Imagine Your Applications Performing Together

Performing Together As One

For decades, organizations have been building “islands of automation” to serve the different departments within the enterprise. Although these departmental systems have served the organization well, enterprises have not had the ability to take a global view of the data and functionality contained within these disparate operational systems.

Executives today have a vision – their applications performing together as one. They want to increase efficiency by providing access to vital information across the entire enterprise, and even extending that access to customers and suppliers. They want to realize significant cost savings by leveraging investments in current applications. They want the ability to react quickly to changing business requirements and compete more effectively. And they want – the need – to make their vision a reality quickly. Is it any wonder that many enterprises consider application integration to be one of their highest priorities?

Caught between coping with complexity and living with limitations, CIOs and System Integrators have come to realize that existing solutions are not sufficient to achieve this vision. The answer to this trend has been the ever-growing assemblies of formerly independent technologies. These ‘technology assemblies’ have introduced excessive complexity and redundancy, resulting in the huge service fees associated with integration projects, and they have left a legacy of failed projects in their wake.

Finally, with the advent of mainstream service-oriented architectures and the proliferation of web services, many integration and development projects have converged. Existing products and technologies have proven unsuitable for delivering the new breed of solution resulting from this convergence. CIOs and System Integrators are now demanding a comprehensive platform that has the power to handle the full range of integration and composite application development projects essential for the real-time Enterprise.

Enterprises need Ensemble.

The Integration of Power and Ease

Ensemble is an application integration platform that enables exceptionally fast integration as well as extremely rapid composite application development. Designed with today's Web and service-oriented architectures in mind, Ensemble excels at quickly building and deploying new business solutions that leverage the functionality of existing applications, orchestrate new business processes, and integrate data from across the enterprise.

Ensemble is the only application integration platform to incorporate the functionality of an integration server, application server, high performance object database and a tightly integrated development and management environment in a single, architecturally consistent product. This unique fusion of technologies delivers an application integration platform that provides the power required to integrate the most complex systems with ease and efficiency.

Power – the power to handle any scope of integration project – comes from Ensemble's Universal Service Architecture and Persistent Object Engine.

Universal Service Architecture – A consistent, efficient object representation of disparate programming models and data formats enables use of the latest, most powerful development tools an technologies. Legacy data and functionality can be accessed as reusable .NET or J2EE components, Web Services or XML. The risk of being locked into J2EE- or .NET-specific products is eliminated, and flexibility is maximized.

Persistent Object Engine – Ensemble's high-performance, distributed, ultra-scalable, SQL-compliant object database, manages and stores all metadata, messages and process state information, without the cots and overhead typical of relational databases. The Persistent Object Engine enables real-time access to both live and previously processed messages for auditing and business activity monitoring (BAM), and high reliability and recoverability for long-running business processes.

Ease – the ease to quickly integrate and rapidly develop – comes from Ensemble's full-spectrum integration capabilities tightly coupled with its customizable management and monitoring facilities.

Full-Spectrum Integration – Ensemble's unified graphical-, XML-, and code-based development environment greatly simplifies and accelerates modeling and automating of business processes. It enables extremely rapid service-oriented development of composite applications.

Customizable Management – Ensemble's highly customizable and extensible end-to-end management and monitoring tools provide rapid diagnostics and debugging information during both development and live operations.

What Ensemble Does

Ensemble delivers a powerful set of software services for all aspects of application integration.

Connection

Ensemble uses pre-built adapters to communicate natively with a wide variety of applications, databases, and technologies. While each adapter has unique attributes – determined by the application, data source or technology to which it connects – all adapters share a common set of capabilities that ensure a simple, consistent integration model and provide reliable and manageable operations.

Ensemble's six adapter classes ensure the widest range of connectivity. **Data Adapters** link to legacy pre-relational and relational databases as well as object databases such as Caché. **Application Adapters** link to popular enterprise applications from vendors such as SAP, I2, and others. **Transactional System Adapters**, for systems such as Tuxedo and CICS, allow new applications to interact with legacy systems while maintaining the transactional integrity. **Emulation Adapters** link to applications running on host computers, such as IBM 3270 systems, by simulating a series of keystrokes. **Protocol Adapters** link to specialized (often industry-specific) protocols, such as HL7 for healthcare and SWIFT for banking. **Technology Adapters** link to everything from low level communications protocols to email systems.

While pre-built adapters can accelerate integration efforts, most projects also involve connections to unique applications for which custom adapters must be created. Ensemble delivers the fastest adapter development in the industry by using object inheritance and SOAP services to minimize the development effort required.

Abstraction

Ensemble's abstraction services provide unified access to the wide variety of resources connected via adapters. All of these disparate resources are made available as a consistent set of object classes and relational tables, despite their differences in development technologies and internal architectures.

For instance, consider an integration project that connects an SAP application suite, a legacy mainframe application with an IMS database, a new Windows application that exposes Web Services, a Java application built using J2EE technologies, and a relational application with extensive stored procedures. Within Ensemble, the functionality and data in these applications are "seen" as a set of object classes with properties and methods. The integrator/developer is completely shielded from the complexity of the multiple languages, object models, databases, platforms, and other technologies used to build and deploy the original applications.

In addition, once resources are available as Ensemble classes, they can be presented to the rest of the world in a wide variety of forms including COM, .NET, ODBC, Java, JDBC, EJB, XML and Web Services.

Ensemble also supports data abstraction, enabling multiple physical databases using different database management systems to be accessed as a single "federated database".

Coordination

Ensemble supports both synchronous and asynchronous application integration. For asynchronous and event-driven integration, Ensemble's powerful messaging system routes messages to specific business processes by message type and content. It includes queue management, guaranteed message delivery, and assured transactional integrity.

Ensemble also includes powerful data transformation capabilities, to bridge differences in application semantics and data schemas. Transformations can use simple formulas or lookups in data tables (internal or external), and can be extended to any degree of complexity by adding customized functions.

Orchestration

Ensemble provides full-spectrum orchestration services to define integration logic via graphical diagrams, XML documents, and code. The ability to "mix and match" these three synchronized integration approaches enables Ensemble to efficiently address the widest range of integration projects.

With Ensemble graphical business process modeling, users can specify workflows and information flows with a focus on the logical interactions between source and target systems, freed of lower-level concerns about application interfaces, adapters, or middleware mechanisms. Ensemble's XML orchestration handles more complex scenarios and also enables Ensemble to work with third-party business process management tools. Finally, Ensemble's code-based orchestration meets the demands of the most complex business processes and integration logic with a highly productive programming model.

Storage

Unlike other integration products, Ensemble has a fast, scalable, object database embedded at its core. The Ensemble database supports tens of thousands of concurrent users and terabytes of data, with the scalability and reliability demanded of an enterprise system. It is the foundation for Ensemble's shared metadata repository, high performance message warehouse, and reliable state persistence for long running business processes.

All integration components are stored in the Ensemble shared metadata repository, enabling faster integration, rapid development, easier management, and greater extensibility. Through unique transactional bit-map index technology, Ensemble's message warehouse enables real time access to both live and previously processed messages for business activity monitoring (BAM), auditing, and management. And, because the database is fully SQL enabled, your choice of off-the-shelf query and reporting tools provide power auditing, investigative and analytical capabilities.

Integrated applications often have their own data storage requirements, ranging from cross-application indices that enable multiple applications to work together, to high-demand information for which legacy applications cannot provide adequate performance. The Ensemble database meets this need with built-in storage capabilities, eliminating the cost and overhead of using a traditional database.

Development

Ensemble contains a full-fledged development environment for creating adapters, defining integration logic, developing composite applications and building portals. Older EAI products that employ a purely "tools-based" approach may break down when faced with a particularly complex integration scenario. But Ensemble's rapid object development environment provides all the power necessary to complete any integration project.

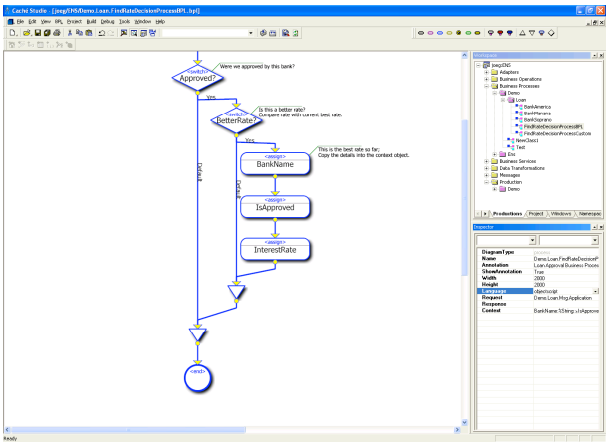
While Ensemble works with components written in many programming languages, from Java to C#, it also contains a powerful built-in scripting language, based on Microsoft's Visual Basic. As a result, any developer that knows VB – the world's most popular programming environment – is instantly ready to develop with Ensemble.

Management

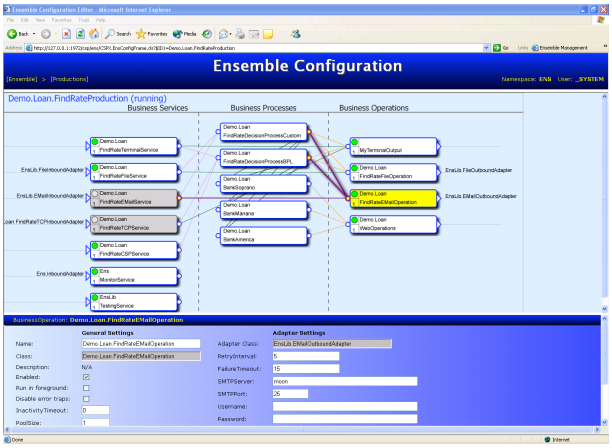
Integrated applications can be among the most difficult to manage, because they typically link disparate application components that were not designed to work together, often spanning multiple hardware platforms, operating systems, and technology frameworks. To address this challenge, Ensemble incorporates built-in, end-to-end, instrumentation systems (including VisualTrace) that provide real-time status information and alerts via custom management consoles.

Ensemble's management and monitoring is entirely browser-based and can therefore be fully accessed both locally and remotely. Capabilities are highly customizable, enabling operations staff to "zero in" on critical resources and rapidly resolve any problems. In addition, Ensemble supports popular third-party systems management products, as well as standard management API's such as SNMP.

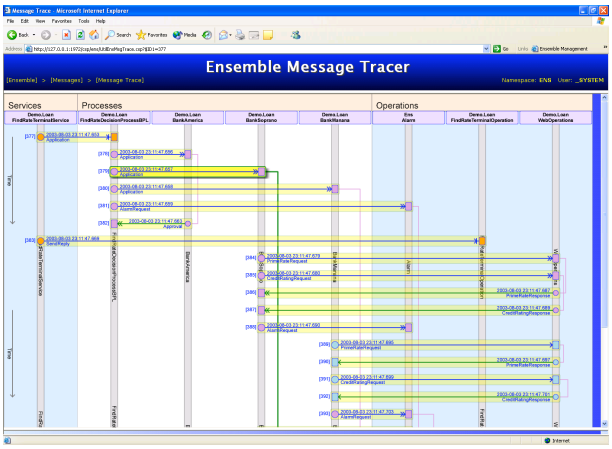
Ensemble provides easy-to-use GUI interface for all integration tasks:



Business Process Modeling



'Auto-discover' Configuration Management



Ensemble's VisualTrace

What You Can Do With Ensemble

Ensemble's comprehensive application integration platform enables you to tackle a wide range of integration needs.

Application Integration

The focus of application integration is on propagating transactional data from one system to another, while preserving the integrity, both of the data *and* of the business transaction. By abstracting a wide variety of database, technology and application interfaces as a consistent set of classes and methods, and transparently accounting for the differences in application semantics and data schemas, Ensemble enables extremely fast integration between different applications and data sources without the complexity of interfacing with native interfaces and protocols.

Business Process Orchestration

While application integration focuses on the exchange of information between two or more application interfaces, business process orchestration concentrates on coordinating multi-step processes that span applications running in different business units. By enabling business analysts and developers to focus on the logical interaction and information flow between applications, Ensemble's business process modeling and automation capabilities enable quick automation of high-level business functions such as integrating order processing and manufacturing systems.

Composite Application Development

By combining functionality from existing applications with new business process logic and user interfaces, composite applications have become an alternative to the development of 'all-new' applications. Because they can handle the full range of integration tasks, Ensemble's rapid integration and service-oriented development capabilities are ideal for the composition and integration of legacy and new business components.

Business Activity Monitoring

At its broadest levels, BAM is the convergence of operational business intelligence (BI) and real-time application integration aimed at reducing delays in managing and executing an enterprise's critical business processes. Broad-based connectivity options, reliable messaging, and powerful business process modeling tools, coupled with Ensemble's real-time data analytics, make Ensemble the perfect platform for BAM solutions.

Ensemble Features and Benefits

Features	Benefits
Full Spectrum Integration & Development Ensemble provides a unified graphical, -XML-, and code-based development environment for building custom adapters, integrating data, orchestrating business processes, and building composite applications.	_ Automatic adapter development by leveraging SOAP services. _ Greatly simplifies and accelerates modeling and automating of business processes for both business analysts and developers. _ Immediate integration with 3rd party business process management tools through a superset of the BPEL standard. _ Rapid service-oriented development of composite applications that leverage existing data and functionality.
Universal Service Architecture Ensemble provides a consistent and efficient object representation of different programming models and data formats.	_ Rapid development of composite applications through powerful abstraction of both logic and data. _ Use the latest development tools and technologies to access legacy data and functionality as re-usable .NET or J2EE components, Web Services, or XML. _ Universal architecture provides equal support for both J2EE and .NET and is easily extensible for future object models and technology frameworks.
Persistent Object Engine At its core, Ensemble uses a high performance distributed SQL-compliant object database for managing and storing all metadata, messages and process state information.	_ Enables real time access to both live and previously processed messages for business activity monitoring (BAM), auditing, SQL-based reporting, and management. _ High reliability, recoverability, and performance for long running business processes. _ Faster integration, rapid development, easier management, and greater extensibility through shared metadata repository. _ Avoids the cost and overhead of relational database.
Customizable End-to-End Management & Monitoring Ensemble provides highly-customizable and extensible monitoring and management facilities that are tightly integrated with the modeling and development tools.	_ Web-based interface enables local or remote management from any device. _ Optimize service levels and minimize staff burden by defining custom management consoles and alerts to monitor critical resources. _ Rapidly diagnose and debug problems during development and live operations using Visual Trace. _ Use any SQL tool to query and generate custom reports from the message warehouse for auditing and other management needs.

Ensemble -- the integration of power and ease.

New Technology From a Proven Technology Partner

InterSystems is an established technology company, with 25 years of experience providing high-performance data management products to partners around the world. InterSystems technology powers more than 100,000 systems – that's over 100,000 proven deployments of mission-critical applications that are used by 4,000,000 people every day.

Enterprises who partner with InterSystems know they can rely on our technology – and on us. We maintain a Worldwide Response Center that provides expert, multilingual, 24 X 365 support for all our products. And with regional offices spanning the globe, local assistance with any question about Ensemble's integration technology is never far away.