

Technology Infrastructure

Butler Group Subscription Services

Application Development

TECHNOLOGY AUDIT

FastNET ASP

FastNET ASP v2.1

Abstract *FastNET ASP, a trading division within the SoftSols Group, has developed a Rapid Application Development (RAD) framework for producing Web applications on the Microsoft .NET platform, named FastNET ASP V2.1. FastNET ASP V2.1 employs a multi-tier, separation-of-layers architecture, so that presentation is kept independent of the data model. Non-technical business analysts and Power users can build rich Web interface screens using the RAD tool, and developers can program business logic and multiple database access using Visual Studio.NET. A Database Access Layer shields FastNET ASP V2.1 from the SQL variations of individual databases, ensuring easy connectivity to data sources. The rich presentation features require JavaScript enabled client browsers, i.e. supporting Dynamic HTML (DHTML), which is satisfied by the majority of modern browsers. FastNET ASP V2.1 is targeted at the corporate market seeking fast-to-market .NET Web application development, including rejuvenating legacy applications. On-line demos are available at www.fastnetasp.net.*

KEY FINDINGS	
✓ Rich Web-based application development.	i Designed for Microsoft .NET platform.
✓ Non-programming screen forms builder.	i Based on DHTML technology exploiting client JavaScript.
✓ Clear separation of view and data model.	X Limited automated support for Web services.

Key: ✓ Product Strength X Product Weakness i Point of Information

LOOK AHEAD

FastNET ASP V2.1 is being driven based on market demand, with new functionality to be added on a continual basis in point releases. The vendor would typically look to release a major upgrade no more frequently than every six months. FastNET ASP is likely to be spun off as a separate company in the future.

► FUNCTIONALITY

Product Analysis Creating Web-based applications today can make use of the learning curve that developers have undergone over the past few years since the rise of the Internet. Rich Internet Applications (RIA), where client-side processing is involved to exploit resources and build desktop-like Web applications will be the next generation of Web applications, but is currently at a very early adopter stage. Dynamic HTML (DHTML) represents the height of the current generation technology, with, for example, small footprint JavaScripts that are loaded onto the client and which can create RIA-like performance. This is where the dividing line between DHTML/JavaScript and RIA becomes blurred, because JavaScript is a full-featured language that can be used to create advanced interfaces, overcoming limitations of basic HTML.

Another emergence over the years has been the adoption of the Model View Controller (MVC) pattern for building Web sites, where the presentation layer (View) is separate from the database and business logic (Model), with the Controller performing the task of interpreting user interaction and coordinating traffic between the backend and the presentation layer. Whilst Java programmers have enjoyed frameworks like Struts for building MVC Web applications, the Microsoft .NET community has lacked such a framework.

FastNET ASP fills a gap in the developer market by providing a Rapid Application Development (RAD) framework for working with ASP.NET. FastNET ASP V2.1 goes much further than a basic framework by providing a presentation layer build tool on top of the layers designed for high-performance business applications. Thus FastNET ASP offers a graphical user interface (GUI) and Wizards for non-technical users, typically business analysts, to create the user interface. Screen layout, customisation, language translation, menu access, data validation, secure reporting and lookups can be controlled and changed by non-programming staff using FastNET ASP's template-driven environment and without the need for any recompilation.

Developers can then uncover the source code to add business logic, and add database functionality and interaction. A Database Access Layer isolates business logic from the variations of SQL adopted by different databases. Databases currently supported include Microsoft SQL Server, Oracle, and open source MySQL. Other SQL based data sources can be easily added to the framework.

FastNET ASP's owner, SoftSols Group, developed its original products using Progress 4GL before working with .NET, therefore there is strong support for Progress Software's "ProDataSet" technology, which can be accessed via an additional module enabling reuse of existing Progress 4GL legacy code.

Compared with coding an ASP.NET application from scratch with just Visual Studio .NET, FastNET ASP V2.1 can take under a quarter of the time, according to FastNET ASP. The FastNET ASP toolset provides robust Web-browser application default templates, allowing developers to create live applications quickly and with ease in a few steps.

Product Operation The FastNET ASP framework is written in the Microsoft C# programming language and supports business objects written in any .NET supported language. Reporting is provided by either Crystal Reports or Microsoft Reporting Services, both these can access data through the business objects thereby preserving any user defined security.

The user login process results in a customised Web interface rendered to the individual, providing each user with an individual experience of the application. The forms can be designed for any size screen, enabling access by a PDA, for example. Only a small footprint JavaScript is downloaded to the Web browser, giving immediate access to the application from most PCs.

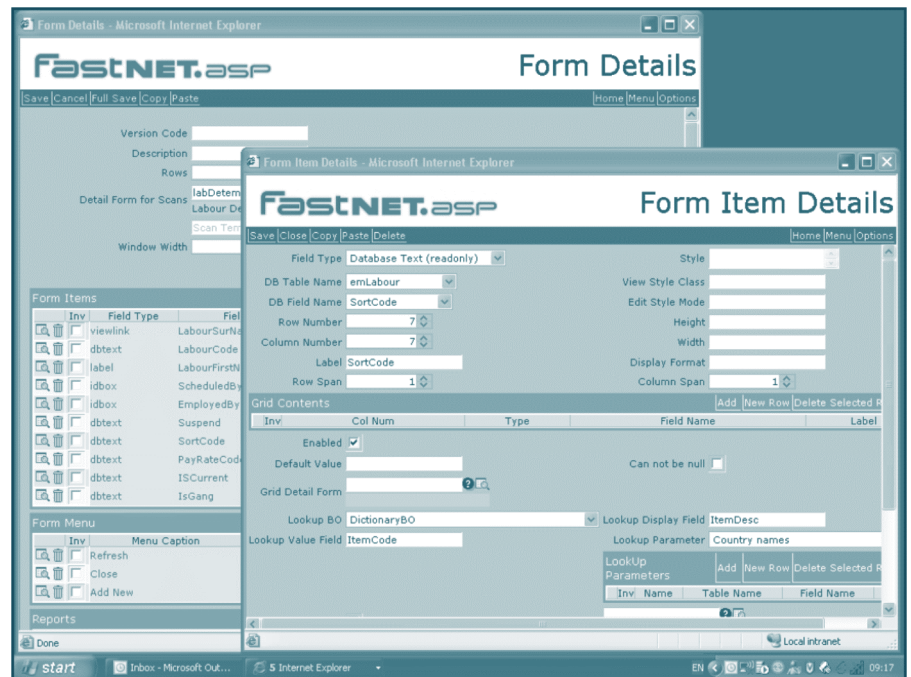


Figure 1: FastNET ASP V2.1 Forms Builder in Action

The rich user interface in a Web browser supports dynamic sorting and column repositioning. Screen layouts, reporting options, and menu definitions are all configured without programming or the need to access source code. FastNET ASP V2.1 will also automatically generate default application screens based on the business objects defining the application logic. Further customisation can be performed on the User Interface design, which is stored in the database, by Power users and developers. Business analysts can also add user-defined fields to the database, and also define custom lookups and validation, all without programming.

Screen layouts throughout the application are data aware, providing alternative layouts based on key data, allowing business process and data entry requirements to reflect user requirements without reprogramming.

Attachments such as documents, images, drawings, and objects can be associated with any record in the system and may optionally be stored securely within the database (using a Binary Large Object data type). However, using links and letting source material reside in its original location(s) is the most efficient option.

Each form has its own menu with form actions, which change the work mode of the form, for example between normal form entry and form editing, or business actions, which cause business actions to be triggered. There are three form types: Scan – for tabular data view and filtering, Detail – detail data view and user input, and Help – tabular data lookup for foreign keys and dictionary-related fields. New fields may be added to the database tables on the fly, and can be immediately used within the framework without writing a single line of code or need for recompilation.

Design of an application with FastNET ASP V2.1 can be divided into the traditional roles found in Web site development teams: business analysts/users for defining and building the user interface, graphical Web designers for creating the look and feel, and developers for writing the business logic and database. Separation of activity means that the user interface is detached from the business logic. The information needed to render the screen is held in a repository within the system and may be changed at any time by non-development staff, without the need to recompile or even log out of the system.

Business Logic can be provided in any language that is supported by the .NET framework (C#, VB.NET, etc), or via managed or unmanaged dynamic link libraries provided by other development software suppliers. The separate data access layer provides a means of isolating the business logic from the physical layout and attributes of the database. Data is passed between the various layers using DataSets, which can be provided by the data access layer or from any other Microsoft DataSet compatible sources. The FastNET ASP framework has been designed with several logical layers, following MVC principles discussed above, to extend flexibility and to focus on particular functions performed by each layer. The framework's multi-tier technology allows the use of multiple processors and clustered server operation.

Product Emphasis

One of the important areas where FastNET ASP V2.1 can be exploited is in Web-enabling existing business logic from legacy applications, without the need for expensive and error prone rewrites. FastNET ASP V2.1 can also be used with Web services, so for example on receiving an order by a Web service, FastNET ASP V2.1 can send a message to the appropriate user to respond. However, the product does not provide automated Web service creation, this would need to be built by the developers within Visual Studio.NET. The key emphasis of FastNET ASP V2.1 is on rapid presentation layer creation, suitable for use by non-programmers.

DEPLOYMENT

Working with the FastNET ASP development system requires familiarity with Visual Studio.NET, ASP.NET, Microsoft SQL Server, and Microsoft Internet Information Server. Developers producing the business objects will need familiarity with the .NET Framework to develop applications in a supported .NET language. Knowledge of the FastNET ASP Framework architecture will be necessary for creating new business objects. If the FastNET ASP Framework is licensed then knowledge of C# is recommended.

To create and design application user interface screens the necessary skill is basic computer literacy, but no specific programming knowledge is required. However, creating application interfaces requires some understanding of human-computer interfacing, so analysts with some experience in this role are recommended.

Using the default development templates useful applications can be produced and deployed within weeks. According to FastNET ASP, once expertise levels are built up development of simple applications can be measured in days.

The Web-application team will need an interface designer, a graphical look and feel designer, a business logic and database developer, and a systems administrator responsible for managing the Microsoft IIS Server and databases; these roles can be variously subsumed by one or more people.

FastNET ASP can provide classroom and Web-based training for developers detailing the structure of the framework and the necessary development methodology, and for Power users to change screen layouts, design new forms, and so forth.

Technical support is provided on a per-incident basis. Depending upon the customers' requirements support will initially be via phone, fax, or e-mail. However all calls must be backed up via an e-mail confirmation.

Platform requirements include installation of the Microsoft IIS 5 or greater Web server, and the repository database must be Microsoft SQL Server 2000 or later. The main user database(s) may be any SQL database. Special functionality has been incorporated to support the Progress Software Corporations database and 4GL business logic using their proprietary "ProDataSet" technology, available as an optional add-on module.

FastNET ASP V2.1 is an ideal tool for providing new Web functionality for legacy applications and integrating several legacy databases into a new fresh Microsoft platform application. Legacy integration capability is built into the framework by optionally having separate databases for the framework and the application business data.

► PRODUCT STRATEGY

FastNET ASP is the result of the SoftSols Group's own need to modernise its software products, previously built with Progress 4GL, and bring them in line with the growing demand for Microsoft .NET applications. SoftSols Group has been able to draw on 21 years of experience as an independent software house specialising in the asset management business sector, gaining expertise and insight into the complex rules needed to develop flexible, internationally deployable Web-based applications.

FastNET ASP's unique selling point is the way it addresses the development of Web-based applications in Microsoft .NET technology, as up to now this been a highly code-intensive and programmer-centric activity. FastNET ASP now opens up Web-based application presentation development to non-programmers, significantly improving time-to-market for new product development.

One of the strengths of FastNET ASP V2.1 is that it has been proven within SoftSols Group in its modernisation effort. The SoftSols Group has developed a number of software modules using FastNET ASP, with deployments being scheduled for a number of its existing corporate customers. There are also pilot projects with new ISV's and corporate customers being implemented.

The target market for FastNET ASP V2.1 includes: large corporate in-house IT departments in financial and professional services, migrating from legacy systems to .NET; ISVs, Consultants, Systems Integrators; top tier Microsoft resellers and Value Added Resellers; and the independent developer community. In terms of target market size, FastNET ASP V2.1 will be attractive to both small development teams to large corporate developers.

According to FastNET ASP, the product can provide a Return On Investment (ROI) within three months for a small team of four developers by transforming the 80/20 rule (see below), from being presentation led to content-driven. Even small, one person, projects can experience a 260% ROI in the first year.

Traditional development methods can mean between 50 to 80% of a developers' time is spent configuring the presentation layer, whilst only 20% is spent defining business logic. FastNET ASP V2.1 provides the user interface and application framework automatically, allowing developers to spend time purely developing business logic.

Whilst there is considerable competition in Web application development in general, there is a lack of frameworks for building ASP.NET applications. FastNET ASP V2.1 is positioned favourably as a pure .NET Web application framework with a repository-driven user interface rendering.

FastNET ASP is actively seeking IT resellers and integrators to promote the product into the corporate market place, and is also actively recruiting ISV's directly with a licensing scheme where they only pay for FastNET ASP licenses on deployment of their fully developed end user application.

Key business partnerships that support the product include the SoftSols Group operating companies in Europe and Asia. Strategic business partnerships are being formed in the Microsoft and Progress Reseller community. Key technology partnerships are currently being sought in Microsoft Certified Partner Status, and Progress Preferred Business Partner.

The licensing details are as follows:

- **ISV Market:** Option for technology to be made available free-of-charge, subject to training with perpetual runtime deployment licenses charged when end user application is shipped. Runtime licenses negotiated on a per installed server basis from UK£60 to UK£5,000 depending on functionality. Alternatively annual development licenses are available with unlimited end user deployment licenses.
- **Corporate and Reseller Market:** Perpetual licenses charged for use of technology based on installation of FastNET ASP V2.1 framework. There is no runtime licence component. Project costs from UK£5,000 to UK£50,000 depending on level of functionality and training. Service represents 20% of the costs.

Annual maintenance and support is provided at a charge per incident with incident pack prices starting at UK£995. Contact the vendor for details of upgrades to FastNET ASP V2.1.

FastNET ASP offers a new approach in the market today, but a potential threat to its solution is new functionality in the .NET framework itself, as the use of the technology becomes easier. However, creating development applications for non-technical users is not an avenue that Microsoft has taken in the past. Rather it has nurtured an ecosystem of partners to provide high-end easy-to-use functionality. New Smart Client technology in the pipeline from Microsoft, such as the Avalon project, will provide an opportunity for FastNET ASP to embrace these changes and add them to its own solution, thereby keeping abreast of technological developments within .NET. In Butler Group's opinion customers of FastNET ASP will not find themselves locked out of future developments in .NET. Quite the opposite, FastNET ASP has been designed as the tool for working with .NET.

► COMPANY PROFILE

FastNET ASP is a trading division of the SoftSols Group of companies, which is a privately owned independent software house, registered in the UK. The headquarters is based in Wakefield, West Yorkshire, UK. There is an additional sales and support operation available in Australia from a wholly owned subsidiary. Research and development is based in the UK and there is a branch office in Poland. SoftSols Group supplies computerised maintenance and facilities management systems with a track record for over 21 years.

FastNET ASP V2.1 initially started as an internal project to re-engineer the company's 4GL based products into Microsoft ASP.NET based solutions. From this emerged the product for creating general-purpose Web-based applications.

The company has 15 employees in the UK, seven in Poland, and one in Australia. The split in roles is as follows: Sales four, R&D ten, Admin two, Support and Services six. The company expects employee growth in the next 12 months to be 20%.

SoftSols Group revenues have been in the region of UK£2 – 3 million for the last three years, and the group is expecting significant growth in the new FastNET ASP trading division. The main revenue, 80%, is earned in the UK.

Clients for FastNET ASP include South Staffordshire Water plc for use with its Works and Asset Management systems. The size of the company's total customer base is approximately 280 customers.

► SUMMARY

FastNET ASP plugs a gap in the market for developers working with Microsoft .NET, requiring a fast-to-market development environment for producing Web-based applications. The possible roles for the framework are numerous: rejuvenating legacy applications, creating rich Web-based applications, providing a common Web interface to multiple back-end business processes, and so forth. A key attribute of the tool is that non-technical business analysts can define and create the user interface using the FastNET ASP framework – itself built using the tool – while developers can concentrate on the back-end business logic and database interfacing.

The framework's use of DHTML means that the majority of Web browsers today can exploit the features provided, which are functionally rich and cross the boundary into next-generation Rich Internet Applications. As Microsoft ventures forward into Smart Clients, FastNET ASP will also be able to exploit the latest .NET features, so there is a long-term viability in creating applications with the product. In Butler Group's opinion FastNET ASP is an advanced framework for developing Microsoft .NET Web applications and should be considered by corporate IT departments.

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