



# OPERATING SYSTEM MIGRATION - THE 5 ESSENTIAL STEPS

*Simplify Migrations by Transforming  
Desktops into Workspaces*

# WHITEPAPER

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## EXECUTIVE SUMMARY

*Many changes are under way in the PC market, and the implications for organizations of any size are significant. An important change on the way is the change in PC operating systems. According an IDC research paper, around 50% of all business users will be using Windows 7 before the end of 2010<sup>1</sup>.*

*Whether this prediction becomes true in 2010 remains to be seen. However, at one point organizations will move to a new version of Microsoft Windows. For this reason, IT departments should plan for migration projects, and should strongly consider technologies that will make operating system migrations easier.*

*User Workspace Management solutions eliminate migration headaches, and should become a prerequisite for any IT department that is planning for a migration to a new operating system. By using a user workspace management solution, the user environment can be completely separated from the operating system (and to a large extent the hardware that it runs on), which allows IT departments to easily migrate to new environments like Windows 7, both traditional physical and virtual.*

*Throughout this white paper you will learn in five easy steps how the traditional challenges of migrating from one operating system to another can become a thing of the past by using a user workspace management solution.*

## MIGRATION CHALLENGES

Most traditional methods of migration do not take into account all aspects of how users use existing IT resources. These could, for example, be the operating system or applications, printers and the network along with a huge number of other IT resources.

The reality is that it is fundamentally important to fully understand how users are using all of these resources in order to transition the users working environment (or what we refer to as their workspace) into the new operating system environment. This is critical if a totally successful migration is to be performed.

## HOW ARE MIGRATIONS DONE TODAY?

Most operating system migration projects take a simplistic approach, usually focusing on a number of key areas:

1. Backup and consolidation of existing user data
2. Upgrade of hardware required to run the new operating system
3. Installation of the new operating system on new hardware. This is usually by implementing imaging of one sort or another.
4. Upgrade of operating system on existing hardware capable of running the new operating system.
5. Upgrade applications if required.
6. Restoration of user data.
7. Training of users to familiarize them with the changes of the new operating system environment.

Usually there is little focus on the user and their migration to the new operating system environment other than any user data that is known about. This is primarily due to the fact that many elements of the user's identity and personal settings are deeply embedded within the old operating system and applications.

It is common for users to be expected to reset all their application settings again in the new operating system and additionally to also teach themselves many aspects of the newly introduced system. This is simply because it is likely to be very different from the old system they are used to using.

Training is often seen to be the preferred solution in terms of getting users to fully accept using the new operating system. It is probably true that there will always be an element of

training needed however if the correct solution is used along with the correct migration philosophy. It is clear that this need would be vastly reduced as the users would feel that their workspace is not only familiar but it would also work more efficiently. This of course encourages use of the new system and increases productivity and acceptance.

## A NEW APPROACH TO MIGRATION

In order to smoothen the migration to a new operating system, and use a new approach to operating system migration, IT departments should first of all fully understand the existing environment as much as possible. This is from two main aspects, both from a system and user's perspective.

For now let's concentrate on the users as detailed information. It is possible to collect very detailed information that will give a good indication of how users are using the existing system and what services they are using. This could be as simple as what applications are being used and when they use them to what printers are being used and even down to what specific user's settings are being selected. We can then process this information and use it in some of the design phases of the migration.

An important consideration is that if users are not happy using the existing system then it is unlikely that they will be happy using a new system that inherits existing issues as this will lead to reduced productivity. Good information gathering will pay dividends and allow a more accurate assessment of what the new system is to deliver.

Viewed from a technical perspective, most things that the user does when working in a Windows environment involves data of one type or another. This is relevant to the way in which applications work and of course is also considered by users as data that represents their work. One thing is clear and that is all data has importance but perhaps it is not as obvious to the user till either it is not available or it is inaccurate.

Only by fully understanding these points, along with many others, can a new and efficient migration strategy be formulated.

As discussed in the introduction, RES Software believes that the challenges of upgrading from one operating system to another could become a thing of the past. But in order to do this effectively it is essential that the user workspace is understood and then separated from the underlying systems infrastructure. We will discuss how this can be achieved later.

## WHAT IS A USER WORKSPACE?

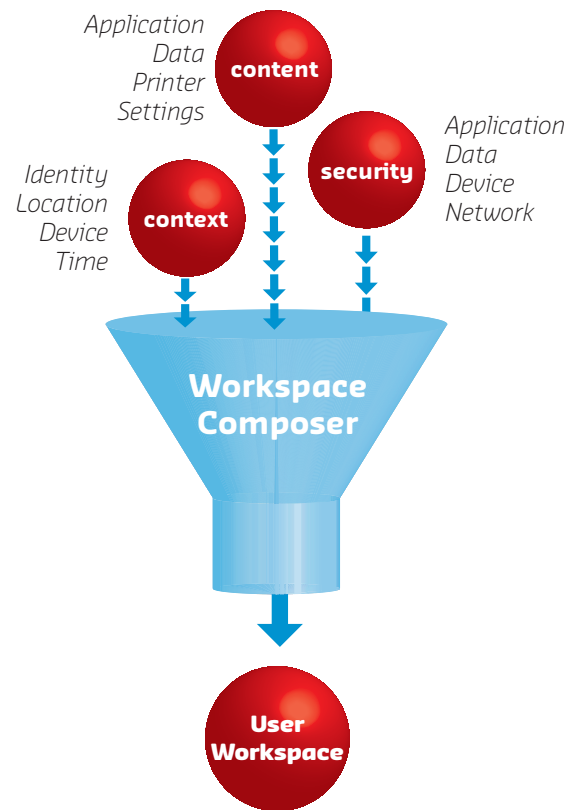
In its simplest form the user workspace is all about the user aspects of the Windows environment. That is to say that most users consider their Windows desktops as the place in which they work and as a consequence access services and resources they need. The Windows desktop is something that users directly understand and can easily relate to and they expect it to be available to them whenever they want or need to use it.

A User Workspace does not substitute a Windows desktop, but works dynamically in combination with a Windows desktop to manage desktop items independent from your operating system, your applications and even your hardware. A user workspace is dynamically composed each time a user logs in to a Windows desktop. Composition of user workspace only takes seconds and is based on the user's identity, location, device type and even time of day.

After composition, the user workspace contains configured applications, data, printing capabilities and personal settings unique to the user. It is secured simply and effectively by only allowing the use of the available workspace items. The user workspace exists until the user logs off the Windows desktop.

The term "user workspace" is fast becoming an overused term. In fact it is a space that provides users access to the services and resources they need to carry out their work duties and maybe even specialist services related to leisure activities. These resources may be as simple as a mapped drive that contains data or perhaps a printer or even as technical as a group policy or registry setting or even the favorites that they use in their web browser. The user comes into contact with many aspects of the system most of which they are not aware of and that is the way it should be.

Another very important aspect of a user workspace is its ability to dynamically adjust itself or be composed to account for the context of the user. For instance, an application or service may only be available to the user if they are operating in an authorized location. This could be specifically in conjunction with security policies or may perhaps reflect the fact that it is not possible to use or access it from within that context. Both reasons are equally valid. The important thing to remember is that user's context is likely to change and therefore the user workspace should adjust itself automatically to provide services in the most efficient and consistent manner while maintaining corporate security policies along with the best possible user experience.



## WINDOWS DESKTOP DELIVERY

Over time a Windows desktop has evolved from a static entity to a more dynamic one. The workforce has become more mobile as a consequence of companies driving down costs and striving for higher productivity. Extensive use of laptop devices is now evident which has also introduced some significant challenges to delivering the services and resources that allow users to stay productive while they are on the move.

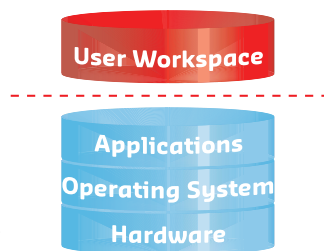
With the emergence of technologies such as Microsoft Terminal Services, Citrix XenApp and XenDesktop and also VMware's View, a user's desktop can be delivered from a huge variety of systems both physical and virtual. The underlying complexity of these methods of desktop delivery although hidden from the user has further contributed to the complexity of managing the user workspace as it is possible that it could be delivered using a number of these technologies.

The need to deal with the user workspace as a separate entity has never been more important and is an ever more increasing requirement.

## USER WORKSPACE SEPARATION

Separating the user workspace from the technology that it is running on and treating it as a separate component is important to the way in which the user workspace can become portable. This provides the ability to allow the user to get access to required services and resources regardless of what device or operating system they are using down to the device type and network layer.

As a reader you are probably familiar with the layering approach that many companies are promoting. This is occurring primarily in the virtualization space so Citrix, Microsoft and VMware (to name a few) all have their own ideas as to where their respective technologies fit in the overall stack but the concept of user workspace is rarely considered yet this is probably the most important layer of all. So how does the user workspace fit into this model?



The user workspace is central to the stack and is considered a distinct element that is closely aligned but not coupled with the operating system or the device that it is running on. With application virtualization technology it could also be that the user workspace does not even have to have any direct touch with the application layer.

User workspace management solutions provide the ability to separate the user workspace from other distinct layers of the systems model. Once this has been achieved it matters little about how the other layers are changed and for what reason. This is a very desirable position to be in. This would mean that it would not matter what the operating system layer happened to be so it would be possible to upgrade this layer in the most appropriate way, at the most appropriate time without, affecting the user workspace and hence the user. Of course this would reduce any concerns over the efficiency of the productivity of the users as they would be able to work without being negatively affected.

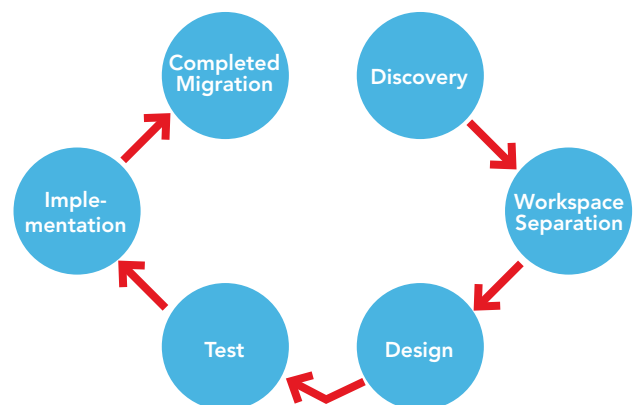
## MIGRATIONS IN FIVE EASY STEPS - OVERVIEW

Every upgrade project will have its own specific unique requirements but even taking these into account it is always a good idea to have a methodology to apply to how a project should be conducted in individual steps. In order to migrate easily to a new operating system, IT departments should follow the following five steps.

### 1. Discovery

This step involves getting to know as much about the task of migration as possible. It includes assessing existing hardware and its capability to run the proposed operating system. It is usual for the operating system vendor to publish minimum hardware specifications for this purpose.

It is also necessary to understand as much as possible about the users that use the existing system so that the new system is able to provide all the services and resources that they would expect to see when fully migrated over to the new system.



### 2. Separation

This stage would only be required if the user workspace had not already been separated. Separation of the user workspace utilizes some of the information gathered from the discovery phases along with some further technologies within a user workspace management solution.

Separating the user workspace can be achieved on the existing operating system or on the proposed operating system. It is advised that if possible workspace separation be implemented on the existing operating system as this will make the migration path that much easier not only for the proposed operating system but for the migrations in the future.

### 3. Design

The design phase is primarily where the data collected in the discovery phase is used to understand the requirements for the new operating system.

### 4. Test

The test phase is closely linked with the design phase and is critical for the successful implantation phase to follow. It is likely that this phase will focus on both the actual rollout of the new operating system to the actual devices that are going to run it along with the testing of the user workspace that will run on it.

### 5. Implementation

The implementation phase is the large scale rollout of the design and test phases to the whole of the estate. This phase in itself can be rolled out as and when is convenient.

## STEP 1: DISCOVERY

Like most things the more you know about it the better and easier it is to understand. Operating system migration is no exception. Fortunately, a good user workspace management solution provides many features that allow the gathering of accurate data focused at both system and user level. Both are relevant to the success of the migration project. In the examples below RES PowerFuse, RES Software's award-winning patented user workspace management solution, was used to gather system and user information.

### System information

Let's look at what information can be gathered about the hardware out on the estate. This is of particular interest as this will provide an accurate assessment of the capabilities of the existing machines to run the proposed operating system. As long as the existing operating system version is equal to or higher than Windows 2000 SP1 then it is possible to query hardware information that complies with Windows WMI standards so some of the more relevant information would be the following.

1. Amount of physical memory
2. Amount of total disk space
3. Processor make and number
4. Network adapters
5. TCP/IP configurations details
6. Display adapter
7. Versions of all installed applications
8. Print drivers present
9. List of all installed applications
10. Event logs specifically for any errors

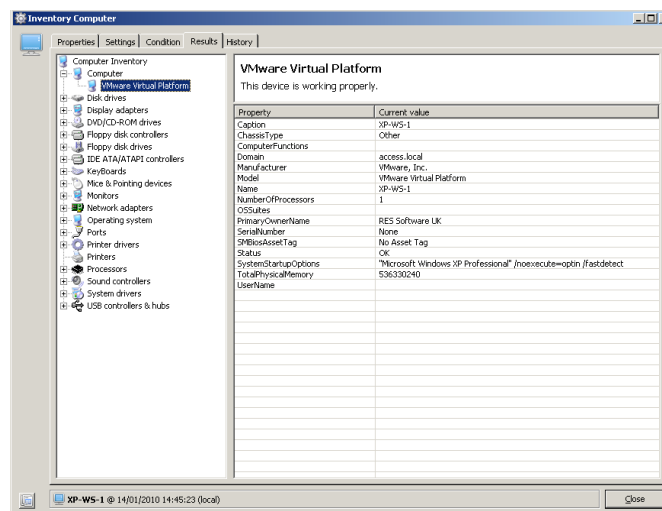
This type of information can be gathered by installing a specific agent onto existing machines.

### System Agent

A feature of RES PowerFuse Platinum edition incorporates technology that enables an agent to be installed onto existing machines. It is this agent that can be asked to perform many tasks. In the discovery phase we are simply using the agent to query the machine that it is running on to gather specific hardware information to allow us to assess the capabilities of the hardware to run the proposed operating system.

It is possible that a complete computer hardware inventory is taken but for operating system migrations the above selective points are thought to be some of the more relevant.

The screen shot below gives a good idea how the data can be presented.



The installation of the agent is simple and can be deployed from a central location.

### User information

Although most people do not consider users to be important when dealing with operating system migrations it is in fact probably the most important consideration. It is therefore a huge advantage to understand as much about how they use the existing system as possible. This is clearly going to help when looking at their requirements regarding the proposed operating system.

Any user workspace management solution should provide the IT professional with capabilities that allow them to collect meaningful data about the users. Each have their individual merits and we will discuss these in more detail in the next sections. RES PowerFuse provides three important capabilities to collect user information:

- Desktop Sampler
- Workspace Model
- Zero Profile Technology

We will discuss each one of these RES PowerFuse capabilities in turn and explain how they are used in the Discovery phase of the migration. Note that the naming of these capabilities is specific to RES PowerFuse. Other user workspace management products may include different capabilities to collect user information. It is beyond the scope of this white paper to cover all user workspace management solutions, and we only discuss RES PowerFuse.

### **Desktop Sampler**

The desktop sampler is responsible for collecting data specific to the way users actually use their workspace. The desktop sampler runs unobtrusively as a standalone component on the users' desktops and gathers information in the form of desktop samples

The samples hold encrypted information on available desktop items such as applications, mappings and printers as well as the user's context (name, group membership, IP address, type of computer etc.). This information is stored in a central location.

### **Workspace Model**

The Workspace Model which forms a part of the RES PowerFuse Management Console, enables the IT professional to control which parts of the user workspace will be composed and secured at logon by the workspace composer. These managed workspace items will co-exist on a user's desktop with all the unmanaged workspace items so that any impact is kept to a minimum.

It is important to note that multiple workspace models can exist simultaneously allowing completely separate configurations to be applied to a single machine or group of machines thus allowing a great deal of flexibility in respect of when and what setting get applied to machines. A workspace model evolves over time so a transformation can now be controlled step-by-step, focusing on today's challenges first.

### **Zero Profile Technology**

Zero Profile Technology is a unique method for storing and applying user settings outside the user's profile and addresses the limitations associated with Windows roaming profiles. Zero profile technology automatically and immediately preserves and applies user settings and it can be used either for specific applications or at a global level. A sampling mode is provided to give the IT administrator feedback on which settings were stored and which settings may be irrelevant.

Zero profile technology enables users to use their workspace anywhere on various operating systems and devices with consistency and efficiency and most importantly without the operational limitations that roaming profiles bring. Two important features make up the concept of Zero profile technology:

1. Custom resources
2. Intelligent user preferences

### **Custom resources**

Files and folders for use in the user workspace can be distributed by RES PowerFuse and are referred to as custom resources.

The user's Windows profile could be considered as one such custom resource and could get copied to the user workspace when the machine they are using boots up for the first time and it is then stored on it for future use. It is possible that many profiles can be stored in this manner on the same device. This provides a solution for cross operating system profile delivery and also deals with the issues of reducing network traffic as the profile does not need to be delivered every time the user logs on to the network. This increases the reliability of delivering the profile as well as ensuring that corruption is eradicated.

For a user's profile to be delivered in this way it is necessary for it to be a mandatory profile. Of course mandatory profiles do not remember user changes as they are not saved when the user logs off of the system which is where intelligent user preferences come into play.

It is unlikely that profiles will be delivered using the custom resources in the discovery phase but it is suggested that this is implemented in the later stages of the migration as it will bring huge advantages.

### Intelligent user preferences

In order to save user settings that are changed within a logged on session it is important to monitor the applications that are being used. Intelligent user preferences do just that.

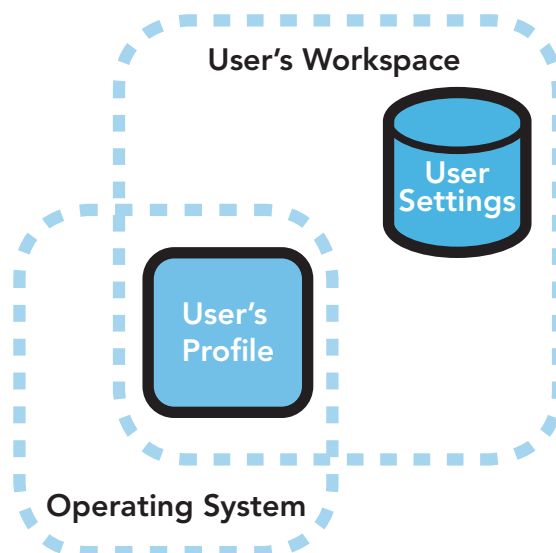
Intelligent user preferences monitor application executables and look for actual changes that they make to the system so that they can be saved either at logoff or in real time but outside the profile. The profile then becomes less important and less connected to the user. This is the basis for workspace separation.

This feature can be run in what is referred to as learning mode which samples the changes that are being made by any number of users and simply logs these for later analysis. It is proposed that intelligent user preferences be run in learning mode in the discovery phase as monitoring of existing systems is desirable and also possible regardless of what type of profiles are being used in the existing system. The data that is collected is of particular use in the separation and design phases as this will give an accurate account of what users are changing within their applications and therefore these changes could, if needed, be carried over into the proposed operating system environment when migration takes place.

## STEP 2: SEPARATION

The separation of the user workspace from the underlying technical infrastructure is critical for the long term aspects of how services and resources are delivered and accessed by users however it is by no means mandatory. It is feasible that separation is performed on the existing system environment to enable easier migration or if more appropriate performed as a stage after the migration has taken place.

In essence the user's Windows profile is in effect the representation of the user's environment in a traditional system. Unfortunately, for all the reasons previously discussed, there are many limitations and this is why separation is necessary. The data collected in the discovery phase from the intelligent user preferences learning mode and the implementation of mandatory profile delivery using custom resources are the two features that allow separation of the user workspace. This is done by ensuring that relevant user settings are delivered into a mandatory profile when they are needed but more importantly saved but never to the traditional profile but to an area outside the profile that is able to stay with the user no matter what operating system or device they are using.



## STEP 3: DESIGN

The design phase is focused on setting out a strategy based on the information gathered from the discovery phase. The discovery phase provides information in two streams. The first being system or hardware focused and the other user focused. The main function of this phase is to analyze both data streams and to come out with a strategy based on actual data that will enable a strategy to be formed without using guess work.

There are a number of tools that are provided within RES PowerFuse that allow processing of the collected data, including:

1. Job Results: System Information
2. Workspace Designer: User Information

### Job Results

The system information stream would provide sufficient information to enable an accurate assessment of existing hardware and its ability to function in the new operating system environment. It is possible that some of this hardware would require replacement or upgrading or perhaps even considered as a candidate for becoming a thin client device thus preserving its serviceability. Job result history can provide details from RES PowerFuse Platinum Edition outlining the hardware capabilities of machines. After the hardware is assessed and either upgraded or replaced, RES PowerFuse Platinum Edition can assist with the installation of the new operating system.

RES PowerFuse requires a basic operating system installed with valid network connectivity. This could simply be an installation from the vendor's installation CD. Of course the hardware would now be using supported network cards so they would initialize as part of the bare bones install. From this point RES PowerFuse Platinum Edition can install the agent to allow a completely automated build process to occur using rules that the administrator decides.

RES PowerFuse Platinum Edition uses run book automation which can completely automate all aspects of configuring the new operating system so as to conform to corporate requirements.

As this process does not use any imaging technology it does not inherit the issues associated with imaging such as support from Microsoft or issues with SID replacement etc. RES PowerFuse Platinum Edition uses fully supported methods for completing tasks but it is able to do this in a completely automated way using a rules database without any intervention from an administrator.

There are hundreds of tasks to choose from an extensive list however here are just some as an example.

1. Installing the latest service packs and hot-fixes
2. Joining a machine to the Active Directory domain
3. Installing printer drivers
4. Installing certificates
5. Creating users in Active Directory
6. Creating mailboxes and configuring them
7. Create, delete, snapshot, query and manage virtual machines on VMware ESX
8. Install and configure applications
9. Reboot or shutdown machines

It is possible that RES PowerFuse Platinum Edition will not only accurately identify the hardware in relation to its ability to run the proposed operating system it can also ensure that the new operating system works to corporate standards and drastically reduces the time to get the device fully functional by automating most of the processes involved with this.

### Workspace Designer

The Workspace Designer is part of the RES PowerFuse management console and helps the IT professional set up user workspaces. First of all, the IT professional sets up how context should be established for:

- Directory Services
- Location and devices

The workspace designer then analyzes the context information in the desktop samples captured using the desktop sampler and suggests suitable rules for establishing context. For instance if the desktop sampler was run on all the machines in the estate and all the users that used these machines used a mapped drive this would be logged in each and every desktop sample that was captured and as all of these files are used in the analyzing routine of the workspace designer it would be noted that 100% of users used the mapped drive. From this it is obvious that this mapped drive should be delivered to all users. If say only 50% of the users used the mapped drive then this would also be clear in the analysis. It is from this data that resources can be provided in the new operating system environment so that the resources that users expect to be available to them are indeed available when they do eventually move across and use the new system and services.

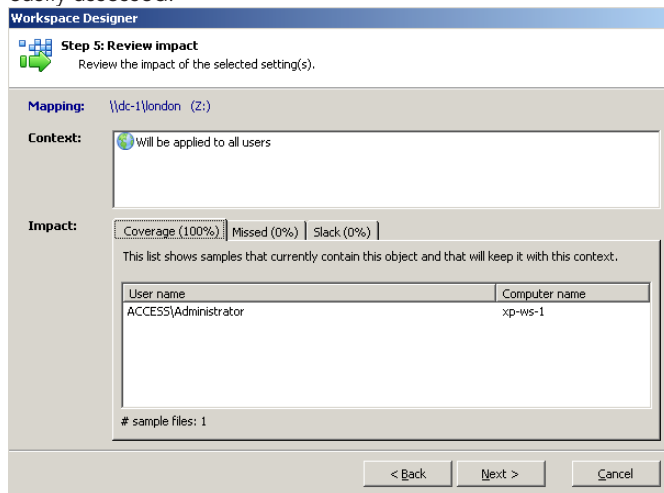
The important thing to remember is that the desktop sampler collects data outside the RES PowerFuse environment so this is a great way to transfer the logic thus enabling the delivery of these resources from within RES PowerFuse.

Below is a screen shot of the RES PowerFuse workspace designer. It is a simple example of what an administrator may see when asking for the designer to provide its assessment of a particular resource. In this case it is a mapped drive. It is then possible to select users and groups so they this mapped drive can be delivered in the new system with RES PowerFuse.

The screenshot shows the 'Workspace Designer' window with the title 'Step 4: Suggested context rules'. Below the title, it says 'Please select the rule(s) from which to create a new workspace object.' The main area displays a table of context rules for the mapping '\\dc-1\london (Z:)'. The table has three columns: 'Context', 'Coverage (%)', and 'Slack (%)'. All rules listed have a coverage of 100% and a slack of 0. The rules include 'All users', 'User = ACCESS\Administrator', 'Group = ACCESS\Domain Users', and various combinations of users and groups with 'Zone = type LOCAL'. At the bottom of the table, it indicates '# context rules: 28'. Navigation buttons '< Back', 'Next >', and 'Cancel' are visible at the bottom of the window.

Context	Coverage (%)	Slack (%)
<input type="checkbox"/> All users	100	0
<input type="checkbox"/> All users + Zone = type LOCAL	100	0
<input type="checkbox"/> User = ACCESS\Administrator	100	0
<input type="checkbox"/> User = ACCESS\Administrator + Zone = type LOCAL	100	0
<input type="checkbox"/> Group = ACCESS\Domain Users	100	0
<input type="checkbox"/> Group = ACCESS\Domain Users + Zone = type LOCAL	100	0
<input type="checkbox"/> Group = XP-WS-1\Debugger Users	100	0
<input type="checkbox"/> Group = XP-WS-1\Debugger Users + Zone = type LOCAL	100	0
<input type="checkbox"/> Group = ACCESS\PowerFuse Administrators	100	0
<input type="checkbox"/> Group = ACCESS\PowerFuse Administrators + Zone = typ...	100	0
<input type="checkbox"/> Group = ACCESS\Desktop Users	100	0
<input type="checkbox"/> Group = ACCESS\Desktop Users + Zone = type LOCAL	100	0
<input type="checkbox"/> Group = ACCESS\Streaming Users	100	0

As you can see the workspace designer is wizard driven so the context rules are generated and the coverage of users can be easily assessed.



The power of the RES PowerFuse workspace designer is to allow the user workspace to deliver all the required services and resources from RES PowerFuse but based on the way that user's use their existing environment and from data that the users themselves generate.

After both the system and user data has been processed it will be possible to work out a strategy to cater for both physically upgrading the devices to the new operating system and also for the user's resources and settings to be transferred to and ultimately delivered from RES PowerFuse.

## STEP 4: TEST

Like anything that can have a negative impact on users it is advantageous to rigorously test the chosen strategy. It is strongly advised that any testing be performed using test machines and users to minimize the potential negative impact on users but it is not always possible for this to be achieved.

There are a number of features that allow segregation of test machines from a systems perspective and also user configurations and it is strongly suggested that these are used during the testing phase. They are listed and briefly explained next.

### Systems segregation

- **Agent teams**

It is possible for machines to be grouped together in teams. This is particularly useful when testing configuration of run books to install and configure the new operating system. This also ensures that no other machines are affected.

### User / Workspace segregation

- **Workspace containers**

Whilst in the test phase it is advisable that machines hosting the user workspace for this phase are grouped together thus segregating them from the rest of the machines similar to Agent Teams which work at system level. These groups are referred to as workspace containers. It is possible to use workspace containers for a whole lot more than this moving into production but they are excellent to help also in the test phase.

Workspace containers allow RES PowerFuse configurations to be applied to machines as opposed to users, which allows specific testing machines to be used without affecting user's traditional method of working unless they use the testing machines.

- **Workspace Model**

As explained earlier workspace models can be selectively focused on groups of machines that are configured within workspace containers.

- **Access Control**

Access control is a capability of RES PowerFuse and provides a means of isolating users for testing. It is advisable to use specifically created user accounts for testing but if this is not possible then the creation of a test group would be very useful as this could provide a means of selecting users for inclusion in the testing. There are many other ways in which isolation or part isolation of the existing environment can be achieved which reduces risks associated with this phase.

## STEP 5: IMPLEMENTATION

The implementation phase brings together all the work done in all the previous phases. To some degree the test phase is possibly the most crucial phase. If it were not successful then the implementation phase would not be considered. The implementation phase is focused on formalizing the strategy to implement a fully managed workspace solution for all users of services and resources.

It is assumed that in most cases companies want to ensure that any migration work be done in manageable stages. It is this strategy that is preferred and possible as the RES PowerFuse agent software can be installed and become active without any effect on the existing infrastructure. Flexibility is assured in every respect from a machine based approach to a user based approach or a mixture of these. In any case the migration methodology is flexible enough to fit any company's needs.

## SUMMARY

*IT departments should plan for migration projects, and should strongly consider technologies that will make operating system migrations easier. User workspace management solutions eliminate migration headaches, and should become a prerequisite for any IT department that is planning for a migration to a new operating system.*

*By using a user workspace management solution, the user environment can be completely separated from the operating system which allows IT departments to migrate to a new operating system in five easy steps:*

- **Discovery:** involves getting to know as much about the task of migration as possible.
- **Separation:** workspace separation should be implemented on the existing operating system, and utilizes some of the information gathered from the discovery phase.
- **Design:** the data collected in the discovery phase is used to understand the requirements for the new operating system.
- **Test:** critical for the successful implantation phase to follow.
- **Implementation:** the large scale rollout of the design and test phases to the whole of the estate.

*It is only when complete separation of the user workspace is achieved that the true benefits can be enjoyed, as this would mean that users are no longer tied to any one type of operating system whether that is running on a physical device or within a virtual environment. In fact, it becomes irrelevant as to where the operating system is running and what it is.*

*RES PowerFuse, RES Software's award-winning patented user workspace management solution, includes all the capabilities required to support these five easy steps and eliminate migration headaches. RES PowerFuse will enable the user to work in a workspace that is not connected to a specific operating system environment and as such becomes portable and completely flexible.*

*For more information on RES PowerFuse, user workspace management and Windows 7 migration, please visit [www.ressoftware.com](http://www.ressoftware.com).*



*RES Software is the leading provider of User Workspace Management software. Since 1999 we have enabled our more than 2,500 customers worldwide to compose and manage personalized and secure workspaces for their end users. Our Workspace Management products bridge the gap between traditional desktop management, thin clients, and virtual desktops. The business benefits our customers have realized by using our products include a lower TCO, broader security and an increased productivity. RES Software is a global company with nine offices across Europe and the U.S. RES Software products are exclusively delivered through a network of certified partners.*

**More information: [www.ressoftware.com](http://www.ressoftware.com)**