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# Energy Efficient Ethernet xxMII Clarifications

Dan Dove

ProCurve Networking by HP



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# Discussion

Discussion of proposal by Joseph Chou (chou\_01\_0508.pdf) indicates some confusion exists as to where the EEE\_LP\_IDLE functionality is being proposed to fit within the IEEE 802.3 framework

This is primarily due to an illustration provided by me to Joseph which was intended to serve as an implementation example, not an IEEE 802.3 working model

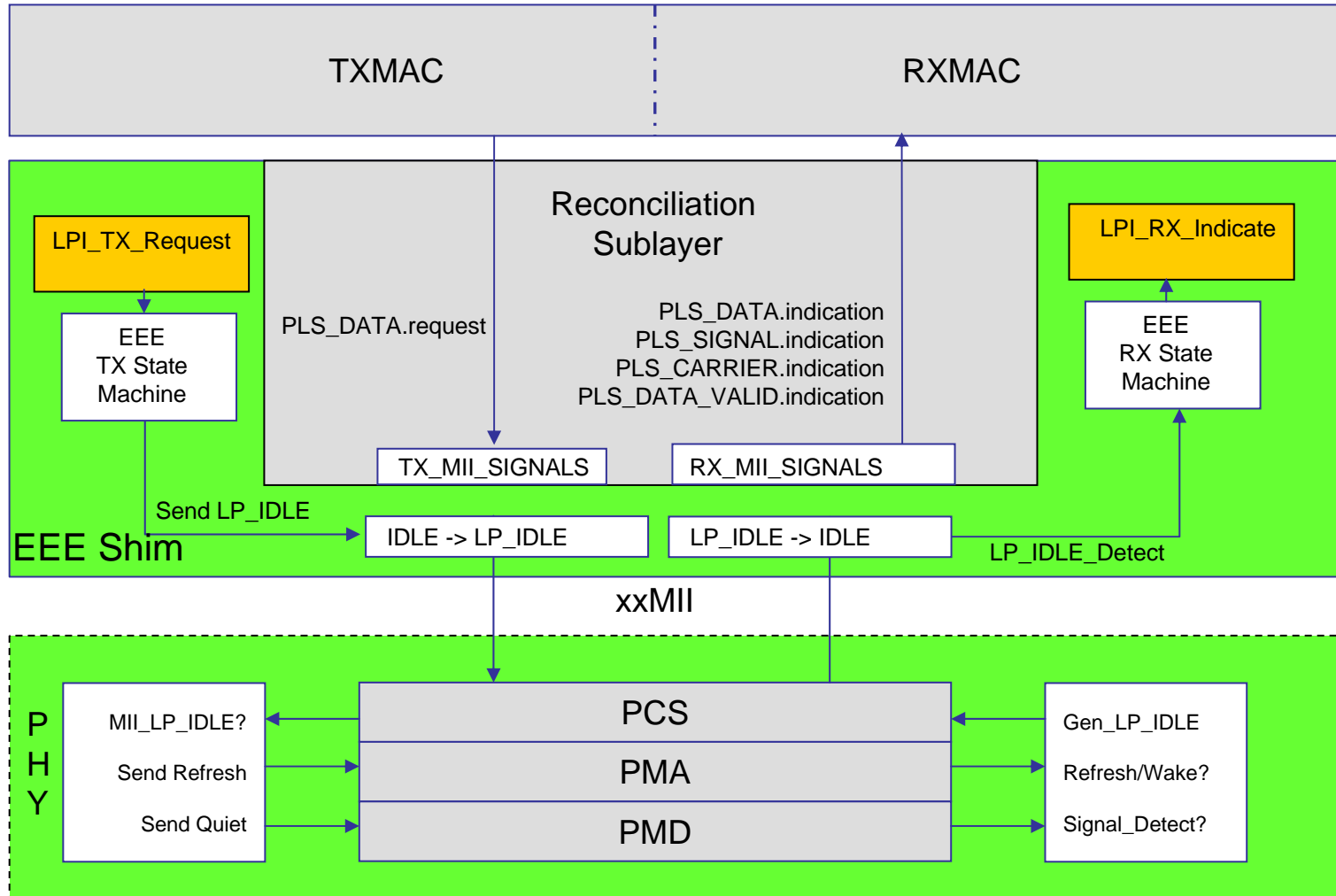
To clarify and address questions, I have formulated a drawing which puts the agent interface signals, in their proper IEEE 802.3 context

## **Acknowledgements:**

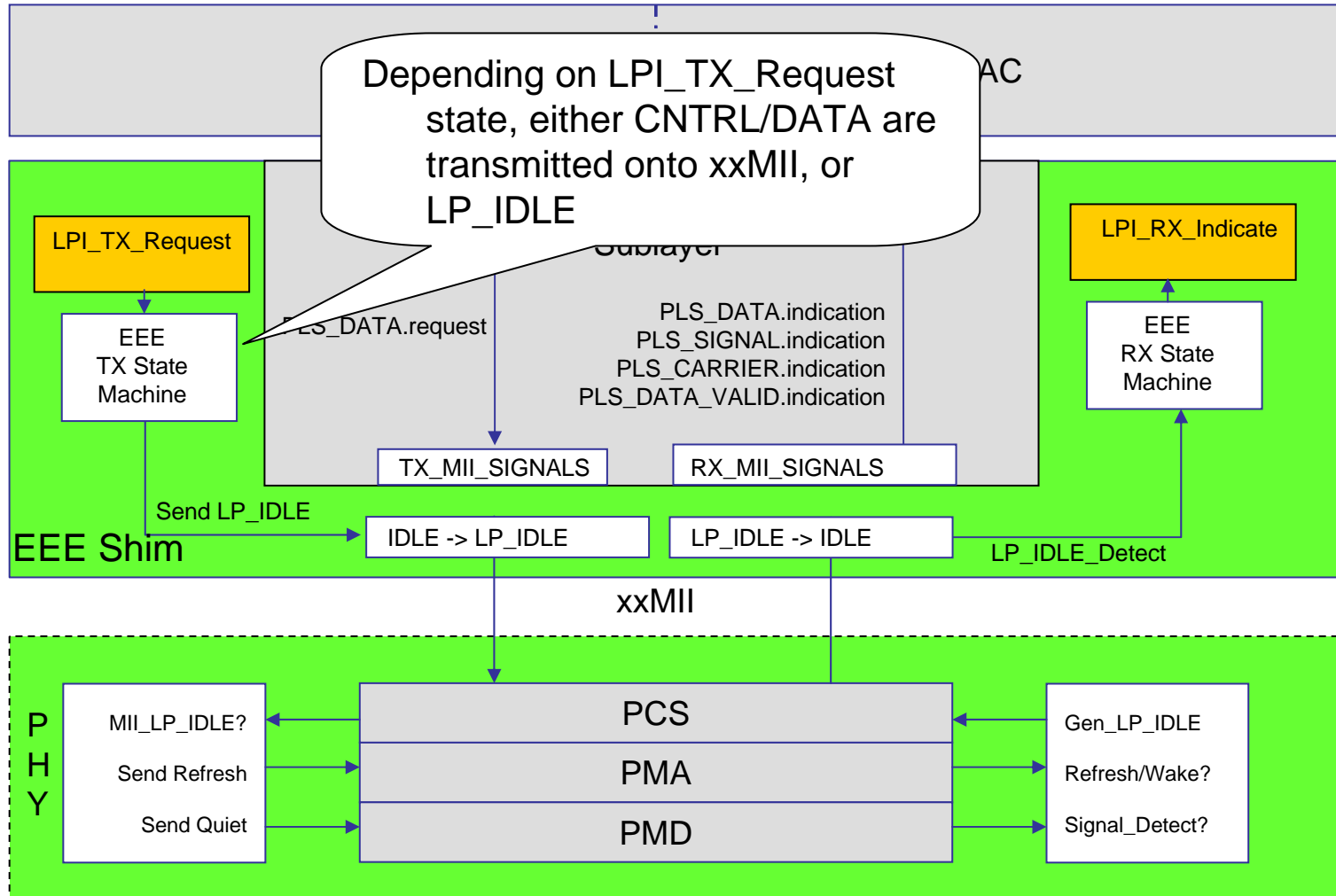
The content in this presentation has been improved by the review & comments of

- Aviad Wertheimer, Rob Hays, Bob Grow – Intel
- Hugh Barrass – Cisco
- Joseph Chou - Realtek

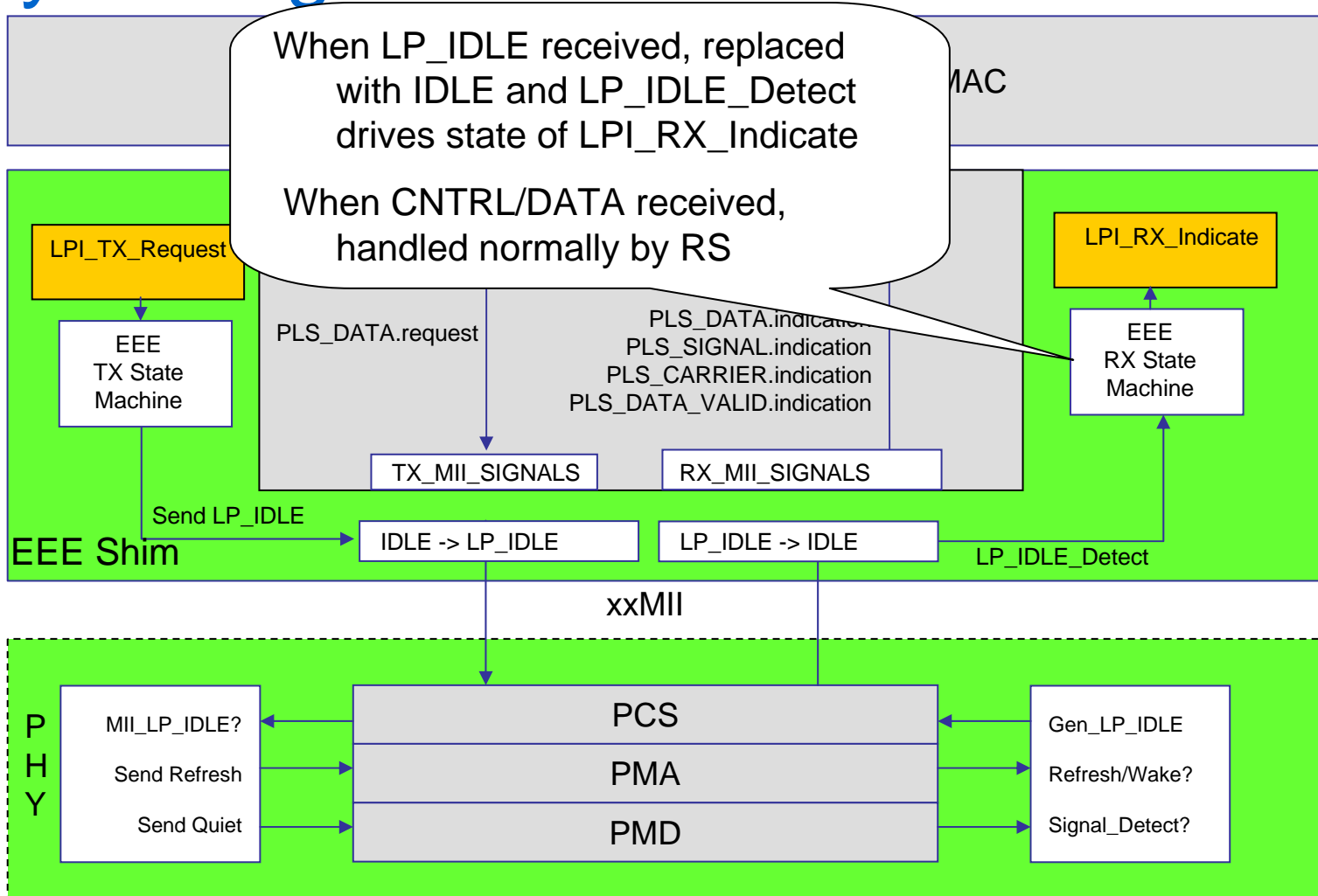
# Layer Diagram



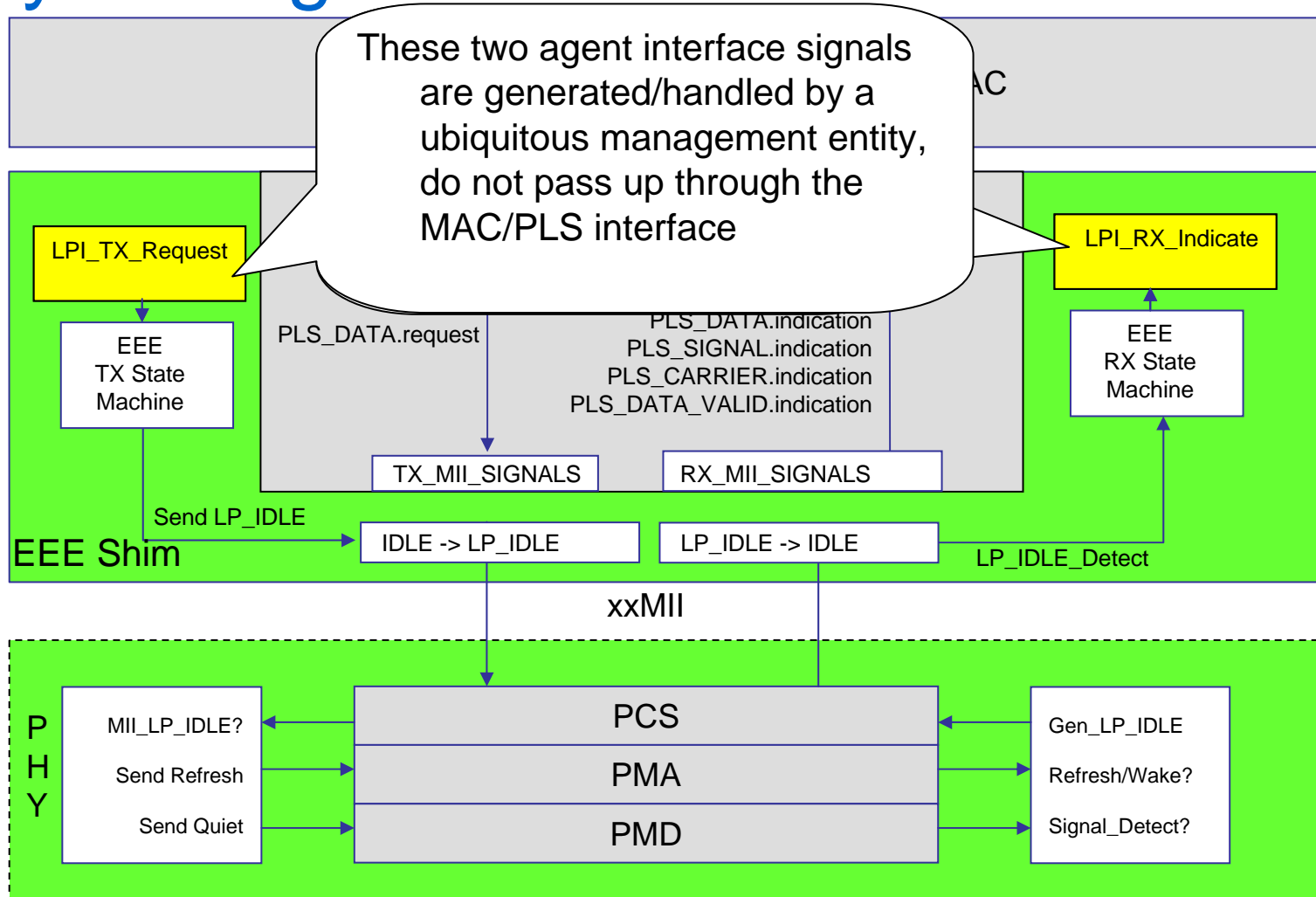
# Layer Diagram



# Layer Diagram



# Layer Diagram



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# Conclusions

EEE Low Power Idle Generation/Detection Functionality resides within Reconciliation Sublayer

Signals to/from “decision maker” are to be defined as agent interface signals which are created/used by a ubiquitous management entity, not the MAC/PLS interface

Definition of the behavior of those agent interface signals (LPI\_TX\_Request, LPI\_RX\_Indicate) can reside within 802.3, implementation only required to behave in accordance with the agent interface definition. No need to specifically measure those agent interfacesignals, but rather the behavior at the xxMII

- For example, LPI\_TX\_Request can be defined to never result in data being lost and generated to ensure that when EEE is enabled, LP\_IDLE is provided to the xxMII at the end of transmission, and the transition from LP\_IDLE to IDLE is sent for Tw before transmission of data.
- Similarly, LPI\_RX\_Indicate only need be defined; and use of that agent interface signal can be defined to ensure that data/control information is never lost, but use is beyond the scope of 802.3

Generic xxMII functionality is defined to ensure operation over MII, GMII, XGMII regardless of the PHY functionality below it.