WHAT IS A SMART BUILDING AND HOW DO YOU SELECT A SUITABLE MASTER SYSTEMS INTEGRATOR (MSI) TO DELIVER IT.

In today's market where Property owners are seeking to differentiate between well located buildings with premium offerings, Technology is being touted as the carrot to attract premium tenants and employees. We have all heard of the term "Smart building" but very few buildings achieve the dream. Part of this is a lack of understanding of what a smart building actually is and part of the issue is poor technology infrastructure implementation and planning which, is the role of the technology consultant team and the Master System integrator (MSI).

The MSI is responsible for implementing the consultant's concepts and designs.

This short article aims to define the skills and resources designers and procurement teams should focus on when selecting a suitable MSI to deliver a smart building.

WHAT IS A SMART BUILDING?

A smart building is one that is designed with the future in mind. If designed correctly, any smart application from any vendor can be deployed at any time. No one should be restricted anymore to the limited offerings each building system suppliers can provide or to the technologies available today. The role of an MSI is to ensure the integrated platform provides freedom to all stakeholders and go well beyond the traditional offerings.

ANY TECHNOLOGY

ALL WORKING TOGETHER

ANY TIME

ANY VENDOR
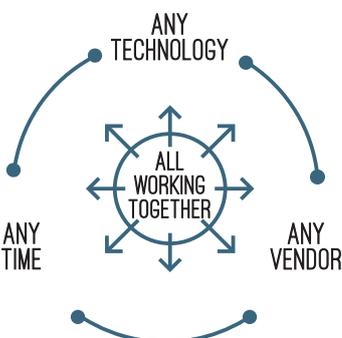
WHAT ARE THE KEY SKILLS REQUIRED WHEN SELECTING A SUITABLE MSI:

EDUCATOR IN INTEGRATION

A key role of the MSI is to educate and guide the building system contractors down the right path. Many decisions are made that can result in major reworks or significant reductions in functionality. An MSI will ensure that all decisions are to maximise the potential of an Integrated Platform.

DATA MANAGER

The number of connected systems and the volume of data now available requires an MSI to have extensive knowledge in data management. Equipped with in-depth knowledge on data acquisition and load balancing strategies, the MSI ensures every piece of data is accurate, readily available and doesn't degrade the performance of the underlying building systems. A well designed Integrated Platform doesn't just deal with historical data in databases, it provides real-time access to any data value.

ACCESS & SECURITY

The number of technologies and applications that use the data is increasing every day. Most applications are designed for mobile technologies and are cloud hosted. An MSI must ensure the data is protected, secure and managed. An MSI ensures the final solution can handle the high volumes of data requests without impacting any connected building system.

CHANGE ADVOCATE

Taking people along the journey of implementing an Integrated Platform can be quite onerous at times. There is still a lot of traditional mindsets out there that always do things the way it has always been done. Managing change, defining purpose and working with people to achieve a common goal takes an advocate of change.

EXTENSIVE BUILDING SERVICES KNOWLEDGE

An understanding of Building services – Not just HVAC BMS/DDC controls! In the past the core element of data and networks in a building was directed into the BMS system. A significant portion (60-70%) of the BMS system was HVAC DDC controls routed via the BMS system. With the building services installed in modern buildings HVAC controls makes up a much smaller portion of the technology that can deliver data insights.

> **Typically, we find HVAC controls makes up less than 20% of the technology solution in a smart building installed today. On this basis simply selecting an MSI based on BMS experience will not achieve the overall objective. Knowledge of all control systems such as lighting, lifts, fire, electrical, hydraulic systems is equally as important.**

It has now become an expectation to integrate almost every system (local or cloud) associated to a building. Understanding each building system and the communication methodologies allows the MSI to make the right decisions to ensure the end solution works.

IBMS HAS IDENTIFIED THE TOP FIVE MISTAKES TO AVOID WHEN SELECTING AN MSI CONTRACTOR OR EMBARKING ON AN INTEGRATION PROJECT

ONE
The MSI needs to be independent of other contracted services for the works. The MSI should NOT be providing the other systems such as the BMS system, lighting control systems or access control and CCTV system. Having multiple roles and responsibilities causes delays and confusion about roles, responsibilities and resources. Having the same contractor providing these systems blurs the lines of resources capability and contractor pressure to perform.

TWO
Having the MSI contractor under the Electrical contractor. The MSI contractor needs to be independent of the electrical contractor as the majority of services that will be interfaced in a new construction project are under the electrical contractor including Utility metering , electrical switchboard monitoring and control, Access control, dry fire systems and lighting control. The MSI needs to be contracted directly to the builder.

THREE
Lack of understanding on the importance of the IT infrastructure and how its completion significantly in advance of commissioning phase impacts builder's practical completion.

FOUR
Believing the MSI contractor is simply another contractor. Delivering a smart building and integration platform is as much about consulting, project management skills as it is about technical delivery.

FIVE
Choosing an MSI who cannot meet every requirement of an Integrated Platform will significantly reduce the options and insights available to end users.

Data acquisition is becoming a standard function. The final solution must have the ability to cater for the endless supply of applications now wanting to use the data, whilst at the same time, protecting the more volatile building systems against the large volumes of data requests.

ABOUT THE AUTHORS
The views expressed in this paper are solely those of the authors and IBMS as a specialist MSI contractor focussed in this sector.

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