

Extentrix Web Access Management Console



extentrix

White Paper

Table of Contents

EXECUTIVE SUMMARY	2
ACCESS TO CITRIX PRESENTATION SERVER.....	3
BARRIERS FACED ACCESSING CITRIX PRESENTATION SERVER.....	3
WHAT ARE WEB SERVICES.....	4
BENEFITS OF WEB SERVICES.....	5
WHAT IS EXTENTRIX WEB ACCESS MANAGEMENT CONSOLE.....	6
HOW DOES EXTENTRIX WEB ACCESS MANAGEMENT CONSOLE ACCESS CITRIX PRESENTATION SERVER	6
EXTENTRIX SUPPORTED FUNCTIONS.....	7
EXTENTRIX WEB ACCESS MANAGEMENT CONSOLE BENEFITS	7
UTILIZES THE FEATURES OF EXTENTRIX WEB SERVICES 1.0 - MANAGEMENT EDITION.....	7
WEB BASED APPLICATION	7
NEEDLESS TO HAVE SPECIAL SOFTWARE INSTALLED	7
FLEXIBLE WEB SERVICE REFERENCE.....	8
HELPFUL AND FRIENDLY USER INTERFACE	8
DEVELOPER'S SUPPORT	9
<i>How to Call Extentrrix Web Services 1.0 – Management Edition APIs using ASP.Net:</i>	9
RELATED PRODUCTS.....	10
EXTENTRIX WEB SERVICES 1.0 – MANAGEMENT EDITION.....	10
ABOUT EXTENTRIX	11

Executive Summary

The Access Management Console extends your ability to manage your Citrix deployment by integrating many of the administrative features of your Citrix products into the Microsoft Management Console (MMC). The features are provided through a number of snap-ins that you can select when you install the Access Management Console or at any time later.

For each product, you administer your deployment items using the appropriate product node, which is located in the console tree under the Access Management Console node.

Controlling Citrix Presentation is usually done using Citrix Management console, Citrix Access suite, or using any developed applications that use the MFCOM APIs. All of those previous ways are hold in the presentation server itself, and you need to be logged in locally. Or you can use other ways to access them and manage your Citrix Presentation Server as connecting using limited RDP connection or install ICA client and connect to the presentation server using it.

Now with Extentrrix Web Services 1.0 – Management Edition, you need just an access to the internet and you are willing to control your Presentation Server from anywhere.

This white paper introduces the concept of Web services and identifies the benefits associated with their implementation. Then it details the benefits of using Extentrrix Web Access Management Console and how to integrate and use Extentrrix Web Services 1.0 – Management Edition APIs into your application.

Access to Citrix Presentation Server

One way to connect to Citrix Presentation Server is to connect to a PNAgent site, which in its turn communicates with Citrix XML Services running on IIS server as ISAPI from within the private network which in its turn returns the information about published applications and allows the published applications to be launched.

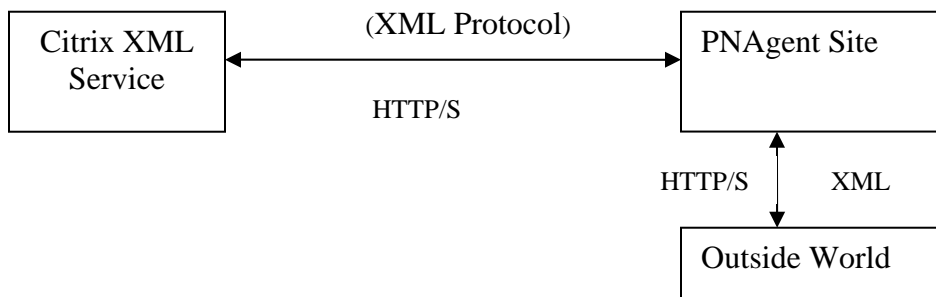


Figure 1

Any information exchanged with the PNAgent site server assumes the form of XML data delivered over an HTTP transport. The Citrix XML Service is nothing more than a simple HTTP server publishing a single URL: /Scripts/wpnbr.dll. Citrix Secure Gateway integration relies on a similar HTTP/XML service provided by the Secure Ticket Authority, which publishes /Scripts/CtxSta.dll from an IIS server. PNAgent acts as a pass through clients.

Barriers faced Accessing Citrix Presentation Server

Clear from the previous description and as shown in Figure1, the only language that can communicate with Citrix Presentation Server is XML through NFuse XML Protocol.

So the key to access Citrix word is to learn its language, NFuse XML Protocol. The problem is that there is no direct documentation about the protocol, how to request for specific information or how to parse the response to get the data. NFuse XML Protocol version can be found by inspecting the NFuse.dtd file, guarantying the results, building a tool to create the XML request string and parse the returned XML document. And if you work in a different platform and a different language then the tool should be repeated to all languages used... how easy is that?!

And developers who would like to allow their applications or portal to access Citrix farms or launch published applications from their Apps are left in the darkness.

What are Web Services

Web services are software components that make themselves available over the internet be accessed by other applications and use open standards-based Web technologies like HTTP, XML, SOAP, WSDL and others for communication.

It has an interface described in a machine-processable format (specifically WSDL). Other systems interact with the Web service in a manner prescribed by its description using SOAP messages, typically conveyed using HTTP with an XML serialization in conjunction with other Web-related standards.

Since they are based on open industry standards, Web services are hardware, programming language, and operating system independent. This means that applications written in different programming languages and running on different platforms can seamlessly exchange data over intranets or the Internet using Web services.

More about these technologies is detailed below:

- **XML (extensible Markup Language)**

Extensible Markup Language (XML) is a simple, very flexible text format. It is classified as an extensible language because it allows its users to define their own tags. Originally designed to meet the challenges of large-scale electronic publishing, it is used to facilitate the sharing of data across different information systems on the Web and elsewhere.

Because XML syntax consists of text-based mark-up that describes the data being tagged, it is both application-independent and human readable. This simplicity and interoperability have helped XML achieve widespread acceptance and adoption as the standard for exchanging information between heterogeneous systems in a wide variety of applications, including Web services.

- **SOAP (Simple Object Access Protocol)**

Simple Object Access Protocol (SOAP) is a lightweight protocol for exchanging XML-based messages over HTTP/HTTPS. It consists of three parts: an envelope that defines a framework for describing what is in a message and how to process it, a set of encoding rules for expressing instances of application-defined data types, and a convention for representing remote procedure calls and responses. Because HTTP is supported by all Web servers and browsers, SOAP messages can be sent between applications regardless of their platform or programming language.

- **WSDL (Web Services Description Language)**

WSDL is an XML format describing how to communicate using web services. The WSDL defines services as collections of network endpoints, or ports operating on messages containing either document-oriented or procedure-oriented information. In this way, the WSDL definition acts as the initial Web service interface, providing clients with all the information they need to interact with the service in a standards-based way. A

client program connecting to a web service can read the WSDL to determine what functions are available on the server. Any special data types used are embedded in the WSDL file in the form of XML Schema.

Benefits of Web Services

There are so many benefits for Web Services. We are going to list some of them:

- **The ease of integration with external data sources.**
No longer does each application need to copy and maintain external data sources. You can request and get information in real time, and transform it to your particular format. This will allow you to deliver individualized software and services, while your maintenance burden is reduced.
- **Reduces complexity**
All components in Web Services are encapsulated as services. The type of behavior a service provides is more important than how it is implemented. A WSDL document is the mechanism to describe the behavior of a service.
- **Interoperable**
Since Web Services are operating on the system boundaries (that is, outside of private company networks), they are achieving a higher level of commonality than has previously been available. For developers, this commonality means that the applications and services they develop will enjoy a long life span, outlasting their proprietary equivalents.
- **Most Programming Languages support Web Services**
Since Web Services are based on open standards, most of famous programming languages like C#, C++ and Java are supporting the use of Web Services.

What is Extentrix Web Access Management Console

Our client program "Web Access Management Console Powered by Extentrix Web Services" is a web based program that simulates Citrix Access Management Console using Extentrix web services.

Extentrix Web Services 1.0 – Management Edition suite comes with a very helpful web based client that utilizes the web services APIs. It has a nice UI with a familiar tree based design which is full of functionalities to perform tasks easily and with a detailed manual that describes and explains how to use it.

Save time in using the ready developed web based client. -- You can build your own application that is customized according to your need.

It supports a lot of functionalities, which mainly the administrator users need during their connection to Citrix Presentation Server. It will help them get information about Presentation Server (such as all information about servers, sessions, applications, Administrators...) for their specific credential, even if they are currently not logging to the system. In addition, it comes with a rich API in control action functionalities (such as delete Admin, enable session, disable application...).

How Does Extentrix Web Access Management Console Access Citrix Presentation Server

It is a simple web based application that supports an easy and flexible way to manage your Citrix Presentation Server. Using this application, you do not need to install Citrix Management console, Citrix Access suite, or any developed applications that use the MFCOM APIs.

Also you do not need to connect with the presentation server using any type of connection, such as RDP connection or ICA client connection.

It is a simple management application that extends your ability to manage your Citrix Presentation Server just through web access. The features are provided by integrating a number of MFCOM APIs that can support many of the administrative features of your Citrix Presentation Server.

This web access management is built based on Extentrix Services 1.0 – Management Edition; you need just a web access to your web service locally, through the internet or you can use a web service proxy instead.

For more information, see the design document of Extentrix Web Access Management Console.

Extentrix Supported Functions

Extentrix Web Access Management Console utilizes number of Extentrix Web Services 1.0 – Management Edition’s APIs. Some of these APIs are:

- **GetApplicationsByServerName**
- **GetFarmProperties**
- **GetAdminsInFarm**
- **GetZonesInFarm**
- **GetFarm**

To read more about the APIs and to have a look at the other APIs, go to Extentrix Web Services 1.0 – Management Edition Developer’s Guide.

Extentrix Web Access Management Console benefits

Utilizes the features of Extentrix Web Services 1.0 - Management Edition

Since this web client is built based on Extentrix management web service APIs, it can utilize all its features and functionalities. It integrates a lot of Extentrix management web service APIs to give the administrative functionalities, which mainly the administrator users need during their connection to Citrix Presentation Server.

Web based application

This is the main idea of this management console application. Using our web access management console, you do not need any type of remote connection to connect with your presentation server, such as RDP connection or ICA client connection.

Now with Extentrix Web Access Management Console, you need just a web access to your web service either locally or through the internet. So our web client can enable the customer managing and accessing their presentation server from any where having an internet access.

Needless to have special software installed

Using this application, you do not need to install Access Management Console or Citrix Access Suite, or any developed applications to get the ability of managing your Citrix Presentation Server. In addition, accessing the access suite is done just from the machine where it is installed on. It is a simple management application that extends your ability to manage your Citrix Presentation Server just through web access. The features are provided by integrating a number of MFCOM APIs that can support many of the administrative features of your Citrix Presentation Server.

Flexible web service reference

Extentrix Web Access Management Console has a flexible web service reference that can be changed according to the user need. It provides the ability to choose the web service that you want to reference to. You can change the web service you are connecting to and choose the required web service to reference, easily and at any time you want. You can reference to a local web service, an online web service or access the web service using a proxy.

Helpful and friendly user interface

It has a robust user interface that utilizes the web services APIs. It simulates Citrix Access Management Console interface that has a familiar tree based design which is full of functionalities to perform tasks easily to feel that you are familiar with it. For each product, you can administer your deployment items using the appropriate product node, which is located in the console tree under the Access Management Console node.

Developer's Support

Extentrix provides developers with a very easy to read manual that describes the APIs, where to use them and how.

Extentrix provides on its web site a [Developers page](http://www.extentrix.com/WAMC/Developers.htm) (<http://www.extentrix.com/WAMC/Developers.htm>) that contains the product with its source code published on. This useful source code written in ASP.NET (C#) language helps developers learning how to integrate their application with Extentrix Web Services 1.0 - Management Edition and choose the required APIs they want.

How to Call Extentrix Web Services 1.0 – Management Edition APIs using ASP.Net:

This code is written using Microsoft Visual Studio 2005, after creating a Web Reference.

1. Add the following Using statements to invoke the web services:

```
Using ourwebservice;  
Ourwebservice : the name of the web reference.
```

2. Create an object from the created web service reference.

```
ourwebservice.ExtentrixManagementWebServices proxy = new  
ourwebservice.ExtentrixManagementWebServices();
```

3. Invoke an API.

For example to call GetServers API:

```
ourwebservice.Server [] servers = proxy.GetServers (ticket);
```

Where:

Server: is a built in structure in the created web service reference that contains the required server attributes.

ticket: is the client ticket number.

For more Information about Extentrix web services APIs, please refer to [Design Document](#).

Related Products

Extentrix Web Services 1.0 – Management Edition

Extentrix Web Services 1.0 – Management Edition suite comes with a very helpful web based client that utilizes the web services APIs. It has a nice UI with a familiar tree based design which is full of functionalities to perform tasks easily and with a detailed manual that describes and explains how to use it.

Save time in using the ready developed web based client. -- You can build your own application that is customized according to your need.

About Extentrix

Founded in 2006, Extentrix Systems is a leading software development company specializing in virtualization and developing custom software solutions for Microsoft and Citrix customers. Established by former software engineers at Citrix, Extentrix have developed access solutions that simplify and speed users' access to Terminal Services and Citrix platforms.

Extentrix Systems is privately held with company headquarters in RAK, UAE. For more information, please visit the company's Web site at www.extentrix.com or call +971-4-211-5490.



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