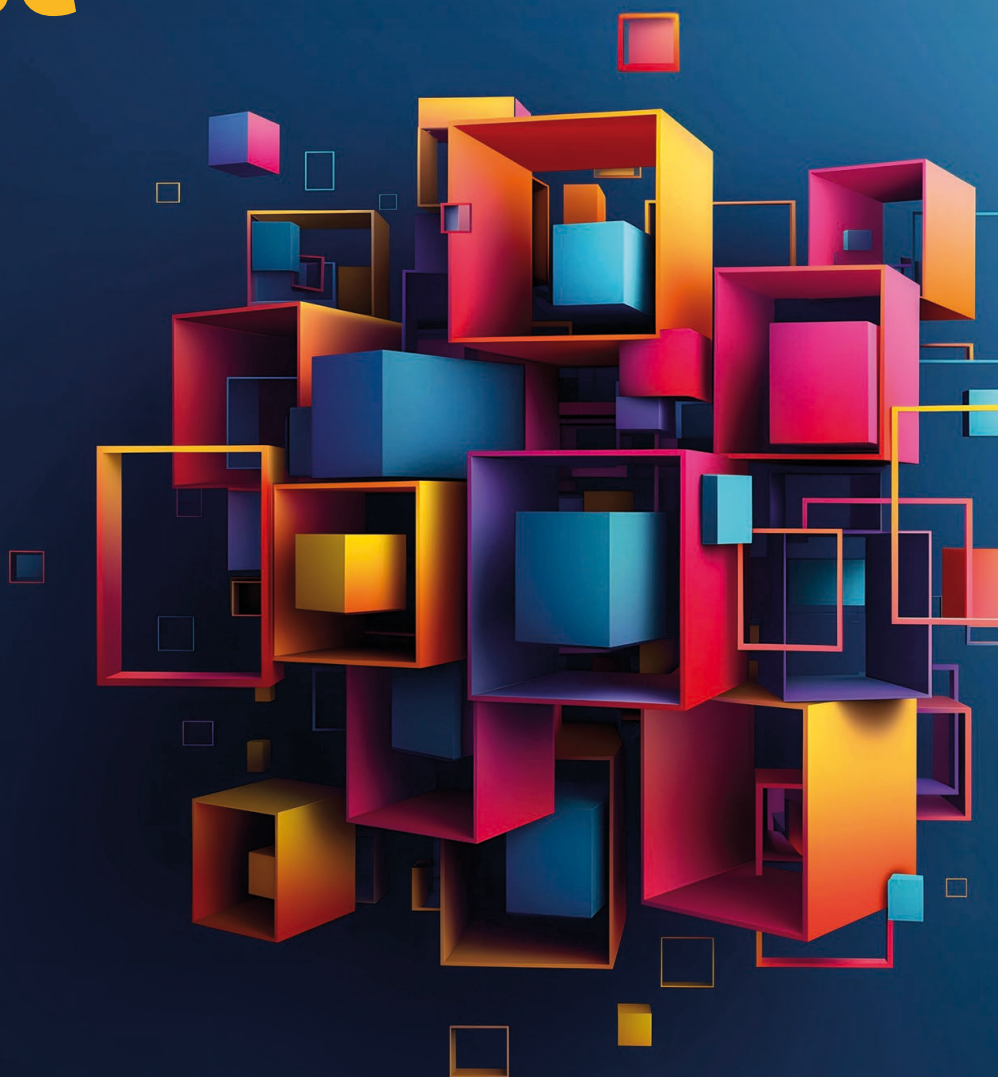


IT Administrator

The magazine for professional system and network administration

Laplink PCmover Enterprise



Migration Expert

by Dr. Christian Knerrmann

Moving to a new client PC is a painful experience for many Windows users. The operating system does not provide a built-in way to fully migrate applications, user profiles, and data. Laplink PCmover Enterprise aims to fill this gap and make the move just as simple and stress-free – even fully automated, if desired. IT-Administrator tested the tool and was highly impressed.



Anyone who has ever moved to a new computer under macOS knows how comfortable Apple makes the process. The company's own backup tool, Time Machine, creates a complete image of the old system, and Migration Assistant on the new device restores it. All applications, every setting from the email client to keyboard shortcuts, and the complete folder structure with all documents are immediately available.

By contrast, Microsoft Windows users often face a new client PC with mixed feelings. What seems like the simple task of moving to a new machine has always been much more complex. The classic approach is to set up the new device manually, often with a fresh installation of the operating system. Then all required applications must be installed, user profiles created, settings configured by hand, and finally data copied from the old system.

Users often find themselves reconstructing individual settings for weeks after the migration. In corporate environments with hundreds or even thousands of workstations, this effort multiplies and ties up valuable resources for both users and IT support.

Microsoft's Built-in Tools Migrate Only to a Limited Extent

Microsoft does not include any native Windows tools that enable a complete move in one step. As a separate tool, Microsoft offers the User State Migration Tool, or USMT, a command-line utility that captures the user state on one computer, writes it to a migration file, and restores it on a new client. However, the tool transfers only user profiles with their files, parts of the operating system configuration, and application settings – not the applications themselves.

Microsoft primarily designed USMT for large-scale user profile migrations. Its XML-based configuration creates a steep learning curve, and even experienced administrators need time to use the tool effectively. More importantly, Microsoft no longer actively develops USMT, and support for Entra ID is notably missing.

As an alternative, Microsoft primarily encourages admins and users to rely on its own cloud tools. Autopilot and Intune are designed to handle basic operating system configuration and application deployment. In this scenario, OneDrive for Business, combined with redirected standard user-profile folders such as

Documents, Desktop, and Pictures, synchronizes data automatically to the cloud. When moving to a new client, the user simply signs in with a Microsoft account, and OneDrive downloads the data again.

That approach covers files only. It does not cover applications with their configurations or individual operating system settings. In addition, not every company can or wants to move all data to the cloud. Regulatory requirements, data-protection concerns, bandwidth restrictions, or the nature of certain data can all stand in the way. Outside of OneDrive, Microsoft's online USMT documentation itself points to third-party products as supplements for scenarios that its own tool does not cover, explicitly naming PCmover from Laplink Software – a name that may bring back memories for long-serving administrators.

From MS-DOS Pioneer to Windows Specialist

Laplink has an impressive history that reaches back to the MS-DOS era. Founded in 1983 under the name Traveling Software, the company established itself with the Laplink software. For its time, it served a revolutionary purpose: the direct transfer of files between two clients using a proprietary parallel-port or serial

null-modem cable. At a time when networks were not yet standard and exchanging data usually required floppy disks, Laplink offered an elegant alternative.

As networks became more widespread and the Internet emerged, the company shifted its focus. Instead of primarily addressing the transfer of individual folders or files, it moved toward the more complex task of complete PC migrations. The expertise gained in dealing with Windows internals, the registry, file systems, and applications became the foundation for today's PCmover product family. Laplink now positions itself as a specialist in Windows migrations and fills precisely the gap that Microsoft itself does not address. The company also maintains close partnerships with Microsoft and Intel.

From Small to Large: Four Editions

Laplink offers its migration assistant in four editions. PCmover Professional is aimed at home users and smaller organizations with manageable migration needs. This edition already provides the full range of functions for migrating applications, user profiles, settings, and data. It also supports all migration paths: direct transfer via network, USB, or Thunderbolt, as well as indirect export and import through a transfer file or restoration from an image. USB transfer requires a proprietary cable, which Laplink offers as an optional add-on to the software.

However, administrators must install PCmover Professional on both the source and target computer and run it interactively. Command-line execution is supported starting with the Business edition, which addresses smaller projects of up to 50 migrations. This edition also allows portable use of the software, starting without installation from removable media or a network share and reducing the administrative effort required for multiple migrations.

The Enterprise edition adds additional functions for larger companies and complex migration scenarios. In addition to

all Business edition features, it includes Policy Manager, a powerful tool for pre-configuring and automating migrations. The Policy Manager, which we will discuss in more detail below, automates migrations using policies. This allows administrators to minimize interaction with the graphical user interface or even turn it off completely, enabling zero-touch migrations.

The Enterprise edition can also pre-activate the portable version of the software, allowing it to function completely offline. Additional functions include execution by non-privileged users, which even enables remote migrations from a home office, the use of custom certificates for communication between clients, and integration with storage services such as Azure, AWS, or Google Cloud for data transfer.

In the Enterprise edition, PCmover also allows communication through custom ports and connections by IP address or hostname if clients in more complex networks cannot automatically discover each other. This version also works with the Endpoint Management Assistant, or EMA, part of the Intel vPro platform. EMA allows administrators to manage vPro-enabled clients remotely even when the operating system is not running or the client is powered off.

Finally, the Government edition is functionally equivalent to the Enterprise edition but adds compliance features for the public sector. It supports and enforces cryptography according to the U.S. government's Federal Information Processing Standards, or FIPS, which are not necessarily mandatory in other countries and markets but are recognized worldwide as a state-of-the-art security benchmark.

Fair Model: One License per Migration

Laplink generally licenses PCmover according to the principle of one license activation per migration. The model is very fair: it counts one activation for a fixed assignment from a source to a target. If an administrator uses the integrated

Undo function to reverse a migration on the target, the same activation can be used for another attempt as long as it involves the same target computer. Admins can therefore make as many attempts as needed with different settings until they are satisfied with the result. If the same source is also to be migrated to a different target, another license is required.

The Professional and Business editions are available directly through the manufacturer's website, either as individual licenses or in packs of five, ten, or 25 licenses. As an alternative to the standard license per migration, IT service providers can obtain the Business edition as a Technician License, which combines a base price with flexible billing for a tiered number of migrations per month.

For the Enterprise and Government editions, Laplink offers two licensing models. Volume licenses are priced according to quantity and are valid for four years. For larger organizations, the Annual Site License model is often more attractive. Under this approach, the customer purchases an annual migration allotment, with unused licenses expiring after the agreed 12-, 24-, or 36-month term. This option begins with

Laplink PCmover Enterprise

Product

Software for migrating Windows PCs.

Manufacturer

Laplink Software
<https://enterprise.laplink.com>

Pricing

Licensing is per activation for one migration: Professional and Business editions are \$69.95 and up per license. As an example for the Enterprise edition and depending on quantity and duration, \$9,450 for 500 licenses (\$18.90 per license) or \$14,750 for 1000 licenses (\$14.75 per license) would be due for a duration of one year. Pricing for larger quantities and longer durations can be directly requested from the manufacturer.

System requirements

Microsoft Windows 7 through 11 with at least 300 MB of free disk space.

Technical database

www.it-administrator.de/downloads/datenblaetter

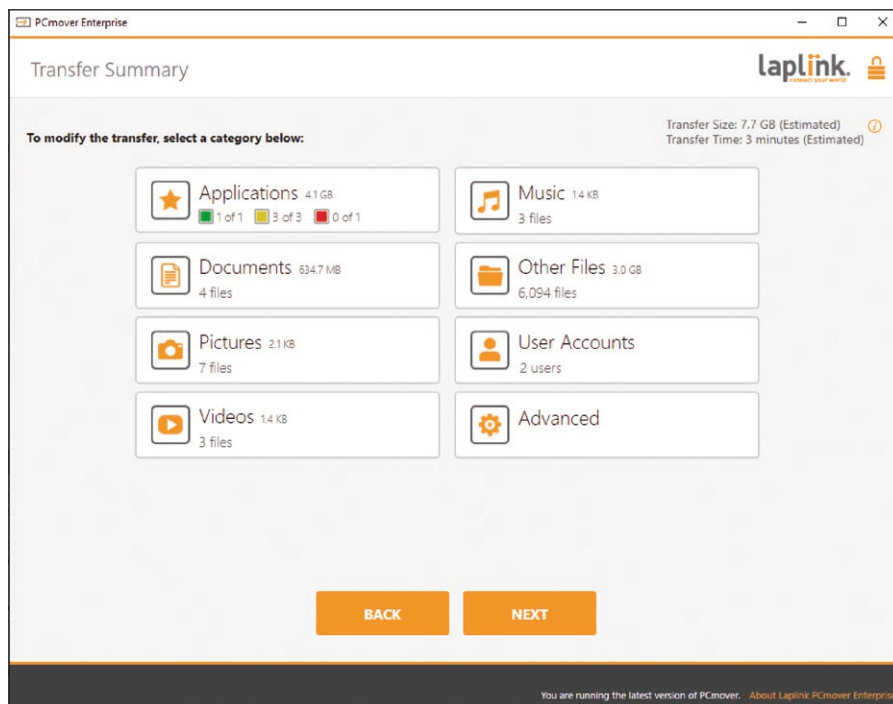


Figure 1: PCmover allows a granular selection of which elements should move to a new client.

a 500-license allotment and offers further discount tiers for 1,000, 5,000, and 10,000 licenses.

Laplink issues license serial numbers either individually or as a collective key with multiple activations. For example, if a company licenses 100 migrations, it receives either 100 individual serial numbers with one activation each or one serial number with 100 activations. According to the manufacturer, large customers usually choose the latter for organizational reasons because it simplifies administration. For our tests, Laplink provided us with a trial license of the Enterprise edition with multiple activations.

In addition to licenses, Laplink offers optional services whose prices are calculated as a percentage of the license price. Onboarding includes training, software customization, and configuration support and typically costs eight percent of the purchase price. Premium Support, also at eight percent, provides access to pre-sales architects and direct support from the development department. The maintenance agreement, at 15 percent of the purchase price, secures access to all updates and bug fixes.

Transfer Modes for Every Usage Scenario

For hands-on testing, we prepared an older Windows 10 client with various installed and portable applications as well as user profiles containing data inside and outside the typical profile paths. We wanted to move these applications, users, and their data to a newer Windows 11 client.

Installing PCmover Enterprise was simple. After accepting the license terms, we could choose the components. By default, an installation includes the PCmover Client itself and Policy Manager. We then found both in subfolders under "C:\Program Files (x86)\Laplink PCmover\", from where we could easily copy them to a network share and start them portably on the second client.

PCmover greeted us with a choice of four transfer modes, each accompanied by a wizard with easy-to-follow steps. The direct approach is "Transfer Between PCs." Both computers are in the same network segment, whether connected by Wi-Fi or Ethernet cable, so they can discover each other through UDP broadcasts.

With regard to information security and data protection, the manufacturer

emphasizes that PCmover never has or needs access to the contents of the transferred data and transfers it from client to client using TLS encryption. PCmover is a stand-alone application without a resident agent and leaves no components behind after the transfer is complete. The only automatic communication with Laplink servers concerns license validation at runtime. Log files required for troubleshooting contain metadata such as filenames and registry keys, but PCmover never transfers them automatically. Admins must explicitly provide them to support for analysis if needed.

For scenarios without a direct network connection, PCmover supports a direct point-to-point connection via Ethernet, Thunderbolt, or the optional Laplink USB cable. Alternatively, "Transfer Using Storage Media" separates source and target in both time and location. In this case, PCmover writes all selected data, settings, and applications from the source into a transfer file with the PCV extension. After being moved by external media, network storage, or cloud storage, PCmover imports all or selected elements at a later time on the target. This asynchronous mode is suitable for reinstalling the same client hardware as well as for scenarios with geographically distributed locations or limited connectivity. PCmover can optionally encrypt the transfer file; the client then requires a password between eight and 255 characters.

Similarly, Image & Drive Assistant handles restoration from a VHD(X) image or a directly connected physical hard drive without the intermediate step of a transfer file. This method enables migration even when the source system itself is no longer available or no longer bootable. PCmover therefore flexibly supports moves from physical systems to new physical clients, virtual to virtual, physical to virtual, and virtual to physical.

Finally, the fourth option is a special case. Profile Migrator handles the migration of data and settings between user profiles on the same machine. Typical scenarios here include moving from a local user account to a domain account,

migrating from classic Active Directory to Microsoft Entra ID, or switching from a personal Microsoft account to a work or school account.

The reverse direction is also possible in each case. Profile Migrator can use any account type as the source or target, allowing users to carry all files and configurations from their familiar work environment into a larger system change without manual effort.

Exemplary Direct Migration

We initially chose a direct transfer within the same network segment. Once we selected the option and validated our license, the two clients found each other automatically, and PCmover reliably identified the old and new PC. If desired, the migration direction can also be reversed manually. PCmover then analyzed the source and target and offered three transfer methods. The recommended Standard option transfers all apps, profiles, and data that PCmover considers suitable. Alternatives include a selective migration of user accounts, files, and settings without applications, or a data-only migration without users.

We kept the default Standard selection but did not confirm it with the Next button. Instead, we selected the Customize link beside it. PCmover then presented all elements identified for migration, divided into eight categories (Figure 1). For each category, we could define the preselection and granularly choose which elements PCmover should actually move.

PCmover classifies applications using traffic-light colors. Applications marked green have been tested by Laplink and identified as safe to transfer. Applications marked yellow have not been explicitly tested but are likely safe to transfer. Applications marked red are unsafe for transfer and are therefore not preselected.

PCmover achieves impressive results by recognizing and migrating even older or unregistered programs. It typically transfers classic Win32 applications that store their configuration in the registry and file system. Modern Windows apps

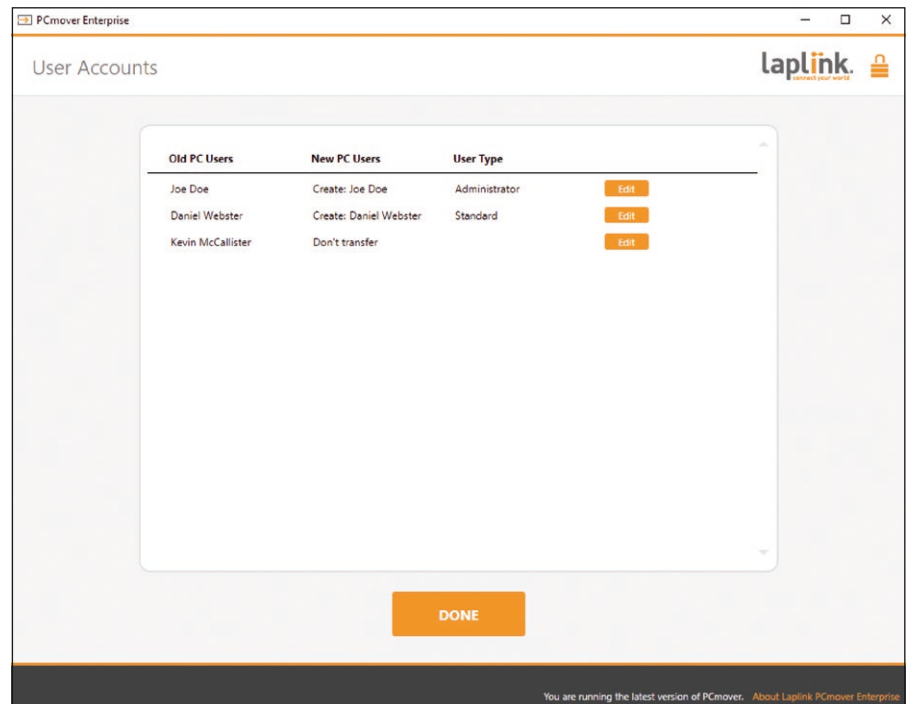


Figure 2: During a migration, PCmover transfers profiles between any user accounts.

from the Microsoft Store, portable applications without installation, and older legacy applications are also part of its repertoire. PCmover also moves browsers together with bookmarks, extensions, and settings. Productivity applications, image-editing programs, development tools, and many industry-specific solutions usually migrate without complications, as our tests confirmed.

App Migration Has Limits

The migration assistant reaches its limits with certain categories of applications. Complex software packages require special attention. Adobe or Autodesk suites, Microsoft Office, stand-alone instances of OneNote, Project, or Visio, SAP applications, or specialized logistics tools such as FedEx Ship Manager or UPS WorldShip can cause problems. The manufacturer offers support for these cases and can help in many situations. If a correction is not possible, Laplink recommends blocking the affected application and reinstalling it on the target system.

PCmover cannot and will not bypass application licensing mechanisms. Single-seat licenses often transfer without complications. Volume licenses activated through license servers, named-user licenses with cloud validation, and licen-

ses tied to a MAC address or other client hardware characteristics usually require reactivation.

PCmover explicitly does not support hardware drivers and hardware-specific operating-system settings because they depend on the specific hardware of the source system. Printer drivers along with their settings may be an exception, but they require compatibility testing.

Because of an operating-system restriction designed to prevent malware, PCmover cannot overwrite default applications – meaning file-type associations with programs – on the target. The same applies to the taskbar layout.

For security-relevant software such as antivirus clients, intrusion detection systems, EDR solutions, and VPN clients, Laplink advises against migration. The same applies to agent-based software, such as clients for automated software deployment systems.

PCmover does not migrate Outlook OST files, which contain the local cache of an Exchange mailbox; however, the mailbox will synchronize again from the server after migration. For the .NET Framework and Visual C++ Redistributables,

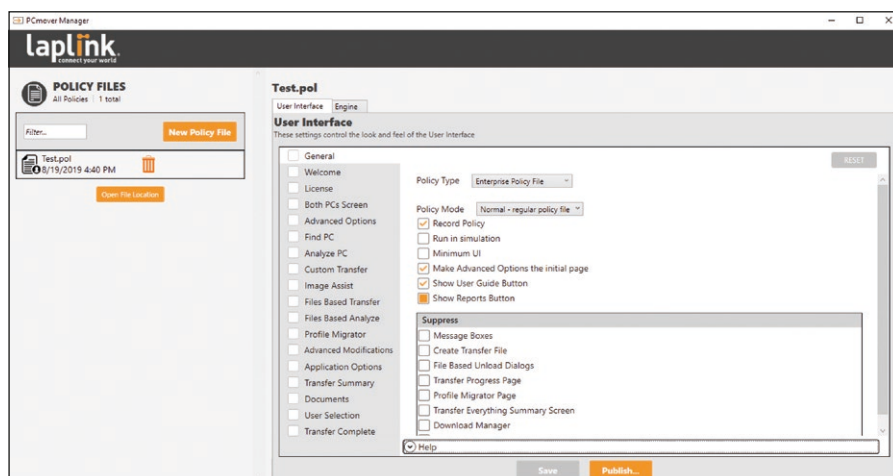


Figure 3: Policy Manager specifies settings for migrations and, if desired, for fixed pairs of source and target computers.

PCmover takes a pragmatic approach and does not transfer these components. Instead, it installs them automatically from Microsoft sources on the target when needed. One exception is .NET 3.5, which occasionally requires manual follow-up work.

Windows features such as Remote Server Administration Tools or Windows Subsystem for Linux cannot be moved by PCmover. Admins must activate these components separately on the target system if needed. The desktop layout may also change if the number of monitors or the screen resolution differs.

Flexible Handling of User Profiles

PCmover also fully convinced us with its migration of user profiles and data. On the target system, we could easily create users, exclude users from the migration, or merge them with existing users while selecting the desired target user (Figure 2). Even as part of a complete migration, PCmover proved just as flexible here as when using the separate Profile Migrator.

Combined with the migration of data inside and outside the profiles, we found our work environment on the new client exactly as we had left it on the old system. After selecting all components, all we had to do was start the actual data transfer. In our test, with only a few gigabytes of data, the process completed in a very short time, and as the final step we restarted the client.

The other modes varied in their operating details but followed the same basic logic. All our migration attempts through the intermediate transfer-file step were fast and uncomplicated, as were attempts with Image & Drive Assistant, for which we connected the old client's hard drive to the new machine using a SATA-to-USB adapter.

Successful Automation with Policy Manager

In enterprise environments with many migrations, Policy Manager comes into play. It is a graphical tool that generates XML files with the POL extension. Policy Manager distributes the options across three tabs. In the User Interface area, we could granularly hide individual options in the client interface or even the entire PCmover window.

On the Transfer Configuration tab, we could define the desired modes and, for example, specify a file-based transfer only. For applications, we could define inclusions and exclusions. Based on application ID, name, or publisher, we controlled which apps PCmover should explicitly migrate or not move. For each application, we could also define whether the client should offer the ability to change the preselection during interactive use.

Policy Manager also accepts presets for mapping drives, folders, and files and manages inclusions and exclusions for user accounts. The Logon Days param-

eter is especially practical: It filters user accounts by the time of their last login and, for example, transfers only profiles from accounts that were active within the past 30 days. For file-based transfers, we could predefine fixed pairs of source and target computers with paths to the respective transfer files (Figure 3). For larger projects, Policy Manager can also import this information from CSV files.

The Engine Internals area contains advanced settings, such as encryption requirements for network-based or file-based transfers. Most notable, however, is the License / Pre-Registered Transfers section. There we could pre-activate licenses for specific source-and-target pairs, similar to the assignment of file-based transfers, so the actual migration can succeed without an Internet connection. A pop-up explicitly states that each assignment consumes one license. CSV import also works here.

If a policy named "policy.pol" is located in the PCmover Client program directory, the client automatically applies it at startup. This also worked perfectly in our tests. Through policy, we reduced the available options in the client GUI, which eliminates sources of error during interactive use and allows less experienced support staff, or even users, to use the tool safely.

Alternatively, the client also accepts any policy files passed as command-line parameters. Admins can therefore provide different settings for different groups of clients or users. When launched from the command line, PCmover integrates with

How IT-Administrator rated it

Transfer modes	8
Application migration	9
Profile transfer	10
Data migration	8
Policy Manager	8

Test-methodology details are listed in the source at www.it-administrator.de/testmethodik.

existing central client-management tools in a fully automated way.

Conclusion

With PCmover Enterprise, Laplink closes a gap in Microsoft's ecosystem and addresses comprehensive client migrations including installed applications, user profiles, settings, and data. This mature tool impresses with its flexibility both in interactive use and in automated operation. Whether direct network

transfer, file-based migration through intermediate storage, restoration from images, or profile migration on the same computer – PCmover supports the common challenges of everyday administration.

Policy Manager, a unique feature of the Enterprise edition, enables the standardization and automation of migrations, significantly reducing manual effort or even eliminating it completely.

Administrators should only keep the limits of application migration in realistic perspective. Not every piece of software can be moved automatically, and full suites, hardware-specific drivers, or security software may still require reinstallation. When in doubt, the manufacturer's optional support can help solve tough cases, so only in rare cases will applications be unable to move. *(ln)*

