



# Implementing Multiple Farm Access with NFuse 1.5



## Revision History

Revision	Change Description	Updated By	Date
1	Original document	Chris Capute	2/9/2001
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# 1 Overview

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NFuse 1.5 is an application portal that provides organizations with the ability to integrate and publish interactive applications into any standard Web browser. NFuse is a three-tier solution that includes a Citrix Server component, a Web Server component, and a Citrix ICA client component with a web browser. One of the features of NFuse is its ability to display applications from more than one server farm, including farms running on various platforms. By using NFuse as a single point of access for applications, it becomes possible for users to reach applications spread across non-homogeneous environments. This becomes increasingly important in operations where server farms have been separated by operating system. It is possible for users to access applications in a MetaFrame Extended Platform farms, at the same time they access a farms running MetaFrame for Windows or MetaFrame for UNIX.



## 2 Creating a Single Point of Access

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Implementing this feature is as simple as setting up one of the example Web sites that installs with the Web Server Extensions. The Multiple Sever Farm example Web site provides all the necessary functionality for contacting any number of Citrix server farms of any flavor and displaying their applications on the same Web page. This example is supported in all four supported NFuse Web site models: Active Server Pages and HTML for IIS versions on Internet Information Server and JavaServer Page and HTML for Servlets versions on UNIX Web servers. This "straight-from-the-box" answer is an excellent starting point for creating a single point of access for various types of server farms.

Setting up the example Web site to contact more than one server farm only requires identifying the multiple servers to be contacted. The ASP and JSP sites use a plain text file to store the list of Citrix Servers. This file, multiServer.txt, is parsed by the Web page, which will display applications from each server that is selected by the user. An administrator has only to enter in this file the names of the Citrix Servers (one from each farm) and the port on each server that is running the XML service. The HTML pages require that the Citrix Servers and ports be entered in the HTML code. The NFuse 1.5 Administration Guide contains detailed information on this process.

### 3 Customizing the Multiple Server Farm Site

NFuse Web sites can be created and customized in a variety of ways. The simplest methods are to use the example Web Site that best suits an organizations needs and the Web Site Wizard. Since these options do not always satisfy all requirements for a given Web site, customization becomes necessary. The most straightforward way to implement the multiple server farm feature is to make any modifications to the existing example code. The components described below will be helpful in working the other direction to include this functionality in an existing or new page.

Understanding the process that NFuse uses to access the servers will simplify the customization process. Figure 1 depicts this action.

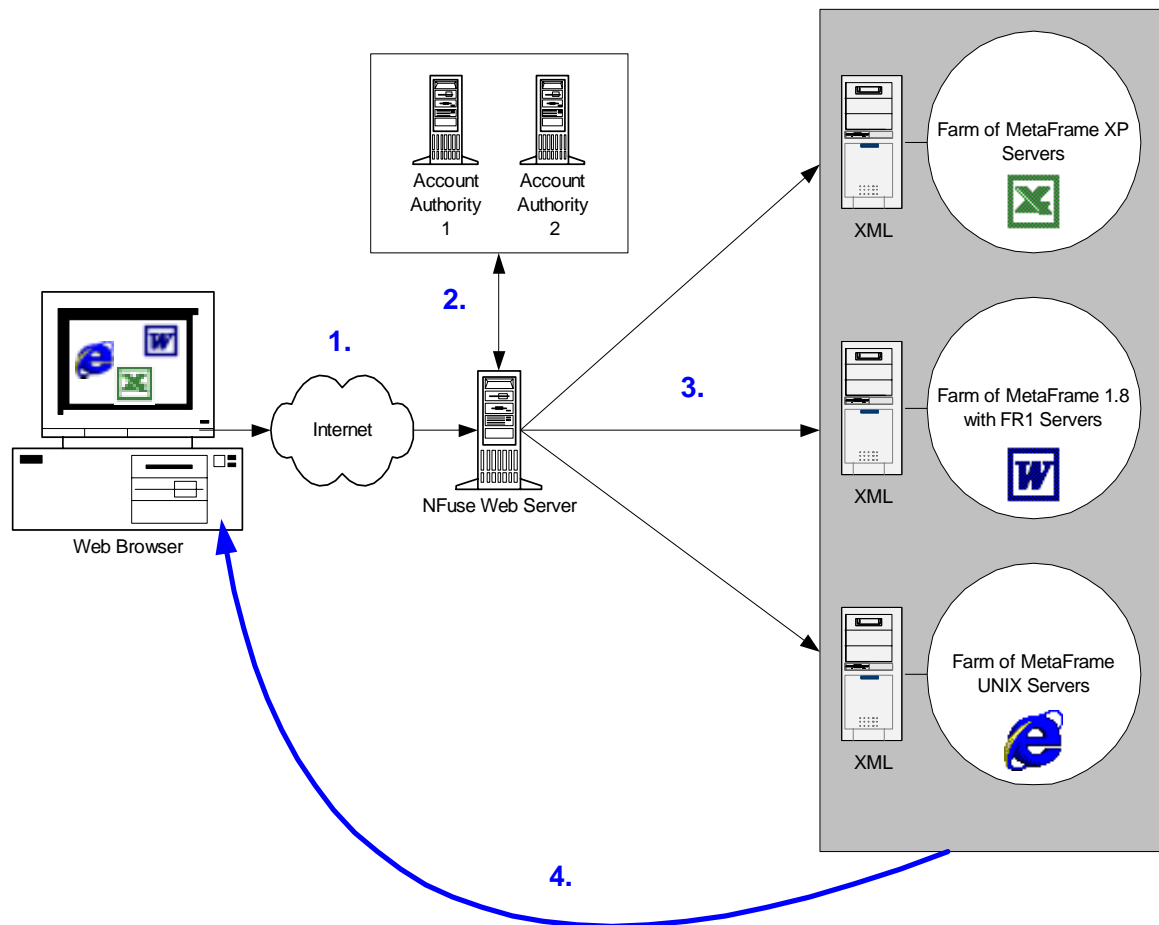


Figure 1

1. A user connected to the Internet or Intranet directs his web browser to the URL of an NFuse Web site. The page that is served reads a list of Citrix Servers that has been provided by the administrator. Users can be given the option of selecting from which servers they will receive applications, or the selection can be automated to include all servers on the list. A login screen will be displayed after the selection has been made.
2. The account authority or authorities verify the user's credentials. Sites can be set up for multiple or single logins, depending on how many account authorities must be contacted to ensure authentication into each farm.



3. As the user's credentials are verified, a second list of servers is created. This list eliminates any servers to which the user is not or cannot be authenticated. The appropriate errors are displayed and sufficient login attempts are allowed to generate this list. For each server the user has permission to access, the server name and port are added to the list along with the credentials that were used to authenticate them to that particular farm. If a user's authentication fails on a given server because of bad credentials the user is redirected to the login page. If it fails for any other reason, the server's information is deleted from the CitrixServer and CitrixPort cookies. If the authentication succeeds the credentials are stored in the Nfuse\_User, Nfuse\_Domain and Nfuse\_Password cookies.
4. After the server list is generated, each server is contacted. Saved credentials are used to retrieve application sets for each farm. The applications are enumerated and presented to the user.



## 4 NFuse Java Objects, Substitution Tags, and Session Fields

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NFuse substitution tags, session fields and NFuse objects perform the actions depicted in Figure 1. The NFuse substitution tags and session fields are used in template HTML and ICA files. They provide an interface to the NFuse Java objects, which can be used to modify NFuse properties and, when used with HTTP cookies and URLs, create cross-page state in NFuse Web sites. The NFuse objects are Java objects that you can access from Web server scripts or custom-written Java servlets to perform NFuse-related tasks. The NFuse Java objects can authenticate users to a Citrix server farm, retrieve per-user application sets, modify properties of individual applications before presenting them to users, and parse template HTML and ICA files that display application sets to users and provide them with links to initiate ICA sessions. Handling these objects in Web server scripts will allow access to multiple servers. The following list describes the NFuse Java objects that will be required to authenticate the user and retrieve the applications:

- ✓ **App.** Represents a single application in an application set. App objects contain the properties of a single application published in a Citrix server farm. The AppEnumerator object returns app objects.
- ✓ **AppEnumerator.** A class that Web pages use to access applications published in a server farm. AppEnumerator returns App objects and Program Neighborhood folders that can then be used to manipulate applications. The AppEnumerator is returned by a CitrixWireGateway object.
- ✓ **ClearTextCredentials.** Encapsulates user authentication information for presentation to the server farm. User credentials include the user's user name and Windows NT domain in plain text and a password encrypted using basic encryption. Use this object to package a user's credentials before sending those credentials via a CitrixWireGateway object to the server farm for authentication.
- ✓ **CitrixWireGateway.** Creates a communication link between the Web page requesting a user's application information and the server farm containing the information. This object is used to create a communication channel through which a user's credentials are sent to a server farm and the application information for that user is returned.

There are additional NFuse objects that can be used to add other NFuse features and functionality. Detailed information on how to use the NFuse Java Objects is provided in the NFuse 1.5 Administration Guide.