

Requirements-Driven Development (RDD)

EXECUTIVE volume

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- Caliber RM (Borland)
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- Doors (Telelogic)
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Yphise is committed to providing IT Executives and Managers with the best independent research on methods and solutions to optimize IT cost, value and risk. Yphise research results from an open and operational framework of practices aimed at measuring and improving IT efficiency according to the requirements of large companies

Yphise is an independent company that conducts ongoing research programs for IT Executives and Managers. Yphise has a dedicated research team in order to guarantee independence, consistent results and timely updates.

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Yphise conducts two exclusive ongoing research programs : 1/ Yphise Software Assessment, 2/ YBRM (Yphise Business Risk Management).

1/ Yphise Software Assessment

Yphise identifies and certifies the software products that allow large companies to increase the value of their information systems while optimizing the costs and managing the risks. Yphise covers all areas of interest to develop, operate, maintain and secure the applications to compete. Yphise has assessed 150 software products each year since 1985. Each assessment is ISO 9001:2000-certified in order to guarantee independence and to focus on key issues for large companies.

2/ YBRM (Yphise Business Risk Management)

YBRM provides IT Executives and Managers with an open framework of operational best practices aimed at optimizing IT cost, value and risk. It covers all IT processes in order to guarantee effective operational management. YBRM is a pragmatic approach. It includes a scoring model for easy periodical self-assessment. It leads to immediate improvement of each IT process through use of the released best practices. YBRM also provides roadmap for optimizing IT cost, value and risk as required by large companies.

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FOREWORD

The EXECUTIVE volume summarizes the results of independent research conducted by Yphise on the assessed market segment.

This market segment has been selected under the Yphise ongoing research program, which identifies the software products that represent a valuable investment for large companies.

- This volume outlines Yphise opinion on the value of the products.
- It shortlists the products of interest, according to expected benefits by IT Executives.
- It scores the shortlisted products after their in-depth ISO 9001-certified assessment by Yphise. The Yphise list of requirements includes several hundred control criteria (REQUIREMENTS volume). The charts in this volume aggregate the detailed results for each product (DETAILED ASSESSMENT volume). The REQUIREMENTS and DETAILED ASSESSMENT volumes are available at <www.yphise.com>.

(See the **YPHISE SOFTWARE ASSESSMENT** chapter.)

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The EXECUTIVE License provides IT Executives, software vendors and service providers with an accurate understanding of the best products on the market, according to the requirements of large companies.

MARKET SEGMENT

RDD (Requirements-Driven Development) solutions serve to understand, capture and organize customer needs, including evolving needs. Customer needs are further broken down into functional or nonfunctional system requirements. RDD solutions ensure requirements consistency by focusing on the traceability of changes and dependencies, thereby allowing the conducting of projects in compliance with customer needs. They also help master the whole life cycle of applications, including maintenance.

Benefits for the business

➤ **Effective management of the value and risk of information systems**

Information systems are critical assets for large companies. They must meet the exact functional requirements of the business. Their effectiveness in operations, security and flexibility must also be carefully managed. Numerous changes, either functional or technical, are brought to each application during its whole life cycle. The business requires that each IT project meet the exact requirements conducive to guaranteeing the expected value and to mitigating the operational risk. Each application should evolve according to consistent baselines of requirements. Requirements management is a key contributor to IT governance.

➤ **Managing and controlling the changes**

Each project involves various stakeholders involved in analyzing, designing and implementing the changes. Stakeholders bring various skills and can belong to several internal or external teams. Overall alignment of the project on business needs requires accurate management of the life cycle of each requirement, from request to implementation. Effective management of the requirements guarantees that the project will be conducted according to business issues. It also allows sophisticated collaboration between numerous skills, while focusing on value for the business. Finally, it allows optimized setups that harmoniously mitigate external and internal skills.

Benefits for IT processes

➤ **Project Management**

The success of a project requires effective collaboration between the involved stakeholders. RDD solutions improve the agility to collaborate. They guarantee accurate management of the scope of requirements. They track dependencies between the customer needs and the functional and technical design. They guarantee effective monitoring of the changes requested by the customer during the project. The project leader can then monitor and control the project according to value for the business.

➤ **The test process of each project**

The test process of each project must guarantee both the functional and technical adequacy of the result. RDD solutions link system requirements to test cycles. They integrate into TPO (Test Process Optimization) solutions that manage on a daily basis the test campaign. They therefore provide for accurate planning and control of testing activities according to customer needs.

➤ **PPM (Project Portfolio Management)**

PPM allows companies to align IT projects on their business strategy or priorities. It centralizes and manages all requests. These requests are compared, prioritized and planned according to cost, value or risk. RDD solutions help assess these requests by linking the system requirements to customer needs. The scope and cost of projects are then mitigated, based on defined system requirements. RDD solutions also monitor the status of various requirements during the life cycle of each project, thereby providing useful information for controlling a portfolio of projects from a business perspective.

➤ **Maintenance**

A key challenge of maintenance is guaranteeing no regression of the existing information system when budgets and time frames are tight. RDD solutions provide valuable information in order to understand the requirements implemented by each application. This information helps in analyzing the impact of a change when maintaining the corresponding application. Moreover, effective RDD solutions integrate into ACM (Application Change Management) solutions. The change process within the ACM solution is initiated from the requirements.

➤ **Externalized development or maintenance**

A key challenge when using external resources for application development or maintenance is guaranteeing the quality of the results. RDD solutions allow accurate management of the scope of externalized requirements. They integrate into TPO solutions in order to provide adequate control of implementation of these requirements. So, they are essential for mastering the partnership with service providers.

➤ **Architecture**

The architecture process must guarantee adequate functional and technical flexibility of applications. Managing the flexibility requirements is a challenge when projects are conducted. RDD solutions help formalize and refine flexibility requirements. They integrate into Design solutions in order to link these requirements to design options. Finally, service-level requirements can apply to all or several projects. RDD solutions allow management of cross-project requirements.

➤ **Security**

The security process guarantees the meeting of confidentiality objectives and the providing of robustness against fraud. RDD solutions help set security requirements. They facilitate negotiation, planning and respect of security requirements. Finally, security requirements can apply to all or several projects. RDD solutions allow the management of cross-project requirements.

➤ **Service levels in operations**

Applications must guarantee accurate operations service levels for the corresponding business processes. Managing service-level requirements is a challenge when projects are conducted. RDD solutions help negotiate service-level requirements according to customer needs. They help formalize, refine and track service-level requirements during the project. They integrate into TPO solutions in order to allow accurate planning and control of the useful test cycles. Finally, service-level requirements can apply to all or several projects. RDD solutions allow management of cross-project requirements.

➤ **Business continuity**

In case of failure or disaster, information systems must restart according to accurate time frames and conditions for the business processes. Managing business-continuity requirements is a challenge when projects are conducted. RDD solutions help analyze business-continuity requirements according to customer needs. They help formalize, refine and track business-continuity requirements during the project. They integrate into TPO solutions in order to allow accurate planning and control of the useful test cycles. Finally, business-continuity requirements can apply to all or several projects. RDD solutions allow the management of cross-project requirements.

YPHISE SHORTLIST

Positioning of the market segment

The evaluated market segment is a specific one, with a precise positioning and list of software products. To avoid confusion, we differentiate it from the following list of market segments. A product belonging to one of these market segments is inappropriate for attaining the expected benefits.

➤ **PPM (Project Portfolio Management) solutions**

PPM solutions manage all requests from the business units. These requests can be compared, prioritized and planned according to cost, value or risk. PPM solutions help executives monitor the progress of a portfolio of projects, manage issues, assess investment performance and control strategy implementation. RDD solutions focus on accurately conducting each project according to the corresponding customer needs. They guarantee effective management of the scope of the project during its whole life cycle. They allow refinement of the requirements during the analysis and design phases according to the scope of the project. Some RDD solutions provide information to PPM solutions.

E.g. Changepoint (Compuware), Clarity (CA), Planview Portfolio Management (Planview), Rational Portfolio Manager (IBM Rational)

➤ **PM (Project Management) solutions**

PM solutions focus on managing the tasks, resources and costs of a project. They do not capture, manage or refine requirements. RDD solutions manage the requirements, based on customer needs, until the project is completed. They provide project leaders with effective management of the scope of each project during its whole life cycle.

E.g. Microsoft Project, Open Workbench

➤ **TPO (Test Process Optimization) solutions**

TPO solutions provide management of test definition, planning and execution. They cover both manual and automated tests, either functional or technical. They manage a repository of test cycles. They help plan, conduct and control the daily running of tests. RDD solutions focus on capturing, managing and refining the customer needs during the analysis and design phases. They also integrate into TPO solutions in order to validate completion of each customer need during the testing phases.

E.g. CARS (Compuware), Quality Center (Mercury), Silkcentral Quality Optimization (Borland Software)

➤ **ACM (Application Change Management) solutions**

ACM solutions provide version management of the code during the life cycle of a change; they manage the change process, from the request to the completion of each change; they provide release management of a series of changes. They do not capture, manage or refine requirements. RDD solutions focus on capturing, managing and refining the customer needs during the analysis and design phases. Effective RDD solutions integrate into ACM solutions in order to prioritize and track changes according to customer needs.

E.g. Allfusion Harvest Change Manager (CA), Dimensions CM (Serena), ClearQuest /ClearCase (IBM Rational), Synergy (Telelogic), Starteam (Borland Software)

➤ **EAM (Enterprise Architecture Modeling) solutions**

EAM solutions allow the modeling of both the business processes and the information systems. They facilitate the understanding of how the business processes are implemented in operations by the applications, the functional and technical services, and the infrastructure. So, EAM solutions provide a comprehensive understanding of the relationships between business processes and information systems. They help in making effective decisions aimed at aligning the information systems on corporate strategy and at mitigating the operational risk. RDD solutions focus on capturing, managing and refining the customer needs. EAM solutions are useful when analyzing the changes in order to highlight architecture, security, service-level or business-continuity requirements. These requirements are then managed by using RDD solutions that help guarantee that the requirements are met when the projects are conducted.

E.g. Aris Design Platform (IDS Scheer), Corporate Modeler (Casewise), Mega Modeling Suite (Mega), System Architect (Telelogic)

➤ **UML Design solutions**

UML Design solutions focus on detailing the design of the application in order to generate code. They do not capture or manage the requirements. They do not facilitate the handling of nonfunctional requirements, including architecture, security, service-level or business-continuity requirements. They should integrate into RDD solutions in order to guarantee accurate coverage of the various requirements during the design phases.

E.g. IBM Rational Rose (IBM Software), Tau Architect (Telelogic), IBM Rational Software Modeler (IBM Software), Together Designer (Borland Software)

➤ **AD (Agile Development) solutions**

Agile development is a generic term for defining the software development processes based on iterative life cycles. XP (Extreme Programming) is an example of an agile method. RDD solutions provide effective value for agile development. They guarantee both the accurate tracking of the customer needs and the effective control of the

system requirements in the meeting of these needs. However, the scope of use of RDD solutions is wider than agile development. They are required for mastering complicated functional and nonfunctional requirements, accurate contracts or big projects.

E.g. Profesy (Sofea).

The shortlist for the evaluated market segment

The shortlisted products can be used for all kinds of projects: large or small, technical or functional, including, as an option, the formal contractual relationship with customers or providers.

We insist on managing the whole life cycle of requirements, from capturing the customer needs, refining these needs in terms of functional or nonfunctional system requirements, to monitoring the meeting of these needs.

Our shortlist focuses on vendors that demonstrate a commitment to providing effective solutions dedicated to this discipline. Our final shortlist is as follows.

- Caliber RM (Borland)
- Dimensions RM (Serena)
- Doors (Telelogic)
- IRqA (TCP SI)
- OptimalTrace (Compuware)
- RequisitePro (IBM Rational)

➤ Caliber RM (Borland), Version 2005 R2

Borland focuses on ALM (Application Lifecycle Management) for implementing CMMI processes. ALM includes RDM (Requirements Definition and Management), GDD (Globally Distributed Development), LQM (Lifecycle Quality Management) and UML Modeling. Caliber RM and DefineIT pertain to the RDM package. Caliber RM manages requirements, while DefineIT graphically defines business scenarios. CMMI focuses on managing the requirements. The Borland strategy requires a commitment to RDM products.

➤ Dimensions RM (Serena), Version 10

Serena focuses on solutions that target change management. Its value proposition is change governance. Part of this strategy is providing a single command center for managing the changes. The Serena strategy requires effective management of requirements that integrate into ACM (Dimensions CM). This strategy is confirmed by the current release (September 06). The products for requirements management are Dimensions RM and Composer.

➤ **Doors (Telelogic), Version 8.1-001**

Telelogic provides solutions for managing the entire life cycle of advanced systems and software, from requirements to change management. Telelogic has demonstrated a strong commitment to requirements-driven development since our initial analysis of this market segment (2002). Requirements management (Doors) has been integrated into ACM (Synergy) since the fourth quarter of 2004.

➤ **IRqA (TCP SI), Version 3.5**

TCP SI is a pure player in requirements-driven development. It demonstrates interesting international expansion through the development of partnerships, including with distributors and value-added vendors. IRqA focuses on managing the process of engineering requirements.

➤ **OptimalTrace (Compuware), Version 4.1**

Compuware is committed to providing a solution for ALM (Application Lifecycle Management). This objective requires effective management of requirements. Compuware acquired SteelTrace (in the second quarter of 2006) in order to cover requirements management. This acquisition is recent. The integration of the product into the overall strategy is not achieved. In the past, Compuware did not focus on requirements management. However, the acquisition of SteelTrace demonstrates a new commitment to this market segment.

➤ **RequisitePro (IBM Rational), Version 7.0**

IBM has comprehensive presence and experience in the software development field. RequisitePro is an important component within the IBM Software Development Platform. It integrates into various tools in order to guarantee requirements-driven development.

Market trends

The shortlisted products are consistent with the major trends for this market segment.

➤ **The command center for aligning the IT efforts on customer needs**

Effective management of the customer needs and of the refinement of these needs in terms of system requirements is essential for optimizing the value, cost and duration of projects. Requirements management guarantees the alignment of efforts by the various IT teams on the expected value for the business. It is an essential component for monitoring and controlling the changes. So, RDD solutions integrate into various components of ALM (Application Lifecycle Management), including PPM (Project Portfolio Management), ACM (Application Change management) and TPO (Test Process Optimization). Forthcoming improvements will strengthen the role of requirements management for piloting and managing the IT activities on the basis of the value expected by customers.

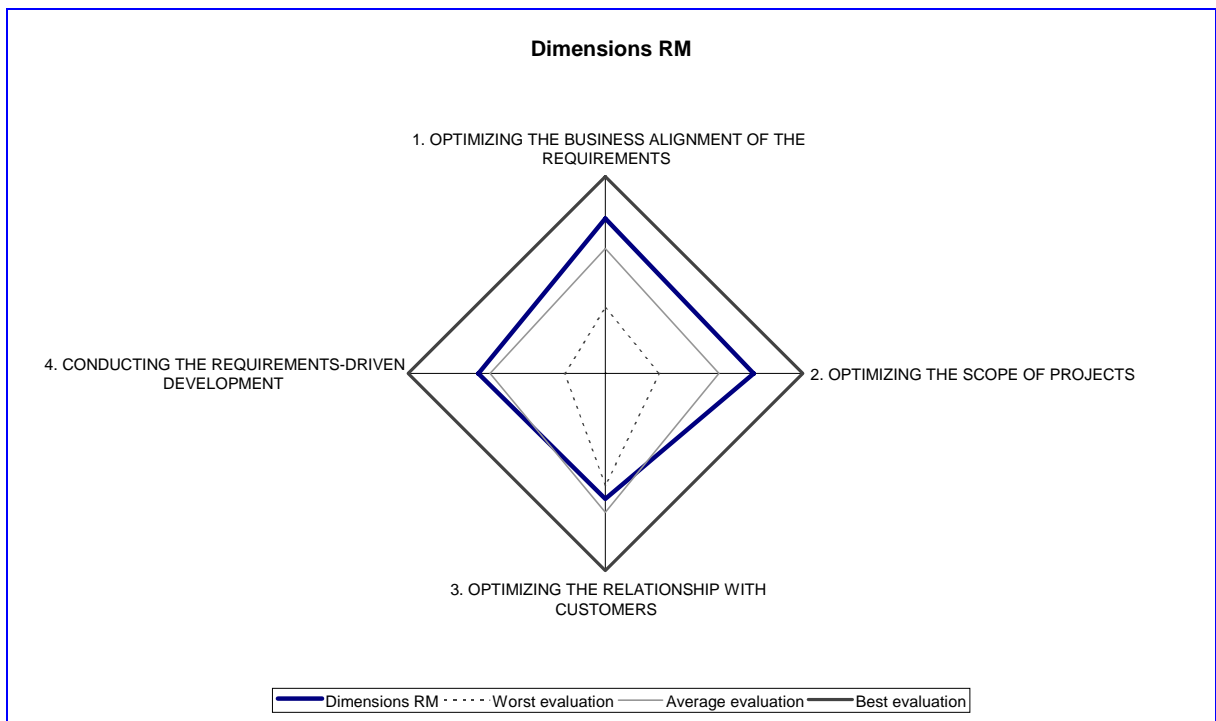
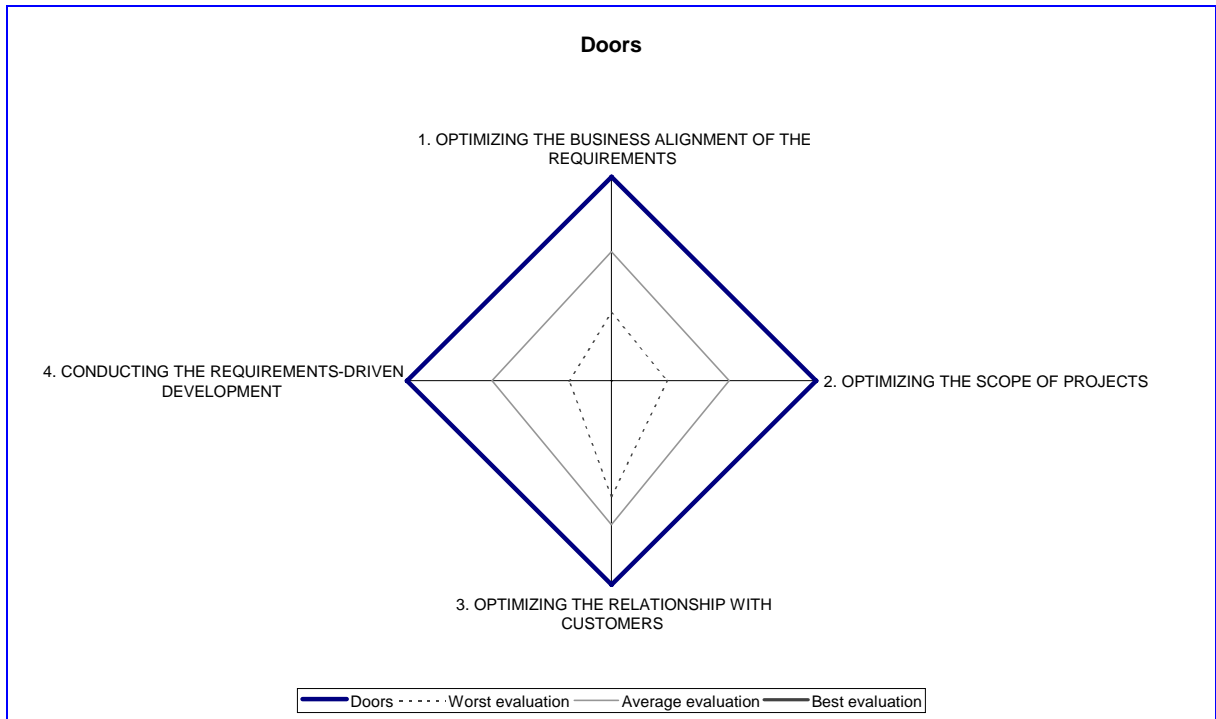
➤ **Documenting the agreements with customers or suppliers**

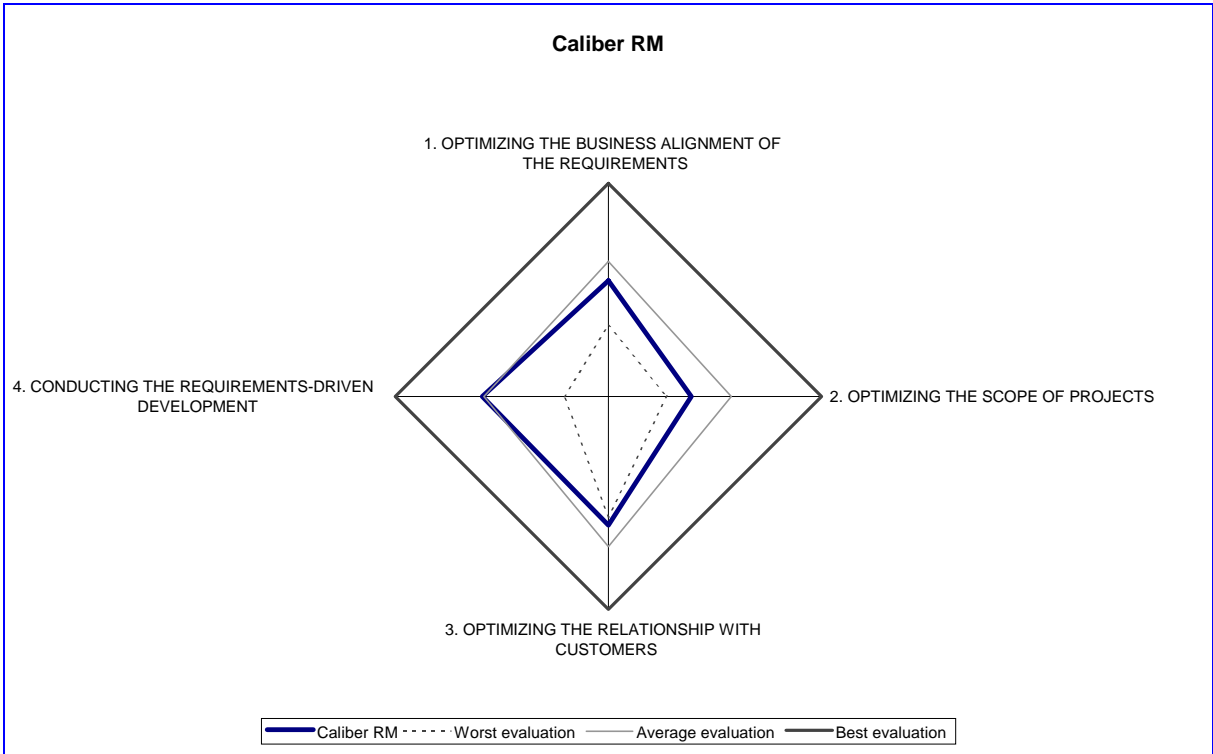
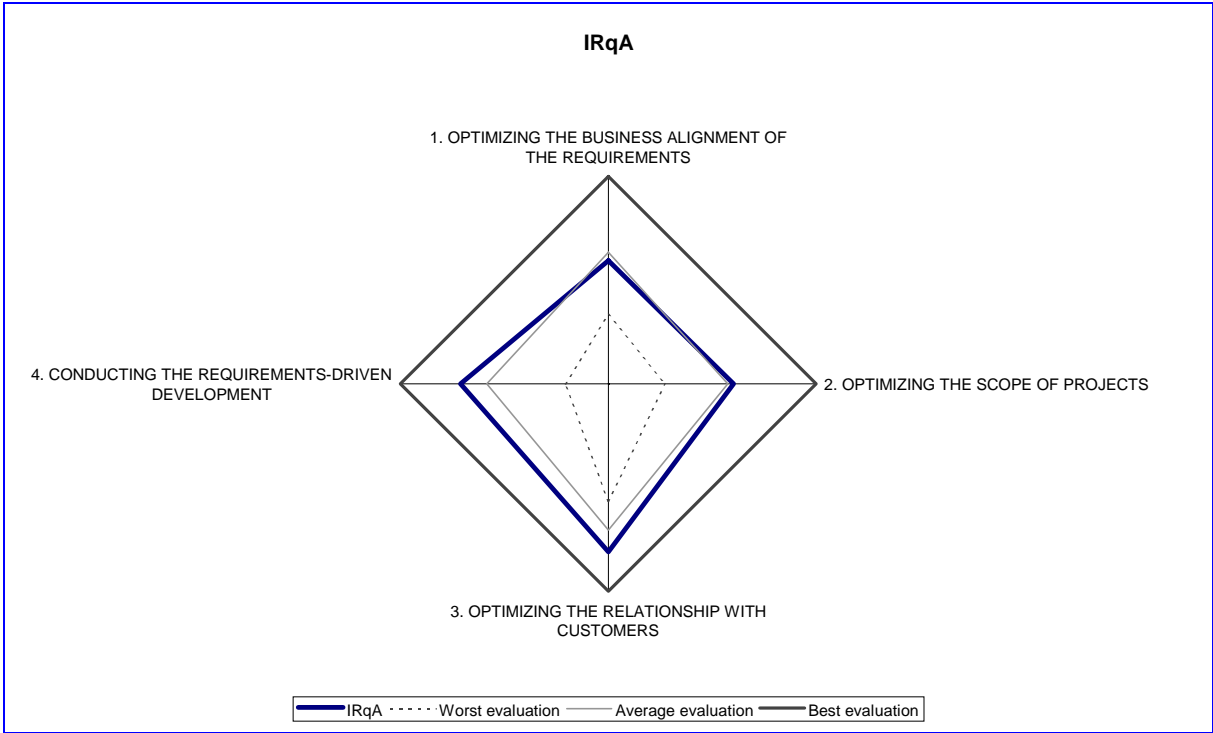
IT projects usually involve several teams, including external providers. A project often addresses several customers. So, the setup of each project must be carefully defined. Formalizing accurate and consistent agreements between all stakeholders, including customers and providers, is essential. The most effective RDD solutions provide powerful functions for producing, updating and managing the agreements. Forthcoming improvements should strengthen the functions for mastering the complex setup of relationships between the stakeholders of projects.

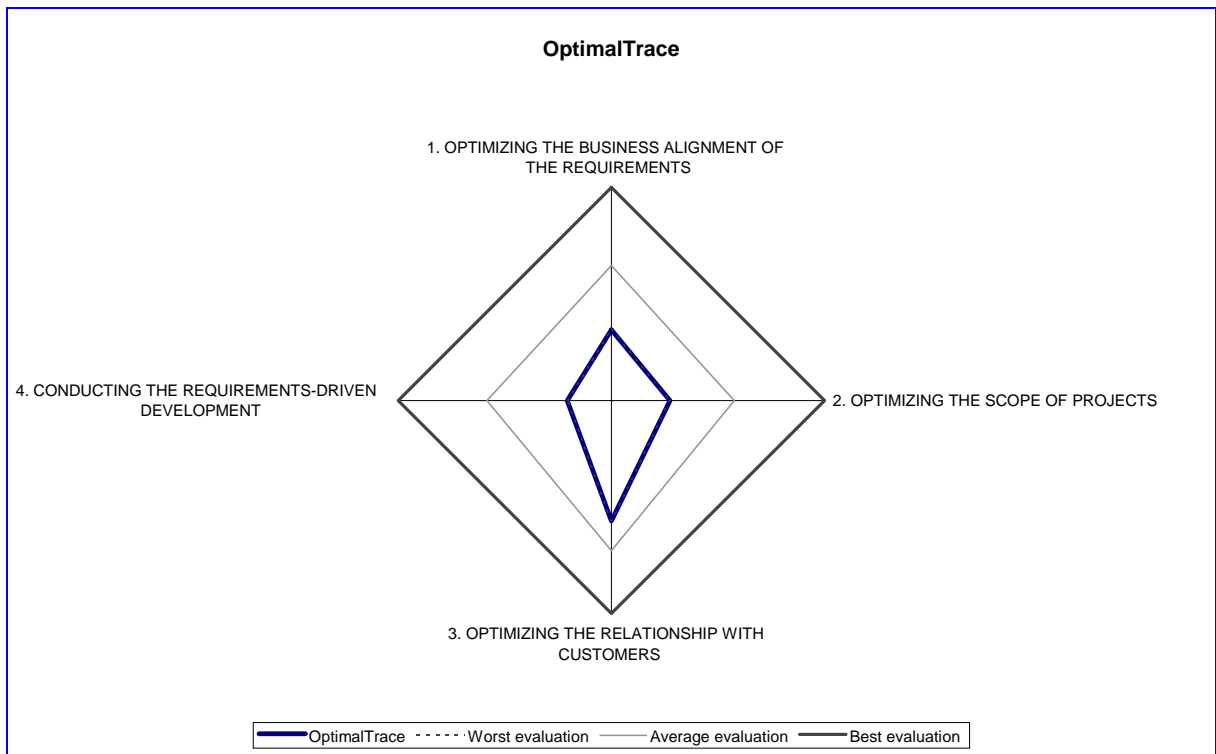
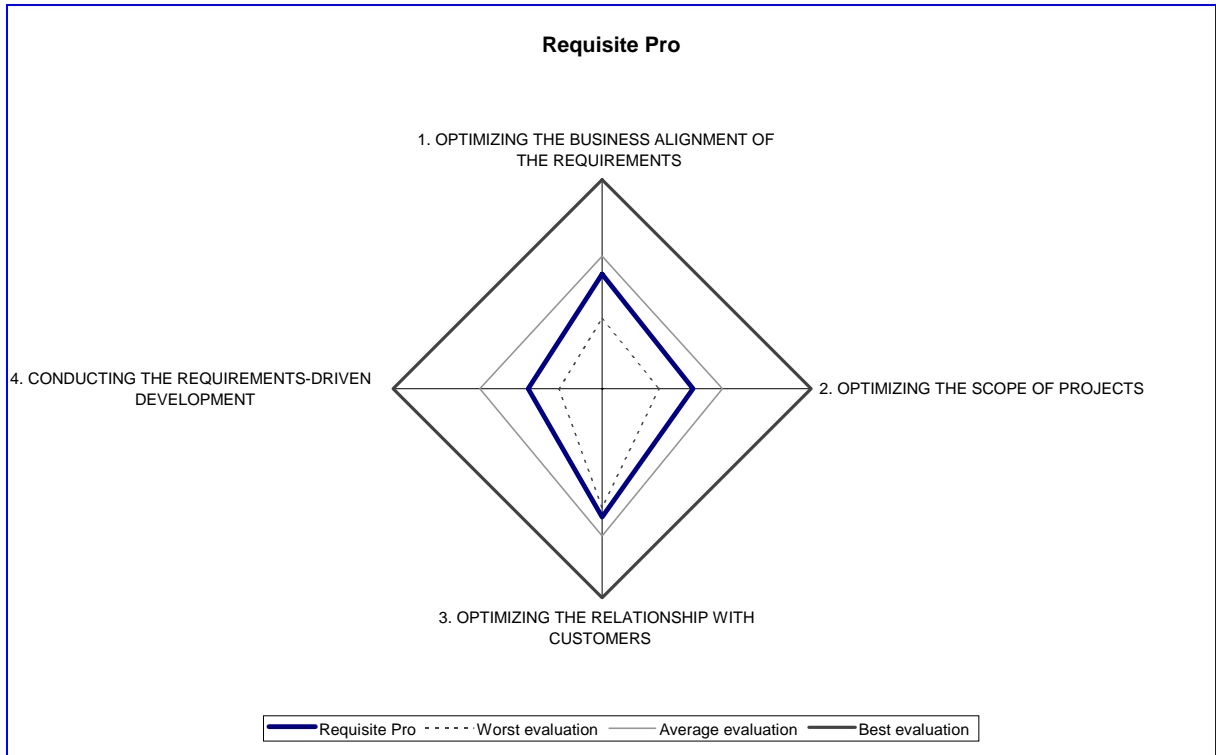
➤ **Controlling the changes**

Information systems are complex and critical assets. Their evolution must be carefully managed in order to avoid functional or service-level regression. Each change can drastically weaken flexibility, robustness or security. So, it is essential to analyze and control the changes, from the customer requests to the refinement of these changes in terms of system requirements, to the final completion of changes. Decisions must be tracked. The various stakeholders need to understand the requirements implemented by the system and the reasons why. RDD solutions allow the accurate mastering of requirements and of refining the processes. Forthcoming improvements will reinforce the use of RDD solutions for managing the compliance of information systems with baselines of requirements.

YPHISE RANKING







The above charts are presented in order of final top-down ranking of the shortlisted products after their in-depth ISO 9001-certified assessment by Yphise.

The four assessment dimensions show the expected benefits by large companies. They aggregate more than 130 functional or technical control items. This list of requirements is

practical, in order to evaluate the capacity of the products to provide an adequate return on investment. It is also proactive in order to appreciate the upcoming perspectives.

Comments

The detailed assessment of the shortlisted products demonstrates that the best ones have the strengths that would be useful for large companies and would represent a valuable investment.

This market segment is very competitive. We appreciate the efforts made by vendors of the best products in order to provide their customers with significant improvements since our previous assessment in the fourth quarter of 2004. Our current list of requirements is far more demanding than our previous ones (in 2004 and 2002). Our assessment demonstrates excellent evolution of the best products.













However, there are significant differences among products in the coverage of the different assessment dimensions.

- Doors stands out in all four assessment dimensions. It provides the best coverage of our list of requirements. It was also the best one during our previous assessments (in the fourth quarter of 2002 and the fourth quarter of 2004). Telelogic confirms its maturity and leadership in this market segment. This demonstrates its commitment. Doors provides effective capabilities for capturing, linking, analyzing and managing the changes to requirements. It integrates into ALM (Application Lifecycle Management) solutions. Doors demonstrates its capacity to adapt to a wide scope of companies, whatever their size or their maturity in the area of requirements management. We appreciate its capacity to customize to various needs. We appreciate its overall maturity.
- Dimensions RM is a comprehensive product. It provides a good coverage of our requirements. It demonstrates strengths for effective collaboration within project teams: it allows easy management of changes and refinement of requirements. We appreciate its user-friendly interface. The product integrates into Serena solution for ACM (Dimensions CM); the two products use the same database. The product ranked second during our previous assessment (in the fourth quarter of 2004). The significant evolution of the current release (September 2006) demonstrates the commitment of Serena.
- IRqA is a comprehensive product. It provides effective coverage of our requirements. The process of requirements management is easy to define and customize. Some comprehensive life cycle models are provided with the product. IRqA can compare a project with the best practices described in the suggested model. The product makes it possible to estimate the project effort, cost and duration.
- Caliber RM provides useful functions in order to organize the requirements. The product demonstrates strengths in its integration into other ALM (Application Lifecycle Management) solutions. We appreciate its user-friendly interface. It makes it possible to easily define a glossary of terms. By using Borland Estimate Pro, the product can estimate the project effort, cost and duration.

- RequisitePro provides useful functions in order to organize the requirements. The product demonstrates strengths in its integration into other tools of the IBM Rational suite. We appreciate its collaborating interface.
- OptimalTrace focuses on the capturing of requirements by business analysts. It has interesting functions for creating test cases based on the requirements. However, because of its recent purchase, the product does not integrate into the other tools provided by the vendor.

1. OPTIMIZING THE BUSINESS ALIGNMENT OF THE REQUIREMENTS

Managing the model of requirements
Capturing the customer needs

Doors		
Dimensions RM		
IRqA		
Requisite Pro		
Caliber RM		
OptimalTrace		

1. OPTIMIZING THE BUSINESS ALIGNMENT OF THE REQUIREMENTS

Customer needs must be captured and analyzed in order to produce adequate specification. They include explicit and implicit needs.

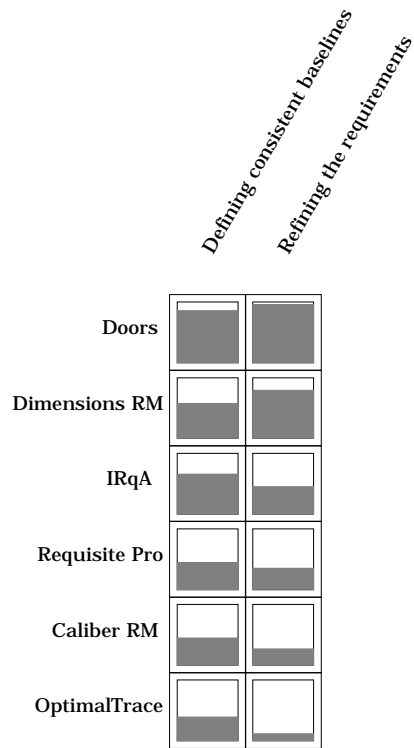
The explicit needs are provided by the customer, in various formats, or captured by business analysts. The analyst needs to capture requirements from the customer's inputs. A business analyst can also conduct meetings with the customer in order to define a high-level description of the future application.

The implicit needs are not provided by the customer. They include architecture, security or operations requirements. They cover various types of nonfunctional requirements. Some functional requirements can also be implicit, such as legal constraints. The model of requirements must guarantee accurate management of these various types of requirements. A model classifies the requirements according to use. It defines classes of requirements and information on requirements. Finally, access rights are required in order to manage the life cycle of requirements.

Comments

- Doors provides the best coverage in both subchapters. The product allows the extraction of customer needs from various formats. It helps import the needs and their organization from any document layout. So, it makes it possible to match how each customer operates. It manages external documents from the product. Finally, it accurately highlights the changes on external documents provided by the customer.
- Dimensions RM stands out in "Managing the model of requirements". We appreciate its accurate management of access rights on the requirements.
- The ranking of Caliber RM in "Capturing the customer needs" is quite low. The product manages scenarios by using Borland DefineIT. However, the scenarios do not relate to requirements. The product captures the requirements in various formats. However, it does not highlight the changes on external documents provided by the customer. Caliber RM provides homogeneous coverage of "Managing the model of requirements".
- The ranking of OptimalTrace in "Capturing the customer needs" is quite low, as the product does not capture requirements. OptimalTrace manages scenarios defined by business analysts.

2. OPTIMIZING THE SCOPE OF PROJECTS



2. OPTIMIZING THE SCOPE OF PROJECTS

A very difficult issue when conducting the projects is guaranteeing the alignment on business value. The project leader must adequately manage and mitigate the refinement of the requirements. An effective collaboration between the various stakeholders is required in order to mature the requirements. An easy-to-use interface allows the various stakeholders to view the requirements, to approve them or to request changes.

Customer needs are met through the implementation of projects. One or several projects can be required. It is essential to define the portfolio of projects and the content of each project in order to optimize the business value. Consistent baselines of requirements must be managed. The requirements are grouped into consistent lists in order to define and conduct projects. A consistent list of requirements is called a baseline of requirements.

Various stakeholders, including the project leader, the business analyst or the various engineering teams, need to detect and analyze the suspect links between requirements. Finally, a baseline of requirements can become a project of a portfolio, managed by using a PPM (Project Portfolio Management) solution.

Comments

- Doors provides the best coverage in both subchapters. It facilitates the collaboration of project teams through the use of forums. It allows the customization of a polling approach. The product has effective functions for accurately defining, comparing and managing the baselines. It facilitates the creation of a customized view. These views make it possible to analyze, understand and manage the project. The product highlights suspect links, with multilevels of suspicion. So, it makes it possible to accurately monitor the project and to manage the traceability of requirements.
- Dimensions RM stands out in "Refining the requirements". It demonstrates strengths for effective collaboration within project teams: it allows easy management of changes and refinement of requirements. We appreciate its user-friendly interface. The product manages baselines of requirements: it provides a good coverage of our requirements in "Defining consistent baselines".
- RequisitePro and Doors integrate into PPM (Project Portfolio Management) solutions.
- The ranking of OptimalTrace in "Refining the requirements" is quite low, as the product does not provide a Web-based interface. It does not manage the concept of forum. It does not facilitate collaboration within project teams. Improvements are announced for the next version.

3. OPTIMIZING THE RELATIONSHIP WITH CUSTOMERS

Demonstrating the meeting of requirements
Documenting the agreement

Doors		
IRqA		
Dimensions RM		
Requisite Pro		
Caliber RM		
OptimalTrace		

3. OPTIMIZING THE RELATIONSHIP WITH CUSTOMERS

The success of a project requires adequate confidence by customers that their requirements are being met.

This relationship requires adequate documentation of the agreement that lists the requirements. Customers need an agreement (or a proposal) that provides them with a description of the solution based on the needs. Furthermore, the project team needs a baseline for this solution. This baseline should include an accurate definition of the attributes that customize the solution for the customer.







The testing activities of the project must demonstrate the availability of the various requirements. The project leader needs to monitor the results of the tests managed, by using a TPO (Test Process Optimization) solution. Effective management of the test process requires a TPO solution. However, the project leader can also use RDD solutions in order to define and track the tests.

Comments

- Doors provides the best coverage in both subchapters. It allows the creation of a contract adapted to a specific customer. This contract reflects the customer's needs and the mutual commitment. The layout and the contents can be customized. The contract can easily be generated for one or more customers, with specific parameters for each customer. The product provides a bidirectional livelink with the generated contract. So, it makes it possible to track customer updates. The product is integrated into several TPO (Test Process Optimization) solutions. It is possible to create and manage test cases by using a specific toolkit called T3 (Test Tracking Toolkit). In such case, the requirements can be related to accurate test cases. In other cases, the requirements are exported to the TPO solutions. The product provides metrics in order to track the progress of the testing activities.
- Dimensions RM provides a good coverage of our requirements in "Demonstrating the meeting of requirements". The ranking in "Documenting the agreement" is average. The product favors internal management of reports and views. It also provides synchronization with word documents.
- IRqA demonstrates comprehensive coverage of our requirements. It makes it possible to create customized contracts by selecting the layout and the contents. The layout can easily be set from guidelines. The product allows the tracking of testing activities and the definition of high-level test cases. It integrates into Mercury Quality Center.
- Caliber RM stands out in "Demonstrating the meeting of requirements". The product allows an accurate definition of test cases. It provides a livelink integration into TPO solutions.

4. CONDUCTING THE REQUIREMENTS-DRIVEN DEVELOPMENT

Controlling the development
Managing the requirements processes

Doors	
IRqA	
Dimensions RM	
Caliber RM	
Requisite Pro	
OptimalTrace	

4. CONDUCTING THE REQUIREMENTS-DRIVEN DEVELOPMENT

The project leader needs to conduct the project according to the requirements.

The involved engineering teams, either internal or external, must accurately meet the requirements. The project leader needs to monitor the scope of requirements that are met. The project leader needs to guarantee consistency between the analysis phases and the detailed design managed, by using a Design solution. The project leader also needs to plan and control the work of the various implementation teams, either internal or external, according to the requirements. Changes made to applications are managed by using an ACM (Application Change Management) solution. RDD solutions must integrate into ACM solutions.

The project leader needs adequate processes in order to enforce requirements-driven projects. The requirements have a life cycle. The life cycle models are managed in order to guarantee the effective maturation and refinement of requirements. A glossary makes it possible for project teams to understand each other better by using the same vocabulary.

Comments

- Doors stands out in "Controlling the development". The product provides strong integration into several Design solutions and ACM (Application Change Management) solutions. It helps define use cases. It provides metrics for tracking the progress of the change orders and the requirements that have been met. Doors also provides the best coverage in "Managing the requirements processes". It is possible to create and manage life cycle models by using a specific toolkit called Trek.
- Dimensions RM provides homogeneous coverage of this assessment dimension. The product makes it possible to graphically create life cycle models. The product integrates into Serena solution for ACM (Dimensions CM). The two products use the same database. When a release is created in Dimensions CM, an equivalent collection of requirements is created in the product. The product also integrates into Design solutions.
- IRqA demonstrates comprehensive coverage of this assessment dimension. It particularly stands out in "Managing the requirements processes". The product makes it possible to create graphically life cycle models. The product can verify the coherence between the project and a suggested model.
- Caliber RM stands out in "Controlling the development". The product provides strong integration into Borland solutions for ACM and for UML modeling. It makes it possible to create, manage and track change orders according to the requirements. The product creates and manages use cases. These use cases can be reused in the UML-modeling

solution. Use cases can also be defined in the UML-modeling solution and imported into the product. There is a livelink between the two solutions.

- The rankings of OptimalTrace, RequisitePro and Caliber RM in “Managing the requirements processes” are quite low. The three products do not manage the concept of life cycle model.

YPHISE SOFTWARE ASSESSMENT

Yphise ongoing research program

Yphise identifies and certifies the best software products on the market, according to the requirements of large companies.

The Yphise ongoing research program has three goals.

1. **It selects each year the market segments** where good software products offer strengths that represent a valuable investment for large companies. Yphise focuses on those market segments dealing with issues and priorities of interest to IT Executives.
2. For each market segment, Yphise **identifies the shortlist of products** of interest, according to expected benefits for IT Executives.
3. **Yphise assesses each shortlisted product and certifies the best ones.** The opinion outlined by Yphise relies on detailed assessment of the products in order to accurately evaluate their capacity to attain the expected return on investment. The Yphise ISO 9001-certified methodology allows for a rigorous scoring of each product. Yphise certifies the products that demonstrate the required strengths.

Yphise unique experience

Thousands of investment decisions made by large companies have used Yphise independent research.

1. **Yphise has assessed over 150 software products each year since 1985.** Yphise has unparalleled experience in the recognition of winning strategies in software vendor claims.
2. **Yphise covers all areas of interest to large companies** in order to develop, operate, maintain and secure the applications to compete. Yphise has unique expertise in evaluating the investment priorities that various families of software products represent, on the basis of issues of interest to large companies.
3. **Yphise is ISO 9001-certified in software product assessment.** This worldwide quality standard guarantees independence and focus on key issues of interest to large companies.
4. **Yphise judgment relies on a detailed assessment** of the products, including hundreds of control criteria designed to meet the needs of large companies. Our lab is located in Paris, France, across from Pompidou Center. The numerous vendors who visit us appreciate this very convenient location.

5. **The YBRM (Yphise Business Risk Management) research program** guarantees a sharp focus on requirements useful to large companies. YBRM manages an open framework of practices in order to optimize IT cost, value and risk. Yphise software assessment takes in account the results of this unique research.
6. **All Yphise results are released** in order to help IT Executives and Managers, software vendors and service providers monitor the software market according to the requirements of large companies.

Purpose of each released volume

The released results are designed to cover the needs of IT Executives and Managers, from the planning of investment priorities to the selection of products, including the negotiating with service providers of products to use in their solutions.

➤ **The EXECUTIVE volume and the EXECUTIVE License**

The EXECUTIVE volume is designed to appreciate the investment priorities for the large companies, to identify the shortlist of products, or to evaluate the solutions from service providers that include software products.

The EXECUTIVE volume is produced after in-depth analysis of the evaluated market segment. The ranking of the shortlisted products aggregates the results from the detailed assessment.

The Yphise ongoing research program selects each year the most valuable market segments according to the investment priorities of large companies. Yphise produces an EXECUTIVE volume on each evaluated market segment. The EXECUTIVE License grants IT Executives and Managers, software vendors and service providers online access (at yphise.com) to all the EXECUTIVE volumes released during the year. This license allows for effective monitoring of the software market according to the requirements and priorities of large companies.

➤ **The list of useful requirements to create value for large companies**

Yphise produces on each market segment the useful list of requirements in order to accurately score the software products according to expected benefits by large companies (REQUIREMENTS volume).

This list of requirements is practical, in order to evaluate the capacity of the products to provide an adequate return on investment. It is also proactive, in order to appreciate the upcoming perspectives. It provides IT Managers, software vendors and service providers with a reference set of functional and technical characteristics in order to develop effective software products. Yphise has vast expertise in producing accurate and useful lists of requirements.

➤ **The detailed assessment of the shortlisted products**

The Yphise ISO 9001-certified assessment of each product provides accurate results. Each assessment includes hundreds of control criteria and allows rigorous scoring of products.

The DETAILED ASSESSMENT volume provides results in tables for quick access and accurate comparison between products. The SELECTION ASSISTANT provides results in Excel format in order to customize all the data and weights according to your specific opinions and needs. These tools allow accurate trade-off when selecting a product, before the Proof of Concept in order to validate it according to your own specific use and technical environment.