Bit Streaming

Millions of little pieces of computer data, known as bits, travel over vast systems of computer networks every day. The system works much like the modern post office, which has to constantly send and receive letters from all over the world. Like those letters, computer bits arrive in a continuous, ordered stream known as the bit stream. The bits identify where they are coming from — often a computer — and where they are traveling to — often another computer.

All the information sent to and from a computer it turned into a series of 1's and 0's that represent data. When the computer sends a message, the bits travel in a specific order through a wire to their destination. Typically, the bit stream starts with information about where it's going and how to process the information once it arrives. An email, for example, contains information on the sender, the recipient, and the message itself. When the user sends it, it's broken down into bits of data which travel over the bit stream to the recipient's computer.

The most common use for the bit stream is with the transmission control protocol, or TCP. This series of guidelines tells computers how to send and receive messages between each other. The World Wide Web and e-mail services, among others, rely on TCP guidelines to send information in an orderly fashion. Sending through the bit stream ensures the pieces arrive in the proper order and the message isn't corrupted during delivery, which could make it unreadable.

Once the bit stream reaches the recipient's computer, the computer can choose to save the data. Once the data is saved, it is known as a file. The reader can open the saved file at any time to review the message.

Not everything transmits through the bit stream. This system is best for transmissions that need to arrive in a reliable, orderly fashion, such as an email. When the message does not need to arrive this way, it may use a different protocol than the TCP. The User Datagram Protocol, or UDP, is one example of the many different transfer protocols available for sending data.