

Identity Goes Virtual to Connect DAIMLER CHRYSLER DEALERS

Virtual directories are usually thought of as tactical, application oriented tools. But in building their Dealer Connect portal DaimlerChrysler faced the challenge of letting 10,000 dealers each manage their employees' identity data while retaining the ability to centrally manage and control the policies and use of the portal. DaimlerChrysler took a chance and found that virtual directories have matured enough to perform in core identity infrastructure.

DaimlerChrysler is no stranger to pioneering innovation. Gottfried Daimler laid his claim to the invention of the automobile in his workshop in 1885 with the Daimler Riding car. In that same year, Karl Benz produced a water cooled four wheel vehicle, the first true automobile. Benz further created the first production automobile in 1894, by producing and ultimately selling over 1,000 Velocipede automobiles in a production series. Benz thus pioneered the modern automotive industry. Daimler and Benz competed for years, but ultimately merged in 1926.

In the 1924, meanwhile, Walter Chrysler undertook the risk of challenging Henry Ford with a brand new car based on engineering excellence. His pioneering risks launched the Chrysler corporation and in 1928 he was joined by the Dodge brothers. The combination created standout high performance designs and became a serious threat to Henry Ford's empire.

Throughout his company's rapid rise Chrysler insisted on quality, engineering innovation and excellence. This emphasis brought the company leadership in the automotive industry until after World War II when fashion started to become more of a sales factor than raw engineering.

Chrysler Six, model year 1924

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(above) The riding Car in Gottlieb Daimler's workshop in 1885. (below) The riding car in the museum today.



Chrysler found an engineering based response, however, when muscle cars became fashionable. A focus on such engineering advances as high compression engines and the hemispherical combustion chamber (Can you say Hemi?) created models like the Superbird and Barracuda which became legends of the muscle car era.

This pioneering spirit coupled with engineering excellence has continued at Chrysler to this day with combinations of engineering and automotive flair making statements like the Prowler (first production Hot Rod), Dodge Viper (V10 engine), Dodge Ram SRT-10 (the most powerful production pickup truck ever made), and the PT Cruiser, among others. In 1998

Daimler and Chrysler merged to form today's DaimlerChrysler.

Making Dealers Productive

At the end of the day, the automotive business is all about selling automobiles. And a significant key to doing that well is making it very easy for your dealer network to order and finance them. To that end, DaimlerChrysler set out to integrate the many legacy client/server online applications their dealers used into an online portal called Dealer Connect. Dealer Connect is a portal of many, many applications that dealers use every day. It provides many services that make their life easier as a dealer and allow dealers to provide better service for their customers.

To build the Dealer Connect portal, many existing legacy client/server applications were web enabled while others were built from scratch specifically for the web environment. In the process batch processing was removed from applications wherever possible, creating a more real-time online structure. The goal was to build Dealer Connect as a single point of access for dealer applications.

Identity Crisis

Pat Carr is DaimlerChrysler's Manager of Security for the NAFTA region. According to Carr, "We are very much an IBM shop, a Websphere shop. You'll find almost everything you can imagine somewhere, but our direction is towards Websphere and IBM supported applications." Asked about the identity stores Carr said, "We have Active Directory, we have corporate LDAP directories, we have Novell's eDirectory, we have all sorts of [identity] information spread throughout the company and we really need to organize that in a more coherent way, but it's just in the planning session.



On the wings of originality:
The Mercedes-Benz 300 SL
from 1954.

There was a project before me to try to tie those together but I really think it was just too big.”

And that’s where the real problem emerged – when the issues of identity management and integration were considered. There was a need for the portal to integrate over a million identities that were managed remotely by 10,000 dealers. As Carr indicated, the company looked into doing a global directory solution. But as they surveyed all the pockets of identity information in the various corporate divisions on both sides of the ocean, it became clear that this wasn’t a trivial problem to solve.

According to a company source this identity crisis struggle continued for quite some time with internal discussions and several tentative plans that were discarded when it was seen they weren’t feasible. The problems went beyond the daunting technical issues of trying to synchronize

the many identity stores scattered in various LDAP directories and Sybase and UDB databases. Even more daunting were the political hurdles of data ownership and management. There were many discussions about governance, ownership, and where the identity data and metadata comes from. An innovative approach would be required.

DaimlerChrysler engaged PricewaterhouseCoopers to help them do an analysis of their identity management needs and come up with a solution. According to Shaun Granato, a Manager in the Global Risk Management Services division of PwC and a key member of the project team, “after considerable analysis [we] realized that the existing core user identity directory server not only didn’t have the needed data to support requirements from multiple applications, but the directory database schema would not support the data queries required by the security applications calling it. As a

result, rather than add another directory server and/or RDBMS into the infrastructure, the team decided that virtualizing identity via a proxy engine would be the best solution.”

Pioneering Again

The Dealer Connect portal was designed to use Netegrity SiteMinder as its access policy and management layer. For the overall system to work, the virtual directory would have to present an LDAP view of the many distributed identity data sources integrated in real time to SiteMinder. In early 2002 virtual directories were not a proven technology, and there was significant skepticism as to whether one could handle a project of this complexity and scale. But building a unified directory or meta-directory simply wasn’t realistic. Granato recalled, “A meta-directory was not only cost prohibitive, but this technology required the deployment of a central RDBMS for data warehousing, and a separate data



1971 Hemi-powered
Barracuda

“We are talking a very complex environment, a ton of information, and it’s all being managed practically seamlessly.”

instance for each application that would need user data represented to the Netegrity layer for authentication and authorization decisions.”

Once a virtual directory approach was seen as the only realistic alternative, the team set out to examine whether off-the-shelf technology could do the job, or if they would have to build it themselves. The DaimlerChrysler strategic direction is to deploy off-the-shelf software where possible when 80% of the functional requirements can be met by doing so. So the team began an evaluation process to see whether or not existing products would do the job.

This evaluation process used several metrics to decide if an existing product would be satisfactory. The team evaluated a combination of cost (license fees), vendor viability, overall product functionality and the percentage of the DaimlerChrysler project needs available products met out-of-the-box. They also evaluated various product technologies

from an architecture, performance, fault tolerance, and ease of implementation standpoint. This was, after all, to be a mission critical deployment.

Proving the Concept

Where the rubber met the road was in the proof-of-concept project used to make the final decision to commit to a virtual directory product. Dieter Schuller, who was on the vendor team for Radiant Logic (the virtual directory product ultimately selected) said, “I would characterize that process as a tooth extraction without Novocaine. We did an extensive proof of concept where we pounded things pretty heavily in a pseudo-production environment. [We] had to convince a lot of people, both some of the consultants that were working on the project as well as a lot of the DCX employees.”

“We basically recreated what they anticipated both in the near term as well as the growth metrics everyone had fed in from the business perspective,” Schuller said. “And then they pounded it with production type transactions. From the time that we actually installed the product, to the time DCX decided that this was worthy of going into production and supporting this type of application was about a six month process.”

Moving into Production

Ultimately the proof-of-concept convinced everyone involved that using a virtual directory at this scale would work, and at the end of 2002 the rollout to production began. The initial rollout implemented a portion of the new portal, with the rest of the applications phased in during the first part of 2003. According to Granato, “Since the product was launched, the functionality has grown to offer different views of users and user



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attributes from different data stores to support multiple application development initiatives, in addition to expanding the overall re-use and adoption of a centralized Identity Management solution.”

Virtualization at Scale

In providing the identity infrastructure for the Dealer Connect portal, the Radiant Logic virtual directory has shown its ability to handle identity virtualization at this scale. Pat Carr has been responsible for the system since mid-2003. He wasn't involved in its creation and it is just one of many systems he is charged with managing, so Carr can speak candidly about how this virtual directory system performs in production at scale.

“I love the stability part of it,” Carr said. “It runs, and we know it's doing a complicated, very critical piece of processing for us. We are talking a very complex environment, a ton of information, and it's all being managed practically seam-

lessly. I mean there's just not issues that come from this. We don't have to get up every day and say oh boy we've got to make sure that [virtual] directory's functioning like we want it to. The infrastructure is rock solid, and that's been the biggest blessing from my standpoint. It's something that we have grown to count on and are very pleased with.”

Identity Infrastructure

What is desired in identity management and access control infrastructure is a result that can be managed in a distributed fashion but used as though it were centralized. In the case of the DaimlerChrysler dealer connect portal, virtual directory technology allowed a system to be created where 10,000 dealers are delegated management of the identity information of their employees in a system where DaimlerChrysler maintains central management and control of the security and access policies.

For many years technologists, driven by the use of identity data, sought to create

actual centralized hierarchical directories and deal with the data management problems that result from this approach. At the scale of today's web enabled applications, however, this brute force approach no longer works in many cases. In an increasing number of settings, virtualization is becoming seen as an approach that can create the appearance of a centralized identity store while retaining the distributed management that fits corporate business structure and data ownership constraints.

Virtual directories are acknowledged as a good tactical tool, excellent for integrating identity stores and presenting them in just the way that next application needs to see them. But until recently, they haven't been seen as able to scale and provide the reliability, fault tolerance, and throughput required to be part of a large scale identity infrastructure. DaimlerChrysler's Dealer Connect experience has shown, however, that they are fully capable of doing so with mission critical reliability. ■