

High **PROTEC**

MCDLV4

IEC 61850 Edition 2 – PICS

**Protocol Implementation Conformance Statement
for the IEC 61850 Edition 2 interface in MCDLV4**

Build 62591

Revision A

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1 General

This document is applicable for MCDLV4 Version 3.11.

- [ASCI basic conformance statement](#)
- [ACSI models conformance statement](#)
- [ACSI service conformance statement](#)

The statements specify the communication features mapped to IEC 61850-8-1 and IEC 61850-9-2.

2 ASCI basic conformance statement

The basic conformance statement is defined in the table below.

| | | Client / Subscriber | Server / Publisher | Value / Comments |
|--|---|--------------------------------|-------------------------------|-----------------------------|
| Client-Server roles | | | | |
| B11 | Server side (of TWO-PARTY-APPLICATION-ASSOCIATION) | n/a | Y | |
| B12 | Client side of (TWO-PARTY-APPLICATION-ASSOCIATION) | N | n/a | |
| SCSMs supported | | | | |
| B21 | SCSM: IEC 61850-8-1 used | - | Y | |
| B22 | SCSM: IEC 61850-9-1 used | n/a | n/a | deprecated as of Ed. 2 |
| B23 | SCSM: IEC 61850-9-2 used | - | N | |
| B24 | SCSM: other | - | N | |
| Generic substation event model (GSE) | | | | |
| B31 | Publisher side | n/a | Y | |
| B32 | Subscriber side | Y | n/a | |
| Transmission of sampled value model (SVC) | | | | |
| B41 | Publisher side | n/a | N | |
| B42 | Subscriber side | - | n/a | |
| - | | | | |
| Y = supported | | | | |
| N or empty = not supported | | | | |

3 ACSI models conformance statement

The ACSI models conformance statement is defined in the table below.

| | | Client / Subscriber | Server / Publisher | Value / Comments |
|--|----------------------------------|---------------------|--------------------|------------------|
| If Server side (B11) or or Client side (B12) supported | | | | |
| M1 | Logical device | - | Y | |
| M2 | Logical node | - | Y | |
| M3 | Data | - | Y | |
| M4 | Data set | - | Y | |
| M5 | Substitution | - | N | |
| M6 | Setting group control | - | Y | |
| Reporting | | | | |
| M7 | Buffered report control | - | Y | |
| M7-1 | sequence-number | - | Y | |
| M7-2 | report-time-stamp | - | Y | |
| M7-3 | reason-for-inclusion | - | Y | |
| M7-4 | data-set-name | - | Y | |
| M7-5 | data-reference | - | Y | |
| M7-6 | buffer-overflow | - | Y | |
| M7-7 | entryID | - | Y | |
| M7-8 | BufTim | - | Y | |
| M7-9 | IntgPd | - | Y | |
| M7-10 | GI | - | Y | |
| M7-11 | conf-revision | - | Y | |
| M8 | Unbuffered report control | - | Y | |
| M8-1 | sequence-number | - | Y | |
| M8-2 | report-time-stamp | - | Y | |
| M8-3 | reason-for-inclusion | - | Y | |
| M8-4 | data-set-name | - | Y | |
| M8-5 | data-reference | - | Y | |
| M8-6 | BufTim | - | Y | |
| M8-7 | IntgPd | - | Y | |

| | | Client / Subscriber | Server / Publisher | Value / Comments |
|-------------------------------------|------------------------------------|---------------------|--------------------|--|
| M8-8 | GI | - | Y | |
| M8-9 | conf-revision | - | Y | |
| | Logging | - | N | |
| M9 | Log control | - | N | |
| M9-1 | IntgPd | - | N | |
| M10 | Log | - | N | |
| M11 | Control | - | Y | |
| M17 | File Transfer | N | Y | |
| M18 | Application association | - | Y | |
| M19 | GOOSE Control Block | - | Y | |
| M20 | Sampled Value Control Block | - | Y | |
| If GSE (B31/32) is supported | | | | |
| M12 | GOOSE | Y | Y | |
| M13 | GSSE | N | N | deprecated as of Ed. 2 |
| If SVC (B41/42) is supported | | | | |
| M14 | Multicast SVC | - | N | |
| M15 | Unicast SVC | - | N | |
| For all IEDs | | | | |
| M16 | Time | Y | N | Time source with required accuracy shall be available. Only Time Master are SNTP (Mode 4 response) time server. All other Client / Server devices are SNTP (Mode 3 request) clients. |

Y = service is supported

N or empty = service is not supported

4 ACSI service conformance statement

The ACSI service conformance statement is defined in the table below (depending on the statements in the tables in [↔2 ACSI basic conformance statement](#) and in [↔3 ACSI models conformance statement](#)).

| | Services | AA: TP/MC | Client (C) | Server (S) | Comments |
|--------------------------------|--|--------------|---------------|---------------|----------|
| Server | | | | | |
| S1 | GetServerDirectory (LOGICAL-DEVICE) | TP | - | Y | |
| Application association | | | | | |
| S2-1 | Associate_Request | TP | - | Y | |
| S2-2 | Associate_Response | | - | Y | |
| S3-1 | Abort_Request | TP | - | Y | |
| S3-2 | Abort_Processing | | - | Y | |
| S4-1 | Release_Request | | - | Y | |
| S4-2 | Release_Response | TP | - | Y | |
| Logical device | | | | | |
| S5 | GetLogicalDeviceDirectory | TP | - | Y | |
| Logical node | | | | | |
| S6 | GetLogicalNodeDirectory | TP | - | Y | |
| S7 | GetAllDataValues | TP | - | Y | |
| Data | | | | | |
| S8 | GetDataValues | TP | - | Y | |
| S9 | SetDataValues | TP | - | Y | |
| S10 | GetDataDirectory | TP | - | Y | |
| S11 | GetDataDefinition | TP | - | Y | |
| Data set | | | | | |
| S12 | GetDataSetValues | TP | - | Y | |
| S13 | SetDataSetValues | TP | - | Y | |
| S14 | CreateDataSet | TP | - | Y | |
| S15 | DeleteDataSet | TP | - | Y | |
| S16 | GetDataSetDirectory | TP | - | Y | |
| Substitution | | | | | |
| S17 | SetDataValues | TP | - | N | |
| Setting group control | | | | | |
| S18 | SelectActiveSG | TP | - | Y | |
| S19 | SelectEditSG | TP | - | N | |
| S20 | SetEditSGValues | TP | - | N | |
| S21 | ConfirmEditSGValues | TP | - | N | |
| S22 | GetEditSGValues | TP | - | N | |

| | Services | AA: TP/MC | Client (C) | Server (S) | Comments |
|---|-----------------------|--------------|---------------|---------------|------------------------|
| S23 | GetSGCBValues | TP | - | Y | |
| Reporting | | | | | |
| Buffered report control block (BRCB) | | | | | |
| S24 | Report | TP | - | Y | |
| S24-1 | data-change (dchg) | | - | Y | |
| S24-2 | qchg-change (qchg) | | - | Y | |
| S24-3 | data-update (dupd) | | - | Y | |
| S25 | GetBRCBValues | TP | - | Y | |
| S26 | SetBRCBValues | TP | - | Y | |
| Unbuffered report control block (URCB) | | | | | |
| S27 | Report | TP | - | Y | |
| S27-1 | data-change (dchg) | | - | Y | |
| S27-2 | qchg-change (qchg) | | - | Y | |
| S27-3 | data-update (dupd) | | - | Y | |
| S28 | GetURCBValues | TP | - | Y | |
| S29 | SetURCBValues | TP | - | Y | |
| Logging | | | | | |
| Log control block | | | | | |
| S30 | GetLCBValues | TP | - | N | |
| S31 | SetLCBValues | TP | - | N | |
| Log | | | | | |
| S32 | QueryLogByTime | TP | - | N | |
| S33 | QueryLogAfter | TP | - | N | |
| S34 | GetLogStatusValues | TP | - | N | |
| Generic substation event model (GSE) | | | | | |
| GOOSE-CONTROL-BLOCK | | | | | |
| S35 | SendGOOSEMessage | MC | - | Y | |
| S36 | GetGoReference | TP | - | Y | |
| S37 | GetGOOSEElementNumber | TP | - | Y | |
| S38 | GetGoCBValues | TP | - | Y | |
| S39 | SetGoCBValues | TP | - | Y | |
| GSSE-CONTROL-BLOCK | | | | | |
| S40 | SendGSSEMessage | MC | n.a. | n.a. | deprecated as of Ed. 2 |
| S41 | GetReference | TP | n.a. | n.a. | deprecated as of Ed. 2 |
| S42 | GetGSSEElementNumber | TP | n.a. | n.a. | deprecated as of Ed. 2 |
| S43 | GetGsCBValues | TP | n.a. | n.a. | deprecated as of Ed. 2 |
| S44 | SetGsCBValues | TP | n.a. | n.a. | deprecated as of Ed. 2 |

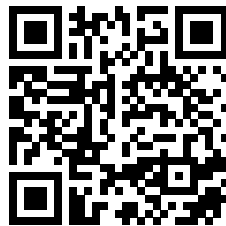
| | Services | AA: TP/MC | Client (C) | Server (S) | Comments |
|--|-----------------------------------|--------------|---------------|---------------|--|
| Transmission of sampled value model (SVC) | | | | | |
| Multicast SV | | | | | |
| S45 | SendMSVMessage | MC | - | N | |
| Multicast Sampled Value Control Block | | | | | |
| S46 | GetMSVCBValues | TP | - | N | |
| S47 | SetMSVCBValues | TP | - | N | |
| Unicast SV | | | | | |
| S48 | SendUSVMessage | TP | - | N | |
| Unicast Sampled Value Control Block | | | | | |
| S49 | GetUSVCBValues | TP | - | N | |
| S50 | SetUSVCBValues | TP | - | N | |
| Control | | | | | |
| S51 | Select | | - | N | |
| S52 | SelectWithValue | TP | - | Y | |
| S53 | Cancel | TP | - | Y | |
| S54 | Operate | TP | - | Y | |
| S55 | CommandTermination | TP | - | Y | |
| S56 | TimeActivatedOperate | TP | - | N | |
| File transfer | | | | | |
| S57 | GetFile | TP | - | Y | |
| S58 | SetFile | TP | - | N | |
| S59 | DeleteFile | TP | - | Y | |
| S60 | GetFileAttributeValues | TP | - | Y | |
| S61 | GetServerDirectory (FILE-SYSTEM) | TP | - | Y | |
| Time | | | | | |
| T1 | Time resolution of internal clock | | 24 | - | Nearest negative power of 2^{-n} in seconds (number 0 ... 24) |
| T2 | Time accuracy of internal clock | | T1 | T1 | TL (ms) (low accuracy), $T3 < 7$ (only Ed2) T0 (ms) (≤ 10 ms), $7 \leq T3 < 10$ T1 (μ s) (≤ 1 ms), $10 \leq T3 < 13$ T2 (μ s) (≤ 100 μ s), $13 \leq T3 < 15$ T3 (μ s) (≤ 25 μ s), $15 \leq T3 < 18$ T4 (μ s) (≤ 25 μ s), $18 \leq T3 < 19$ T5 (μ s) (≤ 1 μ s), $T3 \geq 20$ |
| T3 | Supported TimeStamp resolution | | 10 | xx | Nearest value n of 2^{-n} in seconds (number 0 ... 24) |

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