Infor Public Sector Web Farming

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Introduction

This document will introduce you to the practice of web farming for Infor Public Sector. It will also list the benefits of web farming and help you decide whether a web farm is right for your agency.

Note Infor does not provide network infrastructure support for Infor Public Sector. This document is merely intended to provide general guidelines that clients should consider when planning an Infor Public Sector implementation.

What Is a Web Farm?

In a web farm two or more servers are used to handle user requests for a single website or web application. The group of web servers is called a *cluster*. Each server has an identical version of the site or application, so that it can stand alone as a fully functioning server. This means that no single server is crucial to the cluster. If one server goes down, the others allow users to keep accessing the application.

Although each server in the cluster has its own unique IP address, users access the web application by going to a single *virtual IP address*. Depending on your particular setup, either a hardware or software application routes each user's request to the most appropriate server, a process known as load balancing. Usually requests are routed to the server with the smallest number of current users.

Why Use a Web Farm for Infor Public Sector?

The chief advantage of a web farm is that it enables your agency to serve a large number of users efficiently by spreading the traffic across all the servers in the cluster. For example, Barry logs onto Infor Public Sector using an address such as http://AthensCity/InforPS and creates an asset record. His agency has three servers running the Infor Public Sector application: Moe, Larry, and Curly. Moe is currently serving ten users, Larry is serving seven, and Curly is serving only three. Since Curly is serving the smallest number of users, this is the server to which the load balancer (software or hardware) routes Barry's request.

Should My Agency Use a Web Farm?

To help you decide whether a web farm is right for your agency's implementation of Infor Public Sector, here are some of the most common reasons for setting up a web farm:

- **Your agency has lots of users.** If your agency has more than 150 users, you need to think about using at least two servers, if not more, depending on traffic, hardware,

and other factors. For more help in assessing your agency's needs, talk to your Infor Public Sector project manager or salesperson.

- **Upgrading to a web farm is usually less expensive than upgrading to a more powerful server.** You may be able to handle greater traffic by replacing your current server with a better one. However, it's usually less expensive to buy several mid-priced servers that can work together to achieve the same capability. This solution also gives you more flexibility. If you need to upgrade further, simply add one or two servers to your cluster. If you need to downgrade for any reason, you can remove one or two servers and devote them to some other use in your agency.
- **Redundancy.** If you have only one Infor Public Sector application server and it fails, no one in your agency can use Infor Public Sector until the problem gets fixed. With a web farm, other servers can fill in while one is being repaired.
- **Maintenance shut-downs don't disable Infor Public Sector.** As with server failure, if you have a single server your users won't be able to use Infor Public Sector when you shut it down for maintenance. With multiple servers, you can fix one server at a time, leaving the others up and running.

Recommendations for an Infor Public Sector Web Farm

Managing the Load Balance

Three methods of load balancing have been tested for Infor Public Sector and are currently in use in different clients' Infor Public Sector web farms:

- A **content switch** is a hardware device that is dedicated to balancing the load between multiple servers. Infor's tests have shown this to be a stable and reliable solution. The only drawback is the hardware cost.
- Microsoft's **Network Load Balancing** (NLB) is a software-based solution. NLB is a standard component of Windows Server 2003 and 2008, so there is no additional cost. NLB is a tested solution, and has been successfully implemented by Infor Public Sector clients, but it can be more difficult to set up and maintain than a content switch. Also, some clients have reported issued switching between different subnets with NLB.
- **Round-robin DNS** is a technique in which a DNS server responds to requests for the same host name with multiple IP addresses in a rotating sequence. Round-robin DNS is easy to set up, but it doesn't provide true load balancing since it simply alternates between different IP addresses without checking the load on the servers. Also, since IP addresses are cached, the DNS server will continue to return a server's address even if it fails. In spite of these limitations, this method has been successfully tested with Infor Public Sector for up to 250 users.

Managing and Updating Your Cluster

To update Infor Public Sector in a web farm setup, Infor recommends using a third-party application such as Microsoft Application Center. This tool allows you to make identical changes to all of the servers in your cluster without the tedium of having to manually change each server one by one. You make the change once, as if you were dealing with a single server at the virtual IP address. Then, behind the scenes, Application Center copies your changes to every server in the cluster.

Maintaining Infor Public Sector Configurations and Enhancements

In addition to the standard application files, each instance of Infor Public Sector includes a number of files that are unique to a particular agency, such as configuration files and agency business objects. These files are located in the **Config** and **enhancement** directories within the Infor Public Sector application directory. In a web farm, with identical builds of Infor Public Sector on multiple servers, you will need to make sure the contents of these two directories are in sync across all the servers in the cluster. The recommended method is to make all configurations and enhancements on a single server and then copy the contents of the Config and enhancement directories to the other servers in the farm.

Maintaining Session State

When designing a web farm for an ASP application like Infor Public Sector, a key decision is how to preserve *session state*. When a user opens Infor Public Sector, the application needs a way to keep track of each individual user and a place to temporarily store information that the user sends and receives during a session.

For example, Marcia is creating an asset record for a sewer manhole using the Create Asset tool in Infor Public Sector Asset Management. She enters data on the first page, clicks **Next**, and begins to enter more information on the second page. Until Marcia saves her new record at the end of the process, Infor Public Sector needs a place to store Marcia's user ID along with the information she entered on that first page, which has disappeared from the screen. And, of course, without knowing the identity of the user, Infor Public Sector can't even connect the user to the database.

There are several places where a web application can store session state information, including in your database or in cookies on the client computers. The recommended method is to store all session information on the server on which the session began for the duration of the session.

This is called the *Affinity* method. With this method, if Greg begins a session on a server named Moe, he remains on Moe for the rest of the session. Imagine that, instead, Greg got routed to Larry in the middle of his session. Then Infor Public Sector would no longer have access to his session state information, Greg would lose data, and Infor Public Sector would have no way to identify who was sending the requests and who was accessing the database. When setting up your web farm using Windows NLB software,

consult your Windows documentation and your Project Manager for details on using Affinity to maintain state.