

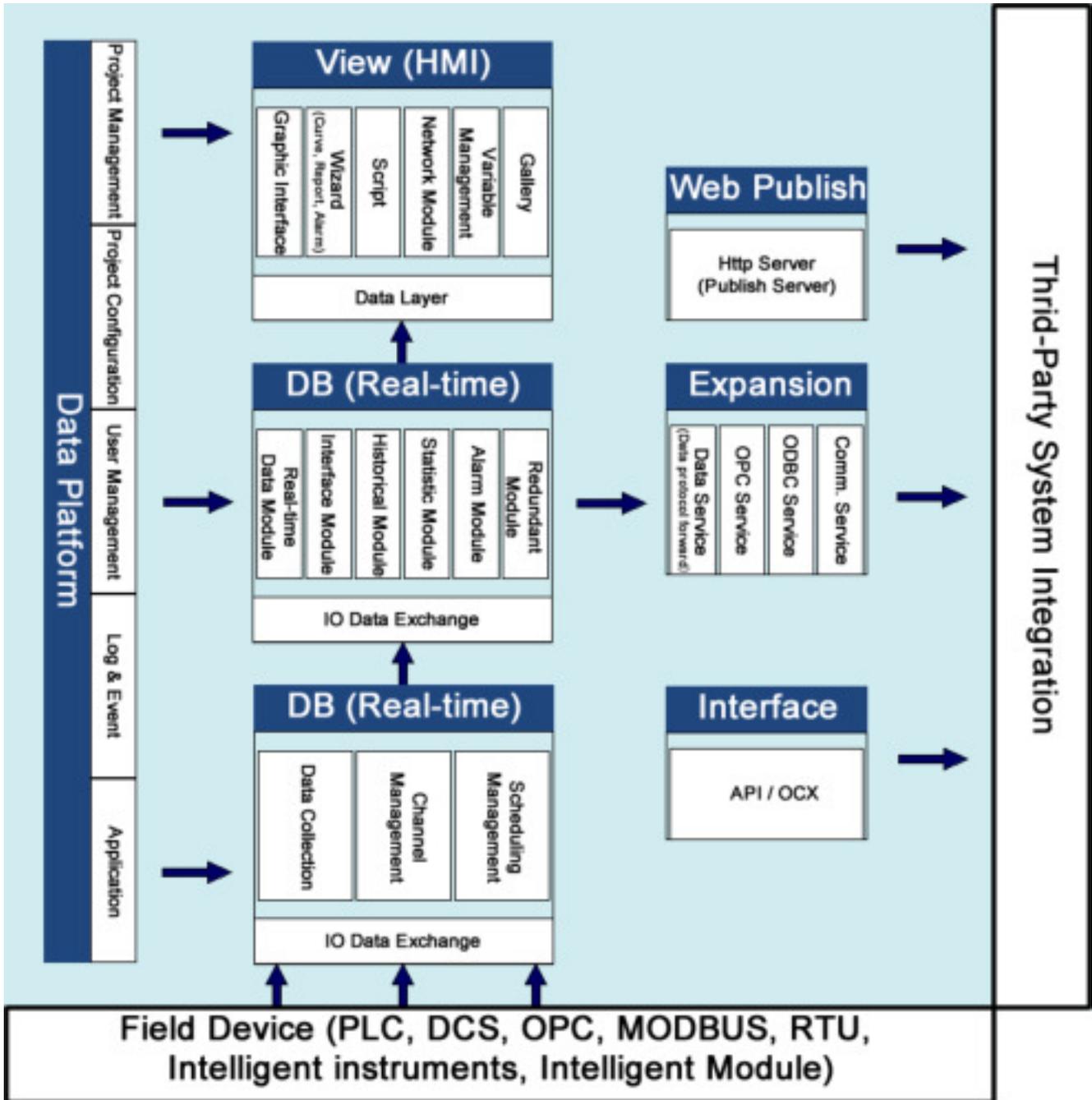
# ForceView Product Introduction

## General

ForceView is a SCADA software which was designed for general SCADA software market, as the basic platform in industrial automation software, it can provide solution for various type of industrials. The latest version of ForceView is fully compatible with 32/64 bit of Microsoft Windows 7 and Windows Serve 2008 operation system. In ensuring the stability of the system under the premise, not only increases the flexibility of the product, while improving the ease of use, enabling you to quickly build the industrial controlling and monitoring system.

## Software Architecture

The core of the functional architecture of the ForceView is a distributed real-time database, where other applications or functional modules interact with each other through the regional real-time database for their functionality and extensions. The main functional modules of the software include serval modules: real-time database, device communication services module, HMI graphic, Network communication module, SDK interface, web application, relational database dumping, data forwarding, and extension module.



## Product Feature

### Flexible and convenient development environment

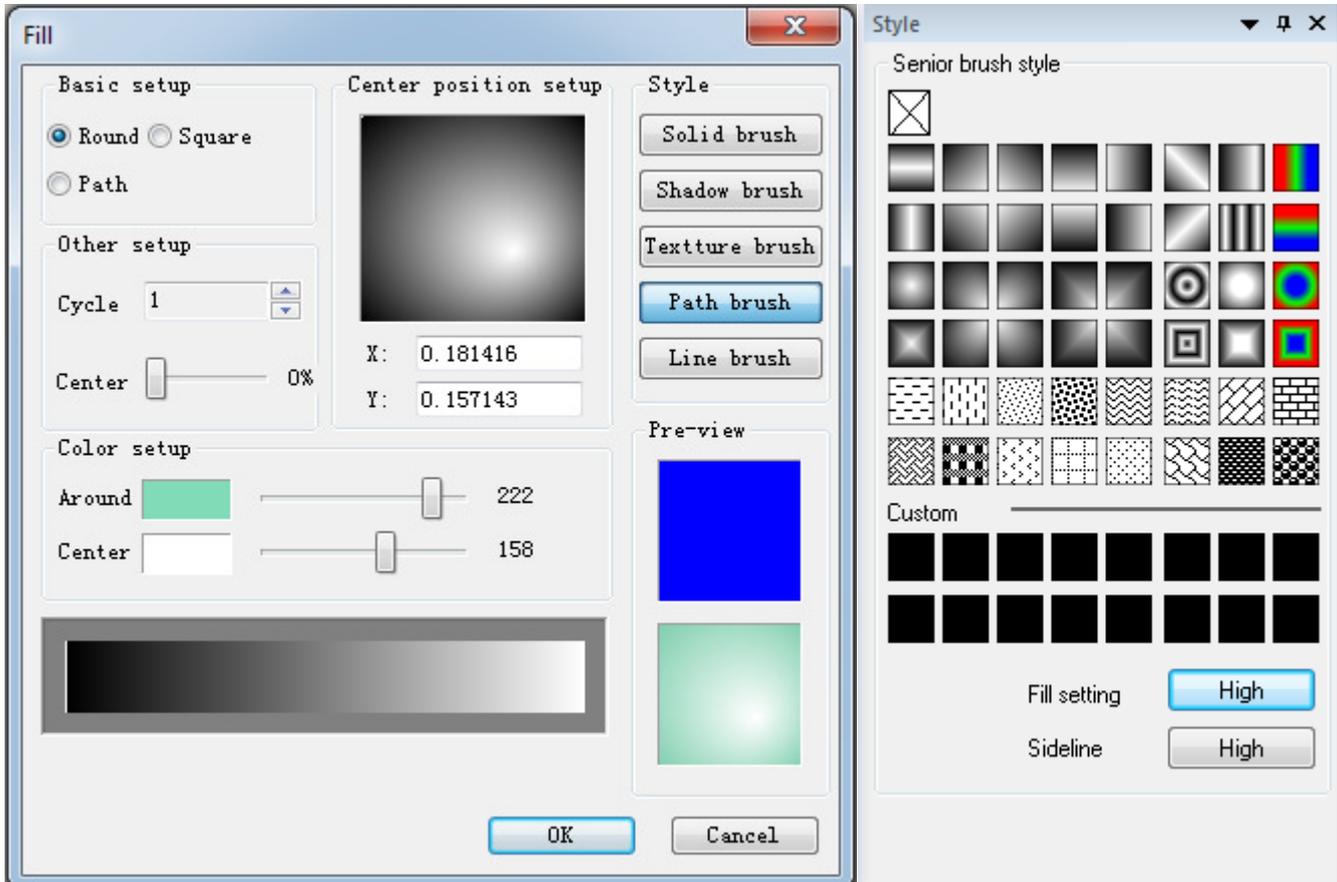
ForceView provides integrated design environment, ForceView supports custom properties, methods, events for variety of libraries and components. Support auto adaptive of graphic screen resolution, support multi-screen configuration for one workstation.

ForceView provides thousands of rich graphic elements, with a wealth of "vector" industry library set, support for custom library



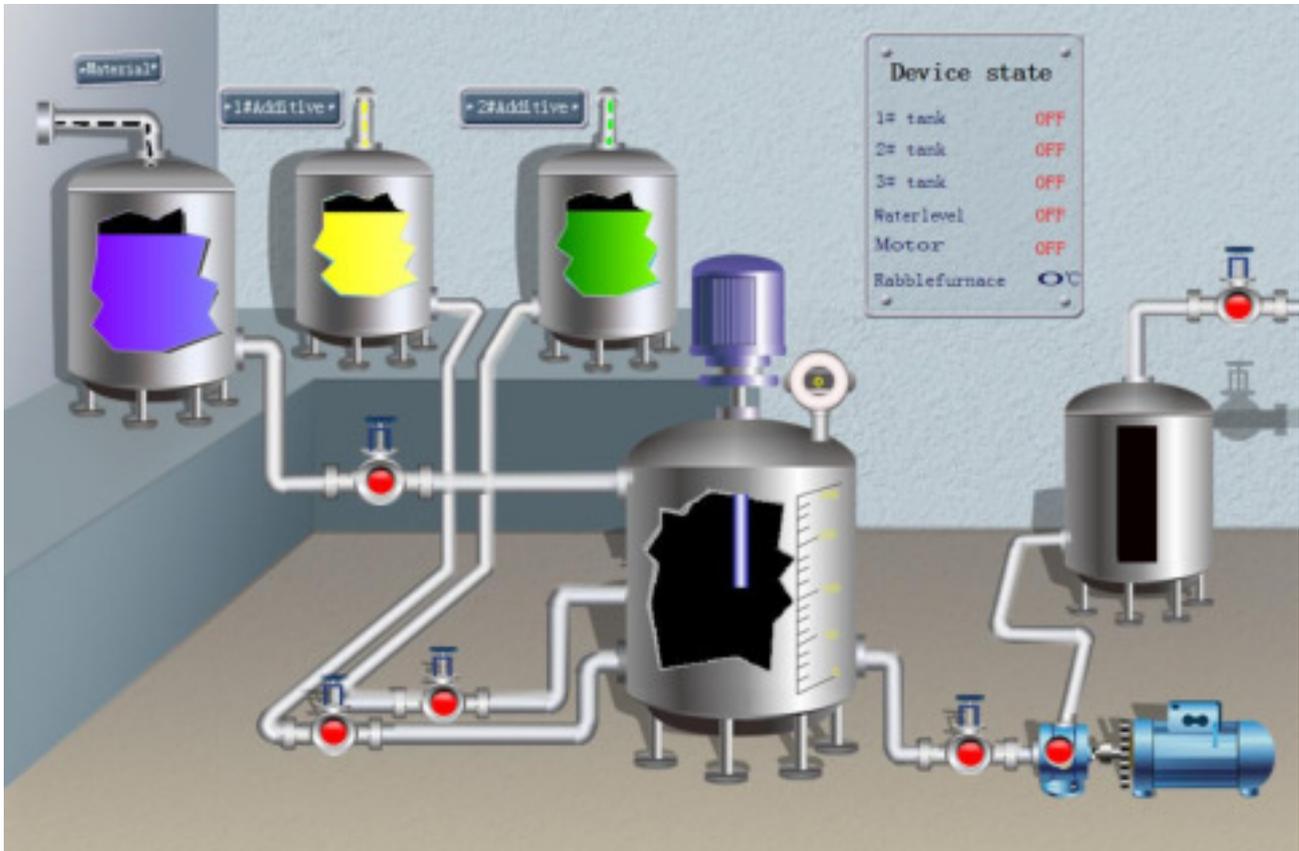
Graphic components contain multiple layers, through the script the layers can be flexibly controlled such as display and hide to in order to facilitate the graphic development.

ForceView adopts GDI+ graphic technology, user can fill in the shadow and gradient of graphic components, and this will make the rendering of the graphic better and the interface will look more beautiful.



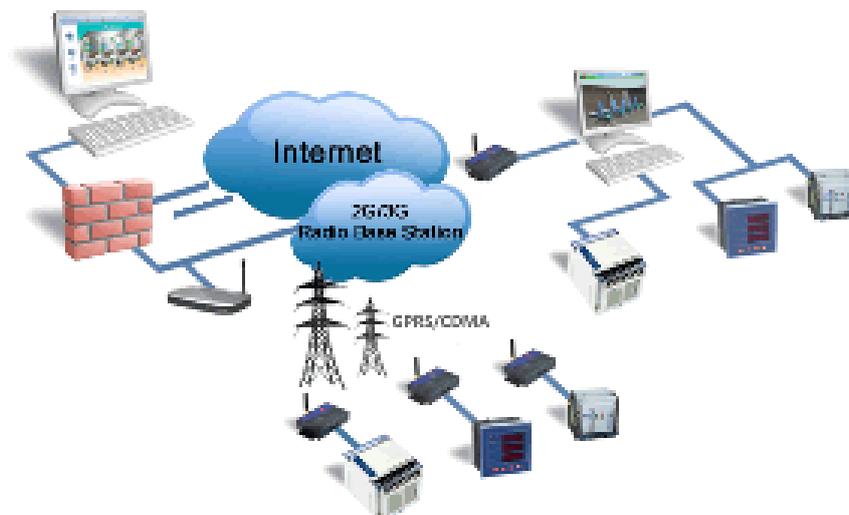
. Net technology seamlessly integration, support WPF and WCF technology to build 3D graphics object components

Powerful ActiveX control object container, defines a new set of container interface, through the "script" can directly manipulate the container, call the object method, property, and facilitate system integration.



### Reliable industrial communication design

Support RS232, RS422, and RS485, radio, telephone dial, Ethernet, mobile GPRS, CDMA, GSM, ZigBee network and remote field devices to communicate.



Devices are able to interact with each other through Master – Slave, Master – Master and Slave – Master mechanisms for communication. Support communication re-establish upon offline and continuous transmission, support recovery function when there is a communication failure. The communication event will be logged and archived into harddisk.

Support more than 3000 IO driver. Supports communication and networking with mainstream PLC, SCADA hardware and software, DCS, PAC, IPC and other equipment.

### Completely redundancy and fault tolerance technology

1. Support devices and channel redundancy
2. Support standard RS232, RS485 and TCP redundancy
3. Support both hardware and software redundancy
4. Support SCADA server hot standby and network redundancy

The multi-process and multi-threaded network communication mechanism to make communication more efficient and faster.

### Device and communication line redundancy

Provides complete I/O device and communication link redundancy. The devices will be change over automatically when the failure detected at device or the communication line. This is to ensure the stability of the system

### SCADA server and network redundancy

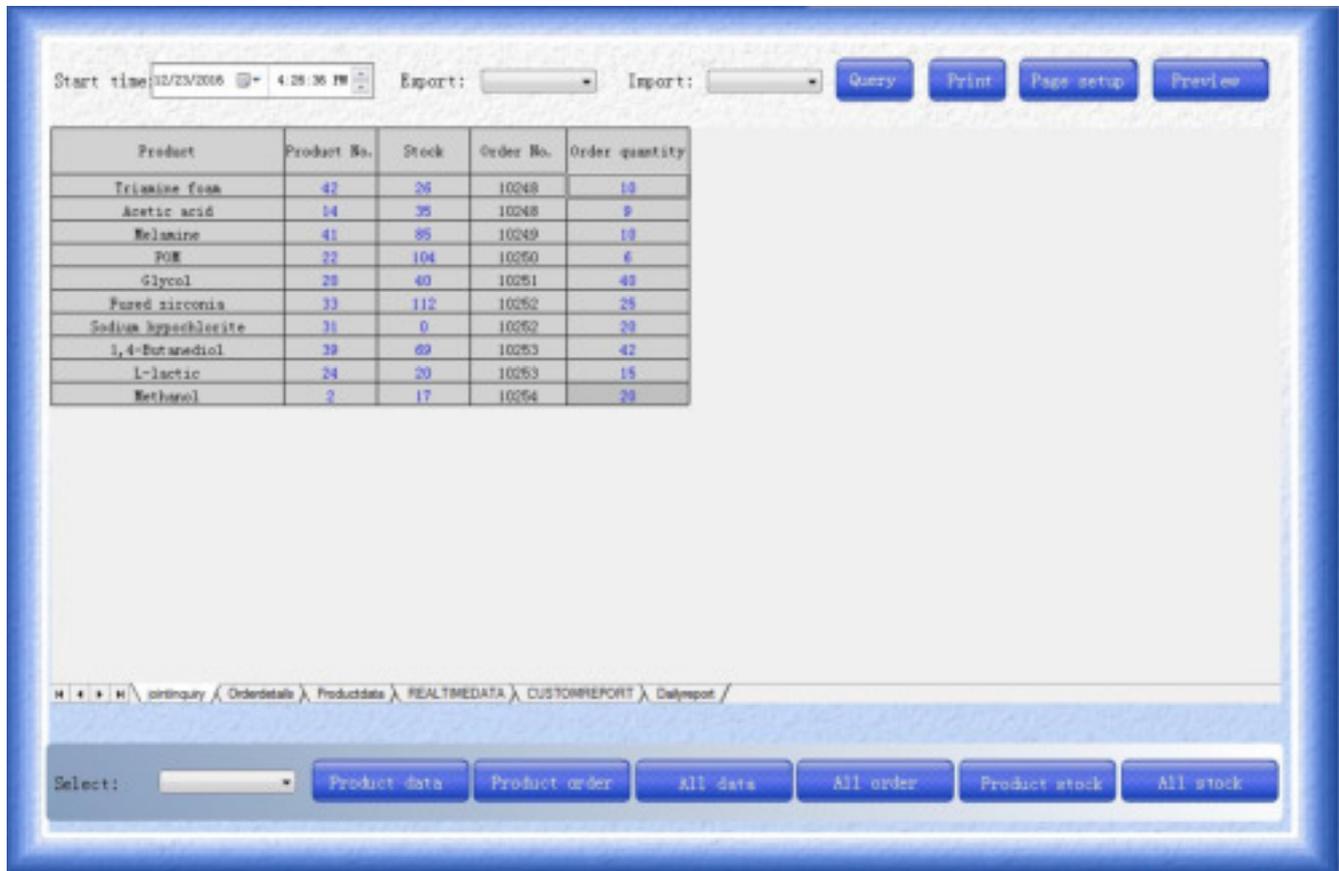
Support server hot standby redundancy and cluster. In redundant configuration when failure detected at master set, the standby set will be took over automatically, the remote client node will re-map to the new master set automatically.



### Collaborative visualization tools

ForceView provides the many combination function of component. The object-oriental method's operation between the internal components' collaboration can be realize through the backend standard interface port. The components consists rich of methods, properties; can be control through build-in scripts. ForceView also provides standard trend curve template to facilitate the rapid realization of engineering production.

ForceView use a "excel-like" mode of operation reporting tools, use the wizard function to generate the production report such as daily report, monthly report and yearly report. Further of above, ForceView also can flexibly generate the complicated format of report to achieve the timely, historically and statistically data query for the displaying, printing and outputting purpose.



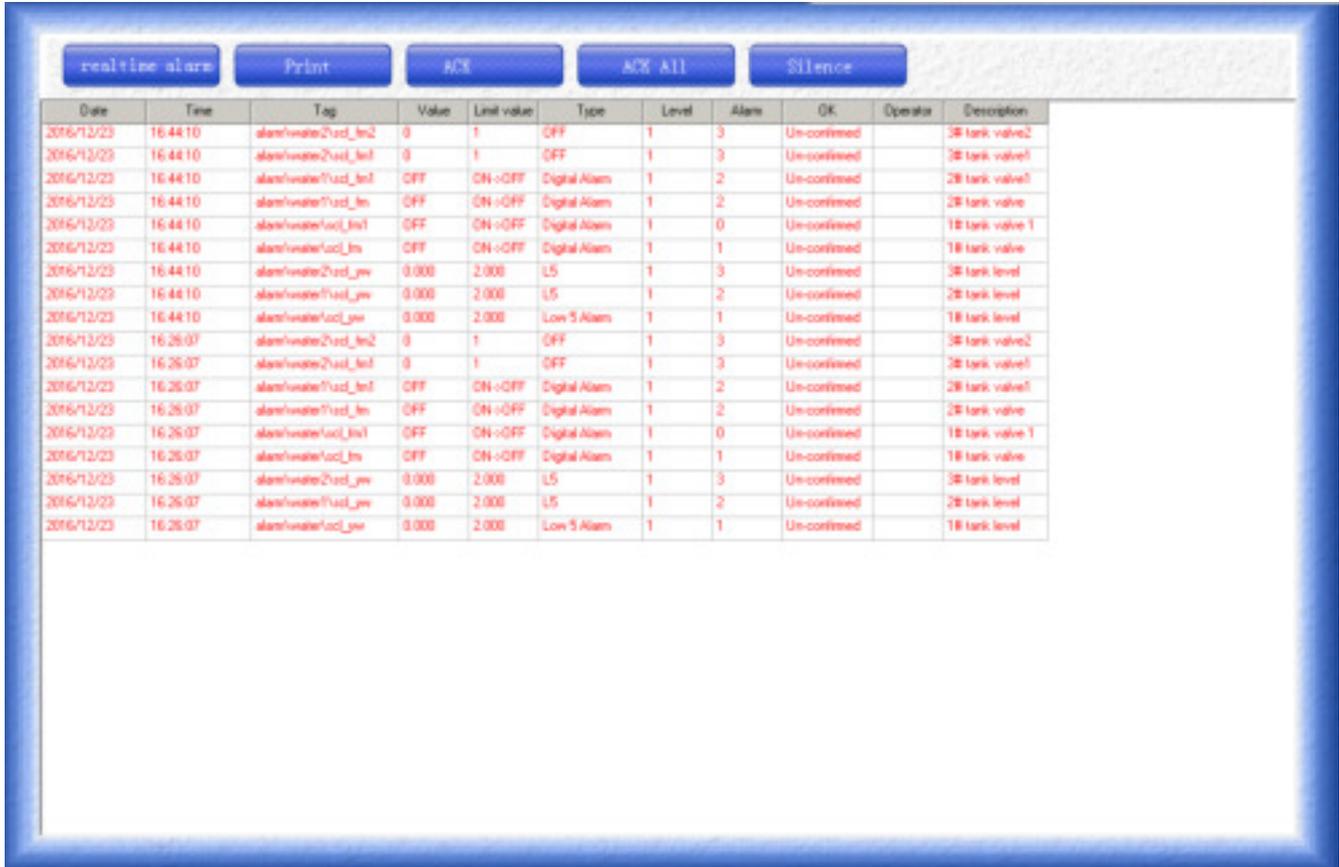
The ForceView provides a variety of analytical curve components, including trend curve, XY curve, temperature curve, pie chart, bar graph. The Curve and report component not only show data from the real-time and historical database, but also can access and inquire data from typical relational databases such as MySQL, SQL Server, Oracle and Access.



## Distributed alarm architecture

The ForceView has powerful of alarm management system:

1. Distributed alarm architecture
2. Powerful alarm storage, statistics, analysis, display, query, event trigger, print and other functions
3. Can interlock with Voice, Video, Multi-Media



Date	Time	Tag	Value	Limit value	Type	Level	Alarm	OK	Operator	Description
2016/12/23	16:44:10	alarm/water/2ucd_fm2	0	1	OFF	1	3	Un-confirmed		2# tank valve2
2016/12/23	16:44:10	alarm/water/2ucd_fm1	0	1	OFF	1	3	Un-confirmed		2# tank valve1
2016/12/23	16:44:10	alarm/water/1ucd_fm1	OFF	ON+OFF	Digital Alarm	1	2	Un-confirmed		2# tank valve1
2016/12/23	16:44:10	alarm/water/1ucd_fm	OFF	ON+OFF	Digital Alarm	1	2	Un-confirmed		2# tank valve
2016/12/23	16:44:10	alarm/water/1ucd_fm1	OFF	ON+OFF	Digital Alarm	1	0	Un-confirmed		1# tank valve 1
2016/12/23	16:44:10	alarm/water/1ucd_fm	OFF	ON+OFF	Digital Alarm	1	1	Un-confirmed		1# tank valve
2016/12/23	16:44:10	alarm/water/2ucd_jw	0.000	2.000	LS	1	3	Un-confirmed		2# tank level
2016/12/23	16:44:10	alarm/water/1ucd_jw	0.000	2.000	LS	1	2	Un-confirmed		2# tank level
2016/12/23	16:44:10	alarm/water/1ucd_jw	0.000	2.000	Low 5 Alarm	1	1	Un-confirmed		1# tank level
2016/12/23	16:26:07	alarm/water/2ucd_fm2	0	1	OFF	1	3	Un-confirmed		2# tank valve2
2016/12/23	16:26:07	alarm/water/2ucd_fm1	0	1	OFF	1	3	Un-confirmed		2# tank valve1
2016/12/23	16:26:07	alarm/water/1ucd_fm1	OFF	ON+OFF	Digital Alarm	1	2	Un-confirmed		2# tank valve1
2016/12/23	16:26:07	alarm/water/1ucd_fm	OFF	ON+OFF	Digital Alarm	1	2	Un-confirmed		2# tank valve
2016/12/23	16:26:07	alarm/water/1ucd_fm1	OFF	ON+OFF	Digital Alarm	1	0	Un-confirmed		1# tank valve 1
2016/12/23	16:26:07	alarm/water/1ucd_fm	OFF	ON+OFF	Digital Alarm	1	1	Un-confirmed		1# tank valve
2016/12/23	16:26:07	alarm/water/2ucd_jw	0.000	2.000	LS	1	3	Un-confirmed		2# tank level
2016/12/23	16:26:07	alarm/water/1ucd_jw	0.000	2.000	LS	1	2	Un-confirmed		2# tank level
2016/12/23	16:26:07	alarm/water/1ucd_jw	0.000	2.000	Low 5 Alarm	1	1	Un-confirmed		1# tank level

The ForceView use tree structured zone and alarm group as alarm management, support network alarm and operation event.

ForceView also supports serval alarm messaging such as: buzzer alarm, voice alarm, Email, short message service alarm, dot matrix alarm printing, modem dial up alarm.



### Powerful compilation and calculation engine

Forceview use object-oriented design of the scripting environment. The editing platform can realize the function of "What you see is what you have". Forceview also supports script online debugging function.

The "Basic" like language environment provides object-oriented programming, from simple digital calculation to the algorithm functions used for advanced control.

There are variety type of scripts and trigger method such as condition trigger, data changing trigger, window movement trigger, cycling movement.

Forceview supports variable indirect addressing. Software system build-in with various type of variable such as indirect variable, Intermediate variables, database variable.

### Highly Synchronized Web Publishing

Web Server established the highly synchronized graphic between client and server. The Web page automatically adapts to the resolution. Real-time data transmission between Web client and network server adopts event-driven and value changers transmission mechanism. The client browser is able to reflect with the real-time data value.

The load balancing of web communication ensure the large volume of data exchanging and system robustness, it allows concurrent access of hundreds of web client.

ForceView supports ActiveX web publishing including the third-party ActiveX. The web information integration can be established through the function outputs that request by user.