This document is an attempt to summarise the management AdHoc meeting that took place on the afternoon of Mon Jan 8th following the presentation of "802.3af Management Objects" by Dan Romascanu. The meeting took the form of reviewing the suggested management objects slide by slide, and is reported with respect to the order of the slides below. I compiled this from a mixture of my own scribbled notes, and the notes of Steve Buck scribbled on a copy of the slides. This should I hope be faithful to what Geoff presented to the whole 802.3af group following our meeting. I have used yellow Highlighter below to distinguish comments and additions wrt the original slide text.

Control Objects

- This section deemed to be outside scope of 802.3af - Not relevant to hw

• *dtePowerAdminStatus*
– defines the admin status of the management entity
– read- write
– enumerated - *enable, disable*
• *dtePowerOperationalStatus*
– defines the operational (functional) status of the management entity
– read- only
– enumerated - *on, off, fault*
• *dtePowerEnableNotifications*
– enables/ disables 802.3af notifications from the management entity
– read- write
–enumerated - *enable, disable*
–default – *disable*

PSE Port Table

• To be implemented in switches and mid- spans
• indexed by group and port - as other 802.3 objects

➢ Add New Attribute: • portPsePowerEnable
  ➢ Turns power off on a per port basis
  ➢ Read/write
  ➢ 1 bit enumerated – power_off / Auto
  ➢

• *portPsePowerIdPairsControl*
– describes if the capability to switch between power pairs (ie pairs 1,2 & 3,6 or pairs 4,5 & 7,8) for sourcing power from the PSE exists.
– read- only – 1 register bit
– enumerated - *true, false*
• *portPsePowerIdPairs*
– controls / describes which pairs are in use
– read- write or read- only according to value of *portPsePowerIdPairsControl*
- *2bits – 1 for signal pairs, 1 for spare pairs – allows both to be set – support for this TBD.*
- enumerated - *signal, spare, both, none*

PSE Port Table - 2

• *portPsePowerDetectionStatus*
– controls the PD discovery mechanism of the port
– read- write – *2 bits*

– enumerated - *off, auto, test*
– *testmode = force continuous discovery without applying power – pulse for ever.*
• *portPseDetectionOperStatus*
– describes the operational status of the PD discovery mechanism
– read- only – 2 bits
– enumerated - *off, searching, delivering_ power, fault*
• *portPsePowerPriority*
This attribute deemed to be software only – no register bits need be used / provided in H/W
– controls the priority of the port. The set priority could be used by a control mechanism that prevents over_ current situations by disconnecting first ports with lower power priority
– read- write – 0 bits
– – enumerated - *critical, high, low*

PSE Port Table - 3
• *portPseDenyError*
- deemed to be sw only – not needed by Hardware
– describes an error resulted by the power management mechanism disabling a low priority port
– read- only
– enumerated - *other, low priority*
• *portPseFaultError*
– describes a current fault error
– needs to be latched, as fault events may be transient
– must be explicitly written to with the value “none” to clear the latches
– read / write – 2 bits
– enumerated - *under_ current, over_ current, none*
• *portPseDetectionError*
- Not needed – serves no useful purpose – no value for network management
– describes a detection error
– read- only
– – enumerated - *over_ resistance, under_ resistance, big_ capacity*

PSE Port Table - 4
• *portPseType*
Not needed – not in Hardware
– port type - information stored by an application into a switch or mid- span, allows for more complex power management algorithms
– read- write
– enumerated - *other, telephone, webcam, wireless*
• *portPseUsagePower*
should not be part of standard – will not be supported
– measured usage power per port
–optional
– read- only
– integer [mW]
• *portPseUsageCurrent*
should not be part of standard – will not be supported
– measured usage current per port
–optional

– read- only
– – integer [mA]

PD Port Table
• To be implemented on terminals receiving power
• Table indexed by port – some argument wrt whether applicable to index by port rather than MAC address, but was pointed out that a repeater like device might have several powerable ports, but only one MAC address – so indexed by port remains.
• *portPdPowerPairs*
– describes pairs in use
– read- only – 2 bits
– enumerated - *signal, spare, both*
• *portPdPowerDetectionStatus*
- Not needed, no Hardware
– controls the port detection mechanism
– read- write
– enumerated - *off, auto*
• *portPdDetectionOperStatus*
– describes the operational status of the port detection
– only considered practicable to record 2 states: Off, and receiving_power – drop the other 2
– read- only – 1 bit
– – enumerated - *off, receiving_ power, providing_ signature, fault*

PD Port Table - 2
• *portPdType*
Not required – Not in Hardware
– describes the port type
– read- only
– – enumerated - *other, telephone, webcam, wireless*

The Main Pse Group attributes below were considered to be outside the scope of 802.3af, and upto individual implementation
Main Pse Group • *mainPsePower*
– defines the nominal power of the PSE
– read- write
– integer [W]
• *mainPseMaxVoltage*
– maximal admitted voltage
– read- write
– integer [mV]
• *mainPseMinVoltage*
– minimal admitted voltage
– read- write
– integer [mV]
• *mainPseOperStatus*
– operational status of the PSE
– read- only
– – enumerated - *on, off, faulty*

Main PSE Group - 2
• *mainPseUsagePower*
– measured usage power
– read- only
– integer [mW]
• *mainPseUsageCurrent*
– measured usage current
– read- only
– integer [mA]
• *mainPseUsageThreshold*
– programmable usage threshold - defines the alarm and/ or disconnection threshold for a PSE
– read- write
– – integer [%]

Main PSE Group - 3
• *mainPseBackupPresent*
– reflects the presence of a backup PSE
–optional
– read- only
– enumerated - *not_ present, present*
• *mainPseBackupActivated*
– reflects the activation status of the backup PSE
–optional
– read- only
– – enumerated - *not_ activated, activated*

Notifications
• *psePortDenyNotification*
• *psePortFaultNotification*
• *psePortDetectionNotification*
• *pseUsageNotification*
– • *pseBackUpActivatedNotification* – optional

Conformance
• A switch will support control objects, PSE port table, and main PSE group
• A mid- span will support control objects, and PSE port table
• A terminal will support control objects and PD port table
• measurement of usage power and current per port is optional
– • backup PSE management is optional

So to summarise, the key attributes that we have pulled out are:

PSE Port Table
• To be implemented in switches and mid- spans
• indexed by group and port - as other 802.3 objects

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- Read/write
- 1 bit enumerated – power_off / Auto
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– describes if the capability to switch between power pairs (ie pairs 1,2 & 3,6 or pairs 4,5 & 7,8) for sourcing power from the PSE exists.
– read- only – 1 register bit
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- *2bits – 1 for signal pairs, 1 for spare pairs – allows both to be set – support for this TBD.*
- enumerated - *signal, spare, both, none*
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– controls the PD discovery mechanism of the port
– read- write – *2 bits*
– enumerated - *off, auto, test*
– *testmode = force continuous discovery without applying power – pulse for ever.*
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– describes the operational status of the PD discovery mechanism
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– enumerated - *off, searching, delivering_ power, fault*
• *portPseFaultError*
– describes a current fault error
– needs to be latched, as fault events may be transient
– must be explicitly written to with the value “none” to clear the latches
– read / write – 2 bits
– enumerated - *under_ current, over_ current, none*

PD Port Table
• To be implemented on terminals receiving power
• Table indexed by port
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