

# How a Token-Ring Network Works

**1** All nodes on a token-ring network are connected to the same circuit, which takes the form of a continuous loop. A *token*—which consists of a short all-clear message—circulates continuously around a loop and is read through a *token-ring adapter card* in each node as the token passes by.

**2** A node wanting to send a message grabs the token as it passes by, changes the binary code in the token to say that it is in use, and attaches a message, along with the address of the node for which the message is intended and error-checking code. Only one message at a time can be circulated on the network.

**3** Because the electrical resistance that's a part of any circuit would gradually wipe out the token and its attached message, each node includes a *repeater* that regenerates the entire message to maintain the strength and integrity of the data.

**4** Each node inspects the token as it passes by to see whether the token contains the node's address. The node for which the message was intended makes a copy of the message and then continues sending it along the ring.

**5** The message finally returns to the originating node, which removes the message and restores the token's original all-clear signal.

