoupling the user layer from any native PC or virtual desktop, capturing this user-specific 'digital personality' into a centralized management framework, and delivering this personalization, along with related IT-defined policies, on-demand to any point on an organization's desktop and application delivery infrastructure.

With AppSense UVP in place, traditional PCs, virtual desktops, locally installed applications, virtualized applications, and remote application sessions all become interchangeable building blocks that IT can draw from to build their own optimized "IT-as-a-service" fabric. Users and other stakeholders become less concerned with the underlying technology, as IT can deliver a consistent, personalized experience regardless of how desktop and applications are being consumed.

A comprehensive approach

The AppSense UVP controls every aspect of the desktop computing experience, providing flexibility to users and unparalleled control to the IT team. The capabilities of the AppSense UVP span diverse areas such as:

- Dynamic user-based policy
- User access rights
- Application entitlement
- Network access control
- User personalization
- User rights management
- Resource entitlement
- User installed applications
- User data

Infrastructure management tools optimize the user environment and streamline help desk support. Enterprise-class reporting and auditing tools provide IT with the visibility necessary to provide the best possible working experience to users.

Regardless of what the future holds, AppSense UVP enables IT teams to optimize existing technology investments and quickly adopt new technologies to improve user satisfaction and reduce costs.

A solution for today, tomorrow, whatever, wherever, whenever

Unmatched scalability

The infrastructure supporting the AppSense UVP is built on leading technologies and is easily scalable to hundreds of thousands of users across multiple site locations and desktop deployment models.

The Three-Tier Architecture

The AppSense UVP is comprised of a highly scalable, three-tier architecture:

Tier 1: Client Computer / Desktop

The client computer hosts the user session, which contains the AppSense User Virtualization Platform Agents. These modules monitor any changes that the user makes to their operating system and managed applications and communicates these back to the Personalization Server.

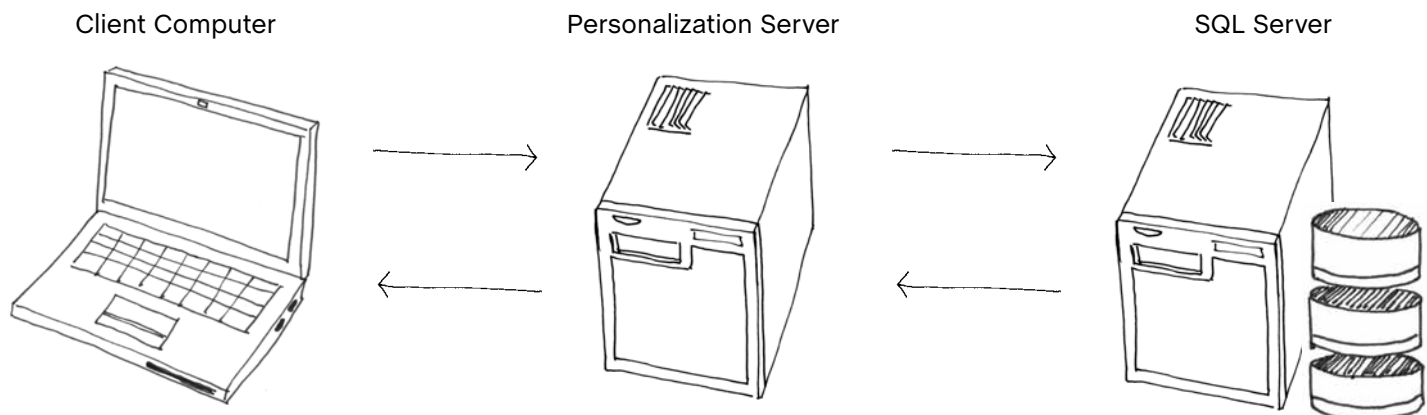
The client computers can be any combination of hardware and software that is capable of running a Windows session.

Tier 2: Personalization Server

The Personalization Server acts as a broker between the client and database, providing a secure channel to read and write the personalization data. It is designed to support tens of thousands of users simultaneously. Further scalability can be achieved through the use of network load balancing technologies, allowing multiple Personalization Servers to be configured in parallel to use a single database, or in enterprise environments, multiple (potentially synchronized) databases.

Tier 3: SQL Server Personalization Database

The SQL Server Personalization Database stores all user personalization settings on a per-application basis related to personalization sites and servers, users and groups, applications and endpoint configuration data. Settings are pushed down when the Personalization Server requests the latest settings on behalf of a client computer. Any changes made on the client computer are then synchronized back to the SQL Database via the Personalization Server.





Fully compatible with your existing investments

The most powerful aspect of the AppSense UVP is that it complements both your existing and future desktop and application investments. In addition to spanning both physical PC and virtual desktop environments, AppSense UVP also enables cross-platform roaming across a wide array of operating systems, including Windows XP, Windows Vista, Windows 7, and Windows Server 2003, and Windows Server 2008. User's can also roam with ease between 32-bit and 64-bit operating systems.

In addition, as you move towards a heterogeneous environment that combines native desktops and applications with virtualization techniques, AppSense UVP integrates seamlessly with desktop and application virtualization technologies from leading vendors such as Microsoft, Citrix, and VMware.

The infrastructure delivers the user into virtual, physical and streamed desktops and applications - or combinations of those mechanisms - and also can apply the user environment across operating system versions (e.g. XP, Vista and Windows 7, Server 2008, 32/64 bit). For existing desktops, migration capabilities move employees into dynamically delivered, standard desktops seamlessly.

The only complete user virtualization solution

Remove user complexity



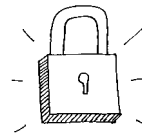
- Decouple users from every desktop
- Virtualize and centralize ALL user aspects
- Securely manage user once across all platforms

Precisely control every user



- Role, group, and context-specific policy
- Control thousands of users easily with policy templates
- Automatically re-configure by device, location, application

Deliver bullet-proof reliability



- Predictable user experience
- Fully fault tolerant and secure communication
- User self-healing and rollback capabilities

Provide freedom of choice



- Deploy user instance on-demand
- Any device, any app, any location, any combination
- Local, published and virtualized desktops

If you would like to find out more about AppSense User Virtualization solutions, shoot an email to iwantknowmore@appsense.com

About AppSense

We are the leading provider of user virtualization technology to enterprise organizations. User virtualization is a way of managing user-specific information independent of the desktop, and applying this information into any desktop (local install, virtualized, published, streamed etc) on-demand. This enables IT to standardize the desktop build, automate desktop and application delivery, and migrate users to new desktops – all while ensuring the user experience is seamless, personal, predictable and easily manageable.