Symphony Services helped a renowned US-based Healthcare Clinic to design and build a HIPAA compliant state-of-the-art Healthcare Office Management System that is highly scalable and optimized for performance over Windows desktops, Web and Mobile devices.

The Client

The client is a renowned healthcare clinic offering the most comprehensive Ear, Nose, Throat, Allergy and audio-logical services in the Arkansas, US. They provide state-of-the-art healthcare services that are responsive to the individual needs of each patient.

The Challenges

Considering the business growth and specialization of their services, the client sought to leverage IT to improve physicians' office management. Their product vision was to automate scheduling (capture of patient visit information in a simple way) and speed payment-processing cycle for distributed health offices (clinics) in the US.

The Solution

Symphony set up a Global Operations Centre (GOC) with a 12-member experienced team. A steering committee comprising of Client Product Manager, Project Manager (Symphony) provided management oversight, reviews, control and guidance.

The solution to the client included designing and developing a robust 3-tier service-oriented Healthcare Office Manager (HOM) application using .NET and MS SQL Server with multiple deployment capability - as standalone, enterprise or hosted model. A series of Web services helped interface between the HOM client and server. The application supported multiple clients and had multiple integration touch points in server and client sides.

The application supported a Smart Client – a self-updating Client and Server. A Web client simplified

Product Development
Re-engineering/Modernization

Platform
.NET

Industry / Domain
Healthcare

Engagement Key Points
- Project duration – 24 months
- Ramp Up Time from SOW sign off – 8 weeks
- Peak team size - 12
- Team composition: Project Manager, Business Analyst, Technical Leads, Software Developers, QA Leads and QA Engineer
- SDLC: Agile
- Release Cycle – iterative, with sprint release every month and continuous integration with daily builds

Technology and Tools Used
- .NET 1.1, ASP.NET, C#
- Compact Framework 1.0
- SQL Server 2000/2005 and SQL Server CE
- Win Forms, Web Services
- MS Enterprise Library - Data Access Block, Updater Block, Exception management application Block
- Infragistics UI library
- Data Dynamics Active Reports
- Nunit, Xheo Licensing
- Component Source – Transport component for dialup connections

Major Product Features
- Front Office Administration
- Patient Lifecycle Management
- Outlook style Appointment Scheduling (Daily, Weekly, Monthly, Work-week etc)
- Patient Check-in /Checkout
- Back Office Administration
- Patient Insurance Capture
- Visit & Charge Capture
- Claim eligibility and authorization check
- Patient background check
- Claim generation (paper and electronic)
- Electronic Claim Submission (integration with clearing houses)
- Payment Processing (From customer and insurance company)

patient registration and appointment request. A Windows Mobile based client enabled quick registration, scaled-down scheduling and charge entry.

The application had several integration points to viz., QuickBooks, Payment Processing Gateways, Scanning/Imaging systems and third party

Web services like MS MapPoint, defect reporting, address verification and background check etc. In addition, there was messaging for intra-office communication, embedded workflow engine and extensive reporting options.

The application also had extensive EDI implementations for:

- Outbound Transactions
  - Healthcare Claim: Professional (837)
  - Eligibility, Coverage or Benefit Inquiry (270)
  - Healthcare Services Review – Request for Review (278)
  - Functional Acknowledgement (997)
- Inbound Transactions
  - Healthcare Claim Payment/Advice (835)
  - Eligibility, Coverage or Benefit Information (271)
  - Healthcare Services Review – Response to Request for Review (278)
  - Functional Acknowledgement (997)

Symphony's smart test strategy helped improve test coverage and uncover many hidden defects while result-oriented test automation cut down testing time appreciably. Reporting options included extensive Test execution report generation for in-depth analysis. Symphony's testing team also performed elaborate regression testing for the Web and Windows client applications across multiple deployment environments before formal release of the software to market.

The Benefits

Symphony's technical leadership driven product development achieved the following benefits to the client:

- Account Receivables and Collection management
- Customizable workflow engine
- Customizable Reports
- HIPAA Compliant

- Scalable architecture for optimized performance over Windows desktops, Web and Mobile devices
- Effortlessly captures patient and visit information and simplifies claim lifecycle for physicians' office resulting in streamlined business operation