

5. COMMUNICATION PROTOCOLS

Communication protocols establish pre-defined methods whereby hosts and applications can exchange information through the World-Wide Web.

5.1. Z39.50

Z39.50 is a communication protocol used to integrate information resources in a distributed environment. The current version of Z39.50 is more properly known as North American standard ANSI/NISO Z39.50-1995, Information Retrieval (Z39.50): Application Service Definition and Protocol Specification (<http://lcweb.loc.gov/z3950/agency/1995doce.html>), or as the matching international standard ISO 23950:1998, Information and Documentation/Information Retrieval (Z39.50): Application service definition and protocol specification. The current release is version 3 of the American National Standards Institute/National Information Standards Organization (ANSI/NISO) standard, and dates back to 1995. Version 3 is the dominant version of Z39.50 utilized in Europe, although a number of North American sites continue to use the earlier version 2.

The standard's formal home on the Worldwide Web is the Z39.50 Maintenance Agency (<http://lcweb.loc.gov/z3950/agency/>) hosted by the United States' Library of Congress (<http://lcweb.loc.gov/>). Despite a common misconception to the contrary, Z39.50 is *not* simply used by libraries, although the library sector is one with a clear and long-held need for Z39.50-type functionality. In the world of government and community information, too, utilities such as the Government Information Locator Service (GILS) Profile (http://www.gils.net/prof_v2.html) makes use of Z39.50 to link a wide range of resources internationally.

There is a huge amount of information available on the web relating to Z39.50. A basic search for the term "Z39.50" on 03 December 2006,

produced 1,450,000 hits from Google (<http://www.google.com>), 699,000 hits from YAHOO (<http://www.yahoo.com/>) and 530,000 returned hits from FAST (<http://www.alltheweb.com/>). Two sites prove to be useful first stops for information. These are the Maintenance Agency's own web site (<http://lcweb.loc.gov/z3950/agency/>), and Dan Brickley's Z39.50 Resources page at the Institute for Learning and Research Technology (ILRT) <http://www.ilt.bris.ac.uk/discovery/z3950/resources/>.

5.1.1. What does Z39.50 do?

Z39.50 is designed to enable communication between computer systems. This communication could be between a scientist's PC and a database server at a National Oceanographic Data Center running on a UNIX server in the basement, and equally it could be between a user browsing the web from Plymouth UK, seeking data residing on a server in NODC and a JODC database in Tokyo. This transparency is undeniably useful to those individuals who have to update data repositories. But it is the latter application and others like it that represents much of the potential of Z39.50 in today's distributed network environment.

5.1.2. Isite

Isite is a software client that relies on the Z39.50 client for communication protocol. It was developed by the Center for Networked Information Discovery and Retrieval.

The Isite software is described at <http://www.csdl.tamu.edu/DL95/papers/nebert/nebert.html> and can be downloaded from <http://www.fgdc.gov/dataandservices/getisite> or <http://clearinghouse4.fgdc.gov/ftp/>.

The configuration of the Isite software suite is illustrated in Fig. 5.1.

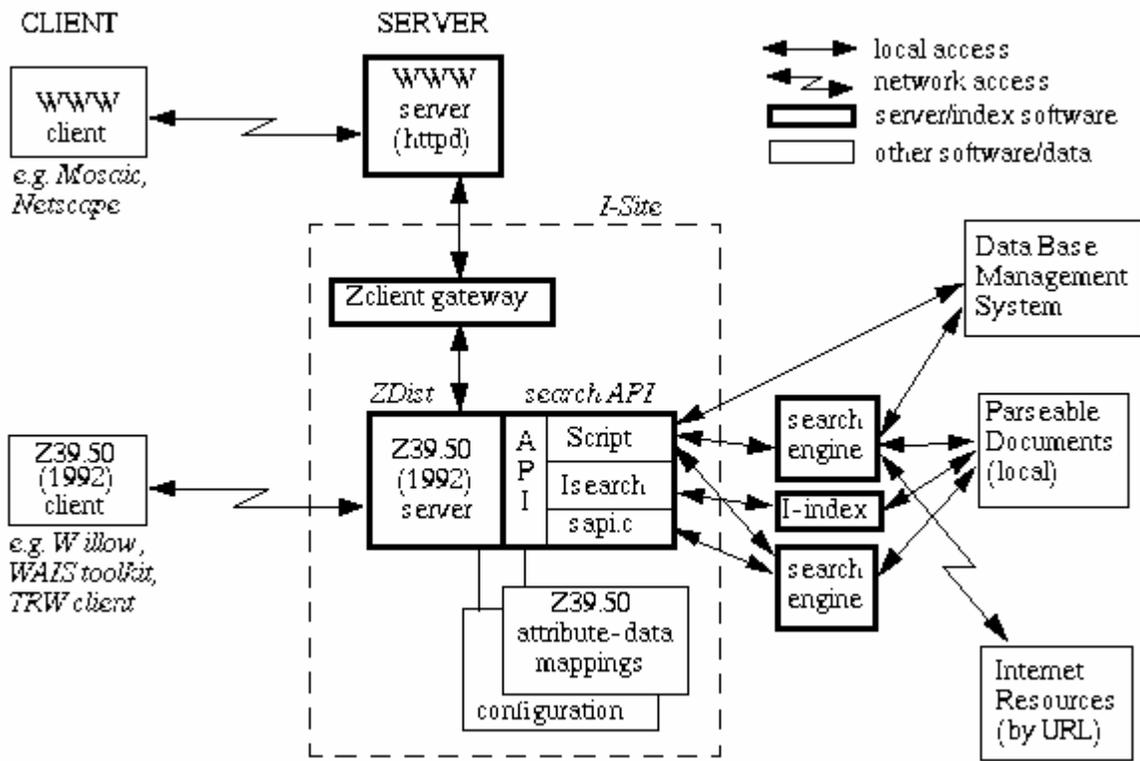


Fig. 5.1 Configuration of I-site Z39.50-compliant software developed by the Clearinghouse for Networked Information Discovery and Retrieval.