



Technical Data Sheet

SmartCatalog by Endeavor Commerce

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Overview

Endeavor Commerce is the leading provider of quote-to-order solutions for manufacturing, technology, telecommunications, medical and service companies. Endeavor's SmartCatalog automates the quote, proposal and order process of complex products and services by combining guided selling and configuration with eCommerce and CRM. SmartCatalog is the only configurator certified by Microsoft for Commerce Server (2000, 2002 & 2007) and Dynamics CRM 3.0.

The SmartCatalog integrates seamlessly into a new or existing Commerce Sever environment allowing companies to apply guided selling and complex configuration and business rules to any employee portal, business-to business (B2B) or business-to-consumer (B2C) web site.

This document will outline the two major components of the SmartCatalog solution:

- Product Rule Manager
- Configuration Web Controls

The technical components and architecture of each of these items will also be explained in order to clearly communicate the contents and functions of the SmartCatalog software solution. While the items listed here are what are included in the Out-of-the-Box SmartCatalog solution, it is important to understand that this was built in a way that makes the solution easily customizable to fit any customer's complex needs.

| Title | Description |
|----------------------------|--|
| Rule Manager | Details configuration rule administration application and it's technical architecture. |
| Configuration Web Controls | Explains the components and architecture of the SmartCatalog UI and rule enforcement within the source application site. |
| Data Model | Details the SmartCatalog configuration tables, fields, and relationships between them. |

Rule Manager

The SmartCatalog Rule Manager is the administrative tool that allows Product Managers, Sales Engineers, or even Power Sales Users to create product and pricing rules. The Rule Manager is a .NET Windows Forms Application that is written in Microsoft's C# language.

The Rule Manager connects directly to the source Application's Product Catalog in order to retrieve the necessary product information required to build complex rules. In order to provide an easy, intuitive experience during the rule building process, the Rule Manger utilizes a Tree View drag and drop GUI along with a simple, easy to use, rule builder dialog.

Architecture

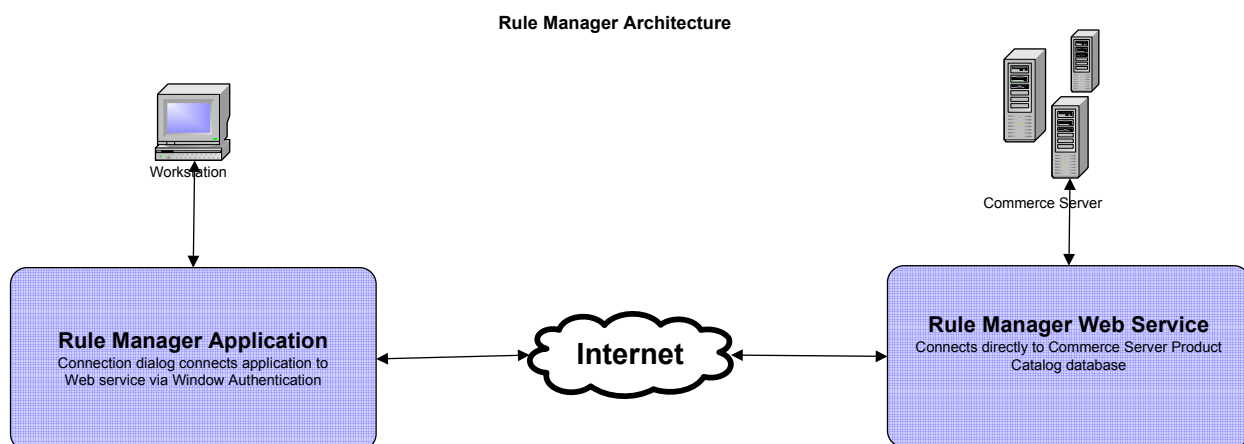
The Rule Manager employs a Web Service based architecture where users are able to run the application at a remote location provided they can connect to the SmartCatalog Web Service. In order to accomplish this, the following two components are implemented in this architecture:

Windows Forms Application

This application is built on the .NET platform in C#. It is installed on any Product Rule Administrator's machine. This application provides the core logic for enforcing the rule builder GUI.

SmartCatalog Web Service

This web service is installed on the a web server that has visibility into the Application database. It is responsible for providing the connectivity to the source database and API. Windows Authentication is typically enforced for this web service as well as SSL to ensure complete security within the application.



Configuration Web Controls

The SmartCatalog Web Controls have been built on the Microsoft ASP .NET platform and consist of the following two major components:

- Configuration Control
- Guided Selling Control

The Web Controls provide the user interface and enforcement of configuration rules. They are web based controls that can be easily plugged into an existing web site. The look and feel of the controls is also easily customizable to fit the appearance and style of the host site.

Configuration Control Architecture

SmartCatalog utilizes a Server Side Processing Architecture that makes use of the Microsoft AJAX framework to enforce a real-time user experience. The server side architecture makes use of the SmartCatalog Rule Engine API which enforces all rules that are built within the Rule Manger. The API is flexible in such a way that it can be called from various areas within a .NET application. The following explains the technical architecture of how the Rule Engine interacts with the SmartCatalog configuration user control in more detail.

The Server-Side Web Control performs all rule enforcement and processing on the Web Server. The product and pricing data is rendered to the user on a category by category basis and posts back to the server every time the user navigates to a different category within the configuration. On each post back, the SCEngine processes the configuration rules to ensure that updates within the category are enforced by the rules that were defined. The steps below represent the process that the Web Controls go through when a user is configuring a product:

Extract

The Web Control obtains configuration Catalog and Rule Xml from the source application database. The appropriate configuration xml is obtained based on passing the configuration ID or Name depending on the workflow of the site.

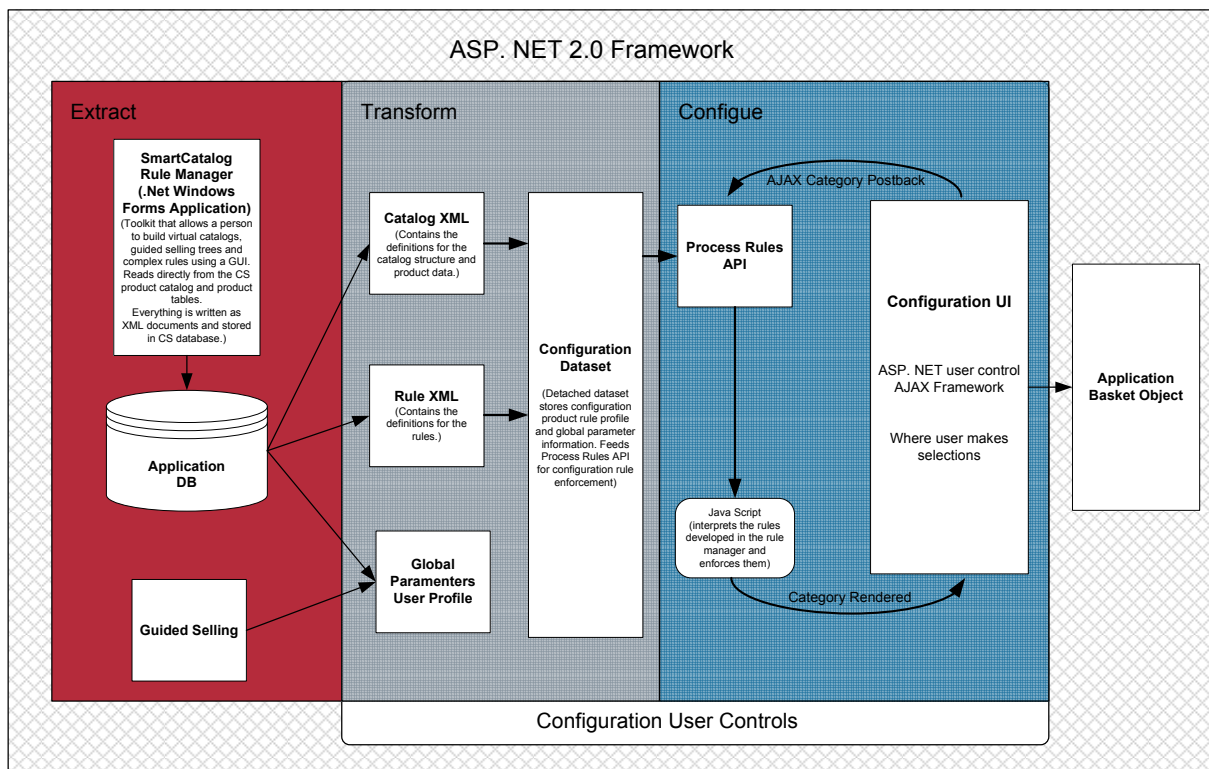
Transform

The SmartCatalog Catalog and Rule Xml are then loaded into a detached .NET Dataset for use in rule processing. The Dataset is loaded into session cache for enhanced performance and persistence during the configure process.

Configure

The Configuration Dataset is passed to the SCEngine class which performs all rule processing. Based on the rules defined in the Product Rule Manager, product and pricing actions are taken and the Dataset is updated accordingly. The updated information is then passed to .NET Repeaters which contain updated category and product information for display in the site.

At this point, the configuration catalog is displayed to the user which has dynamic JavaScript loaded which will enforce all product and pricing rules. The user chooses their desired products and adds them to the Quote or Order Basket.



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SmartCatalog Configuration Processing Architecture

Guided Selling Control Architecture

The Guided Selling control that is provided by SmartCatalog also utilizes the Microsoft AJAX framework in order to dynamically render a tree structured list of questions and answers that were built by the SmartCatalog Rule Manager. The control utilizes Guided Selling xml that defines the path that the user should be taken through given the appropriate answer that is provided.

Extract

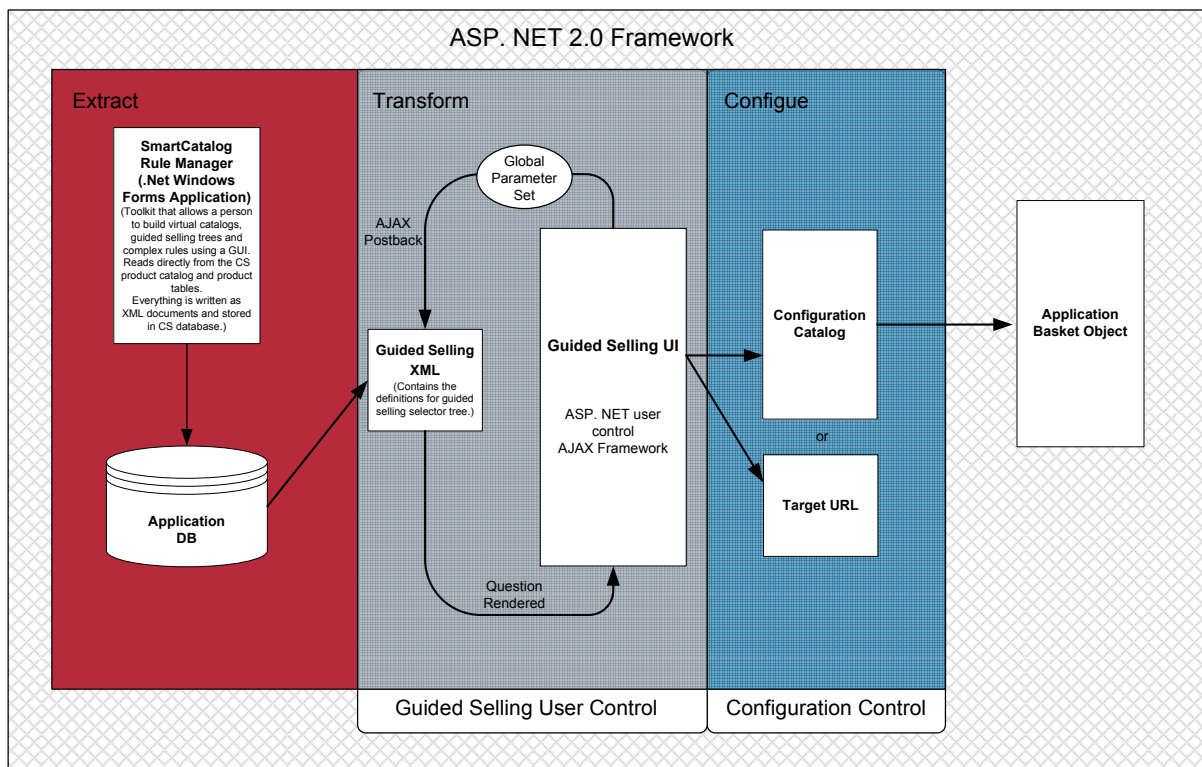
The Guided Selling User Control obtains Guided Selling Xml from the Product Catalog. The control then examines the target question id and renders the matching question and answer to the user. As the user continues to navigate through the Guided Selling process, the appropriate question id is posted back to the page in order to ensure that the next question in the structure is rendered. Since the Guided Selling control uses the AJAX framework, the rendering of subsequent questions is presented in a real-time nature to the user.

Transform

The Guided Selling Xml is then interpreted based on the current question id. From this id, the appropriate question and answer is displayed to the user. Upon selection of an answer, the next question id is posted back to the user control which starts an iterative cycle through the Guided Selling xml. As answers are made by the users, various Global Parameters are set which will then feed the configuration catalog for rule processing.

Configure

When the Guided Selling control has reached the final question in the tree, the user is directed to either the SmartCatalog Configuration control or a target url that has been defined in the Rule Manger. Upon loading of the Configuration control, the Global Parameters that were set during Guided Selling are evaluated by the Rule Engine and used for rule enforcement.



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Data Model

The SmartCatalog data model will consist of several core tables used to store configuration catalog xml, rule xml, guided selling xml, and catalog series data. The details of the data model can be found in the source application's connector technical documentation.