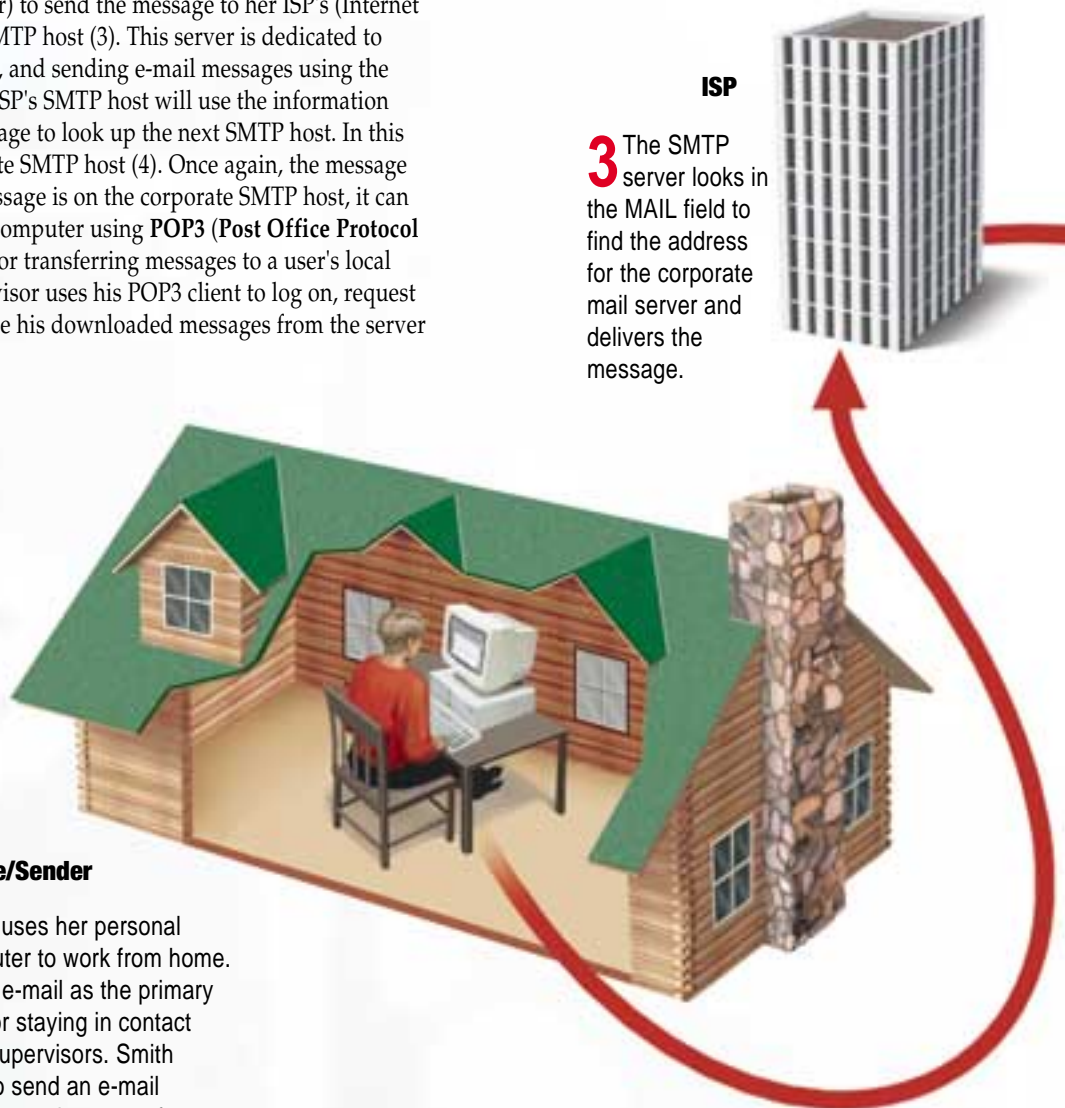


How E-mail Works

Although it may seem like magic, your e-mail transmits to its destination using very ordinary means. For example, an employee at home (1) is sending a message to one of her supervisors. When she is ready to send the message, her e-mail client (2) uses **SMTP (Simple Mail Transfer Protocol)**; the set of commands that passes a message from the sender to your service provider's mail server) to send the message to her ISP's (Internet service provider's) SMTP host (3). This server is dedicated to receiving, processing, and sending e-mail messages using the SMTP protocol. The ISP's SMTP host will use the information provided in the message to look up the next SMTP host. In this case, it is the corporate SMTP host (4). Once again, the message is sent. When the message is on the corporate SMTP host, it can be downloaded to a computer using **POP3 (Post Office Protocol version 3)**; a process for transferring messages to a user's local machine). The supervisor uses his POP3 client to log on, request messages, and remove his downloaded messages from the server (5a and 5b).



Employee/Sender

1 Smith uses her personal computer to work from home. She uses e-mail as the primary method for staying in contact with her supervisors. Smith decides to send an e-mail message to update one of the supervisors about her progress on the report he recently assigned to her.

E-mail Client/SMTP

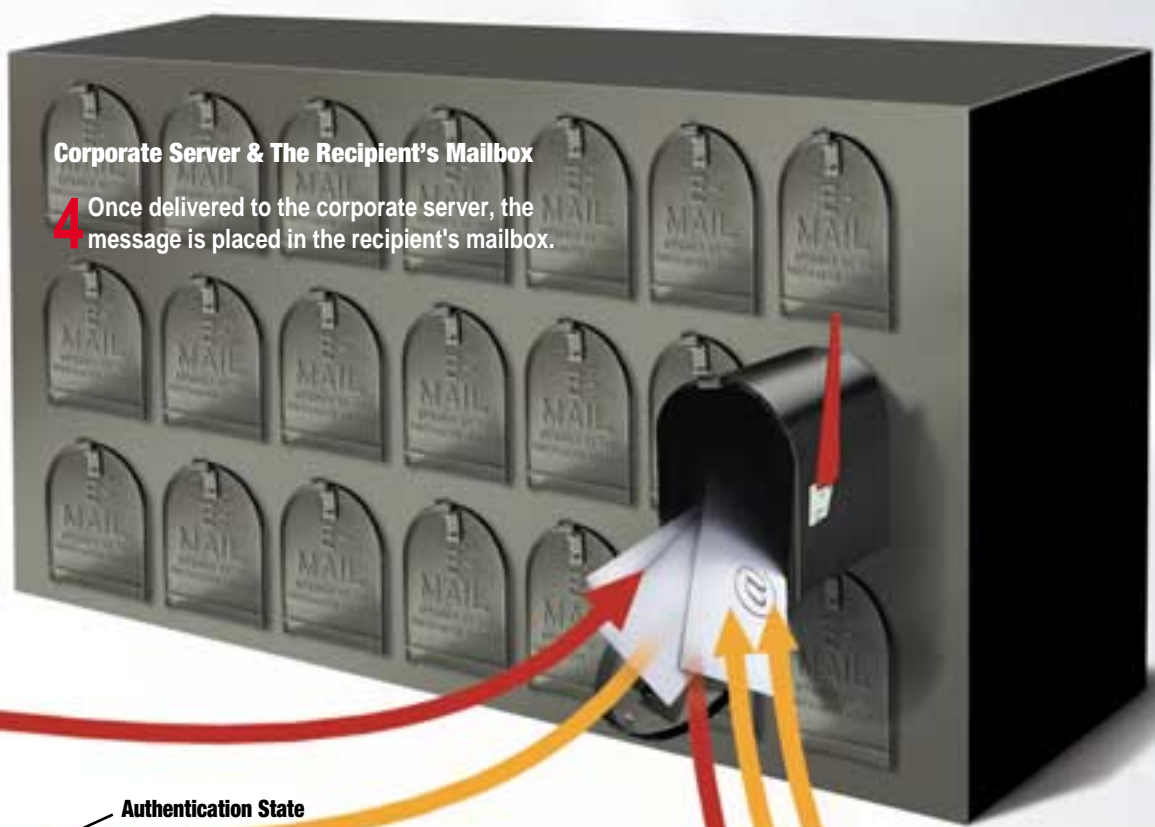
2 When Smith clicks the Send button in her e-mail program, the e-mail software on her computer (her e-mail client) uses SMTP to send the message to her service provider's SMTP server.

ISP

3 The SMTP server looks in the MAIL field to find the address for the corporate mail server and delivers the message.

Corporate Server & The Recipient's Mailbox

4 Once delivered to the corporate server, the message is placed in the recipient's mailbox.



Authentication State

POP3

5b The POP3 session passes through three states during which information is constantly exchanged between mail server and the user's computer. The POP3 session begins with the **Authentication State**. The POP3 server (the computer on which the messages reside) asks for the client (a user's computer) to provide a username and password. If the username and password are valid, the session passes to the **Transaction State**. In this state, the client requests that messages transfer from the server to the client. After all the messages transfer, the session enters the **Update State**. During the Update State, the server finds out which messages have been transferred to the client and marked for deletion so it can delete these messages from the server.

Transaction State

Update State

Boss/Recipient

5a From here, Smith's supervisor can retrieve the message using POP3.



Mail Path

Other Data Transfers