
Office 2000 And IntelliMirror

IntelliMirror, part of Windows 2000, can be used to automate corporate rollouts of Office 2000 and to provide hot-desking facilities.

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Predictably enough, Windows 2000 is a good fit for Office 2000 in the organisation. The key in a Windows 2000 network is Active Directory, a structured and centralised data store for users, computers, printers, domains, sites and other network objects.

Group Policy is the set of administrator-defined policies for managing these resources. This, as the name implies, is a tool for establishing and enforcing a set of rules that decides which functions determining can be performed by which users on which computers in a Windows-based network; Group Policy functions are carried out by snap-in utilities working within the Microsoft Management Console. By comparison with NT, Group Policy means a smaller number of domains to administer plus more precise tuning of privileges and configurations to allow a better fit between the end-user and their role in the organisation. The downside is that the Group Policy approach can demand a lot of rethinking and analysis about the organisation of networks.

The new terminology might also be a stumbling block for a while. Take the concept of containers, defined as network objects similar to a domain or organisational unit - except that domains and organisational units correspond to a physical entity such as an office or a business workgroup, while containers don't have a physical equivalence.

Domains, for instance, will be familiar from NT 4.0 - but they behave rather differently in the Windows 2000 environment. NT domains tend to be more or less independent and have "trust" relationships with each other that administrators generally have to set up and manage on a domain-by-domain basis. This leads to a proliferation of domains (and of administrators). It also divorces the users from their particular place in the organisation; a user's rights are determined by the domain.

Under Windows 2000 a particular Group Policy with which that user is associated determines a user's rights, including the ability to install new applications or to access the Internet.

Groups

The "Group" in Group Policy is easier to apprehend. It's a collection of network resources - users, in this case - which carry the same privileges. The policies that apply to a particular group are listed in GPOs, Group Policy Objects, which can then be associated with an Active Directory container. (Group Policy is detailed in the Windows 2000 Server Resource Kit).

The GPO can be applied at any level of the Active Directory hierarchy. It might include:

- Registry-based settings, including Office 2000 system policies.
- Scripts.
- Folder redirection.
- Security settings.
- Remote installation services.
- Software installation and maintenance.

So designing the system of domains and the organisational units within domains is a key preliminary for organisations moving to Windows 2000 - and it can be tricky to get the mix right. Too many domains and organisational units will complicate the

management process. Too few means insufficient flexibility for individual user needs. Establishing which users have which rights is a time-consuming part of the process, but it's essential.

Install And Manage

Once the Group Policy structure has been defined, it is possible to install and manage Office 2000 by policy. For this, Windows 2000 includes a set of tools that Microsoft has labelled IntelliMirror. The Office 2000 deployment and management tools - including the Custom Installation Wizard and Office 2000 policy template files - work with IntelliMirror to make a specific Office configuration available to all users in a specified GPO.

IntelliMirror is one of the less well promoted aspects of Windows 2000, but in the long run it could be one of the most useful - simply because it is designed to get users up and running quickly, and to keep things that way.

IntelliMirror is essentially a management component working between Windows 2000 servers and Windows 2000 Professional workstations to enable an individual's desktop settings, data and software to follow the user wherever he or she logs on.

This isn't exactly radical - profiles and policies in Windows NT and Windows 95/98 perform similar functions, but at a relatively crude level. And NT 4.0 user profiles have long been able to follow the user and individualise a logon; the big difference with IntelliMirror is that it works more or less faultlessly - though it does need some care.

The first proviso is that IntelliMirror works only in a Windows 2000 exclusive environment. It relies on Active Directory, and that's not an option with a mixed network. But the basics are easy to grasp. IntelliMirror has three explicitly named elements. User Data Management is what Microsoft summarises as "my data and documents follow me". User Settings Management is "my preferences follow me". And Software Installation and Maintenance is "my software follows me". You can opt for one, two or all three of them.

Remote Installation Services And SMS

IntelliMirror isn't the complete solution. It does not support NT and Windows 9x clients, there's an obvious omission in that it doesn't do any inventory and reporting for software or hardware, and reporting for failed installations is rudimentary. And there are fundamental problems in the installation scheduling, because assigned applications are installed on startup or on first use. That means anyone who doesn't regularly log off and on again might never see the updates or new apps; and there will be a tendency for a 9am Monday bottleneck when lots of users try to log on and install new applications at the same time.

The solution might be to use Systems Management Server 2.0 or another Windows 2000 feature, namely remote installation services. Both can be employed instead of or in combination with IntelliMirror.

Remote installation services (also called Remote OS Installation) enables a desktop to connect to a network server during the initial startup process, with the server controlling a local installation of Windows 2000 Professional. Most usefully, this lets you copy a pre-configured disk image to the client with standardised versions of both Windows 2000 Professional and Office 2000. That way, Office 2000 is fully installed on the local computer and not merely advertised. (You'll need the Software Installation snap-in to assign Office to the test computer before creating the disk image.)

Like IntelliMirror, Remote OS Installation can't be used with NT 4.0 or Windows 9x clients. But SMS 2.0 can; and it will also provide a good more control over the scheduling of an Office installation. With some extra administrative overhead SMS can also be used to deploy non-Windows Installer packages, and to deploy applications to groups based on advanced resource attributes such as software or hardware inventory properties.

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User Data Management

UDM covers the frequent situation where default directories and project folders are changed by individual users. When they move to a different PC, the target locations might have been set up differently. UDM effectively provides an overlay for those mappings, cleverly synchronising locations on your local PC with your folders on the networked server and automatically updating the two.

This is seen at its cleverest when you're on the road, and it could be the solution to some knotty support problems for mobile users. From your hotel room you can save a file to what appears to be a folder on the network, even if you're not actually connected to it at the time. When you do log on, IntelliMirror will automatically save your file to the correct folder on the server. And if someone else has been working on the same project and changed the file while you were out of the office, IntelliMirror is sufficiently intelligent to give you the option - merge all the changes, save both copies separately, rename your own save, or synchronise your file against the amended one on the server.

User Settings Management

The other common irritant for hot-desking users is the way they seem to spend the first half hour setting up the PC the way they like it. IntelliMirror's User Settings Management (USM) uses your logon to read your profile and sync policies with the Server before it delivers your preferred desktop - Internet Explorer favourites, address books, colour schemes, icons, toolbars and so on.

There's a sneaky side to USM, too. It's a centralised policy-driven administration system, so the IT management can apply rigid rules to user desktop configurations. In the local session the user may be able to add, delete, move and generally tweak their environment; but next time they log on, they'll be presented with the officially approved version.

Installation And Maintenance

With the Software Installation and Maintenance (SIM) feature, administrators can define a set of applications that are available to any individual or group of users. That's a powerful tool in itself, allowing all the necessary applications (and none of the extra stuff) to be installed automatically whenever a new user or a new PC joins a particular workgroup. And SIM incorporates the automatic update-and-repair features that previously required something like Microsoft's Systems Management Server 2.0.

Within the GPO, you specify Group Policy settings to assign or publish Office to users or computers based on their Active Directory group memberships. You control which Office applications and features are available to users by applying a transform (MST file) when you assign or publish the Office package (MSI file). There are three SIM options:

- **Assign Office to computers:** Office will be installed the next time the computer starts. This is the simplest option, not least because Office will be installed the first time the computer is fired up. That eases the potential scheduling problems. And users can't remove an Office application permanently; Windows will automatically reinstall it the next time the computer starts.
- **Assign Office to users:** Office is available to any users in the group the next time they log on, and the relevant Office application will be installed on demand - when the user clicks a Start menu shortcut or tries to open a file associated with an Office app. This is a more flexible proposition, defining the Office installation according to Group Policy rather than physical location - which is particularly attractive to roaming users, of course. Again, applications removed by the user will be reinstalled automatically. And individual Office applications and features are not actually installed until the user needs them.
- **Publish Office to users:** Office is available to any users in the group the next time they log on. Opening an Office document will install the relevant application, or the user can do that manually through Add/Remove Programs. This is the least resilient option, however; the user can remove an Office app permanently (though Office will be republished in Add/Remove Programs the next time the user logs on).

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Assigning Office Applications

The basic procedure for assigning office applications consists of eight steps, as follows.

- 1 Design and set up the Active Directory structure and Group Policy and security group memberships. Go to Start/Programs/Administrative Tools and click Active Directory Users and Computers. Right-click the domain or organisational unit for which you want to set Group Policy. Click Properties, then Group Policy. You can edit an existing GPO by selecting it in the Group Policy Objects Links box and clicking Edit. Or create a new GPO by clicking New, giving it a name, then selecting the GPO and using Edit on it.
- 2 Decide which users need which configuration of Office. It makes sense to assign Office at the highest possible level in the Active Directory hierarchy, since Group Policy settings apply by default to all lower levels; then you can target groups and individual users quite precisely by filtering Group Policy through Windows 2000 security groups.
- 3 Install Office 2000 on an administrative installation point by running Setup with the /a command-line option.
- 4 Use the Custom Installation Wizard to customise your Office installation. Store the resulting MST file at the administrative installation point.
- 5 Give users read-access to the network share that contains the administrative installation point.
- 6 Now assign or publish Office to users or computers. Back at Start/Programs/Administrative Tools/Active Directory Users and Computers, right-click the domain in question, then select Properties/Group Policy and edit the required GPO entry.
- 7 To assign or publish software to users, click the User Configuration node; to assign software to computers, click the Computer Configuration node. Expand the Software Settings node, then right-click the Software Installation node to open the Software Installation snap-in. Select New, click Package/Open, then find the Office 2000 MSI file in the Office folder (it could well be DATA1.MSI) and click Open to display the Deploy Software dialog box.
- 8 Now click "Advanced published or assigned" to display the Office 2000 Properties dialog box. This contains five option tabs, most of which are self-explanatory:
 - **Deployment:** specify whether to publish or assign Office. Under Installation user interface options, you specify how much of Office Setup is shown to users during the installation process - the default setting is Basic, which installs Office with no user interaction (and the Maximum setting won't work at all unless the target user is an administrator).
 - **Upgrades:** this is used to deploy a service release or a new version.
 - **Categories:** providing you have already set up categories for your organisation in Active Directory, you can use the Categories tab to associate the new Office installation to an available category and so make it simpler for users to find in the Add/Remove Programs list.
 - **Modifications:** applies an MST transform to the Office installation.
 - **Security:** displays the standard Windows 2000-based security options. The Advanced button lets you use Windows 2000 access control lists (ACLs) to tweak the Group Policy software installation settings for specific cases.

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