SPMD Usecase
Node Based Lighting

Node Based Lighting Solution

4PPoE

SPMD
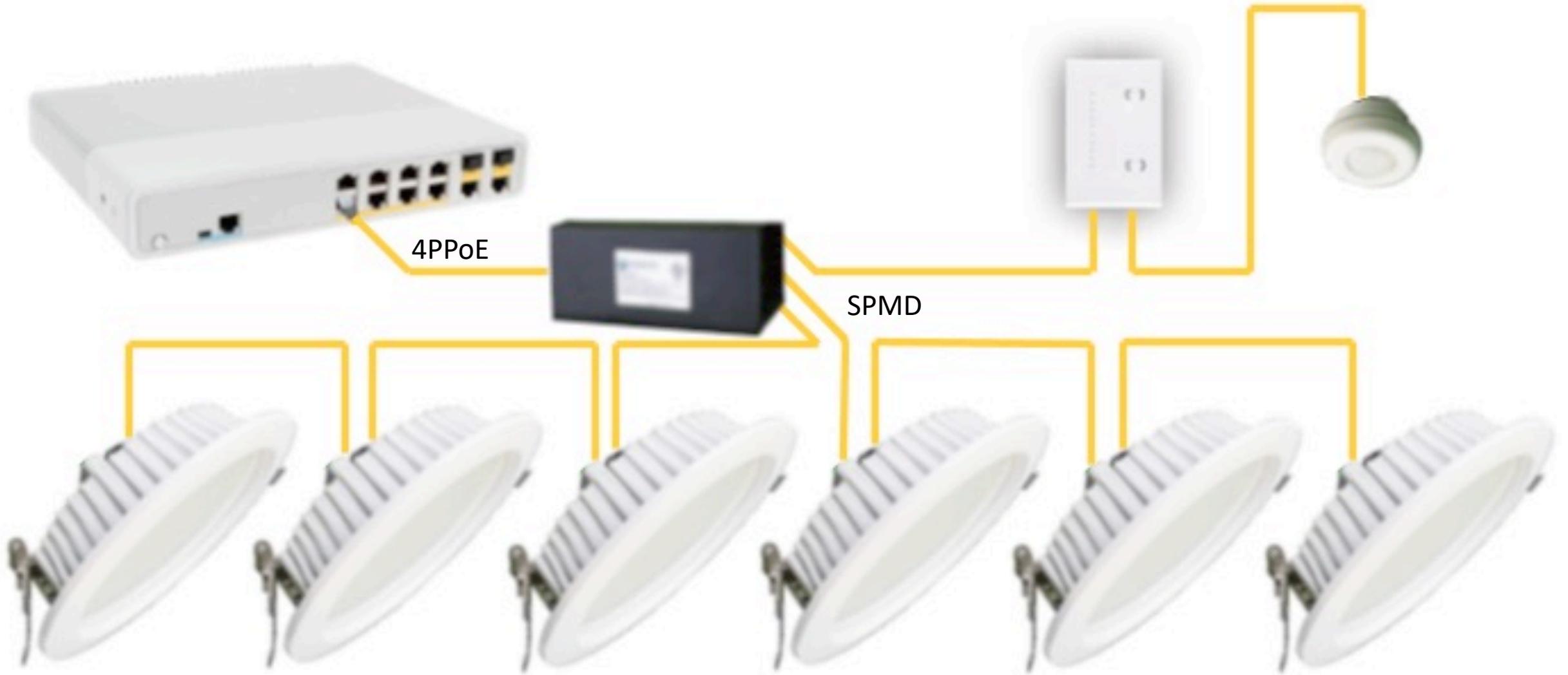
Usecase: Node Based Lighting

Item	Min Value	Desired value
Supported nodes on one mixing segment	8	14
Minimum supported cable length	7m	11m
Acceptable cable gauges	14AWG, 16AWG	
Required power for a node	5W	0.5W - 30W
60V voltage OK ?	Yes	
Required initial power allocation	No opinion, what ever the industry can offer	
Interoperability level for the application	Plug and play, but also engineered options	
Pass through or T connection	Pass through	
Hotpluggability	yes	
Possible market (in #nodes/year)	This is lighting. It's huge. But no definitive number I can state.	

Item	Description
Supported nodes on one mixing segment	Indicate the numbers of nodes on a single mixing segment. The minimum reflects the number of nodes needed for the usecase to make sense. The desired value represents a natural fit for the application. Both numbers could be the same.
Minimum supported cable length	Is the length you need between the two furthest nodes on the mixing segment.
Acceptable cable gauges	What cable gauges can be accepted for the application (consider cost, size, bend radius, …)
Required power for a node	How much power is needed in the node to run the application. This is the power level as measured at the connector of the device. Note that there may be a rectifier or other elements that cause some loss (2% to 5% typical).
60V voltage OK ?	Is it acceptable for the input voltage to be up to 60V ? If not, what is the reason ?
Required initial power allocation	Because this is a bus powered system, a node needs to be permitted to draw some amount of power after being plugged in. This power is used to communicate with the PSE about the power requirements. The system should be able to operate it's PHY with this power. How much power do you foresee to need for this. This is different from the "Required power for a node" which is about the complete power need of the device.
Interoperability level for the application	Choose between "plug&play" or "engineered" system. Plug & play means that a compliant device works when connected to a network of other compliant devices. There is no need for configuration or to verify if devices will be compatible or not. Engineered system means that you will use the standard within your own products or that the end user can determine which devices will work in the system.
Pass through or T connection	See slide 4-6 of http://grouper.ieee.org/groups/802/3/SPMD/public/sep19/spmd_cjones_01_0919.pdf If the application cannot be equipped with two connectors, select T connection. If it must be possible to live connect a new node without disconnecting other nodes, also select T connection.
Hotpluggability	Should it be supported to connect new devices while the bus is powered and guaranteed that this does not cause devices to be interrupted (eg. Reboot, lose long stretches of data). If not required, select no.
Possible market size	Potential market expressed in number of nodes. Do not express this in currency of any kind due to IEEE SA rules.