

# Catalog Management



## Preface

Large corporates today handle a portfolio of numerous products and/or services. These products interact and mutually affect one another in various ways, which derive an outsized set of business rules.

The purchase of one product or service may be dependent on purchasing another complementary product. The product may depend on prerequisite systems (such as provisioning, inventory) or be a prerequisite purchase for another product. And, it may require the approval of several corporate departments, such as engineering, marketing, or IT. In addition, product data could be distributed across disparate enterprise systems, with no overall view of each product attribute or dependency.

This scenario demands the support of a centralized product catalog management system. The benefits of such infrastructure can help corporates improve availability, shorten response time, and thus reduce costs.

eWave offers a robust web-based catalog management system with a variety of flexible, modular and scalable features, and comprehensive integration. The system is successfully employed at large scale organizations.

## Customer Objectives

Suppose a sales rep is developing a quote, a bundled set of products. Usually a product is built from one or more attributes and one or more sub-products. Each product attribute and its relationship to other products needs to be configured.

Since catalog information is often stored in several disparate enterprise systems, the various permutations of product quotes are typically stored in a customer relationship management (CRM) product repository or provisioning system. In these systems, the sales rep can add products to a quote from a pool of pre-configured products or copy product configurations from other quotes (if they exist). Products in a quote must co-exist.

Corporate catalog business rules are also often stored in one or more disparate enterprise systems. Therefore, it is usually impossible to apply all the relevant rules when building a new quote. The process has to be performed manually or in several separate iterations.

Catalog Management requirements:

- Offering the appropriate company products and solutions to customers, based on their business and technology environments
- Provide a friendly, intuitive and customizable user interface covering the whole catalog order process
- Enforce business rules while processing catalog order request
- Maximizing the efficiency of customer care representatives and decreasing response time
- Planning and deploying flexible, modular and scalable composite product solutions
- Dynamic configuration of catalog rules – adding, removing, and editing rules at runtime

- Modular connectivity to systems that provide catalog complementary data, such as associate product meta-data, inventory and availability status.

## Catalog solution

eWave's Catalog Manager was designed to address all customer needs as described above.

It provides a central dynamic set of catalog rules, collects product data from other enterprise systems, and enables rules validation at any stage of the configuration process.

eWave's Catalog Manager provides a friendly, intuitive and customizable user interface covering the whole catalog order process, enforcing business rules at every step, dynamic configuration of these rules, and modular connectivity to systems that provide catalog complementary data.

### *The Catalog Manager Wizard*

When building a new products set, each product needs to be configured, including their attributes, relations and configuration (access).

**Attributes** define the product configuration.

**Relations** define the child products, association or containment relations.

**Access** define the physical and virtual configuration, hardware and software requirements, and installation prerequisites.

eWave's Catalog Manager supports easy, wizard guided, configuration of all these components.

Configuration of a products quote is led by a 5 step Wizard:

Step 1 - Create a quote and add products to a quote from the enterprise products repository or from other existing quotes.

Step 2 – Configure Attributes for products inside the quote.

Step 3 – Define product configuration, system requirements and prerequisites (access).

Step 4 – Configure financial terms for the products.

Step 5 – Quote order distribution

Step 4 includes definition of payment method, payment milestones, leasing period, associated campaigns or sale packages, tariffs, and so on.

Step 5 includes the electronic distribution of the order to all relevant applications. For example, the Catalog Manager automatically opens a new CRM ticket (work order) for engineering personnel and electronically notifies the credit control department for purchase authorization.

The Catalog Manager Wizard validates catalog rules at all stages of the configuration process. The user is notified if errors occur as a result of an invalid configuration, and is allowed to return to previous wizard steps to correct the problems.

The wizard, as displayed below, is web based, and can be integrated into enterprise portal.  
The user interface can be tailored to specific customer requirements.

### Configuração de Produtos

Nome do Cliente:	TRNGVT REGRESSION RAFA	Nome da Oportunidade:	TRNGVT REGRESSION RAFA
CNPJ do Cliente:	55412167000151	Status do Contrato:	Assinado
Número do Contrato:	1-5116F_27887/1		

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1 Selecionar Produtos    2 Configurar Produtos    3 Acessos e Endereços    4 Condições Comerciais

#### Catálogo da GVT

Importar

- Catálogo de Produtos
- VOX 3G
- CIDADE MAIS
- VOX 3G LIGHT
- VOX 3G
  - IAD VOX 3G QUANT
  - PABX
  - TELEFONE
  - ROTEADOR
  - VOX FONE
- NÚMERO EXPANSÍVEL
- CIDADES PREFERENCIAIS
- BLOQUEIOS VOX 3G
- RANGE DE NUMERAÇÃO VOX 3G

#### Minhas Seleções

- Catálogo de Produtos
- VOX
  - TIPO VOX
  - ROTAS
  - RANGE NUMERAÇÃO
  - TIPO VOX
  - ROTAS

Anterior    Próximo

#### TIPO VOX

Nome de Atributo	Valor de Atributo
Sinalização	R.2
Sentido Tráfego	B1
Interface VOX	B. 703
Tipo do Canal	30
Velocidade VOX	2048kb

Observações Viabilidade Técnica:

Observações Projeto Especial:

**Reserva de Numeração**

Código Reserva Numeração:

Prazo Reserva Numeração:

Não há erros de validação de atributos.

Anterior    Próximo

Catalog Manager Wizard screenshots – steps 1, 2

### Análise de Crédito

Visualizar Cliente

Razão Social	0 VT CENARIO 17	Código CNAE	
Nome Fantasia	0 VT CENARIO 17	Descrição CNAE	
Número Documento	60000127746029	Código da Conta	1-SHBWA
Endereço	RUA FRANCISCO SAM		Serasa

Oportunidade

Nome	0 GABRIEL LAST-MILE	Data de Abertura	25/04/2007
Temperatura GC	20	Data de Fechamento	12/2007
Receita Estimada	5000	Produtos	

Informação de Crédito do Cliente

Filiais	0	Capital Social	0
Fundação (DD/MM/AAAA)		Histórico de Pagamentos	0
Observações de Crédito	seferewrte234234234		
Contas Arbor	777777776289/Conta inexistente 777777776142/Conta inexistente 777777776132/Conta inexistente 777777776131/Conta inexistente		

Análises de Crédito Executadas para a Oportunidade

### Cliente

CNPJ	28163699000120	Nome*	CIA IMPORTADORA I	Segmentação	Ouro	Grupo do Cliente	
		Nome Fantasia*	CIA IMPORTADORA I	Score			
		Número de Documento*	28163699000120	Risco de Churn			
		Tipo de Documento*	CNPJ	Classe	Doutor		
		Endereço Completo		Unidade de Negócio	Corporate		
		WebSite		Tipo Tributário			
		Status	Cliente	Alíquota Especial Tributário			
		Inscrição Estadual	ISENTO	SLA Padrão VT			
		Código CNAE	4699-3-99	Crédito Pré Aprovado			
		Centro de Decisão		Dados Verificados			

Produtos

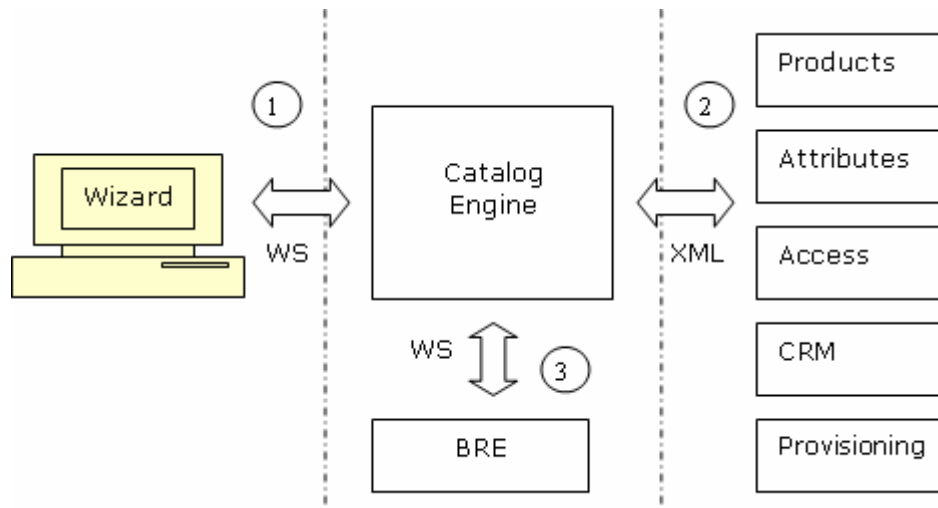
Nome do Atributo	Valor do Atributo
Canais Omni	
Interface Omni	
Velocidade	
Taxa de Compressão	34
Tributário	
Time Slot	

Acessos

Catalog Manager Wizard screenshots – steps 3, 4

## Catalog Engine

Most common catalog management systems enable catalog configuration based on a data and rules (some don't support rules) that can be configured only through one system, that is not customizable and does not integrate with other systems. The power of eWave's Catalog Manager is its openness, flexibility and modularity. It enables modular connectivity with systems that provide catalog complementary data. Its backend connectivity is web-service/XML-based and is easily customizable, and its front-end graphical user interface is also easily tailorable.



Any system in the Catalog Manager architecture (1-3 in the diagram above) can be inserted, depending on the client's system architecture. The Wizard (1) is the Catalog Manager front-end graphical user interface. The default wizard is web-based, built on Java Rich Internet Applications (RIA) latest technologies (Ajax, JSF). Since communication with this layer is based on web-service API, it can be replaced with another user interface based on customer requirements. The catalog engine can query product data from each individual enterprise system (2), with the default platform being Siebel. The communication with this layer is XML-based, and can be tailored per customer specific systems, based on XSLT Transformations. The Business Rules Engine (3) contains all the catalog configuration validation rules. Its default implementation uses the JBoss Rules Engine (Drools). Since the communication with this layer is based on web-service API, it can be replaced with another BRE based on customer preference.

### Associated information and activities

In addition to product repository information, the configuration process is supported by several additional systems (as outlined in the diagram above). Complementary information such as customer details is taken from the CRM, physical address selection is taken from an address data repository, access data is taken from provisioning/engineering/inventory applications, and so on.

After the product configuration information is entered, Catalog Manager executes the workflow process using CRM integration by transmitting the new/updated product configuration to all related applications. For example, opening a new CRM ticket for the engineering personal and notifying credit control department.

All wizard activities are being audited, and can be later reviewed.

## ***BRE component***

The BRE is designed to support flexible rules implementation and a dynamic rule designer so it can be used for almost any validations variation.

By exposing the Wizard validation rules API, external web applications can communicate with the BRE using SOAP, and validate form input.

The BRE supports several catalog validation rules types:

- ☒ Product rules – defining product attributes, products contained in quotes, and relationships with other products.
- ☒ Accumulation rules – validation of quantity in a single quote.
- ☒ Form validation rules – validating the integrity of a basic Wizard input.

### *BRE Flow:*

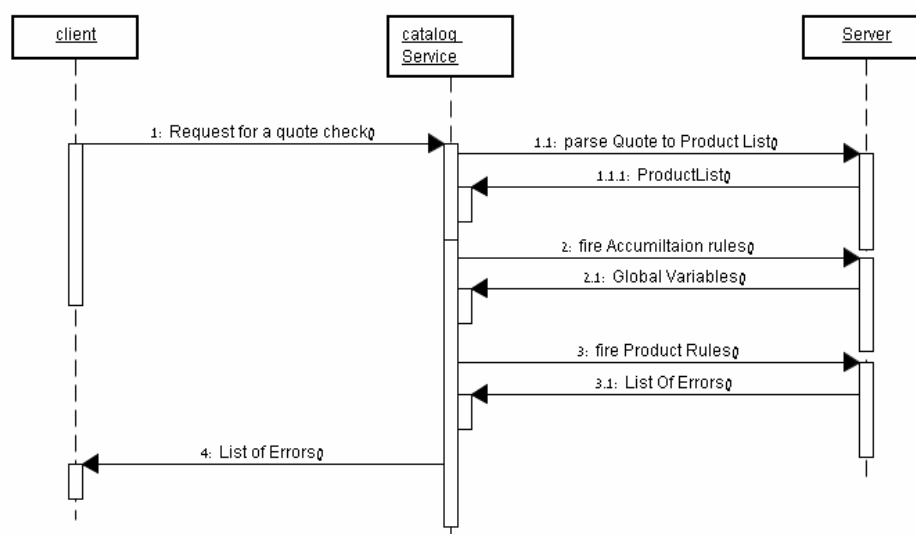
The following describes the technical BRE flow. See the diagram below for a model of the process.

Pre-Validation – Gather all necessary information (usually accumulation values such as how many instances of a specific product exist). All information is loaded to BRE caching memory to boost response performance.

Step 1 – Transforms the Quote Object into a Java Object (named ProductList).

Step 2 - Run a specific rule file for each specific product.

Step 3 - Return the list of errors to the Caller.



## Technology

Catalog Manager solution is based on Service Oriented Architecture (SOA) guidelines, and latest Java/J2EE technologies. The core catalog engine can run on all leading J2EE application servers, BEA WebLogic (default), IBM Websphere, Oracle Fusion, and JBoss AS. It employs web-services, so it is recommended to be incorporated into enterprise ESB, and can be integrated into an SOA environment. Default integration is with BEA AquaLogic. Infrastructure supports Linux operating system (default), Sun Solaris, and Microsoft Windows. The BRE component is pluggable, and can be based on any leading BRE product. Its default implementation is based on JBoss Drools. The default database vendor is Oracle. Microsoft SQL Server can also be used.

## Benefits

Catalog Manager is a comprehensive centralized catalog management solution, with features that include:

- ✓ Wizard based selection that collects all complementary quote order information
- ✓ Customize user interface that can be tailored to specific enterprise workflow and look and feel
- ✓ Web based user interface that does not require any client installation
- ✓ Use existing quotes as a jump-start to new quote creation
- ✓ Validation throughout the sales process that only eligible offers and products are presented, and present messages to users, prompting them to make the right selections.
- ✓ Ensure Final complex orders and quotes are accurate, complete, and valid.
- ✓ Enable dynamic business rules update in one central location

Increase corporate revenue by

- ✓ Reduced costs by shortening sales agent response time
- ✓ Reduced costs by forwarding accurate, valid orders to provisioning/engineering and credit control department, preventing rework
- ✓ Increased sales using agent up-sell and cross-sell features and targeted product promotions
- ✓ Reduction in system development and maintenances costs and speedy deployment due to modular and flexible service oriented architecture.
- ✓ Enhance customer experience as a result of the effective professional service offered by the sales agent
- ✓ Automated order distribution management (instead of manual or disparate)

## Conclusion

eWave's catalog manager simplifies the complex and often frustrating process of tracking numerous products across multiple catalogs and systems. It gives users the information they need to take decisive action, conduct intelligent interactions with customers, offer intelligent cross-sell and up-sell opportunities, and achieve optimal matching between products and target customers. It delivers effective and accurate customer insight that enables businesses to dynamically present targeted product bundles, shorten the sale process, increase revenue, and reduce costs.

## About eWave

eWave is a leading provider of software and integration solutions for medium and large-scale corporates.

With 200 experts, operating in the USA, Europe, Brazil and Middle East, eWave provides web-based information systems. Development and deployment of systems such as enterprise and self-service portals, eCommerce secured systems, cellular applications, SOA assimilation, and legacy to web Integration.

Using the most advanced technologies and innovative ideas, together with our proven methodology process, we help our clients to define their business processes, their information resources and infrastructure needs. We then convert these needs into clear software requirements and implement them. Clients benefit from substantially improved information access while also enhancing productivity, expanding client bases, developing new product lines and lowering costs.

eWave has proven experience serving numerous customers. Among our customers are:

GVT Telecom Brazil, Comverse, DHL, CheckPoint, Philips, D&B, Ericsson, Motorola, SanDisk, Mercury-HP, Maccabi healthcare services, MedcoHealth, Serono, Johnson & Johnson, Taro Pharmaceutical Industries, RadVision, RadCom, Retalix, and much more.

### Contact

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