Background on comment, final reply from Adee from our email exchange:

Within 802.3 it is obvious that when numeric values are transmitted or accessed through management objects, binary encoding is used. It is pervasive across the standard. There is no need to state that.

For internal representation, the standard does not require binary encoding or resolution – implementation can choose binary encoding, decimal, floating point or whatever; it's invisible.

Here is an example from an area I'm more familiar with… Clause 78 (EEE) includes timing parameters, which are communicated over TLVs. Within this clause, the encoding of time values is not mentioned at all; reading clause 78 you only encounter the time values. The only place where they are encoded is in the TLV definition in clause 79…

79.3.5.1 Transmit T_w

Transmit $T_{w\_sys\_tx}$ (2 octets wide) shall be defined as the time (expressed in microseconds) that the transmitting link partner will wait before it starts transmitting data after leaving the Low Power Idle (LPI) mode. This is a function of the transmit system design and may be constrained, for example, by the transmit path buffering. The default value for Transmit $T_{w\_sys\_tx}$ is the T_{w_phy} defined for the PHY that is in use for the link. The Transmitting link partner expects that the Receiving link partner will be able to accept data after the time delay Transmit $T_{w\_sys\_tx}$ (expressed in microseconds).

As you can see the binary encoding is implicit. People will understand that the real value should be encoded to binary for transmission, and the received binary field should be decoded to the real value. All that is needed to encode/decode is the units (microseconds) and the width (two octets).

This is in the same clause 79 that 802.3bt is amending – adding other TLVs – so I think changing the style isn't necessary.

I searched for "decimal value". In D2.1 there are 32 occurrences.

--end of background

Start of suggested Remedy:

Page 35, Line 39
Change: The PD requested power value is encoded according to Equation (79–1), where *X* is the decimal value of aLldpXdot3LocPDRequestedPowerValue.;
To: The PD requested power value is encoded according to Equation (79–1), where *X* is aLldpXdot3LocPDRequestedPowerValue.;

Page 36, Line 1
Change: The PSE allocated power value is encoded according to Equation (79–2), where *X* is the decimal value of aLldpXdot3LocPSEAllocatedPowerValue.;
To: The PSE allocated power value is encoded according to Equation (79–2), where *X* is aLldpXdot3LocPSEAllocatedPowerValue.;

Page 36, Line 15
Change: The PD measured voltage value is encoded according to Table 79–7f, where *X* is the decimal value of aLldpXdot3LocPDMeasuredVoltageValue.;
To: The PD measured voltage value is encoded according to Table 79–7f, where *X* is aLldpXdot3LocPDMeasuredVoltageValue.;

Page 36, Line 27
Change: The PD measured current value is encoded according to Table 79–7f, where *X* is the decimal value of aLldpXdot3LocPDMeasuredCurrentValue.;
To: The PD measured current value is encoded according to Table 79–7f, where *X* is aLldpXdot3LocPDMeasuredCurrentValue.;

Page 36, Line 39
Change: The PSE measured voltage value is encoded according to Table 79–7g, where *X* is the decimal value of aLldpXdot3LocPSEMeasuredVoltageValue.;
To: The PSE measured voltage value is encoded according to Table 79–7g, where *X* is aLldpXdot3LocPSEMeasuredVoltageValue.;

Page 36, Line 51
Change: The PSE measured current value is encoded according to Table 79–7g, where *X* is the decimal value of aLldpXdot3LocPSEMeasuredCurrentValue.;
To: The PSE measured current value is encoded according to Table 79–7g, where *X* is aLldpXdot3LocPSEMeasuredCurrentValue.;

Page 42, line 18
Change: The default value for this field is the hexadecimal value FFFF.;
To: The default value for this field is FFFF.;

Page 182, Line 48
Change: Actual power numbers are represented using an integer value that is encoded according to Equation (79–1), where *X* is the decimal value of MirroredPDRequestedPowerValue.
To: Actual power numbers are represented using an integer value that is encoded according to Equation (79–1), where *X* is MirroredPDRequestedPowerValue.

Page 183, Line 6
Change: Actual power numbers are represented using an integer value that is encoded according to Equation (79–2), where *X* is the decimal value of MirroredPSEAllocatedPowerValue.
To: Actual power numbers are represented using an integer value that is encoded according to Equation (79–2), where *X* is MirroredPSEAllocatedPowerValue.

Page 183, Line 22
Change: Actual power numbers are represented using an integer value that is encoded according to Equation (79–1), where *X* is the decimal value of PDMaxPowerValue.
To: Actual power numbers are represented using an integer value that is encoded according to Equation (79–2), where *X* is MirroredPSEAllocatedPowerValue.

Page 183, Line 26
Change: This power value is encoded according to Equation (79–1), where *X* is the decimal value of PDRequestedPowerValue.
To: This power value is encoded according to Equation (79–1), where *X* is PDRequestedPowerValue.

Page 183, Line 32
Change: This power value is encoded according to Equation (79–2), where *X* is the decimal value of PSEAllocatedPowerValue.
To: This power value is encoded according to Equation (79–1), where *X* is PDRequestedPowerValue.

Page 183, Line 41
Change: Actual power numbers are represented using an integer value that is encoded according to Equation (79–1) or Equation (79–2), where *X* is the decimal value of TempVar.
To: Actual power numbers are represented using an integer value that is encoded according to Equation (79–1) or Equation (79–2), where *X* is TempVar.

Page 185, Line 7
Change: The new maximum power value that the PSE expects the PD to draw. Actual power numbers are represented using an integer value that is encoded according to Equation (79–2), where *X* is the decimal value of PSE_NEW_VALUE.
To: The new maximum power value that the PSE expects the PD to draw. Actual power numbers are represented using an integer value that is encoded according to Equation (79–2), where *X* is PSE_NEW_VALUE.

Page 185, Line 14
Change: The new maximum power value that the PD wants to draw. Actual power numbers are represented using an integer value that is encoded according to Equation (79–1), where *X* is the decimal value of PD_NEW_VALUE.

To: The new maximum power value that the PD wants to draw. Actual power numbers are represented using an integer value that is encoded according to Equation (79–1), where *X* is PD_NEW_VALUE.

Page 217, Line 13
Change: The Length/Type field of an IEEE 802.3 LLDP frame is a 2-octet field that contains the hexadecimal value: 88-CC. This value carries the Type interpretation (see 3.2.6), and has been universally assigned for LLDP.
To: The Length/Type field of an IEEE 802.3 LLDP frame is a 2-octet field that contains 0x88CC. This value carries the Type interpretation (see 3.2.6), and has been universally assigned for LLDP.

Page 221, Line 8
Change: Power = 0.1 * (decimal value of bits) Watts. Valid values for these bits are decimal 1 through 999.
To: Power expressed in Deciwatts. Valid values for these bits are 1 through 999.

Page 221, Line 18
Change: *X* is the decimal value of the power value field, bits 15:0
To: *X* is the power value field expressed in Deciwatts, bits 15:0

Page 221, Line 33
Change: Power = 0.1 * (decimal value of bits) Watts. Valid values for these bits are decimal 1 through 999.
To: Power expressed in Deciwatts. Valid values for these bits are 1 through 999.

Page 221, Line 42
Change: *X* is the decimal value of the power value field, bits 15:0
To: *X* is the power value field expressed in Deciwatts, bits 15:0

Page 224, Line 5
Change: Power = 0.1 * (decimal value of bits) Watts. Valid values for these bits are decimal 1 through 999.
To: Power expressed in Deciwatts. Valid values for these bits are 1 through 999.

Page 227, Line 5
Change: Number of useful significant bits in Voltage measurement data field (decimal value of bits). Valid values for these bits are decimal 1 through 16
To: Number of useful significant bits in Voltage measurement data field. Valid values for these bits are 1 through 16

Page 227, Line 9
Change: Number of useful significant bits in Current measurement data field (decimal value of bits). Valid values for these bits are decimal 1 through 16
To: Number of useful significant bits in Current measurement data field. Valid values for these bits are 1 through 16

Page 227, Line 12
Change: Number of useful significant bits in Energy measurement data field (decimal value of bits). Valid values for these bits are decimal 1 through 32
To: Number of useful significant bits in Energy measurement data field. Valid values for these bits are 1 through 32

Page 227, Line 15
Change: VPort_PD-2P = (decimal value of bits) mV Valid values for these bits are decimal 1 through 65000
To: VPort_PD-2P expressed in mV. Valid values for these bits are 1 through 65000
[commenter note, see other comment that suggests changing 65000 to 57000].

Page 227, Line 18
Change: IPort or IPort-2P = 0.1 * (decimal value of bits) mA Valid values for these bits are decimal 0 through 20000
To: IPort or IPort-2P expressed in tenths of mA. Valid values for these bits are 0 through 20000

Page 227, Line 21
Change: Total energy consumed at the port or pairset value = 0.1 * (decimal value of bits) in kJ since power on.
To: Total energy consumed at the port or pairset value expressed in hJ (or tenth of kJ) since power on. [commenter note: mention that max value is 4294967296?]

Page 228, Line 31
Change: Number of useful significant bits in voltage measurement data field (decimal value of bits). Valid values for these bits are deci- mal 1 through 16.
To: Number of useful significant bits in Voltage measurement data field. Valid values for these bits are 1 through 16

Page 228, Line 34
Change: Number of useful significant bits in current measurement data field (decimal value of bits). Valid values for these bits are deci- mal 1 through 16.
To: Number of useful significant bits in Current measurement data field. Valid values for these bits are 1 through 16

Page 228, Line 38
Change: Number of useful significant bits in energy measurement data field (decimal value of bits). Valid values for these bits are deci- mal 1 through 32.
To: Number of useful significant bits in Energy measurement data field. Valid values for these bits are 1 through 32

Page 228, Line 41
Change: VPort_PSE-2P = (decimal value of bits) mV. Valid values for these bits are decimal 1 through 65000.
To: VPort_PSE-2P expressed in mV. Valid values for these bits are 1 through 65000
[commenter note, see other comment that suggests changing 65000 to 57000].

Page 228, Line 44
Change: IPort or IPort-2P = 0.1 × (decimal value of bits) mA. Valid values for these bits are decimal 0 through 20000.
To: IPort or IPort-2P expressed in tenths of mA. Valid values for these bits are 0 through 20000

Page 228, Line 47
Change: Total energy consumed at the port or pairset. Value = 0.1 × (decimal value of bits) in kJ since power on.
To: Total energy consumed at the port or pairset value expressed in hJ (or tenth of kJ) since power on. [commenter note: mention that max value is 4294967296?]

Page 229, Line 14
Change: Power price index = decimal value of bits. Valid values for these bits are decimal 1 through 65535.
To: Power price index. Valid values for these bits are 1 through 65535.