Creating Site Links and Site Link Bridges – Explanation

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The overall topology of intersite replication is based on the use of site links and site link bridges. *Site links* are logical connections that define a path between two Active Directory sites. Site links can include several descriptive elements that define their network characteristics. *Site link bridges* are used to connect site links together so that the relationship can be transitive. Figure 5.5 provides an example of site links and site link bridges.

Both of these types of logical connection are used by Active Directory services to determine how information should be synchronized between domain controllers in remote sites. This information is used by the KCC, which forms a replication topology based on the site topology created. The KCC service is responsible for determining the best way to replicate information within and between sites.

FIGURE 5.5 An example of site links and site link bridges

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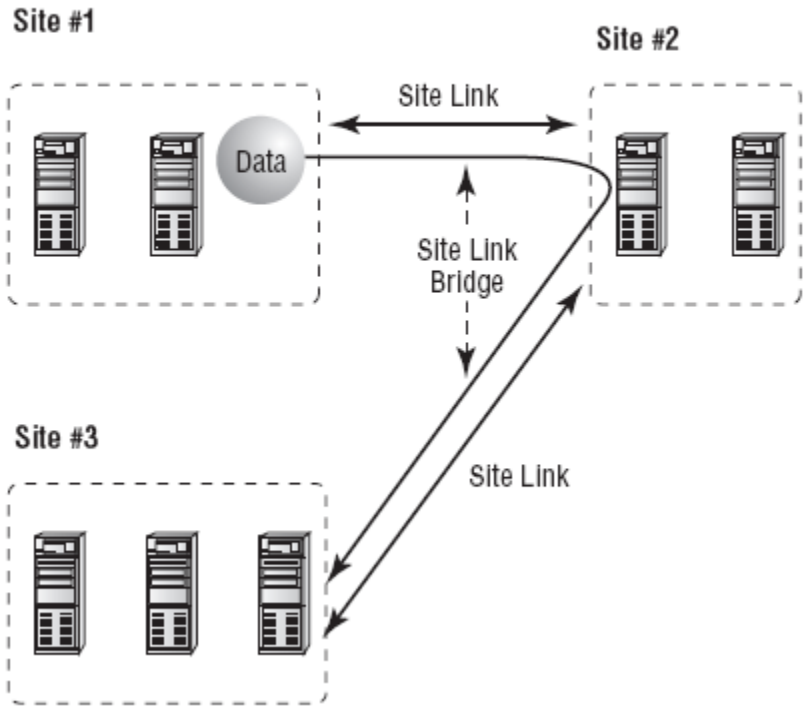

When creating site links for your environment, you'll need to consider the following factors:

Transporting information You can choose to use either RPC over IP or SMTP for transferring information over a site link. You will need to determine which is best based on your network infrastructure and the reliability of connections between sites.

Assigning a cost value You can create multiple site links between sites and assign site links a cost value based on the type of connection. The systems administrator determines the cost value, and the relative costs of site links are then used (by the system) to determine the optimal path for replication. The lower the cost, the more likely the link is to be used for replication.

For example, a company may primarily use a T1 link between branch offices, but it may also use a slower and circuit-switched dial-up ISDN connection for redundancy (in case the T1 fails). In this example, a systems administrator may assign a cost of 25 to the T1 line and a cost of 100 to the ISDN line. This ensures that the more reliable and higher-bandwidth T1 connection is used whenever it's available but that the ISDN line is also available.

Determining a replication schedule Once you've determined how and through which connections replication will take place, it's time to determine when information should be replicated. Replication requires network resources and occupies bandwidth. Therefore, you need to balance the need for consistent directory information with the need to conserve bandwidth. For example, if you determine that it's reasonable to have a lag time of 6 hours between when an update is made at one site and when it is replicated to all others, you might schedule replication to occur once in the morning, once during the lunch hour, and more frequently after normal work hours.

Based on these factors, you should be able to devise a strategy that allows you to configure site links.

The Create Site Links and Site link bridges Lab walks you through this exercise.