Mango Automation

Mango Solution
Easy • Affordable • Open Source

Modern Building Automation
Data Acquisition
SCADA System
IIoT
Mango is a 100% browser-based, cross platform software application that enables users to access and control electronic sensors, PLC’s, devices, databases or web services over multiple protocols simultaneously. Mango provides an interface with which diverse data sources can be created and configured while providing downstream management of user access, alerts, data logging, alarms and automation.

Powerful data visualization tools bring your data to life with dynamic dashboards that allow you to better analyze and aggregate your data, allowing your users to make more informed decisions.

Mango Automation includes everything you need to build a powerful, scalable and modern systems.

**Built In Protocols**

With BACnet, Modbus, MQTT, SNMP, DNP3, SQL, CSV Files, HTTP, and others there is no need to pay for extra drivers or software tools. Out of the box Mango will easily connect to all your devices and sources of data normalizing everything into one easy to use interface. Low level protocols, like Serial or TCP, can enable you to interface with custom or proprietary protocols quickly.

**High Performance Time Series Historian**

Mango is capable of storing billions of historical values with ground breathing throughput while utilizing surprisingly small amounts of disk space. With no external server or database configuration needed, Mango is ready to provide you lightning fast performance out of the box.

**Built In Analytics**

Mango provides several standard web interfaces for users to perform quick and efficient analytics of systems. With easy to configure Watch Lists and flexible data queries you are provided with deep data visibility with little configuration needed.

Mango Automation includes everything you need to build a powerful, scalable and modern IIoT, SCADA or Data Acquisition System.
REPORTING & BILLING
Create fully customized reports & bills using Excel documents. Users can manually run reports anytime, or reports can be scheduled and automatically delivered to users' email inboxes.

Reports utilize Mango's historical data and statistic analysis engine for highly flexible data queries.

LEADING EDGE DATA VISUALIZATION
Utilizing leading open source web development technologies, Mango provides a flexible development platform for mobile-friendly dynamic dashboards, web/mobile apps and kiosks. With a drag and drop editor plus code view, users with any level of experience can get projects done quickly and efficiently.

ADVANCED SCHEDULES WITH EXCEPTION CALENDAR
Flexible scheduler for Mango that allows weekly schedules to raise events and return them to normal. Exception rules are layered on a schedule to override lower layers and the default schedule. Layers can be times within date ranges or specific days.

AUTOMATION AND ALARMING
Mango includes several powerful scripting environments that allow users to write control algorithms or simple calculations. Users can configure multiple types of alarms to trigger event handling or notifications, which provides them peace of mind while away.

SYSTEM SCALABILITY
From a low power embedded computer to the largest Amazon servers with hundreds of terabytes of data, Mango is ready for business. From a simple standalone application to a global data acquisition system with thousands of remote nodes the same Mango software scales for all types needs.

Mango has been built with this ultimate flexibility in mind. This also is reflected in the ways it can be configured, our simple pricing model, our open source repositories, use of open source technologies and our business transparency.

POWERFUL IIoT & REMOTE SITE MONITORING
Whether you need to push a handful of values to the cloud or 100,000’s per second from around the globe, Mango provides you a highly scalable and robust platform to reliably bring valuable data into one central Mango database. With automatic data replication, self healing history synchronizations and real time updates you can configure your global data acquisition / IIoT system to suit any need.

Mango Automation is a flexible platform that can be deployed in varying manners.
Data Acquisition At A Whole New Level

The MangoES (Embedded Server) is a compact & powerful ARM based Linux server with the full Mango Enterprise application pre-installed. There are no additional licenses or software needed to operate. For applications with less than 3000 data points the MangoES replaces expensive and power hungry servers with a ready to use appliance.

Available in several disk storage sizes, the MangoES is perfect for stand alone systems or to act as a powerful IIoT gateway for larger distributed projects.

Variety Of Topologies

Stand Alone Data Logging & Control
Mango Enterprise or a MangoES can be built into a panel with I/O modules and/or a PLC. Data is gathered by and users connect directly to the local Mango instance to access dashboards, run reports and view alarms.

Location Wide Mango Installation
Mango Enterprise or a MangoES is installed in a location to gather data across the local area network or serial networks. Similar to a stand alone system but where sensors, PLCs and equipment is spread around a single location.

Connects to Everything
- PLC, Controller
- Energy Meters, VFDs, etc.
- RS-485, Modbus, BACnet, SNMP, DNP3, others.
- Sensors
  - 0 - 10 Vdc
  - 4 - 20 mA
- Output Relay
  - 0 - 10 Vdc
  - 4 - 20 mA
Mango Enterprise in the Cloud Direct to Devices

One cloud installation can directly connect to remote locations and devices via VPN connections and other protocols such as MQTT.

Wide Area Network Installation

A central Mango Enterprise server collects data on the local area network while multiple MangoES units collect and forward data into the central Mango server. This provides a easy unified system where hard to access equipment can bridge local networks and exceed limitation on serial network lengths.

Mango Persistent TCP Sync

Location Wide Distributed Installation

Mango Enterprise is installed in a cloud server. MangoES's or other locally installed Mango Enterprise instances collect local data and forward data into the central Mango server. This provides an easy unified system where hard to access equipment can bridge local networks and exceed limitation on serial network lengths.
READY FOR DEVELOPERS

Mango is an open platform and includes powerful tools developers can leverage. Our free user support is provided quickly and publicly in our forum such that all exchanges can contribute to everyone’s knowledge and the community can offer their insights.

RESTFUL API

As a modern web enabled application, Mango includes a complete RESTful API which allows users to do everything from convert various protocols into REST calls or allow external applications take full advantage of the Mango database.

JAVA APIs

Mango has a powerful modular internal architecture (over 25 open source modules to refer to) that allows companies and developers to build custom components. Modules can be everything, from protocols to full applications with their own database components. Leveraging the Mango framework greatly reduces the total development time by using a proven and robust system that has been refined for over 10 years.

AngularJS Framework

The Mango 3.0 UI is built using the popular Angular JavaScript framework. We also include a comprehensive library of customized Angular components that wrap the REST API in a robust and easy to use system for rapid development.

Now every web developer familiar with HTML can produce dynamic, data-driven dashboards and web apps without writing any JavaScript.

Companies no longer need to rely on complicated proprietary products to produce great dashboards and can now use the same technologies that millions of others around the world are using to produce modern web apps. This results in your ability to scale faster and hire talent with minimal specialized training needed.

OPEN SOURCE TECHNOLOGIES

Where possible Mango utilizes industry standard open source technologies. We also make much of our source code available for education and review. This transparency ensures the highest quality code is produced which leads to an application that is easier to maintain and extend, has fewer bugs and is a pleasure for new developers to get involved with.

MANGO SUPPORT AND COMMUNITY

Mango Automation is a fully supported commercial product and also comes with a large community with thousands of users. This active user base and community support ensures that Mango products continually reach high standards and evolve to reach the ever-expanding needs of the future.

SIMPLE PRICING

We want to make Mango easy to use in as many ways as possible, so our pricing is extremely competitive and simple. You can scale up to any size with the Mango Enterprise license’s unlimited points, users and graphics or scale down with a low-cost Gateway license. No mandatory annual fees and mostly free upgrades makes Mango one of the most cost effective solutions in its class.

OEMs, INTEGRATORS AND SOLUTION PROVIDERS

At Infinite Automation Systems Inc. We are dedicated to partnerships with individuals and companies that help with sales, support and installations of our products.

Integrators & Solution Providers will find that the Mango products will give them a substantial competitive advantage over other products. With significantly lower cost per point and total cost of ownership, Mango Automation products will help you win more jobs and impress more customers. Integrators and Solution Providers benefit from large price discounts and access to priority support and training.

OEM Integrations leveraging the Mango Automation platform as part of your offerings are the fastest and most cost effective way to bring exciting new features and capabilities to the products’ offerings without reinventing the wheel. The cost to license Mango as an OEM is a fraction of the cost to develop and maintain your own product. OEMs benefit from customizations, custom branding, special pricing options and ongoing support and improvements.

It’s easy to get signed up: contact Infinite Automation Systems Inc. for more information about OEM, Integrator and Solution Provider programs.

FOR MORE INFORMATION PLEASE CONTACT:
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