

So, How Does E-Mail Really Work?



E-mail is one of the Internet's oldest applications, and it's the most widely used. Internet users send hundreds of millions of e-mail messages to one another every day, and the majority is business-related.

Considering how important e-mail has become in our business communications, it's surprising that many people don't really understand how e-mail works. While the process is complex on many levels, understanding how e-mail travels from point A to point B is actually quite simple.

Sending Mail

When you send an e-mail message, your e-mail program connects to your Internet service provider's mail server. Like all Internet traffic, your message might be broken into smaller pieces — or packets — before it begins its journey. These smaller packets can travel more quickly from server to server, and are reassembled when they reach their destination.

Sorting the Mail

In the same way that postal mail is sorted first by ZIP code, e-mail messages are sorted by domain. For the e-mail address *sales@diversicomcorp.com*, for example, the domain is the *diversicomcorp.com* portion. The domain identifies where the message needs to go.

Each domain name maps to a unique Web address, called an Internet Protocol (IP) address, which is a string of numbers by which each server is identified, the same way a street address identifies a physical location. These

relationships are stored in the Domain Name Registry. There are several Domain Name Registries such as Register.com and Network Solutions – the two oldest in the world. Other more familiar Domain Name Registries are GoDaddy.com, Esol.com, ENOM, and hundreds of others. However, nearly all Domain Name Registries actually use the services at Register.com and Network Solutions. When the e-mail server receives a message, it looks at the domain and checks the registry to determine what IP address to send the message to. Once it determines the proper destination, the e-mail message is sent on its way.

Delivering the Mail

Depending on where the destination server is, the original e-mail server may not actually make the final handoff; in fact, it is likely that the message will travel between several transfer points before reaching its final destination. Each "hop" identifies the domain, and passes the message to another transfer point. This process is repeated – the message getting closer and closer to its destination – until the correct server is reached. Usernames are like post office box numbers, and passwords act like keys that open the correct box. Once a message reaches the appropriate domain server, it's channeled into the right e-mail account and stored until the user logs in and checks for mail. In other words, this is how the *feedback@allbusiness.com* address is differentiated from the *service@allbusiness.com* address.

When the recipient tells his or her e-mail program, like Microsoft Outlook, to check for new mail, the e-mail program connects to the e-mail server, looks in the user's mailbox, and retrieves any mail that's waiting. The message's journey is complete – and all this may have taken place in just a matter of seconds.