



Leap Metro

Intelligent Operation of High Performance Buildings

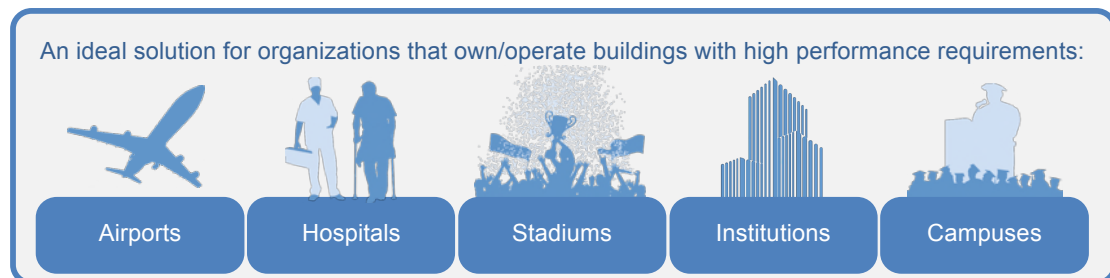
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Overview

Cost effective operation of complex building systems

High performance buildings such as hospitals, airports and stadiums contain large and complex systems that must continually operate at optimal levels to ensure there is no disruption to the life or business critical functions that they provide.

Leap Metro provides a combined Integrated Building Management System (IBMS) and Integrated Facility Maintenance System (IFMS) solution designed to manage the largest and most complex of buildings, gathering information from all systems in real time to enable highly automated and efficient operation and maintenance.



Your Challenge

To ensure continuous uptime of critical building systems while minimizing operational costs

As an owner or operator of a complex building with continual uptime requirements, you are likely faced with a number of challenges.

Complex building operator challenges

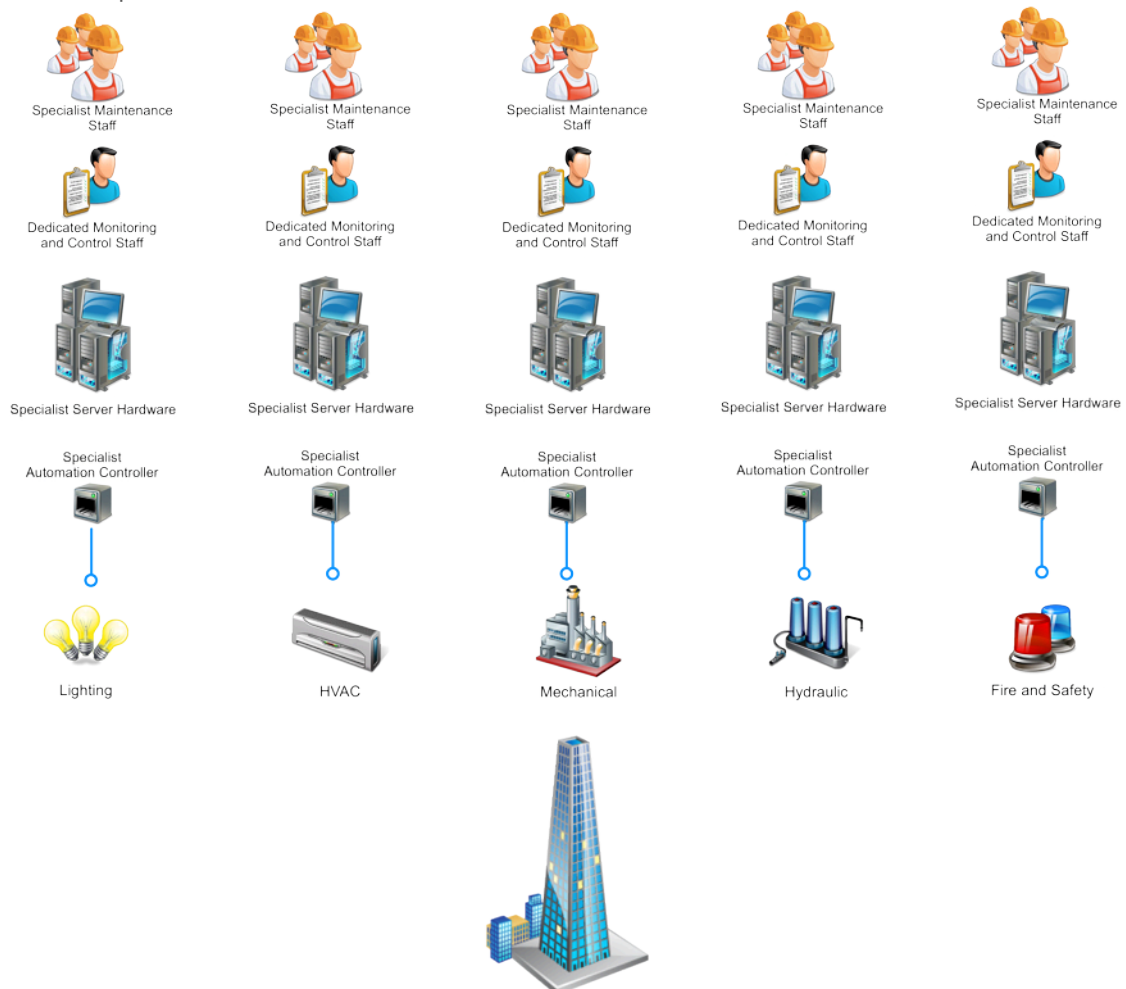
- Managing systems from multiple vendors
- Managing data from thousands of points
- Efficient operation of complex systems
- Identifying poor system performance
- Tracking / responding to system issues
- Rapid resolution to system issues
- Constraining Costs

1) **Many systems, many technologies, many datapoints to manage.** High performance buildings typically contain between 20 and 30 disparate sub-systems, which can comprise tens, if not hundreds of thousands of datapoints, which must be monitored. These systems are built and installed in isolation, resulting in operational silos that must be operated and maintained by specialist staff.

2) **Rapid identification and resolution of system issues.** Complex building sub-systems are prone to failure at many layers. Diagnosing root cause of system issues to enable rapid resolution is difficult especially when one sub-system can affect others, causing cascading issues.

3) **High operational costs / demanding uptime requirements.** Complex environments with constant uptime requirements result in higher operational costs as additional field personnel are engaged to provide hands on operation and maintenance for each system.

You want an integrated solution that works with any vendor products or technologies. A solution that allows you to centralize operation and maintenance activities using an automated multi-purpose field services operations.



Our Solution

A real-time intelligent building management platform

An integrated building management solution provides a central system for the operation of all sub-systems and their maintenance programs.

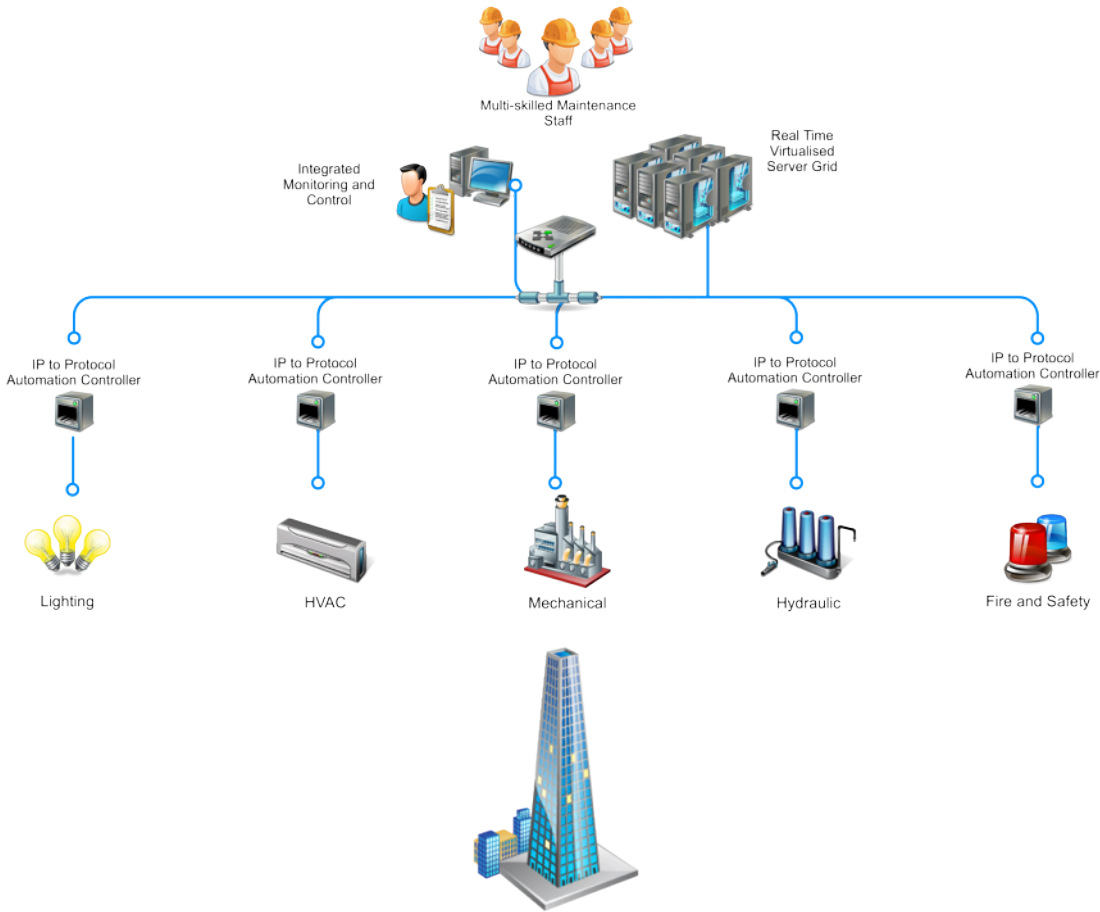
Integrate any product or technology and remove vendor lock-in and reliance on specialist maintenance contracts. Furthermore, you can reduce the total number of operational staff undertaking duplicate tasks and automate the process of maintenance response. With all building systems integrated into a holistic information model, you can begin tuning systems to react to changes in the environment, time of day or usage ensuring the building is always operating at optimal levels. With all data at your fingertips, you can undertake real time system diagnosis and fault resolution with a lean efficient staff further lowering your costs.

How we help you Leap...

- Multi-Vendor/Protocol System Integration
- Real Time Data Processing
- Customizable Web Dashboards
- Trending and Reporting
- Alarm Management
- Integrated Facility Maintenance
- A Scalable Grid Application Platform

A grid computing application architecture, which integrates directly with intelligent building systems, can scale up to manage tens of thousands of intelligent points in real time with minimum investment in onsite server hardware.

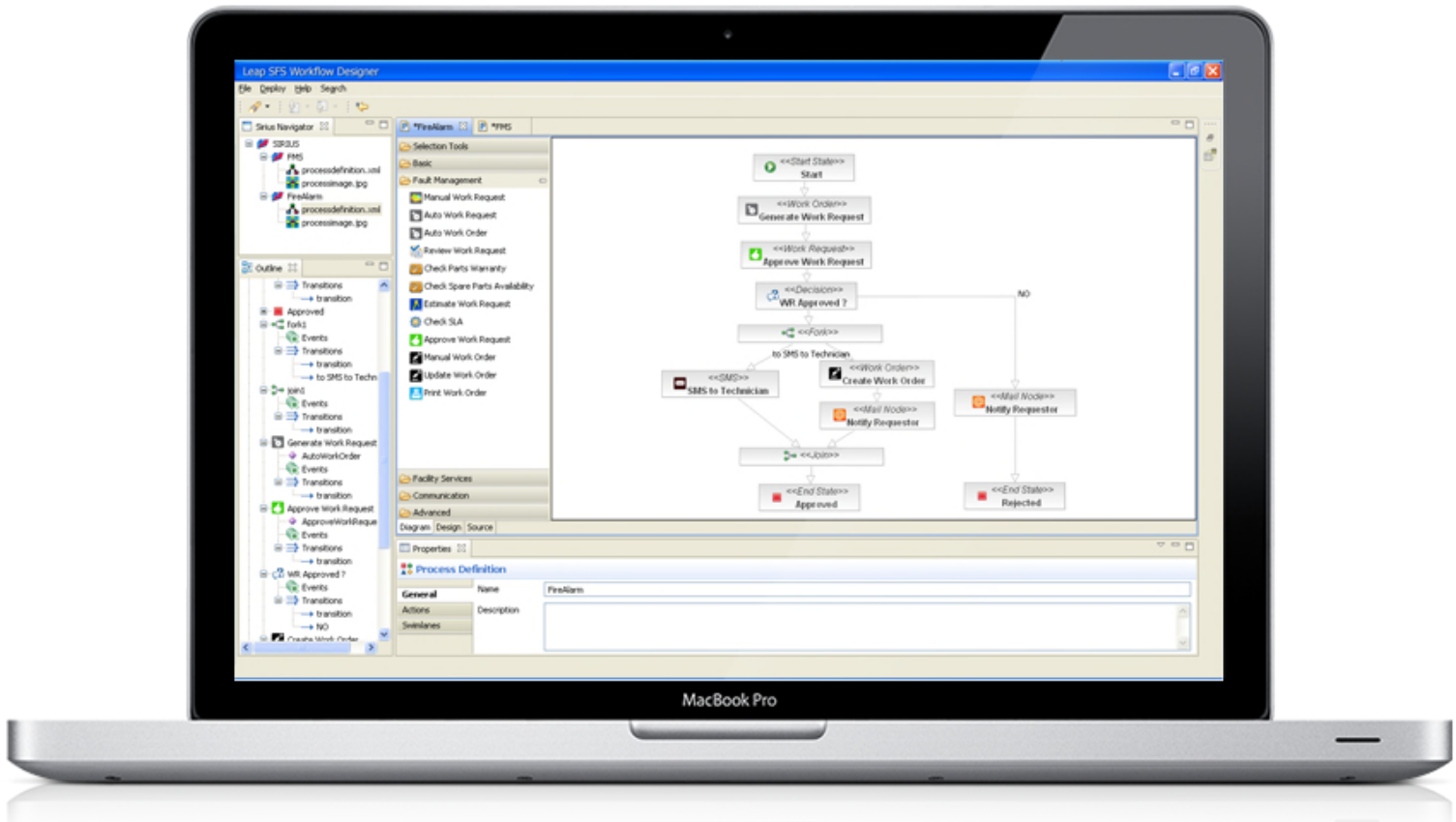
Multi-system Operation Improved Efficiency Lower Operational Costs



Introducing Leap Metro

Integrated Building Management and Facility Maintenance

A single platform for automating building systems and maintenance programs



The Leap Metro Workflow Designer provides a visual user interface used to design Automation Policies. Automation Policies are represented using task or process components arranged into visual workflows. Operators can drag-and-drop pre-built objects into a canvas and connect them up to form the required policy. Once complete, the policies are published to the Workflow Engine which dynamically applies them to existing building systems and maintenance processes.

Dynamic automation policies provide building operators complete freedom to tune the way the building systems and maintenance staff function or react under certain conditions enabling continuous commissioning and process optimization.

Multi-Vendor and Multi-Protocol System Integration

Driver Type:*	OPC
Driver Host:*	---Select---
Driver Instance:*	BACNET
	OPC
	XML
	Application Layer
Signal Type:*	Digital
Text on 0	

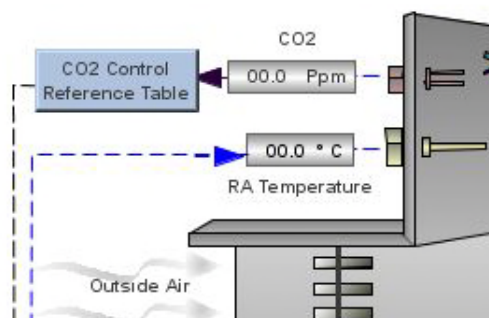
Leap Metro contains a full suite of drivers that support standards-based Building Automation protocols including BACNet, Modbus, LonTalk and OPC. Leap Metro also supports an open plug-in architecture for proprietary driver development and interfaces with third-party vendor protocol mediators and building management systems.

By integrating disparate building systems onto a common IP network, all subsystem data can be aggregated into a common format and used for cross system intelligent building operations.

Real Time Data Processing

All integrated systems are connected through the Leap Metro data processing engine. This engine aggregates data in real time, ready for the application of automation policies or use in any of the overarching reporting or management applications. Leap Metro utilizes Grid Computing architecture technologies to scale systems far beyond other products simply by adding additional low cost server hardware.

Information such as status, health, state and setting can be gathered from sub-system nodes throughout a building. This information can be processed in real time to enable intelligent automated reactions in the case of critical events. More nodes contributing more information mean richer data sets and more sophisticated, finely tuned reactions.



Customizable Web Based Dashboards



remote locations using standard PCs or laptops.

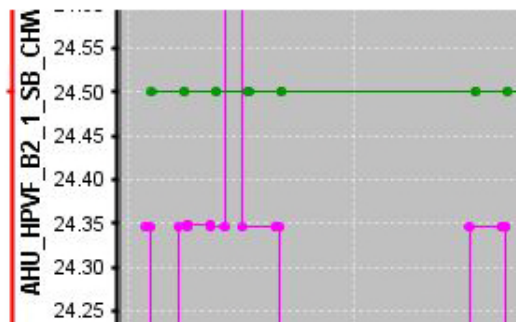
The HMI (Human Machine Interface) consists of a suite of dashboards that display sub-system information and status as well as providing interfaces to control subsystem functions. Leap Metro provides the ability to develop customized HMIs tailored to the requirements of individual building systems or operator requirements.

All system monitoring, control and management interfaces are integrated into a single view accessible via a standard web browser. This removes the need for dedicated sub-system operator staff. Staff can manage systems from

Trending and Reporting

Any data-point from any sub-system integrated with Leap Metro can be included in customizable trend reports. The Leap Metro Trend Processor provides a graphical view of process behavior and operational trends over a period of time. It is capable of logging historical data at configurable periods from 500 milliseconds to 24 hours. It provides a flexible interface to display real-time, historical or archived data in a variety of visual formats.

Multiple system indicators can be tracked and compared over time. This enables identification of non-performing areas in the building and can indicate which systems have diverged from typical operational boundaries.



Alarm Management and Integrated Fault Maintenance

Show All Alarms

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	Tag Name
1	AHU_L6_E_1_SE_OC_TT01_S
2	AHU_B1_FM_1_SP_BW
3	L8_A_PLC_1_IO_FAULT
4	AHU_B1_FM_1_OC_TT01_S

Datapoints integrated with Leap Metro can be configured to raise alarms if they move outside the boundaries of normal operation. Alarms can be configured to trigger automated process workflows and hierarchical escalation policies.

Operators can configure which events are important, when they are important and what to do when they occur. Critical system events can be configured to automatically trigger responses from field staff without operator acknowledgement ensures that instant multi-layer responses can be automated.

Integrating building systems directly with Facility Maintenance in real time

Siloed building systems, thousands of points to monitor, strict uptime requirements, high staff costs... cost of operation crippling your budgets... We hear you!

Leap Metro can be configured as an onsite grid application directly connected into building sub-systems. In basic terms, this means that:

1. During building construction or major system upgrade, our systems integration partners install the software in **your building control center**.
2. Our systems integration partners **commission your building systems** to be interfaced with our software.
3. Our system integration partners create **custom automation workflows** for system operation and maintenance based on your policies and processes.
4. You **link your facility maintenance processes directly with critical systems** to optimize the response time in case of system failure and remove redundant operational staff.

The Benefits

Let your buildings manage themselves, automate process, lower costs

An integrated building and maintenance management system will help you reduce the overall number of staff required to operate and maintain complex systems in high performance buildings.

By overlaying process automation over the top of existing sub-system functions, you can manage complex system environments without having to manually monitor and configure systems in the field using large teams of people.

Through the power of grid computing, systems with hundreds of thousands of datapoints can be monitored in real time using a small number of low cost servers further reducing your capital costs for IT equipment.

Ultimately your buildings will function more efficiently, issues will be identified and resolved more quickly and operational costs will be lower to achieve the same system uptime... It's that easy.

Benefits for your building operations

- Configure, monitor and control operation of all building subsystems from a single console
- Define performance criteria for any component of any system with real time alarms
- Enable critical systems to automatically request maintenance in the event of alarms or failure
- Automate system operation and maintenance, reducing the need for human decision-making
- Monitor and control hundreds of thousands of intelligent points with low cost server hardware
- Dramatically lower the number of staff required to operate and maintain complex systems.

Next Steps To Get Started

Register for a free building suitability workshop

Whether you are embarking on a new building project or an upgrade of your existing systems, we will work with you to review your building system requirements and form a rapid integration cost assessment.

Register online at <http://www.majitek.com/metro>

Contact us for more information

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