Product Standard

General Interworking:
Internet Server

The Open Group

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Product Standard

NAME

Internet Server

LABEL FOR LOGO

Internet Server

DESCRIPTION

This Product Standard defines a set of services in support of Internet and intranet technologies. This includes support of network computer devices and the presence of a mandatory Java Runtime Environment.

The Internet Server Product Standard complements the Network Computer[1] providing the server side of that definition. The emphasis is towards services and applications support. A standard server will provide a set of core services to support Internet applications.

The mandatory functionality includes:

- The Internet Protocol Suite
- Java Runtime Environment
- Internet capabilities to support network computer clients

CONFORMANCE REQUIREMENTS

Human-Computer Interface

Not applicable.

Portability Interface

- Java Support

  A conforming system provides a set of services that permit the execution of pre-compiled applications that use the Java Runtime Environment (JRE) 1.1. This environment consists of two parts:

  — Java Virtual Machine (see *Java Virtual Machine Specification Version 1.0.2*)

1. Technical Standard, February 1998, Network Computer (C720).

— Java 1.1 Class Libraries (see *Java Platform Core API*)

Programming Language Environment

Not applicable.

Interoperability

- TCP/IP Communications Service Interface

  A conforming system provides a TCP/IP Communications Service interface, built on Internet Standards.

  — *Internet Standard 3, Requirements for Internet Hosts*: *IETF RFC 1122, Requirements for Internet Hosts — Communication Layers* and *IETF RFC 1123, Requirements for Internet Hosts — Application and Support*.

  — *Internet Standard 5, Internet Protocol, Version 4 (IPv4)*: *IETF RFC 791, Internet Protocol*, *IETF RFC 950, Internet Standard Subnetting Procedure*, *IETF RFC 919, Broadcasting Internet Datagrams*, *IETF RFC 922, Broadcasting Internet Datagrams in the Presence of Subnets*, *IETF RFC 792, Internet Control Message Protocol*, and *IETF RFC 1112, Host Extensions for IP Multicasting*.

  — *Internet Standard 6, User Datagram Protocol*: *IETF RFC 768, User Datagram Protocol*.

  — *Internet Standard 7, Transmission Control*: *IETF RFC 793, Transmission Control Protocol*.

- SNMP Support

  A conforming system provides support for the role of an SNMP agent.

  — *Internet Standard 15, A Simple Network Management Protocol (SNMP)*: *IETF RFC 1157, A Simple Network Management Protocol (SNMP)*.

  — *Internet Standard 16, Structure and Identification of Management Information for TCP/IP-based Internets*: *IETF RFC 1155, Structure and Identification of Management Information for TCP/IP-based Internets* and *IETF RFC 1212, Concise MIB Definitions*

  — *Internet Standard 17, Management Information Base for Network Management of TCP/IP-based Internets*: *IETF RFC 1213, Management Information Base for Network Management of TCP/IP-based Internets*.

  The required MIBs to be provided on a managed system are those described in *IETF RFC 1213, Management Information Base for Network Management of TCP/IP-based Internets*

- Hypertext Protocol Transfer Services

  A conforming system provides a World Wide Web document server using the HTTP protocol. It supports service of documents over both the HTTP protocol, or HTTP encapsulated within the Secure Sockets Layer Protocol (SSL).

  — *IETF RFC 1738, Uniform Resource Locators (URL)*

  — *IETF RFC 2068, Hypertext Transfer Protocol - HTTP/1.1*

    In addition, a conforming HTTP/1.1 server will:

    — Recognize the format of the Request-Line for HTTP/1.0 (as defined in *IETF RFC 1945, Hypertext Transfer Protocol — HTTP/1.0*) and HTTP/1.1 requests

  - — Understand any valid request in the format of HTTP/1.0 or HTTP/1.1
  - — Respond appropriately with a message in the same major version used by the client
- — *SSL, Secure Sockets Layer (SSL V3.0) Protocol*, with support for X.509 certificates.

- Internet Domain Name Service

  A conforming system provides an Internet domain name server.

  - — *Internet Standard 13, Domain Name System*: *IETF RFC 1034, Domain Names — Concepts and Facilities* and *IETF RFC 1035, Domain Names — Implementation and Specification*.
  - — Support for *IETF RFC 2136, Dynamic Updates in the Domain Name System (DNS Update)*

- Terminal and File Services

  A conforming system provides a telnet (virtual terminal) server, ftp (file transfer) server, and an NFS file server. Optional file services include server support for WebNFS.

  - — *Internet Standard 8, Telnet Protocol*: *IETF RFC 854, Telnet Protocol Specification* and *IETF RFC 855, Telnet Option Specifications*.
  - — *Internet Standard 9, File Transfer Protocol*: *IETF RFC 959, File Transfer Protocol*, with the FTP commands Store Unique (STOU) and Abort (ABOR) mandated for reception.
  - — Remote filesystem support over Network File System, as specified in Protocols for Interworking: XNFS, Version 3W.[2]
  - — Optional client and server support for file service using WebNFS, as specified in Protocols for Interworking: XNFS, Version 3W, Appendix E, WebNFS Extensions. (*IETF RFC 2054, WebNFS Client Specification* and *IETF RFC 2055, WebNFS Server Specification*.)

- Mail Services

  A conforming system provides Electronic Mail services. It will be able to act as an SMTP server relay and be able to receive incoming messages. It will be able to act as a post office supporting the POP3 protocol and IMAP4.

  - — *Internet Standard 53, Post Office Protocol Version 3*: *IETF RFC 1939, Post Office Protocol Version 3*.
  - — *Internet Standard 10, Simple Mail Transfer Protocol*: *IETF RFC 821, Simple Mail Transfer Protocol* and *IETF RFC 1869, SMTP Service Extensions*.
  - — *Internet Standard 10, Simple Mail Transfer Protocol*: *IETF RFC 1870, SMTP Service Extension for Message Size Declaration*.
  - — *Internet Standard 11, Format of Electronic Mail Messages*: *IETF RFC 822, Standard for the Format of ARPA Internet Text Messages*.
  - — Support for processing transmitted messages conforming to *Internet Standard 11, Format of Electronic Mail Messages*: *IETF RFC 1049, Content Type Header Field*.

2. Technical Standard, February 1998, Protocols for Interworking: XNFS, Version 3W (ISBN: 1-85912-184-5, C702).

— Support for *IETF RFC 2060, Internet Message Access Protocol Version 4rev1*.

- Print Services

  A conforming system provides remote printing support.

  — Remote printing support based on *IETF RFC 1179, Line Printer Daemon Protocol*. A conforming system will document any differences from *IETF RFC 1179, Line Printer Daemon Protocol*.

- Client Booting Services

  A conforming system provides client booting services using the bootp, tftp, and dhcp protocols.

  — *IETF RFC 2131, Dynamic Host Configuration Protocol*.

  — *IETF RFC 951, Bootstrap Protocol (BOOTP)*.

  — *Internet Standard 33, The TFTP Protocol (Revision 2)*: *IETF RFC 1350, The Trivial File Transfer Protocol (TFTP) (Revision 2)*.

- Time Services

  A conforming system provides Network Time Service (NTP).

  — *Internet Standard 12, Network Time Protocol (Version 2) Specification and Implementation*: *IETF RFC 1119, Network Time Protocol (Version 2) Specification and Implementation*.

- Directory Service

  A conforming system provides LDAP server side, directory services.

  — *IETF RFC 1777, Lightweight Directory Access Protocol* and *IETF RFC 1778, The String Representation of Standard Attribute Syntaxes*.

  — Optional support for LDAP 3 referrals (*IETF RFC DRAFTS FOR LDAP 3, Draft IETF ASID Standards for LDAP V3*).

OPERATIONAL ENVIRONMENT

None.

PORTABILITY ENVIRONMENT

None.

OVERRIDING STANDARDS

All formal standards included within this Product Standard are specified by a direct reference to the formal standard document itself.

INDICATORS OF COMPLIANCE

For the Network File System the Indicator of Compliance is a Test Report from a currently authorized release of the VSX+XNFS Test Suite.

For the other constituent parts of this Product Standard there will be no initial Indicator of Compliance specified. The Open Group intends to introduce tests of application-level interoperability for protocols within this Product Standard (http, ftp, telnet, smtp, and so on). Such tests will become a mandatory Indicator of Compliance three months after formal approval for branding. Reference should be made to *Test Suites and Test Laboratories* to ascertain whether the suite is now available, and whether the three month period has elapsed.

MIGRATION

The Internet services introduced are based on *de facto* practice and no migration issues are anticipated.