



**Datasheet**

**AggreGate**  
SCADA / HMI

## Supported Platforms

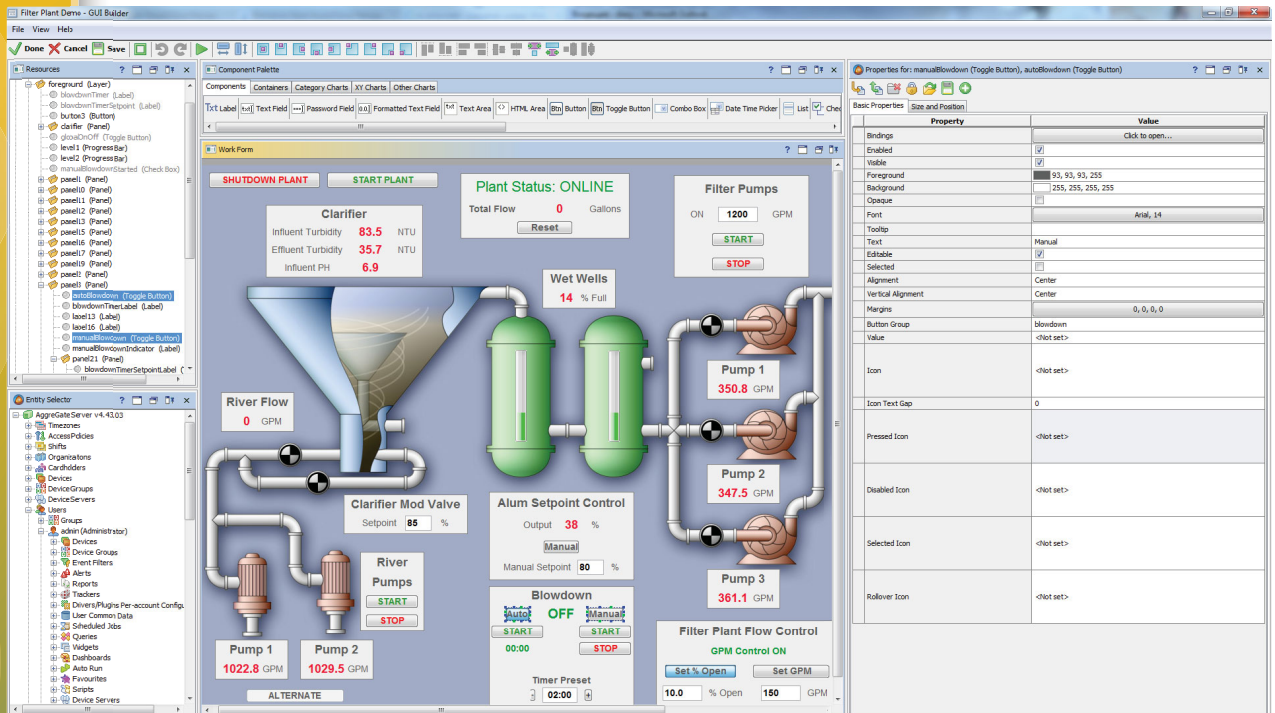
- Windows 2000, XP, Vista, 2003 Server, 2008 Server, and 7 (32-bit and 64-bit versions)
- Linux (32-bit and 64-bit versions)
- Mac OS X

# Advanced SCADA System

AggreGate SCADA/HMI is a system for visualizing and operating processes, production flows, machines and plants. It is a highly reliable multi-user distributed solution that provides supervisory control and monitoring for many sectors including process control, industrial automation, home automation, telemetry, remote control and monitoring, test and measurement, and machine-to-machine communications (M2M).

AggreGate SCADA/HMI has advanced data acquisition and processing capabilities inherited from AggreGate Device Management Platform, such as real-time charting, comprehensive alerting/reporting, and batch operations. It is bundled with a rich set of device drivers for accessing and controlling different PLCs, sensors and other industrial devices. Most industry-standard protocols, such as OLE for Process Control (OPC), Modbus (TCP, UDP, Serial RTU/ASCII/BIN), BACnet IP, and SNMP, are supported directly.

Integrated GUI Builder application simplifies the process of creating Human-Machine Interfaces for visualizing the processes. Available user interface components include standard form elements (e.g. text fields and buttons), tables, raster and vector images, highly customizable gauges, charts, splittable/tabbed/multi-layer panels, and many more. HMI applications created in GUI Builder can be launched separately, e.g. in touch panels.



## Feature Highlights

- Support for a wide range of industrial control protocols
- Distributed architecture, free unlimited client licenses
- Failover clustering for high availability
- Advanced event processing and logging
- Visual HMI editor with intuitive data bindings
- Remote editing of HMIs and report templates
- Multi-type trending, support for dynamic charts
- Fully functional free version (up to 3 devices)

## Based on M2M Platform



AggreGate SCADA/HMI is built atop of mature and powerful AggreGate Device Management Platform. The SCADA inherits all technological benefits of the underlying framework, including open-source APIs, failover clustering support, distributed architecture, and more.

## Innovative Technology



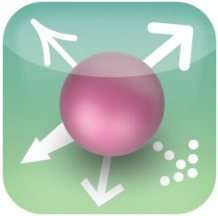
The patented technology of AggreGate Platform introduces many innovations in industrial automation domain. System core has integrated support for home-grown device data normalization method, two-way device synchronization that substitutes simple polling, device data caching and other advanced operations.

## Linux SCADA



AggreGate is a cross-platform SCADA system that can be installed on Linux servers and even under Mac OS X. The system preserves 100% of its functionality when working under non-Windows operating systems. It can also communicate with Windows-based OPC servers via network using DCOM technology.

## Wide Protocol Support



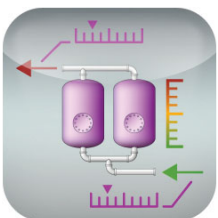
Discovery and smart monitoring of widespread server applications: web, mail, DNS, FTP, DHCP, SSH, LDAP, Radius, and more. Authentication/ authorization, status checking and configurable injection of application data into AggreGate core for deeper analysis. Monitoring of arbitrary TCP/UDP ports. Preset alerts for typical application problems and network-wide service status dashboard.

## Alarming and Event Processing



AggreGate SCADA/HMI supports most widespread industrial control protocols out-of-the-box, including Modbus, OPC, BACnet, SNMP, and many more. Drivers for PLCs that use other protocols can be easily designed using the open-source Driver Development Kit (DDK).

## Visual HMI Builder



The integrated HMI Builder supports combining grid and absolute layouts inside different containers within one widget, allowing to build very complex equipment control screens. More than 100 component types are supported, including container components, such as Tabbed Pane or Split Pane.

## System Requirements

Up to 10 devices:

- CPU Cores: 1
- RAM: 1 Gb
- Disk space: 1 Gb

Up to 100 devices:

- CPU Cores: 2
- RAM: 2 Gb
- Disk space: 10 Gb

Up to 300 devices:

- CPU Cores: 4
- RAM: 4 Gb
- Disk space: 20 Gb

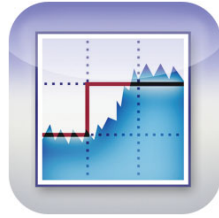
300+ devices:

- CPU Cores: 8 or more
- RAM: 8 Gb or more
- Disk space: 50 Gb

## Order Information

License	Item Code
10 devices	agg-sh-10
25 devices	agg-sh-25
50 devices	agg-sh-50
100 devices	agg-sh-100
200 devices	agg-sh-200
500 devices	agg-sh-500
Unlimited	agg-sh-unlim

## Charting and Trending



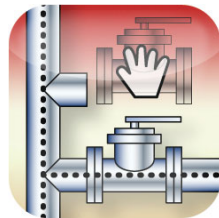
Dynamic chart library supports more than 25 chart types, exposing thousands of configurable parameters for setting up axes, series renderers, legends, titles, gridlines, crosshairs, etc. Trend of different types can be added, including linear, exponential, moving average or percentile.

## Statistical Process Control



AggreGate SCADA can store long-term time series data in a round-robin database (RRD), providing extremely compact storage and fast access to historical values. Never seen in other SCADA systems, this feature can help with deep data analysis, such as triggering an alert when daily channel average significantly exceeds its yearly average.

## Live Project Editing



Unlike traditional SCADAs, AggreGate has no difference between development and runtime environments, and no “projects”. All development and administrative operations are performed remotely on the production server via secure network connections. Simulation devices, change history tracking, database backups and optional failover servers keep operations safe.

## Scripting and Querying



Despite the system is tailored for visual operations, it has strong support for both server-side and HMI-side scripting. The scripts are written in pure Java language, exposing all system libraries to the developer. In plus, AggreGate SCADA has two domain-specific languages: query language for data mining and expression language for building alert triggers, event filters, etc.

## Task Scheduler



All system actions that support unattended mode may be executed according to simple or advanced schedule. Simple schedule ensures that the job is executed every N seconds, while advanced schedule allow fine-grained planning, such as “Every 3-rd Friday of May, at 23:30, during years 2011-2015”.

## Reporting



Any type of license allow creating unlimited number of reports. Report source data may be extracted by expression or by query, but Design Builder tool can create report template from any tabular data in just two clicks. Moreover, the templates can be fine-tuned or created from scratch in the embedded Report Editor.

## SQL Support



AggreGate SCADA/HMI stores both configuration and trend values in the SQL database to ensure uniform access to the data. Most enterprise-grade databases are supported, including MySQL, MS SQL Server, Oracle, PostgreSQL, and other. Trend data storage is fully configurable in terms of sampling periods and storage duration.

## SCADA Symbol Library



The installation bundle includes large library of dynamic automation symbols in Scalable Vector Graphics (SVG) format. The library is divided in multiple categories like tanks, valves, or pipes. All symbols support on-the-fly manipulations such as changing colors/strokes, zoom and rotation, starting/stopping animations, and manipulating individual elements (e.g. tank levels).

## Open-source SDK



AggreGate Server provides open-source APIs for Java and .NET. These APIs allow full remote control of the server and access to all server/device data from any third-party application. It's also possible to create new device drivers and data processing/presentation plugins. In addition, AggreGate Server can be controlled via Web Services.

## Flexible Security Model



AggreGate Platform establishes serious security infrastructure for AggreGate SCADA/HMI by providing flexible role-based access control. In plus, all communications between server, operator workstations, HMIs and third-party systems are performed via SSL-secured connections.

## AggreGate Technology

### Patent-pending Technology



AggreGate Platform introduces many innovations in industrial automation technology. It provides an unique data model that comprises normalized representations of diverse network elements and exposes model data for the internal data processing tools and external systems.

## Supported Databases

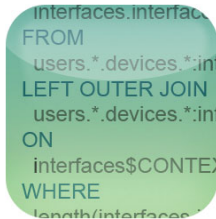
- MySQL
- MS SQL Server
- Oracle
- PostgreSQL
- Firebird
- And more

## Multiple User Interfaces



Working mainly from one or two computers? Use the advanced desktop client software. Need access from a thin terminal, or don't want to install anything? Web access is here for you. Finally, if you're not even near a workstation, use the mobile client!

## Domain-specific Languages



AggreGate features integrated expression and query languages that were designed for the "natural" understanding of normalized data coming from hardware devices and circulating inside the system. They greatly simplify complex data processing required in modern monitoring systems.

## Data Management Tools



Devices in a distributed system can sometimes generate millions of events per hour; AggreGate lets you swim in this sea of information, rather than drown. Use alerts, event filters, reports, trackers and other tools to figure out what's important for you, and let the rest fade into the background.

## Failover Clustering



Ensure high availability services by building a multi-node failover cluster for AggreGate Server and underlying database. Our home-grown clustering technology does not depend to any third party software or clustering support of the operating system.

## Distributed Architecture



The unique multi-tier architecture guarantees unlimited scalability by balancing system functionality between multiple servers divided into several layers. This concept is the foundation for multifunction installations, such as smart city HQ.

## Cross-platform Database-agnostic Architecture



All system components work under any Java-enabled OS including Windows, Linux and Mac OS. Supported databases: embedded, MySQL, MSSQL, PostgreSQL, Oracle, or any other JDBC-compliant RDMBS.

# Try it now!

Download 30-days trial or free version for 3 devices:  
[http://aggregate.tibbo.com/scada\\_hmi/](http://aggregate.tibbo.com/scada_hmi/)

## Tibbo Technology

Tel: +886-2-26925443  
Fax: +886-2-26923139  
9F-3, No.31, Lane 169, Kang-Ning St., Hsi-Chih, Taipei, Taiwan  
[www.tibbo.com](http://www.tibbo.com)  
[sales@tibbo.com](mailto:sales@tibbo.com)

## About Tibbo

Located in Taipei, Taiwan, Tibbo Technology Inc. brings simplicity to the embedded world defined by the enormous complexity of operating systems, programming languages, and design tools. Tibbo's hardware, Tibbo-BASIC programming language with its Tibbo IDE software, and the AggreGate Platform offer a complete rapid development solution for data collection, automation, security, and monitoring devices and systems.

