



ARTiSAN Studio™

ARTiSAN Studio is an integrated suite of UML® modeling tools targeted to meet the development needs of technical systems. By embracing the latest UML 2.0 and SysML standards, it is the tool of choice for complex mission-critical systems and software engineering.

ARTiSAN Studio is highly scalable and suitable for use on small and large technical projects. Its proven multi-user repository provides a stable, robust working environment ensuring high availability of model information, while securing all valuable data. Engineering teams using Studio's powerful suite of tools can model systems and software, document legacy systems, and generate new code with complete control.

ARTiSAN Studio is non-intrusive and flexible, mandating neither a specific methodology nor process. Recognizing the importance of your existing assets we've ensured seamless and open integration with your tools of choice. With many years of customer-led enhancements, ARTiSAN Studio is a mature development environment and a proven solution for thousands of developers and development teams.

Whether your goal is increased reliability, faster time-to-market, or you're aspiring for CMMI®, ARTiSAN Studio is the right tool.

Features

- **Robust and mature**, for assured enterprise-wide deployment.
- **Easy-to-use and intuitive**, for trouble-free adoption.
- **Scalable multi-user repository**, for unhindered project ramp up.
- **Interoperability** with industry-standard CM and RM tools.
- **Flexible and extensible**, to match your project needs.
- **Conformance to UML/OMG standards**, for future proofed assurance.

Standards and Languages

- **UML2** for component-based development and architectural modeling.
- **Advanced SysML features** for model-based systems engineering.
- **Customizable templates** for C, C++, Java®, Ada and Spark Ada.
- **XMI®** and Rational Rose® import/export for model interchange.
- **Architectural Frameworks**, e.g. DoDAF and IMA.
- **MDA®** supported through open architecture.

B E N E F I T S

Higher quality and shorter time-to-market:

Avoid building the wrong system. Use models to communicate requirements and design throughout your full project lifecycle.

Ramp up from small to large, with ease:

Move from proposal to production with absolute confidence. Our scalable approach is proven in small and large teams, including collaborative primary/subcontractor projects.

Work productively in a multi-disciplinary team:

Unite your team in our proven, multi-user, environment. Share knowledge across your systems, software, testing, and hardware organizations.

Avoid project overspend and overruns:

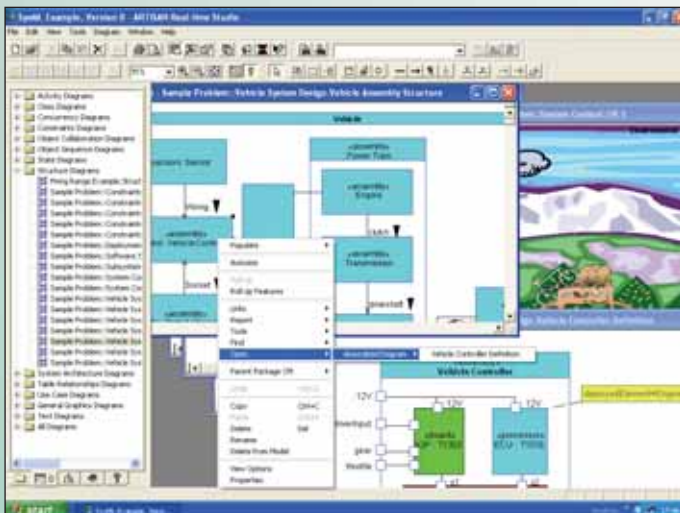
Solve problems during requirements and high-level design, rather than during integration and test when they're more expensive to correct.

Yield reusable components for future projects:

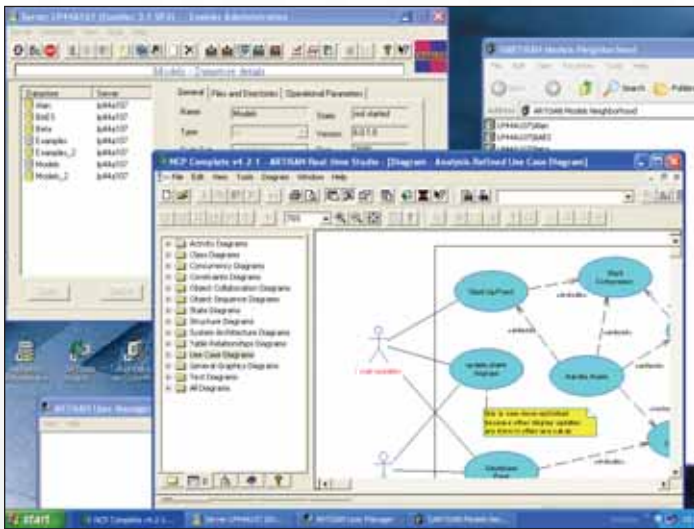
Make use of UML2 and advanced SysML to build and deploy components across projects and platforms. UML2 supports scalability to large, systems-of-systems architectures.

Designed to fit your processes:

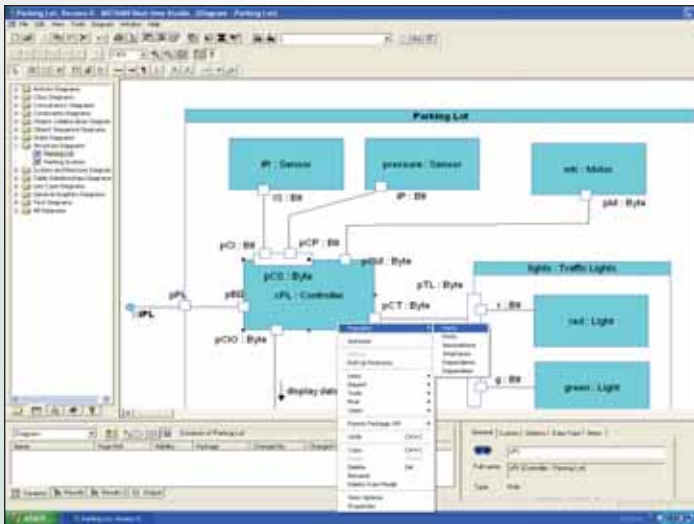
ARTiSAN is focused on building pragmatic, easy-to-adopt tools. We provide a flexible and extensible tool-kit, designed to work with existing processes.



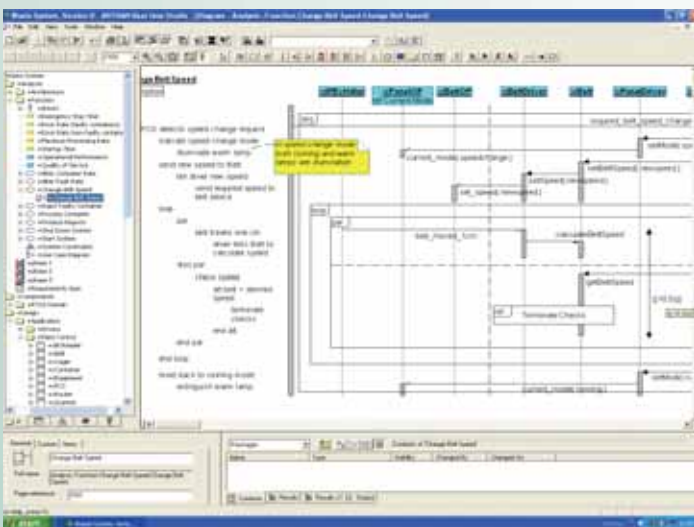
Pioneering support for systems engineering with UML2 and advanced SysML features



Powerful object-based database for managing multi-user access, model navigation, and model integrity



UML2 Composite Structure Diagram with support for SysML deep-nested structures



UML2 Sequence Diagram enabling recursive decomposition of complex interactions

FEATURES

Scalable multi-user object repository

ARTiSAN Studio is built on a powerful and mature object-based repository, designed for multi-user access. It is flexible and agile, and will scale during the ramp up of your project providing a robust, stable, and secure platform for enterprise-wide deployment. By maintaining a highly integrated model, you avoid the risk of significant and unplanned redesign work caused by unexpected integration issues discovered late in the project.

Studio enables you to accelerate your design processes by allowing large multi-disciplinary teams to 'grow' models quickly and accurately. You can unite your systems, software, and hardware engineers in a truly collaborative environment targeted to complex system development. The technology is proven in large multi-site deployments with 100+ users and 10,000+ classes in a single model.

ARTiSAN Studio emphasizes UML semantics on diagrams stressing the importance of building models, not just drawing pictures. Our strong metamodel saves you valuable rework and training costs by helping new users create consistent and valid models.

Active data dictionary and rich text linking

At the heart of each model is a single data dictionary maintaining a consistent view across the model. Model items are defined once in the model and can be referenced on any diagram as either a symbol or rich text reference. Consequently, any change to the model element is automatically propagated across all diagrams and textual descriptions, ensuring architectural consistency and completeness.

ARTiSAN Studio's Text Diagram allows you to create explicit rich text documents anywhere in your model to add introductory sections or design comments. You can also embed links to other documents (such as a Microsoft® Word documents or multimedia files). Dictionary elements can be

effortlessly dragged into fields as hyperlinks, supporting both powerful navigation and self-consistency.

Easy-to-use and intuitive

The central repository frees users from the restrictions of a file-based solution, facilitating powerful and uninhibited navigation. The flexible package view allows you to structure models exactly as you wish.

You can quickly switch between the project, dictionary, relationship and diagram browser views and navigate nimbly using practical 'Find' and 'Report-> Usage' capabilities.

With easy to use and intuitive features, the user interface enables fast ramp-up for new developers and ready acceptance among both technical and non-technical users who can review and audit your model with ease. You don't need to be a UML guru to use Studio; new users can hit the ground running.

Pragmatic real-world solutions

ARTiSAN has a tradition of providing pragmatic real-world solutions. Part of this pragmatism is reflected in the inherent flexibility of the tool.

ARTiSAN provides a wide palette for expressing complex systems and performing enterprise modeling, rather than mandating a single framework or methodology. This makes it extremely powerful for reverse engineering and documenting legacy systems.

While ARTiSAN's Process Mentor is provided for guidance on building a fully integrated model, ARTiSAN Studio will integrate into your existing processes with minimal intrusion. This has resulted in its widespread acceptance in organizations that have already benchmarked their processes.

Component development and architectural modeling with UML2 and SysML

By leveraging the latest industry standard UML and SysML notations, Studio has explicit support for modeling scalable architectures and systems-of-systems.

Complex systems can be recursively decomposed to any level expressing, for example, the Electronic Control Units (ECUs) in a modern vehicle, or the decomposition of an advanced satellite communication system. Using parts and ports, you can also build and deploy reusable components across products and platforms.

As a result of our active technical involvement in SysML we've incorporated advanced features, including a SysML profile and support for deep-nested structures. SysML is recognized as the standard to extend UML2 for systems engineering, with support from the International Council on Systems Engineering (INCOSE) and the OMG™.

Ergonomic profiling, scripts, stereotypes and tags

Profiles, i.e. a collection of stereotypes and tags, are an important mechanism for the creation of domain and organization specific extensions to UML2.

With Ergonomic Profiling, the user environment can be extended based on the profiles with which you are working. You can turn Studio into a compelling environment for your domain; utilizing the graphical user interface extensibility to create domain specific icons, diagrams, and menus. Profile-based extensibility is part of the standard UML, so your models remain compliant to a UML metamodel.

ARTiSAN Studio includes a wide range of standard UML profiles, and you can easily create your own. The DoDAF profile, for example, provides a compelling environment for the modeling of Department of Defense Architectural Frameworks.

ARTiSAN supports in-process activation of VB scripts, enabling improved 3rd party tool support, and highly integrated add-ins. Access to the model is provided

through a mature COM-compliant automation interface (API), enabling the development of tools tailored to specialist needs.

Full lifecycle requirements management

ARTiSAN Studio enables you to analyze and model system requirements in a number of UML diagrams. By capturing functional and nonfunctional requirements, you reap the true benefits of an object-orientated methodology, including expressing understandable requirements across your systems, software and test teams.

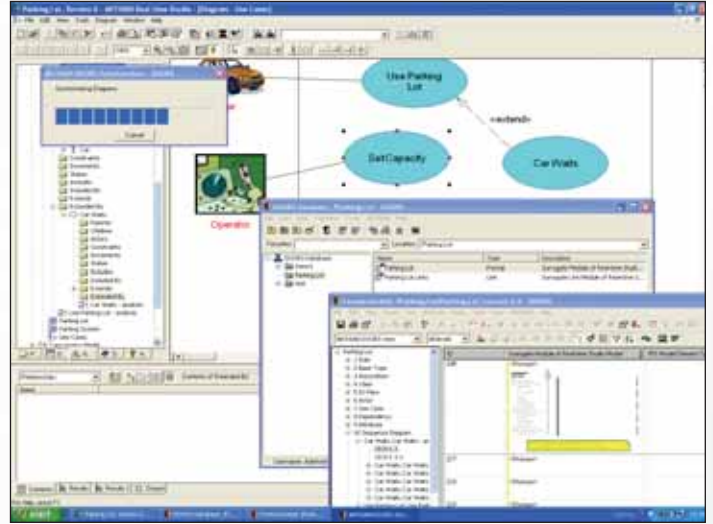
ARTiSAN Studio has an established interface to Requirement Modeling (RM) Tools (including Telelogic DOORS® and Serena® RTM), this has established Studio as the de facto standard for high-integrity, safety or mission-critical systems. Any model elements can be traced to any textual requirements managed in your RM tool of choice, unleashing the full power of impact and trace analysis.

You can also make use of SysML «requirement» modeling to associate modeling elements with requirement objects in the modeling domain. You can navigate the bi-directional links with ease, from either Studio or your RM tool, ensuring your system is a complete realization of the original requirements.

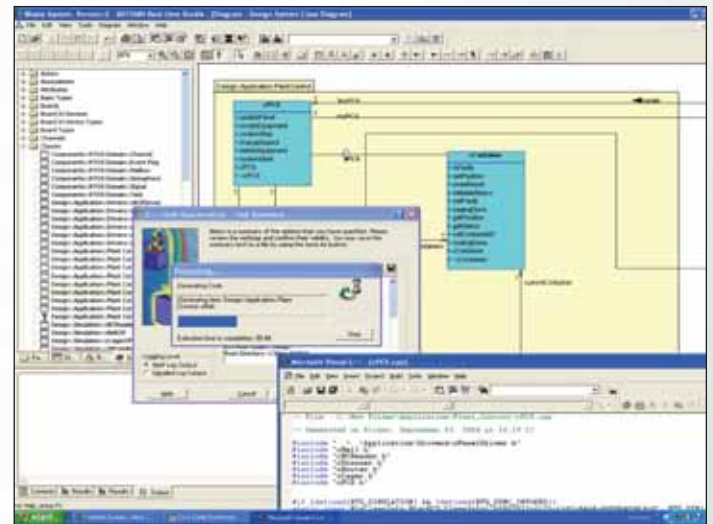
Round-trip engineering and automatic code synchronization

ARTiSAN Studio supports two different paradigms for managing model to code synchronicity. Because code generation is template-based, it is customizable to match your in-house coding standards. Different parts of the model can be implemented in different programming languages, including C, C++, Java, Ada 83/95 and Spark Ada 83/95.

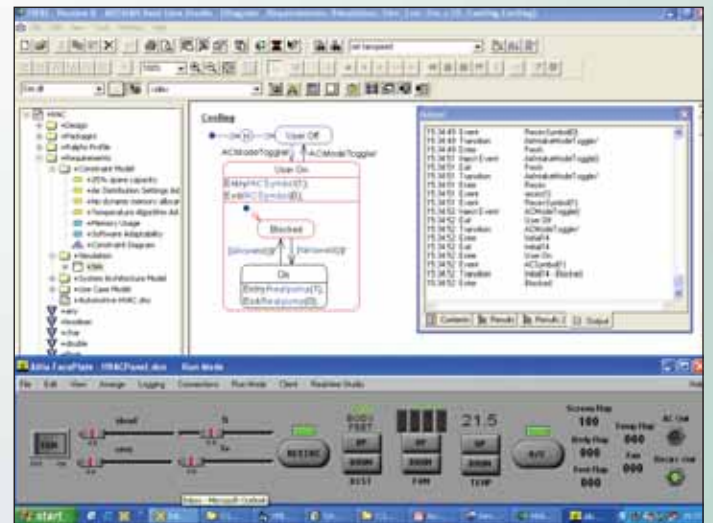
On-demand Code Synchronization (OCS) supports forward generation, reverse engineering and round-tripping. It enables you to work on the code independently and then synchronize those changes with the model using a visual differencer. Synchronization requires no 'magic tags' in the code and you're not dependent upon any inefficient or inflexible middle-layer code.



Advanced DOORS synchronizer and Use Case diagram making use of Iconic Stereotypes



Code-synchronizers supporting mixed languages in a single model and your IDE of choice



System simulation and state machine animation with an Altia GUI front-end

SYSTEM REQUIREMENTS

- IBM compatible Pentium PC (1GHz minimum)
- SVGA graphics, 800x600 minimum (1024x768 recommended), 256 colors
- TCP/IP

Multi-user Client or Single-user

- 256 MB minimum, 512 MB recommended
- Windows 2003 SP1, Windows XP SP2, Windows 2000 SP4

Windows Multi-user Server

- 256 MB minimum, 512 MB recommended
- Windows 2003 SP1, Windows XP SP2, Windows 2000 SP4

Terminal Server Support

- MS Terminal Server: Windows 2003, Windows 2000 or later
- Citrix® MetaFrame XP™: Windows XP or later

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Automatic Code Synchronization (ACS) supports the instantaneous synchronization of code and model in a model-driven paradigm. Any changes to the model are automatically propagated to the code. It supports seamless use of Studio with your coding IDE of choice and provides a strong mentor for software developers new to UML.

You can also map model components to the OMG Interface Description Language (IDL)™ for CORBA® and generate SQL schema for databases using ARTiSAN's Entity Relationship Diagram (ERD).

Built-in version management and support for industry-standard CM tools

ARTiSAN Studio offers both Configuration Management (CM) tool integration and repository based version management of models, letting you choose the right process for your project.

A wide range of CM tools are supported from IBM Rational®, Serena®, Microsoft®, and Telelogic®. Other CM tools can be integrated through the Microsoft SCC interface standard, or a script-based solution. Please check our website for an up-to-date list.

If you don't want to use a CM tool, ARTiSAN Studio has built-in support for versioning, model cloning, and import or export. Models can be securely zipped-up and emailed between sites with ease. Studio's advanced model differencing allows you to track changes as part of an iterative development lifecycle.

Our unique change tracking feature facilitates highly-monitored multi-user working, freeing your developers to concentrate on modeling.

State machine generation, simulation and animation

ARTiSAN Studio's State Machine Generator enables you to

automatically generate executable code. Simulations can also be hooked to GUI prototyping tools, such as Altia® Design.

Simulation is useful both as a demonstration tool to your customers, and to validate and verify system behavior at key reviews.

Studio also allows you to animate sequence diagrams. This is a powerful tool for validating system requirements upstream, helping to ensure valuable time and effort is not wasted building the wrong system.

Document generation and model publishing

Recognizing that many industries still have a document that runs in parallel with their modeling process, Studio provides a powerful Document Generator.

High-quality documents can be easily configured to meet your project standards. Through a graphical user interface, you can manage the definition of documents, easily construct new templates and edit Microsoft® Word style-sheets.

ARTiSAN Studio's Web Publisher allows you to generate XML-based models that can be browsed outside of the tool, ideal for delivery of models to stakeholders for review.

Real-time and embedded systems focus

Many of Studio's features are ideal for developers of real-time systems and ensure that aspects such as task synchronization and the mutual exclusion of resources are not neglected in product definition. ARTiSAN's Concurrency Diagram, for example, can capture the multitasking aspects of your system. There is also explicit support for modeling electronic hardware, including processor boards, buses and memory maps. There are timing annotations on diagrams, explicit model element properties, and a full

implementation of the UML Real-time Profile (which ARTiSAN helped to define).

XMI® and Rational Rose® import/export

The XML Metadata Interchange Format (XMI) specifies an open standard for exchanging modeling data and ARTiSAN Studio supports standard XMI for interchange of model data with other tools supporting the XMI standard.

An explicit Rose import/export feature is also included to share information between tools in a mixed tool environment, enabling migration of your data between toolsets.

First-class support and ongoing training

We recognize that ARTiSAN Studio is a critical component in your tool-chain, and we invest heavily in ensuring a robust and reliable product for each release. We also pride ourselves on providing world-class technical support through the ARTiSAN help desk, which provides near round-the-clock coverage.

Different organizations have different levels of UML experience. Whether this is your first move to UML or you are transitioning to UML2, ARTiSAN can offer mentoring and an extensive range of training courses tailored to meet your needs. With our wealth of experience we can help make any transition both smooth and satisfying.

Pioneering support for systems engineering with UML2 and advanced SysML features.