

ControlMaestro

The advanced software development platform for site-wide supervision, automation and process control

Open
your
Supervision

SCADA: the next generation

Web-enabled control and automation rises to a higher level

- [Productivity] New, object-oriented platform
- [Mobility] PDA and Smartphone support
- [Security] Strong authentication via Smartcards and Biometry
- [Future-proof] Windows Vista and Windows Mobile compliant





ELUTIONS' state-of-the-art ControlMaestro automation software provides an advanced end-to-end solution for site-wide business automation by bringing together unparalleled Web performance for remote services and the most desired application benefits including engineering productivity, security, and wireless mobility.

Beyond the traditional SCADA supervisory visualization, communication and control functionality, **ControlMaestro** also provides advanced performance Web-enabled remote access and control, secured enterprise architecture, enhanced engineering development productivity, user mobility, and wireless wide-area control to reduce costs and improve services. This software solution is made future-proof through optimal use of advanced new technologies, the latest operating systems, and 15 years of wireless expertise from ELUTIONS R&D teams and 20 years of SCADA application expertise and Web leadership from Wizcon Systems engineers.

Field-proven, time-tested heritage

ControlMaestro is a state-of-the-art automation software platform that is open, complete and scalable.

This new software suite is the fruit of joint development work between two companies, Wizcon Systems and ELUTIONS Inc. The latter acquired the former in 2006, after a business development partnership that resulted in a combined worldwide sales and joint product Research and Development managed out of three R&D centers in the USA and in Europe. The resulting product combines the heritage of each company's most advanced technologies:

- Extensive Wizcon Systems automation and Web application expertise with the field-proven, reliable and time-tested **Wizcon Supervisor**.
- Integration with ELUTIONS machine-to-machine (M2M) enterprise asset management technologies, with mobility and wireless telemetry, communication and control.

Leveraging past customer investments in Wizcon

For the large installed base of **Wizcon Supervisor** applications worldwide, **ControlMaestro** enables a seamless migration path thanks to an easy-to-use inbuilt tool, which automatically converts their current application to the new platform.



Wizcon Supervisor users will find it easy to migrate their application to **ControlMaestro** and take full advantage of these latest developments without losing their initial investment. Executing the rapid, simple and intuitive migration wizard captures the full compatibility of previous **Wizcon** add-ons with **ControlMaestro**. Contact ELUTIONS or an authorized distributor for further details on migration.

Open your Supervision



Supervision as you've never seen



Thus, previous **Wizcon Supervisor** users will not be deprived from enjoying the new **ControlMaestro** platform's benefits and functionality:

- Enhanced engineering development productivity
 - Object-oriented structures
 - Importing images and objects directly from AutoCAD®
 - Project documentation tools.
- User Mobility and Remote Access
 - Advanced new Web Platform
 - Mobile Applications via Smartphones or PDAs.
- Integration with Enterprise Solutions and field equipment
 - ELUTIONS M2M telemetry, communication and control hardware
 - BACnet integration for trouble-free building automation
 - Secured Enterprise Architecture.

○ Web-enabled HMI and SCADA...

ControlMaestro delivers all the software tools needed to build a complete and powerful automation application. This software development platform fully masters everything that's typically expected of a professional Control, HMI and SCADA solution:

- **Supervision**
- **Control discrete and process**
- **Data acquisition**
- **Alarming**
- **Visualization**
- **Information distribution**
- **Complete reporting**
- **Local HMI**
- **Web-enabled remote access full information and control, anytime, anywhere**
- **Open, standards-based more than 160 drivers: OPC, industrial protocols, building protocols, PLCs, device manufacturers...**
- **Complete, reliable, and highly scalable.**

○ ...and so much more

ControlMaestro now takes SCADA to new higher levels, for site-wide automation and control of key mission-critical processes:

- [Process Security]** Station access restriction, Strong authentication via Smartcard- and Biometry-based login
- [Data Security]** Database protection
- [Enterprise Security]** Centralized User Management by IT using Active Directory®

- [Site Security]** Video surveillance integration in the SCADA console
- [Traceability]** Enhanced audit trail for application compliance to strict FDA 21CFR Part 11 regulations
- [Engineering Productivity]** Easy, intuitive and replicable object-oriented platform AutoCAD converter to generate or update applications rapidly
- [High Performance]** Powerful, high-performance and secure Web platform
- [System Stability]** Strong client-server communication
- [Enterprise Integration]** Easy integration with enterprise systems (centralized definitions, administration, connectivity to 3rd party solutions, ...)
- [User Mobility]** PDA and Smartphone support, Easy application generation with automatic one-step porting from the Studio
- [Facility Management]** Advanced native BACnet integration
- [Extensibility]** Integration with 3rd-party equipment (legacy and new) and with ELUTIONS M2M telemetry, communication and control Windows Vista, Windows 7, Windows Mobile and Windows Server 2008 compliant



Enhanced engineering development productivity

ControlMaestro addresses several of the main concerns of developers of modern SCADA applications:

- Rapid Application Development
- Portability
- Maintenance.

Object-oriented structures

ControlMaestro deals with real-world structures. This is achieved by using an object-oriented approach to building an application. The developer is not required to think in terms of the low-level details of how communication is established.

Developers can define as many types of object templates as required. An object is composed of a set of properties (strings, numbers, tags). The point is that an object can contain other user-defined objects - which can be nested to any level - and the user can create objects that are directly related to his applications. Arrays of any of these types of property can easily be defined.

Once the template has been created, any number of examples of these objects can be added to the application, via standard functionality:

- Using flexible "multi-add" tools
 - Directly from devices such as BACnet equipment
 - From objects exported from other applications.
- ControlMaestro** allows exporting any of these user-defined objects in industry-standard formats (XML). Exported objects' types and properties are then available for import into any other **ControlMaestro** application.

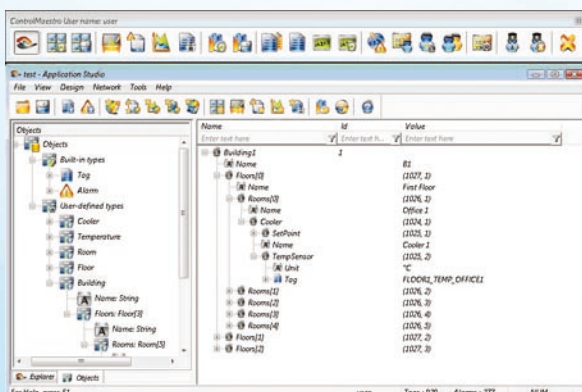


Figure: Example of User Defined Objects in ControlMaestro.

Any object or property can be accessed, displayed and modified from anywhere in the application. This reduces the time to build, deploy and propagate applications, thus drastically lowering the Total Cost of Ownership (TCO) of a **ControlMaestro**-based application over its entire lifetime.

Importing images and objects directly from AutoCAD

Application generators are the key to simplifying development work and **ControlMaestro** offers several productivity tools. One of the most powerful of these is the **CAD Converter**, which helps save hundreds of hours of development time or maintenance time by automatically creating a Building Automation application from an AutoCAD® drawing (or any DXF files). The **CAD Converter** helps answer two headache questions:

1. How to quickly create building management system (BMS) applications from scratch?
2. How to easily maintain and evolve existing BMS applications?

The **CAD Converter** is useful in Facility Management, either for system integrators who create several applications per year, or for end-users whose applications constantly evolve, such as airports or other large high-security sites. The system integrator will save time creating new applications faster. The Facility Management end-user will enjoy easier application maintenance. The **CAD Converter** helps increase development productivity, and reduce Total Cost of Ownership (TCO) over the application's life cycle, by reducing maintenance costs, reducing labor costs, and avoiding development errors.

Project documentation tools

With the **Audit Tool**, **ControlMaestro**'s cross-reference utility, new developers will find it easier to take over and analyze existing **ControlMaestro** applications, improving both engineering and project efficiency, and helping fulfill two objectives:

1. Provide comprehensive information on the structure of an application, and
2. Generate personalized reports of the application structure.

Typical uses include migrating, upgrading or maintaining **ControlMaestro** applications. The **Audit Tool** allows finding all objects used in the application, or to find in which module a particular object is used. Common benefits include: easily upgrade an application that was developed by someone else, simplify maintenance, optimize engineering and project efficiency, accelerate development time, avoid human error, and reduce development costs.

○ User Mobility and Remote Access

Web platform

Supervision and Control can be performed anytime, anywhere through an internet connection. No specific development is needed to deploy a Web application that includes, for example, Control Panels, Charts and Event viewers.

The Web Platform is developed using a rich client User Interface based on Java Technology. Thus clients benefit from the advantages of this technology:

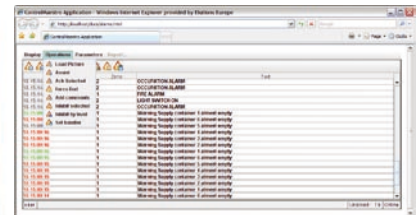
- Multi-platform: Windows, Linux, MacOS, Unix...
- Cross-browser: Internet Explorer, Firefox...
- Security: Java Archive is signed, so it certifies that it does not contain any virus. Furthermore there is no possibility to corrupt the system with embedded attack scripts.
- Cache: Java applets are automatically added into the Java cache. Thus the Java applet archive is downloaded only when it has been updated on the server.

The connection between client and server uses a proprietary protocol that is encoded to enhance the security and that is optimized to lower the used bandwidth. This connection supports a firewall and proxy transparent mode where only the port 80 is used. In this mode the secure Internet access through HTTPS/SSL is also supported.

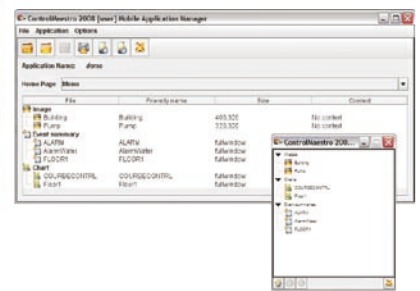
Mobile applications via Panel PCs, Smartphones or PDAs

Most of the Web features are available on PDAs, Smartphones and even Panel PCs, providing that a Java Virtual Machine v1.3 or higher is available on this system. Note that ELUTIONS provides a **Mobility Kit** for Windows Mobile. With the Mobile Application Manager, users can select which elements are required on the PDA and independently configure each of these, for example setting the element size. Clicking the Launch button enables direct visualization of the application rendering on a PDA - without further development time or skills!

Users can thus operate their application systems remotely, anytime, anywhere. This also facilitates the validation of their application by on-field verification, standing directly in front of the equipment, even if it is remote from the main station (for example, a heating system in a distant building, or a water tank in an isolated mountain area).



ControlMaestro's Web Event Viewer.



ControlMaestro's Mobile Application Manager enables mobile applications via Panel PCs, Smartphones or PDAs.



On the left, a ControlMaestro application screen from the PC. On the right, the same image displayed on any standard wireless PDA.



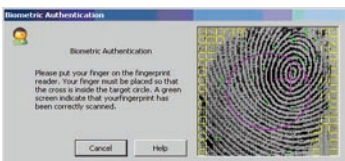
The ELUTIONS WLC is a fully-integrated wireless modem, gateway and PLC in one easy-to-deploy device. It can be configured directly from ControlMaestro, remotely "over the air", using the IEC industry-standard CoDeSys.



Smartcard-based secure login for ControlMaestro, using an USB eToken with an LDAP link to an enterprise Active Directory; this scenario provides 2-factor secure login for users accessing an application, either locally on PC or remotely via the Web.



Biometry-based secure login for ControlMaestro: the user's fingerprint is the login.



Biometric login in ControlMaestro is a rapid step to strong user authentication.



Integration with Enterprise Solutions and field equipment

Centralized user management

ControlMaestro's **User Management** system can easily be connected to an enterprise's active directory, so that user management is centralized on an enterprise's IT server, and users and passwords are managed by the IT Department. ControlMaestro's Directory Manager avoids redundant User Management systems, allowing for simpler maintenance and more efficient enterprise-wide management of users.

Enterprise data management

The **Database Logger** empowers ControlMaestro connectivity to enterprise management systems. This module enables pushing important data from ControlMaestro to Oracle or SQL databases, for access to Key Performance Indicators (KPIs) and operations metrics throughout an organization and interconnectivity with large enterprise applications.

Open connectivity

ControlMaestro offers open connectivity to field equipment and devices thanks to communication standards such as OPC as well as more than 160 specific drivers.

M2M connectivity

With bundling to ELUTIONS utility meters, modems and controllers (such as the WLC, **Wireless Logic Controller**), ControlMaestro can enable a variety of remote wireless services. Examples: remote process control in building automation; water management or industrial applications; leak detection on distribution networks; utility metering; etc.

BACnet integration - intelligent building automation

BACnet has emerged as the new standard for easy and trouble-free building automation. For Facility Managers, BACnet integration in ControlMaestro brings the peace of mind of an open norm that has been established for over 10 years as the mainstream standard for Building Management Systems (BMS).

- B-OWS: ControlMaestro is BACnet Operator WorkStation compliant
 - PICS: Outstanding BACnet Protocol Implementation Conformance Statement
 - Interoperable: Supports equipment from >180 BACnet vendors worldwide
 - Simple: Object-oriented device management and scheduling.
- Thanks to BACnet, ControlMaestro quickly and automatically detects devices on the network and manages them as objects. It offers open communication with multi-protocol, single- or multi-building systems. It can also interface and control sub-networks based on other Building Automation protocols, such as LonWorks and EIB/KNX, and industrial automation protocols.

You want only the best...

Don't settle for anything less.

Discover ControlMaestro today!

Download ControlMaestro now and test it for yourself, in your own environment.

Free evaluation version runs full-featured for 2 hours.

www.getControlMaestro.com



Secured Enterprise Architecture

Strong authentication

Three possible authentication factors can protect unauthorized login to a high-security application:

- What I know (password)
- What I have (smartcard, token)
- What I am (fingerprint).

Beyond standard user/password login, user authentication in **ControlMaestro** applications can be enhanced with secure login using smartcards, biometry and/or an LDAP link to an Active Directory. The ideal scenario is multi-factor strong authentication involving all three options.

Smartcard-based strong authentication

ControlMaestro supports smartcard secure login, based on the Microsoft PKI architecture, using TLS authentication and encryption mechanisms ensuring data security and user identity, and using low cost and secure USB tokens or smartcards. This solution is:

- Compatible with existing IT systems: complies with standards (e.g. PKCS, LDAP, X509...)
- User-friendly: user simply plugs in his eToken and enters a PIN code to authenticate
- Web-enabled: PKCS is supported by **ControlMaestro** Web clients for secure remote access.

Biometry-based strong authentication

ControlMaestro's Positive Identification (PID) biometric authentication solution provides enhanced secure login for all users in any circumstance, using a simple, fast fingerprint scan. ELUTIONS offers its customers the service of a one-stop shop, with the whole solution (software, hardware) integrated and supported by a single supplier. The solution is:

- Open (several non-proprietary scanners supported)
- Easy to deploy (plug & play, USB or Ethernet)
- Easy to maintain (durable, modular)
- Scalable (easily enroll new users, or add new scanners).

ControlMaestro's solution is based on best-of-class technology from biometry world leader NEC, which offers the world's fastest and most widely used biometric identification algorithms. It allows both kinds of Positive Identification:

- Authentication (1:1)
- Identification (1:N).

Data protection

ControlMaestro protects its core databases, User Management and Object and Alarm definitions, using sophisticated encryption algorithms so that content can only be modified from within **ControlMaestro**. If the software detects that an external program has changed the code, a system alarm is generated. This ensures integrity of the databases and enables strict compliance with FDA 21CFR 11 system security rules.

Traceability

With its **Audit Trail**, which can be configured to track up to 33 different types of user actions, **ControlMaestro** enables process traceability and compliance with FDA 21CFR 11 system security regulations.

Video surveillance

ControlMaestro can integrate full-featured video management, directly in the SCADA console, for perimeter and process security in mission-critical applications. The Omnicast™ IP Video Security solution, from world-leader Genetec, is deployed in the world's highest-security sites (airports, embassies, police departments, banks, supermarkets, etc.). It features an intuitive interface including full PTZ control, video matrix with up to 32 video streams, strong video network architecture, and powerful digital archival/retrieval. It is compatible with high-end video analysis solutions for detection of abnormal behavior.

ControlMaestro:

Open your supervision to the world

- Building Automation and Facility Management
- Infrastructure and Transportation
- Utilities, Power & Energy
- Environment, Water & Waste, Irrigation, Waterworks
- Manufacturing industries
- Industrial Process Control
- Chemicals, Petrochemicals, Pharmacy
- Oil & Gas
- Cooling & Refrigeration
- Distribution and Retail
- Agriculture, Agro-food, Food service
- Machine Builders...

More from ELUTIONS

Ask ELUTIONS or an authorized distributor about other leading-edge solutions :

- Energy performance, management and cost control
- Asset tracking of fixed and mobile strategic equipment.

You want only the best...



Discover ControlMaestro today!

Download ControlMaestro now and test it for yourself, in your own environment.

Free evaluation version runs full-featured for 2 hours.

www.getControlMaestro.com

ELUTIONS delivers profit

We are partners who create shareholder value
by dramatically improving energy, asset, and security
management business processes
with a unique automation and information solution platform
for commercial and industrial enterprises.



ELUTIONS Inc.
5100 W. Kennedy Blvd.,
Suite 300
Tampa, FL 33609
USA
tel +1 (813) 371-5500
fax +1 (813) 371-5501
info@elutions.com

Stone Ridge III Building
N14 W23833 Stone Ridge
Drive
Suite 400
Waukesha, WI 53188
USA
tel +1 (414) 273-7600
fax +1 (414) 273-7601

ELUTIONS Europe
ELUTIONS SAS
Parc Technologique de Lyon
12 allée Irène Joliot-Curie
F-69791 Saint Priest Cedex
France
tel +33 (0)4 72 47 98 98
fax +33 (0)4 72 47 98 99
info@elutions-europe.com

ELUTIONS BV
Concordiaweg 149-151
Postbus 351
NL-4200 AJ Gorinchem
Nederland
tel +31 (0)183 646 303
fax +31 (0)183 621 601

ELUTIONS Ltd
The Gate Hotel, Scotland Gate
Northumberland
NE62 5SS
UK
tel +44 (0)845 606-6120
fax +44 (0)845 606-6121

Standard support
web <http://support.elutions.com>
email support@elutions-europe.com
com
fax +33 (0)4 72 47 98 99

www.elutions.com

CMBR-Nov10 -EU

©2010 ELUTIONS. All rights reserved. AEM, ALERT, WLC, WLC-X, WLC-M, ELC, RX, R1600, R1200, GPIM, EPIM, SAM Meter, Wizcon, Wizcon Supervisor, Maestro, ControlMaestro, KernelPro, Web Scheduler, Notifier, NotifierVoice, OPC Suite, BACnet Suite, Database Logger, Replay, Excel Reporter, Web Activity Summary, CAD Converter, Audit Tool, Tag Template, Alarm Template, DB Generator, WAGO Importer, Directory Manager, ELUTIONS Security Kit, ELUTIONS Mobility Kit, and ControlMaestro PID are trademarks or registered trademarks of ELUTIONS. ControlMaestro Premium Maintenance, ControlMaestro Hotline Plus, ControlMaestro eXpert Program, ControlMaestro Certified, ControlMaestro SI Environment, and ControlMaestro VIPartner are service marks of ELUTIONS. BACnet is a registered trademark of ASHRAE. All other trademarks are property either of ELUTIONS or of their respective owners.