

## ZAPTHINK ZAPNOTE

### INFRAVIO, INC. *ENABLING WEB SERVICES MANAGEMENT THROUGH DELIVERY CONTRACTS*

*Analyst: Jason Bloomberg*

#### Abstract

Infravio Ensemble is a Web Services management suite that offers full lifecycle management, configuration management, security management, monitoring, and alerting, built upon a metadata-driven architecture that offers APIs for security, transformation, transactions, orchestration, and event management – the complete set of functionality that Web Services management solutions should have.

However, what differentiates Infravio's Ensemble solution from most other Web Services management offerings is their focus on managing *Web Services Delivery Contracts*, which allow Web Service designers to create generic Web Services and then define delivery, routing, SLA, and monitoring parameters that are specific to the consuming application. Infravio Ensemble's ability to manage Web Service consumers as well as producers is a competitive differentiator for Infravio that supports the key SOA requirement of loose coupling across the Web Services lifecycle.

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## Achieving loose coupling and reuse with Web Services delivery contracts

Web Services are by definition contracted, standards-based interfaces to software functionality. The WSDL contracts that specify the port types and bindings for Services are limited in the information they provide about the Services, and provide no information at all about the requirements for consumers of those Services. Therefore, in order to insure the fundamental Service-Oriented Architecture requirement of loose coupling between Service producers and consumers, it is essential to provide delivery contracts that go beyond the basic capabilities of WSDL and provide service-level requirements for the Service producers, as well as information about the consumers of those Services that impacts how the Service may be provided to those consumers.

Infravio is unique among Web Services management vendors on the market today through its capability to address the need for Web Services delivery contracts. Infravio's *Ensemble* helps enterprises deliver comprehensive contract-driven Web Services management that secure Web Services, manage their availability and performance, control Web Services across the entire lifecycle, and enable key aspects of making a Service-oriented architecture (SOA) work. Infravio Ensemble helps enterprises to build and run SOAs by addressing the challenges companies face when they begin to roll out Services in a heterogeneous environment – especially an environment in which more than one application will consume a given Service. As companies build out their SOAs, Ensemble addresses the key challenge that SOAs risk becoming less agile as they grow. As the number of Services and their consuming applications grows, interoperability problems with different Service versions, integration requirements with heterogeneous consumers, and inconsistent data specifications can impede loose coupling and increase costs.

A delivery contract specifies all the information required for a specific consumer to use a particular Web Service. Therefore, the delivery contract adapts the delivery of that Service to the specific requirements of the consumer. Criteria included in the contract typically include service level agreements (SLAs), alerting and reporting requirements, as well as several delivery requirements, including transport, messaging, security, transformation, transaction, and versioning information. Contracts can be either consumer specific or open. When a delivery contract is open it functions more like a policy, where any consuming application can use the providing Service if they conform to the term values defined in the open contract.

Infravio Ensemble supports and enforces delivery contracts that separate delivery preferences from the business logic by making the delivery preferences configurable for each consuming application. Delivery preferences are therefore declarative, providing for dynamic configuration as opposed to being baked into the code. As a result, Infravio customers can make the delivery preferences part of a delivery contract that also includes an SLA and notification information.

At the core of Ensemble is the *Distributed Runtime Broker*. This Broker uses a metadata repository known as the *Configurator* to manage the contracts both at design time (when developers specify the terms of each contract) as well as at runtime (when the SOA must enforce the contracts). Contract data is then cached in the Broker for performance and

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availability. The Broker then calls plug-in Services to retrieve information and enforce security, messaging, transformation, and other requirements specified in the delivery contract. Through support of established Web Services standards, Infravio allows their customers to leverage any existing Services they have already built as the plug-in service of their choice for these functions, so that the customer can extensively reuse previously developed Services or leverage additional third-party solutions.

In order to implement a robust SOA that fulfills the requirements of business agility, it is critical to realize that delivery contracts form an essential part of the layer of abstraction that SOAs require. Infravio Ensemble enables this layer of abstraction through the use of their Distributed Runtime Broker, the Configurator with its central metadata repository, as well as plug-in Services like security, transformation, or orchestration. As a result, Infravio Ensemble can expose business-level Services that can easily be adapted to the requirements of different consumer types.

## Infravio, Inc. Products

Infravio Ensemble 4.0	Availability: Now
<b>Overview:</b> Ensemble 4.0 is a Web Services management suite that offers solutions for configuration, delivery, and management of available Services, and also introduces the Web Services Delivery Contract that allows designers to create generic Web Services and then define delivery, routing, SLA, and monitoring terms that are specific to the consuming application.	
<b>Description:</b> Ensemble provides a management environment that offers a greater understanding of Web Services throughout their lifecycles, a view of the consumer, the ability to enforce service level agreements through intelligent routing, and a deeper understanding of how the Services are being used that extends beyond normal Web Services management capabilities. Ensemble also bundles a rich set of APIs that allows integration with third-party products.	
<b>Value Proposition:</b> Infravio Ensemble uses Web Services Delivery Contracts to: <ul style="list-style-type: none"><li>• Identify consuming applications and secure Web Services against unauthorized access</li><li>• Configure consuming application delivery and operational preferences</li><li>• Provide security, routing, logging, and monitoring as configurable terms</li><li>• Define and manage alert and notification information to enforce consumer specific SLAs</li></ul>	
Ensemble also provides an open, extensible architecture that leverages existing IT assets, lowers implementation costs, and bridges heterogeneous environments both during build and runtime. Ensemble uses independent orchestration engines to model and build composite Services, and allows users to control and manage Web Services from a single console. Ensemble also offers Web Services monitoring, and is able to link with enterprise system management solutions.	
<b>Pricing:</b> Infravio Ensemble starts at \$75,000.	

## The ZapThink Take

Web Services delivery contracts become immensely important once a company has two or more applications that consume a given Service. It's also important to realize that these contracts and their delivery, cannot be static. On the contrary, back-end systems can be added or updated as needed, new consumers can come on board, each with new requirements, and the business Services that the SOA exposes can also be expected to change as the IT organization makes improvements and brings new Services on line.

This vision of dynamic, contract-driven SOAs in action fulfills the essential requirements of business agility—as business requirements change, the architecture has the flexibility necessary to respond to that change. However, simply exposing a number of Services does not provide this necessary flexibility. In order to move from grass-roots Web Services to a fully operational SOA, companies must base their architectures on a tool like Infravio Ensemble that can manage Service contracts as the SOA grows.

Profile: Infravio, Inc.	Nov. 2003
Date Founded: 1999	
Funding:	
Walden International, Crystal Internet Venture Fund	
Employees: 50	
Product:	
Infravio Ensemble 4.0	
Address:	
1601 South De Anza Blvd.	
Suite 165	
Cupertino, CA 95014	
United States	
URL: <a href="http://www.infravio.com">http://www.infravio.com</a>	
Main Phone: 408-861-3000	
Contact:	
Diane Davidson - Director, Marketing Communications	
diane@infravio.com	
408-861-3038	

## Related Research

### Reports

- *Service-Oriented Management* Foundation Report (ZTR-WS106)



## About ZapThink, LLC

ZapThink is an IT market intelligence firm that provides trusted advice and critical insight into XML, Web Services, and Service Orientation. We provide our target audience 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's role is to help companies understand these IT products and services in the context of SOAs and the vision of Service Orientation. ZapThink provides *market intelligence* to IT vendors who offer XML and Web Services-based products to help them understand their competitive landscape and how to communicate their value proposition to their customers within the context of Service Orientation, and lay out their product roadmaps for the coming wave of Service Orientation. ZapThink also provides *implementation intelligence* to IT users who are seeking guidance and clarity into how to assemble the available products and services into a coherent roadmap to Service Orientation. Finally, ZapThink provides *demand intelligence* to IT vendors and service providers who must understand the needs of IT users as they follow the roadmap to Service Orientation.

ZapThink's senior analysts are widely regarded as the "go to analysts" for XML, Web Services, and SOAs by vendors, end-users, and the press. 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.

ZapThink was founded in October 2000 and is headquartered in Waltham, Massachusetts. Its customers include Global 1000 firms, public sector organizations around the world, and many emerging businesses. ZapThink Analysts have years of experience in IT as well as research and analysis. Its analysts have previously been with such firms as IDC and ChannelWave, and have sat on the working group committees for standards bodies such as RosettaNet, UDDI, CPExchange, ebXML, EIDX, and CompTIA.

Call, email, or visit the ZapThink Web site to learn more about how ZapThink can help you to better understand how XML and Web Services impact your business or organization.

### ZAPTHINK CONTACT:

ZapThink, LLC  
11 Willow Street, Suite 200  
Waltham, MA 02453  
Phone: +1 (781) 207 0203  
Fax: +1 (786) 524 3186  
[info@zapthink.com](mailto:info@zapthink.com)  
[www.zapthink.com](http://www.zapthink.com)

