

802 dot Demystified

Contributed by David Conroy
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It all started with the IEEE. IEEE stands for the Institute of Electrical and Electronic Engineers. The IEEE, formed by a merger of engineering groups in the 1960's, set out in February of 1980 to establish a standard for LAN communications. This standards effort, coined "The 802 Project" (80 for 1980 - 2 for the second month) was originally going to be a single standard, with speeds from 1 to 20MHz.

The majority of number designations after the period refers to areas of the specification only engineers need to be concerned with. The following are some of the sections that you might hear consultants and techies mention and should know more about:

802.1 - contains the introduction to the standard and contains information regarding network management.

802.3 - The basis of Ethernet - establishes communications methods for CSMA/CD

802.3u - A subcategory of 802.3 - refers to standards for 100BaseT or Fast Ethernet

802.3ab - Similar to above, standards for Gigabit Ethernet

802.3ae - 10Gb Ethernet

802.11 - The initial wireless standard, capable of 1 to 2 Mbps, and used a 2.4GHz frequency

802.11b - A subcategory of 802.11 - a standard developed that support 11Mb transmission in the 2.4GHz band

802.11g - Yet another wireless subcategory - provides 20Mbps bandwidth at 2.4GHz

802.11a - Wireless subcategory with speeds up to 54Mbps and operates at 5GHz

As you can see, the alphabetical order does not match up in order with speed, nor were they adopted in the market in that order. What the letter designations pertain to is the group responsible for development of a particular area of the standard. If you'd like to read more in-depth about the 802 project and standards, check out the following articles:

http://www.ictglobal.com/ICT009/ieee_802_standards.html - The history of the IEEE and 802 standards

<http://www.smallbusinesscomputing.com/buyersguide/article.php/1440011> - Confused by all of the 802.11 letter designations? Here's an overview to help you understand what each one means and how they impact your WLAN deployments.

<http://standards.ieee.org/index.html> - home page for IEEE standards. Includes links to standards, FAQs, and other information.