



Installing into an Existing Tree

The following topics are covered in this chapter:

- Protocol considerations
- Security considerations
 - eDirectory security infrastructure
 - Existing tree considerations for the security components
- NDS and eDirectory patch levels
 - Loss of trustee assignments
 - Unknown objects

The eDirectory installation and configuration becomes much more complex when you are installing a new server into an existing tree. The issues to watch out for can increase depending on the age of the tree, the size of the tree, and the version of NDS or eDirectory that was used to create the tree.

This chapter discusses how you can prevent failed installations and how you can troubleshoot various issues that may arise during the installation and configuration of eDirectory.

Protocol Considerations

Novell developed a proprietary protocol called Internetwork Packet Exchange (IPX). This protocol was very popular in the 1980s and 1990s. As technology developed, it became critical for organizations to be able to communicate between different applications and network operating systems (NOSs). The best way to handle this was for the networking industry to develop and adopt a nonproprietary standard protocol that could be adopted by all applications that required interoperation with other vendors/applications.

TCP/IP became the standard protocol used by Novell in its products. In the 1980s and 1990s, the Internet came into full strength. The Internet also based its primary protocol on TCP/IP for data transfer, authentication, and so forth. For these reasons, Novell started to write NOSs and applications that run on and support the TCP/IP protocol. At the same time, Novell has aggressively attempted to phase out all IPX dependencies.

Both NetWare 3.x and NetWare 4.x were completely IPX-based. NetWare 5.x shipped with both IPX and TCP/IP support. At the time of NetWare 5.x, Novell developed NetWare IP. NetWare IP would take an IPX packet and “wrap” it into an IP header and send it back out on the wire. This enabled IPX-only NOSs to communicate with environments based on TCP/IP only.

Novell also developed a technology called Server Compatibility Mode Driver (SCMD). SCMD required a server such as NetWare 5.x that had both IPX and TCP/IP bound to the box. SCMD would route IPX traffic to IPX-only systems and TCP/IP traffic to TCP/IP-only systems.

With NetWare 6.x, more and more NetWare shops have migrated their NetWare 3.x and 4.x servers to NetWare 6.x and have created a pure TCP/IP environment.

The IPX/TCP communication issues came to the forefront of consideration with the introduction of Open Enterprise Server (OES) on SuSe Linux Enterprise Server 9 (SLES) systems. Linux does not support the IPX protocol. Linux is based exclusively off of the TCP/IP protocol. If eDirectory is being installed into an existing environment that is running IPX-only servers, special considerations are necessary.

Linux servers running eDirectory should not be put into replica rings that contain IPX-only servers. Doing so would cause partition operations to fail, because the Linux eDirectory servers would not be able to communicate with the IPX-only servers.

Time synchronization is another factor. Linux supports only NTP over TCP/IP. NetWare 3.x and 4.x must use the proprietary TIMESYNC.NLM, which can communicate on these platforms through IPX. Neither NetWare IP nor SCMD will run on Linux.

It is wise to get all IPX-dependent systems upgraded to a NOS that supports TCP/IP before implementing eDirectory on Linux into the system. If this is not possible, make sure that you handle the communication issues by not creating mixed replica rings where Linux servers and nonTCP/IP servers hold replicas of the same partition.

Security Considerations

In today's market, lots of people are trying to hack into private networks and steal information. Because of this, the entire industry has become very security conscious. As Novell products have evolved, Novell too has become more