

## **ASP Model for ERP Systems**

Since the dawn of the computer age, business managers have sponsored the development of computer tools to aid the running of their businesses. Early systems in the 1960s and 70s were function-oriented applications such as general ledger, finished goods inventory, order entry, payroll and customer billing. These were batch systems that were updated with punch card transactions on a once- or twice-a-day basis.

The next generation of business systems in the 1980s was real time applications that essentially replaced punch cards with cathode-ray tube screens. These systems used database technology and products such as IP Multimedia Subsystem and Virtual Storage Access Method. They were delivered on large computing platforms via local single-use networks.

The introduction and proliferation of the personal computer (PC) in the 1980s and 90s spawned the development of similar applications at a lesser cost along with new innovations such as file transport, graphical user interface displays and local customizations. The development of shrink-wrapped software provided small businesses with tools that were previously only available to large corporations. One could argue that the PC re-invented small business.

The development of protocol standards and subsequent widespread commercial access to the Internet is enabling the development of a new generation of business applications. There are several classes of Internet-based applications. These include:

1. Point-of-sale applications such as airline and event tickets, and catalog sales
2. Auction sites such as eBay and free markets
3. Online accounting for banking and stock trading

Northrop Grumman has developed applications for metal producers, service centers and processors that fit in a new class, and perhaps whole new generation.

Characteristics of these Internet application service provider (ASP) for enterprise resource planning systems include:

- Licensed and operated as a service – Clients are able to purchase an ASP service as subscription, requiring no in house expertise, or major hardware and software investments. Companies hosting an ASP service are investing in the latest technology, maintaining the most robust and secure system infrastructure and employing the highest caliber IT talent to provide clients the best possible service.
- Delivered over the Internet – The web technology is built around the concept of fluid business transactions interchangeable between systems and users. Whether the problem is remote access of an employee dialing into the system from home, or EDI, email or autofax communications between business partners, the web is an ideal medium. Also now very secure with the proper precautions put in place.
- Serves multiple organizations – As interface capabilities become accessible, strategic partnerships may be aligned to provide alternative services in the most cost effective way. For example a Steel Service Center may link to a web based logistics company to automate freight dispatch with freight companies linked to the logistic company's web site. Or link to a customers inventory system to receive a pull signal for just in time delivery of inventory replenishment.
- Interacts with multiple applications – A well designed web based system will easily interface with other systems, either through FTP or API connections allowing the clients to choose best of breed systems to fit application requirements.
- Flexible profile in terms of functionality and user capability – Persona profiling and assignment of rights to users enable flexible but secure means to manage and execute business functions, including users at remote locations.

Northrop Grumman solution, called OpenTrac™, provides integrated functionality from inquiry to invoice for a metals company or division. A brand new metals company could plug into OpenTrac™ and be in business quickly. The metals company needs only standard PC hardware and reliable Internet connectivity to have access to the latest management tools for running a metals processing business.

Web-designed tools maintained by information technology professionals within an ASP model is the best direction for companies that want to provide improved customer service, reduce costs and focus on their core business.