

## **Internet Specialists - Guidance for Position Classification**

The growth and on-going evolution of computer technologies and the Internet has had considerable impact on the work of most occupations. When evaluating positions for inclusion in the Internet Specialist series, care must be taken to distinguish between those using the Internet as a tool in their work and those whose work is the Internet. To determine if a position should be placed in the Internet Specialist series, you must determine the foremost knowledge required to perform the primary duty of the position (i.e., the most important subject-matter knowledge). To determine the foremost knowledge you must consider the primary purpose for the position's existence, the most important qualifications required, and the background knowledge required.

Many positions have responsibility for creating or assembling information to be provided through Internet portals. This "content development" typically requires foremost knowledge in the subject covered, not in Internet systems, services, and technologies. Such positions are properly allocated to the job class that requires foremost knowledge in the subject of the content (e. g., developing content relating to research on anadromous migration patterns would be characteristic of a position properly placed in a Fishery Biologist job class).

Care must also be exercised in evaluating the level of work that characterizes the position's primary duty. As administrative level classes, Internet Specialists' work involves the exercise of analytical ability, judgement, discretion and personal responsibility, and the application of a substantial body of knowledge of the principles, concepts, and practices applicable to Internet systems, services, and technologies. While positions do not require a bachelor's degree or higher in a field of science or learning, which is characteristic of professional level job classes, they do involve the type of skills (i.e., analytical, research, writing, judgement) typically gained through college level education or through progressively responsible experience.

One indicator of the level of work performed by positions that maintain content on an agency's web site is the site itself. Some web sites are "static" and serve primarily as a filing system or "bulletin board." A position's work on these sites may predominantly be adding, removing, or updating documents created by others. This requires knowledge of the "filing system" (the web pages), the organization method, and appropriate formatting, but does not require the exercise of analytical ability or the application of a substantial body of knowledge of the principles, concepts, and practices applicable to Internet systems, services, and technologies. Care must also be exercised in discerning the difference between "research" and "analysis" duties, and "information gathering" and "sorting and organizing." The latter duties are characteristic of clerical or technical level work. The level of the work is not changed by its performance through computer technology or the Internet, rather than hard-copy filing systems or libraries. Positions performing clerical or technical level work should be placed in the job class appropriate to the foremost knowledge required.

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Additional aid in determining whether a position should be placed in the Internet Specialist series is found by examining the “front-end/back-end” nature of Internet work. Front-end work is focused primarily on the “look and feel” of web sites and requires knowledge of graphic design, layout, and effective display of information. This work is characterized by use of web publishing or conversion software packages such as Adobe’s Dreamweaver, Fireworks, and Flash Professional, and/or considerable use of a simple mark-up language such as HTML. Back-end work is focused primarily on programming applications or databases with access or delivery through Internet portals. This work is characterized by considerable work in a general purpose programming language (such as C+, Java, Visual Basic, etc.) to develop the means for delivering a service or meeting a business goal.

The Internet Specialists classes are intended for positions whose work is predominantly in the juncture between the front-end and the back-end of Internet work. The work includes some of each, but is principally focused on the framework and organization of the web site itself. Positions whose primary duty is front-end work, whose foremost knowledge is design and display, should be placed in one of the Publications job classes. Positions whose primary duty is back-end work, whose foremost knowledge is computer programming, should be placed in one of the Analyst/Programmer job classes.

Other Information Technology functional areas that, when found, will not cause a position to be placed in the Internet Specialist classes are: 1) server maintenance and administration; and 2) management and supervision of an organization’s IT function. These areas may be part of an Internet Specialist’s duties, but not the primary duty. Positions whose primary duty is administration and maintenance of servers, whose foremost knowledge is server software and hardware, should be placed in the appropriate server administration job class. Positions whose primary duty is management and supervision of an agency’s Information Technology function, whose foremost knowledge is the general IT field, should be placed in the appropriate IT management job class.

## **Glossary of Computer Terms**

**Application:** A computer program, with a user interface, designed for a specific task or use.

**Data processing:** 1) Conversion of data into a form that can be processed by computer.  
2) The storing or processing of data by a computer.

**Database:** One or more large structured sets of persistent data, usually associated with software to update and query the data.

**E-government:** Government business conducted using electronic media; access to and provision of government services via Internet technology.

**Extranet:** The extension of an agency's intranet out onto the Internet, which allows selected individuals to access private data and applications via the World-Wide Web. This is in contrast to, and usually in addition to, the agency's public website which is accessible to everyone. The difference can be somewhat blurred but generally an extranet implies real-time access through a firewall of some kind.

**Internet:** An interconnected system of networks that connects computers around the world via the TCP/IP protocol. While the web (primarily in the form of HTML and HTTP) is the best known aspect of the Internet, there are many other protocols in use, supporting applications such as electronic mail, Usenet, chat, and file transfer.

**Internet portal:** 1) An entry point to the Internet, an intranet, or an extranet. 2) A website offering a search engine and/or links to useful pages, and possibly news or other services.

**Intranet:** Any network which provides similar services within an organization as provided by the Internet outside it, but which is not necessarily connected to the Internet. The most common example is the use by an agency of one or more servers on an internal TCP/IP network for distribution of information within the agency.

**Operating System:** Software that controls the execution of computer programs, handles the interface to peripheral hardware, schedules tasks, allocates storage, and presents a default interface to the user when no application program is running.

**Protocol:** A set of formal rules describing how to transmit data, especially across a network. Low level protocols define the electrical and physical standards to be observed, bit- and byte-ordering and the transmission and error detection and correction of the bit stream. High level protocols deal with the data formatting, including the syntax of messages, the terminal to computer dialogue, character sets, sequencing of messages, etc.

**Scripting language:** A language that has little or no provision for complex data structures. Scripts typically interact either with other programs or with a set of functions provided by an interpreter (a program that translates and executes source language statements one line at a time).

**Server:** 1) A computer which provides some service for other computers connected to it via a network. The most common example is a file server which has a local disk and services requests from remote clients to read and write files on that disk. 2) A program which provides some service to other (client) programs.

**System:** 1) A group of interacting, interrelated, or interdependent elements forming a complex whole. 2) The entire computer system, including input/output devices,

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the supervisor program or operating system, and possibly other software and hardware.

**System analysis:** 1) The study of an activity or procedure to determine the desired end and the most efficient method of obtaining the end. 2) Study of the design, specification, feasibility, cost, and implementation of a computer system for business.

**Web:** The World-Wide Web. The complete set of documents residing on all Internet servers that use the HTTP protocol, accessible to users via a simple point-and-click system.

**Web Browser:** A program specifically designed to help users view and navigate hypertext, on-line documentation, or a database (e.g., Microsoft Internet Explorer, Netscape Navigator, Mozilla Firefox, etc.)

**Web Page:** A block of data available on the World-Wide Web. In the simplest case, a web page is a file written in HTML, stored on a server. It may refer to images which appear as part of the page when it is displayed by a web browser. It is also possible for the server to generate pages dynamically in response to a request, e.g. using a CGI script.

**Web Site:** A set of interconnected web pages, usually including a homepage, generally located on the same server, and prepared and maintained as a collection of information by a person, group, or organization.