Introduction

This document describes the issues that currently exist regarding user profiles in VDI environments and describes how to approach this challenges from different perspectives and with diverse technologies.

What are user profiles?

User data, documents and settings are saved in the user profile when working with a Windows desktop. In Linux, user profiles are stored on NFS-type storage servers, accessible by users. At the time of opening the session of a same user, the profile is loaded in the session, or in this case, the user's directory or profile.

Different information is stored in the user profile, such as:

- Desktop appearance. Desktop background, themes, screen configuration, use of Aero in Windows 7, etc
- Application configuration, navigator preferences, tool bars, office software tool configurations, etc
- Documents. These documents are stored in the "My documents" folder of the user profile

Issues in user profiles management

In a physical desktop, the data from a user profile is saved on a local hard drive.

With a virtual user station platform, it is possible to deploy two types of desktops:

Persistent. One user, one assigned desktop. All of the user's data is stored within the desktop, being able to select local storage or provide the virtual desktop with a virtual hard drive assigned for this purpose.

The assignment of specific virtual hard drives for storing the user profile is not the ideal solution, since traditional backup solutions are not well integrated because they are difficult to administer and manage.

In the case of persistent desktops, it is always tough to design a user profile backup solution due to the dispersion and the diversity of the platform components (software, hardware, documents and user profiles).

Non-persistent. One user, one new session, one new desktop. The user data are removed each time that a session is closed and in the next initiated session, the user will have a completely new desktop.

In this case, the user profile management and backups are much simpler, as they are administered in a more centralized way and hosted on shared resource networks.

Image courtesy of Stuart Miles / Freedigitalphotos.net

Solutions

A solution to the problems raised above is the use of mobile profiles. These profiles are defined through the Active Directory group policy, storing the user data in a shared resource.

The mobile profile will allow the user data to become available from any Windows device: a physical desktop, virtual desktop or a Terminal Services user session. This data is loaded at the start of a session and the changes made to the profile during the session are saved upon closing it.

In the case of non-persistent desktops, the use of mobile profiles is clear, since the user is assigned a new desktop in the infrastructure with each session start-up, loading the mobile profile stored in a network resource during the start-up process.

The main challenge when using mobile profiles arises when a large amount of data are stored in the profile. When a session is started in Windows, the complete user profile is downloaded during the process. The more information stored in said profile, the longer the start-up process will take.

The same thing happens during the shutdown process, as the data has to be restored in the mobile profile.

Besides the assignment of mobile profiles, another alternative practice for managing user profiles is to assign each non-persistent virtual desktop with a persistent hard drive that stores the user data. This hard drive is connected to the virtual desktop when the system assigns the desktop to the user.

In this case, the difficulty arises when it comes to back up the data stored on these hard drives, since many of the current backup solutions are not compatible with these types of hard drives.

Lastly, current VDI solutions propose different types of management and administration methods for user profiles.

These types of VDI solutions have the drawback of a very close integration with Windows' Active Directory, making it impossible to operate with other authentication systems.

The most ideal and simple solution is one that leverages the advantages of Windows' mobile profiles, storing application data and desktop configuration there, and at the same time storing the documents and user data in shared resources.

This solution has practically become a standard, since it uses the Windows user profiles management system, and uses shared resources to store the user data and documents.

With the use of virtual desktops based on templates, the storage of user data in shared network resources and the isolation of the virtual desktop user profiles, administration and management of the workplace platform and the establishment and application of user station backup policies are greatly simplified.

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