AggreGate Industrial IoT Platform

Tibbo SYSTEMS

Contemporary SCADA and Industrial IoT platforms have a lot of common features:

- Same data collection protocols
- Identical archive storage methods, while binary storage has gone to the past
- HMIs building is possible in both
- Similar ways of time-series data processing

Obviously, Industrial IoT platforms offer all 4th generation SCADA features, but what is the difference?

- Solving complex cross-domain tasks (IT infrastructure management, fleet monitoring, service modeling, etc.)
- Collecting and processing not only tags but also structured data (incident tables, service catalogs, arbitrary object hierarchies and connections between them)
- Extensive support for multiple IT (Telnet/SSH, FTP), IoT (MQTT, CoAP), and universal protocols (SOAP, CORBA)
- Complex data visualization (maps, statistical diagrams, data-entry forms, OLAP cubes)
- Operation in publisher/subscriber mode, direct communication between things

Industrial IoT platforms cover plenty of automation system levels:

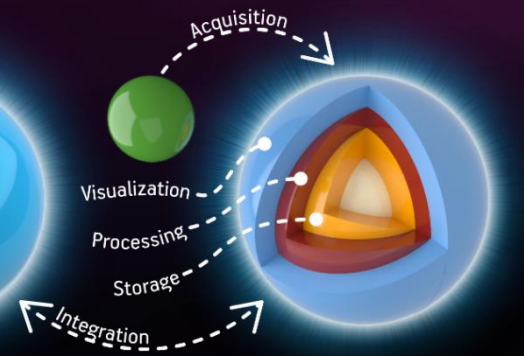
- Almost every IIoT platform operates at SCADA/HMI level
- Most platforms are able to solve MES and OEE tasks
- Multiple platforms “feel all right” at ERP/EAM levels
- There is a trend towards substituting DSC and niche systems (e.g. AMR)
- In some cases, platform components enable SoftPLC level, i.e. logic of controllers and IEC 61131-3 language (FBD, LD, SFC, ST) runtime environment

What is AggreGate Industrial IoT platform?

AggreGate is a white-labeled Industrial Internet of Things integration platform, a software “brick-set”, that employs modern network technologies to control, configure, monitor and service different electronic devices. It also helps you to aggregate device data into the cloud, where you can "slice and dice" it according to your needs, as well as let other enterprise applications transparently access it. Speaking of SCADA/HMI, first of all, this is a system for visualizing and operating processes, production flows, machines and plants. It is a highly reliable multi-user distributed solution which provides supervisory control and monitoring for many sectors.

Key features:

- Cross-platform (Windows, Linux, MacOS, and more)
- No separate development and runtime environments
- Visual HMI editor with intuitive data bindings
- Advanced alarming, event processing and logging
- Multi-type trending, support for dynamic charts
- Multi-scenario seamless integration with third-party systems
- Industrial IoT solutions including Predictive Maintenance
- Role-based access control
- Open-source SDK and DDK



Performance:

- Hundred thousand devices per server
- Up to 5-10 million tags per server
- Ten billion daily tag updates per server
- 100-500 thousand stored tag values per second per server
- Unlimited number of servers in a distributed installation
- Unlimited scalability via multi-tier distributed architecture

Business benefits:

- Fast application deployment
- Easy integration into the enterprise
- High scalability and reliability
- Visual development in UI editors
- Integrated role-based security model
- Comprehensive rebranding options

Cases and References:

- Forklift fleet management and monitoring (Keytroller, the US)
- Roadheading equipment monitoring (Ilma Machine-building Company, Russia)
- Distributed Real-time Data Acquisition System for a Nuclear Research Reactor (Kurchatov Institute, Russia)
- Engineering Systems Monitoring for PVC Integrated Plant (RusVinyl, Russia)
- Automating Steam Turbine Operation (Shree Renuka Sugars, India)
- Centralizing Control of Time Recorders in Remote Offices (Pakistan State Oil, Pakistan)
- Communication Channel and Emergency Notification System Monitoring (Emergencies Ministry of Russia)