

**Product Summary of XLReporter
with
Siemens SIMATIC[®] WinCC and SIMATIC[®] PCS 7**



February, 2008
SyTech, Inc.
693 East Central Street
Franklin, MA 02038

Contents

Executive Summary	3
SYTECH is "THE REPORT COMPANY"	3
Product Overview	4
XLREPORTER PROFESSIONAL EDITION	4
XLREPORTER	5
ARCHITECTURES	9
XLVIEWER	11
XWEB DIRECTOR	11
XMAILER	12

Executive Summary

SYTECH IS “THE REPORT COMPANY”

SyTech “The Report Company”, Inc. specializes in the manufacture and distribution of reporting software. Starting with custom solutions over 15 years ago, SyTech quickly recognized the need for an “off-the-shelf” reporting solution and responded by manufacturing and distributing Report Manager.

Over the years, the increase in Customer requirements, together with the rapid change in technology, led to the launch of XLReporter in 2000. XLReporter is designed to take full advantage of the powerful features and functionality of Microsoft Excel engine. The product provides The Complete Reporting Solution to suit the needs of manufacturing and industry and is designed to be readily usable by both production and management.

**In 2002, XLReporter’s creative design was awarded the coveted
Control Engineering Editor’s Choice Award**

Product Overview

THE COMPLETE REPORTING SOLUTION

XLREPORTER PROFESSIONAL EDITION

XLReporter Professional is a family of products consisting of XLReporter, PDF Viewer and Converter, XLViewer, XWeb Director and XMailer that collectively provide The Complete Reporting Solution to generate and distribute Excel reports.

Microsoft Excel has always been, and will continue to be, the most popular choice for generating reports. When used on the factory floor, the challenge is to move important process data into Excel, reliably and automatically. The XLReporter Professional Edition meets this challenge.

Creating Excel reports with the XLReporter Professional consists of four steps: **Design**, **Report**, **Manage** and **Distribute**.

- **Design** a template in Excel. In Excel, the user designs a report template and specifies data collections from the SIMATIC® WinCC/SIMATIC® PCS 7 real-time server, the WinCC/PCS 7 process archives, the WinCC/PCS 7 alarm archives or any relational database.
- **Report** automatically or on-demand. The user defines a schedule or a user-entry form to generate reports from the template. Reports can be generated periodically (e.g., every day), triggered on an event (e.g., on the occurrence of an alarm) or initiated from custom scripts. In addition, reports can be created on-demand, using interactive report tools.
- **Manage**. Analysis and data management are integral parts of the report generation process. The user defines filters, sorts, color codes, conditional formats, mathematical calculations and much more to turn the raw data into meaningful report information.
- **Distribute** the polished report. Finally, the user determines the format of the final report and the people who will receive it. Completed reports are stored in XLS, PDF or HTML format and may be sent automatically to printers, email, file servers and web servers.

XLREPORTER

XLReporter is the core application of the XLReporter Professional. It provides all the tools necessary to design report templates, perform all the data collections, automatically manage and create worksheet reports, apply any special analysis and publish the results. The main components of XLReporter are as follows:

Designer : The designer is seamlessly integrated into the comfortable environment of Excel and provides powerful configuration tools to design and validate report templates. Within the designer, the user specifies a template and data sources using features such as the layout expert, connection configurator, tag browser, history group builder, management configurator and the database group builder.

Complete template testing is provided to quickly validate the design before it is deployed into a live application.

Real-time Interface : The real-time interface is based on the OPC standard and provides access to the WinCC/PCS 7 live values. The interface can be used from a networked workstation that has the OPC core components installed.. The interface provides:

- Tag browsing for real-time tags configured in the local or any networked WinCC/PCS 7 OPC Server. This greatly simplifies the design of a report template in the Designer.
- Access to current values from any local or networked WinCC/PCS 7 OPC Server. In the context of reporting, current values can be reported as a “snapshot” or added incrementally to the report, e.g., every hour over a day.

Historical Interface : The historical interface is based on the OPC-HDA standard and provides access to the WinCC/PCS 7 process archives. The interface can be used from a networked workstation that has the OPC core components and the Connectivity Pack installed. The interface provides:

- A history group builder designed with custom features to shorten development time and increase productivity.
- Tag browsing for the historical tags configured in the local or remote WinCC/PCS 7 server. This greatly simplifies the design of a report template in the Designer.

- Access to historical values from any local or networked WinCC/PCS 7 server.
- Many standard calculations, including maximums, minimums and averages.
- A preview option to test the configuration of the group, thus saving deployment time.

Alarm Interface : The alarm interface is based on the WinCC OLE-DB provider and provides access to the WinCC/PCS 7 alarm archives. The interface can be used from a networked workstation that has the Connectivity Pack installed. The interface provides:

- A database group builder designed with custom features to shorten development time and increase productivity.
- Table and column browsing configured in the local or remote WinCC/PCS 7 server. This greatly simplifies the design of a report template in the Designer.
- Access to full or partial alarm records values from any local or networked WinCC/PCS 7 server.

Database Interface : The database interface makes XLReporter a reporting solution for any relational database and is available from any workstation that has access to the database. The interface provides:

- An easy to use Layout Expert to create database reports with multi level group features (drill down reports). Summary calculations can be embedded for each group or the entire report. Excel charts and Excel formulas can be nested in each group of the report.
- A powerful SQL (structured query language) builder that creates SQL statements without needing to know SQL programming. The point and click environment of the builder enables the user to select the tables and columns for the report, together with time frames, filter criteria and sort conditions. Similar data records can be combined by the Cross tab feature.
- Tools to build “dynamic SQL” statements, a technology exclusive to XLReporter. With this technology, automating a report is simply a matter of including variables that represent “the last 24 hours” or “the duration of an event”. The Interactive Tools take full advantage of this technology allowing users to easily build and generate interactive reports.

- A data extractor built to work with almost any database currently on the market, e.g., Microsoft SQL Server, Access, Sybase, Oracle as well as formatted text files such as CSV (comma separated variables).
- A preview option to test the configuration of the group, thus saving deployment time.

Iterator : The iterator is a unique technology, developed by SyTech to truly enhance historical reports. Its powerful features allow the user to utilize the results from one data request as input to another. Typical uses include drill down reports. The iterator can also be used to join information between disparate databases.

Programming Interface : The programming interface is provided for users that wish to build custom solutions in programming languages such as Visual Basic/C++ and need to have access to XLReporter's rich set of reporting commands.

Scheduler : The scheduler deploys the schedules created in the Schedule Designer. A schedule consists of a set of reporting commands, e.g., UpdateSheet, SaveSheetHTML, which are configured to execute periodically or on an event.

Aggregates : XLReporter's aggregate database can also be used as another source of data for reporting purposes. By selecting a WinCC/PCS 7 tag and a time frame, an array of statistics and other valuable information can be calculated automatically. The following aggregates are provided:

- **Profiles** Based on the state changes of digital values, i.e., ON or OFF. From the state change, the total number of ON states, OFF states, ON duration, OFF duration and more are calculated. This information is ideal for equipment utilization and downtime reports.
- **Difference** Based on the difference of consecutive samples of a real-time value, the difference can be used to calculate the daily pumpage from a totalizer that represents the total gallons pumped.
- **Statistics** Based on the real-time values, a multitude of calculations, such as minimum, time of minimum, average is provided to produce summary reports.

Interactive Report Tools : Interactive tools provide the complete environment for producing on-demand reports directly inside Excel, from WinCC/PCS 7 displays, WinCC/PCS 7 scripts and

from the desktop. The user simply enters the start and end times and any other reporting parameters and a new report is generated instantly.

Collector : The collector contains the core technology that interfaces the WinCC/PCS 7 data sources to the Excel environment. The collector is command driven. Commands are typically initiated by the user specifying his or her requirement in the scheduler. For highly specialized requirements, commands can also be initiated from custom scripts, VBA and programs. **The collector processes commands as a background task and does not require Excel to be active or visible.** It manages the flow of data from the data sources to Excel, creates workbooks, updates worksheets, applies built-in analysis to the report data and distributes the final result in XLS, PDF or HTML file formats to printers, file servers and web servers.

Management Functions : In many Excel reporting applications, simply getting values into a worksheet is not enough. Formatting, filtering, sorting, color coding, chart manipulation, statistics, calculations are just a few elements to make a report complete. Management Functions can be scheduled to automatically apply this final coat of polish to a report.

Web Publisher : The web publisher creates web pages from completed workbook reports. It is initiated by one simple command, and makes workbook and worksheets viewable through a web browser such as Microsoft's Internet Explorer.

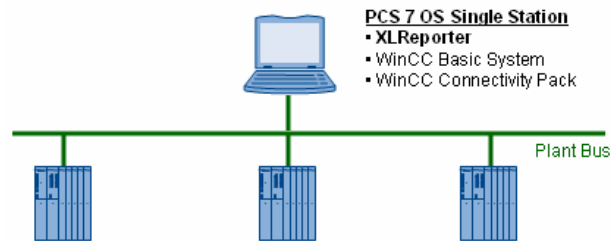
PDF Converter and Viewer : The built-in PDF converter creates PDF Files from completed workbook reports. It is initiated by one simple command, and makes workbook and worksheets viewable through a secure PDF Viewer provided with XLReporter. No Adobe components are required!

ARCHITECTURES

The following illustrates typical architectures:

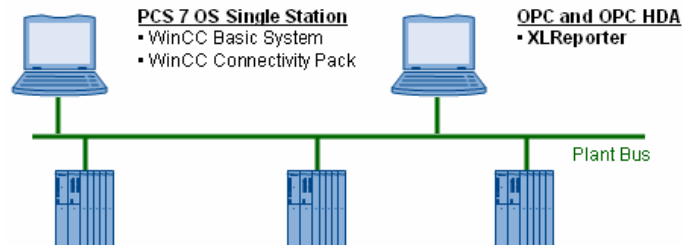
PCS 7 OS Single Station

Real time data, historical data and alarm messages available to XLReporter.



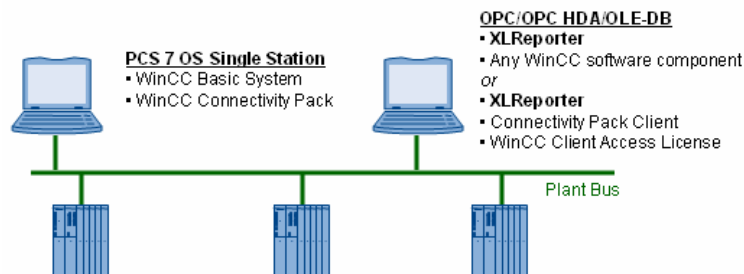
PCS 7 OS Single Station with an OPC/OPC HDA Client

Real time and historical data available to XLReporter.



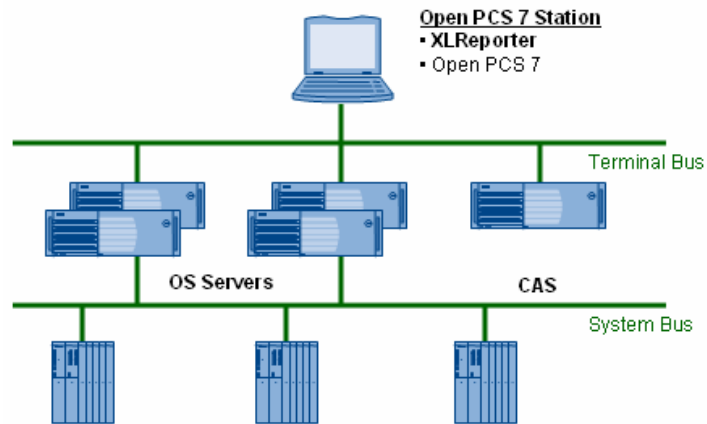
PCS 7 OS Single Station with OPC/OPC HDA and OLE Client

Real time data, historical data and alarm messages available to XLReporter.



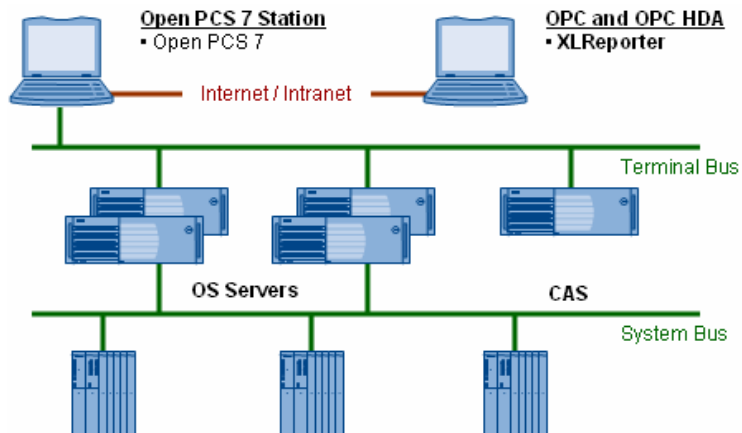
Open PCS 7 Client/Server

Real time data, historical data and alarm messages available to XLReporter.



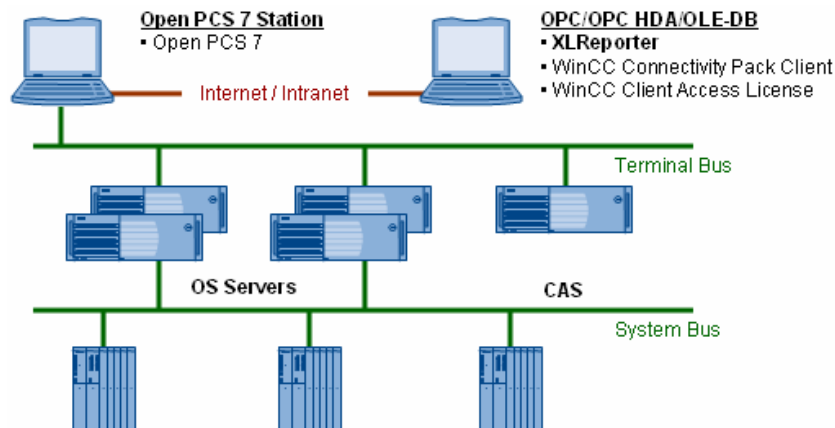
Open PCS 7 Client/Server with an OPC/OPC HDA Client

Real time and historical data available to XLReporter.



Open PCS 7 Client/Server with OPC/OPC HDA and OLE Client

Real time data, historical data and alarm messages available to XLReporter.



XLVIEWER

XLViewer provides a secure way for viewing workbook reports (XLS, HTML or PDF format) without the need to access the workstation's Desktop or to open Excel. The files available for viewing are configured so that users are restricted to only see the reports they are authorized to view. The user can browse or print reports without having the ability to alter any data. The secure environment of XLViewer allows the safe sharing of reports between the plant floor, the engineering department and the front office. The main components of XLViewer are as follows:

Designer : The designer creates operator environments that determine the behavior of the XLViewer when it is deployed. Settings such as the window behavior, window style, position, size, the report directories and much more are configured in the designer.

Viewer : The viewer uses the configurations developed in the designer to display the report(s).

XWEB DIRECTOR

XWeb Director is the best way to automatically create and maintain a web site of web-enabled reports without any custom programming or learning of new technologies. This gives those in the organization with the proper security credentials easy access to any web enabled report.

Each time a new report is web enabled, XWeb Director updates the web site's home page and provides navigation to the report. With a wide assortment of web site styles to choose from, a configurable set of user menus and flexible directory displays, all web site requirements are easily met.

XWeb Director does not require an IIS server. The web site it creates can be generated and maintained on a file server and accessed by anybody with access to that server. However, if a more global distribution is required, a web site can be produced on a company intranet, as well as on the Internet.

The main components of XWeb Director are as follows:

Designer : The designer is used to create the directory web page layout and to define the file directories, which contain the web pages to be included.

Publisher : The publisher executes the configuration files developed in the Designer.

XMAILER

XMailer is a delivery system that automatically distributes reports by email periodically or on an event. The software provides all the tools needed to configure and send a complete email using a SMTP Server.

XMailer contains all the features you would expect from a good emailing program including: group mailings, address book access, carbon copies, attachments and configurable signatures.

The main components of XMailer are as follows:

Builder : The builder is used to create email templates that define recipients, messages and attachments.

Sender : The sender executes the email template developed in the Builder.