

# Addressing the Need for Faster Time to Market

## Hanu Software Solutions Faster .NET

A .NET Development Framework

for

Delivering Quality .NET Solutions *Quickly*

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# Faster.NET: A .NET Development Framework

## Company Profile

Hanu Software Solutions Inc. (HSS) is a global consulting and IT services company that provides end-to-end software solutions for various industries including publishing, finance, insurance, and retail. Headquartered in Monmouth Junction, NJ, and with an offshore development center in Gurgaon (New Delhi), India, HSS offers a unique value proposition to our customers. The company believes in providing the highest quality software solutions at a very cost-effective rate.

HSS offers a wide range of services including business process outsourcing, onsite technical consulting, offshore software development, and product lifecycle management. By combining domain expertise with low cost offshore development, the HSS Offshore Delivery Model delivers customer solutions at a cost savings of up to 45%, with enhanced productivity and faster time to market.

## Background

HSS's technology-centric solutions center delivers exceptional customer value by using innovative and specialized tools and processes that are unique in nature. This paper illustrates how Faster.NET, a development framework developed by the HSS .NET Center of Excellence (COE), enables the company's technology-aligned service organization to deliver exceptional value to its business and technology customers, strengthening their competitive advantage.

## The .NET COE: Delivering Agile Solutions on a Microsoft Platform

The HSS COE for .NET is aligned along the Microsoft platform and tool sets and provides business-critical solutions to a variety of technology and business domains. This COE has collective IT experience of 200 person-years and .NET experience of more than 75 person-years. Other key facts are:

Staff	45
Started	2002
Number of executed projects	30
Location	Gurgaon, India

## **Faster.NET – The HSS Development Framework for .NET Solutions**

The continuing improvement work that HSS has done with the .NET COE has led the company to create a framework for offering scalable, on-demand .NET solutions to customers in a variety of industries. HSS calls this Faster.NET. Its key elements are:

### ***Pre-assembled, reusable software components***

HSS has developed a library of more than 100 software components that are used frequently in .NET applications. These components are tried-and-tested with proven designs, and free of critical bugs. The components can be re-used either as-is or with modifications. Reusable components include data layers written in all of the .NET-based languages, a variety of GUI controls, and security model objects.

At the design phase of a new project, HSS engineers determine which components are suitable for the project. Only code unique to the application is designed and written from scratch. Building existing, high-quality software in this way into a new application saves the customer time and expense, and helps ensure quality in the deployed application. HSS does not believe in developing a new solution from scratch for each new project.

### ***A reusable engineering tool set for faster speed***

The HSS development tool set is an important element of the company's ability to deliver solutions for many different life cycles, budgets, and timelines. The HSS tool set includes:

- Migration tools like VB to VB.NET, C# to VB.NET, PHP to C#. NET, SQL to Oracle tools, and others.
- Database tools like SQL compare and data scriptors.
- Design tools, reverse engineering tools, data migration tools, and many others.

The unique, reusable tool set enables HSS engineers to complete projects quickly and with good quality.

### ***Solution Blue Prints (SBP)–A reusable set of architectures***

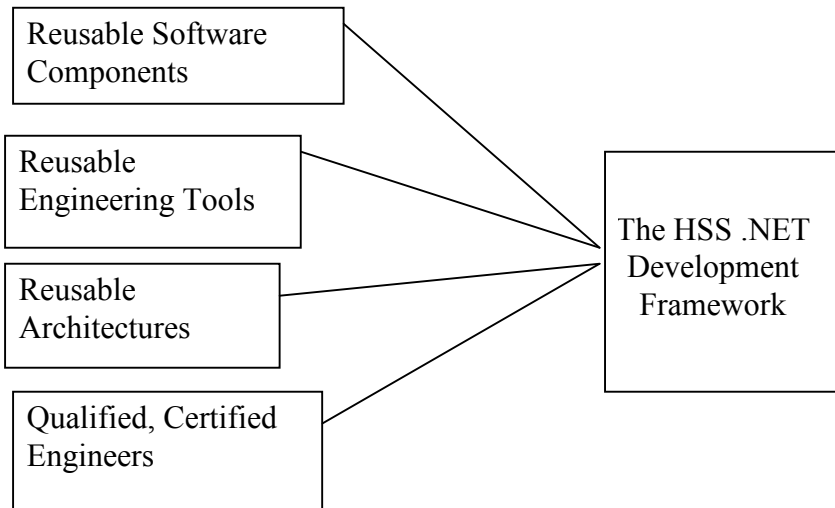
HSS has a reusable set of architectures called Solution Blue Prints (SBPs), ready for common business domain, technology domain, and service domain problems. Like HSS software components, these architectures have been tested and proven in the company's projects. The architectures include associated prototypes. Using SBPs saves considerable effort in developing, prototyping, and testing software solutions. For example, one SBP was used to design a property management system that the customer has been using successfully for more than a year.

### ***Qualified and certified engineers***

Approximately 60% of HSS programmers have earned internationally recognized certifications including MCP, MCSD, and JSCP. This percentage is continually growing, a direct reflection of the company's commitment to employing the most skilled, qualified, and certified engineers. What this means to the customer is superior quality scalable solutions, delivered quickly.

*HSS recruits the finest engineering talent from the best universities and puts them through six weeks of rigorous classroom and on-the-job training. HSS also provides ongoing advanced programmer training for all staff.*

**With these elements, the HSS Faster.NET framework reduces typical application development time by approximately 20% to 40%. The time saved depends on the project, where it is in its life cycle, and how extensively the customer wants us to apply the Faster.NET development methodology.**





# The Faster.NET Framework in Action: A Case Study

For a project for which time to market is a critical objective for the customer, HSS evaluates the project against its Faster.NET tool set to determine which tools will be most effective. HSS has measurements for the effectiveness and impact of the tools. These measurements enable HSS engineers to determine the most effective tools to use for a given project.

As an example, one migration tool enables the company to migrate an existing VB/ASP application to .NET with a productivity of 900 to 1,000 lines of code per programmer per day. With this measurement, HSS can estimate the length of time needed to migrate the application.

Leveraging its tool sets enables HSS to achieve development savings at every phase and for every task of a project. The following case study illustrates this.

## ***Project Needs***

A company approached HSS because its web application, written in ASP, was not sufficiently stable. The ASP code needed to be migrated to .NET, which required re-architecting the application to .NET standards.

## ***Using Faster.NET Tools***

The HSS development team increased time to market for this project by applying Faster.NET tools as follows:

**Step 1:** HSS engineers used the migration tool to migrate the software to .NET, before changing the architecture. The estimators determined that migration would take approximately 200 person days, which means that a four-person team could complete the migration in just two months or, if needed, an eight-person team could complete the effort in one month.

**Step 2:** To maximize the efficiency of the re-architecting phase of the project, HSS chose a related, existing architecture from its Solution Blue Print (SBP) library. In this case the target architecture was layered with support for a dual presentation layer (WAP as well as HTML). The lowest level of this architecture was the database interaction layer.

Because the SBPs are already tested and proven, using this SBP rather than developing a new architecture from scratch saved time in prototyping and testing, reducing development time from the almost 150 person days a re-architecting effort typically takes in the industry.

**Step 3:** Next, HSS engineers reviewed their library of pre-assembled components for components suitable for re-use in this application. They chose a data access layer written using VB.NET and C#.NET. This particular component handles transaction support, execution of stored procedures as well as embedded queries, and data reader as well as data adaptor-based interactions. Moreover, it has robust exception handling. This component consists of approximately 5,000 lines of code.

Re-using it reduced the development effort by 100 person days, assuming an average of 50 lines of code per person day of typical coding productivity.

**Step 4:** Simultaneous with the software development effort, HSS QA engineers determined that using the NAnt scripting-based auto build setup could save considerable compilation and build issues. Accordingly, the Visual Studio Build engineer created an automated build setup using the scripts. Scheduled to run automatically, this automated process proactively provided information about any wrong checkins, build issues, and integration issues.

**Step 5:** The HSS development process includes thoroughly documenting the lower-level design (LLD). HSS saves a considerable amount of time in its documentation efforts by using a documentation tool called Ndoc which creates CHM- or MSDN-style code comments automatically. This tool saved as much as 50 person-days that would otherwise have been needed to create a 200 to 300 page document.

**Step 6:** The HSS QA group took the existing test scripts and modified them for the features and functions of this application. The QA test group also created an automated test bed using the Mercury and Nunit tool sets. HSS was able to run the test cases numerous times without significant additional person-days, ensuring the quality and reliability of the software when it was released from QA to the customer.

**Completion:** The end result was that HSS successfully migrated and re-architected the system with an effort of just 12 person-months. The company deployed the software at the customer site within 3 months.

### ***Exceptional Added Value***

Just as important as the savings in development time described in the case study is the exceptional added value HSS provided to this customer:

1. This customer was facing tremendous pressure from the users to do something about the unstable application. The customer's data center provider was also pressuring the company to update the application to .NET. HSS immediately helped the customer manage this situation and came up with a competitive product and services that met the requests of their customers.
2. The quality and stability of the enhancements were tremendous – thanks to the inherent increased stability of .NET architectures, as well as to the proven, tested components and architecture that HSS used for this project.
3. During the course of this project HSS was able to educate the customer about the software development life-cycle and development processes, an education that is a permanent benefit to him.
4. The user interface (UI) developed by HSS was very popular with the customer's end users, attracting many new customers.
5. HSS provided these services at a highly cost-effective rate. Its .NET COE operates from India and engineering costs are quite economical. The savings on development costs were close to 70%. These savings were used to enhance the application with new features, providing the customer with significant advantages over the competition.

## Conclusion

HSS is committed to conceiving, developing, and implementing internal processes and systems that deliver exceptional customer value. The Faster.NET framework is one example of the HSS ongoing journey in implementing this commitment. The company's technology-aligned COEs—using internationally-recognized software development processes—are capable of delivering significant competitive advantages.

*“I have been working with Hanu for about a year and in my experience they have proven to be invaluable engineers. They are both courteous and thoughtful designers. It is refreshing to have development partners who simply get the job done. The way they communicate throughout the process creates a level of comfort as though they are down the hall working in your outer office. I don't think you can get better than that. Hanu is a rare breed in the environment, they keep their word and deliver on time and more often than not, the product is better than anticipated. They are problem solvers. I highly recommend them. The cost savings will speak for itself.”*

**Brice Carrington**  
CEO  
[Ultimate FX](#)

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