

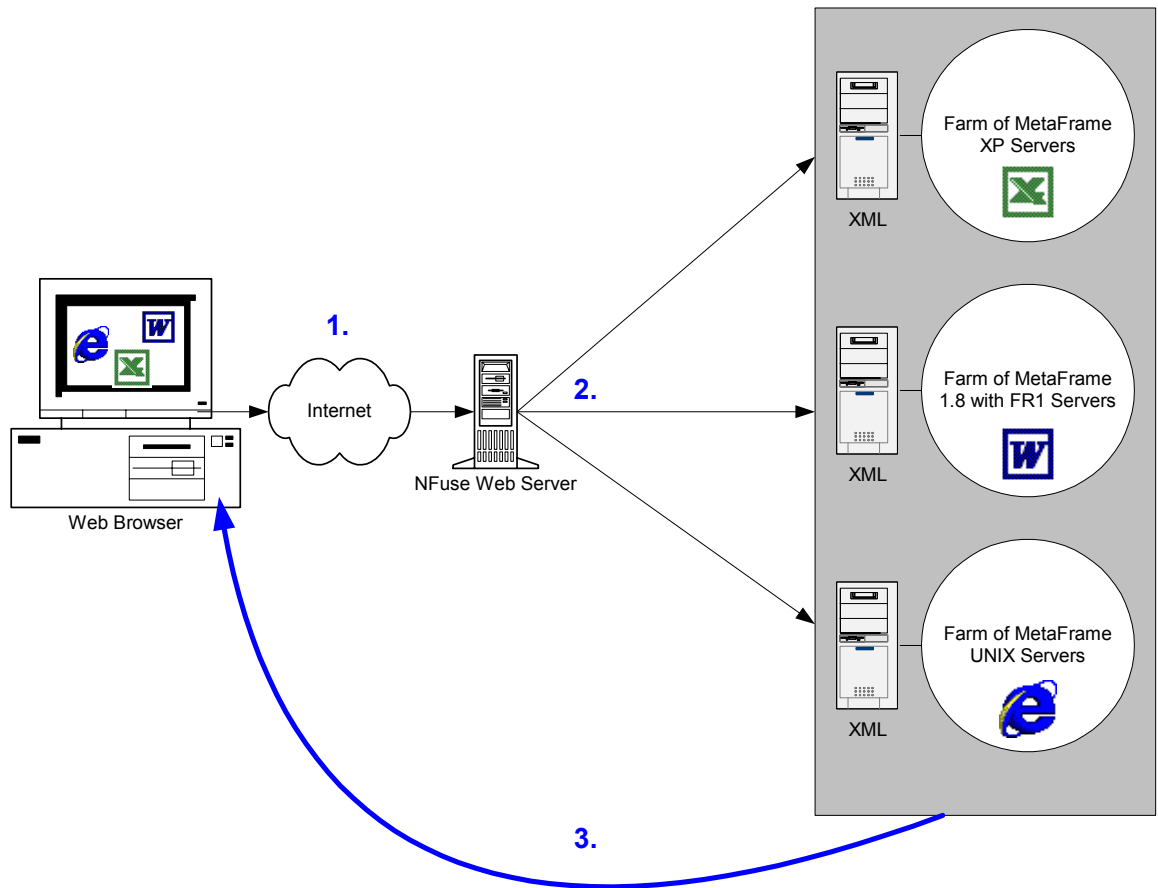
## **Creating a Multifarm NFuse Site**

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NFuse 1.51 is a suite of software components that provides organizations with the ability to integrate and publish interactive applications into any standard Web site. 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. 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 because of the operating system. It is possible for users to seamlessly view applications published by MetaFrame Extended Platform (XP) Farms, MetaFrame 1.8 Farms and MetaFrame for UNIX Farms. Since the source of the applications becomes transparent to the end user, the NFuse technology can be used to migrate an existing MetaFrame 1.8 environment to a MetaFrame XP environment. This is accomplished by moving applications from one Farm to the other. I.e. restricting access on the legacy system and publishing the application on the XP Farm.

Implementing this feature is quite straightforward. NFuse ships with a number of samples that are automatically included when the NFuse Web Server Extensions are installed, and one of these is a Multi Farm site. The Multiple Server 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 pre-packaged example is an excellent starting point for creating a single point of access for various types of server farms. All underlying code is exposed to the administrator, and can be incorporated into any existing Web site.

In order to create a site that displays applications from more than one farm, a Citrix MetaFrame server in each farm running the XML service needs to be identified. A plain text file can be used to store the Citrix Server name and port number that the XML service is running on for each Farm. This file is parsed by the Web page and each entry is saved inside a cookie for later access. Once a user logs in, his credentials are used to authenticate to the account authority of each Farm and are directed to an application list page containing applications that they have been granted access to. The following diagram depicts the process used to contact multiple farms:



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 (one from each farm) provided by the administrator. Users may be given the option of selecting from which Farms they wish to receive applications, or the selection can be automated to include all configured Farms.
2. After login, an NFuse Credentials Object is created to store the user's username, domain, and password. For each server listed, a Gateway Object is instantiated to begin communication over the XML service. The Credentials Object is passed as a parameter to the Gateway Objects for authentication to each of the MetaFrame server farms. The farms are then contacted in the order they are listed in text file for authentication and retrieval of application information. If at any time a user's credentials are rejected because of a bad password the process should be stopped to avoid lockouts of user accounts.
3. Upon successful retrieval of application information, the applications are presented to the user in one unified list. Applications in the same Program Neighborhood folders will be merged even if they exist in different farms. Each application link has the Citrix XML server and port number as part of the URL query string. Upon clicking on the link of an application, the query string information is extracted, used to contact the proper farm for application resolution and the building of the ICA file.

The code sample shown below demonstrates these steps

<%

```
Set credentials = Server.CreateObject("com.citrix.nfuse.ClearTextCredentials")
credentials.initialize app.unUrlEncode(user), app.unUrlEncode(domain),App.unUrlEncode(password)
BadCredentials=false
For f=0 to (farmNumber-1)
    If BadCredentials=true Then Exit For
    Set gateway(f) = Server.CreateObject("com.citrix.nfuse.CitrixWireGateway")

    'CitrixFarms is an array containing the list of XML servers and port numbers
    ServerAddress = CitrixFarms(f)

    ' If the user's credentials are invalid or expired, stop trying after the first
    ' server in order to avoid account lockouts

    XMLAddress = Split(ServerAddress, ":")
    currentServerAddress = XMLAddress(0)
    currentPort = XMLAddress(1)
    gateway(f).initialize credentials, currentServerAddress, "Http", currentPort

    Set appEnumerator = gateway(f).getAppEnumerator()
    EnumeratorGood = False
    On Error Resume Next
    Call TestEnumerator
    If EnumeratorGood = False Then
        error = gateway(f).GetLastError()
        If error = gateway(f).getLocalizedMessage("CharlotteErrorBadCredentials") Then
            BadCredentials=true
            BadCredentialsReason = "BadCredentials"
            Exit For
        Else
            If error =
gateway(f).getLocalizedMessage("CharlotteErrorCredentialsMustChange") Then
                BadCredentials=true
                BadCredentialsReason = "ExpiredPassword"
                Exit For
            Else
                If error =
gateway(f).getLocalizedMessage("CharlotteErrorCredentialsExpired
") Then
                    BadCredentials=true
                    BadCredentialsReason = "AccountExpired"
                    Exit For
                Else
                    Response.Write "There was an error generating the app
list:<br><i>" & error & "</i>"
```

```

                End If
            End If
        End If
    Else
        ' Display folders and applications
        numApps = appEnumerator.getNumApps(currentFolder)
        numFolders = appEnumerator.getNumFolders(currentFolder)
        numTotal = numApps + numFolders
        If numTotal = 0 Then
            ' Response.Write "&nbsp;"
            ' Response.Write "There are no published applications available at this time."
        Else
            For i = 1 to numFolders
                'Display folders
            Next
            For j = (numFolders + 1) to (numTotal)
                'Display Applications
                Set app = appEnumerator.nextApp(currentFolder)

                %>
                <a
                href="launch.asp?NFuse_CitrixServer=<%=currentServerAddress%>&NFuse_Cit
                rixServerPort=<%=currentPort%>&NFuse_Application=<%=app.getNameUrlEn
                coded %>&NFuse_MIMEExtension=.ica" TARGET="hiddenwindow">

                <IMG WIDTH=<%=iconSize%> HEIGHT=<%=iconSize%>
                SRC="<%=app.getIconFileUrlEncoded%>" border=0 alt="Launch
                <%=app.getFriendlyName%> from <%=CitrixFarmNames(f)%>" align=left
                hspace=3>

                <b><%=app.getFriendlyName%></b><BR></A></FONT>
                <%
            Next
        End If
    End If
Next

```

As evidenced in this document, NFuse can be used to seamlessly present users application sets that they have been granted access to. Nfuse can present an integrated list of applications published in multiple server farms. Multiple server farms may exist in an environment due to any of the following: organizational requirements, non – homogeneous operating systems, different versions of Citrix MetaFrame or as a strategy to migrate a farm to MetaFrame XP.