TECH CHOICES

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# The Forrester Wave™: Enterprise Architecture Tools, Q2 2007

by Henry Peyret

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## Casewise, IDS Scheer, MEGA International, Proforma, And Telelogic Lead In EA Tools

**by Henry Peyret**
with Gene Leganza, Caroline Hoekendijk, Onica King, Matthew McCormack, and Andrea Carini

## EXECUTIVE SUMMARY

Forrester evaluated leading enterprise architecture (EA) tools vendors across 120 criteria and found that Casewise, IDS Scheer, MEGA International, Proforma, and Telelogic confirmed their EA tools leadership in this double-digit growth market. Relatively new entrant alfabet, Agilense, Troux, and Adaptive are also Strong Performers, but lack the most advanced features like simulation or templates. Finally, Embarcadero is a newcomer in the EA tools market arena and could be a good entry point for data-focused, lightweight EA initiatives.

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## NOTES & RESOURCES

Forrester conducted product evaluations in Q1 2007 and interviewed 10 vendors: Adaptive, Agilense, alfabet, Casewise, Embarcadero, IDS Scheer, MEGA International, Proforma, Telelogic, and Troux.

### Related Research Documents

"EA Governance Provides Traction"
January 11, 2007, Best Practices

"Enterprise Architecture Modeling Tools Not Yet Ready For Prime Time"
May 12, 2006, Best Practices

"Getting Value From Enterprise Architecture Tools"
August 9, 2004, Market Overview

## TARGET AUDIENCE

Enterprise architecture professional

## EA TOOLS ARE NO LONGER JUST FOR ENTERPRISE ARCHITECTS

The adoption of enterprise architecture (EA) as an IT practice began 10 to 20 years ago, predominately in banking, manufacturing, and government organizations (particularly US agencies). It then became generalized to every sector, but until recently, it has remained the domain of architecture specialists.

In the past few years, additional drivers have reinforced the use of EA and increased its importance:

- **Companies are becoming more global while seeking more local efficiency and agility.** Organizations tend to share not only products and services between countries and regions, but increasingly also processes and applications — in addition to the IT infrastructure that many firms have already consolidated. But standardization and consolidation are not applied blindly. Successful firms also understand the peculiarities of local markets and thus adapt global best practices to local requirements. EA repositories and modeling tools allow analysis and modification of shared processes and applications.

- **Executives face pressure for more rapid decision-making.** The challenge of minimizing risks from change becomes greater as IT complexity increases. EA tools — which have multiple models tracking links and dependencies — offer impact and risk analysis and summary dashboards and also help prioritize different initiatives.

- **Competing strategic initiatives require a common source of information.** Simultaneous enterprisewide strategic initiatives such as business process management (BPM), business service management (BSM), project portfolio management (PPM), IT governance implementation, strategic planning processes, SOA adoption, and application or process rationalization are more likely to be successful if they reuse common strategic information — an ideal task for the EA repository.

### More Types Of Information, More Types Of User

The main consequence of these drivers is that the number of users for EA information has increased dramatically, at first within IT groups but now also outside IT in business areas. Tool vendors have responded by predefining different organizational roles in their products — each with their own menus, viewpoints, or models — such as:

- **Within the EA team.** Architecture team roles include business analyst, enterprise architect, business architect, IT architect, domain architect, systems architect, information/data architect, and technology architect.

- **Outside the EA team but inside IT.** Non-EA IT roles include CIO, application architect, product manager, IT controller, budget planner, master planner, cluster planner, portfolio manager (investment board), services manager, project manager, application portfolio manager, demand manager, solution bidder, tender manager, platform manager, application developer, system administrator, database administrator, and database modeler.

- **Outside IT.** Non-IT roles include business designer, business planner, business strategist, quality, goal seeker, business optimizer, process owners, and compliance/risk officer.

In parallel with this adoption and "democratization" of EA, the largest organizations have adopted EA tools to create and manage various graphical models. For example, one large airplane manufacturer deployed an EA tool for 3,000 employees. However, adoption by all but the largest firms is less robust. In a Forrester survey published in 2006, 64% of the largest organizations reported that they have adopted dedicated EA tools, but only 50% of firms with 1,000 to 5,000 employees have done so. EA groups not acquiring EA-specific tools use development or Office tools to document their EA initiatives. And 38% of firms in the 1,000- to 5,000-employee category are not using any tools for EA.[1]

But the trend is toward adoption of dedicated tools. Most vendors that Forrester interviewed for this evaluation see an increase in the average deal price as a consequence of the increase in the number of concurrent user licenses that customers purchase. While the typical EA tool deal five years ago involved five to 10 users, typical deals today involve 10 to 20 modeling users and at least 50 to 100 reader licenses.

## The EA Tools Market Continues Its Double-Digit Growth

Forrester assesses the EA tools market at about $320 million for 2006, which represents a double-digit growth rate of between 12% and 20% for the past three years. More than 35 vendors share this market — not counting the software modeling tools that are also expanding into EA modeling territory.

The EA tools market drivers are that:

- **The number of enterprises embracing EA is increasing.** Forrester estimates that 90% of Fortune 500 firms have EA practices, and the number of Global 2000 firms that are creating formal EA initiatives continues to increase.

- **EA stakeholders seek more comprehensive governance and collaboration.**[2] As IT executives see the value of architecture programs, they push for broader use among IT practitioners, which requires broader governance processes and tools with formal collaboration and change management capabilities.

- **Data architecture is coming back.** The need for information integration across organizational and IT silos is driving renewed interest in data models, after they were somewhat eclipsed by the business process modeling focus of the past five years.[3]

What are the market trends for EA tools?

- **The EA tools market will continue to grow.** Most of the vendors have grown steadily over the past five years, and most are predicting that they will continue to grow at the same pace — by between 15% and 20% — in 2007 as well. As EA grows as a practice, users of Visio and other simple drawing tools are recognizing the limitations of a too-basic approach.

- **EA tool features will converge.** In 2004, Forrester identified three main categories of EA tools: modeling, repositories, and change management.[4] Vendors in each category have added some governance and collaborative features to their products, and the lines between them are beginning to blur.

- **Consolidation will occur as the market matures.** The products are mature and the leaders are clearly established, but two factors will force this market to evolve. The first is the size of most vendors. Except for IDS Scheer and Telelogic, both of which have revenues of more than $200 million, all the vendors have less than $39 million in revenues. The second factor is that EA is becoming key to an increasing number of strategic initiatives — gaining the interest of a number of software vendors, particularly the large players. Most of the EA tool providers are perfect targets for acquisition by bigger software players like platform vendors, IT governance vendors, or PPM vendors.

## EA TOOLS EVALUATION OVERVIEW

To assess the state of the enterprise architecture tools market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of top enterprise architecture tool vendors.

### The New Mix Of EA Stakeholders Needs Collaborative Features

After examining past research, user need assessments, and vendor and expert interviews, we developed a comprehensive set of evaluation criteria (see Figure 1). We evaluated vendors against approximately 120 criteria, which we grouped into three high-level buckets:

- **Current offering.** Forrester looked at the breadth of each vendor's product offering, such as modeling, simulation and analysis, life-cycle management, publishing, templates, and product architecture.

**Figure 1** Evaluation Criteria

| | |
|---|---|
| CURRENT OFFERING | |
| Modeling | How sophisticated is the environment for modeling EA models? |
| Simulation and analysis | What features does the product provide for simulation and analysis? |
| Life-cycle management | What features does the product provide for life-cycle management? |
| Publishing | Does the product provide a publishing environment for readers? |
| Templates | How extensive is the product's set of prebuilt models for general and industry-specific models or frameworks? |
| Product architecture | How robust is the product's runtime integration environment in terms of high performance, reliability, and scalability? What measures have been taken to localize the product for multiple regions? |
| STRATEGY | |
| Product strategy | How strong is the vendor's product strategy? |
| Corporate strategy | How strong is the vendor's corporate strategy? |
| Product cost | What is the cost of this product? |
| MARKET PRESENCE | |
| Installed base | How large is the vendor's installed base of customers for this product and for all products? |
| Revenues | What are the vendor's revenues over the past four quarters? |
| License versus service | What is the percentage split between license and service revenues? |
| Revenue growth | What is the vendor's year-on-year revenue growth over the past four quarters? |
| Systems integrators | How many integrator partners have completed three or more deployments of any version of this product in the past 18 months? |
| Services | How strong are the vendor's implementation and training services? |
| Employees | How many engineers does the vendor have dedicated to this product? How big is the vendor's sales presence? |
| Technology partners | How strongly do technology partners support this product? |

41915 Source: Forrester Research, Inc.

- **Strategy.** Forrester looked at the strength of the vendors' product strategy and vision and how they intend to support enterprises. The most heavily weighted criteria in this bucket are the product road map and partnerships. But capitalization to fund growth in a maturing market is also important; although Forrester expects continued consolidation, product investments are still required to differentiate each vendor's value proposition.

- **Market presence.** Forrester gauged the size of each vendor's customer base and evaluated the depth of human and financial resources available to enhance the products and the partnership strategy.

### Evaluated Vendors Have A Worldwide Presence And An EA Focus

Forrester looked at more than 35 vendors whose products provide EA-like features. Some tools focus more specifically on system and/or application architecture, while others are closer to the program or portfolio management product families. Forrester included 10 vendors in this assessment of EA tools: Adaptive, Agilense, alfabet, Casewise, Embarcadero, IDS Scheer, MEGA International, Proforma, Telelogic, and Troux. Most of these vendors have:

- **An international presence.** As the largest global firms are currently the biggest users of EA tools, vendors that address only a single region will not be able to compete.

- **Functional coverage addressing at least the enterprise architect role.** Each product had to have significant functionality specifically designed for enterprise architects.

In our last EA tools usage survey published in 2006, 9% of enterprise architects used development or data modeling tools from vendors such as Rational, CA Erwin, Sparx System, Livelink, SilverRun, and Ptech. Forrester decided to represent this category of tools to reflect the renewed interest in data architecture. We chose Embarcadero because it explicitly stated that it is starting to address simple EA needs with the announcement of its EA/Studio product in March 2007.

## SEASONED EA TOOL VETERANS COMPETE HEAD TO HEAD WITH NEWER ENTRANTS

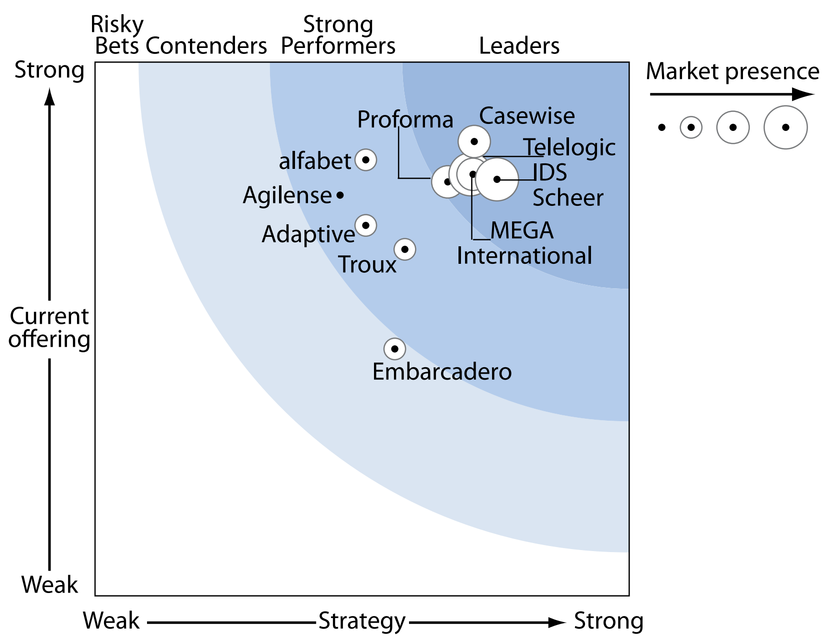
The evaluation uncovered a market in which (see Figure 2):

- **Seasoned players Casewise, IDS Scheer, MEGA International, Proforma, and Telelogic lead.** These vendors began with modeling tools and continuously added features to now support change management.

- **Adaptive, alfabet, Agilense, and Troux are Strong Performers.** alfabet and Agilense are relatively new entrants. They differentiate by focusing on change management capabilities in line with ITIL and IT governance trends. Based on their current offerings, they are now competing against the EA leaders. But vendors in this category are still small and self-funded or financed by venture capital, and the question remains as to whether they will be able to compete against the veteran vendors, which enjoy up to 10 times their revenues, while continuing to develop new features.

- **Embarcadero is a Contender.** MEGA International made the trip from data modeling to EA more than 10 years ago. Embarcadero is a new vendor embarking on that trip. It already has some strengths, as it has a repository-based architecture. But its current coverage of data and business process models is still limited compared with what have become typical EA model capabilities. Additionally, it has yet to address the governance trend.

**Figure 2** Forrester Wave™: Enterprise Architecture Tools, Q2 '07

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Source: Forrester Research, Inc.

**Figure 2** Forrester Wave™: Enterprise Architecture Tools, Q2 '07 (Cont.)

| | Forrester's Weighting | Adaptive | Agilense | alfabet | Casewise | Embarcadero | IDS Scheer | MEGA International | Proforma | Telelogic | Troux |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CURRENT OFFERING | | 3.45 | 3.74 | 4.07 | 4.22 | 2.29 | 3.88 | 3.90 | 3.86 | 3.92 | 3.22 |
| Modeling | 25% | 3.91 | 4.15 | 4.82 | 4.75 | 2.71 | 4.61 | 4.53 | 4.32 | 4.62 | 3.57 |
| Simulation and analysis | 5% | 0.60 | 1.90 | 2.40 | 3.80 | 0.00 | 2.40 | 4.00 | 2.20 | 2.80 | 0.30 |
| Life-cycle management | 25% | 3.18 | 3.07 | 3.93 | 3.24 | 1.92 | 3.00 | 3.70 | 3.29 | 3.39 | 2.90 |
| Publishing | 15% | 4.50 | 5.00 | 5.00 | 4.75 | 2.75 | 3.50 | 5.00 | 4.75 | 5.00 | 5.00 |
| Templates | 10% | 1.70 | 3.17 | 1.69 | 5.00 | 1.84 | 4.36 | 3.67 | 4.18 | 4.18 | 1.36 |
| Product architecture | 20% | 4.00 | 3.85 | 4.20 | 4.10 | 2.70 | 4.50 | 2.65 | 3.60 | 3.05 | 3.50 |
| STRATEGY | | 2.53 | 2.29 | 2.53 | 3.55 | 2.81 | 3.77 | 3.47 | 3.39 | 3.53 | 2.90 |
| Product strategy | 45% | 2.30 | 1.70 | 2.40 | 3.00 | 2.30 | 3.60 | 3.60 | 3.00 | 3.00 | 3.00 |
| Corporate strategy | 40% | 2.70 | 2.50 | 2.60 | 3.90 | 3.50 | 5.00 | 3.60 | 3.60 | 4.60 | 3.30 |
| Product cost | 15% | 2.75 | 3.50 | 2.75 | 4.25 | 2.50 | 1.00 | 2.75 | 4.00 | 2.25 | 1.50 |
| MARKET PRESENCE | | 2.12 | 1.27 | 2.69 | 3.47 | 2.79 | 4.10 | 3.47 | 3.77 | 4.22 | 2.94 |
| Installed base | 30% | 1.90 | 0.00 | 2.30 | 4.10 | 1.25 | 4.70 | 2.95 | 4.00 | 4.70 | 2.60 |
| Revenues | 10% | 1.00 | 1.00 | 2.00 | 3.00 | 4.00 | 5.00 | 3.00 | 2.00 | 5.00 | 2.00 |
| License versus service | 5% | 3.00 | 5.00 | 5.00 | 5.00 | 5.00 | 1.00 | 3.00 | 4.00 | 5.00 | 5.00 |
| Revenue growth | 15% | 5.00 | 5.00 | 5.00 | 0.00 | 5.00 | 3.00 | 5.00 | 5.00 | 3.00 | 5.00 |
| Systems integrators | 10% | 1.00 | 0.00 | 1.00 | 5.00 | 5.00 | 3.00 | 3.00 | 5.00 | 5.00 | 3.00 |
| Services | 10% | 1.60 | 0.60 | 3.80 | 3.60 | 0.80 | 4.40 | 3.70 | 2.70 | 3.60 | 2.60 |
| Employees | 10% | 0.90 | 0.60 | 2.70 | 3.80 | 3.30 | 5.00 | 4.10 | 2.50 | 5.00 | 3.00 |
| Technology partners | 10% | 2.00 | 0.50 | 0.50 | 4.50 | 1.00 | 4.50 | 3.00 | 4.00 | 2.50 | 1.00 |

All scores are based on a scale of 0 (weak) to 5 (strong).

41915 Source: Forrester Research, Inc.

## Change Management Becomes A Key Differentiator

The evaluation also uncovered a market in which:

- **Import and export functions remain weak points.** Providing support for standard formats is a never-ending race, and all vendors' scores were between average and poor for these criteria. Why? There does not yet exist a single universal metadata standard format.[5] The vendors must support a ton of different formats as this is key to fully participating in the burgeoning metadata, SOA, and Digital Business Architecture (DBA) trends.

  Proforma took the approach of developing its own canonical format called CIF and signed partnerships to support its format. This is a reasonable proprietary approach. In another approach, MEGA International, Adaptive, and Troux simplified development with an extract, transform, and load (ETL) tool. This second strategy would provide meaningful benefits if vendors encouraged their customers to share their own transformations within a user community.

- **Metamodel customization is no longer a major differentiator.** Why? Every product now offers metamodel customization, albeit with some differences around ease of use. Vendors' customer references told Forrester that they do one of three things regarding metamodel customization: 1) they use the metamodels as they are because they already provide more than what the customer needs; 2) they modify the metamodels only slightly — for example, simply adding attributes — because they are concerned about future version support; or 3) they involve the vendor's services arm to handle extensive customization.

- **No one vendor has a clear mid-term road map.** Most vendors presented us with a product strategy for the next near-term release, but none had a strong road map for the mid-term. This reflects a market focus on the buzzword "du moment." For example, the market focus moved to adopt the business process modeling trend, then some of the governance angles, and is now adopting the SOA and the governance, risk, and compliance (GRC) trends. In this fast-changing environment, it is difficult to identify the drivers for the mid-term time frame. As a consequence, the EA leading players continuously adapt their strategies to their customers' requirements by adding dedicated features or modules to their existing stable product sets, and this varies as IT trends vary.

- **Web-based *and* standalone modeling make the difference.** Every vendor provides a way to publish EA repository content in HTML. The vendors also offer the capability to dynamically access models in real time through a Web site for graphical and textual information. Some products provided a Web-based graphical modeling environment, which marked the success of early proponents such as Agilense and Troux Metis. But most vendors are now moving in that direction, and it has become less of a differentiator. The most flexible products currently offer both a complete Web-based architecture, thanks to RIA technologies like Ajax, and a standalone environment that is particularly useful for architects who regularly travel and collect multiple sources for models.

- **The criteria associated with change management make the difference.** The criteria that really differentiate the products are the ones supporting change management. These criteria are included in the life-cycle management category and include features like governance support and repositories with version management.

This evaluation of the enterprise architecture tools market is intended to be a starting point only. Readers are encouraged to view detailed product evaluations and adapt the criteria weightings to fit their individual needs through the Forrester Wave Excel-based vendor comparison tool. Why it is so important for your choice of EA tool? Most enterprise architects prefer one of three typical

EA approaches — "top-down," "bottom-up," or "change management" — and each approach has its champions. Top-down modeling champions are Casewise, IDS Scheer, MEGA International, Proforma, and Telelogic; Adaptive's repository should be preferred for the bottom-up approach; and Agilense and alfabet lead in change management. But the boundaries are blurring between categories; based on your own approach, which might be a combination of EA approaches, you must identify a differentiated shortlist and the products that best fit your requirements.

## VENDOR PROFILES

### Leaders

- **Casewise.** Casewise is a long-time player and leader in the enterprise architecture (EA) modeling business, with a solid product offering in its Corporate Modeler Suite. Casewise has broad reach, with a reseller network of 200 partners. Corporate Modeler Suite provides strong modeling, simulation, and analysis capabilities, and templates. Areas for improvement? Casewise needs to enhance its import/export capabilities.[6]

- **IDS Scheer.** IDS Scheer is among the leaders in the EA tools market. The company enhanced its well-known business process (BP) modeling suite, ARIS, with standard EA coverage that supports additional frameworks, such as Zachman and Department of Defense Architecture Framework (DoDAF), under the ARIS Enterprise Architecture Solution name. IDS Scheer has effectively leveraged its existing reputation and global presence to capture a significant portion of the EA market and establish powerful partnerships. It must, however, continue to develop its life-cycle management offerings, with an eye to supporting SOA governance, to continue to lead this market.[7]

- **MEGA International.** MEGA International is one of the leaders in Forrester's evaluation of EA tools. Its strategy is to deliver a complete EA modeling solution. MEGA International's offering combines a comprehensive metamodel with good life-cycle management. Does MEGA International's tool have any weaknesses? The product lacks a solid Web-based modeling environment compared with its top competitors, and the complexity of its comprehensive metamodel means that some training is necessary to make effective use of all the possible models.[8]

- **Proforma.** Proforma provides a functionally rich EA tool and a significant number of templates and models. Proforma's import/export capabilities are a particular standout. But despite the emphasis put on "managing change" in the new release of ProVision Series 6, its product shows limitations for life-cycle management in comparison with other new entrants in the market. However, Proforma's offering is very strong and it does not have any significant weaknesses as an EA tool.[9]

 

- **Telelogic.** Telelogic acquired the leading System Architect EA tool when it took over Popkin Software in 2005. Building on Popkin's software modeling roots laid down in the 1990s, System Architect excels at modeling functionality. An area that needs attention is governance process support. Telelogic's product is best suited for enterprises looking to support a classic top-down EA approach.[10]

## Strong Performers

- **alfabet.** alfabet is a Strong Performer in this evaluation of EA tools with a strong EA tool offering, but it has not established a significant market presence as yet. alfabet's tool demonstrates how the "change management" approach to EA tools applies pragmatism to EA programs by coordinating changes in different dimensions — particularly project portfolio management. Enterprise architects can increase the number of potential users of EA information with this approach, particularly those within the largest and most complex enterprises. alfabet needs to provide better template support and improve its market presence by pursuing additional strategic partnerships like the one it established in 2007 with Software AG.[11]

- **Agilense.** Agilense is a Strong Performer in the EA tools market. Agilense's product aims to help enterprise architects share EA knowledge. The company is one of the trendsetters in the "change management" EA tools category. Agilense also brings an interesting SaaS approach to the EA tools market, a good fit for a market where potential buyers often have difficulty justifying the significant upfront investment in software licenses required by other vendors. Agilense needs to continue to invest in life-cycle management to continue to differentiate from the veteran EA vendors that are also progressing on that front. Agilense did not disclose market presence information as it is privately funded.[12]

- **Troux.** US-based Troux acquired the Metis modeling software from Sweden-based Computas in 2005. Troux's family of EA tools provides modeling capabilities in addition to solving painful IT shop issues such as decreasing technology diversity and managing service levels. Remaining opportunities for Troux include developing templates and simulation features and establishing meaningful technology partnerships. Despite a good global geographic presence, the vendor suffers from a small market share, an issue it must solve to move from being a venture capital-backed initiative to a profitable competitor.[13]

- **Adaptive.** Adaptive shapes up as a Strong Performer in the EA tools market. While its small size restricts its service offerings, its strong metamodel features provide elegant data lineage capabilities and an enterprise metadata repository hub for those firms seeking collaborative environments for different modeling tools and with those tools that are already in place. Adaptive is a particularly good complement to Visio modeling. Simulation capabilities are an area of improvement for Adaptive.[14]

### Contenders

- **Embarcadero.** Embarcadero is a Contender in the EA tools market, selling its solution mainly through indirect channels globally. Its introduction of new products provides business process modeling for a move toward more global EA coverage. Embarcadero provides a repository for performing impact analysis and for sharing models among practitioners in various roles. The bottom line? The product has solid data modeling capabilities, but it is not a heavyweight in EA support.[15]

## SUPPLEMENTAL MATERIAL

### Online Resource

The online version of Figure 2 is an Excel-based vendor comparison tool that provides detailed product evaluations and customizable rankings.

### Data Sources Used In This Forrester Wave

Forrester used a combination of two data sources to assess the strengths and weaknesses of each solution:

- **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls to gather details of vendor qualifications.

- **Customer reference calls.** To validate product and vendor qualifications, Forrester also conducted reference calls with two or three of each vendor's current customers.

### The Forrester Wave Methodology

We conduct primary research to develop a list of vendors that meet our criteria to be evaluated in this market. From that initial pool of vendors, we then narrow our final list. We choose these vendors based on: 1) product fit; 2) customer success; and 3) Forrester client demand. We eliminate vendors that have limited customer references and products that don't fit the scope of our evaluation.

After examining past research, user need assessments, and vendor and expert interviews, we develop the initial evaluation criteria. To evaluate the vendors and their products against our set of criteria, we gather details of product qualifications through a combination of questionnaires, and discussions with client references. We send evaluations to the vendors for their review, and we adjust the evaluations to provide the most accurate view of vendor offerings and strategies.

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave document — and then score the vendors based on a clearly defined scale. These default weightings are intended only as a starting point, and readers are encouraged to adapt the weightings to fit their individual needs through the Excel-based tool. The final scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve.

## ENDNOTES

1 Forrester surveyed 196 enterprise architects about their use of enterprise architecture (EA) modeling tools. Sixty-four percent of corporations with more than 5,000 employees use EA tools — a high adoption rate. In comparison, only 26% of small enterprises use EA tools; this is partly due to a lower level of IT complexity, but mainly because of cost and ease-of-use barriers. See the May 12, 2006, Best Practices "Enterprise Architecture Modeling Tools Not Yet Ready For Prime Time."

2 Enterprise architecture (EA) governance links EA plans to IT action, ensuring that IT planning, project portfolio management, and project execution align with enterprise goals. Two major approaches guide architects' involvement in governance processes: the collaborative model that applies proactive guidance via architect consulting and the review model that creates an architecture review board as a gating factor in the development and implementation process. Most EA tools generally support by default the review model by providing for example annotating capabilities to reviewers. See the January 11, 2007, Best Practices "EA Governance Provides Traction."

3 SOA, information integration, and enterprise data models come together in organizations' approaches to Software as a Service. See the March 22, 2007, Question & Answer "Information As A Service: What's Behind This Hot New Trend?"

4 Five years ago, desktop tools like Visio were enough to document IT architecture and describe comprehensive enterprise architecture (EA). The growing adoption of distributed systems and the need to include more job titles in the creation and management of architecture means that firms need new EA tools. In response to this increase in EA complexity, the tools now include features demonstrating strategic value, such as simulation, balanced scorecards, and risk analysis. See the August 9, 2004, Market Overview "Getting Value From Enterprise Architecture Tools."

5 Most modeling tools and development tools provide native support for business process execution language (BPEL) as the standard file description for the business process. But BPEL and other standards, such as XMI and CWM, fail to make the exchanges between repositories fully transparent during the lifetime of the app. See the June 24, 2004, Quick Take "The Impact Of BPEL On Modeling Options."

6 View the vendor summary for more detailed analysis on how Casewise fared in this evaluation. See the April 25, 2007, Tech Choices "Casewise Is A Leader In Enterprise Architecture Tools With Templates."

7 View the vendor summary for more detailed analysis on how IDS Scheer fared in this evaluation. See the April 25, 2007, Tech Choices "IDS Scheer Is A Leader In Enterprise Architecture Tools."

8 View the vendor summary for more detailed analysis on how MEGA fared in this evaluation. See the April 25, 2007, Tech Choices "MEGA International Is A Leader In Enterprise Architecture Tools."

 

[9] View the vendor summary for more detailed analysis on how Proforma fared in this evaluation. See the April 25, 2007, Tech Choices "Proforma Leads Enterprise Architecture Tools With Templates."

[10] View the vendor summary for more detailed analysis on how Telelogic fared in this evaluation. See the April 25, 2007, Tech Choices "Telelogic Has Strong Modeling Features For Enterprise Architecture Tools."

[11] View the vendor summary for more detailed analysis on how alfabet fared in this evaluation. See the April 25, 2007, Tech Choices "alfabet Shows Strong Change Management In Enterprise Architecture Tools."

[12] View the vendor summary for more detailed analysis on how Agilense fared in this evaluation. See the April 25, 2007, Tech Choices "Agilense Shows Trendsetting Change Management In Enterprise Architecture Tools."

[13] View the vendor summary for more detailed analysis on how Troux fared in this evaluation. See the April 25, 2007, Tech Choices "Troux Provides Pragmatic Solutions In Its Enterprise Architecture Tool."

[14] View the vendor summary for more detailed analysis on how Adaptive fared in this evaluation. See the April 25, 2007, Tech Choices "Adaptive's Repository Makes It A Strong Performer In Enterprise Architecture Tools."

[15] View the vendor summary for more detailed analysis on how Embarcadero fared in this evaluation. See the April 25, 2007, Tech Choices "Embarcadero Is A Good Enterprise Architecture Tools Choice For Data- Or BP-Focused Initiatives."

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