How Domain Names Work

As the scope of the Internet continues to grow, you might find yourself wondering how domain names work. Domain names are widespread. You see them on TV, product packaging, business cards, and billboards. In Pennsylvania, you even see them on its license plates.

Although you see them everywhere, few people can explain what all those dots, slashes, and characters are supposed to represent. Well, we're here to tell you. We've dissected a rather lengthy Web address example and described each section in detail so that you'll understand what you're really doing the next time you type a **URL** (**uniform resource locator**; an Internet address) into the address field of your Web browser.

http://

The requested document is accessible via the HTTP (Hypertext Transfer Protocol). Essentially, http:// means the data is stored on the Web. (The colon and backslashes separate the protocol prefix from the rest of the address.)

www

Originally, this three-letter prefix was used by the scientists at CERN (Conseil Europeen pour le Recherche Nucleaire; the European Laboratory for Particle Physics) to distinguish between World Wide Web and Internet files. Today, it's unnecessary; you can delete it from almost every address you enter in your Web browser's address field. (A dot separates one element of a URL from another.)

http://www.smartcomputing.com/articles/

smartcomputing.com

This is the domain name used by *Smart Computing* magazine. It points to the IP (Internet Protocol) address of the Smartcomputing.com Web server that provides access to the requested data. (The slashes in this Web address example separate one element of the URL from the others.)

articles

A directory on the Smartcomputing.com Web server. This directory has an intuitive name, revealing that it contains articles from *Smart Computing*.

Protocol Prefixes

Protocol prefixes indicate the type of transmission standard your browser must use to access the data. After you find out what these common protocol prefixes stand for, you'll be thankful that the computer industry has embraced acronyms.

This protocol . . .	Provides access to . . .
http://	a Web server
ftp://	an FTP (File Transfer Protocol) server
news://	a Usenet newsgroup
mailto://	an e-mail account
wais://	a WAIS (Wide Area Information Server)
gopher://	a Gopher server
file://	a file on a local system
telnet://	an application on a network server

Country Code Extensions: What Do They Mean?

Currently, there are more than 240 two-letter **ccTLDs** (**country code top-level domains**). Here are some of the most common ones.

.AE	United Arab Emirates	**.DE**	Germany	**.NZ**	New Zealand
.AQ	Antarctica	**.DK**	Denmark	**.PR**	Puerto Rico
.AR	Argentina	**.EG**	Egypt	**.PT**	Portugal
.AT	Austria	**.ES**	Spain	**.RU**	Russian Federation
.AU	Australia	**.FR**	France	**.SA**	Saudi Arabia
.BE	Belgium	**.GB**	Great Britain	**.TW**	Taiwan
.BM	Bermuda	**.GR**	Greece	**.UA**	Ukraine
.BO	Bolivia	**.HK**	Hong Kong	**.UK**	United Kingdom
.BR	Brazil	**.IE**	Ireland	**.US**	United States
.BS	Bahamas	**.IL**	Israel	**.VA**	Vatican City State
.CA	Canada	**.IN**	India	**.VG**	Virgin Islands (British)
.CH	Switzerland	**.IT**	Italy		
.CN	China	**.JP**	Japan	**.VI**	Virgin Islands (U.S.)
.CO	Colombia	**.KP**	North Korea	**.VN**	Vietnam
.CR	Costa Rica	**.KR**	South Korea		
.CU	Cuba	**.MX**	Mexico		
		.NL	Netherlands		

Source: ICANN (The Internet Corporation for Assigned Names and Numbers)

2001/1207/0107.htm ▼

2001

A subdirectory named 2001 that's in the Articles directory on the Smartcomputing.com Web server. This subdirectory has a self-explanatory name that indicates it contains published articles from the 2001 editions of *Smart Computing.*

1207

A subdirectory named 1207 that's in the 2001 subdirectory on the Smartcomputing.com Web server.

0107.htm

The 0107.htm file that's in the 1207 subdirectory on the Smartcomputing.com Web server. Most files on the Web are written with HTML (Hypertext Markup Language), so they require an .HTM or .HTML file extension. The name of this file reveals that it is the first article from the July 2001 issue of *Smart Computing.*

Domain Name Extensions

It may surprise you, but those three-letter extensions that serve as the caboose of every domain name actually mean something. Here's a brief list of the most popular **TLDs** (**top-level domains**) on the Web.

Extension	Meaning
.COM	commercial use
.EDU	education and research
.GOV	government agencies
.INT	international organizations
.MIL	military agencies
.NET	gateway or host use
.ORG	non-profit organizations

Which TLDs Are Next?

The Internet population is patiently waiting for new TLDs to become available for use. Here are the seven most recent finalists approved by the ICANN Board.

New Extension	Meaning
.AERO	air-transport industry
.BIZ	businesses
.COOP	cooperatives
.INFO	information or general use
.MUSEUM	museum content
.NAME	personal use
.PRO	accountants, lawyers, and physicians

Source: ICANN (The Internet Corporation for Assigned Names and Numbers)