



XCONNECT SOFTWARE 9300-0000

REAL-TIME DATA FROM THE FIELD TO YOUR DESKTOP

TURN-KEY SOLUTIONS FOR TODAY'S & TOMORROW'S APPLICATIONS

- ▶ Data collection, data processing, data validation & data storage with multiple options
- ▶ Running Windows®, it handles any & all RTU communications - simple to satellite - with instant desktop supervisory control (SCADA) & data access.
- ▶ Unlimited Reporting Products & Alarms including data view, graphs, trending, diagnostics, etc.
- ▶ Easy implementation & integration of future applications & existing system upgrades without the need for consulting dependency.



Solidly built on cutting edge relational database architecture, XConnect puts data at your fingertips & provides the most powerful open system available for data collection, data processing & data storage.

For 30 years Sutron has specialized in collecting & delivering remote data in your specified format because it's not real-time if you have to wait to use it.



Xconnect Real-Time Trend Display

FEATURES

- Customer-designed hydro-met data collection at a fraction of the cost of in-house or alternative solutions. You save critical capital upfront & reduce support & expansion costs.
- Automated communications from PC server to all RTUs, no matter how remote
- Flexible & scalable relational database with multiple storage formats: PCBase2 Binary files, ODBC (Oracle®, Microsoft® Access), ASCII day files, and Microsoft® Excel, XML
- Unlimited Reporting Products & Alarms including graphs, trending, diagnostics, etc.
- Real-time error detection flags - supports multiple alarm detection thresholds plus "no change" checks (e-mail & paging notification available)
- Real-time data processing (including table lookups) prior to data storage
- Instant Implementation reduces connection time & expense & immediate improvement of data flow process
- Runs on any Windows® device with no additional configuration
- Unlimited Expandability

Xconnect

Anywhere to Everywhere



XConnect Enhances Efficiency & Accuracy and Reduces Costs



SYSTEM FUNCTIONS

- Setup of stations, sensors, data groups
- Polling schedule (radio, phone systems)
- Real-time processing setup (tables, equations)
- Communications parameters
- Real-time status of data collection
- Interactive tools to aid in sensor configuration
- Interactive Graphics
- Access to database station and sensor characteristics
- Standard Reports (hour, day, week, month, year)
- Post processing setup (optional)
- GOES decoding (optional)
- Data export (optional)

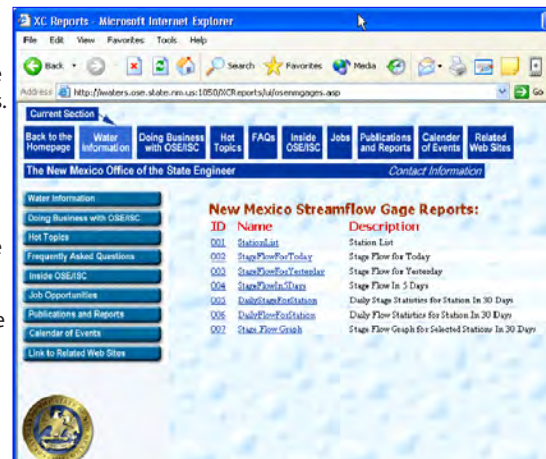
FEATURES

- Demonstrated project success
- Quality Flags - Supports 2 alarm detection thresholds plus "no change" checks.
- Historical data tables with automated calculation & statistics storage - MIN, MAX, SUM, MEAN...
- Communications diagnostics tools
- Optional satellite message decoder module & utilities.
- Allows 3rd party software link. DDE protocol maintained.
- Flexible Time Tags - can be set to the second.
- Continued field & software support long after the solution is launched.

DATA HOSTING

Not ready to implement a data collection network on your own?

Sutron can collect, decode, archive and deliver your data to you. Or would you prefer that we post your data to the web? Trust Sutron to install and operate your data collection network.





Keep Ahead of the Elements & Apace with Today's Rapidly Changing Technology - XConnect Maintenance Plan

XCONNECT PRODUCT PACKAGES

XCONNECT STANDARD

XConnect Standard represents the baseline XConnect package for a conventional hydro-met system. A conventional system is one that uses telephones, radios, or direct connect cable communications. Conventional systems are two-way systems wherein XConnect sends a data request to the datalogger and the datalogger replies.

Programs Included	Data Storage Options
XC Desktop	PCBase2
XC Setup	Binary Files
XC Rtu	ASCII Log Files
XC RTDisplay	Excel Files
XC Dataview	XML Fi

XConnect Standard #9300-0000-1

XCONNECT SATELLITE

XConnect Satellite is designed for systems that use satellite communications (SatLink Transmitter or other GOES Satellite transmitter). Currently satellite systems are only one-way systems in which XConnect communicates with a digital direct readout ground station (DDRGS)/receive site multiplexor to receive satellite messages.

Programs Included	Data Storage Options
XC Desktop	PCBase2
XC Setup	Binary Files
XC Mux	ASCII Log Files
XC Decode	Excel Files
XC Daps	XML Files
XC RTDisplay	
XC DataView	

XConnect Satellite #9300-0001-1

XCONNECT STANDARD WITH DATABASE

XConnect Standard with Database includes all of XConnect Standard and expands the data storage options to include databases (Oracle® and MS Access®). Additional modules are included to assist the user in viewing and manipulating the data.

Programs Included	Data Storage Options
XC Desktop	PCBase2
XC Setup	Binary Files
XC Rtu	ASCII Log Files
XC RTDisplay	Excel Files
XC DataView	XML Files
XC Reports	Oracle®
XC PostProc	MS Access®
XC Calc	

XConnect Standard with Database #9300-0000-2

XCONNECT SATELLITE WITH DATABASE

XConnect Satellite with Database includes all programs and data storage options included in XConnect Satellite and expands the data storage options to include databases (Oracle® and MS Access®). Additional modules are included to assist the user in viewing and manipulating the data.

Programs Included	Data Storage Options
XC Desktop	PCBase2
XC Setup	Binary Files
XC Mux	ASCII Log Files
XC Decode	Excel Files
XC Daps	XML Files
XC RTDisplay	Oracle®
XC DataView	MS Access®
XC Reports	
XC PostProc	
XC Calc	

XConnect Satellite with Database #9300-0001-2

XCONNECT TOOLKIT

XConnect Toolkit includes add-on utilities.

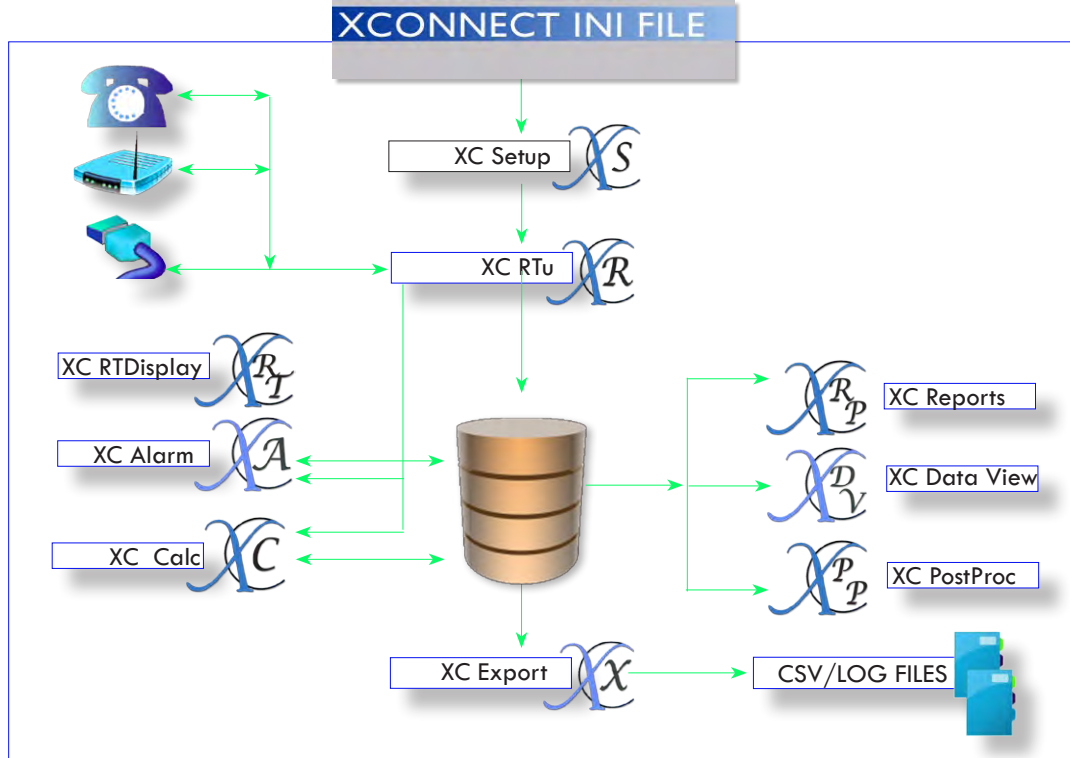
Utilities Included
XC Export
XC Alarm

XConnect Toolkit #9300-0002-1

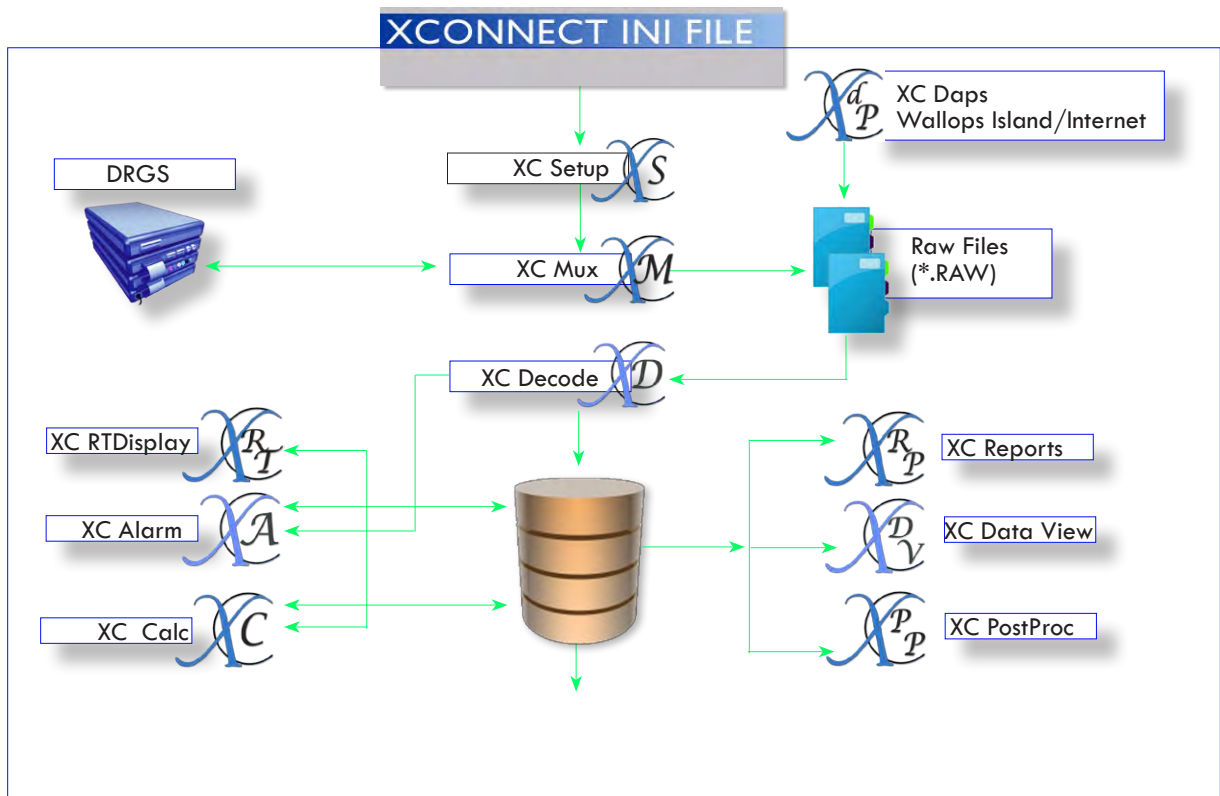




DATAFLOW FOR CONVENTIONAL SYSTEMS



DATAFLOW FOR SATELLITE SYSTEMS



SUTRON

Anywhere to Everywhere Xconnect



REAL TIME DATA WHEN YOU NEED IT, WHERE YOU NEED IT, & IN YOUR SPECIFIED FORMAT!

XCONNECT WEB & DATA HOSTING: DCP TO DESKTOP

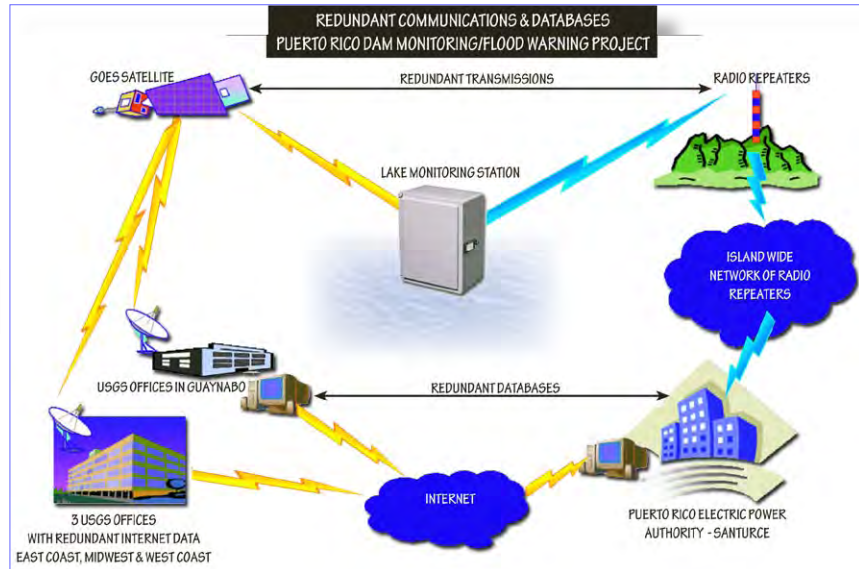
OUTSOURCE YOUR DATA COLLECTION.

Not ready to implement a data collection network on your own?

Sutron can collect, decode, archive and deliver your data to you or post to the web; or install and operate your data collection network.

OBJECTIVE

1. Create dynamic web pages that display data acquired by XConnect.
2. Accept user inputs including date, time, range, station and sensor
3. Customizable data format in tabular



SOFTWARE REQUIREMENTS

1. Windows 2000 Server with Internet Information Server (IIS)
2. XConnect with Database Option – Purchased separately by Customer
3. For Access MDB, no additional license required. For Oracle or SQL-Server, database is supplied by customer.

The user will supply, prepare and configure a Windows 2000 Server and IIS. The Windows 2000 Server must have Service Pack 4 or later. It can be a stand-alone server or part of the domain. TCP/IP protocol must be installed on the server and configured. The IIS must have FrontPage 2000 Server Extension (installed by default). IIS is configured with application isolation level to high. A virtual directory will be created and point to the actual web application directory.

Other runtime requirements will be installed by XConnect Setup.

IMPLEMENTATION

The dynamic web pages use server-side Active Server Page (ASP) to accept the user input within browsers, retrieve the data from the database, format it into Extensible Markup Language (XML) and use Extensible Stylesheet Language Transformations (XSLT) to format the data into viewable web pages.

The ASP pages display forms which the user can use to select inputs, such as station name, sensor name, time range and submit buttons. When the user clicks the submit button within the browser, the request is sent to the server.

ASP pages interpret the request and generate proper SQL strings to retrieve data from the database. The data is returned in an ADO result set. Then the same ASP creates the XML object and stores the data in it. It then returns the data with pre-defined XSLT pages as the response back to user.



The browser renders the page with the user's preferred style, look and feel.

There are two key components to implementation. The first is the data, which is in XML format. The other is the format, which is pre-defined in XSLT style sheets.

All data returned to the clients are in XML format. ASP and XSLT programs are provided in the form of source code to expedite further customization.

Anywhere to Everywhere Xconnect



REPORTS

- ▶ Station List/Sensor List
- ▶ Last Reported Time for Stations
- ▶ Data for Selected Station
- ▶ Data for Today, Data for Yesterday, Data for the Last 5 Days
- ▶ Data for a Selected Station, Sensor and Time Range

System Data

9/5/2003 2:40:35PM

Station ID	Sensor Name	Time Tag	Source	Original Value	Edited Value
EVANS CREEK	BATTERY	9/5/2003 12:15:00AM	S	13.51	13.51
EVANS CREEK	BATTERY	9/5/2003 1:15:00AM	S	13.41	13.41
EVANS CREEK	BATTERY	9/5/2003 2:15:00AM	S	13.34	13.34
EVANS CREEK	BATTERY	9/5/2003 3:15:00AM	S	13.30	13.30
EVANS CREEK	BATTERY	9/5/2003 4:15:00AM	S	13.26	13.26
EVANS CREEK	BATTERY	9/5/2003 5:15:00AM	S	13.23	13.23
EVANS CREEK	BATTERY	9/5/2003 6:15:00AM	S	13.20	13.20

Stations Not Reporting Since 9/5/2003

9/5/2003 2:51:58PM

Station ID	Satellite ID	Unit ID	Basin	State
AMISTAD DAM				
ARROYO COLORADO A	0092E620	ARROYO COLORADO		
MIDDLE FORK SAN PE	0091A224	MIDDLE FORK SAN		
NORTH FORK SAN PE	009197BE	NORTH FORK SAN		
PINTO CREEK	009205D2	PINTO CREEK		
RIO GRANDE AT COLOM	00923048	RIO GRANDE AT C		
RIO GRANDE AT PORT Q	0090A0DE	RIO GRANDE AT F		
RIO GRANDE AT LARED	009246D8	RIO GRANDE AT L		
RIO GRANDE AT LOS E	009209B0	RIO GRANDE AT L		
RIO GRANDE AT LOS E	00929326	RIO GRANDE AT B		

Last Reporting Times

9/5/2003 3:05:05PM

Station ID	Satellite ID	Unit ID	Last Update
AMISTAD DAM			
ARROYO COLORADO A	0092E620	ARROYO COLORADO	
EVANS CREEK	0091B152	EVANS CREEK	9/5/2003 5:19:11PM
MIDDLE FORK SAN PE	0091A224	MIDDLE FORK SAN	
NORTH FORK SAN PE	009197BE	NORTH FORK SAN	
PINTO CREEK	009205D2	PINTO CREEK	9/4/2003 8:20:01PM
RIO GRANDE AT COLOM	00923048	RIO GRANDE AT C	

Daily Stage Statistics From 7/20/2004

Thu Aug 19 12:58:21 MDT 2004

Station ID	Time Tag	Count	Min ft	Avg ft	Max ft
AZTEC	7/20/2004	96	1.260	1.327	1.490
AZTEC	7/21/2004	96	1.480	1.485	1.490
AZTEC	7/22/2004	96	1.420	1.482	1.490
AZTEC	7/23/2004	96	1.490	1.504	1.530
AZTEC	7/24/2004	111	1.520	1.530	1.530
AZTEC	7/27/2004	49	1.410	1.420	1.430
AZTEC	7/28/2004	96	1.410	1.416	1.420
AZTEC	7/29/2004	96	1.400	1.408	1.410
AZTEC	7/30/2004	96	1.390	1.396	1.400
AZTEC	7/31/2004	71	1.380	1.386	1.390
AZTEC	8/2/2004	49	1.380	1.380	1.380
AZTEC	8/4/2004	96	1.370	1.421	1.450

