“IBM ILOG JViews Enterprise: An Introduction”

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Hello and welcome to this introductory presentation on “IBM ILOG JViews Enterprise”. In the next 15 minutes or so, we will introduce this product to you, discuss basic technical features, and explain why it can be an excellent choice for your software development project.

We’ll use many screen shots and product demonstrations to show you what’s possible.

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What is IBM ILOG JViews Enterprise?

“IBM ILOG JViews Enterprise enables Java user interface developers to add highly graphical and interactive displays to their line-of-business applications”

The key points to note are, first, we are talking about a product aimed at developers--specifically, Java developers—and not IT users or other end users.

Next thing to note is that we are targeting line-of-business applications: mission-critical, demanding applications. These applications may have large data throughput requirements, or may have very custom display or interaction needs. And, because the user interface is the face of the business application, it is integral to its success.

The types of displays that can be built with JViews Enterprise are all highly graphical. Therea re five different typoes of displays: diagrams, dashboards, maps, schedule displays, and charts. The images on this slide are some examples.

Now let’s look at examples of each of these types of displays.

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Here we have some diagram displays built with JViews Enterprise. What exactly do we mean by a diagram? This is a display which has objects that are connected to other objects with lines. Sometimes we refer to these elements as nodes and links.

The difficult thing about these types of displays is getting it to be readable when there are lots of nodes and links. So there have been techniques developed to do this automatically for the user—these are called “graph layout algorithms” and they ensure that the diagram is neatly arranged on the screen so that the user can best make sense of the information.

On the left, we have a business process model, following the Business Process Modeling Notation, and, on the right, a UML modeler.

Note that objects in a diagram can be quite complex and so can the way in which they connect to each other. The graph layout algorithms must take all of this into account when calculating the positions of the nodes and links.

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Here are two types of dashboard displays built with JViews Enterprise, for real-time monitoring.

The leftmost is a business dashboard, used to present Key Performance Indicators (KPIs) to business users.

The one on the right is an industrial supervision dashboard. Here, the objects on the screen represent physical equipment and their current status.

We are looking at static screen shots, of course. A real monitoring application is quite dynamic, with the screen elements updating in real-time as the underlying data changes.

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Here is a JViews Enterprise map display.

This is an asset management map, used to show where the underlying system data is physically located. Examples include supply chain management applications, air traffic control applications, and telecom network management.

In this example, we have a geographic map of a city, overlaid with graphics that represent system resources. The objects are placed on the map at their correct geo-spatial location and can change their locations or visual appearance.

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JViews Enterprise also provides time-based displays. Here we have two types of Gantt charts.

The one on the left is typical of those used for project management applications, showing tasks and their interdependencies.

The one on the right is a resource load chart, used to show how resources are scheduled over time, along with their associated task loads.

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Here are some classic chart displays provided in the product.

First is a scientific chart. Below it is a treemap chart.
And, on the right, is a combination of area and line charts. This particular one is a stock chart example, and has 3 parallel charts.

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Now let's look at who is JViews Enterprise designed for?

JViews Enterprise is designed for User interface developers working in Java……who want to build an solution……for a business application with demanding display requirements……and who want to rely on an experienced, trusted vendor

The underlining highlights the key points.

- This is a product for Java software developers—it is not a finished solution

- These developers are creating a solution—it could be an ISV building a product, or a SI doing a custom solution, or a large end-user with specific needs for in-house app
- JViews Enterprise is targeted at business applications with demanding requirements—typically, large sets of data need to be displayed, or there is a need for fast and efficient screen redraws, or there is a need to completely customize the look-and-feel to meet the needs of the end user
- "experienced" and "trusted" refers to the fact that IBM ILOG has over 20 years of experience building these types of products for thousands of customers. And it has a worldwide support and consulting network.

What kind of product is it?
JViews Enterprise is helps developers build the user interface. It provides a set of software components—think of them as building blocks—to help deliver advanced displays that would otherwise be too difficult to build. These building blocks are like engines that get embedded into an application, driving some part of the user interface. For example, if developers are building a finance application, the user interface may very likely include a chart display. And JViews Enterprise can provide that chart building block.

JViews Enterprise is a product delivered with 6 point and click editors, for quickly customizing the display components, the display components (or "building blocks") themselves, and a full Java API. All of this ensures that developers get up to speed quickly, can use the building blocks "as is" or easily tailor them, and can "drop down" to the API level if they need to further customize the look or behavior.

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Let's explore the technical features in a bit more details.

JViews Enterprise is unique because it offers a variety of displays from within a single product. Enterprise-sized customers may find this attractive because they typically need more than one of these displays in an application, and they can explore the many different types and leverage them all easily.

Even though the types of displays that can be created with JViews Enterprise are very different, there are common design principles used throughout the product. This commonality enables developers to come up to speed faster and enables reuse.

For example, the editors for 3 of the display types are similar, as are the architectures for some of the displays. Documentation is fully integrated and consistent throughout the various display types.

JViews Enterprise regards the ability to fully customize everything as a key principle, and has been well-architected to support this. A full API is also provided to enable exact customization control over the look and feel of all displays.

The product also supports the handling of large sets of data, and fast screen redraws.

All JViews Enterprise displays can be deployed to both the desktop (as applets or applications) or can be deployed on a server with Ajax-enhanced Web browser clients. There is no need to pay for another product to port a display to the Web, and no need to re-architect everything either.

Let's take a brief look at the technical features provided in each type of display.

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As mentioned before, diagrams can be defined as nodes and their interconnecting links. They are often used in modeling applications, like the business process diagram shown in the lower image, and in monitoring applications, like the upper image which shows the current status of network equipment. Nodes and links can be fully customized for the particular application domain.

JViews Enterprise includes many advanced services for organizing the diagrams.

The foremost amoung these are the graph layout algorithms. This is an important part of the product because this technology is very valuable, yet very difficult to implement correctly. JViews Enterprise includes node layout algorithms, including hierarchical, circular, topological mesh, force directed, tree, bus, and grid, link layout algorithms and label layout algorithms. Each of these are used for specific types of applications and network topologies and each features dozens of parameters to fine-tune them.

Other organization techniques provided include sub graphs, which can be expanded and collapsed, and zoom dependent decluttering (this means that , if you zoom out and the objects get smaller, we can use smart shortcuts to draw them quicker)

And there are a lot of services for building modelers. For example, the Business Process Management Notation is fully implemented. The product is shipped with many full-featured modeler samples too—these can be easily customized and rebranded.

A point-and-click symbol editor is also included. This is used to create the custom graphic objects used in the diagram. Users can import static graphics from other authoring applications—such as Adobe Illustrator—then assign behaviors to the various parts. In this way, the user can create data-aware graphic objects that will change the way they look under various conditions. The resulting symbols are used in the finished app and connected to underlying system data. And, so, when the system data changes, the symbol that is connected to that data may change its appearance.

The stying editor is another tool. It is used to define the graph layout parameter values used in a diagram display, among other things.

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Dashboards created with JViews Enterprise can be one of two types: a business dashboard or an industrial dashboard, shown in the lower image. Both types of dashboards are for monitoring—in other words, the graphic objects will show changes to the underlying data in real-time. Business dashboards – also called Business Activity Monitoring and Business Intelligence displays – use symbols to display business key performance indicators. The symbols on these displays are typically dials, charts, gauges and the like, but, with JViews Enterprise, they can be any symbol that has been created with the Symbol Editor.

An industrial dashboard, also called a Human Machine Interface or SCADA screen, is used to depict the current status of physical equipment. It is typically used in process control applications—like factory floor or plant monitoring—to show the current state of the machinery.

The Dashboards feature the same Symbol Editor mentioned before for the diagram displays. The image in the upper left shows a symbol being created.

Once symbols are created, they will need to be arranged in a display and this is where the Dashboard editor comes into play. The dashboard editor takes the symbols created with the

symbol editor and lets the user arrange them in the display and then connect them to the underlying data feeds. (The actual connection is application-specific and requires developers to customize the Dashboard editor.)

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The mapping feature of JViews Enterprise is well suited for applications where the map is a "backdrop" to the real-world data on top of the map. In other words, the core focus is the graphic objects on top of the map, their current position and current state, and the map is used primarily to provide spatial context.

These are sometime called "asset management maps" and JViews Enterprise has a great set of features to support them.

For example, developers can mix and match maps from a variety of sources, enabling vector data to be placed on top of raster data., for example, and the visibility of different map data can be controlled according to zoom level. All popular map formats are supported and the way these maps will look can be defined using a special configuration tool called the Map Builder.

These can then be overlaid with custom symbols—created again with the Symbol Editor—and connected to the underlying system data. As with Diagrams and dashboards, symbols can change the way they look according to their status—when used on a map, they can also change their position.

Note that this mapping feature is not used for editing maps and its capabilities should not be confused with that of a GIS. GIS's typically provide deep knowledge about the data behind a region, and also provide query capabilities. JViews Enterprise does nto provide thiose services. But, for the common application need of having a map "backdrop" to provide spatial geo-location, JViews Enterprise can be a good fit.

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JViews Enterprise provides a variety of time-based, or schedule chart displays. Most prominent of these is the Gantt chart, used in a variety of project planning and scheduling applications—whereever it is useful to see how resources are allocated over time.

The top image shows a Gantt for project scheduling, along with a calendar view.
The bottom image shows a more sophisticated example—what tasks the equipment in a factory is scheduled to perform.

Other views included are a calendar view, PERT chart view, and a tree table. A basic critical path computation is also provided.

Like all of the other displays, the Gantt displays also have a point-and-click configuration tool to set the basic display parameters.

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Finally, we have the JViews Enterprise Chart displays.

Charts are the most commonly-used advanced display component. JViews Enterprise's charts stand out because of

- the wide variety of chart types provided--from standard bar, line, and area charts to data exploration charts

- their ability to quickly update the display (this is good for quickly changing data in real-time monitoring applications, for example)
- the capability to completely customize every aspect of the chart and its interactions too
- the ability to handle very large data sets

Again, a point-and-click configuration tools is provided to speed development.

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Let's view a short demo now of the products in action.

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Why buy JViews Enterprise?

The key benefits of the product is that it (1) saves development time and (2) provides a better user experience.

So, first, development time is saved because the provided software components eliminate the need for a lot of the difficult and tedious development work. By using the product, at least 50% of the user interface development effort can be saved.

And second, the end user experience is superior. The displays created with JViews Enterprise are more responsive, for screen refreshes, for large sets of data, etc. And because developers can create displays that perfectly meet the end users requirements—with custom symbols that represent the elements in the users underlying system, for example—the user is more satisfied with the resulting product.

Developers can also easily add new displays –such as a treemap—that are both innovative and useful, further differentiating their software offering.

JViews Enterprise builds on over 20 years of experience from IBM ILOG. Although JViews Enterprise is the newest member of the JViews family, there are already hundreds of customers—SIs, Large end users, and ISVs—embedding one or more of the other IBM ILOG JViews products. In fact, this product combines the most commonly used displays from the other JViews products into a single offering that is targeted at the needs of large enterprises.

A final point: the product is backed by a worldwide network of support. All of these factors set JViews Enterprise apart from any other user interface development product.

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Let's recap what we've covered.

IBM ILOG JViews Enterprise enables Java user interface developers to add highly graphical and interactive displays to their line-of-business applications

So, the ideal application for JViews Enterprise is:
- a software development team working in Java

- that is building a software application with highly graphical user interface needs
- and this application is a demanding business application

We saw that JViews Enterprise is a visualization product that provides 5 types of displays

- Diagrams
- Dashboards
- Maps
- Schedule displays
- Charts

Finally, we note that JViews Enterprise has been field tested for many years, and comes from a trusted vendor.

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Here are some pointers for where to go for more information. We encourage you to visit the Visualization product pages on the IBM website. You may be interested in one of the pre-recorded technical presentations. And we encourage you to try one of the wide variety of interactive product demos. These are a great way to see what the product can do.

Of course, when you are ready to explore further, 90 day full-featured trial evaluations of the product are immediately available.

Good luck with your development project! And thank you for listening.