We looked at ease of use, scalability, integration, platform flexibility and the ability to process data in real time. Panopticon was superior to all others.

Paul Doody
Global Head of Sales and Trading Products
Thomson Reuters
Visual Business Activity Monitoring and Fast Analysis at the Speed of Your Business

EX is a sophisticated visual data analysis platform that is easy to deploy and use. Setting up your view for data analysis or activity monitoring is a simple drag-and-drop process. Designing new dashboards is quick, easy and fun with our “what you see is what you get” user interface. Publish to the web in seconds with our “one click publishing” function.

Panopticon EX allows you to federate several data tables from completely different databases and systems, which in turn lets you view combined data from those separate sources in one data set, and still have data updates delivered seamlessly to your output displays.

EX fits into any work environment. Business individuals who understand their data are the people who author and publish dashboards for onward distribution within your organization or even for public websites. The EX Designer component can serve as a completely standalone operational intelligence system that provides power users with a comprehensive system on their desktops.

Time Based Analysis — Continuous and Categorical

Panopticon EX supports analysis of historical time series data in two ways:

- Design time in hierarchical categories (Year, Quarter, Month, Day, and so on). This is the approach commonly found in most Business Intelligence systems.
- The second method supports continuous time series such as those commonly found within Financial Services and Telecommunications applications. Here we support time windowing, time window calculations and time period calculations like moving averages. Panopticon EX also allows users to play through a series in an animated sequence using all data in a selected time range or using manually selected data sets from any of the hundreds of available time snapshots.

Both approaches support our dynamic hierarchies and aggregation calculations.

Visualizations in Panopticon EX

Although we are best known for our Treemaps, Panopticon EX includes a vast range of visualizations including:

- Bar Graph (Horizontal, Vertical, Netted, Grouped & Stacked)
- Barseries
- Bullet graph (Horizontal & Vertical)
- Dot Plot (Horizontal & Vertical)
- Heat Map
- Heat Matrix
- Horizon Graph
- Line Graph
- Needle Graph
- Numeric Line Graph
- Percentage Area Graph
- Pie Chart
- Pivot Table
- Scatter Plot
- Stack Graph
- Surface Plot
- Tile
- Treemap (Classic, Window & Cluster)

After a thorough evaluation of the marketplace, we opted for Panopticon’s visualization solutions based upon their performance numbers and their universal accessibility from different technology platforms.

Jerome Downey
Senior Managing Director
JP Morgan Chase
StreamCube™ OLAP In-Memory Data Model: Designed for Speed

Panopticon EX incorporates our unique StreamCube™ OLAP data model. This provides rich in-memory OLAP functionality for fast analysis for static, streaming and time series data sets. It binds aspects of the data to the visualizations, filters and user controls presented on the screen. It allows users to move up and down within the data hierarchy easily, and filter, slice and dice the data quickly using the fast in-memory data model.

The StreamCube™ makes it possible for us to link the visualizations in a Panopticon EX Workbook. This lets you apply screening criteria that affect several data visualizations simultaneously. If you select a single data point in one visualization, you can see it highlighted in the other visualizations on the screen. This makes it much easier to identify outliers and to see how one data point compares to others using several different perspectives at the same time.

Our visualizations are not static pictures, but are instead designed from first principles to work with real-time streaming data. The real value of the visualization is quickly apparent when you interact with the data. You can zoom, filter and view details on demand, as well as link to and highlight other sources of information. For example, fund managers can link to a trading system directly from within the dashboard.

Connect to Real-Time Streaming Data Sources

The idea of “real-time” can be very confusing, since virtually all software companies that provide visual analysis tools say they can handle “real-time”. However, what most of them mean is that their software goes out and requests an update from an external data warehouse, which itself may be updated once per day when the data is needed. This itself can take several minutes. What we mean by “streaming real-time” is that data is constantly being pushed into our system and therefore into the dashboard by an external source – not at a regular interval, but instantly, as-it-happens and on a tick-by-tick basis.

Connect to Relational and Column Oriented Databases

The software includes connectors for relational databases, including DB2, Oracle, Sybase ASE, Sybase IQ, Microsoft SQL Server, MySQL, and Microsoft Access as well as Microsoft Excel and similar flat file formats. Data can be retrieved from tables, views, custom SQL queries, and even parameterized stored procedures.

Connect to CEP Engines

Complex Event Processing (CEP) is an emerging technology for building and managing information systems including:

- Market Liquidity Analysis
- Real Time Risk Management
- Algorithmic Trading
- Basket Trading
- Real-Time Conformance to Regulations and Policies

Panopticon EX can use CEP data and allows you to truly see clearly the data being produced by your CEP engine by providing visual analysis capabilities on both the streaming real time data, plus the historical records, typically output to Column oriented data repositories.

We made a thorough survey of our alternatives and selected Panopticon due to its very intuitive display of data and the ease of integration.

Jerome Tordo
Founding Partner & Managing Director
Sycomore Asset Management
Data Federation

Getting the numbers right is critical in any information visualization application. Our software supports dynamic calculations using combinations of live data from real-time streaming sources like message queues or CEP engines and historical databases. The software handles multiple data sources too; you aren’t limited to a single database to combine with your real-time feeds. The system applies your calculations and formulas to incoming data on-the-fly and presents the results visually in real time. For example, you can easily federate data in an Excel spreadsheet with live real-time stock exchange data from a market data feed and program calculations using Excel-like formulas. Then you can see and interactively analyze the results using our interactive Treemap, Heatmap, Line Graph, Scatter Plot, Bar Graph, Horizon Graph or Stack Graph information visualization tools.

Speed Matters

Simple chart libraries cannot support calculations using real-time data. Data aggregation mechanisms that work in real-time require sophisticated programming techniques that must be carefully implemented. The design of our software guarantees calculation performance so that overall system performance is not affected as real-time data streams into the system. It allows users to work with real-time data feeds that may be changing hundreds of times per second.

Visual Alerts Notify You in Real-Time on an Exception Basis

You can screen on any part of the data with visual alerts that are triggered when a specific set of conditions is fulfilled. Other visual alerts indicate when and where there is an update in the data. The visual alerts are extremely powerful. For example, if you are monitoring trade activities or exposure risks, they will let you know instantly when certain trouble conditions are present so that you can take immediate action.

Our highly interactive software lets you explore and visually analyze huge amounts of real-time data with simple drag and drop operations. Start with the big picture and explore interesting aspects of your data in further detail. Interactively filter and get rid of irrelevant data. Navigate through your data using simple mouse operations. Save your favorite views and share your findings with your colleagues and customers.

Panopticon Software

Panopticon’s clients use the company’s data visualization software tools to speed up their business processes, reduce operational and investment risks, detect anomalies (including fraud), and identify opportunities to increase profits and sales. They help people see hidden patterns or spot problems in addition to helping them identify useful opportunities in their data.

Panopticon’s platform excels in three areas:

- Transforming data into intuitive academically validated graphical displays that are easy to understand and use.
- Highly interactive business intelligence monitoring and analysis tools.
- Ability to connect to virtually any data source, including real-time streaming feeds, relational databases, and proprietary data formats.

The Panopticon platform is available as an SDK that enables software companies and corporations to embed these capabilities into their own applications and in our Panopticon EX product designed for fast deployment at the enterprise, workgroup or desktop levels.

Panopticon business intelligence tools let people take direct control of their data and use it to make informed, insightful business decisions. Companies can implement these tools quickly and increase the value and utility of existing BI systems. We give our customers an edge by providing monitoring and analysis capabilities that support timely, insightful business decisions based on up-to-the-minute data.

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Panopticon’s visualization software provides a rich way to conceptualize data that our users love. It offers them a natural, intuitive way to understand complex hierarchies along with the most important attributes that matter to them.

Harm Friskus
R&D Manager
Farminform