

i-Net+ Examination Blueprint

Final: August 2001

Introduction

The i-Net+ examination is a vendor-neutral, entry-level certification that tests baseline technical knowledge and skills of Internet, intranet, and extranet technologies independent of specific Internet related career roles. Examinees must demonstrate basic knowledge and/or competency of Internet skills and tasks in 5 core content areas; Internet Basics and Clients, Development, Networking, Internet Security, and Business Concepts.

This exam targets individuals who want to demonstrate a knowledge and skills baseline that enables them to pursue a variety of entry level Internet and e-commerce related careers such as:

- Participating in the maintenance of Internet, intranet, and extranet infrastructure and services
- Participating in the development of Web related content and applications

In addition to technical careers, this exam may also be used by non-technical professionals that are pursuing non-technical Internet related careers such as the marketing of Internet equipment or services, or using the Internet extensively in their day to day work; and that want to demonstrate a baseline of Internet related technical skill and knowledge that will help them pursue their career.

This exam not only helps individuals enter the industry, but it also helps hiring managers determine whether a prospective employee has the appropriate level of technical knowledge and skill.

The skills and knowledge measured by this examination are derived from a worldwide job task analysis which was validated through a survey of hundreds of i-Net+ certified professionals and their managers. The results of the survey are used to validate the various objective domains, and to ensure that the weighting of each domain is representative of the importance of the job tasks performed by Internet professionals. The intent is to certify individuals in a body of knowledge that is identified and accepted as the baseline or foundation set of skills and knowledge that are possessed by Internet professionals with six months of experience.

Note: This examination blueprint for the i-Net+ examination includes weighting, test objectives, and example content. Example topics and concepts are included to clarify the test objectives and should not be construed as a comprehensive listing of all the content covered by this examination. This blueprint may undergo additional minor modifications during the test development phase.

The table below lists the domains measured by this examination and the approximate extent to which they are represented in the examination.

Domain	% of Examination
1.0 Internet Basics & Clients	30%
2.0 Development	20%
3.0 Networking	20%
4.0 Internet Security	20%
5.0 Business Concepts	10%
Total	100%

i-Net+ Examination Blueprint

Final: August 2001

Response Limits

The examinee selects, from four (4) or more response options, the option(s) that best completes the statement or answers the question. Distractors or wrong answers are response options that examinees with incomplete knowledge or skill would likely choose, but are generally plausible responses fitting into the content area. Test item formats used in this examination are:

Multiple-choice: The examinee selects one option that best answers the question or completes a statement. The option can be embedded in a graphic where the examinee “points and clicks” on their selection choice to complete the test item.

Multiple-response: The examinee selects more than one option that best answers the question or completes a statement.

Drag and Drop Items: A drag and drop item is an item that requires the candidate to drag a graphic or text box to a correct destination.

Sample Directions:

Read the statement or question and from the response options, select only the option(s) that represent the most correct or best answer(s).

i-Net+ Examination Blueprint

Final: August 2001

Domain 1.0 INTERNET BASICS & CLIENTS

This domain requires that the candidate have the knowledge of a wide range of Internet basics, including: site functionality, caching, indexes, searching, and Internet infrastructure. In addition candidates should have the knowledge and skills required to use and update client software, and to assist in the administration of Internet/intranet sites.

1.1. Identify the issues that affect Internet site functionality.

Content may include the following:

- Performance, including:
 - Bandwidth (both client and server)
 - Internet connection types (both client and server)
 - Pages taking too long to load
 - Resolution and size of graphics
- Security, including:
 - Authentication
 - Permissions
 - Data encryption

1.2. Understand and be able to describe the concept of caching and its implications.

Content may include the following:

- Web caching
- File caching
- Proxy caching
- Client side caching versus server side caching

1.3. Use different types of search indexes – static index/site map, keyword index, full text index.

Content may include the following:

- Index your site for a search
- Use Internet and Intranet search engines
- Differences between search engines and directories
- Meta search engines
- Spider search engines

1.4. Understand and be able to describe the infrastructure needed to support an Internet client.

Content may include the following:

- Knowledge of client operating systems
- Knowledge of web server platforms
- Operating system TCP/IP stack configuration
- Network connection
- Web browser
- E-mail client
- Hardware platform
- DHCP
- Client software configuration

i-Net+ Examination Blueprint

Final: August 2001

1.5. Use/configure Web browsers and other Internet/intranet clients, and be able to describe their use to others.

Content may include the following:

- Web browsers
- FTP clients
- Telnet clients
- E-mail clients
- All-in-one/universal clients
- When to use each type of client
- The basic commands (e.g., get and put) for each type of client (e.g., FTP, Telnet, POP3)

1.6. Update client software.

Content may include the following:

- Performing routine maintenance on client applications (e.g. updating virus data files)
- Applying service packs and maintenance patches
- Upgrading to newer versions of client software, or replacing existing client software with versions from a different software vendor.

1.7. Assist in the administration of Internet/intranet sites.

Content may include the following:

- Reset passwords
- Configure permissions
- Post content to server

i-Net+ Examination Blueprint

Final: August 2001

DOMAIN 2.0 DEVELOPMENT

This domain requires that the candidate have the knowledge of programming related terms and the differences between popular client and server programming languages. The candidate should also have the ability to create HTML pages, identify when to use multimedia extensions and plug-ins, understand when to use various image and multimedia file formats, identify the common formats used to deliver content to wireless devices, understand when to use popular tools to connect an Web server to a database, and test pre-production Web and E-Commerce servers.

2.1. Understand and be able to describe programming-related terms.

Content may include the following:

- API
- CGI script
- SQL
- Client-side scripting
- Server-side scripting
- Server-side includes

2.2. Understand and be able to describe differences between popular client-side and server-side programming languages.

Content may include the following:

- When to use the languages
- When they are executed

Examples may include the following:

- Java
- JavaScript
- XML
- ASP
- Extensible Stylesheet Language—XSL
- Document Type definitions—DTD
- JSP
- CGI script
- Perl
- Java Servlets
- VBScript
- PHP

2.3. Create HTML pages.

Content may include the following:

- Cascading Style Sheets — CSS
- Extensible Stylesheet Language — XSL
- DHTML
- XHTML
- HTML document structure
- Understand and use MetaTags properly
- Use page layout principles
- Coding simple tables, headings, forms
- Compatibility between different browsers
- Importance of creating cross-browser coding in HTML
- 3 tier models

i-Net+ Examination Blueprint

Final: August 2001

2.4. Identify when to use various multimedia extensions or plug-ins.

Content may include the following:

- QTVR (quick time)
- Flash
- Shockwave
- RealPlayer
- Windows Media Player

2.5. Identify when to use various image and multimedia file formats.

Content may include the following:

- GIF
- GIF89a
- JPEG
- PNG
- PDF
- TIFF
- BMP
- MOV
- MPEG
- AVI

2.6. Identify the common formats used to deliver content to wireless devices.

Content may include the following:

- XML
- WML

2.7. Understand when to use popular tools to connect a Web server to a database.

Content may include the following:

- PHP
- PERL
- ASP
- ODBC
- JDBC

2.8. Test pre-production Web and e-commerce servers.

Content may include the following:

- View web content in various browsers and at various screen resolutions
- Stress test a server
- Stress test the servers' Internet connection
- Create sample transactions with an e-commerce server

i-Net+ Examination Blueprint

Final: August 2001

DOMAIN 3.0 NETWORKING

This domain requires that the candidate have the knowledge and skills to understand and be able to describe the core components of the Internet infrastructure; identify problems with Internet connectivity; understand how to use Internet domain names and DNS; understand the capabilities of popular remote access protocols; understand how various protocols or services apply to the function of their corresponding server; identify when to use various diagnostic tools for resolving Internet problems; create a logic diagram of Internet components; describe various hardware and software connection devices; understand when to use various site monitoring procedures; understand how common networking topologies are used; and understand the capabilities of application server providers.

3.1. Understand and be able to describe the core components of the Internet infrastructure.

Content may include the following:

- Network access points
- Backbone
- Hardware/software infrastructure knowledge
- Internetworking devices such as routers, switches and bridges

3.2. Identify problems with Internet connectivity from source to destination for various types of servers.

Content may include the following:

- E-mail server
- Web server
- FTP server
- News server
- Proxy server
- Caching server
- Media server
- DNS server
- Certificate server
- Directory (LDAP) server
- Connecting through a firewall

3.3. Understand and be able to describe the use of Internet domain names and DNS.

Content may include the following:

- DNS entry types
- Hierarchical structure
- Role of root domain servers
- Top level or original domains
- NSlookup

i-Net+ Examination Blueprint

Final: August 2001

3.4. Understand and be able to describe the capabilities of popular remote access protocols.

Content may include the following:

- SLIP
- PPP
- PPTP
- L2TP
- PPPOE
- Point-to-point multi-point

3.5. Understand how various protocols or services apply to the function of their corresponding server, such as a mail server, a web server or a file transfer server.

Content may include the following:

- POP3
- SMTP
- HTTP
- FTP
- NNTP
- LDAP
- Telnet

3.6. Identify when to use various diagnostic tools for resolving Internet problems.

Content may include the following:

- Ping
- WinIPcfg
- IPconfig
- ifconfig
- ARP
- TraceRT
- Network Analyzer

3.7. Create a logic diagram of Internet components from the client to the server.

Content may include the following:

- Bridge
- Brouter
- Router
- Switch
- Hub
- Repeater
- Network Adapter
- Cable Modem
- xDSL Modem
- Modem
- WAN Link
- CSU/DSU
- FireWall
- Network Address Translation (NAT) server
- Proxy Server

i-Net+ Examination Blueprint

Final: August 2001

3.8. Describe various hardware and software connection devices and when to use them.

Content may include the following:

- Network adapter
- Bridge
- Brouter
- Router
- Switch
- Repeater
- Hub
- Network Adapter
- Cable Modem
- xDSL Modem
- Modem
- CSU/DSU
- FireWall
- Network Address Translation (NAT) server
- Proxy Server

3.9. Understand when to use various site monitoring procedures.

Content may include the following:

- Viewing server log files
- Monitoring network traffic
- Monitoring server utilization
- Monitoring server network bandwidth utilization

3.10. Understand and be able to describe how common networking topologies are used.

Content may include the following:

- Star
- Bus
- Mesh
- Ring

3.11. Understand and be able to describe the capabilities of application server providers.

Content may include the following:

- Providing Internet based services on an as needed basis, such as:
 - o Custom Web Hosting
 - o Providing e-mail services
 - o Providing Fax services
 - o Providing access to an application over the web
 - o Providing shared access to expensive hardware, such as a mainframe computer

i-Net+ Examination Blueprint

Final: August 2001

DOMAIN 4.0 SECURITY

This domain requires that the candidate have the knowledge and skills to understand and be able to understand various Internet security concepts; identify suspicious network activities; identify various methods for performing intrusion detection; identify appropriate access-control security features for an Internet server; describe the uses and proper instances to use anti-virus software; describe the uses and proper instances to use various client security add-ons; describe how firewalls are used to protect private networks; understand when to use various DMZ configurations; and describe various authentication/encryption technologies.

4.1. Understand and be able to describe various Internet security concepts.

Content may include the following:

- Access control
- Authentication
- Encryption—PKI
- Secure socket layers (SSL)
- Access security tools
- Auditing
- Secure Electronic Transactions (SET)

4.2. Identify suspicious network activities.

Content may include the following:

- Multiple log-in failures
- Ping floods
- Denial of service attacks
- Mail flooding
- Syn floods
- Spoofing
- Repudiation

4.3. Identify various methods for performing intrusion detection.

Content may include the following:

- Configure auditing on servers and firewalls
- Review audit logs
- Configure network monitoring software to alert you when suspicious types of traffic occur
- Configure servers to notify you when unauthorized accesses are attempted.

4.4. Identify appropriate access-control security features for an Internet server.

Content may include the following:

- E-mail server
- Web server
- APACHE
- NES
- IIS

4.5. Be able to describe the uses and proper instances to use anti-virus software.

Content may include the following:

- Server anti-virus protection
- Client computer anti-virus protection
- Network anti-virus protection, such as on a firewall

i-Net+ Examination Blueprint

Final: August 2001

4.6. Be able to describe the uses and proper instances to use various client security add-ons.

Content may include the following:

- Encryption software
- Personal digital identification, such as a digital certificate
- Personal firewall software

4.7. Describe how firewalls are used to protect private networks.

Content may include the following:

- Port filtering
- Packet filtering
- Application filtering
- Intrusion detection filtering

4.8. Identify when to use various DMZ configurations.

Content may include the following:

- Bastion Host
- Three-homed firewall
- Back-to-back firewalls

4.9. Understand and be able to describe various authentication/encryption technologies

Content may include the following:

- Username/password authentication
- Smart Card authentication
- SSL
- Authentication versus encryption
- PKI
- Asymmetric encryption, including blowfish, RC2, RC4, and RC5
- Symmetric encryption, including DES, triple DES, and skipjack
- One Way encryption, including MD5 and SHA

i-Net+ Examination Blueprint

Final: August 2001

DOMAIN 5.0 BUSINESS CONCEPTS

This domain requires the candidate to be able to identify and or describe various e-business and e-commerce concepts and when they are used, including term definitions, e-business related network concepts, e-business models, strategic marketing considerations, and legal/regulatory considerations.

5.1. Understand and be able to describe e-commerce terms and concepts.

Content may include the following:

- Information Service Providers
- Portals
- SET (Secure Electronic Transactions)
- EFT (Electronic Funds Transfer)
- EBT (Electronic Benefits Transfer)
- EDI (Electronic Data Interchange)
- OBI (Open Buying on the Internet)
- OTP (Open Trading Protocol)

5.2. Understand and be able to describe the differences between the following from a business standpoint:

Content may include the following:

- Private Network
- Intranet
- Extranet
- Internet

5.3. Recognize and explain the current types of e-business models being applied today.

Content may include the following:

- Business-to-business models
- Business-to-consumer models
- Business-to-employee models
- Business to Government
- Consumer-to-business
- Consumer-to-consumer
- Storefront (bricks & mortar) vs. e-business
- New and changing customer expectations
- e-business and the Internet
- Aggregator

5.4. Identify key factors relating to strategic marketing considerations as they relate to launching an e-business initiative.

Content may include the following:

- Geographic/Localization considerations (local customs/criteria, etc.)
- Public relations; impact/risks of site failure

5.5. Identify key factors relating to legal and regulatory considerations when planning ebusiness solutions.

Content may include the following:

- Knowledge ownership / Intellectual property rights
- Privacy
- Jurisdiction