CADFlow for Frontier

In complex, make-to-order and engineer-to-order environments, the Frontier® Product Configurator has always delivered rich functionality throughout the supply chain, from order entry across multiple channels to shop floor scheduling, manufacturing execution, and material procurement.

Now, Frontier CADFlow allows you to take advantage of the 3D design and visualization capabilities of Autodesk Inventor®. This will not only accelerate the design and delivery of your configured products, but it will reduce your costs in the process.

CADFlow fully leverages your investment in the power of 3D technology by automating detailed 3D models, drawings, and manufacturing data specific to each configuration, as well as data and images that meet the requirements of your customer. All these outputs are produced using both your existing models and the configuration rules housed in the Frontier Configurator. In doing so, there are no redundancies of data.

- Enhance the quote-to-sale process with powerful 3D visualization and communication capabilities.
- Speed new product development.
- Reduce engineering costs for custom configurations.
- Improve manufacturing performance and product comprehension.
- Save time and effort by using your existing models, rules, database and expertise.

LEVERAGE CAD DESIGN SKILLS IN MODEL DEVELOPMENT

The integration between the Frontier configuration engine and Autodesk Inventor allows your engineers to leverage their CAD design skills when developing Frontier product models. Frontier recognizes the design rules and constraints defined in an Inventor model. Violations of those rules are reported back to the user as they configure a product in Frontier. Assemblies defined in Inventor can be used to drive the multi-level work order structure in Frontier. The components defined in each sub-assembly can be used to populate the bill of materials (BOM) for each work order. This integration reduces the need to duplicate both product and BOM rules.

FLEXIBLE IMPLEMENTATION FOR BOTH EXISTING AND NEW MODELS

You choose the level of integration that is right for your business. In the following three Frontier models, you control the "definitive sources" of rules and data.

- Model data housed entirely within Frontier:
  - The Frontier configuration drives the generation of a configuration-specific Inventor model representing the ordered product. The Inventor model automates the generation of configuration-specific CAD drawings, manufacturing documents, and model images.

- Model data housed within Inventor:
  - Frontier supplies the product configuration order entry options. The Inventor model applies rules, defines material, and returns detailed configuration and material requirements back to Frontier, along with the configuration-specific Inventor model.

- A combination of both:
  - Make better use of each application's strengths. For example, there may be calculated configuration values, such as elliptic arc lengths, that are readily available within Inventor. These calculated attributes can be returned to Frontier, reducing the complexity of Frontier's rules and reducing redundant information. There is no need to replicate the calculation in Frontier.

IMPROVE PRODUCT COMPREHENSION AND COMMUNICATION

During sales order entry and customer quote entry in eQuote, a model rendering is displayed as configuration options are selected. If the engineer has defined constraints in the model, and one or more of those constraints are violated, those errors will be displayed during the configuration process along with any messages generated by Frontier configuration rules. The same functionality applies for both in-house order entry and customer order entry using eQuote.

A full view of the 3D model is visible simply by double-clicking the rendering. The full view provides access to each detail, including dimensions, sub-components, and material information.

IMPROVE PRODUCT COMPREHENSION AND COMMUNICATION (CONTINUED)

When the product is manufactured, Frontier Advanced Manufacturing Execution (AME) users have the same ability to access the full view of the 3D model to better understand its assembly and attributes.

The full view lets the user "explore" the 3D model's measurements and the attributes of its individual sub-assemblies and components as they are defined in the Inventor model. This feature ultimately gives the user the valuable insight needed to manufacture the product to the exact specifications.

SYSTEM ARCHITECTURE

CADFLOW LEVERAGES YOUR EXISTING FRONTIER IT INFRASTRUCTURE.

Using your existing System i and Websphere application servers CADFlow requires no changes to your client workstations. It runs on its own server where it executes Autodesk Inventor to deliver CAD services. Performance is optimized using advanced cache management, multi-threaded processing, and selectable processing modes. For high-volume applications, processing can be distributed across multiple servers. High-availability is supported when using multiple servers.

MAXIMIZE YOUR FRONTIER INVESTMENT

- No additional "configurators" to buy or learn.
- Rapid deployment using your existing models.
- Tightly integrated into your existing Frontier workflow.
- A solution that grows with Frontier, now and in the future.

For more information or to arrange a demo:
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