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white paper

FACILITATING EMERGENT PROCESSES

BUSINESS AGILITY THRU CONTEXT-DRIVEN PROCESS



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Abstract

One of the fundamental challenges limiting the agility of today's rigid IT environments is the lack of *context*. Context is the dynamic web of relationships among people, places and things that gives events and facts meaning. Most systems only perform within predefined process models, ignoring interaction context by design. As a result, interactions are forced into fixed paths without considering the impact this standardization has on agility.

Organizations need a practical mechanism for leveraging context inside their key business processes without increasing system overhead or latency, an approach that takes into account the situational requirements of each interaction.

The end result are emergent processes that have specific goals and governing policies, but no pre-determined flow. Instead, process follows the inputs of process participants with custom responses driven by rules.

The Ideate Framework™ (www.ideate.com) provides a process architecture for designing, deploying and maintaining context-aware software applications. Ideate offers support for variable processes with policies and structure being a function of the rich interaction among people and technology in the system of systems we call the enterprise.

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Today's rigid systems and applications limit context instead of preserving it.

The "business wants X so let's build X" mantra is so ingrained in IT thinking that breaking free from it requires a complete shift in the way organizations think about their systems.

CIOs realize their existing technology investments have in large part let them down. The major trends over the last twenty years—client/server, the Web, Enterprise Application Integration, and Service-Oriented Architecture—have all over-promised and under-delivered on the agility benefit that always seems right around the corner.

One of the fundamental challenges limiting the agility of such approaches is the limitation of *context*. Context is the dynamic web of relationships among people, places and things that gives events and facts meaning. Most systems only perform within predefined process models, ignoring interaction-context by design. As a result, interactions are forced into fixed paths without considering the impact this standardization has on agility.

Today's rigid systems and applications limit context instead of leveraging it. For example, relational database technologies leverage fixed hierarchies, while BPM software depends on design-time flowcharts. Such technologies do not adequately respond to the unique conditions and circumstances of individual business activities.

Organizations need a practical mechanism for leveraging context inside their key business processes without increasing system overhead or latency. To this end, companies require a "system of systems" approach to Service Oriented Architecture (SOA) that provides unifying and holistic qualities that today's SOA implementations typically lack by design.

Without such a system of systems approach to architecture, organizations have no choice but to settle for the traditional approach that starts with fixed business requirements and seeks to deliver solutions that meet those requirements. In fact, this "business wants X so let's build X" mantra is so ingrained in IT thinking that breaking free from it requires a complete shift in the way organizations think about their systems.

Today's organizations require an architectural approach that pulls together the human and technology parts of the organization. This approach moves away from rigid structures to context-aware, governance-driven applications that support business agility. The new mantra of the twenty-first century is that the business wants to be agile, so let's deliver a system that responds to change and enables the organization to leverage change for competitive advantage—the essence of business agility. Such systems require a new way of thinking about architecture, governance, and context.

Business Agility: Still a Challenge, Now More Than Ever

Many organizations have achieved some levels of business agility by implementing SOA, an approach to organizing IT resources to implement flexible business processes by composing business Services that abstract underlying functionality and data. Unfortunately, today's technology-focused implementations of SOA—even those that meet their short-term business objectives—don't go far enough, because the business agility benefit of SOA depends upon middleware and other legacy technology.

Relying upon middleware and other intermediary approaches introduces performance overhead and limits flexibility. Furthermore, traditional process automation, even in the SOA context, involves modeling system responses in advance. No matter how many conditional paths a process may include, standardization limits responsiveness to individual instances by design.

To address this inherent inflexibility, all agile SOA initiatives depend upon *governance*. Governance pulls together the human and technology systems that make up the system of systems that constitutes the enterprise. However, governance of SOA deployments must span distributed components, introducing additional expense and system latency. And in any case, while Services may provide flexibility, the underlying legacy systems remain inflexible, further limiting the agility of the resulting business processes. It's imperative, therefore, that organizations take an approach that automates business processes in a way that takes into account the *context* of the individual processes themselves.

The end result are *emergent processes* that have no pre-determined flow. Instead, the people involved in the process begin with the goal for the process and then the technology supports the interactions among the people in order to achieve the goal. The interactions among the people involved with the process give the process its context. The questions CIOs should ask, therefore, are what emergent processes must we support, and how best to support them.

The Ideate Framework for Emergent Processes

The Ideate Framework provides a context-aware process architecture for designing, deploying and maintaining software applications. In fact, the best way to think of Ideate is as an enabler of emergent processes. Its multi-tenant architecture supports deployment in public or private Clouds, and it is based on open standards for flexible integration, both in SOA-enabled and legacy environments.

While standardization promotes consistency, however, it is really an oversimplification of the reality of today's dynamic organizations. Such consistency lowers costs, but doesn't provide business agility. Fixed procedures don't account for variance, artificially compressing the range of possible goals to optimize efficiency at the expense of effectiveness. In contrast, Ideate allows organizations to loosely define processes and policies so that each can activity can follow its own lifecycle, within the rules.

The Ideate Framework evaluates each interaction in real time to ensure business relevance and the transaction integrity of every response. In essence, every response is "made to order" based on context. Ideate proactively supports and guides work within business rules, enterprise policies and industry regulations while allowing each work activity, project or case to follow its own lifecycle.

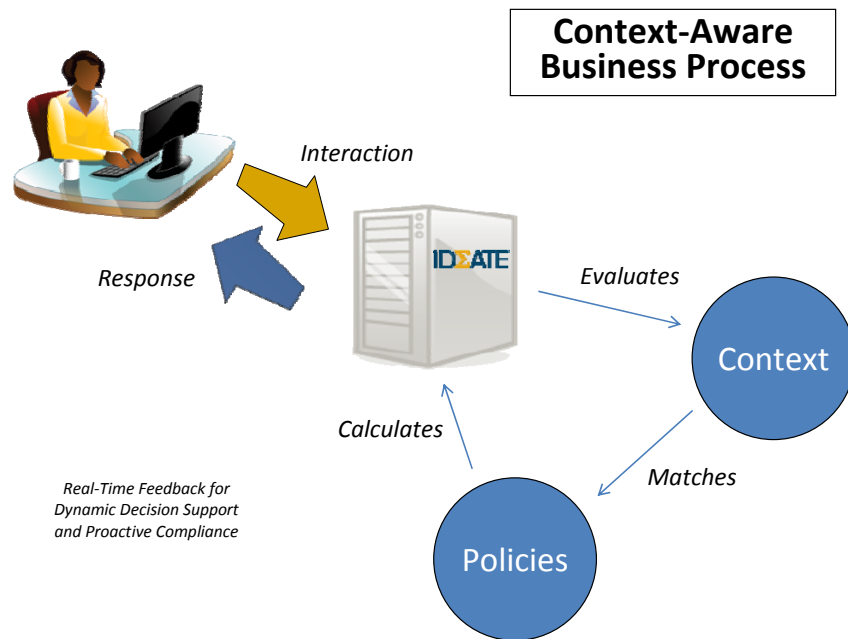
Rather than managing data in rigid hierarchies and separately organizing business rules, system functionality, and governance policies, Ideate has a uniform approach to storing all system information (structured, semi-structured, and unstructured) in its virtual information repository as a web of tagged resources. This approach delivers both agility and performance—a combination that other approaches, including today's vendor approaches to SOA, struggle to provide.

Ideate also provides a high performance run time environment for managing emergent processes. Emergent processes unfold without any fixed assumptions on the timing, sequence, or frequency of the actions or events that may make up the processes. Instead of specifying fixed outcomes, Ideate returns different results for different circumstances. As a result, such emergent processes unfold step-by-step, where every interaction is an opportunity to evaluate context, as shown in the figure below.

The best way to think of Ideate is as an enabler of emergent processes.

Emergent processes unfold without any fixed assumptions on the timing, sequence, or frequency of the actions or events that may make up the processes.

Interactions driving the context for the application



Source: Consilience International LLC

The Ideate system uses the context of an interaction to ensure the relevance of the response. It captures the context for a process's relationships in a resource that contains all of its relationships to people, places and things. Such relationships taken collectively define the context for the process, where the context evolves through interactions among the people and events that are relevant to the process.

In fact, context drives Ideate. In the Ideate world, the context is inherently dynamic. Where before we had an exception to a fixed process, now we have a context-sensitive, dynamic process that allows for whatever variability occurs in pursuit of the goal of the process. In other words, exceptions no longer exist.

In addition, by matching policies to circumstances, the Ideate Framework provides for flexible governance by treating each interaction uniquely, even for complex, dynamic processes. Ideate applies policies where necessary and offers latitude for user discretion wherever possible. This context awareness changes the relationship between people and the computers. Governance in the Ideate Framework fits the given circumstance.

Ideate applies governance dynamically for each interaction based on context along with any other business rules. As a result, the Ideate system achieves flexible, low-overhead governance by proactively guiding compliance with business rules and enterprise policies. Policies dynamically constrain the context for each interaction, enabling the emergent processes to achieve the goals that users have for them.

The ZapThink Take

Traditional systems consisting solely of technology components have focused on automation, and therefore lack sufficient support for process variance, innovation, events, and other dynamic aspects of business. Ideate addresses

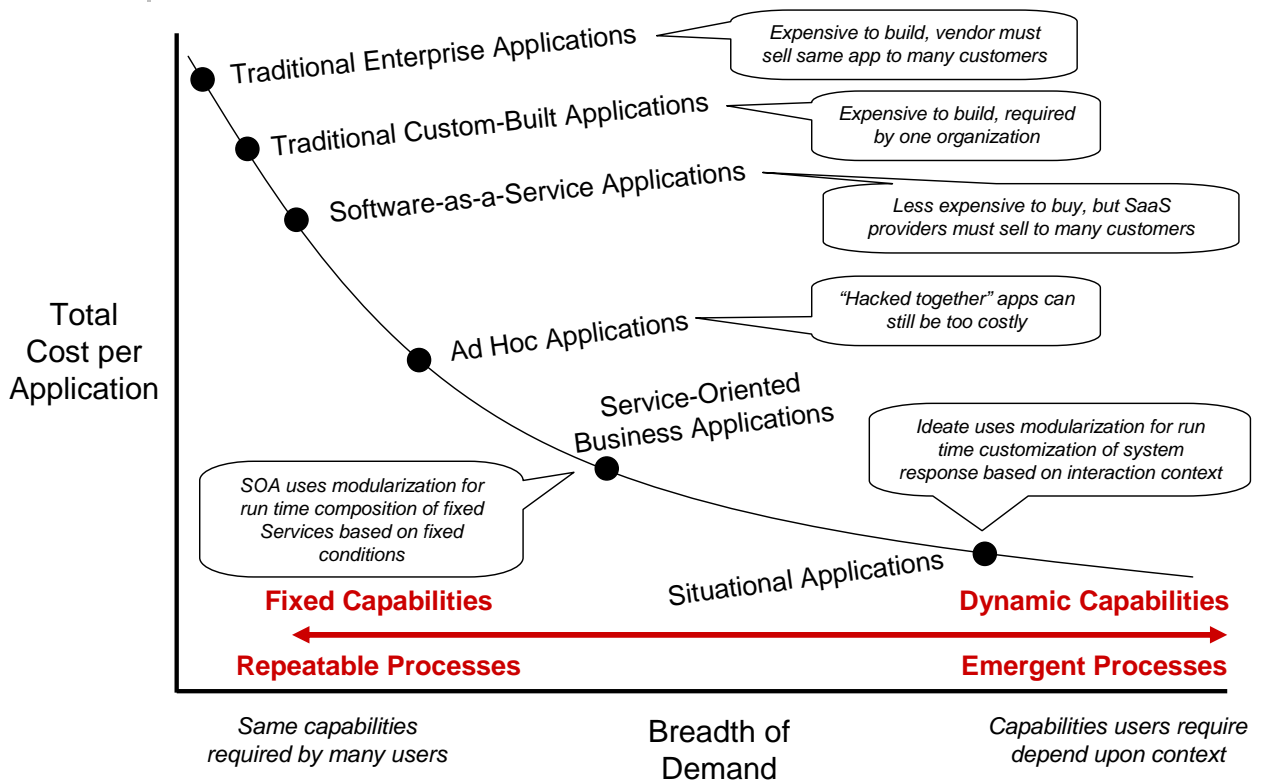
Context drives Ideate. In the Ideate world, the context is inherently dynamic.

these shortcomings by shifting the focus from integration to governance, from fixed to dynamic capabilities, and from repeatable processes to emergent processes that depend upon interaction-driven context, all essential to the system of systems approach to IT architecture.

One aspect of this system of systems approach to enterprise IT is the fact that the applications that support emergent processes must have a very low cost per application, because in essence every performance is in effect its own application that addresses a unique situation or context for the underlying interaction. We call such applications *situational applications*.

Such situational applications, therefore, contrast with inflexible enterprise applications, as shown in the figure below. The more context-specific the requirements, the more dynamic the application, and therefore, the lower the per-application cost must be for such solutions to be cost-effective.

Cost per Application vs. Breadth of Demand for Enterprise Applications



Source: ZapThink LLC

Grasping the full import of what Ideate delivers requires a shift in thinking.

Grasping the full import of what Ideate delivers requires a shift in thinking. Instead of thinking of IT delivering on fixed sets of requirements, it is the role of IT to deliver business agility, which is a property of the enterprise as a whole. The focus must shift from static models to the overall coherence of enterprise IT, as it evolves to meet ever-changing requirements.

Ideate (www.ideate.com) takes the notion of a system to a logical extreme: idealized support for variable processes with policies and structure being a function of the interaction among people and technology in the system of systems we call the enterprise.

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About ZapThink, LLC

ZapThink is a strategic advisory, information, and education firm focused on the future of Enterprise IT. As a recognized authority on emerging Enterprise IT practices, including Service-Oriented Architecture (SOA) and Enterprise Architecture, ZapThink provides its audience of IT practitioners, consultants, and technology vendors with practical advice, guidance, education, and mentorship solutions that assist companies in leveraging advanced IT to meet their business needs. We provide this audience a clear vision of agile IT meeting the needs of the agile business.

ZapThink provides IT practitioners strategic insight and practical guidance for addressing critical agility and change management issues leveraging the latest IT best practices. ZapThink helps these customers put EA and SOA into practice in a rational, well-paced, and best practices-driven manner and helps to validate or recover architecture initiatives that may be heading down an unknown or incorrect path. ZapThink assists with solution vendor, technology, and consultant selection based on in-depth, objective evaluation of the capabilities, strengths, and applicability of the solutions to meet customer needs as they relate to EA initiatives and as they map against emerging best practices. ZapThink enhances its customer's skills by providing education, credentialing, and training to EAs to develop their skills as architects.

ZapThink helps to augment consulting firms' strategic IT offerings and intellectual property by providing guidance on emerging best practices and access to information that supports those practices. ZapThink provides frameworks for product-based consulting based on ZapThink insight and research, such as SOA Implementation Roadmap guidance, Governance Framework development, and SOA Assessments, and provides a means to endorse and validate consulting firm offerings. ZapThink also accelerates consulting firms' efforts to attract, retain, and enhance the skills of EA and SOA talent by providing education and skills development

For solutions vendors, ZapThink provides retained advisory for guidance on product strategy, as well as marketing, visibility, and third-party endorsement benefits through its marketing activities, lead generation activities, and subscription services. ZapThink enables vendors to leverage ZapThink knowledge to transform their offerings in a cost-effective manner.

ZapThink's Managing Partners are widely regarded as the "go to advisors" and leading experts on SOA, EA, and the future of Enterprise IT by vendors, end-users, and the press. Respected for their candid, insightful opinions, they are in great demand as speakers, and have presented at conferences and industry events around the world. They are among the most quoted experts in the IT industry.

ZapThink was founded in 2000 and is headquartered in Baltimore, Maryland. Its customers include Global 1000 firms and government organizations, as well as many emerging businesses. Its Managing Partners have worked at such firms as IDC, marchFIRST, and ChannelWave, and have sat on the working group committees for standards bodies such as RosettaNet, UDDI, and ebXML.

Call, email, or visit the ZapThink Web site to learn more about how ZapThink can help you to better understand how the future of Enterprise IT will impact your business or organization.

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