

# ReportWorX™

## V9.1 Product Bulletin

April 2008



**Visualize Your Enterprise™**

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Partner





Advanced reporting has never been so easy! Looking for a powerful reporting tool that is easy to learn, quick to apply and works with any data source, including popular HMI, SCADA, MES and control systems? Even connect to databases such as Microsoft® SQL Server®, Microsoft Access, Oracle®, SAP, Aspen Tech, OSI PI, and many more.

### Powerful Microsoft .NET Technology

**ReportWorX™** is designed from the ground up based on Microsoft .NET and Microsoft Excel technologies, and was written in the Microsoft C# (C-Sharp), VB.NET and ADO.NET programming languages. Turning vast amounts of data from any data source into reports is fast, efficient and a snap to setup. ICONICS brings you the most advanced reporting tool available today, taking maximum advantage of Microsoft's most powerful technologies. ReportWorX uses Microsoft .NET technology to push data into your report worksheets and control the execution of these Excel forms *without the need for Excel to be visible!* Workbook duplication, manipulation, chart and data updates, formula recalculation and automatic print out and scheduling are completely performed by ReportWorX.

### The Ideal Reporting Companion for Any Application

- **Water and Wastewater** – Quickly create EPA and government reports
- **Automotive** – Birthing information, production counts, utilization, traceability, SPC and quality reports
- **Biotech, Food and Pharmaceuticals** – FDA 21 CFR 11, EC 178 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 audit trail reports
- **Power** – Energy usage, EPA, and maintenance reports with secure electronic signatures
- **Government** – Government regulatory reporting
- **Chemical / Oil / Gas** – Production reports, custody transfers
- **OEMs & Machine Builders** – Downtime, SPC, Six Sigma reports

### Visualize Your Data As Never Before

We are all completely overwhelmed with vast amounts of data; **ReportWorX** aggregates this information using Microsoft .NET technology and turns it into your competitive advantage. Need to run a totalizer and create running averages or possibly calculate the percent downtime for specific running machinery, or calculate sales personnel productivity? A complete set of performance calculations is now possible, integrating real-time data and information from different data sources.



<b>Features</b>	<b>Benefits</b>
<b>Report on and analyze information from any data source</b>	Powerful analytics and reporting on any plant floor or corporate database such as SQL, Oracle, SAP, Historians, OPC, and SNMP. Combine information from multiple data sources into one report.
<b>Built-in report scheduler</b>	Schedule report generation and delivery based on date & time, database or OPC values, file system changes, real-time events or ad-hoc. Include the actual trigger parameter value in the report.
<b>Visual and intuitive report layout manager</b>	Visualize data mapping from multiple data sources. Manage your report layout with advanced data mapping features for rapid development.
<b>Efficient report data source manager</b>	Configure, organize and manage all data sources from one location. Save and reuse existing data source mappings.
<b>Template versioning support</b>	Maintain track of template versions for easy report authoring and management. Quickly revert back to a prior version as needed.
<b>Deliver reports via Web, e-mail, fax machines or printers</b>	Users can view reports in Excel, PDF, or HTML format on the Web or in e-mails, or have hard copies delivered to fax machines or printers.
<b>Enhance your project with the ICONICS SAP Connector</b>	Retrieve any needed data from any business area via the world's most implemented ERP system.

## Cost Savings and Quick ROI

ReportWorX' intuitive data-mapping and layout management capabilities coupled with no requirement for SQL coding result in quicker implementation cycles for reporting applications. The costs associated with time consuming data entry and manual spreadsheet manipulation no longer exist. ReportWorX will definitely result in quicker ROI!

## Connect to Any Data Source

This revolutionary reporting product integrates with any data source, such as Microsoft SQL Server, Microsoft Access, ODBC, OLEDB, MSDE, SAP, Oracle, AspenTech, OSI PI, SNMP, OPC HDA (Historical Data Access), OPC A&E (Alarm and Events) and OPC real-time information using powerful data mining technology. ReportWorX is optimally designed to work with the ICONICS GENESIS32™ Data Historian (TrendWorX™32), Alarm Logger / Historian (AlarmWorX™32) and DataWorX™32, the OPC real-time Data Exchange and Data Bridging product. ReportWorX integrates other popular data sources such as:

- **Most HMI, SCADA, and DCS Systems**
- **Maintenance Systems**
- **MES, ERP and Plant Historians**
- **LAB Information Systems**
- **Custom Corporate Databases**



## Introducing the ICONICS SAP Connector

The ICONICS SAP Connector is an add-on to ReportWorX and other BizViz modules. This connector enhances the functionality of ReportWorX to read data from SAP R/3 and SAP BW. The connector is certified by SAP to retrieve data via the SAP RFC interface. The ICONICS SAP Connector uses a BAPI search wizard to select the appropriate BAPI function and customize its parameters. Parameters can be dynamic as well, so the data returned from SAP is tailored to the requirements of each report.

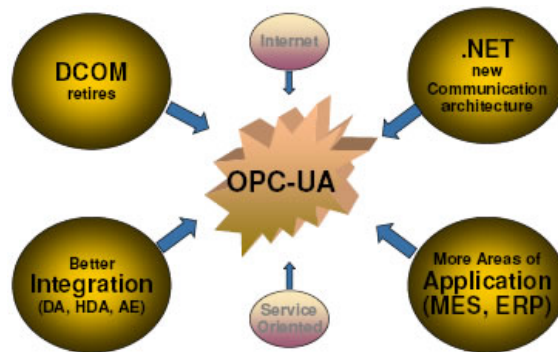
## Connect to OPC

All ICONICS product are OPC to the Core. The latest OPC standards are implemented in all the ICONICS products.

ReportWorX supports all of the following OPC standards:

- OPC DA 1.0, 2.0, 3.0
- OPC XML DA
- OPC A&E
- OPC UA

OPC UA is the newest OPC standard and is supported in Version 9.



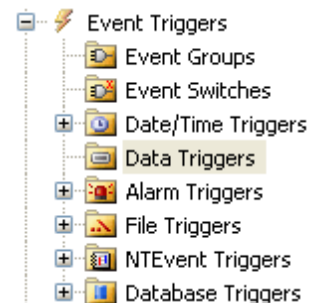
## Connect to SNMP

**ReportWorX V9** comes standard with the ICONICS SNMP Configurator. This tool makes it possible to report on data from SNMP sources (e.g. routers/printers/switches). For example, one sample application could be to report on the average throughput of every switch across your network and automatically have that report e-mailed to your network administrator.

## Advanced Scheduling Triggers

Any ReportWorX report can be started manually or by an automated trigger. The multi-threading ReportWorX Engine allows for the simultaneous execution of reports. Reports can be triggered on any of the following criteria:

- **Manually based on direct operator commands** – trigger reports from the Unified Web Interface or from the ReportWorX Configurator.
- **Periodically based on time and/or date** – triggers of this type will start the report based on a date & time and/or recurring interval.
- **Based on alarms or events** – trigger reports when any specified alarm occurs, based on the OPC A&E standard.



- **Based on real-time OPC tags and expressions or calculations** – trigger reports based on data expressions or real-time OPC values.
- **Based on NT Events** – trigger reports based on the desired Windows NT Event.
- **File System changes** – trigger reports when a file or folder created, changed, or removed or when some other property of a folder or file is changed.
- **Based on database value** – trigger reports based on the result of a SQL query or database change.
- **Event Switches** – specify which trigger in an array of options should be active at any one time. The active trigger can be selected via an OPC value.
- **Event Groups** – combine triggers together and in effect create another trigger that will only start a report when all trigger conditions are true.

## Scaleable Architecture

**ReportWorX** is completely based on Microsoft .NET and is designed to scale from the simplest, single report applications to the most demanding reporting applications. Create and deploy a few reports that run simultaneously on a single CPU server, or deploy your applications for an entire enterprise running on multiprocessor servers. **ReportWorX** takes full advantage of Symmetric Multiprocessing and IT Server & Web infrastructures.

## Use the Power of Microsoft Excel

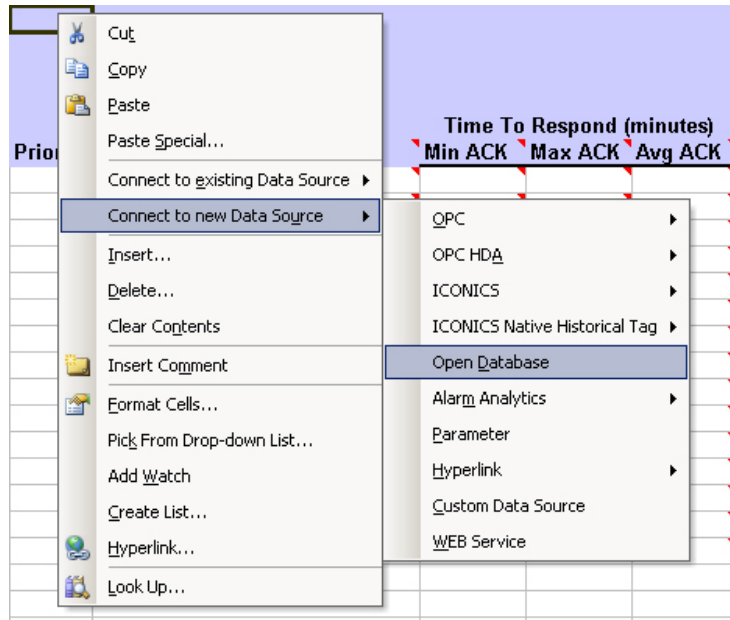
Use Microsoft Excel as your design tool to quickly create powerful reports that connect to real-time and historical data sources, including OPC, Microsoft SQL Server, Microsoft Access, other Microsoft Excel worksheets, Oracle, SNMP, Web services, data from SAP, and many more custom data sources.

**ReportWorX** is a complete reporting system that automatically manages data in Microsoft Excel Workbooks, creates Excel Workbooks, and performs all of the data collection from real-time and database data sources in one easy-to-configure product. Results are automatically sent (redirected) to local or remote disk drives, redundant printers, PDF files, faxes, Web servers, or to your entire organization via e-mail.

**ReportWorX** includes an Excel plug-in, which integrates into the universally popular and comfortable environment of Excel. For example, easily connect to historians and alarm files, navigate to OPC tags using universal tag browsers, and connect to virtually any database using the powerful ICONICS Open Database Connector. A built-in simulator and example databases are supplied to help you quickly verify your report design before it is deployed to live applications.

Report results go far beyond a typical Excel plug-in. Using Microsoft .NET, COM, and OLE Automation technologies, ReportWorX can seamlessly encapsulate and control the very core of Excel to create stunning reports. Harness the power of Excel's core technology to design, schedule, connect to databases and deploy reports for any application.





## User Customizable Reports

Using customizable reports for on demand reporting is easy with **ReportWorX**. Data fields can be configured with user selectable parameters. An example would be with a Product Inventory Report where you could request to view only the data where the product quantity is less than 'X'. In this example the person executing the report could enter any quantity for 'X' to see the desired results displayed in the report. Another example would be with a Total Units Shipped Report where you could request to see the total units shipped for Product 'X' between two dates. In that example, both the product and the dates could be customizable. A user customizable report allows full interaction with the information and lets the user fine-tune a report for the desired results.

## Totally Complete and Integrated Solution

**ReportWorX** is tailored to fit your overall system design and requirements and can be integrated with ICONICS HMI SCADA products or any other third-party HMI, SCADA, Control, MES or Visual Basic application. Numerous features in ReportWorX integrate seamlessly with any IT infrastructure. Event logging, native performance monitoring and the integrated ICONICS TraceWorX™ product provide easy-to-use tools for analysis, debugging and performance optimization.

## Report Redirector Technology

Reports can be automatically archived, sent to redundant printers, e-mailed to a selected list of recipients or to your entire organization, converted to a PDF file, faxed, printed to multiple printers, e-mailed, or published to a Web Server for use on the Internet or corporate intranets.



## Integrated Windows NT Security

**ReportWorX** ties in fully and completely with your Windows NT Security architecture. Reports are restricted on a 3-tier basis: Visualization, Execution, and Management. Users are authenticated over the Web with their domain login credentials, which are then checked against ReportWorX's security access rights. The ability to launch the ReportWorX Configurator can also be restricted using ICONICS Security.

## Automatic File and Report Archiving

**ReportWorX** includes an extensive archiving capability. Based on a user-defined configuration, reports can be scheduled for automatic deletion or moved to another PC hard drive for longer-term storage. This capability is easy to set up and is ideal for long-term automatic unattended operation.

## Based on Microsoft .NET Web Services

**ReportWorX** uses Microsoft's newest Web Services technology to deliver Web-based information to any Internet Browser. ReportWorX can data mine any Web services-enabled database to integrate real-time and corporate business data to meet the most demanding reporting needs.

## Web-Based Report Management

A powerful Enterprise Web-based navigation and management system is optionally available, providing users with the ability to review archived reports that have been published on a Web server as well as manage report execution and schedules. This feature is ideally suited for remote report management.

The screenshot displays the 'Production Reports' section of the 'Unified Web Interface'. The interface includes a navigation pane on the left with categories like 'Reports', 'Production Reports', 'Sample Reports', and 'Transactions'. The main content area shows a table of reports with columns for 'Report Name', 'Started At', and 'Started By'. The reports are grouped by name, and the current view is for 'Standing Alarms by Interval'. The table shows several reports with status icons (green checkmarks and a yellow warning triangle) and timestamps. The interface also features date filters, a search bar, and pagination controls.

Report Name	Started At	Started By
Report Name : Alarm Distribution by Interval		
Alarm Distribution by Interval	5/1/2006 2:39:36 PM	WINSVR2003\Administrator
Alarm Distribution by Interval	5/1/2006 1:51:25 PM	WINSVR2003\Administrator
Alarm Distribution by Interval	5/1/2006 11:54:56 AM	WINSVR2003\Administrator
Alarm Distribution by Interval	5/1/2006 11:53:56 AM	WINSVR2003\Administrator
Report Name : Alarm Tag Chattering		
Alarm Tag Chattering	5/1/2006 2:35:18 PM	WINSVR2003\Administrator
Alarm Tag Chattering	5/1/2006 2:32:03 PM	WINSVR2003\Administrator
Report Name : Alarm Tag Frequency		
Report Name : Cross Correlation Analysis		
Report Name : Standing Alarms by Interval		
Standing Alarms by Interval	5/1/2006 4:42:11 PM	WINSVR2003\Administrator
Standing Alarms by Interval	5/1/2006 4:11:28 PM	WINSVR2003\Administrator
Standing Alarms by Interval	5/1/2006 4:00:48 PM	WINSVR2003\Administrator



## The Perfect Choice

Correlating and producing reports is an integral and often underestimated part of any project. **ReportWorX** is your perfect tool for creating, scheduling and directing reports to be sent to redundant printers, e-mail, computer screens, PDF files, or published to a Web server.

- ReportWorX can handle any real-world reporting application.
- Powerful enough to create the most sophisticated reports but friendly and easy enough for beginners.
- Whether you need reports occasionally or daily, ReportWorX is the ideal product to meet your needs.

## International Language Switching

If your organization requires reports in different languages, **ReportWorX** includes a powerful international language capability. Reports containing text, engineering units, currency calculations and more can be indirectly referenced so that the same reports can be deployed to different individuals speaking different languages or to completely different locations in other countries.

## Fits Applications of Any Size

ReportWorX is available in three different versions:

1. **ReportWorX Lite** is well-suited for stand-alone applications, requires fewer resources and is the least expensive product. Supports five (5) simultaneous reports and twenty-five (25) report templates.
2. **ReportWorX Standard** is ideally suited for mid-tier, site-wide applications requiring a powerful Web interface and remote connectivity. Supports fifteen (15) simultaneous reports and one hundred (100) report templates.
3. **ReportWorX Enterprise** is designed for corporate-wide applications addressing enterprise-level reporting needs. Supports unlimited concurrent reports and unlimited templates. Can be configured for 1, 2, or multiple CPU machines.

## ReportWorX Trial Demonstration Version

ReportWorX will run without any product licensing for two hours. The limitation of this trial version is the same as the [ReportWorX Lite version](#), except the demonstration version also allows you to sample the powerful Unified Web Interface.



## ReportWorX – Lite Hardware Requirements

- Microsoft Windows 2000 Workstation or Server, Windows XP Professional, or Windows Server 2003
- MSDE 2000, SQL Server 2000, SQL Server 2005, or SQL Server Express 2005
- Microsoft Excel 2000 / XP / 2003
- Pentium 4 CPU, 1.5 GHz or greater
- 512 MB of RAM

## ReportWorX – Standard Hardware Requirements

- Microsoft Windows 2000 Workstation or Server, Windows XP Professional, or Windows Server 2003
- MSDE 2000, SQL Server 2000, SQL Server 2005, or SQL Server Express 2005
- Microsoft Excel 2000 / XP / 2003
- Pentium 4 CPU, 2.0 GHz or greater
- 1 GB of RAM

## ReportWorX – Enterprise Hardware Requirements

- Microsoft Windows 2000 Workstation or Server, Windows XP Professional, or Windows Server 2003
- MSDE 2000, SQL Server 2000, SQL Server 2005, or SQL Server Express 2005
- Microsoft Excel 2000 / XP / 2003
- Pentium 4 CPU, 3.0 GHz or greater
- 2 GB of RAM





## About ICONICS

**ICONICS is a leading provider of award-winning enterprise manufacturing intelligence and automation software solutions.**

ICONICS' solutions deliver real-time visibility into all enterprise operations and systems, helping companies to be more profitable, more agile, and more efficient. As a Microsoft Gold Certified Partner, ICONICS designs its solutions from the ground up to take maximum advantage of Microsoft .NET and SharePoint Portal Server technology, offering an unprecedented level of performance and ease of use.

Our award-winning GENESIS32 and new GENESIS64 automation software solutions can improve productivity, reduce integration and operating costs, and optimize your asset utilization, giving your organization a competitive edge. All ICONICS products are based on "open standards," using OPC-to-the-Core technology leveraging proven architecture and lower TCO of mainstream Microsoft platform, and connect to your existing infrastructure. We have more than 225,000 applications running worldwide serving top manufacturing companies.

ICONICS' BizViz suite of products provides real-time manufacturing intelligence from the production floor to the boardroom, turning real-time information into your competitive advantage.

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