



VMware User Environment Manager and VMware Horizon 6: Improving Productivity and Lowering Operational Costs

TECHNICAL WHITE PAPER

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User environment management can represent a significant cost to many organizations.

Corruption of Windows profiles produces a large number of incidents, the resolution of which can be time consuming, taking many hours of IT support time and causing disruption to users. VMware User Environment Manager™ provides a solution to this by moving the setup of applications from login time to application start time, simplifying user profiles and significantly reducing the probability of corruption.

In addition, User Environment Manager acts as a central repository of settings, enabling users to work in a consistent application environment from anywhere, regardless of the device on which they are working. Users gain productivity through shorter login times and the ability to always access ‘their’ workspace without the need for additional customization.

The cost savings presented in this document refer to implementations using VMware Horizon® 6 Enterprise Edition and assume that the cost of User Environment Manager is included in the existing license.

Improving Productivity with a Consistent User Environment

In today’s End-User Computing (EUC) infrastructure, users can work from a variety of locations and desktops—office-based physical or virtual, mobile, or cloud hosted. Each device stores its own version of a user’s settings for each application. For example, a user’s customizations to Microsoft Word document templates are different for each environment unless they are synchronized manually. This leads to a loss of productivity, because the user either has to carry out this manual synchronization or work with different settings on different devices, with a consequent loss of efficiency.

VMware User Environment Manager solves this issue by maintaining a central repository of user settings. These settings are available from any device where User Environment Manager FlexEngine (the User Environment Manager client) is installed.

In a conventional desktop setup, user settings are set in the user profile at login time. With a large number of applications, setting up all applications in the user’s profile can extend login time considerably. This process causes a measurable loss of employee time, because typically it is not possible to work effectively, or at all, while this is taking place. For example, if a user logs in 200 times a year and loses 30 seconds each time, 100 minutes per year will be lost.

User Environment Manager eliminates this problem in several ways:

- Only applications used in any session are set up, at the time they are invoked. A user might have 20 applications in his profile but only use 4 with any frequency. No time is wasted setting up the other 16 applications at login time if they are not going to be used.
- If there is any delay during application setup, the user is still free to work using any application already open. For example, mail can be read during startup of Microsoft Word.
- Drive and printer mappings can be created asynchronously. The login process is not paused during the creation of these mappings and the user can start working while the printers are mapped in the background.
- User Environment Manager manages policies and settings for specific users (for instance, based on the Windows version, location of the users, group membership, or what applications are installed). If you use Active Directory Group Policies, you can achieve this only by using WMI scripting, typically adding seconds to the login time. User Environment Manager performs all these checks in milliseconds.

Reducing Profile Management Costs

In any centralized desktop environment, a significant proportion of support effort is devoted to fixing user profile issues. These issues can be eliminated almost entirely with User Environment Manager. Since user setup is moved to application startup, the profiles can be extremely lightweight. Similarly, the number of different profiles is very low, because the application setup permutations are eliminated for all applications managed by User Environment Manager.

User Environment Manager can also save costs by centralizing the management of the whole login procedure, examples of which include group policy preferences, objects, login scripts, and policies. This centralization saves time by simplifying the IT administrators' jobs. Login scripts can be extremely complex and evolve over a number of years, with the result that no one in IT support understands the scripts.

The examples in the next two sections illustrate how much time is typically spent by support staff fixing profile issues and hence the potential savings. The following assumptions are made:

- For nonpersistent images, users will experience an average of one profile-related incident per year. Persistent images tend to have a higher number of problems, and we assume an average figure of two per year.
- An average profile-related incident takes 2 hours of support time to fix, including help desk, engineer, and management or supervisory overhead. This time is reduced to a negligible figure when User Environment Manager is used.
- Average support staff salary is \$75K per year with 25 percent uplift for non-salary overhead. The standard workweek is 40 hours and an employee will work 48 weeks per year. This means one FTE is equivalent to 1,920 hours at a total cost of \$93,750.

Example 1 – Large Domestic Call Center for a Retail Bank

In this example, we assume 5,000 users carrying out mainly homogeneous, repetitive tasks. The image is nonpersistent, so typically there will be one profile-related incident per year.

For the assumed one incident per year, the potential savings is nearly \$500K, representing approximately five FTEs in IT support.

Disruption to the user is 2 hours. Added to the 100 minutes associated with increased login times calculated earlier, this represents a total lost productivity of almost 4 hours per year.

DESCRIPTION	DETAILS
Total number of users	5,000
Profile incidents per user per year	1
Help desk tickets raised due to profile issues	(5,000*1) = 5,000
Time fixing corrupted profiles (hours)	(5,000*2) = 10,000
Total potential savings	\$488,281.25
Savings per user	\$97.66
Hours of disruption per user per year (one incident)	3.7

Table 1: Estimated Potential Savings – Retail Bank Large Domestic Call Center

Example 2 – Large Scientific Institution

In this example, we assume 1,000 users carrying out a wide variety of complex tasks, requiring a persistent image. Typically there will be two profile-related incidents per year.

For the assumed two incidents per year, the potential savings is nearly \$200K, representing approximately two FTEs in IT support.

Disruption to the user is 4 hours. Added to the 100 minutes associated with increased login times calculated earlier, this represents a total lost productivity of almost six hours per year.

DESCRIPTION	DETAILS
Total number of users	1,000
Profile incidents per user per year	2
Help desk tickets raised due to profile issues	$(1,000 * 2) = 2,000$
Time fixing corrupted profiles (hours)	$(1,000 * 2 * 2) = 4,000$
Total potential savings	\$195,312.50
Savings per user	\$195.31
Hours of disruption per user per year (two incidents)	5.7

Table 2: Estimated Potential Savings – Large Scientific Institution

Implementation Best Practices and Potential Issues

Implementing User Environment Manager can present issues, whether you are starting from scratch or are working with application settings already in profiles. In both cases, setting up users and the applications they will use follows the same process—it is all done from within the User Environment Manager management interface.

It is best to start with a clean profile (mandatory or local) after the user settings have been migrated to User Environment Manager. If this is not done, there are two possible risks:

- Application parameters can be set twice, which will cause longer login times and increased storage usage.
- The desired simplification of the user profile will not be achieved. (Savings created by removal of profile corruption incidents will be realized.)

Both of these possible outcomes can negate some of the benefits of User Environment Manager, but neither is likely to put the user in a position much worse than before migration. It is therefore possible to follow a step-by-step approach, adding users and applications to User Environment Manager one by one and partially rolling back if encountering any problems.

It may be possible to migrate users during working hours, avoiding expensive out-of-hours work. Time can be allocated to the migration by managing IT staff's daily workloads, thus keeping the cost of the project to a minimum.

Real-World Success: One Manager's Story

"Implementing VMware User Environment Manager was an idea that grew from an experience of one of our super users in the business. Rollout of a new application was taking longer than anticipated, partly because of the need to create a clean Windows environment by logging out each time tests were run. The user spoke of her frustration to one of the desktop engineers, who had heard a little about User Environment Manager at an internal presentation, and thought it might help to alleviate the problem during any future releases.

"When we looked at the product a little more closely, we saw a whole range of productivity improvements we could get. The biggest of these is a consistent and customized environment, from wherever the user is physically located and on whichever device the Windows session is run.

"Another large benefit for many organizations would be the costs saved on management of profile incidents. Since we're already using a profile management tool, the impact for us is not particularly large, but after we finish the User Environment Manager project we can look at the way we do this and possibly work more efficiently using User Environment Manager only.

"The project to roll out User Environment Manager is still running, and so far has gone without a hitch. Because it's possible to continue running the old login profiles until a user has been running under User Environment Manager for some time, the worst thing that's likely to happen is having settings applied twice—once at login time and once when an application is started up. Whenever we have encountered issues, it's been very easy to roll back users singly or in groups.

"The reaction of users has been positive. The more technically aware have been generally more appreciative of the challenges involved in producing a product like User Environment Manager and the benefits it brings. The less technical users tend to have an attitude of, 'It's about time this was done.' Some have not even noticed there has been a change, but are working more efficiently without even realizing it!

"So, the other big question is, 'How much has been added to the bottom line?' That's a difficult one, as it's hard to associate any savings in hours worked, for example, or any group that now needs fewer staff as a result. I am certain that we're reducing people's time to start up Windows sessions and eliminating wasted time where users make a change to their application environments and have to repeat the operation when they log in from somewhere else.

"If anyone asked me whether they should implement User Environment Manager, I'd give an unqualified 'Yes,' as there's certain to be an improvement in user experience and productivity, with a very limited downside."

Conclusion

User Environment Manager offers productivity benefits to all organizations, whether or not they are currently using a profile management tool.

Setting application parameters at the time the application starts up decreases login time, because these parameters are usually embedded in the user profile. As a result, users can start working more quickly.

The central repository for application settings enables users to work in a consistent environment, and consequently more efficiently, wherever they are logged in.

Large savings can be made in support staff costs if a profile management tool is not already in use, because User Environment Manager reduces the cost of profile corruption incidents almost to zero.

