

The Sledgehammer Versus the Scalpel: Moving Beyond Traditional PC Imaging

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Executive Summary

Traditional imaging software provides IT administrators with a tool to deploy new desktops and operating systems. Corporate images are standardized and deployed to hundreds or thousands of desktops. That takes care of day one. But what about day two – and the remainder of a desktop's lifecycle? Traditional imaging solutions have severe limitations that quickly become apparent almost as soon as a desktop is deployed. As a result, IT administrators and end users are not able to work as efficiently and productively as they could with a more flexible and effective method to maintaining a device's authorized operating environment.

Secondly, help desks are often forced to completely reimage a machine when performance issues cripple a desktop. Reimaging can resolve a recurring problem, but it also causes a loss of user data and personalized settings, leading to lower user satisfaction, secondary help desk calls and lost productivity as users are forced to recalibrate settings to fit their personal needs.

By automatically ensuring that devices are compliant and healthy every day, Persysent prevents the lost productivity and secondary help desk calls associated with desktop re-imaging.

Persystent Suite: A Unique Approach to Maintaining Availability and Compliance

Persystent Suite ensures desktop availability and compliance through automated policy enforcement. As a result, our customers mitigate PC-related business risk, improve service levels and dramatically reduce support costs.

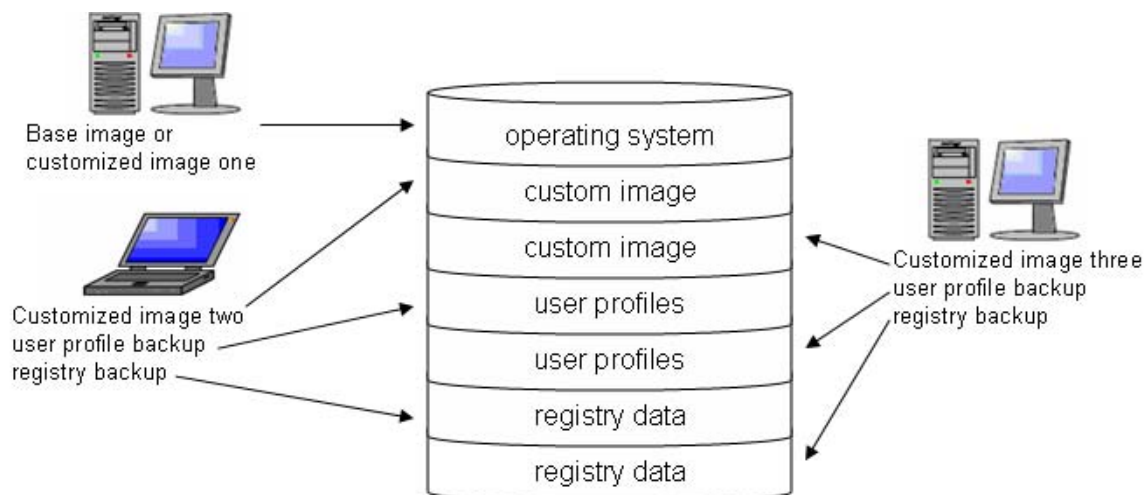
A client-server based solution, Persystent establishes a customized image stored in a partitioned portion of a desktop's hard drive. This image represents the authorized operating environment for that device. With every boot cycle, Persystent enforces licensing, configuration and regulatory policy by ensuring that desktops maintain their authorized operating environment – on or off the corporate network. Files are repaired, restored or removed as needed to achieve compliance. Enforcement happens without IT or end user intervention, and works regardless of the current state of the operating system.

From a support perspective, Persystent operates in stark contrast to the "sledgehammer" approach taken by traditional imaging products. These solutions rewrite the entire hard disk, leaving the user to restore personalized settings and files — instead of getting back to work.

Full reimaging should only be used as a support action of last resort – a reactive step after troubleshooting and manual repair fail. Persystent prevents the lost user productivity and secondary help desk calls generated by total reimaging by automatically ensuring that devices are compliant and healthy every day.

Persystent Suite Console

When Persystent creates a customized image for the first time, all operating system files are logged with their MD5 checksum, file name, file date, and file size attributes. The files are then compressed, encrypted and written to the shared repository. Any time another image for that same OS is created, the files currently on the client hard drive are compared to the files in the shared repository. Unique files are then logged and written to the shared repository.



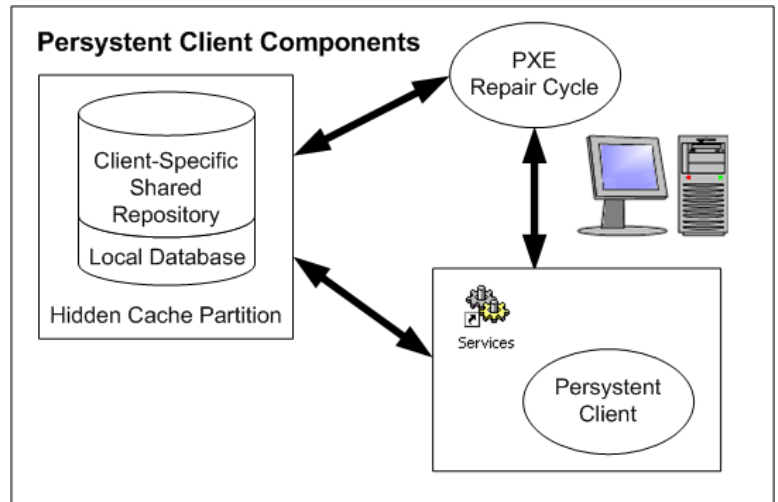
Persystem Suite Client

Persystem Suite can inherit established network clients and define them as the authorized operating environment for a given device. When a client is migrated to Persystem, a new partition is created on the client hard drive without disturbing the OS partition or an OEM diagnostic partition. Should the hidden cache partition be corrupted or removed, Persystem automatically restores it during the next boot via the Persystem console. The files in the hidden cache partition are encrypted and are not accessible either in Windows or by booting to removable media.

When a client is migrated or has an image installed, the Persystem background agent (PBA) is also added. The PBA communicates between the hidden cache partition and the Persystem console while Windows is running and a network connection is established.

The client OS partition is protected by Persystem Suite in four major parts:

- OS and application directories and files and the registry
- Windows user profiles
- User settings
- Registry data

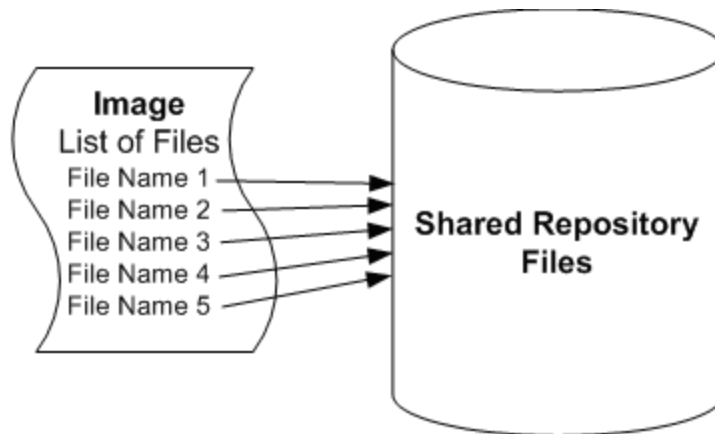


The OS and application directories and the registry are captured when the custom images are created. The captured files are written to the hidden cache partition on the desktop and then to the shared repository on the server. Windows profiles, user settings and registry data can be preserved, restored or deleted in accordance with corporate policy.

Persystem Suite Images

Traditional imaging software stores images as Binary Large Objects (BLOBs), which consist of a collection of binary data stored as a single entity in a database. BLOBs are used primarily to hold multimedia objects such as images, videos and sound, though they can also be used to store programs or even fragments of code.

In Persystem terminology, an image is simply a list of pointers to files in the Shared Repository. As such, Persystem images are very small files. This allows Persystem software to maintain and archive many versions of images which can be stored on the client and the server.



Methods of Desktop Imaging and Deployment

Imaging software provides IT administrators with a tool to deploy new desktops and operating systems. Corporate images are standardized and deployed to hundreds or thousands of desktops. That takes care of day one. But what about day two – and the remainder of a desktop’s lifecycle? Traditional imaging solutions have severe limitations that quickly become apparent almost as soon as a desktop is deployed. As a result, IT administrators and end users are not able to work as efficiently and productively as they could with a more flexible and effective method to maintain a device’s authorized operating environment.

The core limitations associated with traditional imaging solutions include:

1. Any hardware configuration differences require multiple images for each hardware variance in the infrastructure. Maintaining these images requires many unnecessary manual hours and significantly increases storage requirements.
2. Upon reimaging, all personalized settings, files, profiles, data, Internet favorites and more are lost. Instead of addressing just the problem at hand, the BLOB approach overwrites an entire hard disk in an effort to fix what may be a small issue. This creates user dissatisfaction, lowers productivity and generates secondary help desk calls to re-establish personalized settings.
3. Traditional imaging solutions do not integrate with patch management and/or application distribution tools. Consequently, these solutions cannot inherit new patches or application deployments as part of the device’s new authorized environment. This severely limits the ability of administrators to effectively apply and retain critical patches and updates, and can ultimately jeopardize business continuity, systems availability and end user productivity without total reimaging of every device receiving the patch.

Persistent Suite takes a unique approach to maintaining and deploying the authorized operating environment. Below are three key differentiators:

1. Persistent takes a file-level approach, in contrast to the whole-disk methodology used by traditional imaging solutions. A “single instance” storage strategy is used for operating system files, so only one instance of any unique file is stored from across the infrastructure. Additionally, a file-level approach allows user settings and other files to be stored in accordance with policy.
2. Persistent allows administrators to deploy a single image across many different PC hardware platforms, which reduces deployment time and image storage needs.

3. Persysent Suite inherits updates and patches from leading third-party patch management and software distribution tools. Persysent allows delivery and retention of OS updates, service packs and authorized applications without full reimaging of the machine. Instead, updates simply become part of the new authorized operating environment without sacrificing previous settings.

Methods for Migrating, Reimaging and Refreshing desktops

Performing a typical PC migration, reimage or refresh with a traditional imaging solution requires a laundry list of manual tasks, including recording network settings and printer configurations and manual transfer of favorites and other user settings. In some cases, a technician can copy a profile and desktop settings to a network share which can be used to migrate that user to a new desktop. However, this process is extremely inefficient and, in the event of severe corruption or hard disk failure, not always possible.

Once a migration, reimage or refresh is complete, the technician and/or the end user must manually restore personalized settings, a process that normally takes hours – or even days.

Clearly, traditional methods for migration, reimaging and refreshing desktops exact a heavy toll on businesses of any size. Gartner estimates that the typical operating system migration costs an organization over \$400 per machine.

Persysent's approach provides the flexibility to inherit user profiles, settings and registry keys. With Persysent, an operating system migration or system refresh includes everything that user needs to get right back to work without disruption or delay. Persysent provides IT with a tool to enable scalable, consistent and streamlined migrations and refresh processes.

Conclusion

Traditional imaging solutions can be an effective tool in environments where total lockdown is required. In educational computer labs, for example, it is important to keep machines free of personalization, unauthorized applications, and harmful files that can corrupt desktops and networks.

However, in a business environment, the “sledgehammer” approach used by traditional imaging tools is not practical. Employees often personalize settings and store files locally to enhance productivity. And while corporations must define and enforce usage, licensing and regulatory policy to satisfy high-level business goals, a more flexible approach is needed to ensure administrative efficiency and the satisfaction and productivity of end users.

Persysent Suite provides significant benefits beyond what an imaging solution can provide. First, because Persysent maintains the authorized operating environment, desktops are far less likely to degrade to the point of needing full reimaging. And Persysent is able to inherit patches and updates from a wide range of leading patch management tools, inheriting those files as part of the new system baseline. Additionally, system refreshes and migrations occur without the loss of user profiles and settings, saving countless hours and dollars lost when users and administrators must work to restore personalized settings.

With Persysent, administrators gain a tool not just for deployment, but a flexible solution to ensure desktop performance and compliance throughout the entire lifecycle.

About Persysent Software

Persysent® Software solutions ensure that end-user desktop and laptop computers are always available and fully functional – whether in the office or offsite.

Persysent® Software developed the only automated PC recovery product on the market with unsurpassed speed, restoring application and operating system (O/S) files that are corrupted, changed, or missing, in less than 30 seconds.

Founded in 2002, Persysent® Software solutions have been instrumental to organizations across North America including government, health care and education sectors with limited resources to support a high ratio of employees to IT staff and 24/7 business uptime.

For more information on Persysent® Software and its solutions, visit: www.persysent.com.

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