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MCDGV4

IEC 61850 Edition 2 — PICS

Protocol Implementation Conformance Statement

for the IEC 61850 Edition 2 interface in MCDGV4

Build 62590

Revision A

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1 General

This document is applicable for MCDGV4 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	**Subcriber** 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 ASCI 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 ≤ T3 < 10 T1 (µs) (≤ 1 ms), 10 ≤ T3 < 13 T2 (µs) (≤ 100 µs), 13 ≤ T3 < 15 T3 (µs) (≤ 25 µs), 15 ≤ T3 < 18 T4 (µs) (≤ 25 µs), 18 ≤ T3 < 19 T5 (µs) (≤ 1 µs), T3 ≥ 20
T3	Supported TimeStamp resolution		10	xx	Nearest value n of 2^{-n} in seconds (number 0 ... 24)

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