

# Condrey Consulting Corporation and the University of Kentucky

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## SUCCESS STORY

**Overall Benefit:** Automated home directory management and storage provisioning with Novell® Nsure™ and Condrey Consulting Corporation's File System Factory

### BACKGROUND

Condrey Consulting Corporation (CCC) is building its network software business with solutions designed expressly for use with Novell eDirectory™ and the NetWare® platform. With customers in 33 countries, CCC and its two principal products, File System Factory\* and IUAdmin\* are earning industry recognition and praise from Novell customers by meeting longstanding IT needs faced by enterprises worldwide.

### THE SITUATION

Providing network users and groups with a flexible, intuitive way to access collaborative and personal storage resources has long been a goal of most networked organizations. Yet storage allocation, management and cleanup on networks with large and dynamic user populations has until now mostly been an ongoing series of manual tasks that consumed precious human and technical resources.

In 2002, the University of Kentucky's IT department considered undertaking a large internal development project that involved writing custom

software to automatically create user directories and allocate personal storage on the NetWare platform to more than 35,000 students. The university's automated account creation process for eDirectory worked well, but it didn't create user directories or allocate personal storage resources for end users. After considering the resources, time and costs of developing an in-house solution, the department elected not to proceed and opted instead for a packaged solution.

### THE SOLUTION

The University of Kentucky deployed File System Factory in July 2002, and quickly began enjoying positive results. "File System Factory is another great problem solver from Condrey Consulting," said Matt DeFoor, Lead Systems Programmer at the University of Kentucky. "After installing the product, we rolled in new storage, plugged it in and backfilled the existing users, which created home directories for existing users. Thanks to File System Factory, all our student users now have a place to store data on the network, which is

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The University of Kentucky

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exactly what the university's IT department needed to offer.”

File System Factory makes NetWare file system provisioning, management and cleanup part of the directory. When a user is created, the event triggers File System Factory to apply the proper storage policy, which governs possible storage locations, storage quotas, rights assignments and other aspects of storage provisioning. It also manages the personal disk storage for the life of the user—and it cleans up when users go away using rules set by the administrator in the policy. The administrator is now able to simply point the directory tree to some disk storage and be done with it; unconcerned about file system storage, even as the organization adopts new account provisioning technologies. Adding new storage to the solution is as simple as uncrating the new server or storage subsystem, installing it into the tree and pointing the tree to it.

“We needed to let students and faculty store files and data, spreadsheets, contracts, modeling data, etc. eDirectory and File System Factory are indispensable to managing this aspect of the university's network,” says DeFoor. “Nothing is better for storing data and providing user access than NetWare. File System Factory combines two of the best parts of the network experience for the benefit of our end users. It also reduces administrative overhead as it allows data to automatically follow users through their entire educational cycles.”

With File System Factory, all the administrator needs to do is create, rename, move, or delete

objects in the tree using any method, tool, or process. It handles all the file system responsibilities. Because File System Factory acts based on events in eDirectory, it works with both newer and older user provisioning processes, even older processes that involve custom code, batch processes, or manual data entry. It takes action based on events in eDirectory, no matter if DirXML®, LDAP, UIMPORT or ConsoleOne® initiated the event.

In fact, storage policies may be assigned directly with a DirXML driver or LDAP application, which will automatically trigger File System Factory to apply the policy and provision the file storage.

Policies are stored in eDirectory and control what file system actions, if any, are taken for a given event. Using policies that organizations define in eDirectory, File System Factory load balances storage across servers and volumes, setting quota, assigning rights and copying template files as appropriate. Policies also govern storage cleanup and data migration metrics so that the administrator can define schedules and bandwidth throttling directives for File System Factory to adhere to when moving data from one server to another for those users covered by a given policy. Policies may be assigned to containers, groups, or directly to user objects. Users inherit storage policies based on standard eDirectory inheritance rules.

Data migration through dynamic policy application is one of the most powerful features of File System Factory. If a user moves or the policy covering the user changes, the new policy of course applies. If the new policy points to a different set

of storage, say another server, the user's home directory and data will automatically moved to the new server in a way that the user is not impacted by the move. As mentioned above, attributes of the policy dictate the schedule and bandwidth used for data migrations.

Perhaps the most important aspect of File System Factory is its ability to start making a difference immediately in any organization, even those that already have users in eDirectory with or without storage allocated. Using its "backfill" operations options, it can provision and manage storage for previously existing users, which was critical at the University of Kentucky. For those customers that have gone to the effort of providing home directory storage for their users, File System Factory can pick those users up and start managing the storage, even though it did not create the storage, allowing administrators to leverage its cleanup and data migration capabilities. Backfill operations can also perform such real-world operations as restoring lost home directory assignments in eDirectory, automatically reconnecting storage to user objects that need to be recreated and restoring lost or corrupted file system trustee assignments.

## CONCLUSION

File System Factory takes the headaches out of storage allocation, management and cleanup on networks with large and dynamic user populations. It enables organizations using eDirectory for identity management and NetWare for file and print to do so in new and powerful ways, with new levels

of automation and management opportunities that have simply not been possible until now. File System Factory integrates with current directory provisioning processes, independent of the method, to deliver a fully automated and easily managed NetWare file system integration solution.

"We're completely satisfied with File System Factory," concludes DeFoor. "It solved our problem, and we saved significant time and resources because there was no longer a need to develop a custom solution that would have taken months to write. We also use the company's IUAdmin product, a Web-based utility that provides both management of and access to eDirectory (NDS<sub>e</sub>) as well as the NetWare file system, plus end-user self-service password reset and self-service account administration. We've come to trust the software provided by Condrey Consulting, so much so that we installed a beta version of the FSF product in our production network with no glitches. Since then we've only needed a few minor code updates, which were delivered promptly. It's incredibly effective software and well supported by Condrey Consulting, and that's why I would buy File System Factory all over again."

"We usually let our products do the talking for us, and our customers appreciate that," says David Condrey, President of Condrey Consulting. "We are proud to deliver File System Factory for automated integration between the industry-leading directory services, eDirectory, and the NetWare file system millions of users count on every day, as well as millions more eDirectory users that would benefit if such a file system were available to them."



Mr. Condrey also acknowledges the value of his longstanding membership in Novell's DeveloperNet® program. "Frankly, without DeveloperNet, my company would never have become as successful as it is. DeveloperNet provides the information conduit that affords our company and other developers the

opportunity to create the value-added services and software that are proving to be vital to millions of end users and companies in the world today."

For more information, please visit  
[www.condreyconsulting.com](http://www.condreyconsulting.com) and  
[www.novell.com/nsure](http://www.novell.com/nsure).

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