iMCA Controller™

MONITOR · CONTROL · AUTOMATE
VIRTUALLY ANYTHING FROM ANYWHERE

SMART PHONES

VIRTUALISATION

ACCESS

SCALABLE

PLC

IPHONE

local network

IPAD
SMS

TOUCH SCREENS

RF

DISTRIBUTABLE

IPOD

C-BUS

internet

MODULAR

HVAC

ENERGY METERING

SCADA

LIGHTS

CCTV

SENSORS

SWITCHES

BUSINESS   **RESIDENTIAL**
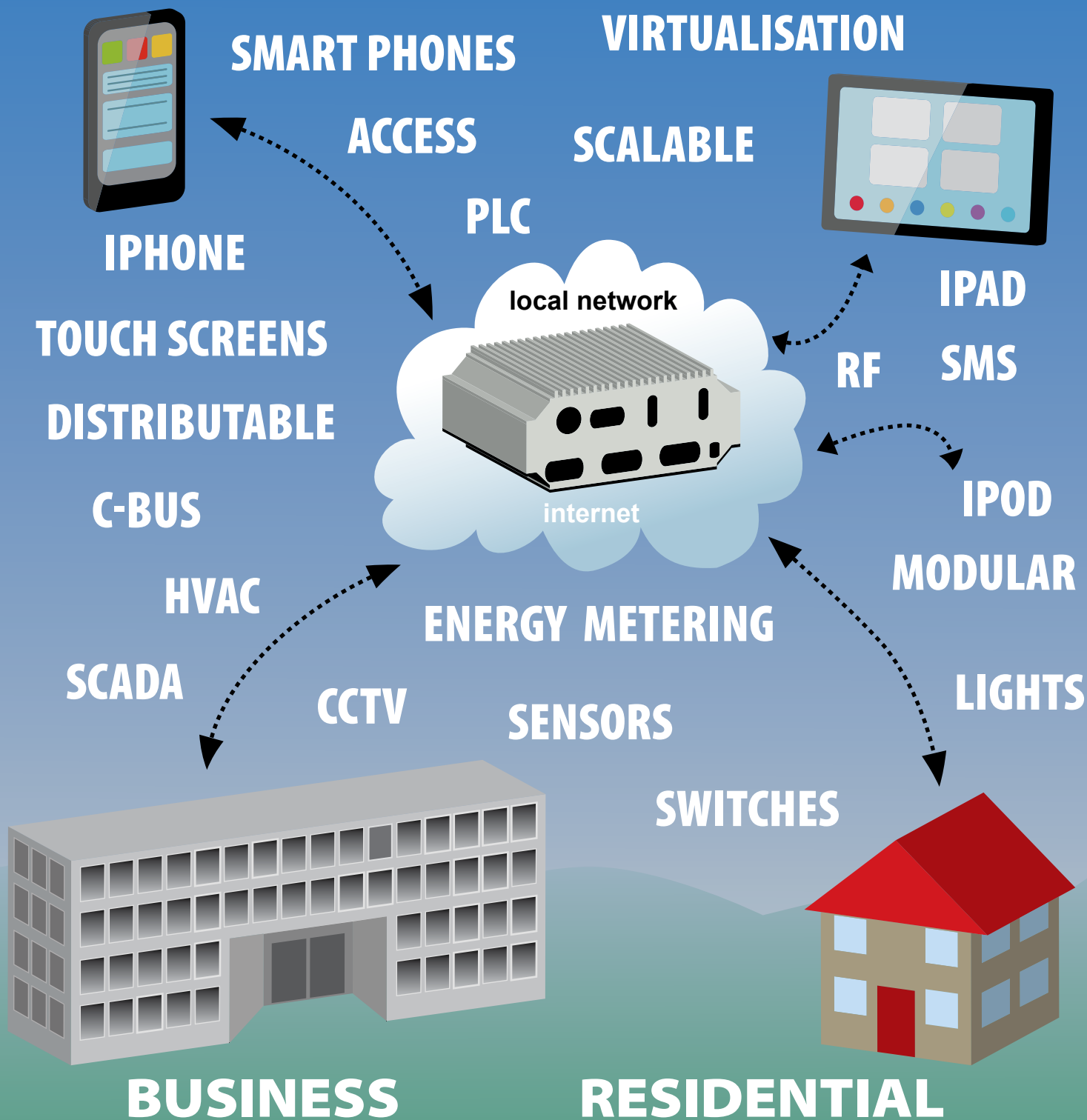
A UNIVERSAL, RAPIDLY DEPLOYABLE, SCALABLE, SERVICE ORIENTED, CROSS PLATFORM, TINY FOOTPRINT MIDDLEWARE AND EMBEDDED READY CONTROLLER/SERVER WITH A POWERFUL GRAPHIC USER INTERFACE FOR ENABLING AND INTEGRATING IP – BASED MONITORING, CONTROL AND AUTOMATION OF ALL TYPES OF ENVIRONMENTS – RESIDENTIAL, COMMERCIAL, INDUSTRIAL AND SCIENTIFIC

IKS AUTOMATION: www.iks-automation.com.au - email: info@iks-automation.com - phone: +61 (0) 3 8506 0379

Why the *iMCA Controller*™?

THINKING OUTSIDE THE BOX!

Intelligent Monitoring Control and Automation - iMCA Controller™ and iMCA Server™ are standalone, distributable products which deliver highly advanced capabilities for security and environmental monitoring, control and automation of real life scenarios for residential, commercial, industrial and scientific environments. You can think of this system as an operational brain for a wide range of monitoring and automation scenarios where advanced - but simplified - communication between different automation standards is required. These products enable you to monitor, control and automate virtually anything from anywhere, seamlessly integrating with different automation technologies, IR and RF transmitters, switching, remote terminal, power/energy metering and sensing units and devices as well as Distributed Control Systems (DCS) and Programmable Logic Controllers (PLC).

The major feature of this system is that it does not focus on any particular vendor or automation protocol or deployment methodology, but rather it supports the ever-increasing list of best of breed IP based switching, sensing and transmitting devices as they come onto the market. This gives the user incredible flexibility in mixing, matching and combining these devices to deliver a cross-technology, no-compromise, retro-fit-capable and indeed fit-for-purpose solution. A superior, universal and cost-effective monitoring, control and automation solution accessible equally to technology enthusiasts, early adopters, early majority consumers and experienced market niche players.

IP based switching, sensing or power metering equipment manufactures

- Unlock the true potential and power of your devices through the extended iMCA Server™ /Controller™ capabilities.
- Use iMCA Server™ capabilities and our client base to further improve the exposure and value proposition of your products.
- Simplify the integration and usage base of your technology with offerings from other vendors.

Automation Security and SCADA Integrators

- Make different devices and sensors from the same or from different vendors talk to each other, literally converting these separate systems into one flexible and easy to manage infrastructure within retrofitted or new environments.
- Consolidate the control and monitoring of multiple physical locations through a single user interface from any PC, Smart Phone or any other web enabled hand held device and enjoy true remote control over the Intranet and Internet.
- Provide value added services and reduce the cost of deployment and ownership and allow

your customers much greater flexibility and a wider choice of technology for controlling their premises, from advanced security to advanced entertainment.

- Develop your own subscription business model based on the iMCA Server™ and iMCA Controller™'s capabilities to monitor, control and automate on demand.

Technologies Resellers and Enthusiasts

- Automate almost any electrical appliance and control its behaviour via a single consolidated 100% Web Based User Interface via PC or a wide range of hand held devices.
- Address the "paranoia" of having left doors or windows open, or the gas on, or the fear that your basement might have flooded. You can monitor the statuses of all these directly from your handheld device or be notified by email or SMS message immediately should such events occur.
- Use your mobile device to open a window, close a curtain, turn off lights, activate the air conditioning, turn on the stereo or flick a TV channel, while automating any or all of these according to time or an event, to suit your domestic or business lifestyle.

Whether you are looking to complete a small DIY (Do-It-Yourself), BMS (Building Management System) or SCADA (Supervisory for Control And Data Acquision) based project, enhance already installed but limited automation technology, or, create a full-scale integrated solution, the iMCA Controller™ is ideal for achieving your goals.

KEY FEATURES

- 100% web based so is accessible from anywhere by any device with a web browser (does not require installation of anything on the access device and needs no other software components such as Microsoft ActiveX, dll, Adobe Flash, downloads from Apple's iTunes etc. to function).

- Supports the widest variety of user access device interfaces, including in-wall controllers, touch screens, wireless remotes, PDAs, Smart Phones and iPods, iPhones, iPads.

- Allows easy specification of various levels of access to a wide range of functions and capabilities for multiple users on different devices.

- Creates instant virtual connections between switches and sensors recognized by the iMCA System regardless of the switching/sensing hardware unit they are attached to.

- Easily creates and executes any number of automation scenarios based on time schedule or sensor information, without having to deal with cryptic codes or learning a scripting language.

- Enables SMS or email messages (or phone messages when used with appropriate additional hardware) to be sent upon "event triggers", such as a door or window left open, flooding, gas leakage, the crossing of temperature thresholds, strong winds, movement in a room etc.

- Allows video snapshot streaming from motion enabled FTP or direct "Snapshots Pull Access" cameras and video servers, enabling you to save on your mobile service bill.

- Built-in advanced security shows you exactly who has tried to access your system and from which location, and uses a variety of methods to automatically block access.

- Features a bookmarks manager to allow system administrators to easily access network based resources via direct links through Local or Wide area network.

- Allows the viewing of historical data from any sensor connected to the system, either as a dated values list or as colorful graphs.

- The "turnkey" iMCA Controller™ is entirely self-contained, requiring no further assembly, installation or maintenance.

The *iMCA* Controller™ works with leading switching and sensing units from such vendors as Elk/NESS, Aviosys, Geist, HWG, IR Trans, Eaton, and many others right out of the box. It is designed to easily allow support for new hardware as it comes onto the market, or to be incorporated into tailored projects; as a result the list of compatible hardware is growing constantly! Compatible with a wide variety of Power Line Carrier (PLC) technologies including X10, A1, Xanura, Lutron, UPB, OnQ-ALC, Clipsal C-Bus, HPM iControl, Dynalite, Insteon and many others via a wide range of adapters and remote terminal switching units and automation controllers.

BASE MODULE (MONITOR & CONTROL)

USER/ACCESS TERMINAL MANAGER

- Enable/Disable login ability for any user.
- Selection of access level: Administrator, User, Guest.
- Selection of available access interface options for users: PC, Mobile, Touch Screen Terminals and to system's modules iMCA, Video.
- Ability to enforce user/terminal to login to PC, Mobile or Touch screen mode irrespective of access device.
- Ability to grant user/access terminal "trusted" access level for skipping explicit authentication process.
- Ability to set expiration date for login (from this date, login will be automatically blocked).
- Password generator and messenger for sending the access details to the system, via email or SMS.

SITE MANAGER

- Single click device register for devices recognised by the iMCA Server™. Multiple devices of the same model can be registered in the system.
- Comprehensive, cross linked groups and resource allocation, all-in-one view screen report for diagnostic and analysis of system settings.
- User Interface elements (Switches and Sensors) positioning editor.
- Editor for automatically recognising type of access device based on hardware signature (PC, Mobile/Handheld, Touch Screen, etc).
- SMS Gateways Manager (featuring two SMS Gateways built in. Additional SMS gateways integration is available upon request).

GROUPS/ZONES

- Unlimited number of groups/zones.
- Access to groups/zones based on access device: PC, Mobile/Handheld, Touch Screen (all devices or type restricted).
- Access to groups/zone can be available to all users or individually restricted.

DEVICES

- Device description, functionality overview and instructions for connection.
- Device properties, ability to dynamically add device element and ports including: Switches (relays, IR, RF, digital, etc), Sensors (State, Data, Text), Power Line Carriers (PLC) elements.
- Device / Device elements/ports tester tool.

DEVICES' ELEMENTS/PORTS

SENSORS

- Virtual connection with switches from the same or different devices in the same or different physical location.
- Selection from predefined state sensor labels.
- One click assign to the site's group/zone.

- One click assign icon for monitoring/controlling object.
- Visibility and accessibility to all, or selected, devices.
- Visibility and accessibility to all, or selected, users.
- Power/Energy Meters.
- Peak Time/Off-Peak Time (including week days).
- Adding Tax Percent in calculations.

SWITCHES

- Virtual connection with data and state sensors from the same or different devices in the same or different physical location.
- Selection from predefined switch state labels.
- One click assign to site's group/zone.
- One click assign icon for monitoring/controlling object.
- Visibility and accessibility to all access device modes (PC, Mobile/Handheld/Touch Screen) or selected only.
- Visibility and accessibility to all users or selected only.
- Explicit confirmation (must confirm mode) for selected switches for manual activation.
- Static and pulse/momentary time switching modes simulator for devices where this function is not available.
- Custom image upload for Infrared type switches.
- Dim/bright functionality for supported PLC technology.
- Real time Site poll calibration diagnostic tool.
- Real time Site poll calibration diagnostic tool and site configuration backup tool for system administrators and installers.

ADVANCED SECURITY

- Block access by IP addresses.
- Block access after number of unsuccessful attempts.
- Block access temporarily and permanently.
- Dedicated session expiration time pipes for not "trusted" users.
- Notification of unsuccessful logins via SMS and email.
- Notification of successful logins via SMS and email.
- "Paranoia" option - connection to Google analytics for advanced analysis of access attempts.

BOOKMARKS

- Unlimited number of bookmarks for accessing favorite URLs over LAN and WAN for system administrators and installers.
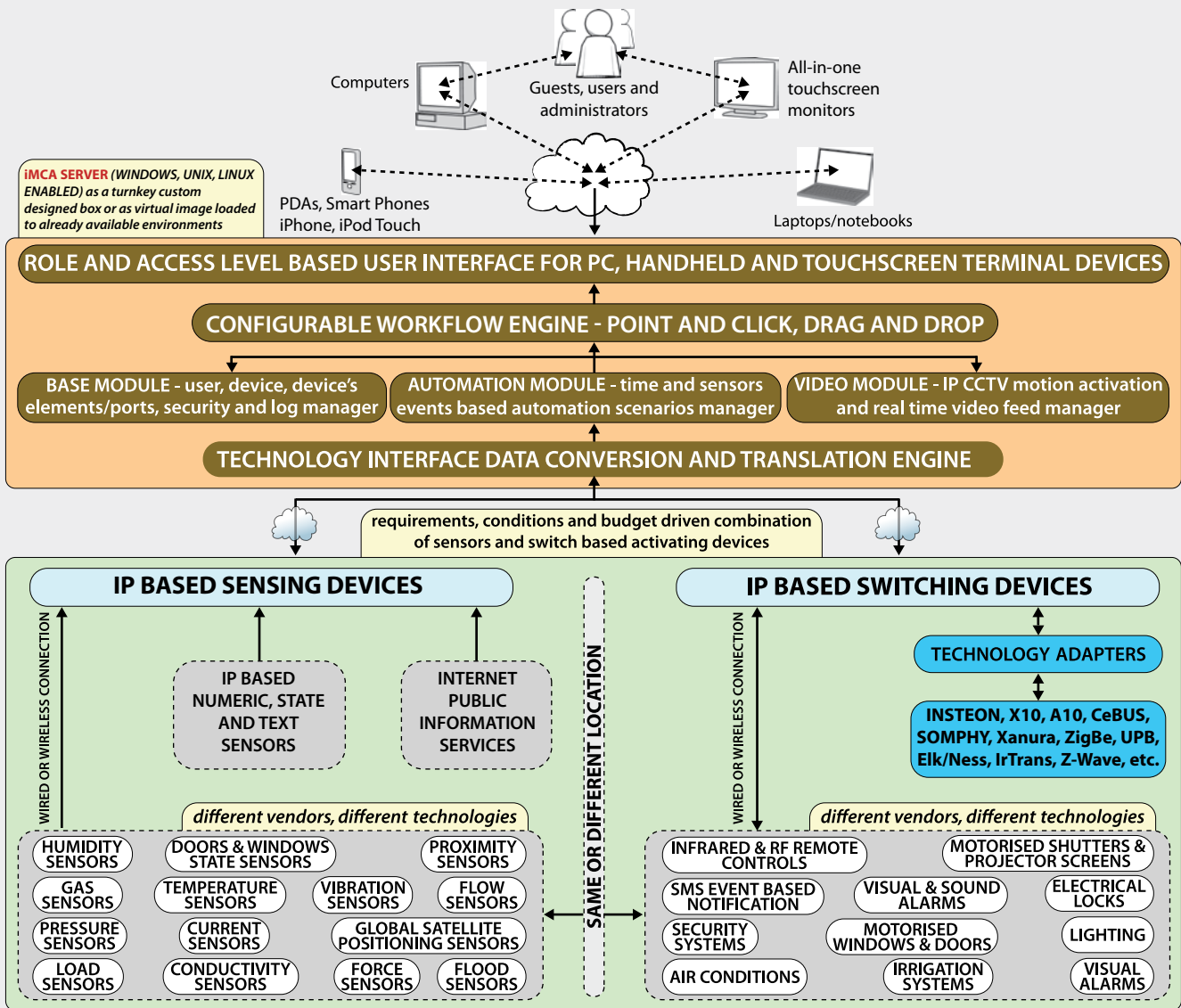
LOGS

- Date, user, logged result, device mode, IP address.
- List and graphical charts of any connected to the system sensor device including dilly, daily average and cost when applicable.

AUTOMATION MODULE (AUTOMATE)

AUTOMATION MANAGER

AUTOMATION TRIGGERS (SCENARIOS) COMMON

- Individual scenarios enable/disable.
- Scenario priority.
- Scenario activation date.
- Scenario expiration date.
- Active periods by date "from – to", by weekday, combined.
- Each trigger can have unlimited number of instructions supporting.
- Individual instruction enabled/disable.
- Test tuning mode (simulation) - execution action disabled.
- Plain text description of configured instruction.
- Enable/Disable email notification.
- Enable/Disable SMS notification.
- Smart list selection from target switches and their technology vendors, device models and element/ports, registered in the system.
- Seamless integration of any switch (static, momentary, PLC, etc) or Sensor (temperature, humidity, state, status, information from public services like Google Weather, etc) registered into the system in automation scenarios workflow logic.

Computers

Guests, users and administrators

All-in-one touchscreen monitors

iMCA SERVER *(WINDOWS, UNIX, LINUX ENABLED) as a turnkey custom designed box or as virtual image loaded to already available environments*

PDAs, Smart Phones iPhone, iPod Touch

Laptops/notebooks

ROLE AND ACCESS LEVEL BASED USER INTERFACE FOR PC, HANDHELD AND TOUCHSCREEN TERMINAL DEVICES

CONFIGURABLE WORKFLOW ENGINE - POINT AND CLICK, DRAG AND DROP

BASE MODULE - user, device, device's elements/ports, security and log manager

AUTOMATION MODULE - time and sensors events based automation scenarios manager

VIDEO MODULE - IP CCTV motion activation and real time video feed manager

TECHNOLOGY INTERFACE DATA CONVERSION AND TRANSLATION ENGINE

requirements, conditions and budget driven combination of sensors and switch based activating devices

IP BASED SENSING DEVICES

WIRED OR WIRELESS CONNECTION

IP BASED NUMERIC, STATE AND TEXT SENSORS

INTERNET PUBLIC INFORMATION SERVICES

SAME OR DIFFERENT LOCATION

different vendors, different technologies

HUMIDITY SENSORS	DOORS & WINDOWS STATE SENSORS	PROXIMITY SENSORS
GAS SENSORS	TEMPERATURE SENSORS	VIBRATION SENSORS / FLOW SENSORS
PRESSURE SENSORS	CURRENT SENSORS	GLOBAL SATELLITE POSITIONING SENSORS
LOAD SENSORS	CONDUCTIVITY SENSORS	FORCE SENSORS / FLOOD SENSORS

IP BASED SWITCHING DEVICES

WIRED OR WIRELESS CONNECTION

TECHNOLOGY ADAPTERS

INSTEON, X10, A10, CeBUS, SOMPHY, Xanura, ZigBe, UPB, Elk/Ness, IrTrans, Z-Wave, etc.

different vendors, different technologies

INFRARED & RF REMOTE CONTROLS		MOTORISED SHUTTERS & PROJECTOR SCREENS
SMS EVENT BASED NOTIFICATION	VISUAL & SOUND ALARMS	ELECTRICAL LOCKS
SECURITY SYSTEMS	MOTORISED WINDOWS & DOORS	LIGHTING
AIR CONDITIONS	IRRIGATION SYSTEMS	VISUAL ALARMS

SENSOR AUTOMATION TRIGGERS (SCENARIOS)

Support 3 types of sensor event

- **Data:** value, range (above, between, below): temperature, humidity, power, etc.
- **State:** on/off, high/low, open/close, etc.
- **Text:** textual description send by connected sensor device.

Switch activation in event

- Data sensor reached specific value, range, state sensor.
- State sensor changed its specified state.
- Text sensor produced specified textual information.

SMS notification in event

- Data sensor reached specific value, range, state sensor.
- State sensor changed its specified state.
- Text sensor produced specified textual information.
  Virtual connection with another sensor from the same or different devices in the same or different physical location attached as an additional condition for scenario to be executed.

TIME AUTOMATION TRIGGERS (SCENARIOS)

Switch activation in event

- Exact date and time or time only.
- Sunset, sunrise or specified offset before or after sunset/sunrise.
- Randomly in specified interval.
- Virtual connection with another sensor from the same or different devices in the same or different physical location attached as an additional condition for scenario to be executed.
- Global Enable / Disable automation scenarios.
- Email notification on automation task execution.

- Customisable email subject of notification logs for convenience and email clients rule engine processing.
- SMS notification on automation task execution.
- Configurable automation logs retention.
- Sunrise / Sunset timing based on geographical location with auto observation of Daylight Savings time.
- Test Automation triggers (scenarios) tool with full textual description of events that have occurred and have not.
- Internal automation log for past executed tasks with full textual description of events that have occurred and have not.
- Manual and automated log clean up.

VIDEO MODULE (MONITOR)

VIDEO MANAGER

- Video snapshots stream from motion enabled FTP or Direct "Snapshots Pull Access" cameras and video servers (max. number is limited by power of iMCA Controller™ model). Direct access to live stream available if access device can support streaming camera or video server.
- Customizable snapshots poll interval refresh.
- Configurable Auto maintenance/self clearance of excess volume of images from camera's directory.
- Retained camera's snapshots images view list.
- Each camera can be available to all or only selected device access mode - PC, Mobile/Handheld/Touch screen.
- Each camera can be available to all users or individually restricted.
- Manual and automated log clean up.

OPTION 1
TURNKEY (recommended in most cases)

Delivered as preconfigured embedded computer with installed iMCA Software on Compact Flash Card.

This solution has an exceptionally small footprint and can be installed easily in most cabling cabinets, terminal boxes and home hubs - or simply placed on a shelf, on your desktop, or even behind the computer monitor. Supports Double sided VESA mounting.

Additional accessories for tailored projects, available on request.

- Power consumption: 9.5 W
- Weight: ~500g
- Power Input: 5VDC in, with 17W power adaptor
- Operation temperature: 0°C ~ 50°C
- Construction: Aluminium alloy casing, lockable front panel
- Dimensions: 120mm(W) x 125mm(D) x 44mm (H)

* Specifications and shape of the embedded computer can change without notice

OPTION 2
BOOTABLE COMPACT FLASH CARD (CF)

Delivered as preconfigured iMCA Server™ software on Linux or Windows operating system. "Compact Flash" cards of different sizes and performance available.

- Suitable for system administrators and technology integrators to install on their own Intel based systems.
- Ready for plug and play from own compatible computer or server.
- Minimum own server requirements: Intel® Atom™ Z510P 1.1GHz, 1G RAM, 100/1000 Network and Bootable Compact Flash Card reader or SATA to Compact Flash Card Adapter which can be installed into any PC or server.

* Actual Compact Flash card and its brand may differ from this image.

OPTION 3
VIRTUAL SERVER

Virtual Image of a VMware or Microsoft Hyper-V iMCA Server™ - to be loaded into VMware or Microsoft virtual server solutions.

Similar to option 2 but consists only of VMware Image of pre-configured Linux Operating System and iMCA Application Modules. Ready to plug and play from own computer or server on any OS supported by VMware or on Microsoft Hyper-V compatible server.

* Trial downloadable version available upon request!

OPTION 4
DOWNLOADABLE SOFTWARE PACKAGE

Consists only of the iMCA software packages/modules which can be installed by certified personnel on Unix/Linux or Windows based systems.

- Requires system administration knowledge of the target operating system.

* Available for selected partners and resellers only.

iMCA Server™/Controller™ Modules

- **Base Module**: Included as default and providing everything necessary for monitoring and control capability, as well as being a platform for integration with other modules.
- **Automation Module**: Required for enablement of automation scenarios based on time or sensor input.
- **Video Module**: Required for receiving and processing CCTV feeds from compatible IP based cameras, video servers and DVRs.

LICENSING

Flexible licensing policies for iMCA Server™ /Controller™ are available. These can be tailored to customer needs, and can be based on number and type of users, installed modules and devices used for access. Leasing options are available for iMCA Controller™.

SERVICES

- Physical or logical custom design of automation framework and workflow for your house or business, covering retrofit and new installations.
- Tailored automation solutions based on the iMCA Server™/Controller™ and leading automation technologies.
- Custom integration with a wide range of automation technologies, switching, sensing and power metering devices.
- Seamlessly adding true remote control and automation options to already available PLC technologies like X10, A10, Insteon, Xanura, UPB, C-Bus, Lutron, Dynalite etc.