

Oracle9i Application Server Proxy Plug-in: An Overview

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PROBLEM SUMMARY

A lot of sites have standardized on either IIS (Microsoft's Internet Information Server), or on NES (Netscape Enterprise Server) as their corporate standard for web servers.

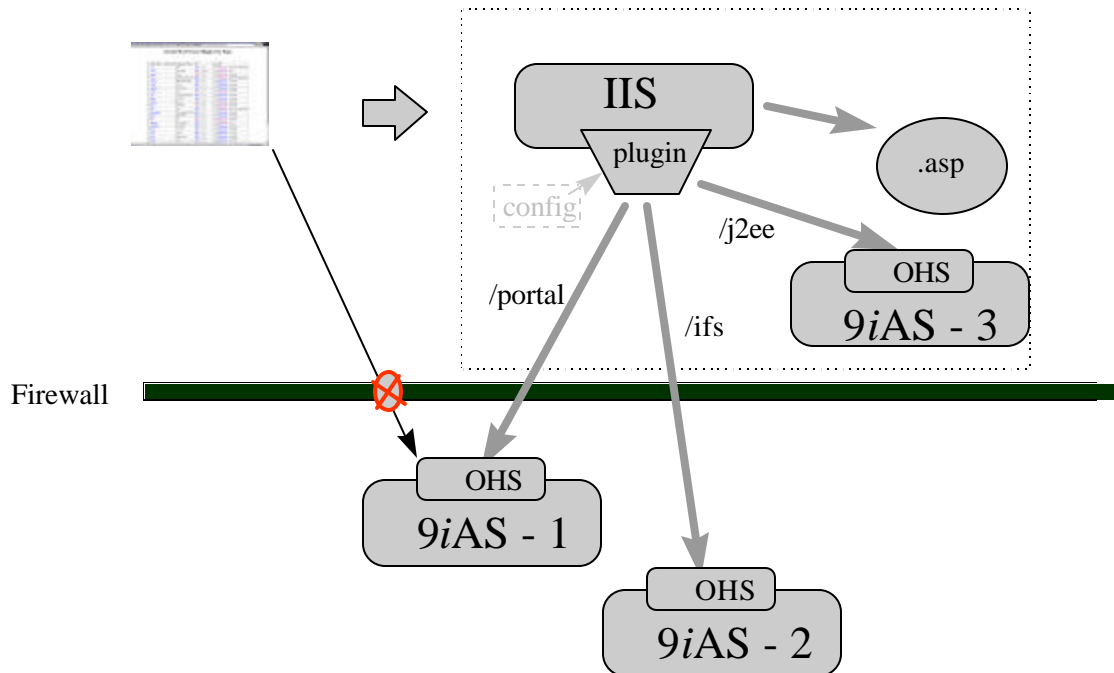
Oracle9iAS uses the Oracle HTTP Server (OHS), which is based on Apache, as its web listener. This is sometimes not acceptable to corporations who have standardized on IIS or NES.

This paper describes Oracle9iAS Proxy Plug-in component that enables sites to adhere to their corporate norms, yet benefit from the significant advantages that Oracle9iAS provides.

INTRODUCTION

Oracle9iAS Proxy plug-in consists of a module that "plugs-in" into the other web servers – Netscape and IIS. This plug-in then enables these web servers to act as reverse proxy servers. The architecture is depicted below:

Oracle 9iAS Proxy Plugin Architecture



Some of the salient features of the proxy plug-in are:

1. All of the *iAS* components work “out-of-the-box” with IIS and NES.
[After the proxy plug-in is installed on the relevant IIS and NES servers].
No configuration is required of each *iAS* servers.
2. The ASP applications (Microsoft technology) and J2EE applications and Oracle PLSQL applications in addition to Oracle Applications Suite can all peacefully coexist and be served from the same IIS or NES server.
3. Results from multiple *iAS* back-ends can be served through a single IIS or NES instance - the URL space can be partitioned to go to different servers – such that */j2ee* applications can be served from one instance of *iAS*, */plsql* from another etc. The native web server (IIS or NES) serves all other applications.

The rest of this paper will walk through some of the individual features and caveats in a little more depth.

FEATURES

URL name space mapping

The proxy plug-in reads in a configuration file (at startup time), which defines:

- The different application server (hostname, port number) that the plug-in will be talking to, and
- The different URLs that need to be forwarded to this application server. (for example: */server-1/*.jsp*, or */server-1/**, or other combinations).

When a request comes in, the proxy plug-in:

- “Filters” i.e. checks to see if the request conforms to a configured expression i.e. does it need to be handled in a special way.
- If so, it forwards it to the configured application server
- If not, it lets the native web server disposition the request – and in doing so, enables the “peaceful coexistence” of native applications with *iAS* applications, including J2EE applications.

In addition, due to the logging capabilities of the plug-in, it is easy to determine which requests are being handled by the plug-in and which are not – thus aiding in debugging.

HTTP v1.1 Reverse Proxy

The proxy plug-in acts as a HTTP v1.1 reverse proxy – i.e. when it gets the request, it uses HTTP v1.1 protocol to talk to the backend application server. It is certified only with the Oracle9iAS HTTP Server (however, should work with most other web servers too).

The proxy plug-in sends the request to the backend application server. It computes the results – as though the proxy plug-in was the client. (See later for an exception on “Client Address”). The proxy plug-in then takes the result and writes it to the browser. Thus, to the browser, the results are actually delivered by IIS (or NES), thus conforming to the corporate requirement.

At the back-end, the J2EE or other 9iAS applications continue to be working with just Oracle HTTP Server – thus obviating any special re-certification with different web servers.

Client Address Forwarding

The client IP address is used in several situations to apply security restrictions on a web server. However, if the client browser is coming through a proxy server (in this case the proxy plug-in), many times the IP address that the backend server sees is the proxy server IP address.

Proxy plug-in ensures the backend application server actually sees the client IP address instead. Thus the IP based security mechanisms continue to work.

Security

- Single Sign On: Oracle supports Single Sign On via its mod_osso module. The proxy plug-in completely supports all iAS applications that use this module. Thus any application that is enabled for single sign on via mod_osso will continue to work via the proxy plugin.
- Basic Authentication: The proxy plug-in fully supports web applications that enable security via Basic Authentication. The end user browser will display the standard login dialog impervious to the fact that it is actually logging in into iAS as opposed to IIS (or NES).
- IP address based security: A separate section addresses this and it is supported.

CAVEATS

Applications with Absolute Paths embedded in pages will not work

If a page returned by the back-end server explicitly includes that server's name and port information, the proxy plug-in cannot do anything to change that. It does not read the returned pages to ensure there are no absolute paths – the

performance to do so will be very bad. Since the proxy plug-in depends on the URL to determine which server to send the request to, any hard-coding of a different URL path makes the proxy plug-in unable to help.

Moreover, since the backend web server may not even be visible outside the firewall, any such hard-coding typically results in a “Page Not Found” error.

All URLs on server-1 will need to start with /server-1

This can be circumvented by adding a “stripcontext=true” flag in the configuration files.

This limitation implies that:

- if you have a URL /index.htm on your backend application server and you configured this server as the url partition /server-1 in IIS (or NES), then in iAS the URL will be /server-1/index.html.
- you will need to define a rewrite rule on your backend application server that maps /server-1/index.htm to /index.htm – or else, all requests to that backend server will fail.

SUPPORTED VERSIONS

The current release of Oracle9iAS Proxy Plug-in supports IIS v4.0, v5.0 and iPlanet v4.1 and v6.0.

The earlier releases of similar capabilities - IIS plugin for mod_plsql or IIS plugin for mod_ose will be de-supported from Oracle9iAS R2. Oracle9iAS proxy plug-in will be the only way to integrate all Oracle9iAS components with the third party web servers.

SUMMARY

This paper gave an overview of Oracle9iAS Proxy Plug-in and how to leverage it to integrate with existing IIS or NES systems. This allows Oracle9iAS to work in corporate environments requiring IIS or NES to be the standard web listener of choice.



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