

etap 14

New & Enhanced Features & Capabilities

Redesigned to Deliver Unmatched Speed, Intelligence & Reliability
Boost Production by 50%

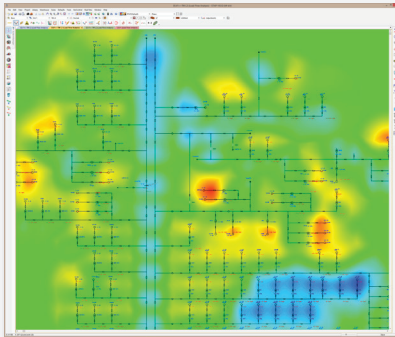
Graphics & Database

ETAP Foundation ^{New}

- 64-bit architecture
- Local SQL database
- System Manager & docking

One-Line Diagram

- High-resolution graphics ^{New}
- Alignment tools
- Right-click menu
- Graphical symbol selection ^{New}
- Graphical contouring based on results ^{New}
- Display options ^{New}
- Circuit Tracing ^{New}



Auto-Build ^{New}

- Automated creation of one-line
- Automated alignment of one-line
- Automated voltage assignment
- Spacing & voltage rule book

Datablock ^{New}

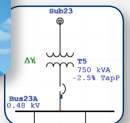
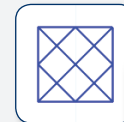
- Customize input data & study results
- Display results, tags, and/or properties
- Define templates & share
- Automatically apply templates
- Instant preview of Datablock

Theme Manager ^{New}

- User-defined result format
- Display / hide based on
 - Zoom level
 - Equipment type
 - Equipment state
 - Info annotations
 - Study results
 - Datablocks

Composite Network ^{New}

- Image presentation
 - Symbol
 - Pictures
 - Internal one-line
- Unlimited connections
- Customizable size



Libraries

- 1000+ protective device models ^{New}
- Quickpick tabular views ^{New}
- Induction Machine Circuit Model ^{New}
- Multi-Function Relay
- Low Voltage Solid State Trip, LVSST

Relay

- Current & voltage input
- Device parameters
- Base current (Ibase) ^{New}
- Output interlocks
- OCR & OLR functions

License Manager

- Network license checkout
- Virtual machine support
- Keyless network licensing ^{New}



Analysis Modules

Load Flow

- Load Flow Result Analyzer
- Adjustments based on negative tolerance *New*
- Automatically determine & report convergence issues and reason *New*

Short Circuit Result Analyzer *New*

- Sort results from different studies by multiple criteria & determine worst-case duty violations
- Export customized results to Excel reports
- Analyze the results based on ANSI or IEC short circuit calculations
- Color code & filter results by alert thresholds

Arc Flash *New*

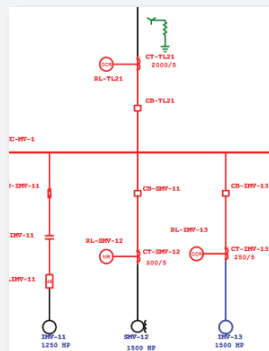
- NFPA 2015 *New*
- Result Analyzer *New*
- IEEE 1584-2014 *New*
- Orientation Factors *New*

Star, Protection & Coordination *New*

- AC Device Setting reports *New*
- DC Device Setting reports *New*
- Panel Device Settings report *New*
- DC short-circuit
- Generator Excitation point
- Generator Stator Damage Curve
- Transformer Damage Curve
- Motor Damage Curve

Star, Auto Protection *New*

- Automated evaluation of zones for overcurrent protection & coordination
- Reference Rule Book for evaluation
- Automated display of TCC curves & equipment damage curves
- Automatic selection of worst case fault location
- Tabular & graphical presentation of evaluation results
- Interactive result viewer
- Summary of protection & coordination evaluation results
- Graphical Screen Capture
- Study result report in spreadsheet format
- Scenario and Study Wizards



• Star, TCC View

- Time Difference *New*
- Crosshair *New*
- Screen Capture *New*
- Label auto-layout *New*
- Low-Voltage Trip Device *New*
- Low-Voltage Circuit Breaker Override *New*

Contingency Analysis *New*

- N-1 & N-2 contingency assessment & ranking
- Fast screening method to scan outage list
- Multiple graphical outage lists
- Automatic performance indices calculation
- Summary report analyzer

Cable System *New*

- Cable insulation voltage stress *New*
- Sheath & Armor induced voltage *New*
- Underground Thermal Analysis *New*
- Maximum cable length based on voltage *New*

Cable Ampacity & Sizing *New*

- NF C 15-100 (French)
- IEC 60502

Motor Dynamic Parameter Tuning *New*

- Estimate and tune equivalent circuit model from characteristic curve or vice versa
- Save estimated model to ETAP library

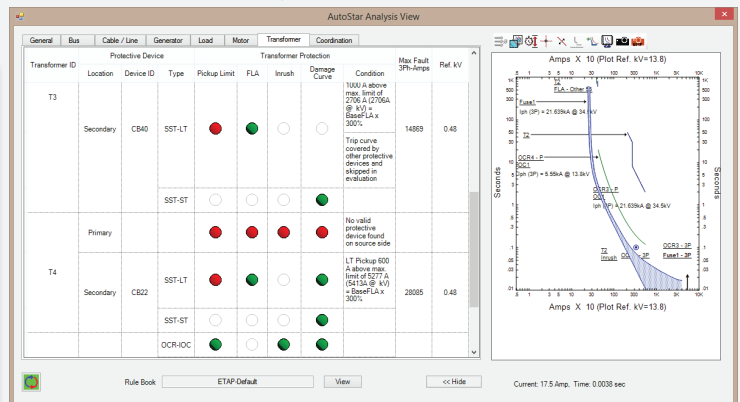
Transient Stability

- Faster Calculations
- Voltage Source Converter - HVDC
- Voltage Source Inverter

EMTP Interface *New*

- EMTP-RV
- PSCAD

Extensive Messages Tabular And Graphical Evaluation Results Colorful Status Indication Max Through Fault Current





Real-Time

Engineering Workstation

- Localized SCADA views & configuration
- Multistate breaker color & symbols
- Communication failure display
- Taglink alarming
- Component flashing for abnormal states
- Identify non-tagged components
- Graphical WPF Views – control, pinning & flashing
- Failed control identification
- Alarm inhibition

System Communications

- IEC 61850
 - Sequence of Event reports
 - Buffered reports
- Modbus TCP
 - Performance & data quality
 - Event based polling
- DNP3
 - Sequence of Event reports
 - Class polling 0, 1, 2, 3
- Automatic failure recovery
- Connection status monitoring
- XML based messaging

Data Captures & Notification ^{New}

- Sequence of events & waveform capture
 - General Electric
 - Schneider Electric
 - Schweitzer Engineering Laboratories
 - Electro Industries, Nexus
- Vaisala weather service
- Short Message Service, SMS

Unit Commitment ^{New}

- Real-Time validation & optimization
- Forecast based commitment
- Maintenance schedules

Web Real-Time Consoles

- Configurable GIS View
- Enhanced Trending
- Additional Component Library
- Import GIS Views
- Editable Gauge Components
- Event Display on GIS Views

SCADA Viewer

- OPC UA Client
- WPF technology
- Full WebRT features in a workstation software
- Automatically import web views & ETAP models
- WPF Designer
- Control & alarm management
- Improved simulation capabilities

Sequence of Events

- Log operator events
- Log operator logins
- Enhanced WPF views
- Automatic MongoDB replication
- Customizable display and messaging
- Linked to ETAP and SCADA Viewer
- User-defined themes

SCADA Integrator ^{New}

- Metering device library
- Auto configuration of communication device drivers
- Auto-generation of communications tags
- Alarm groups
- Tag state groups
- AGC enhancements

Intelligent Load Shedding

- ILS Event Analyzer

Data Exchange

SmartPlant® Electrical Interface

- Bi-directional data exchange
- Map attributes of SPEL with ETAP elements & properties using Universal Mapping

AVEVA Electrical™ Interface ^{New}

- Bi-directional data exchange
- Map attributes of AVEVA Electrical with ETAP elements & properties using Universal Mapping

Import from Legacy Software

- Built-in conversion tools
- Automatically generate multi-layered one-line diagram
- Import electrical data & protective devices
- SKM PowerTools®
- ESA EasyPower®