



INTERNATIONAL
ELECTROTECHNICAL
COMMISSION



IEC TC57 WG15 - Cybersecurity Status & Roadmap

June, 2012



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Convenor WG15



Mission and Scope of WG15 on Cybersecurity

- Undertake the development of standards for security of the communication protocols defined by the IEC TC 57
 - Specifically the IEC 60870-5 series, the IEC 60870-6 series, the IEC 61850 series, the IEC 61970 series, and the IEC 61968 series.
- Undertake the development of standards and/or technical reports on **end-to-end security issues.**



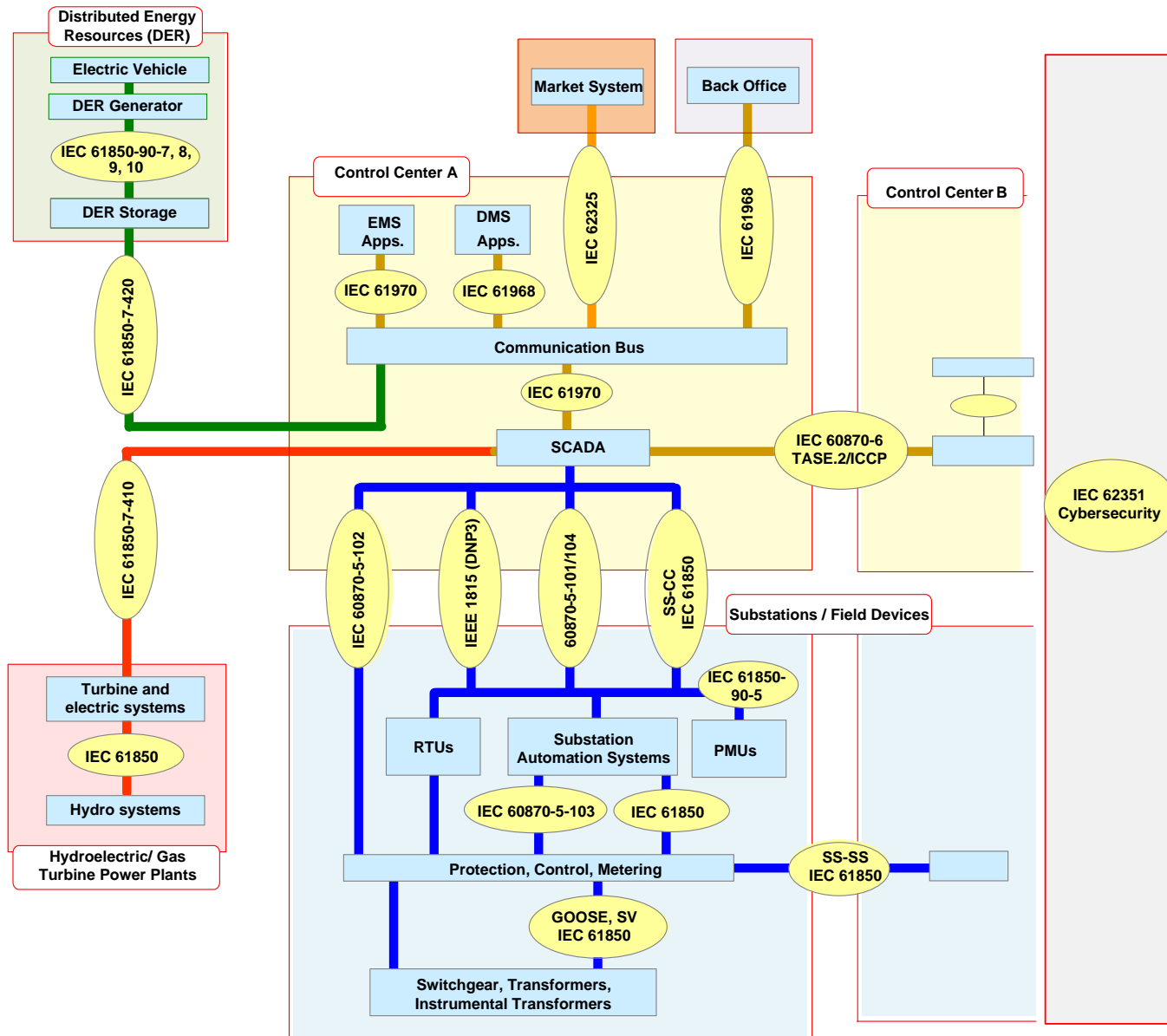
WG15 Members

- **71 members**

- **Participants from 20 countries**
 - **Argentina**
 - **Canada**
 - **China**
 - **Croatia**
 - **Czechoslovakia**
 - **Denmark**
 - **Finland**
 - **France**
 - **Germany**
 - **Great Britain**
 - **Israel**
 - **Italy**
 - **Japan**
 - **Korea**
 - **Norway**
 - **Russia**
 - **South Africa**
 - **Spain**
 - **Sweden**
 - **Switzerland**
 - **USA**



IEC TC57 Architecture of Information Standards

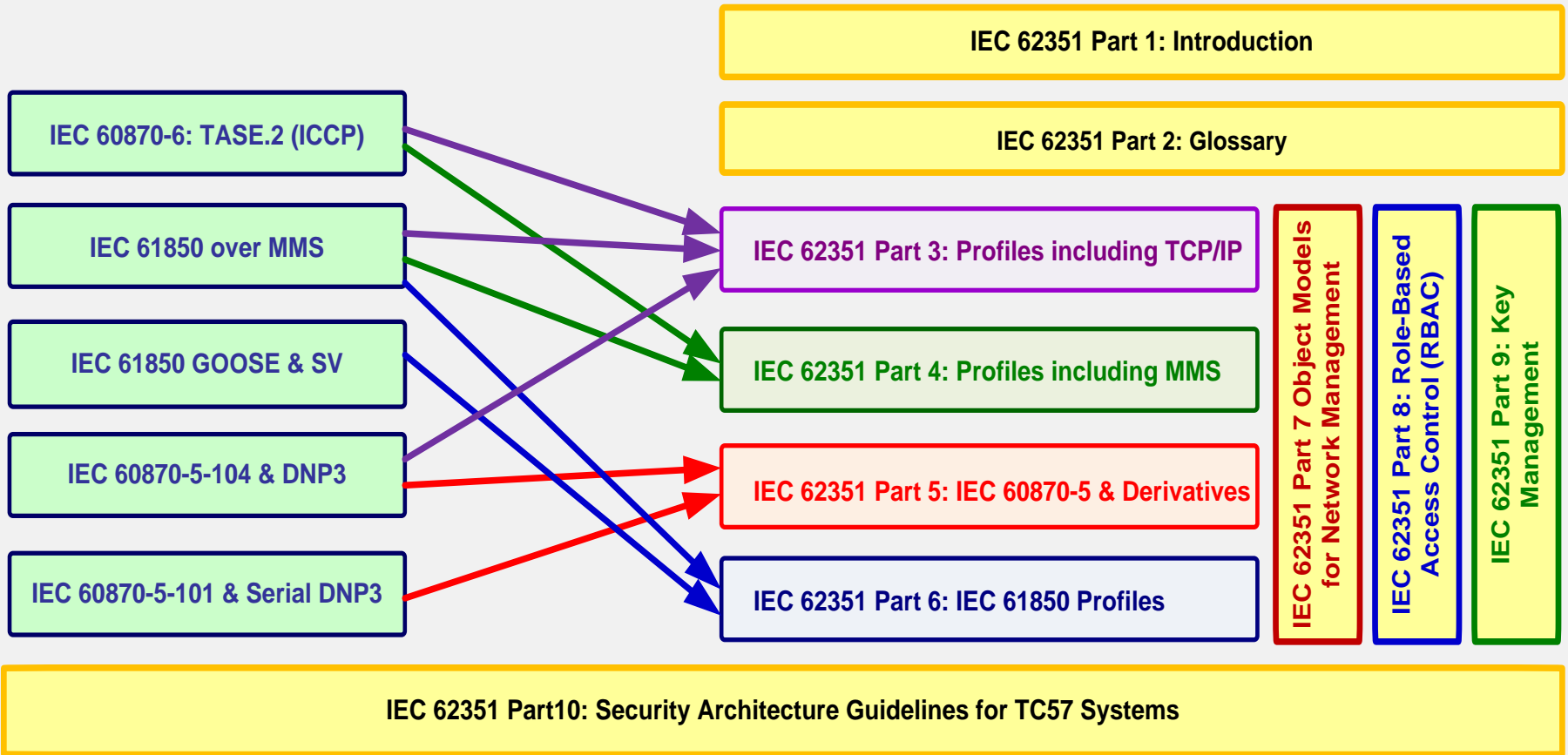




Mapping of TC57 Communication Standards to IEC 62351 Security Standards

IEC TC57 Communication Standards

IEC 62351 Security Standards





Status of IEC 62351 Parts

IEC 62351 Part	Release Date	Activities (June 2012)	Planned Release
IEC/TS 62351-1: Introduction	2007		
IEC/TS 62351-2: Glossary http://std.iec.ch/terms/terms.nsf/ByPub?OpenView&Count=-1&RestrictToCategory=IEC%2062351-2	2008	Review Report pending	Amendment by mid 2013
IEC/TS 62351-3: Security for profiles including TCP/IP	2007	Updated document being finalized June 2012	CDV by June 2012 IS Ed. 2 by June 2013
IEC/TS 62351-4: Security for profiles including MMS	2007		
IEC/TS 62351-5: Security for IEC 60870-5 and derivatives	2009	DTS as Ed. 2	TS Ed. 2 by Q3 2012
IEC/TS 62351-6: Security for IEC 61850 profiles	2007	Updates planned but not started	
IEC/TS 62351-7: Objects for Network Management	2010		
IEC/TS 62351-8: Role-Based Access Control	2011		
IEC/TS 62351-9: Key Management		CD to be submitted June 2012	
IEC/TS 62351-10: Security Architecture		DTS sent to IEC – voting date 6-22-12	TS by Q3 2012
IEC/TS 62351-11: Security for XML Files		NWIP – closing date 7-27-12	



Coordination with Other Security Activities

- IEC TC57 WG15 has a Liaison A with IEC TC65C which will review and standardize the work of the ISA SP99 Security Standards
- IEC TC57 WG15 has a Liaison D with the IEEE PES PSCC Security Subcommittee
- Pending:
 - Liaison D with M/490 SGIS
 - Liaison D with UCAIug
 - Liaison ?? With ISO JTC 1 / SC 27 “IT Security”
- Coordination:
 - NIST Cyber Security Working Group (CSWG) under NIST’s Smart Grid Interoperability Panel
 - NERC CIP 002-009 – WG15 has members who are very active with NERC security activities
 - Cigré D2.22



TC57 Security (IEC 62351) Roadmap

As of June 2012

Completed and Current Work	Updates & New Work	On-Going Coordination
<ul style="list-style-type: none">• Parts 1, 2, 3, 4, 5, 6, 7, & 8 – finalized as TS Standards (Ed 1)• Parts 9, 10, & 11 – in process• Parts 3 & 5 being updated to Ed 2	<ul style="list-style-type: none">• Part 9 Key Management, CD due June 2012• Part 10 Security Architecture, TS expected shortly• Part 11 Security for XML Files, just starting	<ul style="list-style-type: none">• IEC TC65C WG10• ISA SP99• CIGRE D2.22• NIST CSWG• M/490 SGIS• IEC TC13• ISO/IEC JTC 1 / SC 27 for ISO 27000 series



Issues

- **Intellectual Property issues with certain cryptographic suites**
- **Although we have cybersecurity experts, they are very busy**
- **Cybersecurity is a very dynamic, rapidly changing field which is quite new for the power industry**
 - **Need rapid development of new standards and updates to existing standards**
 - **Need guidelines for end-to-security**
 - **Need both standards and technical reports**
 - **Need input from power system domain experts on security requirements**



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Questions? Comments?

