

# *York University Goes Kanaka for Mac*

## **Kanaka: Benefits of Deployment at York University**

- Single sign-on via Novell eDirectory for Mac OS X users
- Automated home directory configuration
- Eliminated development process to connect Mac users
- Provided Mac users trouble-free access to network files

## **Background**

York University is Canada's third-largest university, offering graduate and undergraduate degree programs to nearly 50,000 students. Information technology plays an indispensable role in the lives of each student, in the university's multitude of research labs and teaching environments, and in daily operation and service delivery for the entire Toronto campus.

York's technology infrastructure is also a significant cost center, consuming nearly 7 percent of the university's annual budget. So not surprisingly, York University network administrators and developers must innovate constantly to control support costs, and when necessary, integrate packaged ISV solutions to automate routine user administration tasks—all while providing 24/7 network access for each student—regardless of the client computer's operating system.

## **Objective**

Provide Mac OS X users in campus lab settings with automated network access while enhancing security and lowering support overhead.

## **Situation before Kanaka**

In large university network environments, the number of students who are Apple Mac users often ranges into the thousands. Each requires access to resources on the network, such as their home directory and network storage space. Yet, connecting a large community of Mac users to resources hosted on other vendor platforms, such as Novell NetWare, has long required extensive custom development to automate. Or tedious manual configuration of each Mac client computer's network settings to map drives to user home directories and network shares of personal and group storage.

In heterogeneous environments without a user account provisioning system, Mac users must perform this manual configuration themselves or request assistance from technical support. In larger user environments, however, custom development to automate user login and home directory provisioning has for several years been viewed as the best way to

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manage cross-platform connections for Mac users.

To provide Mac user access to an increasing number of Mac computers deployed in lab environments across their Toronto campus, York University's Computing and Network Services group had previously implemented a provisioning system to automate home directory configuration for Mac OS 9 users, but found they had reached a crossroad with the arrival of OS X. There was simply too much additional programming work and ongoing maintenance involved to justify retrofitting the application. And Mac OS X users were having problems configuring their lab machines correctly, which quickly led to an unacceptable number of support calls.

"We had an integrated system under OS 9 that allowed Mac users to access their network home directories and shared printing on NetWare in a nice scalable fashion," explained Geoffrey Carman, technical analyst, York University Computing and Network Services. "With the arrival of OS X we knew there were ways to accomplish this, but it would have required substantial revisions to populate the extra attributes introduced by the Open Directory plug-in. And beyond just populating the initial user attributes, maintaining these configurations through subsequent changes or moves added sufficient complexity and cost to the project that it was deemed not worth pursuing. In our search for a more elegant solution, we learned about Kanaka for Mac from David Condrey, the product architect."

## **Situation after Kanaka**

"Our technical services group supports York University's computer labs, with user accounts for nearly 50,000 students and over 1,000 lab seats scattered across 18 buildings—with more coming on line all the time," explained Carman. "The immediate benefit of deploying Kanaka was that it obviated the need for additional provisioning system development to accommodate OS X. Instead of committing to the necessary developer cycles, support resources and budget to upgrade and maintain the old system, we chose Kanaka Standard Edition to provide the base functionality of context-less authentication to eDirectory and automatic discovery and mounting of the user home directory on a NetWare server. We now have all OS X users in the labs using their common home directory between operating systems. And the rest is just gravy."

With Kanaka, all an OS X end user needs to remember is how to login to eDirectory. In practical terms this means Mac users can now login, roam from machine to machine, lab to lab, and building to building and not worry about remembering the location of their home directory. Kanaka also eliminated the need for York University support personnel to train Mac users how to map drives or for a technician to visit each machine to mount volumes.

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Mac users at York University can focus on their lab tasks and never have to grapple with client configuration issues. York administrators and support staff can concentrate on more meaningful IT tasks as well. And York University saves budget all year long by automating user access for this key computing platform fully into Novell eDirectory, saving money and time with every successful login by a Mac OS X user because Kanaka has essentially eliminated support calls about network access problems for Mac users in its many lab environments.

"In any established eDirectory infrastructure, people who support Mac users are naturally interested in reusing that infrastructure," said Carman. "We setup two servers running the KanakaSC NLM (NetWare Loadable Module) for redundancy. Our Kanaka clients were deployed as an image from a bootable CD, with the client configuration preset in the image and pointing at the two servers. But in fact, the last step in setting up Kanaka is where it performs its most sublime and useful task."

"The problem solved by Kanaka, explained Carman, "is that the name format for an AFP (Apple Filing Protocol) volume under OS X is of the type *afp://server.ip.address/volumeName*. But eDirectory stores volumes as *.SERVER\_VOL.context.ou.o*, and there is no link in eDirectory between the volume name and the AFP volume name. Kanaka solves the "home directory stored in two places" problem by translating one volume name to the other. When a user logs in, the Open Directory plugin on the Mac asks the KanakaSC NLM for the user's info. The NLM then reads the user's home directory attribute, pulls the eDirectory volume name, locates the referenced volume and reads its *cccKanakaAFPVolumeName* attribute, then constructs and sends a valid AFP volume reference back to the Open Directory plugin for login. Also, if an administrator needs to move the user's home directory from one volume to another, or anywhere else, no extra work is required, unless there is a need to assign an AFP name to it in Kanaka SC's web interface."

## Conclusion

Kanaka for Mac provides the fastest and easiest possible method for system administrators to enable large numbers of Apple computer users to think different—yet all be managed in eDirectory. By eliminating an extensive development cycle and automating the configuration of Mac OS X computers, York University is making it as easy as possible for Mac OS X users to connect to their home directories and storage. In addition, York University now has a scalable Mac OS X user login system in place to facilitate future deployment of collaborative storage for classes and groups of students.

Today at York University, all users of Mac OS X machines in campus lab

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environments enjoy context-less login, so just the common name of the user is needed. Once logged in, each user's home directory is automatically mounted and placed on the OS X system dock. Kanaka Dashboard is also placed on the dock, which provides easy access to identity information, current quota details, and the ability to change the eDirectory password.

"Our experience with Kanaka and Condrey Corporation has been very positive," concluded Carman. "Their support people are knowledgeable, friendly, and always willing to listen to our feedback. And Kanaka for Mac solved a big development problem, reduced related support calls by 90 percent, and made connecting OS X users in our labs to the network automatic, all of which helps York University continue to its mission to redefine the possible."

A regular contributor to Novell Cool Solutions, Geoffrey Carman has recently contributed two Kanaka-focused technical articles:

<http://www.novell.com/coolsolutions/feature/16969.html>

<http://www.novell.com/coolsolutions/appnote/16970.html>

### **About Kanaka**

In large scale education and enterprise environments, a scalable directory service and applications that extend its schema to use information stored in it provide the optimal way to manage users and heterogeneous computing resources. Kanaka for Mac OS X plugs into any Novell eDirectory infrastructure, automating access configuration and significantly easing the administrative burden and support overhead of providing secure, trouble-free network access to large numbers of Mac OS X users.

Kanaka authenticates MacOS X clients to eDirectory by integrating into the Mac OS X log-in subsystem, enabling context-less login on OS X clients. Each user's home directory location is derived solely from the standard HomeDirectory attribute in eDirectory, eliminating the need to manage a separate (Apple Filing Protocol) AFP-related attribute.

Users can roam from machine to machine and not have to worry about remembering the location of their storage. This eliminates the need to train users how to map drives to their storage or visit each machine to mount volumes. Administrators also have more freedom to move user storage around the network without users having to make changes to their workstations, further reducing the need for end user support. Kanaka also puts users in control of their storage space. Accessible from the dock, the Kanaka Dashboard provides Mac OS X users a quick way to check the status of their available network storage and monitor the status of shared storage space.

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## **About Condrey Corporation**

Condrey Corporation is a software engineering company that specializes in Identity, Storage, and File Management solutions that run on multiple platforms, including Microsoft Windows, Macintosh, Linux, and Novell NetWare. The suite of products work together to provide an Identity Based Storage Management solution that enables organizations to address end user storage and collaboration needs, automate key administrative tasks, and dramatically reduce the cost of managing and supporting a large numbers of users.

Condrey Corporation is strategically aligned with a wide variety of technology companies, including Apple Computer, Inc., Microsoft, and Novell, Inc. Condrey Corporation's flagship product, Storage Manager (formerly File System Factory), is commonly found in several industries, including Government, Finance and Banking, Healthcare, and Education.

David Condrey, Founder, CEO, and President has been delivering world-class solutions for more than ten years and has become a recognized innovator in the Identity, Storage, and File Management spaces.

## **For more information**

Kanaka trial versions enable all features of the full version of the product. Please visit our web site for more information.

[www.condreycorp.com](http://www.condreycorp.com)

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