Frequently Asked Questions

CITRIX

Proxy Server
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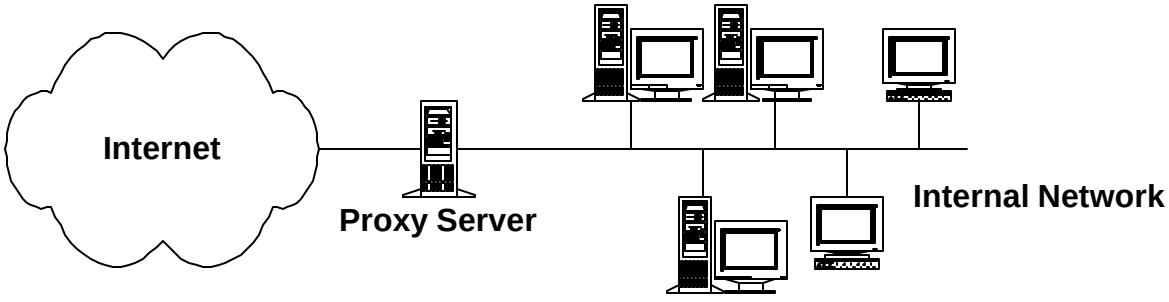
What is a Proxy Server?

A proxy server is a network gateway that protects or restricts clients by connecting to the Internet on their behalf. Examples of a proxy server include Microsoft® Proxy Server 2.0, Microsoft Internet Security & Acceleration Server (ISA), Netscape Proxy Server, and Squid.



Why use a Proxy Server?

Many customers wish to control outbound connections from their networks, so that they can audit and/or forbid connections to certain destinations. To do this, client software connects via the proxy server.

HTTP proxies can also optimize Internet browsing by retaining a locally cached copy of popular Internet content. For example, if everyone in a 500-employee company visits CNN.com through an HTTP proxy, the graphics from the CNN.com home page are downloaded from the Internet for the first user only and all 499 users thereafter will retrieve the graphics from the local copy stored at the proxy server.

What types of traffic can be proxied?

Some protocols, such as HTTP, have specific support for proxying. An HTTP proxy can therefore allow clients to connect to one website but not another based on the administrator's preferences.

Other protocols, such as ICA®, do not have specific support for proxying - for these, a generic proxying mechanism is needed.

What is a generic proxy?

A generic proxy is not tied to any one protocol; it acts as a simple TCP gateway between clients on the internal network and servers on the Internet. There are two well-known examples of generic proxy mechanisms: SOCKS, and Secure Proxy. SOCKS and Secure Proxy have equivalent functionality: Secure Proxy is not "more secure" than SOCKS: it is an alternative mechanism with the same effect.

Do the ICA clients work with a generic proxy?

The ICA v6.2x ICA Clients support SOCKS, but do not support Secure Proxy. The v6.30 Windows® and Java™ ICA clients that ship with MetaFrame XP™, Feature Release 2 support both SOCKS and Secure Proxy. This is a client-side only feature; however, enhancements to NFuse® Classic allow client configuration of this feature.

What is a PAC file and how it is related to proxy servers?

A proxy auto configuration (PAC) file, written in JavaScript, is used to centrally control the proxy settings of client browsers. When a browser is set to use a PAC file it dynamically routes the requests to the specific administrator configured server. A PAC file could be used to dynamically specify the proxy server to use based on the client subnet, requested URL, time etc. You can also set the addresses to be bypassed by the proxy server in a PAC file.

Does the ICA client support PAC files?

Yes. The Java and Win32® 6.30 ICA clients have support for PAC files. The ICA clients use the browser's java script engine to execute the PAC file and dynamically get a proxy server address for making the connection.

What is auto-proxy detection in ICA clients?

The Win32 or Java 6.30 ICA clients can be configured to leverage the proxy server settings from the workstation browser. The ICA Client reads the proxy settings from the browser, and uses these to make an outgoing connection.

How do I configure Auto Proxy Detection with NFuse Classic v1.7?

By default, NFuse Classic 1.7 does not render ICA files that allow clients to connect through their local proxy server. To configure this behavior, ICA files should contain the line ProxyType=Auto in the [WFClient] section.

By default, NFuse Classic 1.7 does not include this line.

Clients who need this setting may receive the following error: There is no Citrix server at the specified address. To resolve this issue, edit the template.ica and guest_template.ica files beneath %ProgramFiles%\Citrix\NFuse to include the line ProxyType=Auto in the [WFClient] section. ICA Client versions earlier than 6.30 are not affected.

What are the Proxy Configuration Parameters?

ProxyType - identifies the type of proxy requested for the connection. Possible values are:

"None" - Use direct connection
"Auto" - Auto detect proxy configuration from browser
"Socks" - Use SOCKS proxy (auto-detect protocol version)
"SocksV4" - Use SOCKS proxy with version 4 protocol
"SocksV5" - Use SOCKS proxy with version 5 protocol
"Secure" - Use Secure (HTTPS) proxy
"Script" - Interpret proxy auto-configuration (.PAC) script
Default: "None"

ProxyHost - represents the host address (name or IP address) of the proxy server to connect through. Optional port number may be appended after a colon. Must be set if ProxyType is either "Secure" or one of the "Socks" varieties. Ignored otherwise. If port number is omitted, then 8080 will be used when ProxyType is "Secure". Otherwise 1080 is used by default for Socks proxies.

ProxyBypassList - a semicolon-delimited list of regular expressions that identify hosts for which proxy connections should be bypassed. Ignored if ProxyType is "None" or "Auto".
Default: Empty list.

ProxyAutoConfigURL - a URL for a proxy auto-configuration (.PAC) javascript. Must be set if ProxyType is "Script", and ignored otherwise.

ProxyUsername - the username to be used when authenticating the client to a proxy. Default: Prompt the user.

ProxyPassword - the clear text password for authenticating the client to a proxy.
Default: Prompt the user.

ProxyTimeout - the number of milliseconds to wait for browsing requests to be satisfied through a proxy. Note: this value is ignored if set to a value less than the default browser timeout of 2000 ms [e.g. 2 seconds]. Default: Uses normal browser timeout specified by the BrowserTimeout parameter, or its default value of 2000 [2 sec] if BrowserTimeout is not specified.

What is WPAD?

Web proxy auto discovery protocol (WPAD) is a mechanism used by web clients to locate nearby web proxy servers. With the advent of WPAD it is possible to dynamically retrieve the proxy auto configuration file from a particular server that is configured according to WPAD standards. However, WPAD is currently supported only by Microsoft Internet Explorer v5.5+.

The 6.30 Citrix clients do not support WPAD.

Is a Secure Proxy the same as an HTTPS proxy?

Secure Proxy is most often used for HTTPS. Encrypted protocols such as HTTPS or other SSL-based protocols must also use a generic proxying mechanism because the proxy server cannot decrypt the traffic. SOCKS also supports encrypted protocols in this way.

"Secure Proxy" has also been called "Security Proxy", "SSL Tunneling", and "HTTP CONNECT method tunneling". The last two names are misleading, because a Secure Proxy can be used for protocols other than HTTP or SSL, but popular because allowing HTTPS traffic is most often the motivation for implementing a Secure Proxy.

Secure Proxy is selected in web browser proxy settings as the "Secure" option. Many proxy servers support both SOCKS and Secure Proxy.

What is proxy authentication?

Customers who wish to control outbound connections from their networks, so that they can audit and/or forbid connections to certain destinations may need to do this selectively by user. To achieve this, the proxy server must authenticate users. Proxy authentication is separate from authentication on the client machine, and at MetaFrame®.

Proxy authentication is available with Secure Proxy, and with the SOCKS version 5 protocol. It is not supported by the SOCKS version 4 protocol. Some proxy servers support only SOCKS version 4.

Do ICA Clients support proxy authentication?

ICA clients that ship with MetaFrame XP Feature Release 2 support username/password authentication for both Secure Proxy and SOCKS version 5.

Both Secure Proxy and SOCKS version 5 can support other proxy authentication methods, for example Microsoft Windows NTLM authentication. The 6.30 ICA clients that ship with MetaFrame XP Feature Release 2 do not support these other proxy authentication methods.

What is a reverse proxy server?

As its name implies, a reverse proxy server works like a normal proxy but from the outside in: traffic is accepted from the Internet and then selectively proxied to clients on an internal network. Many firewalls can be thought of as reverse proxy servers superimposed by a set of access rules. Rather than simply route Internet traffic to an internal destination, a reverse proxy server creates a new TCP session between itself and the internal resource.

Reverse proxy servers are useful for hiding the details of an internal network and securing traffic without requiring the reconfiguration of client applications. Internet clients need not be aware that their traffic is being directed through a reverse proxy server.

Most proxy server products can be configured as reverse proxy servers as well. Reverse proxy servers generally support HTTP traffic only, and cannot be used with ICA traffic. So, for traffic from the Internet, a proxy server could be configured as a reverse proxy server (for NFuse HTTP traffic), and as a 'normal' proxy server (for ICA traffic).

Where can I find additional information?

The following Citrix courses provide additional information.

Automatic Proxy Detection Fails with NFuse Classic 1.7 (CTX079339)

MAYSCRIPT error: Proxy Server PAC file not interpreted by ICA Java client in NFuse Classic 1.7 (CTX338301)

Troubleshooting Citrix ICA Connections through a SOCKS Proxy (CTX953526)

How to Edit the ICA File to Allow Connections through a SOCKS 5 Proxy Server with authentication (CTX705706)

How to Add Localhost Proxy Support for Citrix Extranet 2.0 Connections into an ICA File (CTX874143)

Additional information may also be found at the following websites.

Citrix NFuse Project Columbia: Navigating Client-side Proxy Servers and Reverse Proxy Servers
http://apps.citrix.com/CDN/Columbia/Columbia_documentation.asp#proxy

Microsoft Internet Security & Acceleration Server
http://www.microsoft.com/ISAServer/