A leading provider of closed-loop supply chain management solutions, i2 designs and delivers software that helps customers optimize and synchronize activities involved in successfully managing supply and demand. i2's global customer base consists of some of the world's market leaders — including seven of the Fortune global top 10. Founded in 1988 with a commitment to customer success, i2 remains focused on delivering value by implementing solutions designed to provide a rapid return on investment.

i2 Configurator

i2 Configurator,™ part of the i2 Intelligent Selling Solution™ (ISS), creates a multi-channel environment that offers automated assistance directly to customers or sales personnel and validates incoming orders to drive down configuration errors during order capture. Companies in industries as diverse as heavy industrial equipment and high-tech computer manufacturers to oil and gas and consumer electronics have proven that i2 Configurator can maximize profitability and increase customer satisfaction.

Software that can leverage your configuration knowledge

**Maximize profitability and customer satisfaction**
Guided selling
Configurable or build-to-order products typically require customers to make various selections from a list of options. To help guide customers through the sales process and simplify their buying experience, it is critical to capture and disseminate sales knowledge to customers through comprehensive configuration modeling and end-user interfaces (see Figure 1).

Reduce errors in order capture
In most manufacturing environments, misconfigured orders cause havoc downstream because the order must be removed from production, the customer notified, and the change order re-submitted to production. No amount of planning can prevent the significant amount of time and money that is lost in this process. To eliminate this problem, orders must be properly captured upstream. By using intelligence that models

Simplified customer configuration process

Figure 1
Using i2 Configurator, customers or sales channel partners can build products and bundles by interactively selecting valid options.
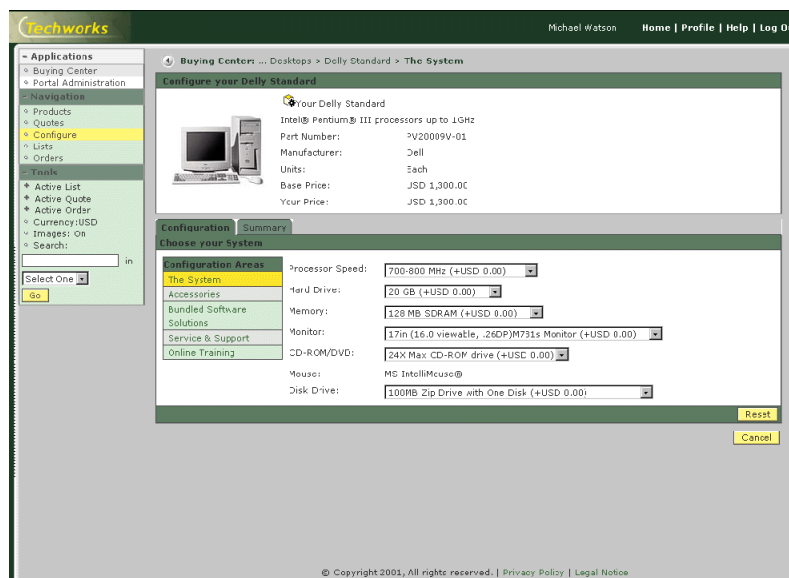
"i2's intelligent selling solution provides our sales channels with best-in-class product marketing information to help them sell more of TaylorMade-adidas Golf products."
—Rob McClellan, Global eMarketing Manager, **TaylorMade-adidas Golf**

relationships between the various components offered, i2 Configurator reduces configuration errors during order capture. As a result, the production facility only has to cope with change orders initiated by the customer.

Gather market intelligence
When customers select products from inventory and/or have other constraints placed upon them, they must exercise certain choices. By capturing and analyzing customer preferences and other pertinent buying data with sophisticated decision-support tools, i2 Configurator can help manufacturers understand what products should be kept in inventory or added to their portfolio of products.

Simplify product offerings
Manufacturers can simplify their product offerings with i2 Configurator through modularization of components and ease of product presentation. As manufacturers identify modules that are similar, they can be re-used throughout the configuration process to reduce the complexity of their product selection.

i2 Configurator key features
The solution's configuration environment is designed with the user in mind, keeping flexibility and ease of use a top priority. It is used for displaying configurations to the end sure, building configurations and rules constraints as well as generating document and part numbers. i2 Configurator provides extremely flexible rendering through a JavaScript API, giving Web designers full creative control of the user interface (UI). i2 Configurator can model five levels of configuration rules – hierarchical, guidance codes, relations, macros, and interpretations. Each of these rule types is explained in succession, as they build on each other in complexity. Finally, i2 Configurator can provide the capability to easily generate documents from pre-defined templates and part numbers from pre-arranged part number descriptions.

Flexible configuration rendering
For rendering configurations, i2 Configurator offers three options for building the user interface:
–Automatically generate the UI
–Use the modeling tool to create custom dialog boxes
–Build the Java Servlet Pages from scratch.

Additionally, the solution provides highly flexible rendering through a JavaScript API that gives Web designers full reign over the look-and-feel of the interface. Another benefit of the Java Script technique is that the interface does not flash when configuration data is refreshed, which is important to many marketing professionals.

Hierarchical rules definition
Hierarchies can describe limited relationships between components such as AND and OR relationships. Within the first level of the i2 Configurator maintenance environment, a modeler can represent AND and OR relationship rules through the use of a hierarchy. The modeler can also group items together, forcing a valid selection within the group before subsequent selections can be made.

Guidance codes
The next level of modeling in configuration administration is guidance codes. Guidance codes allow a modeler to add rules superimposed on the hierarchy. Guidance codes are represented through symbols displayed on the hierarchy. Guidance codes can represent obligatory relationships or determine if mandatory selections must be made from an OR structure.

Capture only valid orders

Gain market intelligence
by tracking choices

Customizable, flexible
user interface

Relations

Relations allow modelers to describe complex relationships between components in a structure using a graphical interface. Relations have two components, a source, and destination. A source indicates that an item has been selected and the destination determines which item is affected. The destination affects the item with any of the following value relationships: positive, negative, default, obligatory, select, or unselect. If a positive relationship exists between components, then the destination can be selected. Negative relationships mean the destination cannot be selected. Default sets the destination as a default, obligatory sets the destination as mandatory, selected forces a selection, and unselect forces a de-selection of the destination. Relations allow the modeler to set a value on the destination.

Interpretations

Interpretations are similar to relations except that the destination interprets a part from the item master list, which does not necessarily reside in the configuration structure. Interpretations are useful when integrating to ERP systems because the information in the sales environment may be structured differently than that in the database (i.e., high-level names for parts in sales and part numbers in the database).

Macros

Macros allow even more complexity in describing relationships between components. Macros are written in standard Visual Basic language and provide modelers with the ability to extend the configuration environment.

Rules-based component comparisons

Figure 2

Product managers can define product constraints in i2 Configurator's intuitive modeling environment.
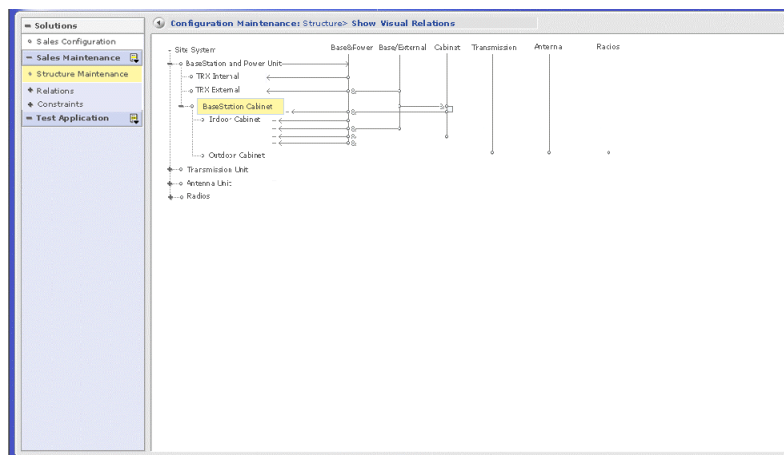
"Our sales people need to be able to make better decisions immediately, while face-to-face with the customer. The i2 solution has helped us reach these goals of high velocity by keeping our salespeople updated on current product information."
—Markus Ekman, Vice President of Process Development and IT, **Metso Minerals**

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Linked configuration modules

Many configuration models require re-use of configured modules across configuration structures. i2 Configurator allows modelers to link configuration structures across models. For example, if an engine is a configurable component and is used in three different trucks, the modeler only has to model the engine in one configuration structure and then link that structure to each of the truck configurations. This simplifies the maintenance environment and is essential for complex configurations.

Attribute and unit maintenance

A strong attribute management system is essential for any configuration environment. Attributes allow configuration modelers to further describe components using numerical and date values, language dependent text, pictures, integers, and Boolean values. Numeric values have min/max values as well as decimal places. Language-dependent text permits richer descriptions of a component in multiple languages. Attributes can have mandatory domain values that are expressed with an ordinal number. Additionally, attributes are associated with a unit of measurement. Units can be modified and added to the system as a base with conversion factors for converting to other types of units.

Once attributes are defined, they are associated to items through classes. A cross section of attributes are exposed through a given class that dictates which attributes can be seen, modified, and which must be entered by a user. Then, in an easy-to-use dialog box, a configuration modeler can define how attributes should be calculated in the quote. Calculations can include summation, average, min, max, and macros.

Document generation

i2 Configurator also includes a comprehensive document generation tool. Customizable documents can be generated for almost any purpose. For example, some companies choose to generate sales orders, factory orders, long descriptions of quotes, and other types of documents. Documents can be designed into customized document templates that include header, footer, body text, item attributes, and much more information. Then, when a customer generates a document, it is specifically geared to their selections. Documents can be generated in both Rich Text Format (RTF) as well as HTML.

Part number generation

Part number generation describes customized products and reduces the complexity of catalog information. Many companies currently generate individual codes for hundreds of combinations of components, often called bundles or fixed configurations. This practice produces an abundance of codes and ultimately drives maintenance issues for product managers who must maintain the fixed configurations and for channel partners that sell the products. A better solution is to create fixed configurations for the top configurations and automatically generate codes for other bundles. This simplifies the product array for channel partners and offers a greater range of flexibility in creating customer-driven bundles.

The solution can be leveraged for large business customers that insist on a customized bundle and special pricing. This method automatically generates the configuration ID and assigns the bundle as a specialized catalog item that is only viewable to the customer. The customer may order the bundle repetitively. When the specialized catalog item is no longer valid due to engineering or other changes, the customer can be notified. Similarly, indirect channels (e.g., dealers, resellers, partners) can create and store their own bundles based on the needs of their customers or start the configuration process with an existing bundle and add components to create a new bundle.

i2 Configurator allows modelers to define how a part number should be generated for a given configuration. The part number can be a concatenation of attribute values, fixed ASCII text, and automatically generated sequence numbers. Additionally, part number generation can be extended through customizable Java classes for difficult generation sequences.