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CASE STUDY: FORWARDING E-MAIL FOR UNRESOLVED RECIPIENTS

Products: Exchange 2000 Server, Enterprise Edition

Overview

This case study describes a situation during a migration from an SMTP/POP3 e-mail system to a new Exchange 2000 Server infrastructure. During this migration for a municipal government, their old e-mail domain (*citygov.org*, for the purposes of this case study) was being switched to a new e-mail domain (*ci.cityname.state.us*, for the purposes of this case study). The customer wanted the e-mail migration, which involved over 700 users, to be seamless for both migrated (on the new Exchange server) and legacy (still using SMTP/POP3) clients. This case study describes the methods used to support that requirement.

More Information

In attempting to meet the customer's requirement for uninterrupted service for both old and new e-mail clients, Mercurion Systems determined that all e-mail messages for both e-mail domains would have to be forwarded to the new Exchange 2000 server. Messages addressed to a user who had not yet been converted to the new system had to be forwarded to the old SMTP/POP3 server. If the user had been converted, the message would be delivered to his or her Exchange mailbox as expected. To determine which users had or had not been converted, the migration team would simply add the legacy e-mail address (*user@citygov.org*) to the user's mailbox. The end result was that users could continue to receive e-mail via the old e-mail address, regardless of whether they were using the old e-mail system or the new e-mail system, and converted users would also be able to receive mail with the new e-mail address as well (*user@ci.cityname.state.us*). The new e-mail address would be set as the primary e-mail address and would be shown in the "From" field when recipients viewed the message.

The flowchart in Figure 1, found on the following page, illustrates the mail flow for both the old and new e-mail domains.

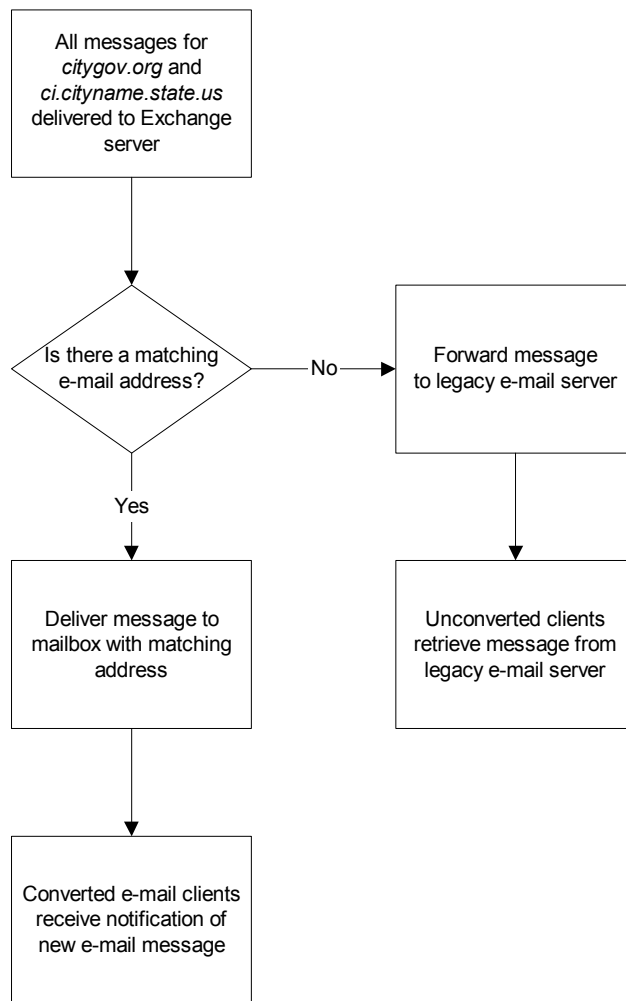


Figure 1. Flow of e-mail messages during migration

Implementing most of this process in the actual technology was not a problem. The DNS MX record for the old domain was modified to point to the new Exchange server; however, it was forwarding the mail for unresolved recipients (i.e., recipients who had not yet been converted and who did not have a legacy e-mail address assigned to their mailbox) that created a problem. Exchange 2000's SMTP virtual server offered an option to forward messages for unresolved recipients to an external host, but preliminary testing with non-production domains did not produce favorable results. As a result, the configuration described in this case study was created to produce the desired result.

Resolution

The resolution to the e-mail forwarding issue involved a couple of steps: first, configuring the recipient policy; and second, configuring a dedicated SMTP connector. These steps are described in more detail below.

Configuring the Recipient Policy

The first step in configuring Exchange 2000 to support the desired configuration was to modify the default recipient policy. Any e-mail domain for which Exchange 2000 should accept mail needs to be listed in a recipient policy. The behavior of the recipient policy varies depending on the status of the “This Exchange 2000 server is responsible for all mail delivery to this domain” check box, as shown below in Figure 2.



Figure 2. Properties for an SMTP address in a Recipient Policy

If the box is checked (i.e., this Exchange server is authoritative for this domain), then Exchange 2000 will issue an NDR (non-delivery report) to the sender’s e-mail address if a matching e-mail address cannot be found. If, however, the check box is unchecked (meaning that this Exchange server is not authoritative for this domain) and no matching e-mail address can be found, then Exchange 2000 will not issue an NDR and will attempt to deliver the message to the final destination, if possible.

In this instance, the old *citygov.org* domain needed to be added to a recipient policy (the Default Recipient Policy, in this case), but the check box was left unchecked. This instructed Exchange 2000 to attempt to deliver the message if a mailbox had a matching e-mail address, but otherwise to forward the address to the final e-mail server.

Configuring a New SMTP Connector

The second step was configuring Exchange 2000 to deliver the unmatched messages to the correct mail server. The Exchange 2000 server couldn't rely on DNS, since the DNS MX record pointed to itself; this would cause a routing loop. Internal DNS servers were available and could have been used, but this could have caused problems if the external SMTP/POP3 server's address changed and the internal tables weren't updated. Instead, an entirely new SMTP connector was created.

The configuration of this SMTP connector was critical. Instead of delivering directly via DNS, the option to deliver to a designated smart host was selected, and the IP address of the external SMTP/POP3 server hosting the *citygov.org* mailboxes was entered. In addition, the address space of the SMTP connector was restricted to only *citygov.org*, meaning that only the *citygov.org* namespace would travel through this connector (all other traffic would move through a separate SMTP connector designed for Internet-bound e-mail).

Through the combination of the correctly-configured recipient policy and the SMTP connector, the new Exchange 2000 server was able to direct traffic appropriately depending on whether the user had been migrated to the new system, and the customer's requirements were met.

Other Notes

Mercurion Systems also had to employ this same workaround during its own internal migration between e-mail servers. Mercurion Systems needed to migrate from an Exchange 2000 server in a legacy Active Directory domain to a new Exchange 2000 server in a new Active Directory domain, as was able to apply the same lessons learned and described above to provide seamless mail flow during the migration period.

Legal Information

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