SCCP Modifications

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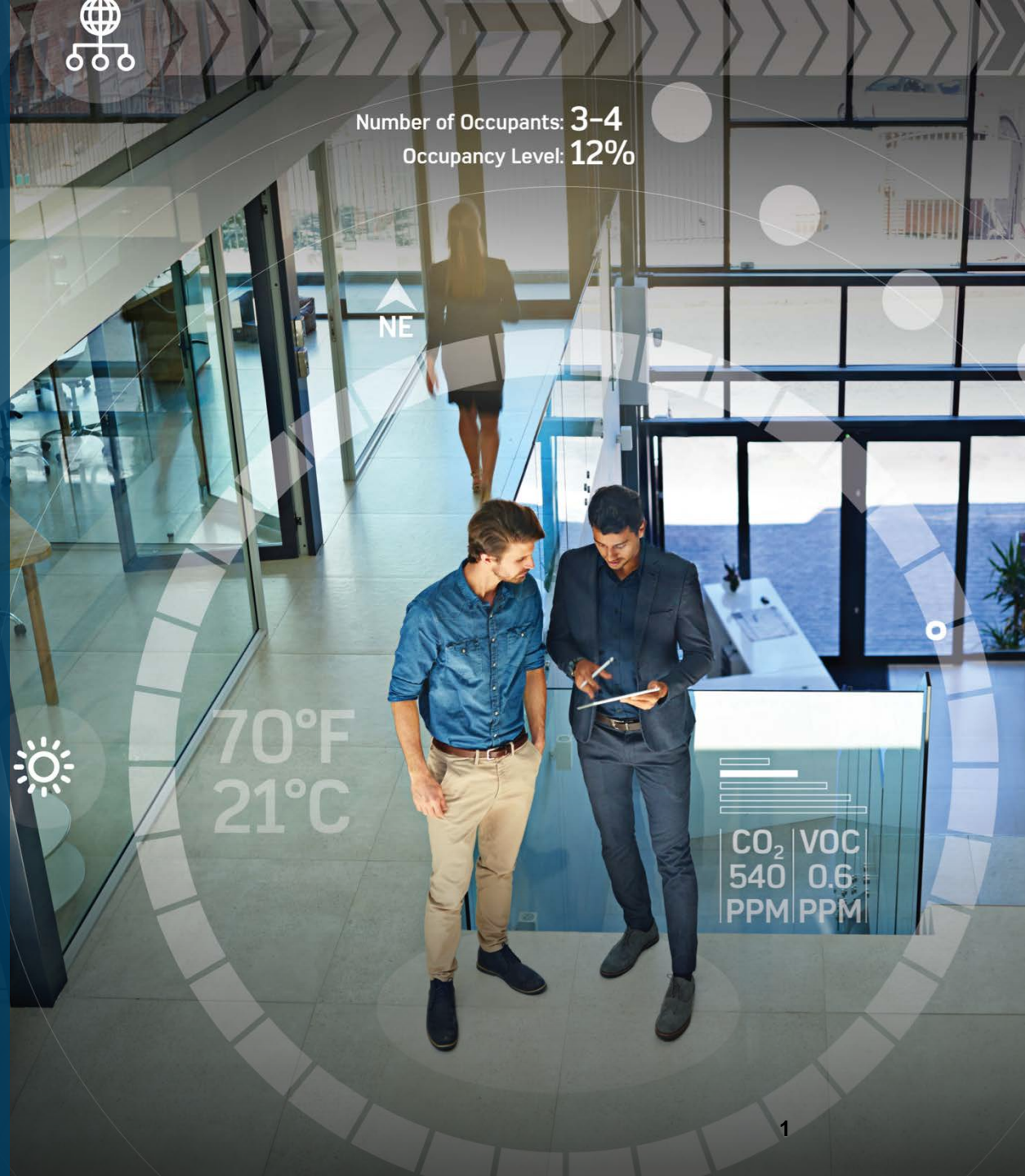
Modify VOLT_POWER_INFO Register to 16 Bits

► VOLT_POWER_INFO register was increased to 32 bits in order to accommodate higher power

► Split this register into two 16 bit registers- VOLT_INFO and POWER_INFO

► Add command – Read_POWER_INFO [0x77]

► Rename command- Read_VOLT_POWER_INFO [0xBB] as Read_VOLT_INFO [0xBB]

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Text Changes: To Modify VOLT_POWER_INFO Register

- Page 97, Line 51:
  - Replace text:

  "VOLT_POWER_INFO_register:

    PSEs that support cable resistance measurement also return the VOLT_POWER_INFO register. Refer to Table 104–10 for a description of contents."

  - With:

  "VOLT_INFO_register:

    PSEs that support cable resistance measurement also return the VOLT_INFO register. Refer to Table 104–10 for a description of contents."

- Page 98, Line 1:
  - Add text:

  "POWER_INFO_register:

    PSEs that support cable resistance measurement also return the POWER_INFO register. Refer to Table 104–11 for a description of contents."

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Text Changes: To Modify VOLT_POWER_INFO Register

► Page 101, Line 14:
▪ Replace text:

"VOLT_POWER_INFO_register:

   PDs that support cable resistance measurement also return the VOLT_POWER_INFO register. Refer to Table 104–10 for a description of contents."

▪ With:

"VOLT_INFO_register:

   PDs that support cable resistance measurement also return the VOLT_INFO register. Refer to Table 104–10 for a description of contents."

► Page 101, Line 18:
▪ Add text:

"POWER_INFO_register:

   PDs that support cable resistance measurement also return the POWER_INFO register. Refer to Table 104–11 for a description of contents."

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Text Changes: To Modify VOLT_POWER_INFO Register

- Page 103, Line 52:
  - Modify text:

  "PSEs and PDs that implement cable resistance measurement support the ~~VOLT_POWER_INFO and~~ <u>VOLT_INFO, POWER_INFO and</u> POWER_ASSIGN registers (see Table 104–10 ~~and~~ ,Table 104–11 <u>and Table 104-12</u>)."

- Page 108, Line 16:
  - Modify text:

  "V_{Report_PD} is the voltage at PD's PI during the presence pulse as reported in b[7:0] of ~~VOLT_POWER_INFO~~ <u>VOLT_INFO</u> in Table 104–10"

- Page 108, Line 38:
  - Modify text:

  "via the PD Requested Power, P_{PD_req}, field of the ~~VOLT_POWER_INFO Register b[19:8]~~ <u>POWER_INFO Register b[11:0].</u>
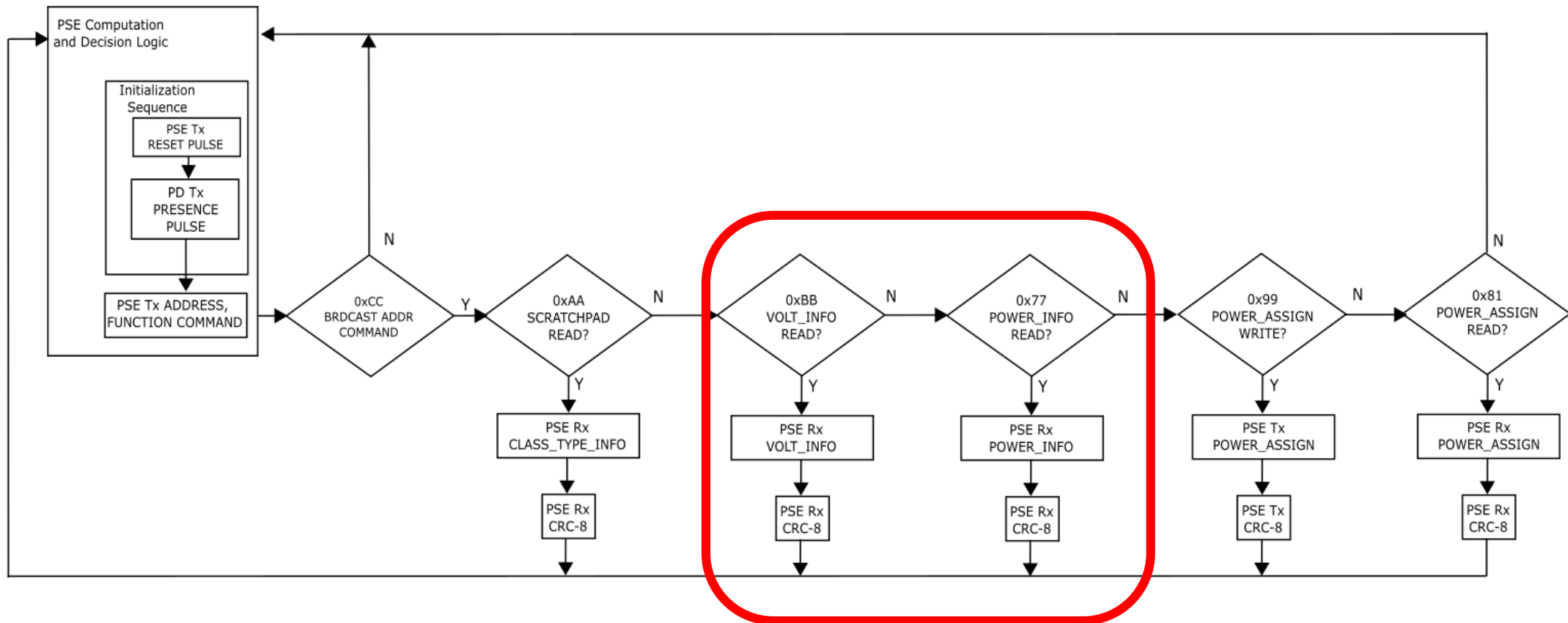
- Page 108, Line 49:
  - Modify text:

  "P_{PD_req} is the PD Requested Power as reported in ~~b[19:8] of VOLT_POWER_INFO in Table 104–10~~ <u>b[11:0] of POWER_INFO in Table 104–11</u> "

► Page 109, Line 11:
  ▪ Modify Figure 104-13 to rename the VOLT_POWER_INFO [0xBB] read command and to add the POWER_INFO [0x77] read command:

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Text Changes: To Modify VOLT_POWER_INFO Register

► Page 111, Line 25:
  - Modify text:

"104.7.2.6 Read_VOLT_~~POWER_~~INFO command [0xBB]

All PSEs and PDs that support cable resistance measurement shall support the 8-bit Read_VOLT_~~POWER_~~INFO command. After receiving a Read_VOLT_~~POWER_~~INFO command, the PD shall respond with a ~~32-bit~~ 16-bit VOLT_~~POWER_~~INFO read payload followed by an 8-bit CRC8 field as specified in 104.7.2.5. A flowchart for operation of the address and the Read_VOLT_~~POWER_~~INFO command is shown in Figure 104–13. Table 104–10 illustrates the contents of the VOLT_~~POWER_~~INFO register"

► Page 111, Line 34:
  - Modify "Table 104-10 VOLT_~~POWER_~~INFO Register Table":

Table 104-10 VOLT_INFO Register				
Bit(s)	Name	Description		R/W
b[15:8]	Reserved	Value Always 0		RO
b[7:0]	Voltage at PD PI during Presence Pulse	+/- 20mV tolerance, 10mV per LSB		RO

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Text Changes: To Modify VOLT_POWER_INFO Register

▶ Page 111, Line 50:
  ▪ Add text:

"104.7.2.7 Read_POWER_INFO command [0x77]

All PSEs and PDs that support cable resistance measurement shall support the 8-bit Read_POWER_INFO command. After receiving a Read_POWER_INFO command, the PD shall respond with a 16-bit POWER_INFO read payload followed by an 8-bit CRC8 field as specified in 104.7.2.5. A flowchart for operation of the address and the Read_POWER_INFO command is shown in Figure 104–13. Table 104–11 illustrates the contents of the POWER_INFO register."

▶ Page 111, Line 50:
  ▪ Add "Table 104-11 POWER_INFO Register Table" after new paragraph added on line 50 :

Table 104-11 POWER_INFO Register					
Bit(s)	Name	Description			R/W
b[15:12]	Reserved	Value Always 0			RO
b[11:0]	P_{PD_req} PD Requested Power	Power requested by PD, 0.025 W per LSB			RO

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Text Changes: To Modify VOLT_POWER_INFO Register

- ► Page 112, Line 4:
  - ▪ Modify text:

  "After transmitting a Write_POWER_ASSIGN command, the PSE shall transmit a ~~32-bit~~ 16-bit POWER_ASSIGN write payload followed by an 8-bit CRC8"

- ► Page 112, Line 10:
  - ▪ Modify "Table ~~104-11~~ 104-12 POWER_ASSIGN Register Table":

Table 104-12 POWER_ASSIGN Register				
Bit(s)	**Name**	**Description**		**R/W**
b[15:12]	Reserved	Value Always 0		RO
b[11:0]	P_{PD_assign} PD Assigned Power	PD assigned power, 0.025 W per LSB		R/W

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Text Changes: To Modify VOLT_POWER_INFO Register

- Page 112, Line 25:
  - Modify text:

  "After receiving a Read_POWER_ASSIGN command, the PD shall respond with a ~~32-bit~~ 16- bit POWER_ASSIGN read payload followed by an 8-bit CRC8 field as specified in 104.7.2.5. A flowchart for operation of the address and the Read_POWER_ASSIGN command is shown in Figure 104–13. Table ~~104–11~~ 104–12 illustrates the contents of the POWER_ASSIGN register."

- Page 115, Line 9:
  - Modify text in Column – "Value/Comment":

  "Return VOLT_~~POWER_~~INFO ~~and~~ , POWER_INFO and POWER_ASSIGN registers"

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Thank You!

QUESTIONS? FEEDBACK?

Backup Slides

Add PICS statements for SCCP commands

- Page 115, Line 29:
  - Add PICS for CRM related SCCP commands.
  - Insert rows for new items SCCP29, SCCP30, SCCP31, SCCP32, SCCP33, SCCP34, SCCP35, SCCP36 after last item SCCP28 as below (unchanged rows not shown):

Item	Feature	Subclause	Value/Comment	Status	Support
…	…	…	…	…	…
SCCP29	8-bit Read VOLT_INFO command	104.7.2.6	Supported by all PDs that implement CRM	CRM:M	Yes [] N/A []
SCCP30	Reception of Read VOLT_INFO function command	104.7.2.6	PD shall respond with a 16-bit VOLT_INFO read payload followed by an 8-bit CRC8 field	CRM:M	Yes [] N/A []
SCCP31	8-bit Read POWER_INFO command	104.7.2.7	Supported by all PDs that implement CRM	CRM:M	Yes [] N/A []
SCCP32	Reception of Read POWER_INFO function command	104.7.2.7	PD shall respond with a 16-bit POWER_INFO read payload followed by an 8-bit CRC8 field	CRM:M	Yes [] N/A []
SCCP33	8-bit Write POWER_ASSIGN command	104.7.2.8	Supported by all PDs that implement CRM	CRM:M	Yes [] N/A []
SCCP34	Reception of Write POWER_ASSIGN function command	104.7.2.8	PSE shall transmit a 16-bit POWER_ASSIGN write payload followed by an 8-bit CRC8 field	CRM:M	Yes [] N/A []
SCCP35	8-bit Read POWER_ASSIGN command	104.7.2.9	Supported by all PDs that implment CRM	CRM:M	Yes [] N/A []
SCCP36	Reception of Read POWER_ASSIGN function command	104.7.2.9	PD shall respond with a 16-bit POWER_ASSIGN read payload followed by an 8-bit CRC8 field	CRM:M	Yes [] N/A []

Modify SCCP transaction times

- SCCP transaction times need to be modified to account for longer signaling times

- Increase the T_{Class} (max) timer to 1300ms

- Increase the $T_{SCCP\_watchdog}$ timer range to be from 1000 to 1300ms

- Text changes shown below:
  - Page 99, Line 31:

Table 104-4 - PSE output requirements								
Item	Parameter	Symbol	Unit	Min	Max	Class	Type	Additional Information
...	...	...	...	...	...	...	...	...
8	Classification time	T_{Class}	ms	-	366 ~~800~~ 1300	~~All~~ Classes 0 to 9 Classes 10 to 15	All	See 104.5.5
...	...	...	...	...	...	...	...	...

  - Page 102, Line 47:

Table 104-7 - PD power supply limits							
Item	Parameter	Symbol	Unit	Min	Max	Type	Additional Information
...	...	...	...	...	...	...	...
15	SCCP watchdog timeout	$T_{SCCP\_watchdog}$	ms	150 1000	200 1300	~~All~~ Type A, B, C and D Type E	See 104.5.5
...	...	...	...	...	...	...	...

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Add PICS statements for SCCP commands

- Page 115, Line 29:
  - Insert rows for new items SCCP29, SCCP30, SCCP31, SCCP32, SCCP33, SCCP34 after last item SCCP28 as below (unchanged rows not shown):

Item	Feature	Subclause	Value/Comment	Status	Support
...	...	...	...	...	...
SCCP29	8-bit Read VOLT_POWER_INFO command	104.7.2.6	Supported by all PDs that implment CRM	CRM:M	Yes [] N/A []
SCCP30	Reception of Read VOLT_POWER_INFO function command	104.7.2.6	PD shall respond with a 32-bit VOLT_POWER_INFO read payload followed by an 8-bit CRC8 field	CRM:M	Yes [] N/A []
SCCP31	8-bit Write POWER_ASSIGN command	104.7.2.7	Supported by all PDs that implment CRM	CRM:M	Yes [] N/A []
SCCP32	Reception of Write POWER_ASSIGN function command	104.7.2.7	PD shall respond with a 32-bit POWER_ASSIGN write payload followed by an 8-bit CRC8 field	CRM:M	Yes [] N/A []
SCCP33	8-bit Read POWER_ASSIGN command	104.7.2.8	Supported by all PDs that implment CRM	CRM:M	Yes [] N/A []
SCCP34	Reception of Read POWER_ASSIGN function command	104.7.2.8	PD shall respond with a 32-bit POWER_ASSIGN read payload followed by an 8-bit CRC8 field	CRM:M	Yes [] N/A []

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