

Edgecore BMS over Ethernet

+ What is It?

BMS over Ethernet is Building Management Systems that use the Ethernet protocol traditionally reserved for the data network to route the signals around a building from nodes to a host device i.e. An Access Control keypad to the server holding the permission rights within a database, which in turn allows for access to be either granted or denied. The term BMS is used when multiple different disciplines, or services, are converged on to a single service (Network).

+ Ideal customer



Multi disciplined building services integrator and facility companies. Offering services including but not limited to: Fire alarm, CCTV, Air conditioning, Heating, ventilation, HVAC, lighting, time and attendance, access control, wireless access, etc

These customers can be either installing traditional serial signal systems or already venturing into the Ethernet solution. I.e the Trend IQ system.

Customers using Enterprise brands:

HP / Cisco / Juniper / Brocade / Netgear
D-Link / Extreme

Industry wide terms and explanations



HD Video Capable – Yes – All traffic on an Ethernet switch, no matter what, is just 1's and 0's. That is the only thing a switch ever sees, reads and understands... ever.

TCP/IP – This is a software application executed by the RAM and processor as with any other software (like Windows).

LAN Switch vs BMS switch – there is no difference. All services could run on the switch. Just remember that L2 and L3 switches can be used to "manage" the traffic with the use of QoS, VLAN's, and IGMP.

Ethernet – This is the layer of the network that packages all the information together in a common form to ensure that characteristics are consistent.

QoS – Quality of Service, you can set individual ports to ensure that they never drop below a set performance level. i.e. the speed between the switch and the storage device.

Data – the actual request – this lives with the TCP/IP and therefore the Ethernet frames. The data stripped out and passed through from host-to-node and back again to create transmission

VLAN – Virtual LAN, this can separate the ports within the switch so traffic on one defined group cannot see and cross over to another. This can help overcome objections relating to the "traffic" that HD video will create.

RJ45 Connector – the physical form of the connector that is present on the switches and the serial to Ethernet MODbus



convertors. This is one of the key points: - traditional RS232 and RS485 serial systems can seamlessly migrate to the Ethernet world through use of a "Convertor"

Dual Personality / Combo ports – these are ports that are intrinsically linked together, and therefore, when one is used the other can be utilised.

Non-Blocking architecture – When the Backplane / switching Capacity of the switch is large enough to allow for all the ports to work at full duplex at the same time. i.e a 24-port gig + 4 gig fibre switch would need 56Gbps to be Non-Blocking.

Multi-casting – This is the ability for the switch to manage multicast streams to ensure high-quality and smooth video.

IPv6 – this is the new format and range of IP addresses being released and used in the market... We are running out of IPv4, so customers are looking for this tech to future proof the network. Note! The format is completely different.

+ PoE

Deploying BSM with PoE has some pitfalls. The switch needs to be able to deliver the required power for the device(s) that it will drive.

Total budget needs calculating, to ensure that the switches total power budget is not exceeded

Port capabilities need understanding.

Can they deliver IEEE802.3af -15.4W / IEEE802.3at - 25.5W or higher

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+ References



Edgecore (well, Accton) donate switches to the open compute project, for testing and evaluation, which has companies like Facebook, Yahoo and Google in it... If it's good enough for them!!! And one of their switches won product of the year 2016 in Network World magazine.

+ Trend



Key vendors within the market like Control4 bringing to market home automation and Smart home systems as well as HVAC solutions through companies like Trend and Honeywell to name a few.

The advent of these systems is making the technology more of a household term (IoT) and creates a drive of expectation from users, just the same as the massive increase in wireless access uptake.

+ Red Flags (+ positive)



Installers / opportunities within mission critical markets.

- Prisons
- Police
- Underground
- Government (sensitive) building

Coastline deployment – If you are based in Nottingham and have a job on an off-shore wind farm, for example.

+ Red Flags (- Negative)



TP-Link – customers buying this brand are price only customers.

- Possible counter arguments

Reliability – Edgecore comes from Accton Technology Group and they collaborate with most of the major players in the market

- Performance – High quality Broadcom silicon chip sets used

