Directory Integration in LANDesk® Management Suite

A white-paper detailing the use of an LDAP Directory in an LANDesk® Management Suite environment

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Overview

Introduction

Deploying software throughout your network can be a difficult task to accomplish. Traditional software deployment strategies have been based on pushing software to a specific computer; and hoping that computer is powered up and ready to receive the software package. This scenario is greatly simplified with the LDAP (Lightweight Directory Access Protocol) Directory Integration and Application Policy Manager included in LANDesk® Management Suite. Now you can target software distributions to users, or groups of users. Additionally, the directory manager feature provides a non-intrusive methodology for building queries on directory attributes.

What is a Directory?

A directory provides a way to store information about network resources, and the location of the resources, to simplify management. As such, the information is available to be used by applications and users. Every object within a directory can have numerous attributes that describe things such as name, location, IP address, description, even phone numbers and home addresses can be coalesced in a directory structure. A directory can be very flexible as far as the information that you put into it. With this information in place, it becomes much easier to locate network resources based on these attributes. For example, you can easily find a printer located near your area of the building, even if you don't know the printer name.

There are several advantages for using a directory in a network; some of which include:

- Simplified administration
- Single point of access (security)
- Scalability
- Common repository for detailed information about network components

To further illustrate the benefits of a directory consider the following example: User Sam has three PC's that he works with at various times. In a traditional network he would be required to have a separate account on each machine. However, with a directory infrastructure in place, a single repository keeps track of which resources he is permitted to use, handles the entire authentication process, and allows the user access. Sam can go to any computer on the network and via authentication to the directory, get access to the same resources. The user account, personal information, and passwords are all maintained in a single point of access, greatly reducing the administrative burden.

To facilitate use, the directory is traditionally organized into a tree structure, with branching generally taking place at the company level, followed by the organizational unit, domain, group and user level. This figure may make it easier to conceptualise.

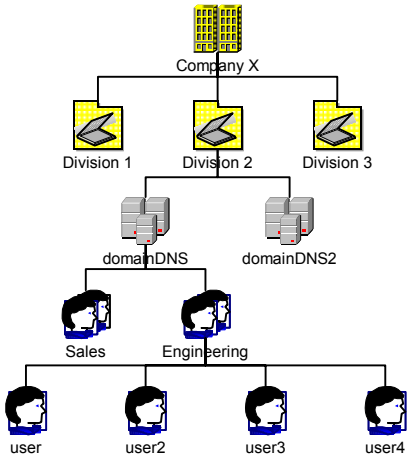

Figure 1. A Directory Tree Structure

Although there are other players in the Directory space, the two predominant companies are Microsoft* and Novell*. Each company has their own implementation of a directory structure that adheres to the LDAP standards. You can find more information detailing the benefits of a directory structure at Microsoft's Active Directory Overview web site. http://www.microsoft.com/windows2000/server/evaluation/features/dirlist.asp

What is a Policy?

In its simplest form, a policy is a command line for Enhanced Software Distribution (ESD) packages to be executed on target systems. Policies can greatly enhance your ability to distribute software by allowing you to schedule software distributions to LDAP directory objects. For example, with a policy you could schedule a software package to be distributed to a specific user, or group of users. The person, or persons in the group, would receive the software at the next login. This is a wholly different approach to distribution that is geared towards simplifying your IT responsibilities.

Directory Manager

To increase functionality and take advantage of the LDAP directories from both Microsoft* and Novell*, LANDesk® Management Suite has incorporated LDAP integration. This new functionality is most evident in two areas of the product: the directory manager, and application policy manager (APM).

The directory manager is a part of LANDesk Management Suite that allows you to browse and query any of the directory objects for both Novell and Microsoft directories. The user interface consists of two panes as shown in Figure 2.

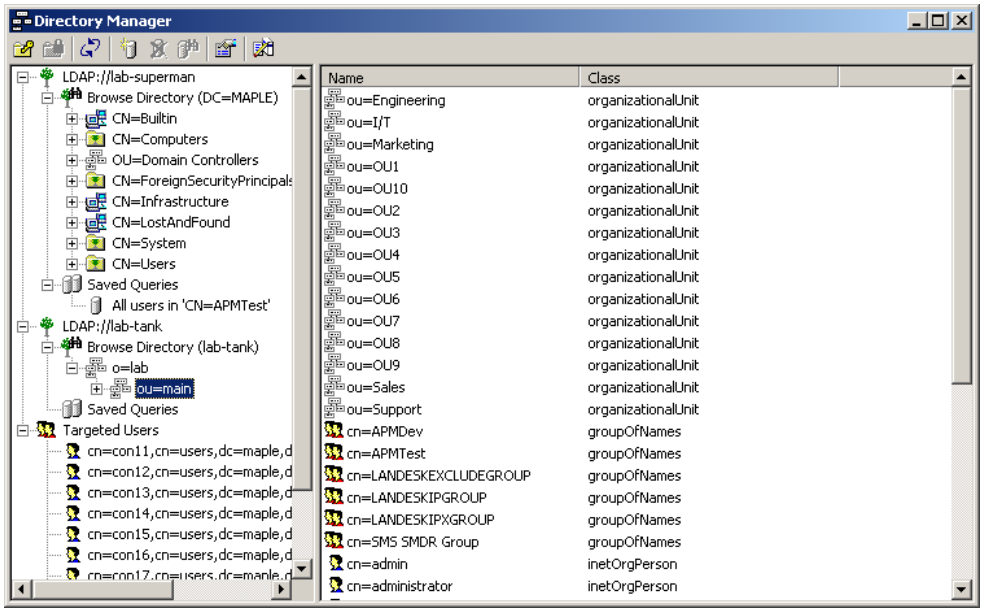

Figure 2. Directory Manager Window

Directory Pane

The directory pane (left pane) is used to display all registered directories and users. You are instantly able to navigate through your directory structure, and create queries around any of the attributes contained within the directory. In looking at Figure 2, you will notice that there are two registered directories. These could be either the Microsoft or Novell directories, or a combination of both. Whichever you select, you can create and save queries that will help you understand, or "take inventory" of what you have in your directory. The administrator will then be able to drag those saved queries and other directory objects to the application policy manager pane to target the objects for specified policies or software distribution packages.

Preview Pane

The preview pane (right pane) displays information relevant to the item currently selected in the directory pane. In the figure above the list of objects in the ou=main branch of the directory is displayed. If you want to drag multiple users to the application policy manager pane it should be done from this window. Additionally, if you have a user, group or query that is targeted to receive policies or packages, they will be listed here.

In short, the directory manager is the location for viewing the contents of your directory, thereby allowing you to determine through advanced queries which users, or groups, will be targeted for software distribution packages or policies.

Application Policy Management (APM)

Where traditional software distribution is generally a push-based task (meaning the software is pushed out to all of the clients), Application Policy Management supports enhanced software distribution pull tasks, in which each client contacts the server and requests, or pulls, targeted packages. Support will be provided for targeting these tasks to either a machine from the database or a user from an LDAP compliant directory service.

The basic architecture is shown in the diagram below.

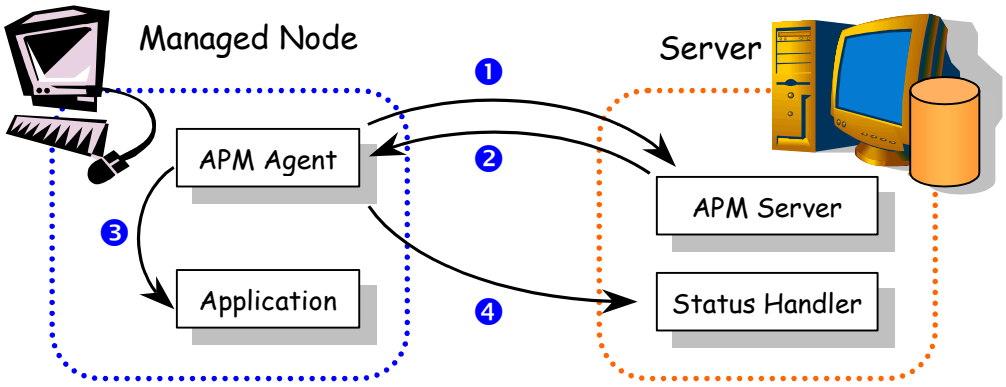

Figure 3. Application Policy Manager Architecture

The APM agent establishes a TCP/IP connection to the APM server and sends a request for any policies that need to be performed by the client (1 above). As part of this request the APM agent sends the LANDesk® Management Suite Device ID for the machine and the distinguished name for the currently logged in user.

The APM server determines what policies need to be performed by the client and sends a list of policies to the APM client (2 above). This list of policies is determined and subsequently generated based upon the device id and login name of the user submitting the request. The policies sent to the client are essentially command lines that are to be executed on the client computer and the priority for executing the command line.

Once the APM agent has received all of the policies it will launch the applications (3 above), and record the result returned by the application.

After the policy has been processed the APM Agent will send the status information back to the core server (step 4 above). A status handler on the core server will record the status information for the policy in the database.

Now that you understand the architecture and methodology behind APM a little more, let's discuss the actual Application Policy Management feature. This feature allows the administrator to create and target application policies. The APM window is divided into three panes as shown below. We will discuss the functionality of each pane below.

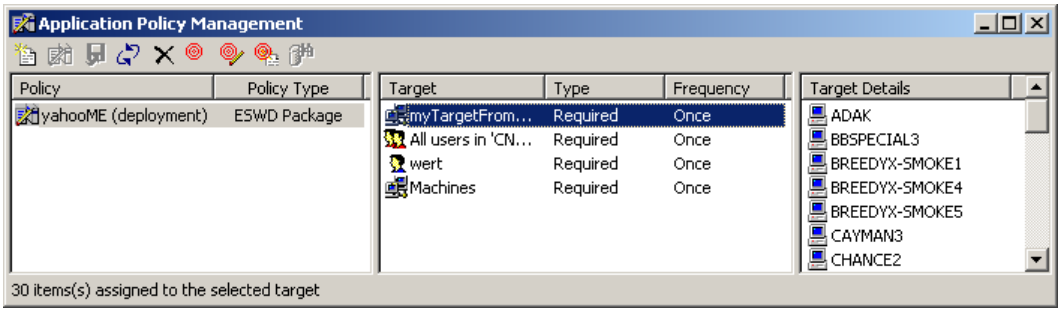

Figure 4. Application Policy Manager Window

Application Policy Pane

The application policy pane (left pane), displays a list of currently configured application policies. The creation of application policies will be accomplished using the existing Enhanced Software Distribution package builder that is included in LANDesk® Management Suite. After the user has selected the package they will have the option of creating a schedule task or an application policy.

The application policy pane will provide the ability to modify or delete an existing application policy. This will allow the user to change the name of the policy and the policy information, or description. The policy pane will also support receiving LDAP Queries, Users, Database queries, and machines via drag and drop. Items can be dragged from the Network View window and the Directory Manager window onto a policy in the policy pane. This will cause the policy to be targeted to the items dragged into the pane.

Note: Because policies currently only support one type of targeting not all drag and drop operations will be supported. For example, if a policy is currently targeted to a set of users and a set of machines was dragged onto the policy, the policy would not accept the machines because it conflicts with the user targeting.

Policy Target Pane

When an application policy is selected in the application policy pane, this pane displays all of the targets associated with the application policy. The policy pane items can be dragged from the Network View window or the Directory Manager window into the policy target pane. You will also notice the details of policy for each targeted item. A policy or package can be configured to be required, recommended, or optional. Additionally, you can configure the frequency, or number of times a package will be available to the targeted user. Obviously, mission critical applications would be the type of application that

you would require a user to receive. There are certain utilities you may want to offer as optional items that the user can choose to install.

Target Details Pane

The target details pane (right pane) is used to display the details of the currently selected policy. This detail list may be a database query, an LDAP query, a set of users or a set of machines. Ultimately, this pane serves as a list of all items that will receive the policy or software package.

For steps that better detail how to use directory manager and application policy management see the LANDesk® Management Suite User's Guide or online product documentation.

Summary

In summary, the Directory integration of LANDesk® Management Suite has greatly enhanced your ability to manage users and distribute software. There are numerous reasons why this solution will help you with your systems management responsibilities, and why this solution is the best.

Application Policy Management is a non-intrusive solution that won't modify your existing directory structure. It manages Directories from both Novell* and Microsoft*, and for that reason, it is the perfect tool for organizations transitioning from one directory structure to another. With APM, software applications and policies are easy to distribute, and you will be able to keep your network up and running with fewer resources. Finally, LANDesk® Management Suite has a proven record of longevity and excellence in systems management, with world-class remote control, software distribution, hardware and software inventory and reporting. A Directory integration fully complements an already outstanding solution to help you simplify your IT business. For additional information about the LANDesk® Management Suite product offering and features visit our website at http://www.landesksoftware.com