



CIM Integration @ eRDF

*(EDF Distribution
Subsidiary Experience
and Perspectives with
CIM)*

eRDF?

EDF subsidiary for electricity distribution (French DNO):

- ||| Created on jan 1st 2008 , dedicated to « regulated » market activities
- ||| Operating LV & MV (15-20 kV) networks
- ||| 32 M customers,

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eRDF CIM SCADA – GIS Integration experience : DANY 4 Project

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facts & figures:

- III **Project essentials: Renewal of the Parisian Distribution control System** (*Existing DMS system: Siemens Sinaut spectrum® / future PSI Control EE® (contract awarded in April 2007)*)
 - III a SCADA system of medium / high range capacity...
 - ✓ 1.6 M Customers (3000 MV incl.),
 - ✓ 3.3 GW Peak power,
 - ✓ 36 remote controlled Primary SS (225/20 kV 100/140 MVA Trs)
 - ✓ 7000 fully automatized MV/LV TR Stations, 2500 monitored & controlled MV or MV/LV stations
 - ✓ Distributed architecture highly secured (Main + back up locations)
 - ✓ 8 operator WS + >100 web access terminals with limited operation rights
 - III ...Fitted with DMS functions (Training simulator with full detailed network simulation and power flow calculation; simplified FISER function)
 - III ...Interfaced with existing eRDF Distribution Applications (**GIS**, networks/TR stations maintenance , Outage Management, IVR..)
 - III ...implemented within a short time schedule (2 years from contract award): *operation began in pre-commercial mode in feb 2009 with a taking Over in May 09*
- III **CIM aspects: eRDF pilot project for GIS - :Control System link based on CIM** whose relevant integration will feature the future design of eRDF GIS-Control Systems integration

eRDF GIS-SCADA CIM integration objectives

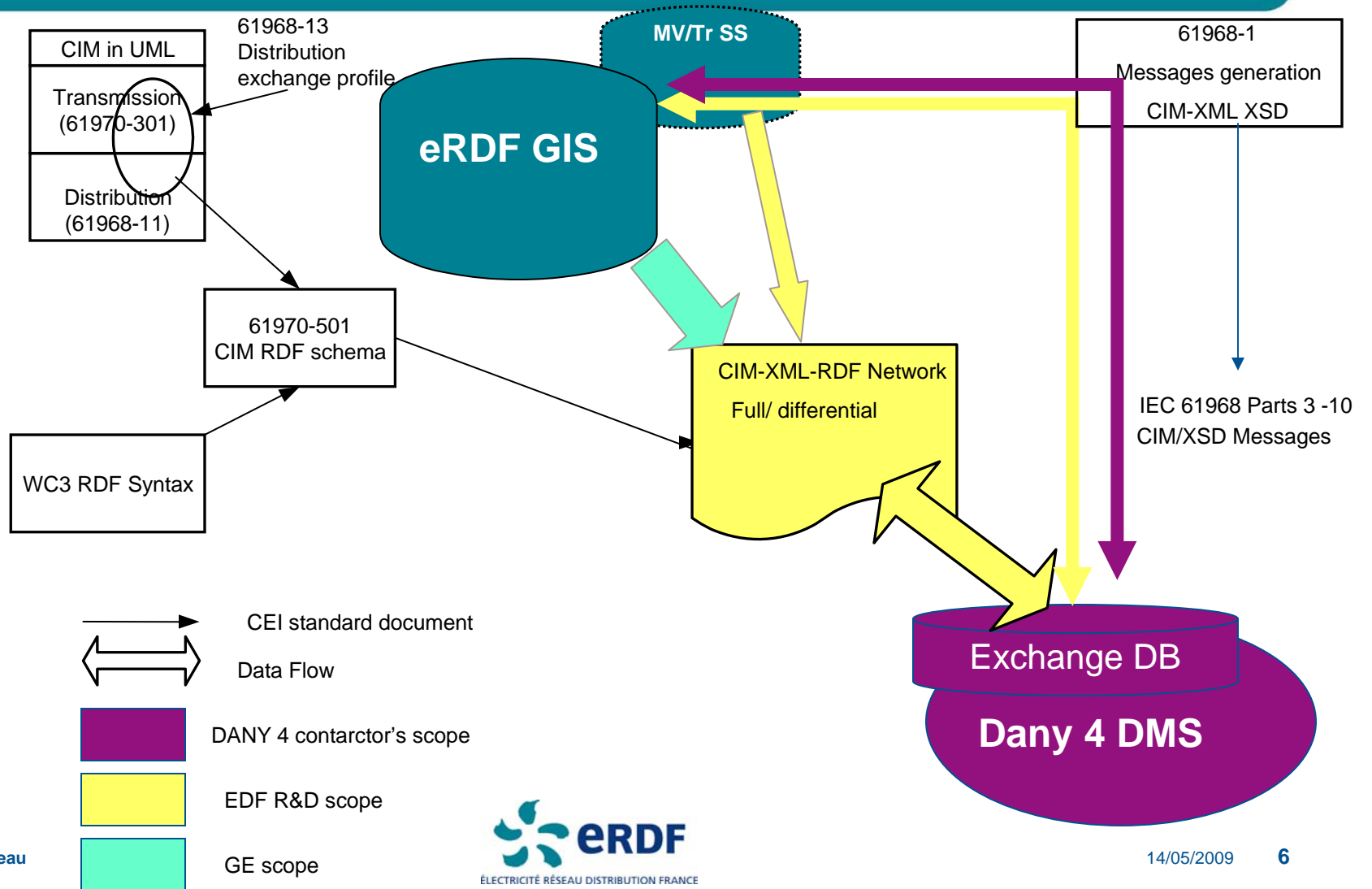
Strategic Objectives:

- To Ensure **Better integration** of the DMS systems in the eRDF application environnement (assets Mgt - planning studies, field operation maintenance, outage statistics Mgt, customers outages Mgt)
 - To Limit *manual* maintenance efforts of DMS and various « connected » applications (error prone), thus on both **data and graphics issues**
 - To Solve *semantic inconsistencies*,
 - To Solve *granularity issues* (due to the different level of network « views » – operation/ planning/asset),
- keep & increase applications « independence »

→ **RETAINED SOLUTION** : CIM IMPLEMENTATION (CDPSM) based on EDF MSITE model

Dany 4 Paris is a *Pilot project for all EDF distribution Centres (30 covering France) regarding GIS – DMS integration*

DANY 4 Project CIM Integration principles



DANY 4 CIM experience outcomes

- Potential reduction of Integrated applications maintenance efforts : 80%
- Easiness of applications evolutive maintenance
- Workflow and CIM model design are essential

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CIM perspectives with ongoing projects at eRDF

CIM perspectives with ongoing projects at eRDF (1/2)

Project	Distribution Application Domain(s)	Description	CIM Perspective
AMM (Automated Metering Management- eRDF linky project) – Electrical process interface	Smartgrid – MV SCADA & DMS, AM	<i>Detailed monitoring of MV network based on AMM telecommunication architecture and customer data subscription via AMM (introduction of advanced monitoring, control & maintenance functions)</i>	Concomitant use of IEC 61850 & CIM (convergence of standards?)

CIM perspectives with ongoing projects at ERDF (2/2)

Project	Distribution Application Domain(s)	Description	CIM Perspective
LV Network Operation Control System (OCS) / generic visualisation tool for operation & planning applications	Smartgrid – LV SCADA &DMS, OMS (Quality data base) mobile operation tools, Call centres; Planning tool	<p><i>1 - Supervision of MV network in real time + operation follow up (permit to work, works, faults, loads, DG, climatic crisis managt) via info retrieved from AMM, call centres & MV DMS systems</i></p> <p><i>2- This “tool” will also be used as a “generic “ data visualisation tool merging in the same HMI environment and on the same graphical repository, data from various applications</i></p>	CIM LV model for GIS/LV network OCS integration

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eRDF expectations with CIM evolutions (61850.....)

eRDF expectations with CIM /IEC evolutions

Major expectations

- ||| Convergence of IEC 61850 and CIM
- ||| CIM & graphic / data visualisation issues ?