

## ZAPTHINK ZAPNOTE™

### COMACTIVITY IMPROVING BUSINESS FUNCTIONALITY THROUGH MODEL-BASED SERVICE-ORIENTED BUSINESS APPLICATIONS

Analyst: Ronald Schmelzer

#### Abstract

The movement to Service Orientation is heralding an era of enterprise computing based on open standards, Service-oriented Architecture, and optimized business processes. This signifies a fundamental shift from today's rigid and inflexible systems towards loosely-coupled approaches to application development and deployment. This new shift requires a redefinition of the concept of business functionality in a way that marries continually changing capabilities with new requirements for usability and flexibility. The aim is a new capacity for achieving competitive advantage, lower cost, and increased business value.

ComActivity, a company based in Stockholm, Sweden, has put together a compelling solution that leverages this radical shift in computing. The key insight in the solution is its focus on model-based, graphical approach to business functionality, creating lean and optimized business processes leveraging emerging Web and SOA best practices. Striving to be the SOA killer app, ComActivity aims to meet the continuously changing needs of the business with a continually flexible and composable infrastructure.

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## Addressing the Three Dimensions of Business Functionality

When people think of application functionality, a number of obvious things come to mind: features and capabilities that match the expected requirements set out before them and encoded in a way that's readily understandable by the business and IT folks that are in charge of the development and management of such systems. However, the idea of business functionality is a bit less understood. What exactly makes a business functional? How can a business approach all of its assets, IT included, as a set of capabilities that match the strategy and tactics necessary for a business to be truly functional – not only for its customers, but also for its employees, partners, and stakeholders. Making a business truly functional indeed is broader than simply application functionality, but encapsulates a number of broad ideas that truly make the business more functional.

Part of the reason for this lack of real functionality in the business is due to the rigidity and inflexibility of existing systems and business processes. In particular, this rigidity comes from a number of places in the business: inflexibility of existing IT systems to meet changing business needs, and the lack of flexible and effective business processes to represent the business as it operates. Part of the reason for the inflexibility of existing IT systems is the fact that organizations create most application functionality through the integration and combination of multiple systems together. Too many times companies integrate this functionality in a point-to-point manner, creating brittle connections that need continuous and costly maintenance in order to meet changing requirements. More so, the systems themselves were built as isolated islands of functionality rather than perceived as composable cogs in the machinery of the business as a whole.

Furthermore, most organizations lack truly executable representations of their actual business processes. While many companies have invested significant sums in traditional business process modeling, management, and monitoring tools, those tools have either represented documentation or “shelfware” that serves to guide development for what the business process *should* be or how the business process *used to be*, but not the actual business process as it exists in the current environment. For those companies that have invested in runtime business process tools, those tools have traditionally only covered the business processes that are fully automatable, and only in a discrete fashion. Specifically, many business processes run in a manner disconnected from the other processes in the organization, requiring human interaction to determine how to map independent processes, and even more so, not involving the humans in the process at all. Too many business processes are captured in people's heads and not in the actual system, resulting in fragmented, partially automated, and inflexible processes running throughout the organization. Work items that should be facilitated by technology are instead communicated through email, telephone, and paper notes. Clearly, companies need to advance the state of their business processes and the interconnection between systems if they have any chance of making their businesses more flexible.

In this vein, business functionality is actually comprised of three different aspects, all of which must be combined together to provide for the true functionality of a business: capabilities, usability, and flexibility. Capability can be understood as the need for the business to be represented in executable business processes, implemented in technology in a manner that both involves the human as part of the process as well as facilitates the interconnection of disparate and independent processes in the organization without requiring human intervention, unless required as part of the process. The usability aspect of business functionality facilitates the human involvement in business process by giving users what they need to be effective and productive at that particular instant with the business process they need to interact with, without requiring the user to change their behavior to match the ineffective operation of the system. The flexibility aspect of business functionality acknowledges that businesses and their representative processes undergo continuous change, and as such, the underlying systems and executable processes need to facilitate change without introducing latency, cost, or complexity.

### ComActivity: “Lean Software for Lean Business”

It may seem a tall order to meet the rigorous demands set above for business functionality, but ComActivity, a company based in Stockholm, Sweden, has put together a compelling solution that

aims to improve business functionality through their Service-oriented, model-based approach. The company's mission is to provide enterprise software and application capabilities that "harmonize IT and people towards the objective of becoming a lean business" through the making business process and IT systems more visible, flexible, dynamic, and as such, lean. In essence, ComActivity is helping businesses become efficient and lean by making the IT systems efficient and lean. In terms of the economic value proposition, ComActivity aims to provide flexible business processes through graphic modeling, rather than with coding, eliminating 90% of the code necessary to represent a business process. They aim for a resultant ease of use that increases productivity and data quality by a factor of 300%-500%, reducing education requirements for developers by three-quarters and improving overall efficiency and workflow collaboration by up to 1000%. A tall order indeed, but not one without merit.

The technical underpinnings for the company's value proposition is their namesake platform that provides a business process platform, Service-oriented at its core, and based on open standards and model-based approaches to create complex and composite business applications marked with excellent usability, flexibility and capability. To make the above a reality, the company focuses on five key aspects that aim to simplify and abstract different aspects of business functionality:

- *Processes* – A model-based representation of all work activities and their relationships to each other to accomplish some task. The process engine supports sequence conditions, timers, roles, and other requirements for business process.
- *Work lists* – Provides immediate information to users of their current tasks.
- *Workspaces* - The interaction controller that manages the design of a user interface element, represented as a Portal page, along with all touch points between the system and users, including an abstraction of the user interface and Web Services-based system interfaces.
- *Portlets* – Provides a user interface window aimed at the efficient representation and execution of process activities.
- *Documents* – Representation of business data and information vital to the operation of a particular business process or activity.

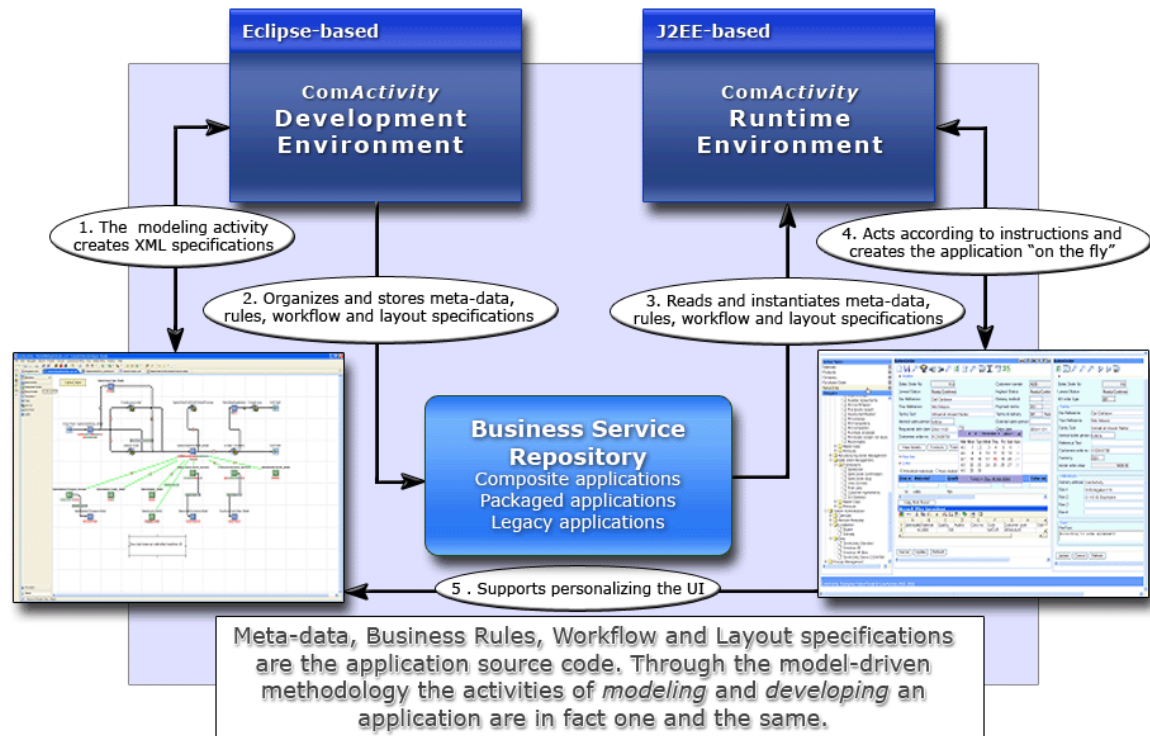
The ComActivity Model-based approach considers each of the above aspects to be models that drive the operation of the system. Specifically, each of the above are represented in XML-based metadata which in effect make-up and drive the runtime application. The platform as a whole can be envisioned as per the below figure:

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## The Model-based Development Approach



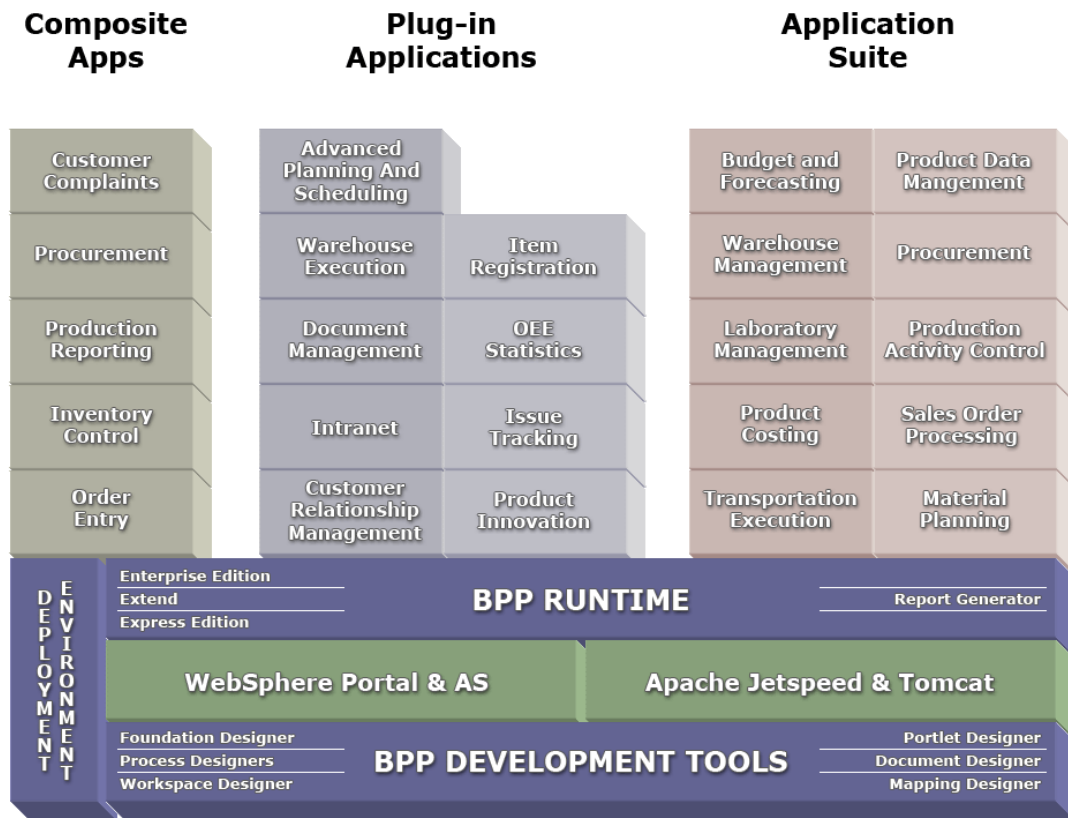
Source: ComActivity

In the above diagram, the ComActivity solution consists of three core parts: the Eclipse-based development environment, which serves to represent each of the five aspects mentioned above as metadata-based models developed using drag-and-drop, visual-style modeling tools, the J2EE-based runtime environment that interprets the model and generates application capabilities in a declarative fashion, and the Business Service Repository that stores the applicable model information, associated metadata, and the packaging of the various applications into usable, flexible capabilities that the business can leverage in an environment of change.

The capabilities, once developed, are represented as loosely-coupled, composable, and reusable Services that can be composed together to create a set of business functionality applications. In particular, ComActivity offers three types of Service-oriented Business Applications (SOBAs) that leverage the model-based approach described above:

- *Plug-in applications* – What ComActivity also calls “best-of-breed applications” are loosely-coupled, self-governed, independent Services that have their own data-model, business logic, process-descriptions and user interface. These kind of highly dynamic SOBAs are meant to be composed with other applications that might be Service-oriented or not.
- *Composite applications* – SOBAs delivered as complete applications built on top of existing, legacy business logic and/or data. Rather than rebuilding necessarily logic, the ComActivity composite applications expose legacy assets as Service interfaces, which are then composed and modeled using ComActivity tools.
- *Application suites* – SOBAs that are designed and built from the bottom-up as new business functionality. Focusing on delivering business functionality that mirrors existing ERP-systems, the ComActivity Application Suites are SOBA replacements that are especially well suited for manufacturing of customized products requiring powerful attribute management.

These three different types of SOBA leveraging the ComActivity technology base can be seen in the figure below:



Source: ComActivity

## The ZapThink Take

With every new computing and architectural change comes a change in the way that companies build, manage, run, and test their applications. And with each successive wave of increasingly higher-level abstraction, the further we get from communicating with computers in the way that they understand (you know, ones and zeros) and the closer to the way in which people understand (language, patterns, and conversations). Specifically, the mode of application creation and maintenance that Service-oriented Architecture (SOA) demands – declarative and compositional – embodies methods, approaches, and even technologies that, on the balance, are farther away from what we can consider to be development and much closer to what we can consider to be the sort of tactical and strategic planning that is necessary to the continued successful operation of a business. More importantly, SOA is shifting the balance of power from the developers of new capabilities to the composers of those capabilities to meet changing business needs.

Ask an average cubicle dweller who's not in IT to break down what they do every day into its most basic elements, and you're likely to solicit a list of human interaction-based activities that move information around: conversations, meetings, sending and receiving communications, reading and writing, and the like. Knowledge workers might throw in activities like analyzing or evaluating. Few business people, however, will reply that they spend their days executing business processes. From the IT perspective, however, if you define a business process as "what a business does," or even as "a set of activities intended to achieve a business goal," then all the various activities that our cubicle crowd undertake fall into the category of executing business processes. In fact, ZapThink frequently espouses the perspective that the Service-oriented approach to business process calls for flexible business processes that respond to the way humans work, rather than processes that constrain humans to work the way the systems want them to work.

ComActivity's approach to SOBA creation, running, and management maps very well to this concept of the model-based, Service-oriented system responding flexibly to the continuously changing needs of

the business. In particular, their declarative, XML-based metadata approach that leverages the model as the instantiation of the application, rather than as a document that drives non-Service-oriented development will go a long way to making businesses more functional and responsive to change. And it's that model-based approach to SOBAs that is sure to gain ComActivity traction within the market frustrated by today's inflexible integration and ERP approaches so common in today's business environment.

## About ComActivity

### ComActivity

#### Overview:

ComActivity has developed a Business Process Platform focused on empowering business people with business functionality, using cutting edge technology, which enables model driven, graphically visualized, codeless application development.

#### Features:

ComActivity's expertise is to create, extend, enhance and integrate enterprise software. Applications and related services are divided into:

- **Composite applications** – Application development aiming to provide adequate support for business processes and functions poorly supported, or not supported at all, by current ERP. Common examples are; an enhanced order entry function, where any and all information the order clerk needs is presented in an optimal way, and extensions of the application by e.g. enabling remote order entry for the territory salesmen. The development is done as an application layer above the legacy ERP system, with direct read/write access to the existing database, utilizing existing API's where needed for updates. The result is a flexible and non invasive application, easily portable, with optimal usability.
- **Plug in Applications** – Ready to use Service-Oriented Business Applications on a stand alone basis, or typically they are integrated with existing ERP-systems such as Movex, JD Edwards, IFS or Infor.
- **Application suite** – A repository of Service-oriented functionality built on a separate database, that can be used as a baseline application into custom business applications. Existing modules include Warehouse management, product data management, product costing, production activity control, among others.

The above solutions sit on top of ComActivity's own model-based, Service-oriented business application platform that provides an Eclipse-based, visual-style modeling and development application, a J2EE-based runtime engine for declarative, metadata-driven Service composition, and a Business Service Repository for metadata management and application deployment.

#### Value Propositions:

- **Reduces need for coding** – Reduces need for programmatic coding of business process and integration logic and thus

accelerate development time and reduce overall functionality development and maintenance cost.

- **Enables greater flexibility** – Model-based approach facilitates composition of Services to meet new processes and metadata-based approach loosely couples systems to facilitate change.
- **Legacy enhancement** – Extends investment in legacy systems through Service wrapping to provide new composition capabilities on top of existing systems.

<b>Profile: ComActivity</b>	December 2006
<b>Funding:</b> Venture-backed, Angel-funded (by employees)	
<b>CEO:</b> Peter Bjorkman	
<b>Founded:</b> 2001	
<b>Employees:</b> 40	
<b>Product:</b>	
➤ <i>ComActivity Business Process Platform</i> , including an array of SOBAs to support business areas such as forecasting, sales order, planning, inventory, CRM, SRM and purchasing.	
<b>Address:</b>	
St Eriksgatan 117, 8 tr SE-113 43 Stockholm Sweden	
<b>URL:</b> <a href="http://www.comactivity.net">http://www.comactivity.net</a>	
<b>Phone:</b> +47 416 79 258	
<b>Contact:</b> <a href="mailto:info@comactivity.net">info@comactivity.net</a>	

## Related Research

- *Webify* ZapNote (ZTZN-1172)
- *Cordys* ZapNote (ZTZN-1199)
- *SEEC Solutions* ZapNote (ZTZN-1192)
- *Tenfold Systems* ZapNote (ZTZN-1197)
- *SnapXT* ZapNote (ZTZN-1194)



## About ZapThink, LLC

ZapThink is an IT advisory and analysis firm that provides trusted advice and critical insight into the architectural and organizational changes brought about by the movement to XML, Web Services, and Service Orientation. We provide our three target audiences of IT vendors, service providers and end-users a clear roadmap for standards-based, loosely coupled distributed computing – a vision of IT meeting the needs of the agile business.

ZapThink helps its customers in three ways: by helping companies understand IT products and services in the context of Service-Oriented Architecture (SOA) and the vision of Service Orientation, by providing guidance into emerging best practices for Web Services and SOA adoption, and by bringing together all our audiences into a network that provides business value and expertise to each member of the network.

ZapThink provides market intelligence to IT vendors and professional services firms that offer XML and Web Services-based products and services in order to help them understand their competitive landscape, plan their product roadmaps, and communicate their value proposition to their customers within the context of Service Orientation.

ZapThink provides guidance and expertise to professional services firms to help them grow and innovate their services as well as promote their capabilities to end-users and vendors looking to grow their businesses.

ZapThink also provides implementation intelligence to IT users who are seeking guidance and clarity into the best practices for planning and implementing SOA, including how to assemble the available products and services into a coherent plan.

ZapThink's senior analysts are widely regarded as the "go to analysts" for XML, Web Services, and SOA 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 industry analysts in the IT industry, and their recent book, *Service Orient or Be Doomed!*, is the leading book on the business concept of Service Orientation.

ZapThink was founded in October 2000 and is headquartered in Baltimore, Maryland. Its customers include Global 1000 firms and government organizations, as well as many emerging businesses. Its analysts 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 SOA will impact your business or organization.

### ZAPTHINK CONTACT:

ZapThink, LLC  
108 Woodlawn Road  
Baltimore, MD 21210  
Phone: +1 (781) 207 0203  
Fax: +1 (786) 524 3186  
[info@zapthink.com](mailto:info@zapthink.com)  
[www.zapthink.com](http://www.zapthink.com)