Mobile Experience Virtualization: Extend Virtualized Windows Apps to Mobile
Mobile Experience Virtualization offers a unique approach to mobilizing enterprise Windows desktop applications. IT organizations have invested heavily in Bring Your Own Device (BYOD), Mobile Device Management (MDM), and Enterprise Mobility Management (EMM) initiatives. Despite this focus, IT organizations are universally struggling to mobilize critical business applications that users want to access while away from their desktops.

Many organizations have looked toward desktop virtualization technologies as a path to mobilizing applications. VDI and application virtualization are not able to deliver the mobile user experience that users need to be productive. Mobile Experience Virtualization extends existing desktop and application virtualization infrastructures to deliver true, native-quality experiences to mobile users.

Beyond refactoring application UIs, Mobile Experience Virtualization provides a basis for rethinking enterprise applications for mobility. Breaking down elements of an application suite to smaller “micro apps” allows application owners to streamline applications to optimize users’ productivity while away from their desks. Furthermore, integration with MDM infrastructure ensures application management, security, and distribution are coordinated with the organization’s broader enterprise mobility strategy.

This eBook covers the fundamental concept of Mobile Experience Virtualization and discusses how it is different from conventional approaches to mobilizing desktop apps.
The Mobilization Dilemma

The past several years have seen massive investment in BYOD and EMM technologies. Large enterprises have been broadly successful in enabling employees to use their mobile devices for work. While employees now have mobile access, they are typically limited to email, calendaring, and if lucky, basic file sharing. To date, the vast majority of enterprise applications are not accessible via mobile devices.

To truly generate enterprise value from mobility, IT organizations need to deliver business applications to employees’ mobile devices. The most obvious approach is to replace legacy desktop applications with new applications built for mobile – either custom developed or purchased from a third party. This is complicated for a few basic reasons. First, many legacy applications incorporate custom business logic that is complicated to recreate. Second, the time and expense required to develop and implement a new application is significant – no IT budget can support new mobile development for all their legacy apps at once.

The stark reality of enterprise mobility is that, while the demand for mobile applications is high, IT organizations are challenged to deliver within any reasonable budget or timeframe.

“IT organizations need to deliver business applications to employees’ mobile devices”
User experience (UX) is the most important factor in determining whether any application will be accepted by its target user base. While business applications may be useful both at the desk and while mobile, there are key differences in UX that need to be considered:

1. **Mobile Navigation**: The information architecture of the application needs to be thought of from perspective of mobile user.

2. **Built for Touch**: Application controls need to be touch responsive with layout of screens and screen transitions planned for touch usability.

3. **Mobile Use Cases**: Mobile business applications must be designed for mobile business processes. Mobile users typically want a different set of functionalities than desktop users.

4. **Mobile Context**: Consider that mobile users’ environments are changing - network bandwidth, indoor/outdoor, sitting/walking/running/driving, etc...

5. **UI Paradigm**: Mobile applications should make use of familiar mobile design paradigms - sometimes these paradigms vary by device OS.
Virtualization is not Mobility

VDI and application virtualization solutions address the challenge of supporting distributed desktop users accessing applications from a variety of desktop computing platforms. While mobile is a natural extension to desktop work, traditional virtualization solutions offer only limited mobilization capabilities.

Conventional desktop and application virtualization technologies work by transmitting an image of the desktop interface to a remote device. While possible to transmit the image of a desktop UI to a mobile device, there are a few basic limitations to the resulting mobile UX:

- Desktop screens do not translate well to mobile. Users usually need to pinch and zoom to create a readable window on a mobile device.
- Desktop applications are designed for keyboard and mouse interaction; mobile users rely on touch-sensitive controls.
- Mobile users have a different set of use cases and business processes than desktop users. Navigating an application built for desktop on a mobile device can be particularly challenging.

Many organizations have attempted to leverage virtualization infrastructure as a fast path to mobility. While some desktop applications may be passable on tablets, the vast majority are unusable. In most all cases, traditional virtualization technologies do not offer the level of user experience needed to drive widespread user adoption.
Reddo Mobility employs a technique called Mobile Experience Virtualization to create a true mobile-optimized experience for a virtualized desktop application.

The Reddo UX Connector links to an existing desktop application session by intercepting a running windows user interface, creating a bi-directional mapping of the basic UI elements to a set of equivalent, mobile-friendly HTML5 controls. This virtualized interface is delivered to the user in real time on any device.

By delivering the interface with true HTML5 controls, the user is presented with a highly responsive interface that behaves as a native mobile app. Using a code-free Adaptive UI Designer, it is straightforward to create alternate versions of the app for different mobile devices. The Reddo Application Server delivers the appropriate version based on the device accessing the application.

The Reddo platform allows IT organizations to quickly adapt the look and feel of these virtualized mobile UIs to align with different devices (phone v. tablet) and different operating systems (iOS v. Android v. Windows).
Defining the Micro App

In addition to building alternate Uis for different mobile devices, it is often advantageous to break down large application suites into multiple “Micro Apps.” It is common for desktop applications to be organized as suites of functionality where users have common application entry points but are presented with navigation options specific to their roles. Mobile applications may be organized as suites, but more frequently are presented as more purposeful apps.

Leveraging Reddo’s Mobile Experience Virtualization platform, it is possible to create different entry points for application suites and present them to mobile users as separate applications. Furthermore, it is possible to build specific views that align to users’ different roles. For instance, a manager may get access to higher level reporting and analytics than basic users. As users access the app, the Reddo Application Server delivers the appropriate version of the app based on the users LDAP profile.

Leveraging Reddo and the Micro App approach can accelerate deployment of useful mobilized applications. Rather than working through a complete set of mobilization scenarios, application owners can start with the most obvious set of functionalities and mobilization use cases for a given application.
The Reddo platform is designed to integrate with and extend existing IT infrastructure including MDM, MAM, and EMM suites.

IT organizations have a few basic options giving users access to applications mobilized with Reddo. Comprised of basic HTML5 controls, Reddo UIs are completely functional on any basic browser technology. It is possible to distribute Reddo apps in 3 ways:

1. Users access through secure channel on native mobile browser with user authentication coordinated through LDAP
2. Users access through a secure browser through VPN implemented as part of MDM suite
3. Reddo’s HTML5 is wrapped as a hybrid app that enforces corporate security policies and is distributed through enterprise app store.

However an organization chooses to deploy, Reddo’s application server can be easily integrated with existing LDAP infrastructure to manage profiles and enforce corporate access policies. Further, since Reddo UIs are always linked to an underlying desktop application, Reddo inherits the security and access control parameters of the underlying application. Leveraging a proven, zero-client footprint model, Reddo apps are “secure by design,” with no application data or business logic persisting on the mobile client.
Learn More

Reddo is currently in Beta. We are working with IT organizations to mobilize existing windows desktop applications. If you are interested in participating as a Beta customer, please visit:

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