Draft notes from Nov 3, 2010 OpenSG Session: Call for Participation in Simulation WG

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Note takers: Mack MacKenzie, Craig Rodine (MM, CR)

Agenda:
    What do we mean by Simulation
    Process / Task Forces
        Framework
        Methodology
    Problem Statements

Current State of the Art overview
    Power Systems Simulation
        Power transmission planning tools
            Transient stability, load flow, harmonic simulation
            EMTP
            ATP
            PS Cad
            Dixolent
        Distribution Planning
            Manuals that codify best practice
            SuperHarm, VHarm, NexHarm
            EMTP, ATP
        Communications
            Need control loops, bandwidth, latency, congestion..
            Getting to where communication latencies can have serious impact
            EPRI Distribution System Simulator (RMS Domain)
            Pacific Northwest Labs: GridLab-D (RMS Domain)
            Need to model end loads, model their impact
    Areas of interest
        Evaluation of PV and Vehicle charging
        Impact of demand response and signals on how far out of bounds PV and Vehicle
            charging have.
        Impact of demand-response signals on distribution loading and transmission rollup
            (impact of comms latency)
        Transformer loading under a variety of price scenarios and/or demand response
            variations
Starting point: NIST domains become a good starting point for highest-level granularity.
Need to draft a charter for the working group
Summary (inventory) of different tools
    Define what some of the key metrics are
        Roger (Dugan, EPRI) has some stuff on this
    Timeframe and granularity (nS, uS, mS, Seconds, etc.)
    Fidelity and type of models
        Diff-Eq drive
        RMS
    Modeling interface (GUI, scripts, cmd line, …)

Establish initial problem list
    Power system domains
    Problems
    Abstraction Layers
    Intersection of the two indicates a good starting point.
Analysis of methodology
    Analytic vs. event driven
    Statistical modeling
    analysis of bounds, parameters
Should first use cases be "field verifiable" ... "lab verifiable"?
FOCUS: edge devices first? (DR, EV's, etc...)
    Interface between Distr / Edge devices
    Roll up new SG behaviors to TX
    Codify the thresholds of current practice
        Rough range of model applicability
Deliverables
    A. Charter
    B.   Defined Set of Deliverables and quarter-by-quarter schedule

Process steps:

1. (Self-) nominate and (s)elect officers [DONE]
   Co-Chairs: Mack Mackenzie (Starview Technologies), Craig Rodine (EPRI)
   Secretary: Win Cuthbert (PG&E)
2. Per OpenSG By-Laws, develop a WG Charter [IN PROCESS]
   Chair(s) submit to TC for approval
3. Set meeting time [DONE]
   Every other Tuesday, 11:00am-12:30pm Pacific US (GMT-8)
4. Set up reflector, SharePoint site [DONE]

[end of Nov 3, 2010 notes]