

High **PROTEC**

**MCDGV4**

**IEC 61850 (Edition 1) – PICS**

**Protocol Implementation Conformance Statement**  
**UCA International Users Group Testing Sub Committee**

Build 62590

Revision A

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# 1 General

This document is applicable for MCDGV4 Version 3.11.

- ASCI basic conformance statement, ↪2 [ASCI basic conformance statement](#)
- ACSI models conformance statement, ↪3 [ACSI models conformance statement](#)
- ACSI service conformance statement, ↪4 [ACSI service conformance statement](#)

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

## 2 ASCI basic conformance statement

The basic conformance statement is defined in the table below.

|  |   | <b>Client /<br/>Subscriber</b> | <b>Server /<br/>Publisher</b> | <b>Value /<br/>Comments</b> |
|--|---|--------------------------------|-------------------------------|-----------------------------|
| <b>Client-Server roles</b>                       |   |                                |                               |                             |
| B11  | <b>Server</b> side (of TWO-PARTY-APPLICATION-ASSOCIATION) | -                              | Y                             |                             |
| B12  | <b>Client</b> side of (TWO-PARTY-APPLICATION-ASSOCIATION) | -                              | -                             |                             |
| <b>SCSMs supported</b>                           |   |                                |                               |                             |
| B21  | <b>SCSM:</b> IEC 61850-8-1 used                           | -                              | Y                             |                             |
| B22  | <b>SCSM:</b> IEC 61850-9-1 used                           | -                              | N                             |                             |
| B23  | <b>SCSM:</b> IEC 61850-9-2 used                           | -                              | Y                             |                             |
| B24  | <b>SCSM:</b> other  | -                              | N                             |                             |
| <b>Generic substation event model (GSE)</b>      |   |                                |                               |                             |
| B31  | <b>Publisher</b> side                                     | -                              | Y                             |                             |
| B32  | <b>Subscriber</b> side                                    | Y                              | -                             |                             |
| <b>Transmission of sampled value model (SVC)</b> |   |                                |                               |                             |
| B41  | <b>Publisher</b> side                                     | -                              | N                             |                             |
| B42  | <b>Subscriber</b> side                                    | -                              | -                             |                             |
| -  |   |                                |                               |                             |
| 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 <b>Server or Client</b> side (B11/12) supported |                                  |                     |                    |                  |
| M1   | <b>Logical device</b>            | -                   | Y                  |                  |
| M2   | <b>Logical node</b>              | -                   | Y                  |                  |
| M3   | <b>Data</b>                      | -                   | Y                  |                  |
| M4   | <b>Data set</b>                  | -                   | Y                  |                  |
| M5   | <b>Substitution</b>              | -                   | N                  |                  |
| M6   | <b>Setting group control</b>     | -                   | N                  |                  |
| <b>Reporting</b>                                   |                                  |                     |                    |                  |
| M7   | <b>Buffered report control</b>   | -                   | 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   | <b>Unbuffered report control</b> | -                   | 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                  |                  |
| M8-8   | GI                               | -                   | Y                  |                  |

|  |                      | <b>Client /<br/>Subscriber</b> | <b>Server /<br/>Publisher</b> | <b>Value /<br/>Comments</b> |
|--|----------------------|--------------------------------|-------------------------------|-----------------------------|
| M8-9   | conf-revision        | -                              | Y                             |                             |
|  | <b>Logging</b>       | -                              | N                             |                             |
| M9   | <b>Log control</b>   | -                              | N                             |                             |
| M9-1   | IntgPd               | -                              | N                             |                             |
| M10  | <b>Log</b>           | -                              | N                             |                             |
| M11  | <b>Control</b>       | -                              | Y                             |                             |
| If <b>GSE</b> (B31/32) is supported                |                      |                                |                               |                             |
| M12  | <b>GOOSE</b>         | Y                              | Y                             |                             |
| M13  | <b>GSSE</b>          | N                              | N                             |                             |
| If <b>SVC</b> (B41/42) is supported                |                      |                                |                               |                             |
| M14  | Multicast SVC        | -                              | N                             |                             |
| M15  | Unicast SVC          | -                              | N                             |                             |
| If <b>Server or Client</b> side (B11/12) supported |                      |                                |                               |                             |
| M16  | Time                 | Y                              | N                             | scheduled                   |
| M17  | <b>File Transfer</b> | N                              | N                             | scheduled                   |
| 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 “Basic conformance statement” table [↪2 ACSI basic conformance statement](#)).

|                                      | Services               | AA:<br>TP/MC | Client<br>(C) | Server<br>(S) | Comments  |
|--------------------------------------|------------------------|--------------|---------------|---------------|-----------|
| <b>Server</b>                        |                        |              |               |               |           |
| S1                                   | ServerDirectory        | TP           | -             | Y             |           |
| <b>Application association</b>       |                        |              |               |               |           |
| S2                                   | Associate              |              | -             | Y             |           |
| S3                                   | Abort                  |              | -             | Y             |           |
| S4                                   | Release                |              | -             | Y             |           |
| <b>Logical device</b>                |                        |              |               |               |           |
| S5                                   | LogicalDeviceDirectory | TP           | -             | Y             |           |
| <b>Logical node</b>                  |                        |              |               |               |           |
| S6                                   | LogicalNodeDirectory   | TP           | -             | Y             |           |
| S7                                   | GetAllDataValues       | TP           | -             | Y             |           |
| <b>Data</b>                          |                        |              |               |               |           |
| S8                                   | GetDataValues          | TP           | -             | Y             |           |
| S9                                   | SetDataValues          | TP           | -             | Y             |           |
| S10                                  | GetDataDirectory       | TP           | -             | Y             |           |
| S11                                  | GetDataDefinition      | TP           | -             | Y             |           |
| <b>Data set</b>                      |                        |              |               |               |           |
| S12                                  | GetDataSetValues       | TP           | -             | Y             |           |
| S13                                  | SetDataSetValues       | TP           | -             | Y             |           |
| S14                                  | CreateDataSet          | TP           | -             | Y             |           |
| S15                                  | DeleteDataSet          | TP           | -             | Y             |           |
| S16                                  | GetDataSetDirectory    | TP           | -             | Y             |           |
| <b>Substitution</b>                  |                        |              |               |               |           |
| S17                                  | SetDataValues          | TP           | -             | N             |           |
| <b>Setting group control</b>         |                        |              |               |               |           |
| S18                                  | SelectActiveSG         | TP           | -             | N             | scheduled |
| S19                                  | SelectEditSG           | TP           | -             | N             |           |
| S20                                  | SetSGValues            | TP           | -             | N             |           |
| S21                                  | ConfirmEditSGValues    | TP           | -             | N             |           |
| S22                                  | GetSGValues            | TP           | -             | N             |           |
| S23                                  | GetSGCBValues          | TP           | -             | N             |           |
| <b>Reporting</b>                     |                        |              |               |               |           |
| Buffered report control block (BRCB) |                        |              |               |               |           |



|  | Services              | AA:<br>TP/MC | Client<br>(C) | Server<br>(S) | Comments |
|--|-----------------------|--------------|---------------|---------------|----------|
| S24  | Report                | TP           | -             | Y             |          |
| S24-1  | data-change (dchg)    |              | -             | Y             |          |
| S24-2  | qchg-change (qchg)    |              | -             | Y             |          |
| S24-3  | data-update (dupd)    |              | -             | N             |          |
| 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)    |              | -             | N             |          |
| S28  | GetURCBValues         | TP           | -             | Y             |          |
| S29  | SetURCBValues         | TP           | -             | Y             |          |
| <b>Logging</b>                                   |                       |              |               |               |          |
| Log control block                                |                       |              |               |               |          |
| S30  | GetLCBValues          | TP           | -             | N             |          |
| S31  | SetLCBValues          | TP           | -             | N             |          |
| Log  |                       |              |               |               |          |
| S32  | QueryLogByTime        | TP           | -             | N             |          |
| S33  | QueryLogByEntry       | TP           | -             | N             |          |
| S34  | GetLogStatusValues    | TP           | -             | N             |          |
| <b>Generic substation event model (GSE)</b>      |                       |              |               |               |          |
| GOOSE-CONTROL-BLOCK                              |                       |              |               |               |          |
| S35  | SendGOOSEMessage      | MC           | -             | Y             |          |
| S36  | GetReference          | TP           | -             | Y             |          |
| S37  | GetGOOSEElementNumber | TP           | -             | Y             |          |
| S38  | GetGoCBValues         | TP           | -             | Y             |          |
| S39  | SetGoCBValues         | TP           | -             | Y             |          |
| GSSE-CONTROL-BLOCK                               |                       |              |               |               |          |
| S40  | SendGSSEMessage       | MC           | -             | N             |          |
| S41  | GetReference          | TP           | -             | N             |          |
| S42  | GetGSSEElementNumber  | TP           | -             | N             |          |
| S43  | GetGsCBValues         | TP           | -             | N             |          |
| S44  | SetGsCBValues         | TP           | -             | N             |          |
| <b>Transmission of sampled value model (SVC)</b> |                       |              |               |               |          |
| Multicast SVC                                    |                       |              |               |               |          |
| S45  | SendMSVMessage        | MC           | -             | N             |          |

4 ACSI service conformance statement

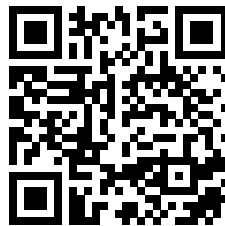
|                      | Services                          | AA:<br>TP/MC | Client<br>(C) | Server<br>(S) | Comments                               |
|----------------------|-----------------------------------|--------------|---------------|---------------|--|
| S46                  | GetMSVCBValues                    | TP           | -             | N             |  |
| S47                  | SetMSVCBValues                    | TP           | -             | N             |  |
| Unicast SVC          |                                   |              |               |               |  |
| S48                  | SendUSVMessage                    | TP           | -             | N             |  |
| S49                  | GetUSVCBValues                    | TP           | -             | N             |  |
| S50                  | SetUSVCBValues                    | TP           | -             | N             |  |
| <b>Control</b>       |                                   |              |               |               |  |
| S51                  | Select                            |              | -             | N             |  |
| S52                  | SelectWithValue                   | TP           | -             | Y             |  |
| S53                  | Cancel                            | TP           | -             | Y             |  |
| S54                  | Operate                           | TP           | -             | Y             |  |
| S55                  | Command-Termination               | TP           | -             | Y             |  |
| S56                  | TimeActivated-Operate             | TP           | -             | N             |  |
| <b>File transfer</b> |                                   |              |               |               |  |
| S57                  | GetFile                           | TP           | -             | N             |  |
| S58                  | SetFile                           | TP           | -             | N             |  |
| S59                  | DeleteFile                        | TP           | -             | N             |  |
| S60                  | GetFileAttributeValues            | TP           | -             | N             |  |
| <b>Time</b>          |                                   |              |               |               |  |
| T1                   | Time resolution of internal clock |              | 10            | -             | nearest negative power of 2 in seconds |
| T2                   | Time accuracy of internal clock   |              | N             | -             | T0                                     |
|                      |                                   |              | Y             | -             | T1                                     |
|                      |                                   |              | N             | -             | T2                                     |
|                      |                                   |              | N             | -             | T3                                     |
|                      |                                   |              | N             | -             | T4                                     |
|                      |                                   |              | N             | -             | T5                                     |
| T3                   | Supported TimeStamp resolution    |              | 10            | -             | nearest negative power of 2 in seconds |

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