

Yphise

Software Assessment Report

UML modeling of projects and information systems

EXECUTIVE volume

This volume is a component of the Yphise Software Assessment Report (see chapter entitled “Yphise Software Assessment Reports”).

Yphise
is ISO 9001-certified in
software assessment

Yphise

P.O. Box 350281
Westminster, CO 80035-0281
USA
T 303 410-7753
F 303 410-4980

Yphise

6 rue Beaubourg
F-75004 PARIS
T (33) 1 44 59 93 00
F (33) 1 44 59 93 09

Email : yphise@yphise.com

www.yphise.com

This report is produced and published by Yphise.

Yphise is an analysis and consulting company absolutely independent of any computer or software vendor.

The opinions and results put forth are based on a thorough analysis founded on sources of information known to be reliable. Still, Yphise cannot be held responsible for the use made of the opinions and results provided.

No part of this document may be reproduced or transmitted in any form or by any means, without the express written consent of Yphise.

© Technology Transfer. November 2002.

Yphise is a registered trademark.

Get the full report

This EXECUTIVE SUMMARY condenses the results of Yphise in-depth research published in the REQUIREMENTS and DETAILED EVALUATION volumes. These provide you with a comprehensive assessment of the evaluated products according to our ISO 9001-certified method.

We propose you the REQUIREMENTS and DETAILED EVALUATION volumes for \$500 instead of \$770.

FULL DETAILED REPORT "UML modeling of projects and information systems"

Please return to **Yphise** - PO Box 350281 - Westminster, CO 80035-0281 - USA
Phone 303 410-7753 - Fax 303 410-4980 - yphise@yphise.com

or

Yphise - 6 rue Beaubourg - 75004 Paris - FRANCE
Phone (33) 1 44 59 93 00 - Fax (33) 1 44 59 93 09 - yphise@yphise.com

I order :

The REQUIREMENTS (80 pages) and DETAILED EVALUATION (200 pages) volumes \$500

Billing address _____

Company _____

Phone/Fax _____

Address _____

Your name _____

Title _____

Service _____

Purchase Ref _____

AMEX VISA MASTERCARD

Authorized signature

Card number _____

Card Holder _____

Expiry date _____

Contents

FOREWORD

OVERALL PRESENTATION

UML MODELING OF PROJECTS AND INFORMATION SYSTEMS

MARKET SEGMENTATION

ASSESSMENT DIMENSIONS

OVERALL RANKING

RANKING BY ASSESSMENT DIMENSION

1. MASTERING THE MODEL QUALITY

2. EASE OF ADOPTION

3. MANAGING THE TEAM WORK EFFICIENTLY

4. RETAINING INFORMATION ALONG STEPS

5. MODELING COMPREHENSIVENESS

THE ASSESSED SOFTWARE PRODUCTS

ALLFUSION COMPONENT MODELER

DESCRIBE

MEGA DEVELOPMENT

OBJECTEERING/UML

ROSE

SYSTEM ARCHITECT

TAU UML SUITE

YPHISE SOFTWARE ASSESSMENT REPORTS

visit www.Yphise.com

All our published reports are available at <www.Yphise.com>.

You can obtain access rights at Yphise.com according to various licenses.

The SELF-TRAINING link on the home page grants you direct access to a list of all reports available under your license.

Fill in the form on the yphise.com home page to request your personal ID. The opportunities available free of charge with your personal ID are as follows:

- Access free reports.
- Keep abreast of hot topics on the software market through the list of Yphise reports.
- Get a list of software products shortlisted by Yphise in the various assessment reports, conducted according to our ISO 9001 assessment process.
- Order the reports of interest to you and access them directly in PDF format.

Foreword

Objective of the EXECUTIVE volume

This volume is a component of the Yphise Software Assessment Report (see chapter entitled “Yphise Software Assessment Reports”).

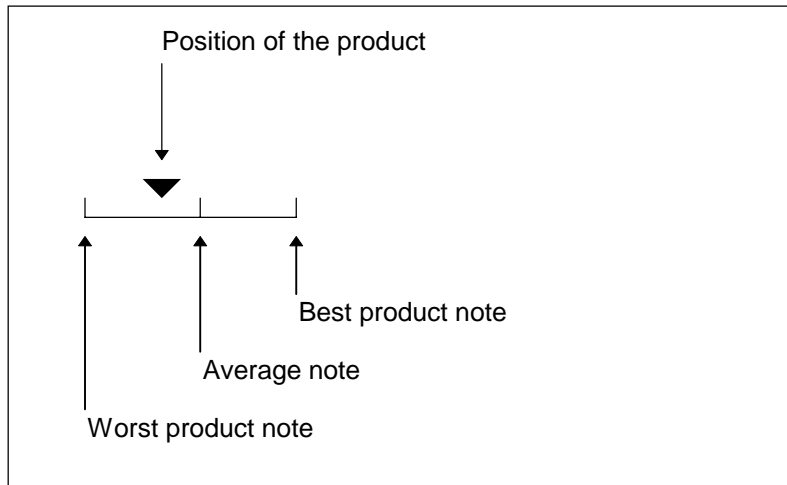
It is designed to monitor developments of the software product market and to select a short list.

- It assesses the maturity and opportunities of the products available.
- It highlights the list of software products that we consider of interest to large companies. Our experience has shown that products do not always satisfactorily provide the functions that we expect, based on vendor positioning. As a result, many improper selections of software products are made.
- It highlights the strengths and weaknesses of each software product, based on our detailed assessment conducted according to our ISO 9001-certified methodology. It provides a top-down ranking of the products and it outlines our opinion.

The charts

The charts in this volume aggregate all the results, criterion by criterion, established in the corresponding DETAILED ASSESSMENT volume.

- Sorted Aggregated Table. The products (lines) and chapters (columns) are both sorted so that the best notes appear at the top left as much as possible. This chart provides a ranking of the products in descending order from top to bottom, and a best-to-worst ranking of the chapters from left to right.
- Ranking chart. The best product on a dimension has the highest ranking.
 - ⇒ This does not mean it is excellent. This is the reason the icon representing the note obtained by the best product is drawn at the end of each dimension.
 - ⇒ An identical gap between products does not have the same significance for each dimension. On a dimension where the best application is average, a product can be ranked as being clearly better than another one just because it has a “little extra”.
- Strength and Weakness List.



UML modeling of projects and information systems

Added value

UML (Unified Modeling Language) is a standard syntax for the modeling of IT objects. UML is used in two areas: application development and architecture management.

Application development projects are more and more integrated into each other. This makes the architecture of information systems complex. Since architecture is transverse to projects, the information system architects need technical and functional views of this architecture. The architects need to ensure architecture consistency over time. They need to control the integration of projects into the information system and to ensure the nonregression of existing services.

Project managers need to standardize the application designs. They also need to ensure productivity by mastering the definition and by sharing the designs between projects. To ensure reusability and to master impacts, they need to analyze the dependency between projects.

UML modeling tools help system architects evaluate the impact of projects on the existing information system infrastructure. Since both the projects and the architecture are modeled by using UML, integration of a project model into the architecture model is facilitated. This ensures the traceability of concepts, from design to deployment infrastructure.

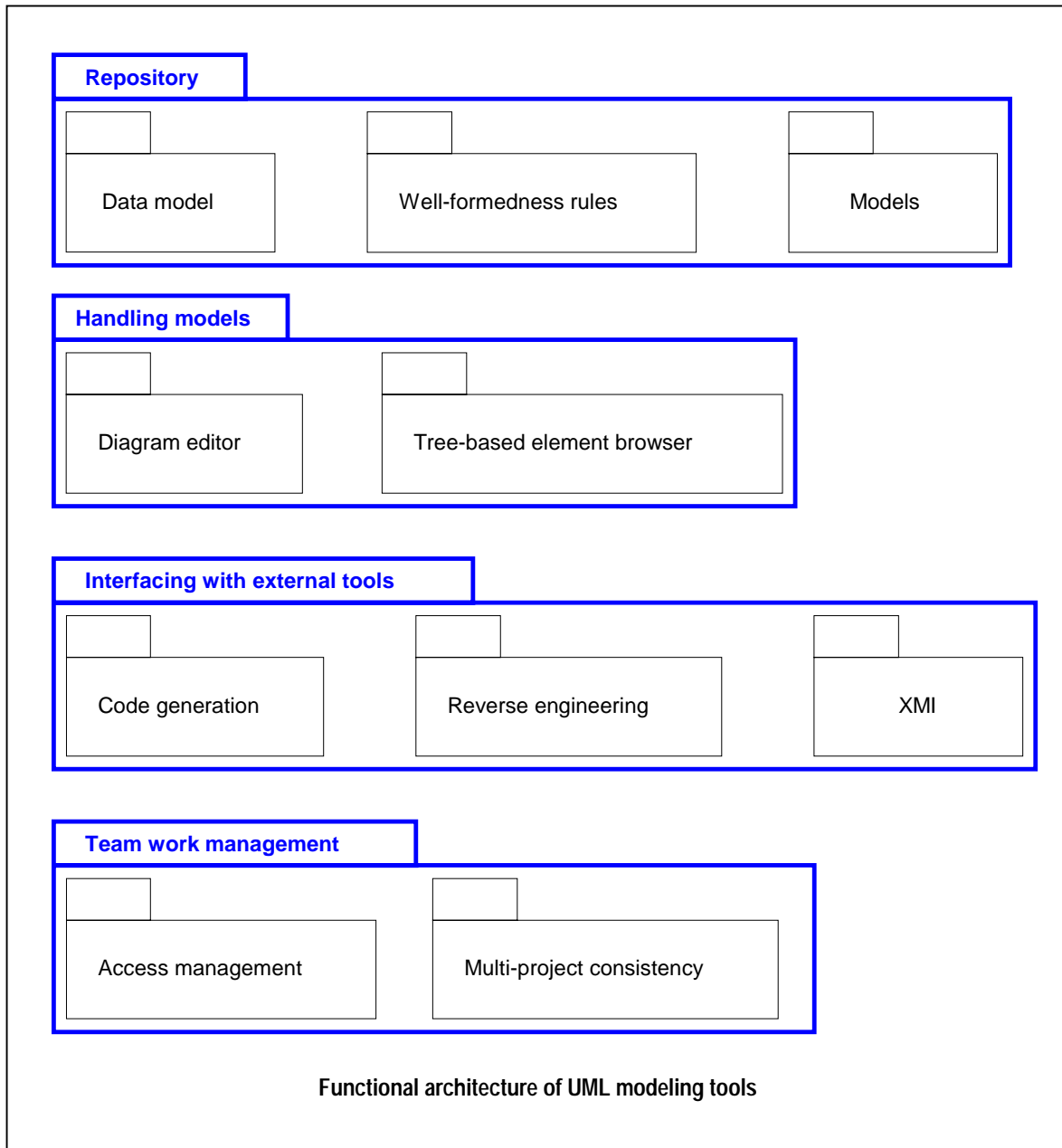
UML modeling tools help project managers increase productivity and development accuracy by generating the code automatically in various development languages and data models. They also help master the changes and the impact of changes in a multiuser and multiproject context. They ensure design robustness, as well traceability between the design and the generated code.

Functional architecture

UML modeling tools provide the following functions:

- They allow the management of a repository which stores the metamodel, the models and the rules that help ensure the well formedness of the models.
- They allow the browsing of models within a hierarchical tree, in order to handle models. The diagrams are drawn within a diagram editor with generic drawing facilities.
- They allow communication with external tools such as IDEs and other modeling tools. Communication with IDEs allows code generation from the defined diagrams, as well as reverse engineering of existing code. Communication with other modeling tools can occur either by using specific file format support or through the XML Metadata Interchange (XMI) format. This is useful for modeling the application development projects.

- The team work management is done through access control. Modeling consistency is ensured among the various projects. This is useful when projects impact on each other. This ensures that the projects remain consistent with the underlying information system architecture.



Market segmentation

Positioning

UML modeling tools differ from requirements management tools. Requirements management tools do not design the models that correspond to the requirements. UML modeling tools integrate into the requirements management tools in order to retrieve the requirements to model. Examples of requirements management tools include CaliberRM (StarBase), DOORS (Telelogic), RTM Workshop (Integrated Chipware) and RequisitePro (Rational Software).

UML modeling tools differ from chart drawing tools. Chart drawing tools can design some UML diagrams, but they do not provide semantic controls. They also provide the ability to design non-UML diagrams. Examples of chart drawing tools include Visio (Microsoft) and Dia (an open source project).

UML modeling tools differ from integrated development environments (IDEs). IDEs do not make it possible to design the applications before coding them. Examples of IDEs include JBuilder (Borland), Visual Studio (Microsoft) and WSAD (IBM).

UML modeling tools differ from database modeling tools. Database modeling tools do not model whole projects. They model only the data layer of these projects. Examples of database modeling tools include AllFusion ERwin Data Modeler (Computer Associates), ER/Studio (Embarcadero) and Mega Database (Mega International).

UML modeling tools differ from business process modeling tools. Business process modeling tools can model processes for a single project, but they are more suitable for enterprise-level processes. They do not comply with UML semantics and do not generate the code of the designed application. Examples of business process modeling tools include AllFusion Process Modeler (Computer Associates), Aris (IDS Scheer), Corporate Modeler (CASEwise), Mega Process (Mega International) and Workflow Modeler (Meta Software).

UML modeling tools differ from code cartography tools. Code cartography tools retrieve all the source data of the information system and build a repository for the information system architecture knowledge (bottom-up mode). UML modeling tools generate the code from the models (top-down mode). They can do reverse engineering, but this is limited to one project. Examples of code cartography tools include Rochade (Allen Systems Group) and Wincap (Soamaï).

Software products assessed

Yphise has assessed the following products: AllFusion Component Modeler (Computer Associates), Describe (Embarcadero), Mega Development (Mega International), Rose (Rational Software), System Architect (Popkin Software) and Tau UML Suite (Telelogic).

These products can be divided in two groups, depending on their suitability for project modeling or for project and information system architecture modeling:

- Project modeling without multiproject dependency analysis (Objecteering/UML and System Architect) and without control of multiuser access at the project level (AllFusion Component Modeler).
- Project and architecture modeling with multiproject dependency analysis (Mega Development and Rose) and with control of multiuser access at the project level (Describe and Tau UML Suite).

Yphise did not assess ControlCenter (TogetherSoft) and XDE (Rational Software), since both are positioned as development suites. UML modeling is just one segment of their capabilities, since the products focus on the whole application development life cycle. It has been announced that ControlCenter is to be acquired by Borland, the vendor specialized in development software.

Yphise did not assess Rhapsody (iLogix) and Visual UML (Visual Object Modelers), because their respective distributors did not provide resources for the evaluation. Yphise policy is to recommend products only if sufficient skills and documentation are available.

Market trends

UML modeling tools are mature in the area of project modeling. One of the market trends at this level is integration of UML modeling into IDEs or development suites. Examples of this integration include XDE (Rational), which integrates into WSAD (IBM), and Describe, which (in Version 6.0) will plug into Forté (Sun Microsystems), JBuilder (Borland) and WSAD.

UML modeling tools are less mature in the area of modeling the information system architecture. This stems from 1) UML deficiencies and 2) the inability of the products to:

- complement the modeling standard with features suitable for architecture modeling,
- provide a multiproject view (see Chapter entitled “Software products assessed”),
- manage multiuser access.

The current UML version only supports object/data flow between steps in an activity diagram. It is important for architects to be able to define flows at a higher level. The future version would help design information systems more easily. For instance, UML 2.0 would allow architects to model object and data flows between entities such as packages and subsystems.

UML 2.0 would be the basis of the Model Driven Architecture (MDA) proposed by the Object Management Group (OMG). MDA describes a more structured approach to large-scale application generation and integration. It is more focused on enterprise application integration than on code generation.

Assessment dimensions

Overview

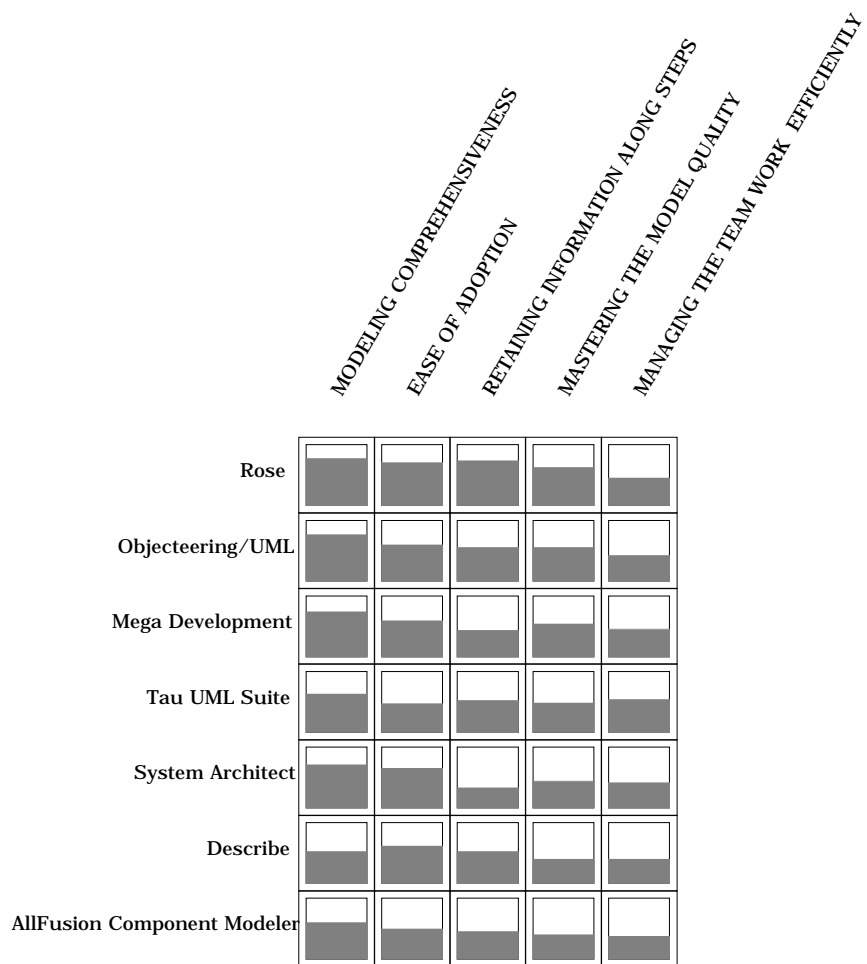
- **Mastering the model quality.** A modeling tool helps the designers master the model quality. It helps control the homogeneity of the model by defining and checking the naming and notation rules. It helps maintain model consistency by checking the impact of modifications and by applying the proper corrections.
- **Ease of adoption.** The design team requires a tool that is easy to adopt and use. The design environment must be user-friendly and easy to configure, in order to adapt to the specific requirements and methods of the enterprise. The modeling tool makes it possible to incorporate existing code and components easily into reverse engineering.
- **Managing the team work efficiently.** The UML design tool is suitable for corporate projects involving numerous designers. It ensures the security of modeling, through the management of users and privileges. It ensures robustness in allowing concurrent access by several designers. It helps avoid conflicts due to multiple uses, by interfacing with configuration managers.
- **Retaining information along steps.** The UML modeling tool retains information from one step to the next during the development cycle. It helps improve quality and productivity thanks to its support of corporate tools and languages. The modeling tool allows round-trip development by synchronizing the code and the model. It also makes it possible to generate comprehensive and accessible documentation.
- **Modeling comprehensiveness.** The UML modeling tool helps the enterprise specify its applications and architecture accurately. It implements all UML diagrams and concepts. It also makes it possible to complement the standard in order to model additional requirements by introducing other types of modeling and extending the metamodel.

Note: These features are suitable for modeling the projects and the architecture.

Coverage of the requirements

- The best-covered dimension is “modeling comprehensiveness”. This indicates the in-depth support of the current version of UML. The majority of the assessed products support all the diagrams and profiles imposed by UML 1.4. This ensures the completeness of the models and their consistency with the modeling standard.
- The least-covered dimension is “Managing the team work efficiently”. The majority of the assessed products do not cover the “Suitability for corporate projects” subdimension well. This makes them unsuitable for multiproject modeling.
- All the assessed products are suitable for project modeling. The majority of the products are less mature for architecture modeling. The products lack multiproject modeling and the capability to manage multiple users and access privileges accurately.

UML modeling of projects and information systems



Overall ranking

Comments

- Rose stands out in “Modeling comprehensiveness”, thanks to its ability to separate the presentation layer, logical layer and data layer of an application model. This is useful when designing n-tiered applications, where there is a need for separate representation of the various layers. This also helps control integration into the information system, since only the layers that interact with the existing components can be analyzed for their impact.
- Rose stands out in “Ease of adoption”, because it facilitates analysis of existing data structures by supporting either native access to DBMSs or access through connectivity standards such as ODBC and JDBC. Since applications may rely on existing databases, analysis of the structure of these databases facilitates creation of corresponding class diagrams, thereby avoiding the risk of improper redesign.
- Rose stands out in “Retaining information along steps”, thanks to its ability to generate documentation in formats such as HTML, Word, FrameMaker and WordPerfect. Documentation is useful in order to improve collaboration and to avoid losing any information from one step to another or between users collaborating on a project or multiple projects. This also facilitates information reuse and customization.
- Rose stands out in “Mastering the model quality”, because it incorporates simulation functions. These functions are provided by the real-time version of the product. Simulation functions allow designers to check diagram meaning. They prevent designers from using improper modeling elements or links that may lead to nonsensical modeling.
- Tau UML Suite stands out in “Managing the team work efficiently”, thanks to its ability to manage versions of the models. The product makes it possible to manage parallel versions, to view versions in the modeling editor and to restore older versions. This makes the product suitable for projects with numerous modelers and for multiproject modeling.
- The ranking of Describe in “Modeling comprehensiveness” is due to its inability to extend the metamodel. The product allows the adding of graphic elements, but this is not reflected on the metamodel. This makes the product unsuitable for projects that need to adapt the metamodel to specific modeling requirements, such as those of architecture-level modeling.
- The ranking of AllFusion Component Modeler in “Ease of adoption” is due to its lack of support for macros that help automate some repetitive actions and complement the available features. Users may need to use macros in order to improve their productivity.
- The ranking of System Architect in “Retaining information along steps” is due to its lack of support of XMI, the exchange standard. This does not facilitate communication among projects that use other modeling tools or with other repositories used along the project steps. Version 9.0 of the product, announced for the fourth quarter of 2002, would support XMI.

1. MASTERING THE MODEL QUALITY

MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS
 STANDARDIZING THE NOTATION
 GUARANTEEING MODEL CONSISTENCY

	MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS	STANDARDIZING THE NOTATION	GUARANTEEING MODEL CONSISTENCY
Rose			
Objecteering/UML			
Mega Development			
Tau UML Suite			
System Architect			
Describe			
AllFusion Component Modeler			

1. Mastering the model quality

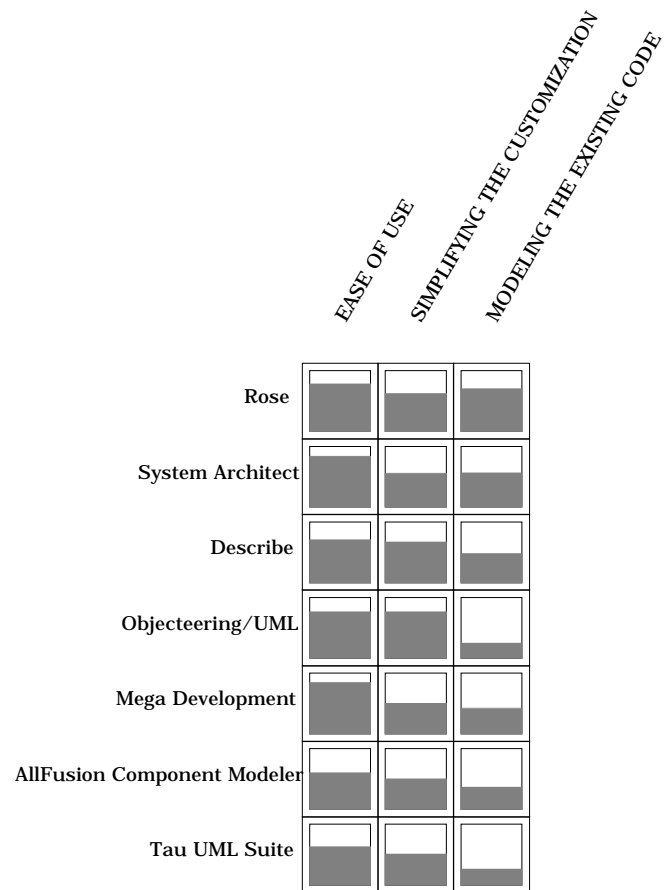
Overview

- **Standardizing the notation.** An added-value feature of UML is notation standardization. All designers use the same graphic notation for requirements and specifications, which improves model legibility and enhances collaboration within the design team. The UML model may employ naming rules in order to have meaningful names, by using prefixes, for example. This is useful for both project and architecture modeling.
- **Maintaining the model integrity and comprehensiveness.** Model integrity must be maintained whenever a modification is made. This guarantees a comprehensive model, with no missing element or link, and with comprehensive information. Integrity problems may prevent or alter code generation and lead to contradictions. Integrity should be checked online when designers edit the model, or offline with impact analysis functions. This is useful for both project and architecture modeling.
- **Guaranteeing the model consistency.** Even if designers have UML training, checking for consistency is necessary to help them produce a quality model. The tool prevents designers from using improper modeling elements or links that may lead to nonsensical modeling. Simulation functions allow the designers to check diagram meaning. This is useful for both project and architecture modeling.

Comments

- Rose stands out in “Guaranteeing the model consistency”, thanks to its simulation functions. This kind of feature makes it possible to check modeling accuracy in diagrams and to “debug” the UML model. However, these functions are implemented for technical projects, as model consistency is often validated by a prototype for business applications.
- The ranking of Tau UML Suite in “Maintaining the model integrity and comprehensiveness” is due to its inability to check integrity on package, deployment and activity diagrams. Since these diagrams are those that can be used to model the information system architecture, this could be penalizing, since no integrity could be verified at this modeling level. This makes the product unsuitable for architecture modeling.
- The ranking of System Architect in “Guaranteeing the model consistency” is due to its inability to check integrity automatically. Integrity is checked only at the user’s request. This does not help productive design, especially for projects involving numerous users. This is less penalizing at the architecture level.
- The ranking of Describe in “Standardizing the notation” is due to its lack of naming rules. Naming rules can be required in order to have significant names for modeling elements. This helps standardize the models and facilitates collaboration between designers. The product does allow the implementation of naming rules by using some scripts, but this requires additional effort. This affects both project and architecture modeling.

2. EASE OF ADOPTION



2. Ease of adoption

Overview

- **Ease of use.** In order to start projects more rapidly, the enterprise requires a tool easy to use. Ease of use implies user-friendliness but also includes features for increasing the productivity of designers. An easy-to-use tool improves designer comfort and facilitates integration of new designers into a team. This is useful for both project and architecture modeling.
- **Simplifying the customization.** The enterprise needs to tailor the environment to its own specific requirements. The design interface should be customized. Naming, consistency and integrity rules may be added or refined in order to meet the quality requirements of the enterprise. Code generation and reverse engineering must be adapted to development standards in order to gain productivity. This is useful for both project and architecture modeling.
- **Modeling the existing code.** The enterprise wants to avoid a remodeling of existing code and components. Even with new projects, existing or off-the-shelf components or code must be incorporated into the new model. The tool automates this by providing reverse engineering features that provide a more accurate model. It deduces a model, based on analysis of existing libraries and components that designers can refine and complement. This is useful for project modeling.

Comments

- Rose stands out in “Modeling the existing code”, thanks to its integration into data modeling tools such as AllFusion ERwin Data Modeler and Oracle Designer. This facilitates the capture of existing data structures. This makes it suitable for projects relying on these data modeling tools in order to generate classes from the database structures automatically. This is useful for maintaining the consistency of project models.
- Objecteering/UML stands out in “Simplifying the customization”, thanks to its Profile Builder module. This makes it possible to graphically define quality control rules or to customize the work environment. This is useful for project and architecture modeling.
- The ranking of Objecteering/UML and Tau UML Suite in “Modeling the existing code” is low, since both products do not make it possible to generate classes from existing database structures. The products neither analyze the existing data structures nor interface with the data modeling tools. This makes them unsuitable to model existing data structures.
- The ranking of AllFusion Component Modeler in “Ease of use” is due to the lack of customization capabilities through the use of macros. Also missing are some user-friendly basic functions such as a tutorial specific to UML modeling and access to the related diagram directly from the search result. This reduces the user-friendliness of the product and limits productivity. This affects both project and architecture modeling.

3. MANAGING THE TEAM WORK EFFICIENTLY

AVOIDING MULTUSER CONFLICTS
 ACCESS TO MODEL RESPONSIBILITY
 SUITABILITY FOR CORPORATE PROJECTS

Tau UML Suite			
Mega Development			
Rose			
Objectteering/UML			
System Architect			
Describe			
AllFusion Component Modeler			

3. Managing the team work efficiently

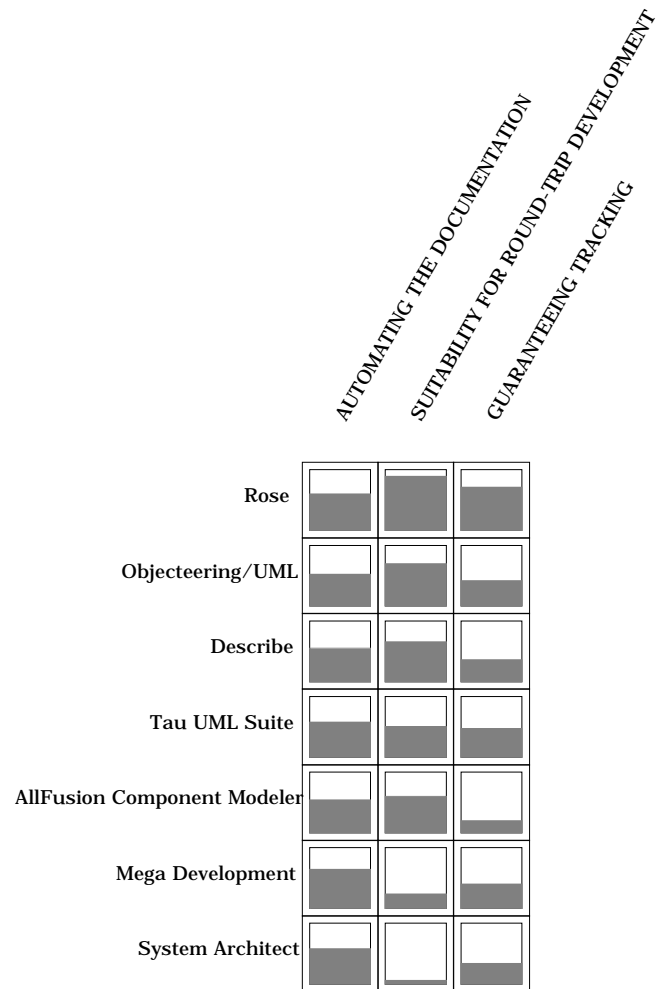
Overview

- **Access to model suitable for each responsibility.** Designs involve several levels of responsibilities. Some designers transpose business requirements by designing use cases, while others specify the application functions. Information system architects have upper-level views. The modeling tool limits the view of the models according to the user's profile. This is useful for project and architecture modeling.
- **Avoiding multiuser conflicts.** Because several designers access the model at the same time, conflict management is required in order to avoid integrity problems due to multiple access. The modeling tool interfaces with configuration managers, allows the locking and the versioning of the model with the expected granularity and reconciles the updates performed by multiple users. This is useful for project and architecture modeling.
- **Suitability for corporate projects.** To be used at a corporate scale, the tool relies on a robust repository, is available on robust platforms, and its architecture allows the collaboration of several servers. Because the enterprise manages several business models, the tool unifies their design and allows these models to share modeling elements, thereby enhancing reusability. This is useful for project and architecture modeling.

Comments

- Rose stands out in “Avoiding multiuser conflicts”, thanks to its ability to warn users about changes. The product indicates changes by using specific icons for updated packages and checked-in or checked-out packages. The product also provides warnings when conflicts appear. This helps ensure team work consistency at the project and architecture levels.
- Tau UML Suite stands out in “Suitability for corporate projects”, because it allows the installation of its repository on commercial relational DBMSs. Relying on a DBMS to store the repository provides more robustness and facilitates management of multiple projects. The product makes it possible to synchronize several repositories by using import and export features. This is useful for project and architecture modeling.
- Mega Development stands out in “Access to models suitable for each responsibility”, because it provides comprehensive user management functions. The product interfaces with LDAP directories. It allows the definition of reusable user profiles with inheritance between profiles. The user privileges are defined accurately. This makes the product valuable for large teams where responsibilities are distributed accurately.
- The ranking of Rose in “Access to models suitable for each responsibility” is due to its inability to grant access privileges to modeling functions. The product only makes it possible to assign write protection over packages and models. Rose relies on SCM tools such as ClearCse to manager versions, users, access rights and configuration. We strongly recommend the use of an interfaced configuration manager for corporate projects.

4. RETAINING INFORMATION ALONG STEPS



4. Retaining information along steps

Overview

- **Guaranteeing the tracking.** In the development cycle, information can be lost from requirements management to development and testing, which alters the quality of applications, as they no longer meet the initial requirements. The tool guarantees tracking and retains information between steps by interfacing with all tools involved in the development cycle and in code generation. This is useful not only for project modeling but also for architecture modeling in order to ensure the nonregression of services.
- **Suitability for round-trip development.** Round-trip development is a convenient methodology in order to guarantee that the model and the code match and that information is retained during the stages between application design and development. To accommodate round-trip development, the tool must not only provide reverse engineering but also synchronize the model and the code. This is useful for project modeling.
- **Automating the documentation.** The entire development team shares common documentation, in order to improve collaboration and to avoid losing any information. The tool must automate documentation generation and produce comprehensive reports tailored to enterprise expectations. The documentation generated is rich and accessible. It is useful for project and architecture modeling.

Comments

- Rose stands out in “Suitability for round-trip development”, because it can generate many languages and interface with many development tools. This may be explained by the product’s market leadership and the development of partnerships. This makes the product suitable for project modeling that involves various development languages.
- Rose stands out in “Guaranteeing the tracking”, thanks to its integration into requirements management tools such as CaliberRM, DOORS and RequisitePro. This facilitates the tracking of the relationship between the requirements and the designed models. The product also facilitates testing of the generated code by generating test scenarios that can be managed by the test management tool, TestManager. This is useful for project modeling.
- The ranking of Objectteering/UML in “Guaranteeing the tracking” is due to its lack of integration into process modeling tools and requirements management tools. A new module, Objectteering/UML Requirements, is announced for the fourth quarter of 2002. It will cover the lack of integration into requirements management tools and provide the necessary functions to manage the requirements.
- The ranking of System Architect in “Suitability for round-trip development” is due to its lack of reverse engineering features. Also, there is no synchronization of the code and the model. This makes the product unsuitable for rapid development projects that must take into account existing code.

5. MODELING COMPREHENSIVENESS

COMPLIANCE WITH UML
 COMPLEMENTING THE UML COVERAGE

	COMPLIANCE WITH UML	COMPLEMENTING THE UML COVERAGE
Rose		
Objectteering/UML		
Mega Development		
System Architect		
Tau UML Suite		
AllFusion Component Modeler		
Describe		

5. Modeling comprehensiveness

Overview

- **Compliance with UML.** As UML has become a standard, the modeling tool must closely follow UML specifications and concepts. This improves the modeling richness and allows the designers to identify the requirements and specifications more accurately. Compliance with UML is also conducive to integration of new designers skilled in this language and to cooperation with external providers. This is useful for project and architecture modeling.
- **Complementing the UML coverage.** The tool may also complement UML coverage by providing some extensions available or not yet available in the standard. You can add concepts or diagrams, provide design patterns or extend the metamodel for the enterprise. This is useful when models must cover the enterprise information system architecture.

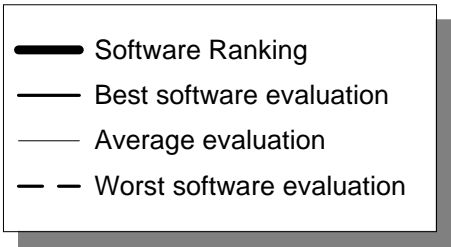
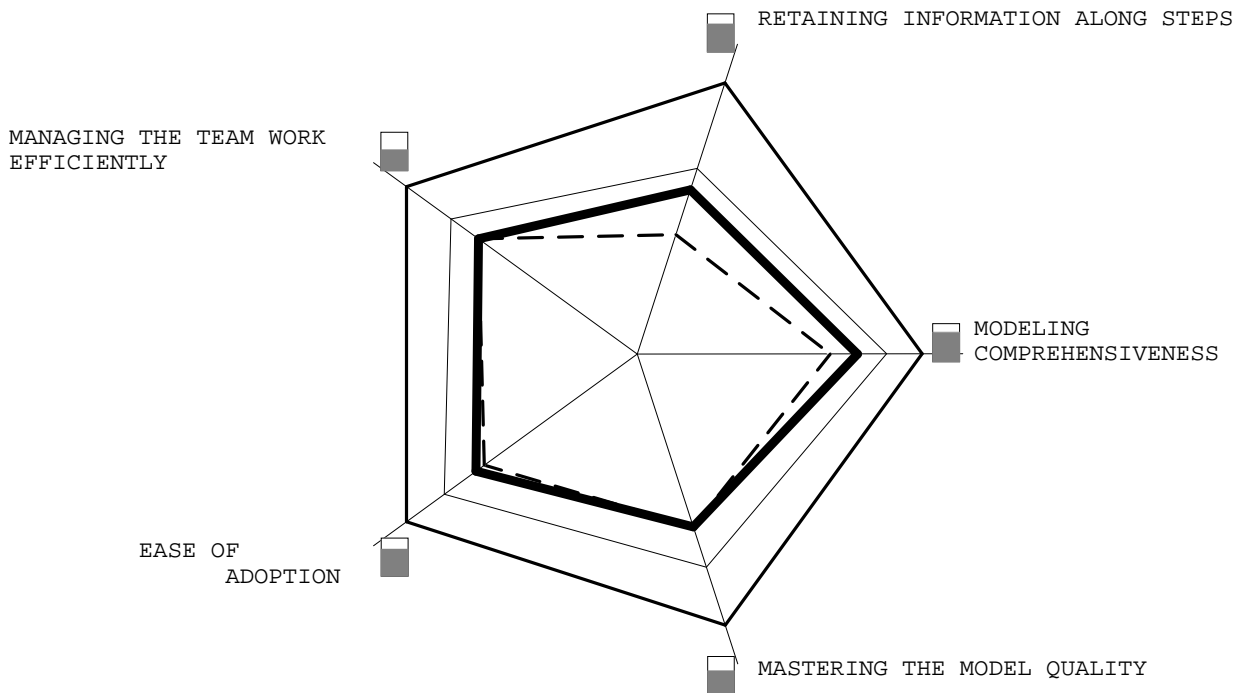
Comments

- There is little difference among the assessed products in their “Compliance with UML”. The main concepts are covered, and most common requirements are met. All the products support all the diagrams. This ensures the design completeness of the projects and of the information system architecture.

The ranking depends on how tools complement UML in order to meet additional requirements:

- Rose stands out in “Complementing the UML coverage”, thanks to the design profiles it implements. The product provides design profiles for business applications that target finance and banking fields. It also provides deployment templates for inter-application messages. This facilitates the design of specific structures that can meet the needs of specific architecture modeling.
- The ranking of Describe in “Complementing the UML coverage” is due to its inability to edit the metamodel. The version of the assessed product does not make it possible to extend the metamodel in order to meet enterprise modeling requirements. This makes the product unsuitable for projects that need to go further the UML standard, especially for modeling the information system architecture.

AllFusion Component Modeler



Ranking Chart

AllFusion Component Modeler

Opinion

- AllFusion Component Modeler is a new product, since former Paradigm Plus has been rewritten from scratch. Its core architecture is based on the Microsoft Repository. Other components are the modeling engine with UML semantics checker. The interface provides a diagram editor, a model explorer, a property window and a report window. The product features can be extended by using active scripting and XMI files.
- One of the strengths of AllFusion Component Modeler is its graphical editor. The product makes it possible to control the representation of models. This helps customize model representation in order to meet corporate needs. This is useful for project and architecture modeling.
- One of the weaknesses of AllFusion Component Modeler is its lack of user-friendliness. Some basic functions such as UML tutorials and searching are missing. This makes it unsuitable for beginner designers.
- AllFusion Component Modeler is not suitable for modeling information system architecture. The product does not control multiuser access at the project level. This is needed, since the architecture combines multiple projects and since various work teams can access these projects.

Vendor presentation

- Developer Computer Associates
- Vendor contacted Computer Associates
14 Avenue François Arago, BP 313
92003 Nanterre Cedex - France
Tel.: +33 1 40 97 50 50
Fax: +33 1 40 97 51 51
- Web site www.ca.com
- Development laboratory Houston, USA
- Hotline Islandia, USA
London, UK

Software product presentation

- Version number 4.1, Service Pack 1
- Date of first sale June 2000
- Price indication 2,067 Euros
- Maintenance 20% of purchase price
- Training User: 5 days, 1,150-2,550 Euros per user
- Setup services Not disclosed
- User group Not disclosed

- Recent developments Rewriting of the product
- Announced functions Version 5.0 announced for the third quarter of 2003:
 - Support of UML 2.0
 - Multiuser access to centralized repository
- Main environments Windows

Main modules

- AllFusion Component Modeler. UML modeling tool based on the MS Repository.

AllFusion Component Modeler

UML modeling of projects and information systems

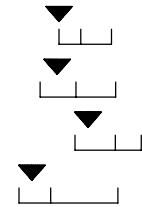


MASTERING THE MODEL QUALITY

STANDARDIZING THE NOTATION

MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS

GUARANTEEING MODEL CONSISTENCY

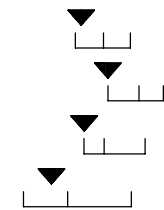


EASE OF ADOPTION

EASE OF USE

SIMPLIFYING THE CUSTOMIZATION

MODELING THE EXISTING CODE

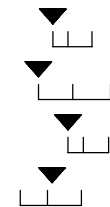


MANAGING THE TEAM WORK EFFICIENTLY

ACCESS TO MODEL SUITABLE FOR EACH RESPONSIBILITY

AVOIDING MULTIUSER CONFLICTS

SUITABILITY FOR CORPORATE PROJECTS

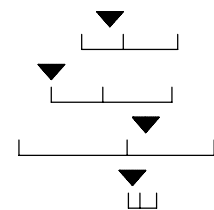


RETAINING INFORMATION ALONG STEPS

GUARANTEEING TRACKING

SUITABILITY FOR ROUND-TRIP DEVELOPMENT

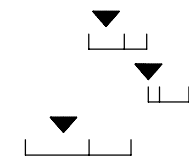
AUTOMATING THE DOCUMENTATION



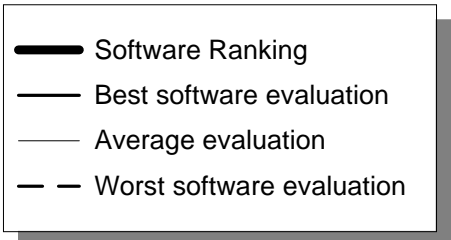
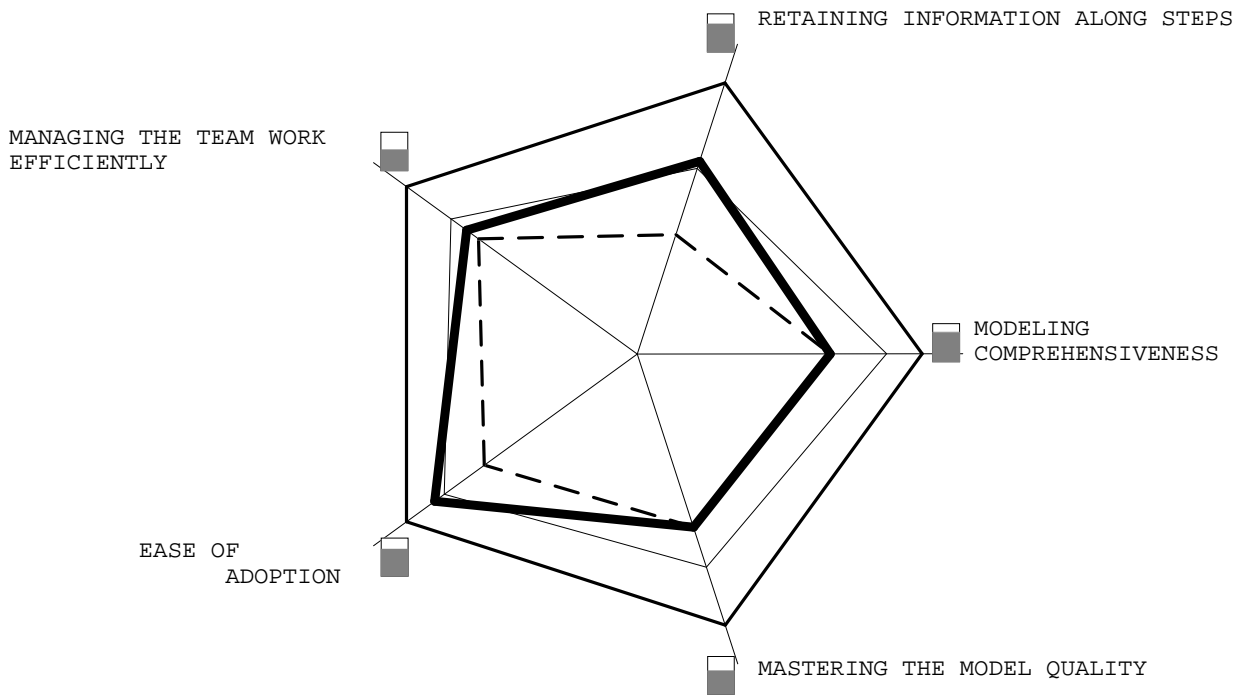
MODELING COMPREHENSIVENESS

COMPLIANCE WITH UML

COMPLEMENTING THE UML COVERAGE



Describe



Ranking Chart

Describe

Opinion

- One of the strengths of Describe is its multiuser access control at the project level. Access control on a per project basis ensures team work consistency. The product also makes it possible to access multiple projects at the same time. This is suitable for a multiproject scenario such as modeling of the information system architecture.
- One of the weaknesses of Describe is its lack of customization functions and standard quality controls. There is a scripting language in order to customize or add controls (e.g. naming rules), but there is no graphic assistance at all. This means that programming skills are required for customization. An IDE is provided to facilitate development. This affects both project and architecture modeling.

Vendor presentation

- Developer
Embarcadero Technologies
425 Market Street, Suite 425
San Francisco, CA 94105, USA
Tel.: +1 415.834.3131
Fax: +1 415.434.1721
- Vendor contacted
Software & Process
10, avenue du Québec, BP 116
91944 Courtaboeuf Cedex - France
Tel.: +33 1 60 92 41 36
Fax: +33 1 60 92 41 38
- Web site
www.embarcadero.com
www.software-process.fr
- Development laboratory
Denver, USA
- Hotline
Denver and San Francisco, USA
London, UK
Paris, France

Software product presentation

- Version number
5.8
- Date of first sale
1997
- Price indication
2,653 Euros
- Maintenance
20% of purchase price
- Training
UML using Describe: 4 days, 8,000 Euros per session
(for six users)
Introduction to Describe: 1 day, 2,000 Euros per session
(for six users)
- Setup services
1,000 Euros per day
- User group
Not disclosed

- Recent developments Support of EJB, Visual Basic
 Generation of sequence diagrams in reverse engineering
- Announced functions New version announced for the fourth quarter of 2002
 Support of C#
 Support of UML 2.0
- Main environments Windows

Main modules

- Describe Enterprise Edition. UML modeling software product.

Describe

UML modeling of projects and information systems



MASTERING THE MODEL QUALITY	▼ ┌──┐
STANDARDIZING THE NOTATION	▼ ┌──┐
MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS	▼ ┌──┐
GUARANTEEING MODEL CONSISTENCY	▼ ┌──┐

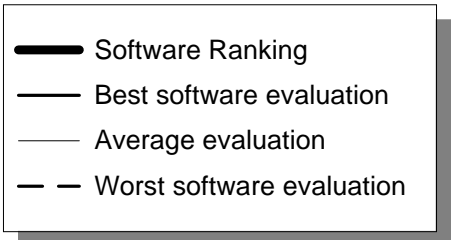
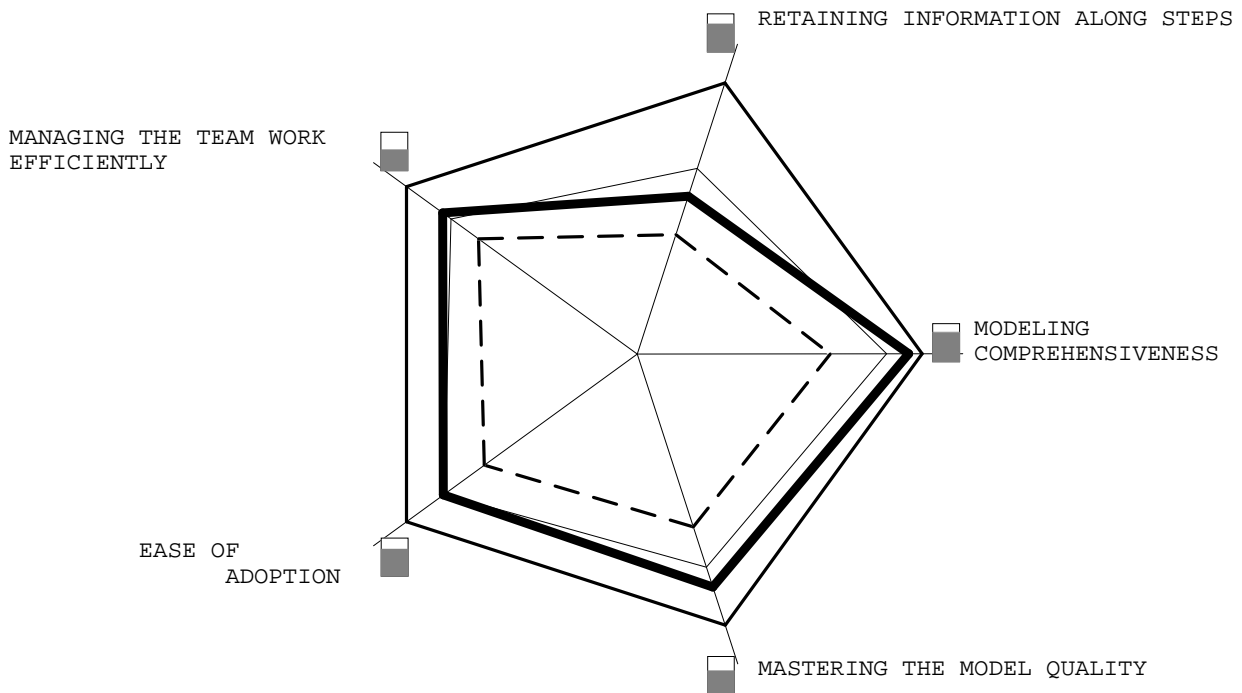
EASE OF ADOPTION	▼ ┌──┐
EASE OF USE	▼ ┌──┐
SIMPLIFYING THE CUSTOMIZATION	▼ ┌──┐
MODELING THE EXISTING CODE	▼ ┌──┐

MANAGING THE TEAM WORK EFFICIENTLY	▼ ┌──┐
ACCESS TO MODEL SUITABLE FOR EACH RESPONSIBILITY	▼ ┌──┐
AVOIDING MULTIUSER CONFLICTS	▼ ┌──┐
SUITABILITY FOR CORPORATE PROJECTS	▼ ┌──┐

RETAINING INFORMATION ALONG STEPS	▼ ┌──┐
GUARANTEEING TRACKING	▼ ┌──┐
SUITABILITY FOR ROUND-TRIP DEVELOPMENT	▼ ┌──┐
AUTOMATING THE DOCUMENTATION	▼ ┌──┐

MODELING COMPREHENSIVENESS	▼ ┌──┐
COMPLIANCE WITH UML	▼ ┌──┐
COMPLEMENTING THE UML COVERAGE	▼ ┌──┐

Mega Development



Ranking Chart

Mega Development

Opinion

- One of the strengths of Mega Development is its advanced user management. It is the only assessed product that integrates into LDAP directories. Several levels of access privileges to the model can be defined. Therefore, the product is suitable for corporate projects involving many designers with various skills, especially when integration of project models into an architecture modeling is needed.
- One of the opportunities of Mega Development is its integration into an architecture modeling tool, Mega Architecture. This makes the product suitable for information system architecture modeling, since project-specific models are integrated into the architecture model. This helps control integration and consistency between each project and the existing information system.
- Mega Development also integrates into other types of modeling tools. It belongs to a suite that also incorporates database design and business process modeling. All these tools share the same repository and do not require import/export. This integration means better tracking of modeling steps. This is useful for project and architecture modeling.
- One of the weaknesses of Mega Development is its lack of integration into commercial IDEs. This makes the product unsuitable for projects that need to synchronize the code managed by third-party development tools with the corresponding model.

Vendor presentation

- Developer
Mega International
Riverside Center
275 Grove Street, 4th Floor, Building 2
Newton, MA 02466, USA
Tel.: +1 617 663 5762
Fax: +1 617 663 4801
- Vendor contacted
Mega International
8-10 Boulevard du Montparnasse
75015 Paris - France
Tel.: +33 1 42 75 40 00
Fax: +33 1 42 75 40 95
- Web site
www.mega.com
- Development laboratory
Paris, France
- Hotline
Newton, USA
Paris, France

Software product presentation

- Version number 5.3

- Date of first sale 1998
- Price indication 3,000 Euros
- Maintenance 18% of purchase price
- Training Users: 3 days
Administrators: 3 days
- Setup services 900 Euros per day
- User group No
- Recent developments Support of UML 1.4
Offline access to the repository and synchronization services
- Announced functions Version 6.0 announced for the fourth quarter of 2002
Multilingual support for the repository data
Comment in rich format (RTF)
- Main environments Windows

Main modules

- Mega Development. UML Modeling software product.
- Mega Documentation. Module for documentation management.
- Mega Generation. Module for code generation from UML models.
- Mega Intranet. Web-based interface.

Mega Development

UML modeling of projects and information systems

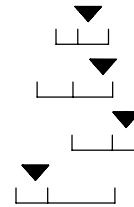


MASTERING THE MODEL QUALITY

STANDARDIZING THE NOTATION

MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS

GUARANTEEING MODEL CONSISTENCY

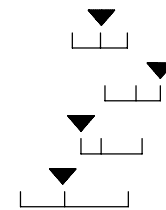


EASE OF ADOPTION

EASE OF USE

SIMPLIFYING THE CUSTOMIZATION

MODELING THE EXISTING CODE

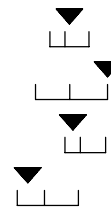


MANAGING THE TEAM WORK EFFICIENTLY

ACCESS TO MODEL SUITABLE FOR EACH RESPONSIBILITY

AVOIDING MULTIUSER CONFLICTS

SUITABILITY FOR CORPORATE PROJECTS

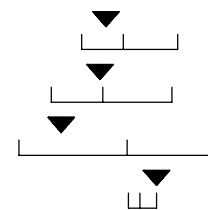


RETAINING INFORMATION ALONG STEPS

GUARANTEEING TRACKING

SUITABILITY FOR ROUND-TRIP DEVELOPMENT

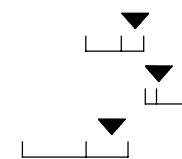
AUTOMATING THE DOCUMENTATION



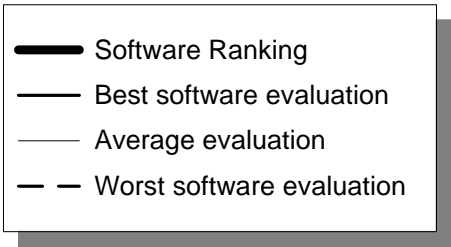
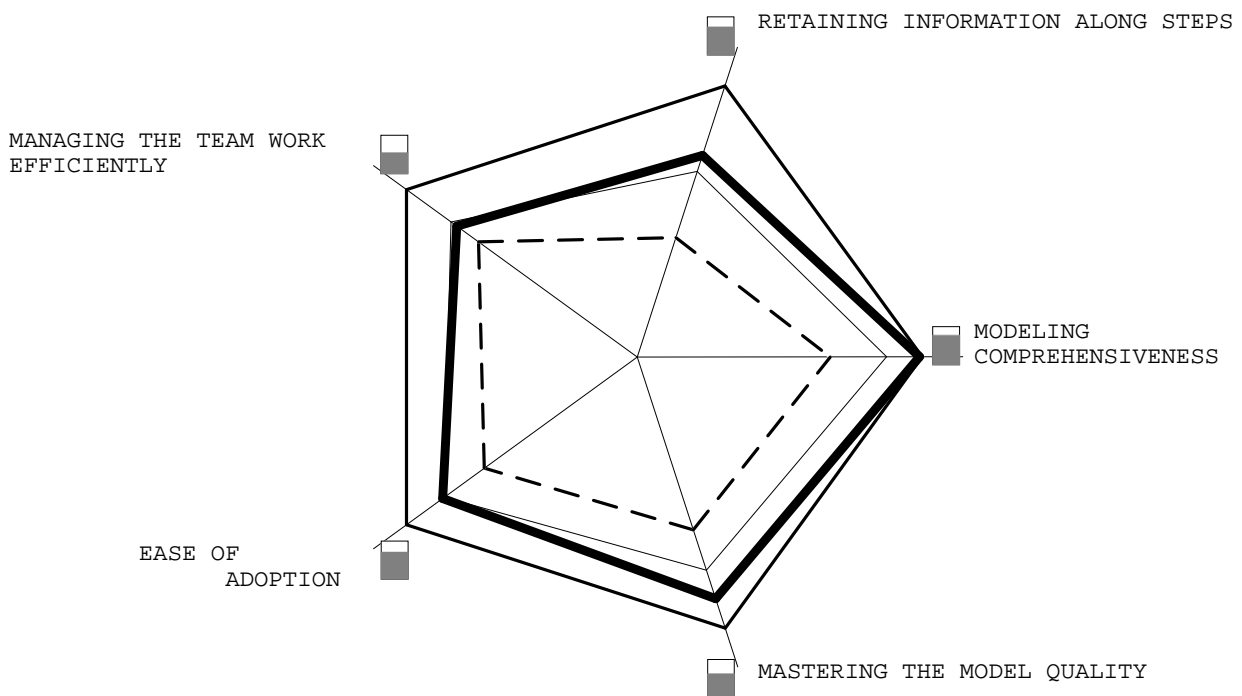
MODELING COMPREHENSIVENESS

COMPLIANCE WITH UML

COMPLEMENTING THE UML COVERAGE



Objecteering/UML



Ranking Chart

Objecteering/UML

Opinion

- One of the strengths of Objecteering/UML is its advanced customization module, Profile Builder. This graphical module facilitates the definition of quality rules, the interface and documentation generation. It also allows the adding of diagram stereotypes, concepts and methods. This simplifies setup and use for project and architecture modeling.
- One of the weaknesses of Objecteering/UML is its inability to work on multiple projects at the same time. Furthermore, the product does not lend itself to a dependency analysis that targets various projects. This makes it unsuitable for multiproject scenarios such as those that involve the modeling of the information system architecture. Modeling the information system architecture involves managing multiple underlying projects and the need to ensure consistency among the various projects.
- One of the weaknesses of Objecteering/UML is its inability to analyze existing data structures. The product neither supports specific commercial DBMS structures nor interfaces with data modeling tools. This prevents the generation of specific classes directly from the existing data structures. This affects project modeling.

Vendor presentation

- Developer Objecteering Software
- Vendor contacted Objecteering Software
8 rue Germain Soufflot
78184 St Quentin-en-Yvelines Cedex - France
Tel.: +33 1 30 12 16 60
Fax: +33 1 30 12 18 41
- Web site www.objecteering.com
- Development laboratory Saint-Quentin En Yvelines, France
- Hotline Saint-Quentin En Yvelines, France

Software product presentation

- Version number 5.22
- Date of first sale 1991
- Price indication Objecteering/UML Modeler Professional: 1,140 Euros
Objecteering/UML Modeler Enterprise: 3,400-4,760 Euros
Profile Builder Professional: 960 Euros
Profile Builder Enterprise: 1,900-2,660 Euros
Modules for code generation Professional: 840 Euros
Modules for code generation Enterprise: 1,700-3,380 Euros
- Maintenance 18% of purchase price
- Training Objecteering/UML Modeler: 1 day, 465-1,995 Euros
Objecteering/Java Developer and Tests: 2 days, 930-3,990

- | | |
|-----------------------|--|
| | Euros |
| | Objectteering/C++ Developer: 1 day, 465-1,985 Euros |
| | Profile Builder: 2 days, 930-3,990 Euros |
| • Setup services | 1,100 Euros per day |
| • User group | Not disclosed |
| • Recent developments | Not disclosed |
| • Announced functions | Objectteering/UML Requirements. A new module for the requirements management
Objectteering/C# Developer
New version announced for the second quarter of 2003:
- Support of UML 2.0
- MDA Modeler
- Model simulation |
| • Main environments | Linux, Solaris, Windows |

Main modules

- Objectteering/UML Modeler. Editing of UML diagrams.
- Objectteering/UML Java Developer. Automatically generates the Java code from UML models.
- Objectteering/Tests for Java. UML Modeling test cases and scenarios.
- Objectteering/UML C++ Developer. Generation of C++ code and design patterns.
- Objectteering/C++ Reverse. Reverse engineering of C++ code.
- Objectteering/UML SQL Designer. Generation of persistent models and DLL code.
- Objectteering/UML CORBA Designer. Generation of IDL code.
- Objectteering/UML Profile Builder. Editing and building of UML profiles. Automatically transforms models. Configuration of Objectteering/UML.

Objecteering/UML

UML modeling of projects and information systems

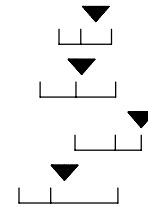


MASTERING THE MODEL QUALITY

STANDARDIZING THE NOTATION

MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS

GUARANTEEING MODEL CONSISTENCY

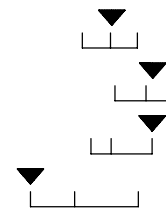


EASE OF ADOPTION

EASE OF USE

SIMPLIFYING THE CUSTOMIZATION

MODELING THE EXISTING CODE

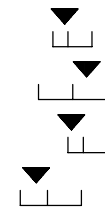


MANAGING THE TEAM WORK EFFICIENTLY

ACCESS TO MODEL SUITABLE FOR EACH RESPONSIBILITY

AVOIDING MULTIUSER CONFLICTS

SUITABILITY FOR CORPORATE PROJECTS

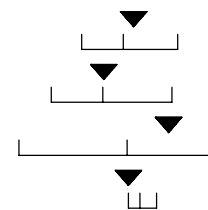


RETAINING INFORMATION ALONG STEPS

GUARANTEEING TRACKING

SUITABILITY FOR ROUND-TRIP DEVELOPMENT

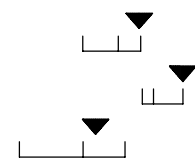
AUTOMATING THE DOCUMENTATION



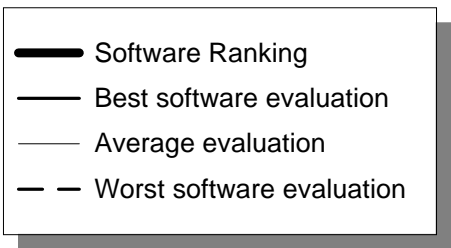
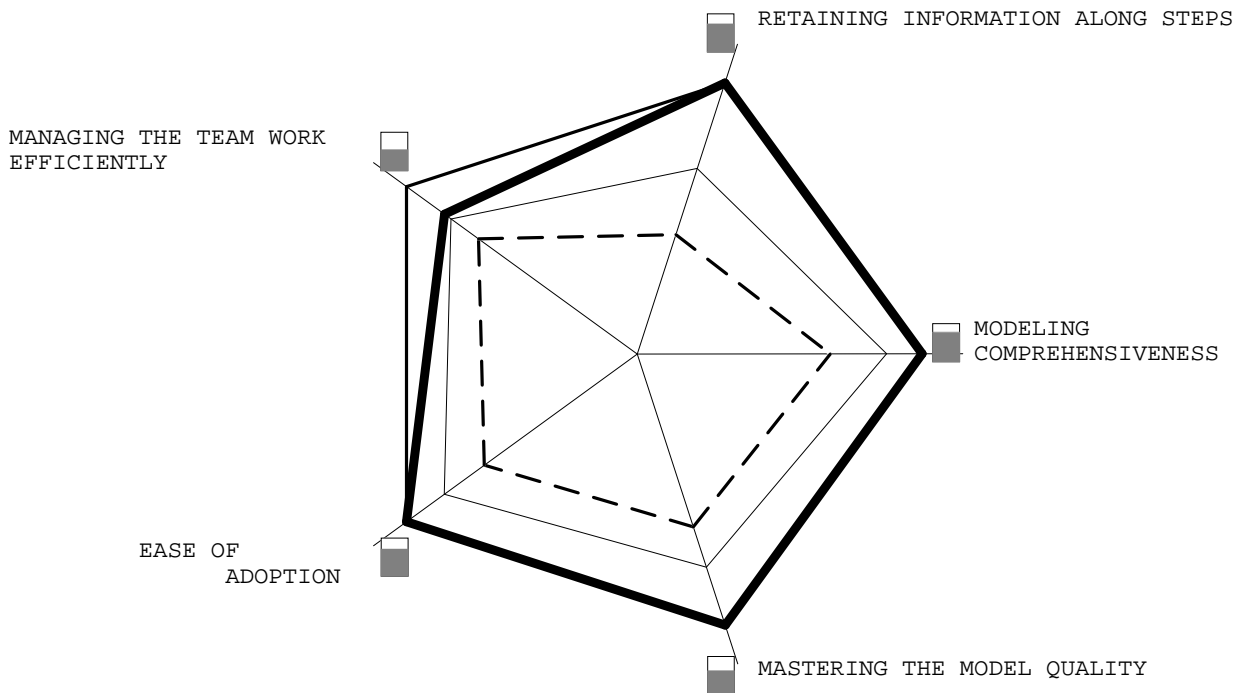
MODELING COMPREHENSIVENESS

COMPLIANCE WITH UML

COMPLEMENTING THE UML COVERAGE



Rose



Ranking Chart

Rose

Opinion

- Rose is the leader in the UML modeling market. This leadership position stems from good integration into other software tools. Rose integrates into configuration managers and development environments. Rose also supports many development languages, compared with competitors. This is useful for project modeling.
- One of the strengths of Rose is its ability to extend the metamodel graphically. The product makes it possible to add new diagram types, new modeling elements and symbols. This helps customize the models and make them suitable for the modeling of not only object-oriented applications but also of other projects (e.g. targeting the legacy applications). This is useful for project and architecture modeling.
- One of the strengths of Rose is its ability to simulate the designed flows. The simulation features are provided by the real-time version of Rose. This helps designers check model consistency in sequence or state diagrams in order to verify that the models meet the requirements. This is useful for modeling projects that involve real-time applications.
- One of the weaknesses of Rose is its lack of user and privilege management features. Use of an interfaced configuration manager is strongly recommended for corporate projects. This affects both project and architecture modeling.
- One of the weaknesses of Rose is its inability to support access to multiple projects at the same time. The product only allows an analysis of the dependency among various projects.

Vendor presentation

- Developer Rational Software
- Vendor contacted Rational Software
1, Place Charles-de-Gaulle
78067 Saint-Quentin en Yvelines Cedex - France
Tel.: +33 1 30 12 09 50
Fax: +33 1 30 12 09 66
- Web site www.rational.com
- Development laboratory Lexington, USA
- Hotline Lexington, USA
Amsterdam, Netherlands

Software product presentation

- Version number 2002.05.20
- Date of first sale 1992

- Price indication Rose Modeler: 2,170 Euros
Rose Professional: 2,895 Euros
Rose Enterprise: 5,065 Euros
- Maintenance First year is included in the purchase price
365-845 Euros for the following years
- Training Modeling with Rose: 1 day, 650 Euros
Developing with Rose: 1 day, 650 Euros
Object-oriented analysis and design with UML and Rose:
5 days, 2,250 Euros
- Setup services 1,440 Euros per day
- User group Not disclosed
- Recent developments Support of UML profiles: JSR26, Web modeling, J2EE
modeling, .Net modeling, Data modeling, XML
modeling and Business modeling.
Integration of results from the RDA initiative
- Announced functions Not disclosed
- Main environments AIX, HP-UX, Linux, Solaris, Windows

Main modules

- Rose Modeler. Main modeling environment. It integrates model browsing and diagram editing.
- Rose Professional. Includes Rose Modeler and a supported language (C++, VB, Java) for round-trip development.
- Rose Enterprise. Supports all the languages of Rose Professional.
- Add-ins. These extend Rose menus and allow code generation or interfacing with other tools.
- Comparison module. Allows graphic comparison and the reconciliation of diagrams.
- SODA. Documentation generation module.

Rose

UML modeling of projects and information systems

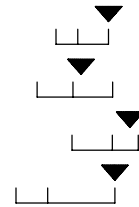


MASTERING THE MODEL QUALITY

STANDARDIZING THE NOTATION

MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS

GUARANTEEING MODEL CONSISTENCY

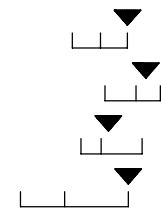


EASE OF ADOPTION

EASE OF USE

SIMPLIFYING THE CUSTOMIZATION

MODELING THE EXISTING CODE

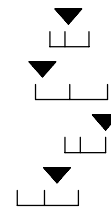


MANAGING THE TEAM WORK EFFICIENTLY

ACCESS TO MODEL SUITABLE FOR EACH RESPONSIBILITY

AVOIDING MULTIUSER CONFLICTS

SUITABILITY FOR CORPORATE PROJECTS

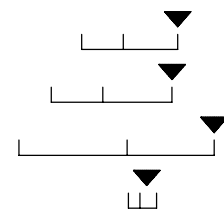


RETAINING INFORMATION ALONG STEPS

GUARANTEEING TRACKING

SUITABILITY FOR ROUND-TRIP DEVELOPMENT

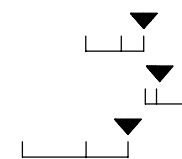
AUTOMATING THE DOCUMENTATION



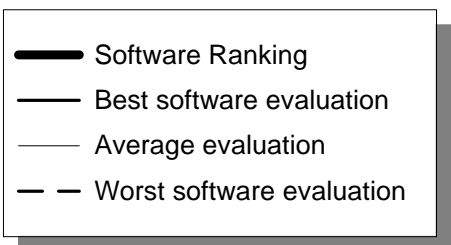
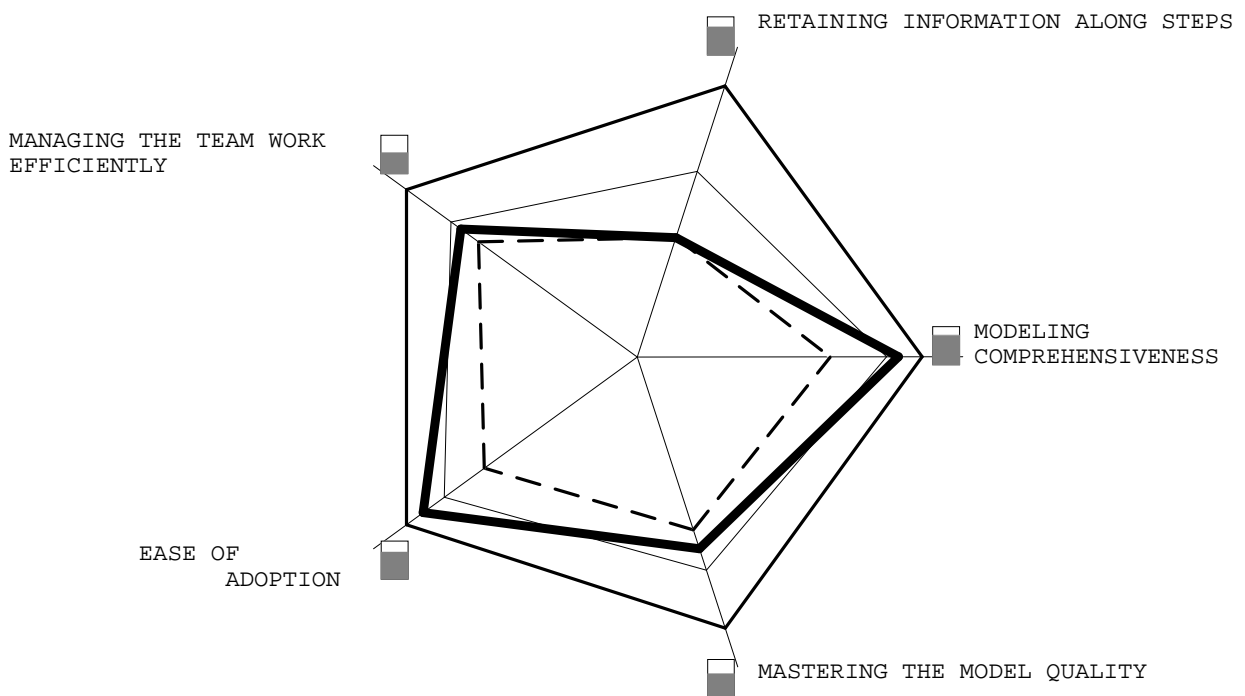
MODELING COMPREHENSIVENESS

COMPLIANCE WITH UML

COMPLEMENTING THE UML COVERAGE



System Architect



Ranking Chart

System Architect

Opinion

- One of the strengths of System Architect is its ability to model not only applications but also data (through Data Architect module) and business processes (through the BPR Architect module). This makes the product suitable for the modeling all areas of a project, including the application, the data structure and the process that govern the relationship among them. This makes also makes the product useful for architecture modeling.
- One of the strengths of System Architect is its support for frameworks such as RUP and Zachman. This helps control the models at the project or the corporate level, such as at the information system architecture level when relying on the Zachman framework.
- One of the opportunities of System Architect is its support of modeling notations other than UML. Numerous notations are supported, such as Booch, Coad-Yourdon, IDEF, Jacobson, Merise, OMT and SSADM. This makes the product suitable for projects where UML notation is not mandatory, such as architecture modeling.
- One of the weaknesses of System Architect is its lack of management of user access rights and privileges per specific functions. Access rights are only limited per project. This makes the product unsuitable for projects where accurate privileges must be defined. More access control features would be provided by a future version announced for the fourth quarter of 2002.
- One of the weaknesses of System Architect is its inability to analyze existing code. The product provides no reverse engineering capabilities. This makes it unsuitable for project modeling where synchronization must be ensured between the generated code and the corresponding model.

Vendor presentation

- Developer
Popkin Software
11, Park Place
New York, NY 10007-2801, USA
Tel.: +1 212 571 34 34
Fax: +1 212 571 34 36
- Vendor contacted
Unilog IT Services
35, rue Haute
68480 Bettlach - France
Tel.: +33 3 89 40 70 70
Fax: +33 3 89 40 77 33
- Web site
www.popkin.com
www.unilog-itservices.ch
- Development laboratory
New York, USA
Leamington, UK

- Hotline
New York, USA
Leamington, UK
Bettlach, France

Software product presentation

- Version number 8.8.13
- Date of first sale 1987
- Price indication
System Architect: 5,500 Euros
SA EnComp: 850 Euros
SA Simulator: 1,650 Euros
XML Architect: 850 Euros
DOORS Interface: 170 Euros
- Maintenance 15% of purchase price
- Training
UML using System Architect: 5 days, 500 Euros per user per day. 2,000 Euros per day for 6 users
Object-oriented modeling: 2 days, 500 Euros per user per day. 3,000 per day for 6 users
SA Simulator: 2 days.
- Setup services 900 Euros per day
- User group SAUG: System Architect User Group
- Recent developments
Integration and synchronization of UML methods with other modeling methods
Integration of UML into Business Process Reengineering
- Announced functions
Version 9.x announced for the fourth quarter of 2002:
 - Repository on commercial DBMS
 - XMI interface
 - New features for user management (e.g. access control)
- Main environments Windows

Main modules

- SA EnComp. Compares project encyclopedias (description, diagrams, symbols).
- SA Simulator. Simulation of diagrams of Process Chart and IDEF3 in Business Process Reengineering.
- XML Architect. Handles XML specifications. Creation and management of XML schema (Biztalk and DTD).

Rose

UML modeling of projects and information systems

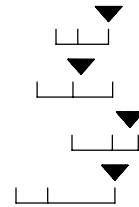


MASTERING THE MODEL QUALITY

STANDARDIZING THE NOTATION

MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS

GUARANTEEING MODEL CONSISTENCY

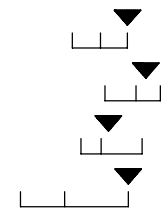


EASE OF ADOPTION

EASE OF USE

SIMPLIFYING THE CUSTOMIZATION

MODELING THE EXISTING CODE

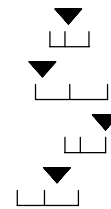


MANAGING THE TEAM WORK EFFICIENTLY

ACCESS TO MODEL SUITABLE FOR EACH RESPONSIBILITY

AVOIDING MULTIUSER CONFLICTS

SUITABILITY FOR CORPORATE PROJECTS

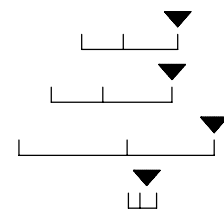


RETAINING INFORMATION ALONG STEPS

GUARANTEEING TRACKING

SUITABILITY FOR ROUND-TRIP DEVELOPMENT

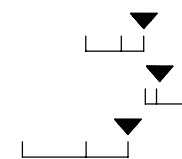
AUTOMATING THE DOCUMENTATION



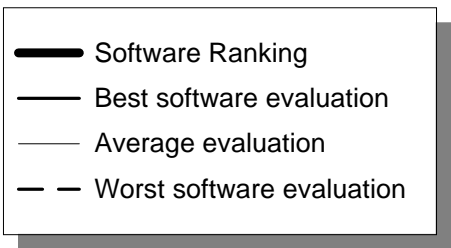
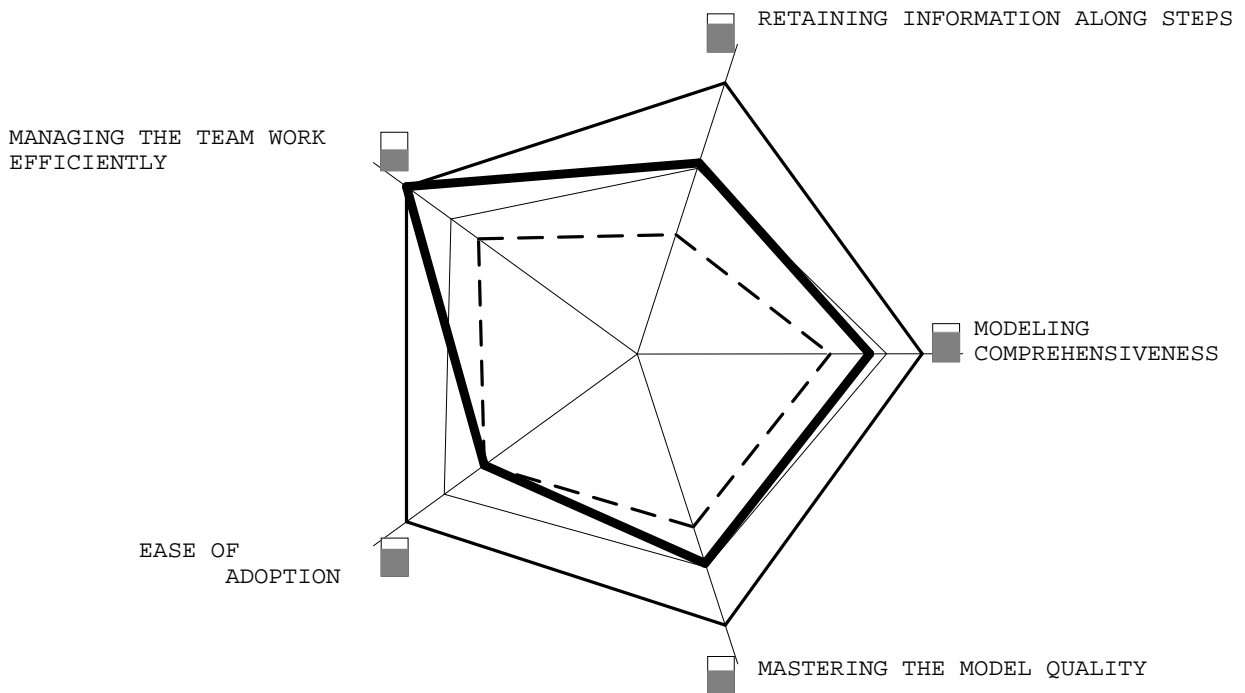
MODELING COMPREHENSIVENESS

COMPLIANCE WITH UML

COMPLEMENTING THE UML COVERAGE



Tau UML Suite



Ranking Chart

Tau UML Suite

Opinion

- One of the strengths of Tau UML Suite is its suitability for corporate project and architecture modeling. The product provides features that facilitate the sharing and reusing of models and the modeling of elements. It allows distributed configuration among several servers and provides security options that are quite complete, compared with competitors. It also allows versioning either natively or through integration with configuration managers.
- One of the strengths of Tau UML suite is its ability to store its repository on commercial relational DBMSs. Also, the repository structure helps in structuring the projects, as items are organized into steps. This ensures the reliability of the repository and facilitates the management of complex projects. This is useful for project and architecture modeling.
- A new product has been announced that would replace Tau UML Suite. This is marketed as Tau Generation2. Two versions are available, Tau/Architect and Tau/Developer. Tau/Architect targets the definition of high-level information system specifications. It provides an architecture diagram. Tau/Developer adds code generation from the designed models. When only information system architecture modeling is needed, Tau/Architect would be sufficient.
- One of the weaknesses of Tau UML Suite is its inability to analyze existing data structures. The product neither supports specific commercial DBMS structures nor interfaces with data modeling tools. This prevents the generation of specific classes directly from the existing data structures. This affects project modeling.

Vendor presentation

- Developer
Telelogic
P.O. Box 4128
SE-203 12 Malmö - Sweden
Tel.: +46 40 650 00 00
Fax: +46 40 650 65 55
- Vendor contacted
Telelogic
6-8 rue de la Réunion
91978 Courtaboeuf - France
Tel.: +33 1 64 86 77 77
Fax: +33 1 64 86 77 00
- Web site
www.telelogic.com
- Development laboratory
Dallas, USA
- Hotline
Mt. Arlington, NJ, USA
Reston, VA, USA
San Jose, CA, USA

Irvine, CA, USA
Toulouse, France

Software product presentation

- Version number 4.7
- Date of first sale 1996
- Price indication
Tau UML Suite Author: 1,776-2,960 Euros
Tau UML Suite Builder: 2,445-4,075 Euros (except for
Ada: 5,445-9,075 Euros)
- Maintenance 18% of purchase price
- Training Introduction to UML 1.4 and Tau UML Suite. 4 days,
1,575 Euros
- Setup services Four-day consulting for up to 10 people covering
the installation and setup: 12,000 Euros
- User group Yearly meeting
- Recent developments
Enhancement of Telelogic DOORS integration
Alignment on UML 1.4
Improvements on C++ and Ada code generation
Supports for XMI Import/Export
Updated integration with Synergy, ClearCase, PVCS
Update to latest versions of class libraries: MFC, JDK
- Announced functions New tool generation for UML 2.0 released under the name
Tau Generation2.
- Main environments HP-UX, Solaris, Windows

Main modules

- Tau UML Suite Author. UML 1.4 modeling—all diagrams supported, model checking, multiuser capabilities, version and configuration management, access control.
- Tau UML Suite Builder. Tau UML Suite Author + code generation for C++, Java, Ada, Corba/IDL and COM/IDL, round-trip engineering, reverse engineering.
- Tau UML Suite DocExpress Link. Documentation generation in formats: MS Word, HTML, FrameMaker. Documentation templates for major document standards.

Tau UML Suite

UML modeling of projects and information systems

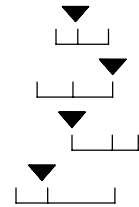


MASTERING THE MODEL QUALITY

STANDARDIZING THE NOTATION

MAINTAINING MODEL INTEGRITY AND COMPREHENSIVENESS

GUARANTEEING MODEL CONSISTENCY

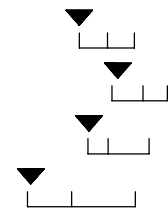


EASE OF ADOPTION

EASE OF USE

SIMPLIFYING THE CUSTOMIZATION

MODELING THE EXISTING CODE

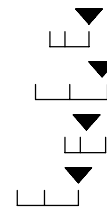


MANAGING THE TEAM WORK EFFICIENTLY

ACCESS TO MODEL SUITABLE FOR EACH RESPONSIBILITY

AVOIDING MULTIUSER CONFLICTS

SUITABILITY FOR CORPORATE PROJECTS

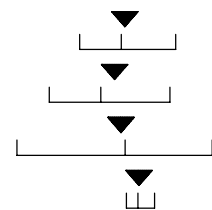


RETAINING INFORMATION ALONG STEPS

GUARANTEEING TRACKING

SUITABILITY FOR ROUND-TRIP DEVELOPMENT

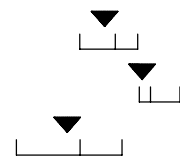
AUTOMATING THE DOCUMENTATION



MODELING COMPREHENSIVENESS

COMPLIANCE WITH UML

COMPLEMENTING THE UML COVERAGE



Yphise Software Assessment Reports

About Yphise

Large companies	Yphise is committed to providing the most relevant and accurate advice to assist large companies in embracing information management change. We assist them in <ul style="list-style-type: none">• identifying how to generate more business value through information management• developing the new skills and methods necessary to achieve this value• conducting innovative projects• making appropriate technical decisions
IT consultants	We advise IT consultants in selecting their partnerships and choosing the best software to recommend and use in each mission.
Software vendors and investors	We advise software vendors and investors in strategy development.

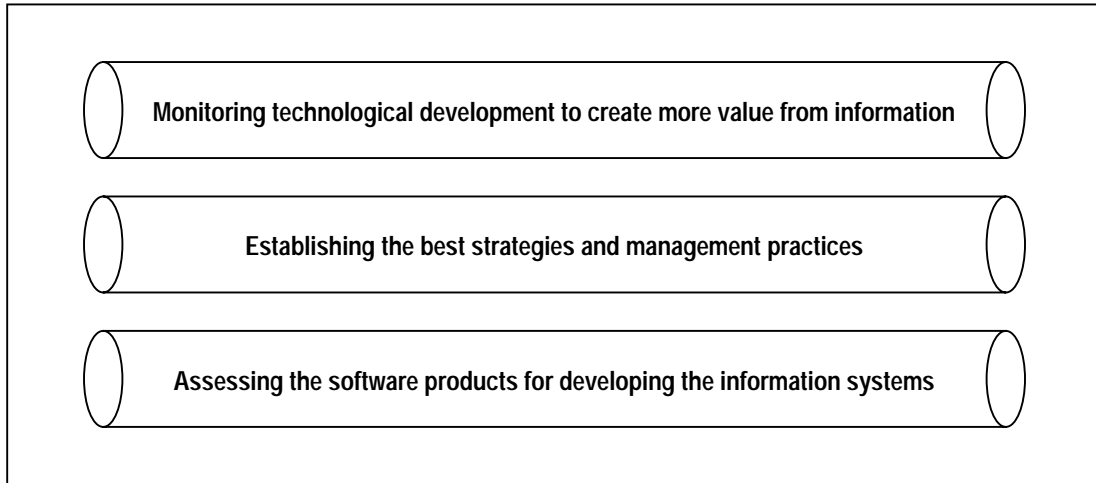
Our clients appreciate :

- our independence,
- the accuracy and rigor of our methodologies, as we are ISO 9001-certified,
- our in-depth understanding of IT management challenges, as we advise many large companies in defining IT strategy, organization and architectures,
- our coverage of all areas and technologies required for developing and managing complex information systems,
- the unique expertise we have developed since 1985.

Research programs

Yphise conducts research programs that focus on IT management challenges in large companies.

Our research programs cover three aspects.



Software product assessment

Yphise assesses over 160 software products each year. IT departments have made thousands of software selection decisions based on Yphise expertise since 1985. Yphise research covers all areas of interest to large IT departments.

The results are available at our Yphise.com SoftAssessment Portal. Various licenses provide you with the reports that you need.

Each software product assessment is conducted according to our ISO 9001-certified methodology. To our knowledge, no other company in the world produces expert and independent comparative assessments of software products based on ISO 9001-certified methodology guaranteeing accuracy and independence.

Our lab is in Paris (France) across from Pompidou Center. The numerous vendors who visit us appreciate this very convenient location.

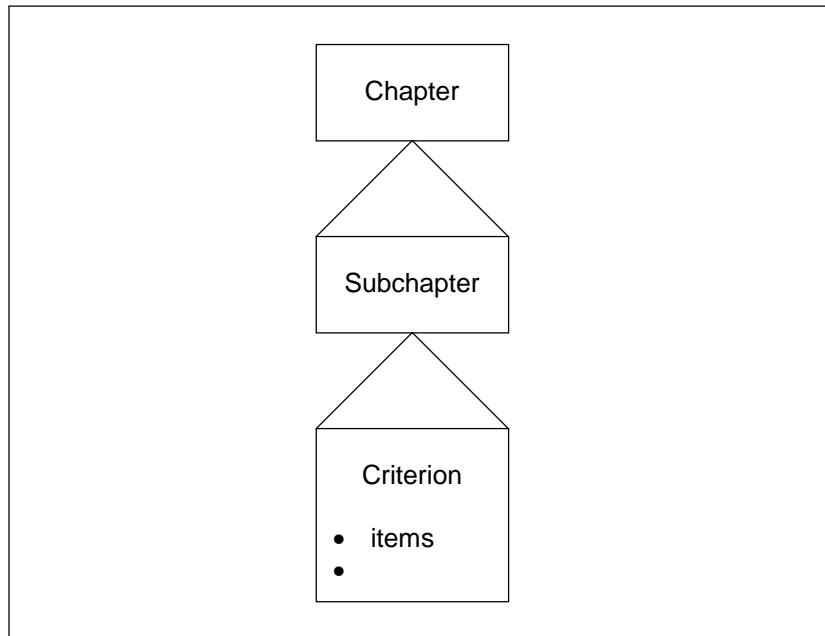
Components of the Yphise Software Assessment Reports

	REQUIREMENTS vol	EXECUTIVE vol	DETAILED ASSESSMENT vol	SELECTION ASSISTANT
List of Requirements	■			
Opportunities	■	■		
Assessing the products	■	■	■	■

<p>REQUIREMENTS vol</p>	<p>It lists the functional and technical requirements to meet the needs of large companies in the evaluated area. This list is set according to our ISO 9001-certified methodology in consultation with large companies, in order to be accurate, practical and proactive.</p> <p>Our experience is that many errors when selecting software products are due to improperly defined requirements. It is indeed very difficult to establish the correct list of criteria. We have unique expertise in this field, as we work daily with large companies, monitor new developments from vendors, and cover all areas of information management within large companies. The REQUIREMENTS volume provides you, at very low cost, with the results of our expert analysis. It sets the standard to base decisions on in the evaluated area.</p>
<p>EXECUTIVE vol</p>	<p>It is designed to monitor developments of the software product market. It assesses the maturity and opportunities of the products available.</p> <p>It highlights the list of software products that we consider of interest to large companies. Our experience has shown that products do not always satisfactorily provide the functions that we expect, based on vendor positioning. As a result, many improper selections of software products are made.</p> <p>It highlights the strengths and weaknesses of each software product, based on our detailed assessment conducted according to our ISO 9001-certified methodology. It provides a top-down ranking of the products and it outlines our opinion.</p> <p>The EXECUTIVE volume is ideal for an initial review of the market, for defining your strategy, planning your investments and selecting a short list.</p>
<p>DETAILED ASSESSMENT vol</p>	<p>It provides a detailed assessment of each software product, based on the criteria of the requirements. The assessment is conducted according to our ISO 9001-certified methodology. The results are provided in tables for quick access and accurate detailed comparison of the software products.</p> <p>The assessed software products are those that we consider of interest to large companies in the evaluated area.</p>
<p>SELECTION ASSISTANT</p>	<p>This is a Windows application that you can download.</p> <p>It contains all data from the corresponding DETAILED ASSESSMENT volume.</p> <p>It allows you to customize all the data and weights, in order to arrive at your own ranking of the software products according to your own opinion and specific needs. You can then print your personalized DETAILED ASSESSMENT volume.</p>

List of Requirements structure

The List of Requirements has a three-level structure : main issues (chapters), first analysis level of each issue (subchapters) and assessment criteria. Each criterion is composed of items.



EXECUTIVE volume aggregations and SELECTION ASSISTANT

The charts of the EXECUTIVE volume aggregate all the results established at item level in the corresponding DETAILED ASSESSMENT volume. Most of these charts aggregate results on several hundred items. The rankings and overall assessment obtained are robust and reliable.

However, you may not necessarily agree with all the notes attributed by Yphise. You may also be interested in a product that provides fewer functions and is less expensive. Some criteria and items are also more important for you. The EXECUTIVE volume charts do not take your specific requirements into account. They are very useful for a first overview of the market, but you need more information to make a purchase decision. The SELECTION ASSISTANT allows you to customize Yphise notes and criteria weights according to your own specific needs. It then adapts the ranking, and you can print your own customized report.

How to use Yphise Software Assessment Reports

Analyzing opportunities of the market	The EXECUTIVE volume is designed to assess the opportunities of the market. It highlights the list of software products that we consider of interest to large companies.
Obtaining your list of requirements	The REQUIREMENTS volume enables you to work from a reference list that you customize according to your own needs. Some criteria may be ignored, while others are essential.
Selecting a short list	The EXECUTIVE volume provides you with a brief overview of the market. Then use the SELECTION ASSISTANT. Identify the few criteria that, for you, are essential functions. The assistant then adapts the ranking of the products according to these criteria : you get valuable information to select the best short list.
Selecting a software product	You must make a decision based on your environment, context and issues. Focus your effort on the essential criteria for you. The DETAILED ASSESSMENT volume enables you to work from a reliable reference. Then use the SELECTION ASSISTANT. Input your own notes when they differ from Yphise, and use the editing functions to obtain a first overview of

	the results. Then use the DETAILED ASSESSMENT volume to compare the products on the basis of criteria that are less important for you.
Negotiating with the vendors	The EXECUTIVE and DETAILED ASSESSMENT volumes provide you with the strengths and weaknesses of each product. You have valuable information to use when negotiating with the vendors.