Arbor

Fault Tree Analysis Software

Provides a modern Fault Tree Analysis application built by process safety engineers, for process safety engineers. Arbor provides users with a powerful platform for solving a variety of common engineering problems in risk analysis and reliability engineering. Arbor can be used to develop complex fault tree models for applications ranging from Safety Instrumented System Design, Reliability Centered Maintenance, Quantitative Risk Assessments, Performance Based Fire and Gas System Design and Data Flow Fault Tolerance Analysis for industrial control system design.

The Kenexis Arbor Fault Tree Application is part of the Kenexis Instrumented Safeguard Suite (KISS) and integrates seamlessly with other KISS applications. This allows the engineering process to be streamlined by promoting reuse of project data and resources across multiple software application.

Fault tree analysis is a powerful tool for modeling and understanding how complex systems can fail. Events are used to model specific components of a systems and gates are used to establish the logical relationships between failures of those events and failures of the system as whole. Kenexis Arbor leverages the power of minimal cut set analysis to analyze these relationships and calculate the unavailability and failure frequency of a system level. Unlike many reliability engineering applications, the Arbor interface and terminology can be learned quickly so you spend more time working and less time learning to adjust inputs you'll never use.

Features

- Designed by Process Safety Engineers, For Process Safety Engineers
- Robust Minimal Cut Set Analysis Reporting
- Utilization of the Kenexis Database of Failure Rate Data
- Integration with Vertigo SIS Lifecycle Management Software
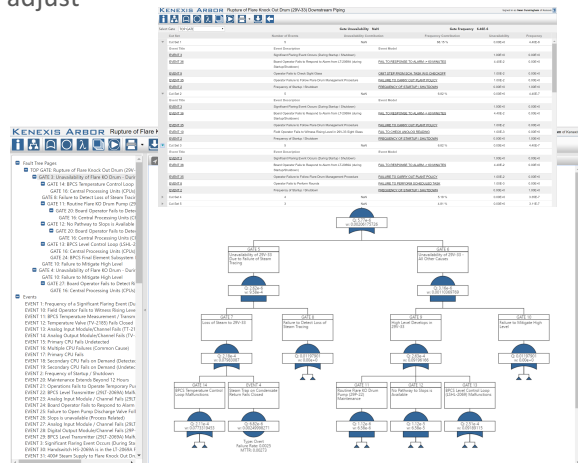
Designed for Process Safety

Like all applications in the Kenexis Instrumented Safeguard Suite, Arbor was developed with one goal in mind: empowering engineers to perform their work in the most accurate and efficient possible way. This is achieved by including our own process safety engineers in the development process, helping to identify requirements for the application and ensuring continual improvement based on user feedback.

Arbor

Fault Tree Analysis Software

Robust Minimal Cut Set Reporting

Allows users to quickly identify vulnerabilities in the system design by viewing details of the minimum cut set analysis through a clear and interactive interface. Provides valuable statistical analysis of the system highlighting the details of most significant combinations of events which could result in system failure which streamlines the process of sensitivity analysis and evaluation of alternative designs.

Utilization of the Kenexis Failure Rate Database

Kenexis builds and maintains an extensive database of failure rate data for instrumentation and controls equipment. A License to Arbor comes with full access to this database at no additional cost. Data can quickly be gotten, processed and applied in fault tree analysis within a matter of a few simple mouse clicks, eliminating the time-consuming task of developing failure rate models for your fault trees. Our engineers use this data every day to perform a variety of process safety studies so you can be sure that the data have been well vetted and is always current.

Integration with Vertigo

Arbor extends the functionality of the Vertigo SIS Lifecycle Management software by providing an environment to perform complex SIL Verification calculations. By default Vertigo will perform SIL Verification Calculations in conformance with the recommended practice of ISA TR84.00.02 Safety Instrumented Functions (SIF) – Safety Integrity Level (SIL Evaluation Techniques Part 2: Determining the SIL of a SIF via Simplified Equations. For complex systems, this recommended practice is not sufficient. Integration of the Arbor Fault Tree Analysis application allows you as an SIS designer to quickly and easily verify system designs regardless of the complexity of the system failure modes. Fault Tree Analysis results from Arbor are easily linked to Safety Instrumented Functions in Vertigo for reporting purposes.

About Kenexis

Kenexis is an independent engineering consulting firm headquartered in Columbus, Ohio, with offices in Houston, Singapore, and Dubai. Kenexis was established in 2004, and is a privately held. Kenexis clients span the globe in many industries. Kenexis has performed engineering services for over 500 different major process industry customers in locations spanning over 20 countries.