Troubleshooting checklist for directory services

Use the following checklist whenever you experience a problem with a directory. The checklist includes the three types of problem we have considered here, and also includes several questions related to security, although this document does not cover security

Directory outages

- Are directory clients timing out or is the server refusing their connections?

- Are all network components (routers, hubs, switches, cables) between the client and the server operational?

- Is the directory server machine operational? If not, can you tell whether this is a hardware or software problem?

- Are all hardware components on the directory server operational? If not, are there any operating system or server logs that point to a hardware failure?

- Is the directory server process running? If so, is it consuming higher than normal CPU cycles or causing excessive disk activity?

- If the directory server process is not running, did it fail when processing a specific client request or a particular type of client request? Does it fail each time it receives or processes such a request? If so, there may be a denial-of-service attack.

- Check system/event log for directory errors.

Performance problems

- Are specific types of directory operation performing poorly, or is the overall performance of the server poor?

- Are appropriate attribute indexes being maintained on the directory server?

- Is the size of the directory server process too large? Does it become large immediately on start up or gradually over time?

- Are the cache sizes of the directory (if any) configured appropriately – neither too large nor too small?

- Are other processes running on the directory server machine adversely affecting performance?

- Is the directory under a particularly heavy load? Is this load to be expected? If the load is excessive, is there one specific client or query process accounting for this?

- What are the vendor's guidelines and advice on size of database and its performance on server configurations? Are you complying with these?

Problems with directory data

- Is any data missing or incorrect?

- Does the data appear to be corrupted in a catastrophic manner? Such damage indicates a serious hardware or software problem.

- Is the data damaged in some specific way? For example, have certain entries been erroneously deleted? Can you identify the source of the erroneous modification by examining the server or directory logs?

Security problems

- Are there signs of a break-in, such as connections from an unexpected or unauthorised location or client?

- Are there unexpected modifications to directory entries?
- Do directory or server logs show unexpected activity or access?
- Is the directory experiencing a denial-of-service attack? Such an attack overwhelms available directory or server resources. Is the source of the attack known?

Replication problems
- Check servers.
- Check communications links.