etap
Powering Success

etap **14**

Redesigned to Deliver Unmatched Speed, Intelligence & Reliability
Reduce Man-Hours from Months to Minutes

Major Enhancements & Features

- 64-bit architecture & local SQL database
- Auto-Build
- Datablock & Theme Manager
- Star Auto-Evaluation - Automated Protection & Coordination Evaluation
- Short Circuit Analyzer
- Contingency Analysis

- Updated Arc Flash Standards including NFPA 2015
- EMTP Interface with EMTP-RV & PSCAD
- Updated SmartPlant Electrical Interface
- AVEVA Electrical Interface
- Over 1000 Protective Device models
- Rule-Based Time-Saving Capabilities

ETAP 14.0 Release

ETAP 14 Model-Driven Power System Design & Operation Software offers powerful new capabilities and productivity features to accelerate system modeling, ensure design integrity, and deliver intelligent predictive analysis.
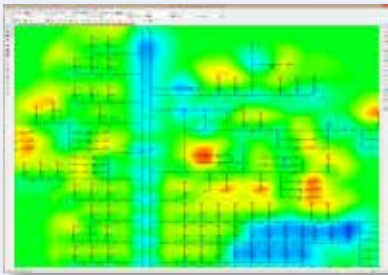
Graphics & Database

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
- Circuit Tracing *New*

Auto-Build *New*
- Rule-Based creation of one-line
- Automatic spacing & alignment rules
- Automated voltage assignment
- Spacing & voltage rule book

Datablock *New*
- Customize input data & study results
- Display results, input, and/or tags
- User-friendly options to display
- User-defined templates
- Share deliverables across organization

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*

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®
- PSS/E®

etap.com

Analysis Modules

Load Flow
- Load Flow Analyzer
- Adjustments based on negative tolerance *New*
- Identify & alert modeling issues *New*

Short Circuit Result Analyzer *New*
- View results of multiple studies in one glance
- Compare & analyze study results
- Determine worst-case duty violations
- Easily identify over duty devices

Arc Flash
- NFPA 70E 2015 *New*
- Result Analyzer
- Sequence-of-operation for IEC Arc Flash *New*
- Main & load protective device enclosure isolation
- Conductor orientation correction factors *New*

DC Arc Flash
- Iterative method solution for Solar Systems *New*
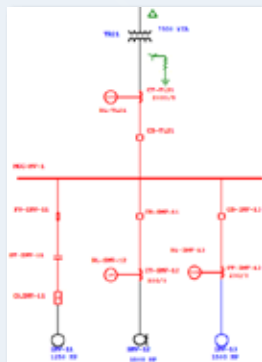
Star - Protection & Coordination
- AC Device Setting reports
- DC Device Setting reports *New*
- Panel Device Settings report *New*
- DC short-circuit
- Generator Excitation point
- Generator Stator Damage Curve
- Transformer Damage Curve
- Motor Damage Curve

Star Auto-Evaluation: Protection & Coordination *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
- Study result report in spreadsheet format
- Scenario and Study Wizards
- Graphical Screen Capture

Star - TCC View
- Time Difference
- Crosshair
- Screen Capture *New*
- Label auto-layout *New*
- Low-Voltage Trip Device
- 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
- Cable insulation voltage stress *New*
- Sheath & Armor induced voltage *New*
- Underground Thermal Analysis
- Maximum cable length based on voltage *New*

Cable Ampacity & Sizing *New*
- NF C 15-100 (French)
- IEC 60502

Motor Dynamic Parameter Tuning *New*
- Non-linear dynamic circuit models
- Include rotor core loss, Rc
- Save estimated results to library
- Match actual MFR characteristic curves

Motor Starting *New*
- Individual bus and motor alerts
- User Definable initial bus voltages

Transient Stability
- Advanced numerical methods *New*
- Enhanced open circuit machine modeling
- More powerful automatic reference machine selection
- Load Current Compensation for more exciter models
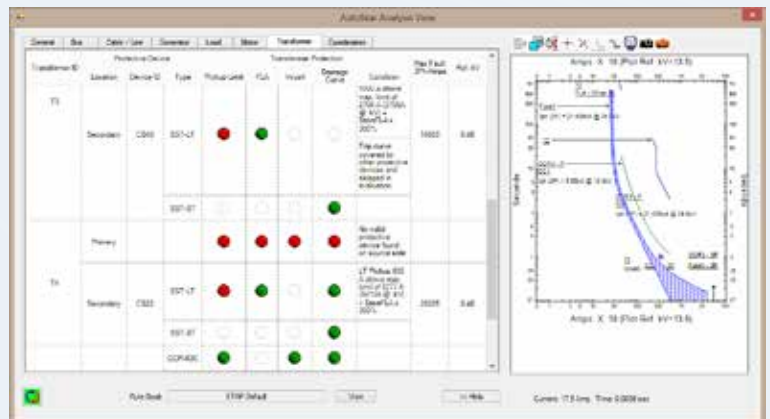- Improved salient pole synchronous machine modeling

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

---

etap.com

Follow us:

Visit etap.com to view the current events schedule. Events are added throughout the year, so be sure to visit frequently for the latest updates.

Quality Assurance Commitment

ETAP is Verified and Validated (V&V) against field results, real system measurements, established programs, and hand calculations to ensure its technical accuracy. Each release of ETAP undergoes a complete V&V process using thousands of test cases for each and every calculation module. ETAP Quality Assurance program is specifically dedicated to meeting the requirements of:

Registered to ISO 9001:2008

Certification No. 10002889 QM08

ISO 9001:2008	10 CFR 50 Appendix B	10 CFR Part 21	10 CFR Part 50.55	ANSI/ASME N45.2
ASME NQA-1	CAN / CSA-Q396.1.2	ANSI / IEEE 730.1	ANSI N45.2.2	

ETAP | 17 Goodyear | Irvine, CA 92618 | 800.477.ETAP | 949.900.1000 | F 949.462.0200 | info@etap.com

B4-E14- 0915