IEC 61850 Certificate Level A[1]

No. 30102020-Consulting 10-1990rev2

Issued to:
LSIS Co., Ltd.
1026-6, Hogye-dong
Dong-an-gu Anyang-si
Gyeonggi-do
Korea

For the client system:
TOPAS-SA
System based on IEC 61850
Version 1.0
Hardware: Samsung P560 with Windows
XP Professional SP3

Issued by: **KEMA**

The client system has not shown to be non-conforming to:

IEC 61850-6, 7-1, 7-2, 7-3, 7-4 and 8-1

Communication networks and systems in substations

The conformance test has been performed according to IEC 61850-10 with client system's protocol, model and technical issue implementation conformance statements: "PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT FOR <TOPAS-SA> with version "<Version 1.0> Document version 1.0", "MODEL IMPLEMENTATION CONFORMANCE STATEMENT FOR <TOPAS-SA> Software Version 1.0 Document version 1.0", "IEC 61850 TISSUES CONFORMANCE STATEMENT (TICS) FOR <TOPAS-SA> Software Version 1.0 Document version 1.0" and product's extra information for testing: "Protocol Implementation eXtra Information for testing (PIXIT) of the IEC 61850 interface in the client system : "<TOPAS-SA> with version "<Version 1.0>" Document version 1.0".

The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases as defined in the UCA IUG Client Test procedures version 1.1):

1	Basic Exchange (21/22)	12a	Direct Control (7/7)
2	Data Sets (4/8)	12b	SBO Control (9/9)
2+	Data Set Definition (4/4)	12c	Enhanced Direct Control (7/9)
4	Setting Group Selection (3/4)	12d	Enhanced SBO Control (9/9)
4+	Setting Group Definition (2/2)	13	Time Synchronization (3/4)
5	Unbuffered Reporting (16/18)	14	File Transfer (8/8)
6	Buffered Reporting (20/22)		

This Certificate includes a summary of the test results as carried out at KEMA in The Netherlands with UniCA Multi IED Simulator version 1.21.0.5 and UniCA 61850 Analyzer version 4.21.03. The test is based on the UCA IUG "Conformance Test Procedures for Client System with IEC 61850-8-1 interface, version 1.1". This document has been issued for information purposes only, and the original paper copy of the KEMA report: No. 30102020-Consulting 10-1989 will prevail.

The test has been carried out on one single specimen of the client system as referred above and submitted to KEMA by LSIS Co., Ltd. The manufacturer's production process has not been assessed. This Certificate does not imply that KEMA has certified or approved any product other than the specimen tested.

Arnhem, November 3, 2010

M. Adriaensen
Regional Director Management & Operations Consulting

T.X
Test Engineer

1 Level A - Independent Test lab with certified ISO 9000 or ISO 17025 Quality System

Applicable Test Procedures from the UCA IUG "Conformance Test Procedures for Client System with IEC 61850-8-1 interface, version 1.1"

	Conformance Block	Mandatory	Conditional
1:	Basic Exchange	cAss1, cAss2, cAss3, cAss4, cAssN1, cAssN4, cAssN5, cAssN6, cSrv5, cSrvN3	cSrv1, cSrv2, cSrv3, cSrv4, Srv6, cSrv7, cSrvN1, cSrvN2, cSrvN4, cSrvN5, cSrvN6
2:	Data Sets	cDs1, cDs2, cDs5, cDsN1	
2+:	Data Set Definition	cDs6, cDsN4	cDs7, cDsN5
4:	Setting Group Selection	cSg2, cSgN1	cSg1
4+:	Setting Group Definition	cSg3, cSg4	
5:	Unbuffered Reporting	cRp2, cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRpN2, cRpN3, cRpN7, cRpN8	cRp1, cRp6, cRp7, cRpN1, cRpN4
6:	Buffered Reporting	cBr2, cBr3, cBr4, cRp5, cBr8, cBr9, cBr10, cBr11, cBr12, cBrN2, cBrN3, cBrN7, cBrN8, cBrN9	cBr1, cBrN1, cBr6, cBr7, cBr13, cBrN4
12a:	Direct control	cCtl4, cCtlN1, cDOns1, cDOns2	cCtl1, cCtl2, cCtl3
12b:	SBO control	cCtl4, cCtlN1, cSBOns1, cSBOns2, cSBOns3	cCtl1, cCtl2, cCtl3, cSBOns4
12c:	Enhanced Direct Control	cCtl4, cCtlN1, cDOes1, cDOes2	cCtl1, cCtl2, cCtl3
12d:	Enhanced SBO control	cCtl4, cCtlN1, cSBOes1, cSBOes2, cSBOes3	cCtl1, cCtl2, cCtl3, cSBOes4
13:	Time sync	cTm1	cTm2, cTmN1
14:	File transfer	cFt1, cFt2, cFt3, cFtN1, cFtN2	cFt5, cFt4, cFtN3