

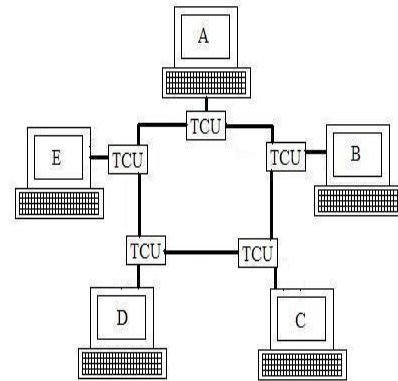
Token Ring

Token Ring is a local area networking system originally conceived in the late 1960s by IBM and patented in 1981, with IBM promoting its use throughout most of the 1980s. Although initially very successful, it was eventually displaced by Ethernet as the favored technology and architecture for local area networks (LAN); although IBM undertook a valiant effort to compete, this was not successful and IBM itself eventually stopped using token ring as its LAN standard.

How Token Ring Works

The token ring network is simple in design and conceptual operation. The key to the system is a 'token' – which is actually a data frame or container for storing data that is to be transmitted down a 'ring' of computers connected to the network. A simple analogy is to imagine a clock with each number on the clock face representing one computer on a network; 12 numbers, 12 computers.

A 'free' (or empty) token is released into the network, moving around the network, 'stopping off' at each computer to check if it is needed. Assume that computer 3 wants to send a data package to computer 9. When the free token 'stops off' at computer 3, it is grabbed and the data is 'injected' into the empty vessel and then sent on its way. The token passes each computer in the sequence (e.g. computer



4, 5, 6 and so on); each computer notes that the packet is not addressed to it and 'rejects' it, in effect, "passing" it on to the next computer in the series. Once the packet or token reaches computer 9 (to which the data is addressed), it is 'grabbed' again and an exchange of data occurs – the data is released to computer 9, and the computer 'injects' an acknowledgement receipt into the token. The token (with the acknowledgement receipt) is released back into the network, proceeding down the chain (e.g. moving to

computers 9, 10 and so on) with each one again 'rejecting' the token since it is not addressed to them.

Once the token reaches Computer 3 (which was the 'sender' of the data packet), the token is again 'grabbed,' with the acknowledgement message being read; in a sense, the token is emptied of its contents by the original sending computer and sent on its way, ready for use by another computer.

Token Ring Operating Speed and Popularity

Although the process may seem to be cumbersome, the speed of [data transmission](#) is exceedingly fast and movement of the token is measured in microseconds. The token ring also has a built-in recovery and management system to ensure the system does not give way to faults or problems.

Although the Token Ring networking system appears to be reliable and fast, its early development stages were hit with problems and issues which made it appear to be less reliable and efficient than the [Ethernet](#) networking system. These led to its subsequent decline, with Ethernet now in place in an estimated 70 percent of LAN setups worldwide.

Source: <http://www.tech-faq.com/token-ring.html>