



# BizViz ANALYTICS™

Product Brief for BizViz Productivity Analytics V9.2  
April 2010



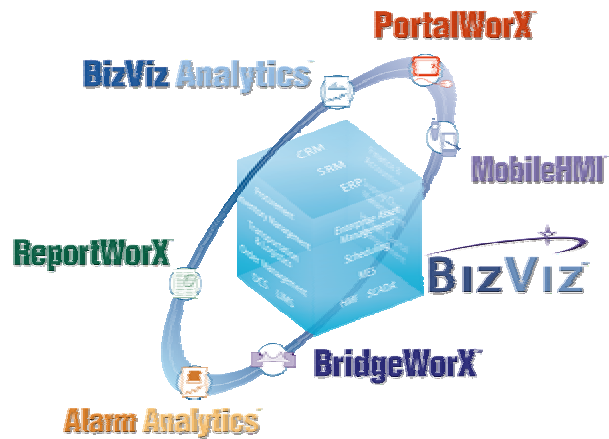
## Productivity Analytics V9.2

### Product Brief



#### Visual OEE, KPIs and Analysis for Operational Excellence

The newest member of the BizViz™ manufacturing intelligence suite, BizViz Productivity Analytics for Version 9.2, empowers decision makers at all levels of the enterprise with real-time and accurate information to help them drive global operational efficiency and strengthen competitive market advantage. Gain insight into your operations through real-time data aggregation and connectivity to multiple data sources, presented in an intuitive and intelligent manner. Productivity Analytics helps to establish manufacturing context with KPIs and deliver manufacturing intelligence to the entire organization.



Features	Benefits
<b>Configurable KPIs for Lean Manufacturing/Six Sigma Initiatives</b>	Configure/visualize KPIs with plant-specific calculations for OEE, Cycle Time, MTBF, TAKT time, Efficiency, Throughput, etc.
<b>Advanced Analytic Functions with Automated Reporting</b>	Generate automatic, real-time intraday and historical status reports. Easily perform advanced analytics/what-if scenarios.
<b>Powerful, Intuitive Web-Based User Interface</b>	Configure and navigate to any asset in 3 clicks or less using the powerful Web interface.
<b>Role-based Visual Dashboards</b>	Customize individual views based on user roles and groups.
<b>Preconfigured Templates for Manufacturing-based Processes</b>	Get up and running quickly with out-of-the-box report templates, drill-down graphics, interactive charts, KPIs and more.
<b>Mobile Information Delivery with Multiple Protocol Support</b>	Reach users wirelessly anytime. Deliver KPIs, alerts, and notifications to cell phones, PDAs and two-way pagers.
<b>Connectivity to Multiple Data Sources</b>	Connect to all critical data sources including those via SQL, SAP, SNMP, Oracle, ODBC, OLE DB and more. Aggregate vital process information from multiple applications.
<b>Advanced Alarm Analytics Based on EEMUA/OSHA Industry Standards</b>	Leverage standardized industry templates for advanced Alarm Analytics to gain insight into processes and operations.
<b>Flexible Web Services and .NET-centric Architecture</b>	Build your architecture around a common .NET platform and unleash the flexibility of Web services.
<b>Pack &amp; Go Support</b>	Simplifies deployment of Productivity Analytics projects.

## Measure and Monitor Asset Performance in Real Time

Today's manufacturing environment demands information in real time. It is not sufficient to operate solely based on yesterday's data, or even data from the previous shift. Productivity Analytics uses powerful data mining technology to track real-time key performance indicators (KPIs) such as throughput, OEE, utilization, yield, availability, uptime, cycle time and many more. Even if you are not actively monitoring a particular asset you can receive automatic alerts when certain metrics approach the "danger zone" based on pre-configured threshold levels.



## Personalized Dashboards, Reports, Trends and KPIs

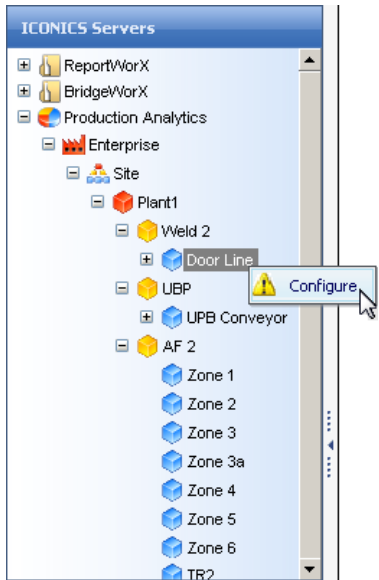
Productivity Analytics' powerful Web Interface allows users to design, develop, and deploy dashboards, reports, trends and KPI views to effectively visualize vast amounts of available manufacturing and business information. Dashboards can optionally be hosted within a role-based Microsoft SharePoint environment to further enhance the user experience and collaboration capabilities.

## Reduce and Prevent Unplanned Downtime

One of the most important goals of any process improvement initiative is to reduce the amount of unplanned downtime. Productivity Analytics enables you to drill into the root cause of every downtime event as a way to correlate seemingly random data together into actionable intelligence. Productivity Analytics even enables you to visualize sub-second durations of downtime events. Layer real-time views on top of historical or "ideal" performance data to help establish preventive maintenance procedures and avoid future unplanned downtime.

## Make Informed Decisions to Increase Production Efficiency

Productivity Analytics helps operators, supervisors, and managers respond to pressures within today's manufacturing environment by reducing cycle times, lowering costs, identifying improvement opportunities to streamline processes and getting more out of their assets. Standard out-of-the-box reports highlight under-utilized or over-utilized assets and help line managers schedule preventive maintenance on the equipment that needs it most. Properly maintained equipment results in less overall downtime, which in turn results in higher production efficiency.



## Intuitive Context-Driven Navigation

Productivity Analytics provides an intuitive Web-based navigation system that allows you to traverse your data as efficiently as possible. The customizable nature of the navigation tree's hierarchy means you can explore your assets in a way that mimics your production layout in order to view relevant data at any level of the enterprise. Since the right-click context menu offers only the choices that are relevant to the current level, users don't even have to think about what the "right" command is – they have it right at their fingertips.

## Visualize Plant Floor Data in the Form of Actionable Intelligence

Leverage intuitive drill-down enabled visualization controls to bring deep-rooted problems into focus and act upon them immediately.

## Uncover New Process Improvement Opportunities

Easily and quickly identify factors that are negatively affecting your manufacturing performance.

## Fast, Efficient Web-Based Configuration

The NEW Productivity Analytics Web Interface builds upon the power of the Unified Web Interface but adds a whole new level of productivity by offering complete online configuration. You can manage your entire Productivity Analytics application via the Web, from any thin-client Web-enabled browser. Create new assets, modify existing ones, manage shift schedules, assign downtime causes, manage user preferences and much more!

Some of the other notable time-saving features include the ability to connect to and manage multiple locations from one centralized interface, a new layout and menu system to make better use of the available real-estate on the screen, progressive data loading for improved performance, and client-side rendering of the controls for a richer user experience. Several user-centric enhancements have also been added, including:

- A context menu that provides shortcuts to the most common functionality
- Support for multi-item editing, enabling faster configuration and deployment
- Specialized 'My Favorites' section for keeping track of your most important views
- Secure, role-based access to configuration pages and dialogs
- Support for complete customization of the look and feel through configuration files
- Import/export support for rapid asset creation

## Role-Based, Secure Dashboards

Productivity Analytics integrates fully with the Windows NT security architecture. Asset configuration and real-time monitoring can be restricted on a per-user basis. Users are authenticated over the Web with their NT login credentials, which are then checked against Productivity Analytics security access rights. All dashboards and views are tied into ICONICS' role-based security system so that end users see only the data that is relevant to them, within a context that makes sense.

## Automated Reporting and Analytics

Productivity Analytics leverages the award-winning ReportWorX™ technology to take volumes of data from disparate data sources and turn them into actionable information in the form of reports. ICONICS brings you the most advanced reporting tool available today, taking maximum advantage of Microsoft's most powerful technologies. ReportWorX, which is based on Microsoft .NET technology, enables you to push data into your reports and to control the report execution frequency and delivery format. Powerful .NET technology allows the data mining of virtually any corporate database. Once generated, the reports are automatically sent to local or remote disk drives, redundant printers, PDF files, Web servers, fax machines, or multiple users via e-mail.

In V9.2, an even more powerful Unified Scheduling Engine allows for the execution of reports in conjunction with other logical areas of your process. Configure your triggers once in a centralized location and associate them with any actionable item anywhere within ICONICS' products. Criteria by which reports can be triggered are:

- Manually based on direct operator commands
- Periodically based on time and/or date
- Based on alarms or events
- Based on real-time OPC tags
- Expressions or calculations
- Based on NT events
- File system and database value changes

ReportWorX comes with many preconfigured templates suitable for development of specific vertical-industry reports, such as:

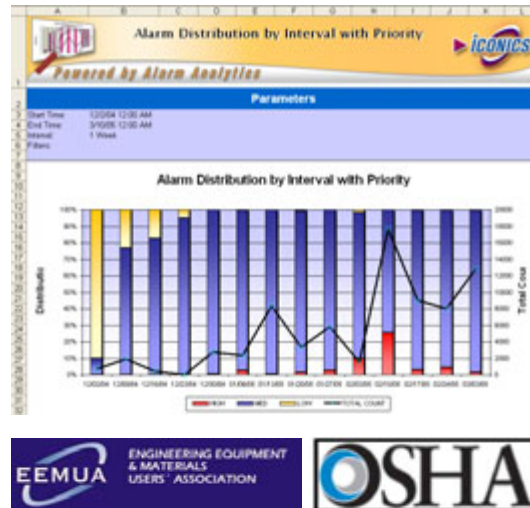
- Water and Wastewater** – Quickly create EPA and government reports
- Automotive** – Birthing information, production counts, utilization, SPC and quality reports
- Material Handling** – Material flow rates, machine efficiency and usage reports
- Building Controls and HVAC** – Energy usage, building efficiency and maintenance reports
- Security** – Personnel and time reports
- Power** – Energy usage, EPA and maintenance reports with secure electronic signatures
- Government** – Government regulatory reporting
- Chemical / Oil / Gas** – Production reports and custody transfers
- OEMs and Machine Builders** – Downtime, SPC and Six Sigma reports
- Biotech, Food and Pharmaceuticals** – FDA 21 CFR 11 and EC 178 reports

## Industry Standard Based Alarm Reporting

Alarm Analytics, which was the premier member of the BizViz Analytics suite, provides advanced Alarm Analytics, Alarm Reporting, and Alarm Management. Alarm Analytics is based on ReportWorX and AlarmWorX32 and supports industry standards for Alarm Management issued by OSHA and the EEMUA.

The Alarm Analytics module contains 15 specific report templates with advanced Alarm KPIs, such as:

- Alarm distribution by priority and interval
- Alarm tag frequency
- Alarm tag chattering
- Average alarm rate
- Cross-correlation analysis
- Operator response time
- Standing alarms
- Operator changes by interval
- Percentage of alarms from top actors
- And many more...

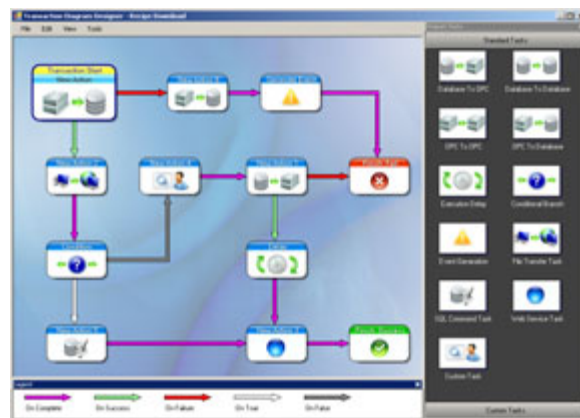


## Data Bridging and Integration

BridgeWorX™ efficiently exchanges data between any enterprise databases. BridgeWorX is designed from the ground up on Microsoft .NET technologies, and is written in the Microsoft C# (C-Sharp), VB.NET and ADO.NET programming languages. A unique visual transaction configuration wizard for data mapping enables users to transfer information to and from real-time OPC manufacturing devices and corporate business information systems. Powerful BridgeWorX data-mining technology can access virtually any data source, including Microsoft SQL Server, SAP, Microsoft Access, ODBC, OLEDB, Web services, and Oracle.

## Graphical Workflow Designer for Enhanced Control over Assets

Productivity Analytics utilizes BridgeWorX' easy-to-navigate, graphical workflow configuration wizard, which was greatly enhanced for V9.2 to allow users to more easily configure data movements to and from individual data sources.





Some of the new features include:

- Fewer mouse clicks and faster configuration due to more intuitive data-mapping dialogs
- Ability to manage all data connectors from within the Transaction Diagram Designer
- Information about each trigger will be available for data mapping (including expressions!)
- Easily apply a single calculation to many rows of data mappings
- Designate incomplete diagrams as "Under Construction"
- Web services now support custom classes, SOAP headers, arrays, datasets, and more!
- Unified data-mapping dialogs for mapping different types of data sources in the same dialog
- ADO.NET 2.0 integration for better native data-mining capabilities, including FTP

BridgeWorX also provides several tools for troubleshooting and monitoring transactions, such as:

- Viewing status information for executed transactions and post-transaction tasks
- Viewing diagnostic information for scheduling
- Viewing, filtering, and sorting events posted to GenEvent™
- Monitoring selected OPC tags and BridgeWorX registers

## Bridge the Gap between Asset Management and Field Service

Maintenance technicians out in the field can access their asset and work order information just as easily as those in the office with ICONICS' MobileHMI™ technology, helping to ensure the dispatch of the proper technician with the right parts at the right time. MobileHMI turns data from different data sources into valuable, secure information right on your mobile phone, two-way pager, Blackberry, or PDA. The wireless device can connect to KPIs coming from the Productivity Analytics engine as well as OPC Data, OPC Alarms and Events, OPC Historical Data Access, Microsoft SQL Server, and Microsoft Excel workbooks. MobileHMI supports a range of standards, including OPC Data Access, GSM, TDMA, CDMA, and wireless application protocols (WAP). Plant personnel can acknowledge alarms and analyze real-time KPIs from their mobile devices anywhere, anytime.



## Productivity Analytics Supported Data Sources

This revolutionary analytics product integrates with virtually any data source, such as Microsoft SQL Server, Microsoft Access, Web services, Oracle, SAP, OPC and any custom database. Productivity Analytics is optimized to work with the other members of the BizViz suite such as BridgeWorX, ReportWorX, PortalWorX, and MobileHMI, as well as with ICONICS' GENESIS32™ TrendWorX™32 Data Historian, AlarmWorX™32 Alarm Logger, Alarm Analytics, DataWorX™32 and OPC real-time Data Exchange. Other popular supported data sources include:

- Most HMI, SCADA and DCS systems
- Maintenance systems
- EAM, MES, ERP and plant historians
- LAB information systems
- Custom corporate databases
- SNMP and BACnet

## SAP Connectivity

Each product in the ICONICS BizViz Analytics suite has full connectivity to SAP via BAPI functions, or integrates seamlessly with the SAP enterprise platform via BridgeWorX. BridgeWorX exposes plant-floor information to SAP via the OPC standard or Web services protocols. Contact ICONICS for more information about the ICONICS SAP Connector!

## SNMP Connectivity

Productivity Analytics also supports Simple Network Management Protocol (SNMP), an application layer protocol that facilitates the exchange of management information between network devices. The SNMP connector from ICONICS enables network administrators to visualize and manage network performance, find and solve network problems, and plan for network growth.



# System Requirements

BizViz Productivity Analytics requires the following minimum hardware, software, and operating system components. System requirements may vary based on application size, system performance requirements, and loading factors.

## Client-Side Requirements

Microsoft Internet Explorer 6.0 or above

## Server-Side Requirements

Microsoft .NET Framework 3.0  
Microsoft Windows Server 2003 or Microsoft Windows Server 2008  
Microsoft SQL Server Express or Microsoft SQL Server 2005 (recommended)  
Microsoft Internet Explorer 6.0 or above  
Microsoft Excel 2000 or above  
Internet Information Services (IIS) 6.0 or later  
Pentium 4 CPU, 2.0 GHz or greater  
1 GB of RAM

## Optional Requirements (for Optional Add-on Modules)

Microsoft Windows SharePoint Services 2.0 or 3.0, or Microsoft Office SharePoint Portal Server 2007  
Microsoft .NET Framework 2.0 (for clients that wish to modify calculations online.)



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### **WHY CHOOSE ICONICS?**

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