Defining the Next Generation e-Business Platform: A Discussion of the Asera eBusiness Platform

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Businesses need to leverage the Web to gain and maintain competitive advantage in a way that is cost-effective and sustainable over the long run. With the myriad of choices currently available, the challenge is to find an integrated, robust e-business solution that allows a company to leverage existing applications, rapidly adapt to the unique needs of the business, and continually evolve as business requirements change over time.

The Asera eBusiness Platform is a breakthrough, integrating architecture that provides a complete, adaptive e-business platform designed to address today's needs for integration, adaptability and evolution. The Asera eBusiness Platform:

- Provides a complete e-business foundation, now and for the future
- Allows for rapid integration, deployment and continual evolution of complex business processes
- Delivers a uniquely tailored, but unified user experience
- Supports mission-critical applications in a robust industrial-strength environment

This paper motivates the need for a next generation eBusiness platform and provides a brief overview of the Asera eBusiness Platform.

1 The Need for A Next Generation eBusiness Platform

Companies face a number of challenges in choosing and implementing the right software and technology solutions to support their business endeavors. This has become particularly problematic in recent years as companies attempt to leverage existing practices, systems and resources across the Web. Critical to success in this environment is the ability to identify and build on a platform that will cost-effectively support both the current and future needs of the business.

Today's business models dictate that companies integrate their businesses tightly with those of their trading partners, suppliers and customers. Critical to achieving this integration is a robust e-business platform that can not only afford real-time connectivity across multiple business constituents but also automate and integrate complex business processes across the extended value chain.

Moreover, as companies are continually looking to leverage technology to better serve the different needs of the business, it is natural for them to want to pursue best-in-class applications and technologies for each

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business area or function. However, such a strategy results in the monumental task of integrating a diverse set of applications that are, at best, difficult to integrate. Particularly problematic is the fact that best-in-class applications are often *not* designed to work with other applications, as they are proprietary in nature.

While there is a need to integrate complex business processes, current integration technologies such as Enterprise Application Integration (EAI) and portal technologies tend to address the integration problem at merely a data level or just at the user interface level. As a result, companies find themselves having to:

1. *Relax their requirements* – Instead of pursuing best-in-class applications for each business area or function, companies acquire a single vendor solution. The solution provides the "tight" integration they were looking for, but at the expense of providing cutting-edge functionality and technology provided by a combination of best-in-class solutions; or
2. *Settle for lower levels of integration* – Companies pursue best-in-class applications with the desired functionality in each area, but at the cost of not being able to tightly integrate each application across the rest of the company's systems. They settle for lower levels of integration, which do not offer the power and flexibility of a tightly integrated solution; or
3. *Build it themselves* – Companies that do not wish to loose out on best-in-class application functionality or tight levels of integration could invest heavily in in-house development efforts to achieve the desired result. However, such projects are costly, resource-intensive and take a long time to deploy. Moreover, the resulting solutions are easily adapted neither to the different needs within the business nor to the needs of business over time.

It is important to note that most of current enterprise applications (e.g. ERP, Supply Chain) were designed to model internal business processes only and are never meant for customer-centric business over the Internet. Even if the existing packaged applications were to be physically integrated, the integrated environment does not model the customer-centric business processes like customer interactions, entitlements, personalization, branded presentations, etc. So, key to successfully integrating and to web-enabling enterprise applications is the ability for rapid design, deployment and maintenance of customer-centric business processes.

In addition, companies also need their e-business solution to have the capability of rapidly being personalized to meet the unique needs of various constituents - company employees, trading partners, suppliers and customers. They need to be able to quickly personalize user interfaces, workflow, content and context for every application used by the company's constituents.

It is also critical to establish a systems environment that can support continuous evolution of a company's chosen e-business solution. Today's environment clearly necessitates the need to react to constantly evolving business strategy and technologies. While pursuing the right set of application functionality at the right level of integration, the solution must also be built so that it is flexible enough to support any future software revisions or changing business requirements.

Further, if a best-in-class application vendor falls behind in technology and/or functionality, companies are faced with the difficult task of replacing it with an equivalent application or technology from another vendor and repeating the entire, often difficult, task of rolling out a whole new system.

In summary, companies today are seeking an e-business platform that will enable them to:

- *Integrate* complex business processes across the entire value chain and also disparate software applications, legacy and third-party systems within an enterprise; to develop new, customer-centric business processes
- *Adapt* all application functionality to specific businesses and users
- *Evolve* the combined solution as business strategies and technologies evolve

And most companies need this to happen at Web speed. Unfortunately, most of today's existing e-business platforms fall short when it comes to meeting any of these needs.

We believe there is a strong need for the next generation e-business platform and that the Asera eBusiness Platform is designed and implemented to meet the enterprise requirements and challenges.

2 The Asera eBusiness Platform

The Asera eBusiness Platform is a breakthrough, integrating architecture that provides a complete, adaptive e-business platform designed to address today's needs for integration, adaptability and evolution. The platform is a comprehensive e-business application development and deployment foundation that enables tight integration of a company's existing systems with external systems and best-in-class applications. It delivers a high-performance e-business solution that can be configured and personalized to meet the unique needs of the business and the individual users.

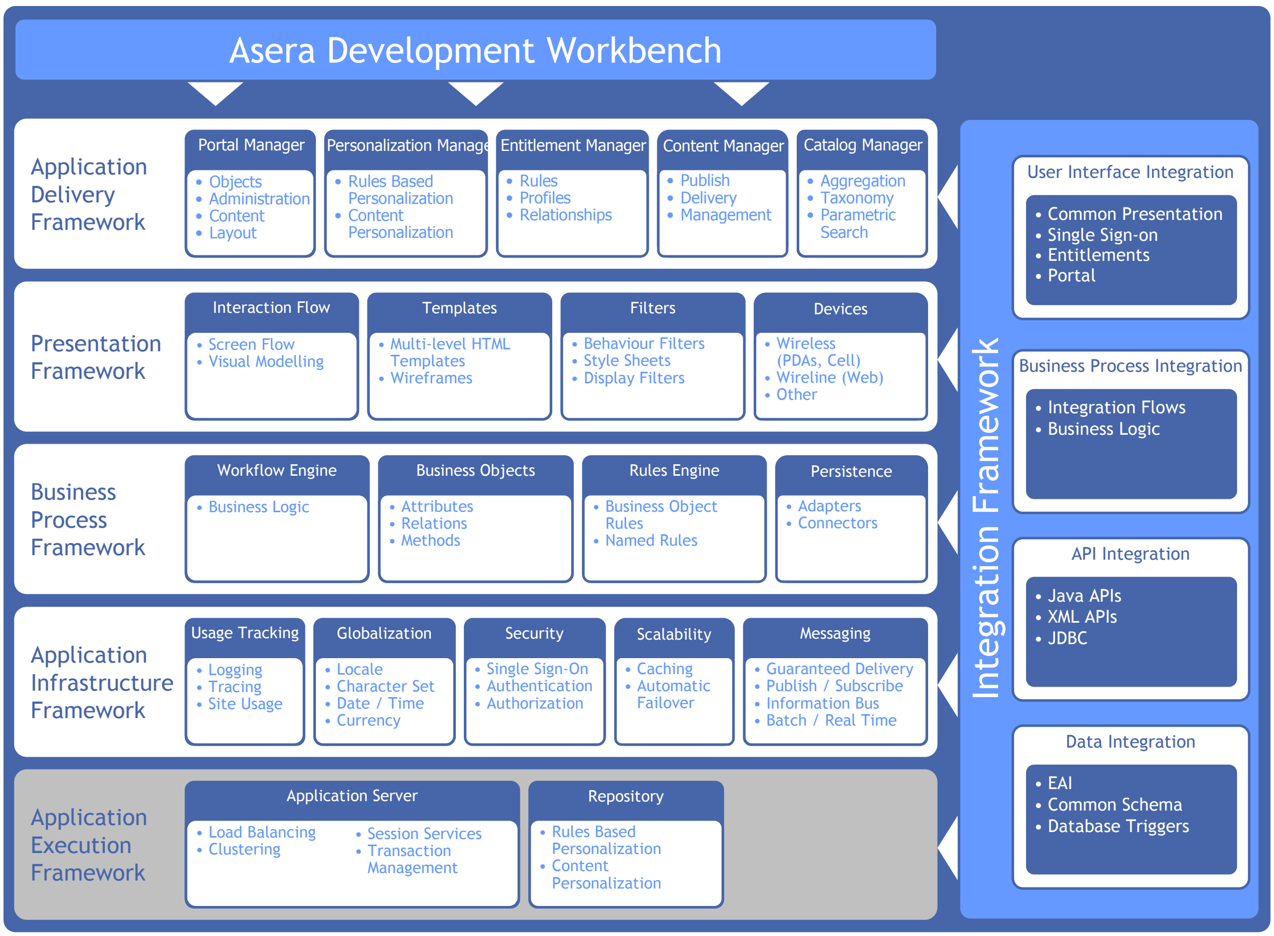

Figure 1: The Asera eBusiness Platform.

Through its integrated, layered approach, the Asera eBusiness Platform facilitates rapid deployment of new e-business applications. To do this, the platform provides the following features:

- A *complete e-business development environment* that includes a robust development workbench. The workbench includes an Interactive Development Environment (IDE) for:
  - Building and/or deploying new applications
  - Configuring and personalizing existing applications
  - Extending existing applications
- A solid *integration framework* that allows for optimal integration of a company's complex business processes across external systems and third party applications.
- A complete *framework for personalized application delivery* of the user experience, including portal administration, entitlement, rules-based personalization and content management.

- A unique *framework for presentation of application data*, including screen flow, template management, style sheets, and wireless devices.
- A robust and flexible *framework to abstract e-business processes and application data*. The framework includes a powerful and configurable workflow engine and a comprehensive set of business objects to support a eBusiness processes.
- An *infrastructure framework* that offers a rich set of core application functions such as globalization, security, caching, fault-tolerance and messaging.
- A robust *execution framework* that provides a runtime execution environment for e-business applications. The execution framework includes an application server environment and a repository interface manager.

3 Benefits of the Asera eBusiness Platform Design

As a result of its layered approach, design philosophy and robust functionality, the Asera eBusiness Platform is scalable, flexible and extensible. Each of the components of the platform combine to offer an environment which offers the following design features and benefits:

The Asera eBusiness Platform is Designed for Rapid Integration, Development and Change.

The Asera eBusiness Platform is designed to deliver an environment that supports rapid and dynamic integration of data and business processes across the extended enterprise. As a result, the platform provides the following benefits and functionality:

- *Rapid Integration.* Businesses can support a complete commerce model that delivers all key components of the commerce value chain by rapidly integrating business processes and any number of related applications across the extended enterprise. They can rapidly integrate external systems, best-in-class applications and existing enterprise software into a unified e-business environment.
- *Rapid Development.* Enabling eBusiness requires customer, Internet centric business processes to be designed and implemented. By developing unified business processes for presentation, personalization, entitlements and so on, seamless integration across multiple applications can be achieved.
- *Multiple Levels of Integration.* Businesses can choose to integrate with external systems and third party applications at the right level for them, taking into consideration both the specific technology of the application and specific business requirements. Third party applications and external systems can be integrated at multiple levels to the platform - ranging from loose integration (providing single sign-on access to the relevant applications) to the tightest level of integration in which application engines are “plugged” into the platform (providing complete integration of business data and application workflow).
- *Transparent Extension and Replacement of Applications.* As new technology innovations or business requirements emerge, integrated third-party application components can easily be extended or replaced without any disruption to existing systems.
- *Data Aggregation from Disparate Sources.* Data can be aggregated from any number of disparate sources such as external partner systems, internal database, Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), Sales Force Automation (SFA), and legacy systems, external Web sites, news feeds, corporate collateral and user-generated content. The aggregation of data can be achieved either in batch mode or in real time, depending on how frequently the information needs to be updated.
- *Multiple Protocols for Messaging.* The platform supports a solid messaging framework that supports multiple protocols such as HTTP, JDBC, RMI, and COM. Support for new emerging standards like SOAP and UDDI is also planned.
- *Numerous Formats for Business Document Exchange.* The platform also supports a comprehensive framework for business document exchange by supporting various B2B protocols and standards such as RosettaNet, cXML, CBL, OAG, OBI, FpML, BizTalk and EDI.

The Asera eBusiness Platform is Designed to Deliver a Unified User Experience.

The Asera eBusiness Platform is designed to deliver a unified user experience across any e-business application functionality, both within an enterprise and to the enterprise's trading partners. As a result, the platform is able to deliver the following benefits:

- *User Authentication.* The platform provides the tools to authenticate users when they first sign on. Specific access privileges dictate what applications the user has access to as well as what they can accomplish within each application.
- *Single Sign On and Navigation Transparency.* Users need to sign on only once to access any e-business application functionality. Users navigate among multiple applications in a seamless, continuous manner and are completely unaware when they move from one application to another.
- *Ability to Tailor Unique User Experience.* Each user is presented a unique user experience that is defined by a unique "user business process". User interface, workflow, e-business content and context can each be tailored to a user's unique role within the enterprise.
- *User Experience Adapts to Changes.* Every user experience is completely adaptive. When new applications are added, the existing user experience (in terms of workflow, look and feel, user entitlements), can be adapted to include the newly integrated application functionality – and can be done seamlessly, rapidly and with tight levels of integration.

The Asera eBusiness Platform is Designed for Industrial Strength.

The Asera eBusiness Platform is designed for industrial strength deployment, scalability and performance. As a result, the platform provides the following benefits for a company's mission-critical applications:

- *Fault Tolerance.* Applications deployed on the platform are fault tolerant. Since the platform uses and supports a clustered environment for fault tolerance along with an enterprise-strength infrastructure, user sessions can transparently fail over to a different node if one node crashes.
- *Change and Upgrade Transparency.* The platform is optimized for isolating changes or upgrades in order not to have any disruption of service. Application changes, platform upgrades, functionality releases and regular maintenance events do not require any application re-programming or disruption of service.
- *Granular Delivery of Functionality.* Application functionality can be delivered on a granular basis, much like the cable television model. Users select and pay for only those features that they want to use.
- *Incremental Enhancements.* The platform is optimized to support incremental enhancements. Users can easily and immediately take advantage of small increases in functionality rather than waiting and/or paying for major releases in which they might only be interested in a subset of the newly deployed functionality.
- *Device Independence.* Asera applications can be delivered over a device-independent, standards-based network infrastructure that supports the Web, mobile and handheld wireless devices.

4 Summary – The Next Generation e-business Platform

The Asera eBusiness Platform provides an architecture that allows for rapid and tight integration of complex business processes and software solutions across the extended enterprise to provide companies a unified and powerful e-business environment. Its flexible architecture affords companies the luxury of using tightly integrated best-in-class applications while also allowing them to adapt and evolve the system continually.

The platform provides the ability to adapt e-business solutions to present a unique user experience to each end user. The user interface, workflow, e-business content and context can each be tailored to deliver a unique "user business process" for each user. The platform is optimized for industrial strength scalability, reliability and availability, and is designed to support continual enhancements, change isolation and granular delivery of application functionality.

The Asera eBusiness Platform is the next generation e-business platform that companies need as the foundation for their corporate e-business strategy.