

## **General Topic: Migrating Applications to NMCI: Web- /Portal-Enablement; New Tools**

### **Title: The “Thinner-Client”: Moving Legacy Applications to a Web-Centric Infrastructure**

#### **Abstract**

The proliferation of desktop personal computers and distributed line-of-business client-server applications has, for many organizations, created an IT infrastructure that is, at best, unwieldy, at worst, virtually unmanageable. The cost to support and maintain the environment continues to rise, without any resultant returns in productivity improvements; organizations are spending more and more simply to maintain the status quo. In this paper, some common challenges facing IT managers and administrators are examined, and alternatives discussed. In particular, the opportunity to migrate complex and resource-intensive applications to a server-centric model based on web standards and technologies will be reviewed. Also discussed will be how an organization, by using the appropriate technology and tools, can achieve substantial cost savings and improved operational efficiency. Using these tools, complex applications can be re-deployed, with the benefits of reduced administration, increased capability and availability.

A server-centric model will generally yield improved manageability over a distributed architecture, and provides for better utilization of existing computer assets. Compared to the average current “fat-client” environment, a move to a more server-centric environment can be achieved without requiring disruptive changes to the existing IT infrastructure. In fact, far from being disruptive, by removing demanding, sensitive, and often unreliable client-server applications from relatively unmanaged and uncontrolled PC's, and placing them on centrally managed, dedicated servers, availability and reliability of the applications will improve almost immediately.

By centralizing management and administrative functions, and reducing the amount of desktop support and administration required, organizations can achieve dramatic and immediate improvements in their IT costs. These cost improvements can be found in both direct costs, such as in labor costs for administration, and indirect costs, such as end-user maintenance and downtime.

Web-based applications provide substantial management and strategic benefits to an organization. They are, by definition, “server-centric”; applications and data are managed and maintained centrally, while client machines need only a web browser to access these applications. With a web browser virtually ubiquitous, and the lowest common denominator in computing devices today, installation and maintenance of the web browser is rarely an issue. Therefore, web applications are far easier to deploy than

traditional “fat-client” client-server applications, as the application need only be installed on large central servers, rather than on hundreds or thousands of deployed PC’s. Since access is via standards-based web browsers, there are no special requirements on client hardware resources, operating system, or client software, providing desktop freedom of choice, and indeed, device and even connectivity freedom of choice.

Most corporate networks are already configured to allow web traffic, (*http / https* protocols), with firewalls, network routing, and proxy servers already enabling web traffic. Most client PC’s already have the pre-requisites to run web-enabled applications, that is, a web browser with a functioning Java Virtual Machine (JVM), and TCP/IP network access. So, deploying applications that can utilize the existing network configuration, without requiring extensive changes, such as changing firewall configurations to open firewall ports, will be simple, virtually effortless.

So, for most organizations, a move to a web-based applications delivery model can deliver greatly improved flexibility, and greatly reduced administration costs by virtue of reduced client management burden. At the same time, by maintaining applications, servers, and perhaps most importantly, data, in centralized, controlled, and protected environments, availability and security is greatly enhanced.

The problem for most organizations is that the vast majority of line-of-business applications are written in languages and toolkits not easily adaptable to web-based delivery. Such applications will typically require very extensive re-working to work in a web environment; very often, requiring a complete rewrite in an entirely different language. So the level of effort required to so convert an application is comparable to the level of effort required to write the original application in the first place. And of course, since it’s, in effect, an entirely new application, a full test program must be undertaken, and implementation, integration, migration, and re-training are all subjects that will be required to be addressed in detail.

By using “no-touch” web-enabling technologies, an organization can almost instantly web-enable their most complex applications, without negatively impacting the existing network infrastructure, without requiring full-scale regression testing, with little or no end-user re-training, because, after all, the *application is unchanged* – only the *manner* in which it’s deployed has changed. In so doing, an organization can reap the benefits of improved service and reduced direct and indirect costs.