What's new in PowerFactory 14.1?

PowerFactory 14.1 – Diagrams and Reporting

- Diagrams:
  - Representation of several variations and stages in the same diagram
  - Special symbols for RE (PV/Wind generation etc.) available
  - New colouring options. Colouring mode can be defined for each function separately.
- Reporting:
  - Result variables are available for all primary components (including switches).
  - User-definable tabular reports.
  - Standard reports in tabular format.

PowerFactory 14.1 – Data Management

- Templates for complex dynamic models
- Standard templates of
  dynamic models for renewable energy sources.

PowerFactory 14.1 – Power Quality/Short Circuit Analysis

- Power Quality:
  - Harmonics Analysis according to IEC61000-3-6.
  - Support of superposition methods according to several international standards.
  - Flicker assessment according to IEC61000-3-7.
  - Flicker-meter for the evaluation of simulated or measured voltages.
- Short Circuit Analysis:
  - New, iterative method for modelling the short circuit contribution of „Static Generators“ (inverter-driven generators, such as wind, PV, etc.)

PowerFactory 14.1 – Distribution Network Planning and Optimization

- Improved open tie optimization function:
  - Consideration of branch loadings
  - Consideration of voltage drops.
  - Fast algorithm, works well even with large network models (tested with models >20 000 nodes)

- Improved system restoration strategies (Reliability Assessment):
  - System restoration strategies under the consideration of branch loadings and voltage drops.
  - Modelling automated switching actions.

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PowerFactory 14.1 – Monte-Carlo Simulation

- Monte Carlo Simulation for Generation Adequacy Assessment:
  - Calculation of relevant indices according to IEEE (LOLP, LOLE, ENS, etc.)
  - Modelling of wind generation (probabilistic approach based on Weibul distributions, time-series injection).
  - Consideration of correlation between load and variable generation.
  - Automatic calculation of the capacity credit of renewable generation.

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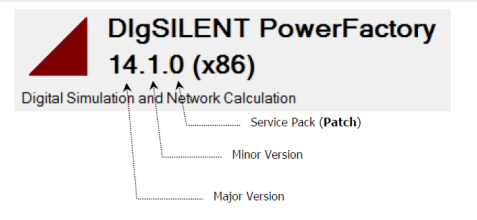
PowerFactory 14.1 – Other Improvements

- Parallel processing for fast contingency screening
- Consideration of temperature dependent conductor resistance.
- Modelling of saturation effects of shunt reactors (with iron core)
- Modelling of saturation effects of series reactors.
- Built-in model of induction generators with variable rotor resistance (e.g. Suzlon wind generators)
- Improved interfaces:
  - CIM-ENTSO-E 2009
  - PowerFactory API Version 1

PowerFactory 14.1 – Other Improvements

- True 64-bit-version (exceeding the 4GB memory limit of 32bit systems)
- Database compatibility within the same (minor) version, e.g. no database migration required when installing new patches.
- New versioning concept:



PowerFactory 14.1 – Additional Documentation

For more information, please refer to the DIgSILENT technical document:

What's new in PowerFactory V14.1

Available on the DIgSILENT web-site: http://www.digsilent.de