DSATools™
Dynamic Security Assessment Software

Powertech

WECC MVS Updates

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- Note:
  - From v22 onward transitioned to scheduled releases (3 minor releases/year, e.g., v22.1, v22.2, v22.3, 1 major release e.g. v23)
  - Minor releases will generally include fixes/model support/small enhancement requests, major release cycle for public release of more significant features

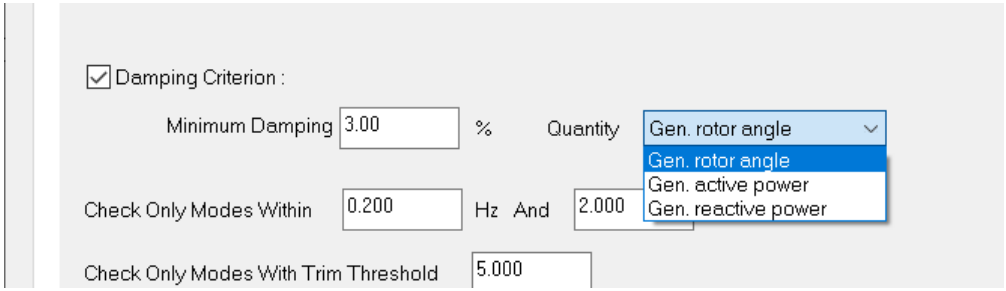
- Plan for **July 7th** major release (v23)

TSAT – Modeling Changes (up to v22.3)

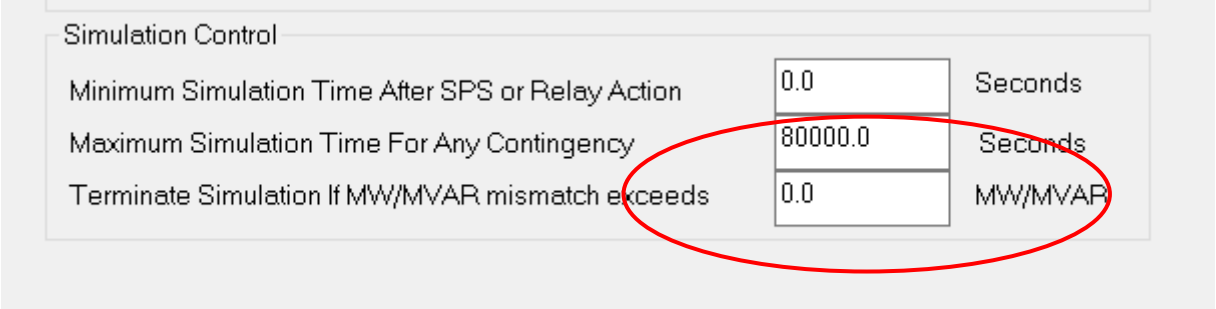
- Removed fixed limit on # of relay data entries
- Third-party library support
  - WT12A1U_B and WT1P_B conversion/support
  - PSS/E
    - MAXEX1/MAXEX2 OEL models
    - PLNTBU1 no longer requires generator association, e.g., can be mapped to FACTS-only devices

TSAT – Simulation options

- Allow use of quantities in addition to generator rotor angles for continuous damping calculation (previously just rotor angle)



- **(from 22.1)** Configurable MW/MVAR mismatch allowance - will allow simulation to proceed after solution iterations exhausted if less than threshold (will be marked in simulation/logs)



User-Defined Modeling (up to 22.3)

- Allow use of TSAT SPS UDMs for logical evaluation in VSAT cases

- Previous update/reminder:
  - Supervisory controller (SUPBUS/SUPUDM) block monitoring
  - # blocks increased (200) in AC UDMs to allow more detailed modeling
  - Encrypted template models now supported in DSA Manager / Online DSA
  - DLBProc support for DLLs in user-defined DC models (previously AC-only)

Upcoming (v23 – July7)

- Continued work on MQT tool to be included with TSAT (target v23 or separately released module)

- Switchable Shunt ID support:
  - will allow proper support for ABBSVC2,CSSCST2,SVSMO1T3,SVSMO2T3,SWSHNT2, etc. target v23
  - New UDM class for referencing devices

- TSAT multi-threaded engine support
  - Seeing ~2-3x speed up for large interconnect cases for single contingency execution (more significant where not already leveraging distributed computation)
  - DLBs/DLLs on main thread

Upcoming (v23)

- Will include REGFMA1 and GFM End Block for UDM development
- Composite load dynamic phasor model for 1ph AC motor (ACPHSLD) in DSATools modular load format
  - Preliminary testing shows performance impact about 6% reduced in WECC case vs MOT1PH
- IEEE 421.5
  - Remaining priority 1 items for v23
- SSAT – adding additional analysis options for modular renewables
  - Response and additional monitoring capability