

# Forrester Consulting

MAKING LEADERS SUCCESSFUL EVERY DAY

Prepared for Progress Software

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## **The Total Economic Impact™ Of Progress Software OpenEdge Platform**

Project Director: Sadaf Roshan Bellord

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## **The Total Economic Impact™ Of The Progress OpenEdge Platform**

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## Executive Summary

In October 2009, Progress Software commissioned Forrester Consulting to examine the total economic impact and potential return on investment (ROI) that Progress Partners may realize by building an application on the OpenEdge platform versus using an alternative (non-Progress) platform. The organizations interviewed are Progress Software partners that use OpenEdge to create new applications and maintain existing applications. These organizations have used the OpenEdge platform for between five and 15 years. During this period, they have modernized their applications' architectures and interfaces to support new technologies and added numerous new features to their applications. This study illustrates the financial impact of the OpenEdge platform across the application development life cycle for a Progress partner managing an application on the Progress OpenEdge platform versus an alternative platform.

In conducting in-depth interviews with four Progress partners, Forrester found that these organizations were able to quantify the lower costs associated with development, deployment, and support of applications created and managed on OpenEdge versus an alternative non-Progress platform.

Our interviewees also described a number of qualitative benefits. Quality assurance teams detected fewer initial defects in applications developed on OpenEdge compared with alternative platforms they were testing. In addition, quality assurance teams found that they were able to detect and reproduce issues faster with the Progress platform than with alternative platforms. Partners called the platform's ease of use a contributor to development of higher-quality applications. Interviewees also noted that Progress Software offers a set of diagnostic tools that allow developers and quality assurance (QA) teams to quickly replicate and fix platform-related issues.

In addition, the partners we interviewed were able to qualitatively describe the increase in revenue they achieved by reducing application time-to-market and monthly reporting costs for partners that produce and maintain software-as-a-service (SaaS) applications for their end users.

## Purpose

The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of creating an application on the OpenEdge platform versus building an application on an alternative (non-Progress) platform. Forrester's aim is to clearly show all calculations and assumptions used in the analysis. Readers should use this study to better understand and communicate a business case for using Progress Software.

## Methodology

Progress Software selected Forrester for this project because of its industry expertise in application development and Forrester's Total Economic Impact™ (TEI) methodology. TEI not only measures costs and cost reduction (areas that are typically accounted for within IT) but also weighs the enabling value of a technology in increasing the effectiveness of overall business processes.

For this study, Forrester employed four fundamental elements of TEI in modeling OpenEdge.

1. Costs and cost reduction.
2. Benefits to the entire organization.
3. Risk.

#### 4. Flexibility.

Given the increasing sophistication that enterprises have regarding cost analyses related to IT investments, Forrester's TEI methodology serves an extremely useful purpose by providing a complete picture of the total economic impact of purchase decisions. Please see Appendix B for additional information on the TEI methodology.

### Approach

Forrester used a five-step approach for this study:

1. Forrester gathered data from existing Forrester research relative to OpenEdge and the application development market in general.
2. Forrester interviewed Progress Software marketing and sales personnel to fully understand the potential (or intended) value proposition of the Progress platform.
3. Forrester conducted a series of in-depth interviews with four organizations currently using the OpenEdge platform.
4. Forrester constructed a financial model representative of the interviews. This model can be found in the TEI Framework section below.
5. Forrester created a composite organization based on the interviews and populated the framework using data from the interviews as applied to the composite organization.

### Key Findings

Forrester's study yielded several key findings:

- **ROI.** Based on the interviews with the four partners, Forrester constructed a TEI framework for a composite organization (see Appendix B) and the associated ROI analysis illustrating the financial impact areas. As seen in Table 1, the ROI for our composite company is 22% with a break-even point (payback period) of two months after deployment.
- **Benefits.** The partners that we interviewed used the OpenEdge Platform within their application development groups to build, support, and maintain their application development. These organizations were able to improve developers' productivity when writing code for a newly created application or while improving features and functionality for their existing applications. In addition, these organizations realized further reduction in support costs when their end users deployed their applications resulting from OpenEdge's stability. The present value (PV) of the risk-adjusted total benefits is equal to \$1,505,695. These organizations were able to qualitatively describe improvements in initial revenue when time-to-market for the application was reduced as a result of developer and QA staff productivity gain. Finally, partners who sold their application as a SaaS offering were able to reduce their monthly reporting time, which further contributed to their bottom line.
- **Costs.** The cost to use OpenEdge includes an annual PSDN and PSDN add-on subscription for developers. The PV of the risk-adjusted total costs equates to \$1,262,254. In these calculations, Forrester employed Progress Software's list prices; normally, discounts of varying levels will apply depending on the level of partnership. We also estimated the costs that an organization may incur when training its staff and maintaining

## The Total Economic Impact™ Of The Progress OpenEdge Platform

its infrastructure. We elected to eliminate that from the ROI calculation because those costs would not vary when the organization used OpenEdge or an alternative platform.

Table 1 illustrates the risk-adjusted cash flow for the composite organization, based on data and characteristics obtained during the interview process. Forrester risk-adjusts these values to take into account the potential uncertainty that exists in estimating the costs and benefits of a technology investment. The risk-adjusted value is meant to provide a conservative estimation, incorporating any potential risk factors that may later affect the original cost and benefit estimates. For a more in-depth explanation of risk and risk adjustments used in this study, please see the Risk section.

**Table 1: Composite Company ROI, Risk-Adjusted**

| Summary financial results | Original estimate | Risk-adjusted |
|---------------------------|-------------------|---------------|
| ROI                       | 22%               | 19%           |
| Payback period (months)   | 2                 | 2             |
| Total costs (PV)          | (\$1,262,254)     | (\$1,262,254) |
| Total benefits (PV)       | \$1,536,424       | \$1,505,695   |
| Total (NPV)               | \$274,170         | \$243,442     |

Source: Forrester Research, Inc.

## Disclosures

The reader should be aware of the following:

- The study is commissioned by Progress Software and delivered by the Forrester Consulting group.
- Progress Software reviewed and provided feedback to Forrester, but Forrester maintains editorial control over the study and its findings and does not accept changes to the study that contradict Forrester's findings or obscure the meaning of the study.
- The partner names for the interviews were provided by Progress Software.
- Forrester makes no assumptions as to the potential return on investment that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in OpenEdge.
- This study is not meant to be used as a competitive product analysis.

## Progress Software OpenEdge Platform: Overview

According to Progress Software, Progress OpenEdge is an integrated platform for the development, deployment, and management of standards-based and service-oriented business applications. OpenEdge's unified environment is comprised of development tools, application servers, application management tools, a relational database, and the capability to easily connect and integrate with

other applications and data sources. The OpenEdge development environment has tools that help accelerate every aspect of the development process.

The OpenEdge platform, through a service-oriented architecture, delivers flexibility to application developers so that they can leverage existing technology and quickly adapt to new technology and changes in market and business requirements. The OpenEdge platform is supported by the OpenEdge Reference Architecture, a high-level framework focused on best practices for building modern competitive applications, a set of tools, and infrastructure. The OpenEdge Reference Architecture recommends the separation of the application architecture into four distinct layers (business services, data access, presentation, and integration), and therefore, technology platforms, operating systems, data stores, integration technologies, and user interfaces can vary without requiring redesign at other layers. The reference architecture promotes the reuse of business logic and components because logic is cleanly separated from other concerns.

The Progress Partner program offers a comprehensive set of empowerment programs to help partners expand and grow their businesses and develop sustaining technical skills, processes, and know-how to transform their applications.

Progress Business Empowerment offers both one-to-one and one-to-many programs designed to help partners increase revenue and improve marketing and sales effectiveness. Business Empowerment focuses on business planning development, go-to-market planning, and demand generation to produce qualified leads and increase market awareness.

Progress Technical Empowerment is designed to help partners create competitive applications. Programs consist of education, communication, consulting services, and an application transformation approach. Technical Empowerment enables partners to build applications that have flexibility designed into them and helps partners to build and transform applications in logical steps and in modules that match resources and business plans.

Progress SaaS Enablement is a program that assists ISVs as they look to make the transition from traditional on-premises application deployment toward a service-based delivery model. SaaS Enablement offers help in the area of SaaS Business Empowerment, SaaS Marketing & Sales Empowerment, and SaaS Technical Empowerment, including whitepapers and best practices around architecting for SaaS.

## Analysis

As stated in the Executive Summary, Forrester took a multistep approach to evaluate the impact that creating and managing applications on the Progress OpenEdge platform can have on an organization's IT development team:

- Interviews with Progress Software marketing and sales management.
- In-depth interviews of four organizations currently using OpenEdge.
- Construction of a common financial framework for the usage of OpenEdge.
- Construction of a composite organization based on characteristics of the interviewed organizations.

## Interview Highlights

A total of four interviews were conducted for this study, involving representatives from the following Progress Software partners:

1. A Europe-based provider of logistic software.
2. A Europe-based provider of enterprise resource planning (ERP) software.
3. A US-based provider of insurance software.
4. A US-based provider of ERP software.

The interviews with four partners using OpenEdge platform to develop, deploy, and manage their application revealed that:

- ISVs did express some difficulty finding developers that are familiar with OpenEdge. The OpenEdge community is smaller than the alternative development platforms, and OpenEdge is not usually taught in universities in the US and Europe. Nonetheless, this issue did not present a serious challenge to the ISVs we interviewed because OpenEdge is moving in a direction that makes it similar to Java or .NET in terms of its Object-Oriented (OO) concepts. And as the conceptual gap between Advanced Business Language (ABL) and other languages shrinks, the interviewees we spoke with found that it doesn't take any more time to train an OpenEdge developer than it does a .NET or Java developer. Several interviewees created rapid learning courses for new developers and disclosed that their training typically lasts about four weeks. During the first half-year, the new developers are in training phase. Shortly after the training phase is completed, these developers are able to create their first programs and become productive contributors to projects.
- The ISVs using OpenEdge for the past several years expressed that one of the main reasons why they continue using the Progress platform is the ability to deploy a multiplatform, multidatabase solution, meaning it is possible to use different databases while continue using the ABL, the Advanced Business Logic or the Advanced Business Language.
- One of the reasons why developers showed a significant productivity gain over time was that ISVs found that with time they were able to write less code to execute common

programming tasks with the Open Edge framework and were easily able to reuse this code in multiple application subsystems. In some cases, ISVs cited instances where the total amount of code they needed to write for a new feature was reduced by 90% the second time around. Organizations also cited the productivity of features that were unique to the combined OpenEdge framework and integrated database management system (DBMS) For example, these organizations have been able to use Word indexes on a Progress database, where an alternative SQL database did not allow a similar mechanism

## TEI Framework

### *Introduction*

From the information provided in the in-depth interviews, Forrester has constructed a TEI framework for those organizations considering creating and maintaining an application on the Progress platform, OpenEdge. The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision.

### *Composite Organization*

The composite organization created from the results of the partners interviewed represents a \$60 million US-based provider of ERP software. The composite organization's core product, an ERP module, is written using several application development solutions including the OpenEdge platform. For the purpose of this analysis, Forrester considers the financial impact associated with application developers' productivity gain and the reduction in application post-sales support effort.

Based on the information captured in the in-depth interviews with Progress partners currently using OpenEdge, Forrester assumes that in either scenario (develop, deploy, and manage an application on the Progress platform or an alternative platform), the composite organization engages with the platform vendor for business, technical advice, training, and consulting.

See Appendix A for more details on the composite organization.

### *Framework Assumptions*

Table 2 lists the discount rate used in the PV and NPV calculations and time horizon used for the financial modeling.

**Table 2: General Assumptions**

| General assumptions | Value      |
|---------------------|------------|
| Discount rate       | 10%        |
| Length of analysis  | Four years |

Source: Forrester Research, Inc.

Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult with Finance to determine the most appropriate discount rate to use within their own organizations.

In addition to the financial assumptions used to construct the cash flow analysis, Table 3 provides salary assumptions used within this analysis. Numbers are rounded throughout the tool.

**Table 3: Salary Assumptions**

| Ref. | Metric  | Calculation    | Value     |
|------|---|----------------|-----------|
| A1   | Hours per week                                      |                | 40        |
| A2   | Weeks per year                                      |                | 52        |
| A3   | Hours per year (M-F, 9-5)                           | $A1 \times A2$ | 2,080     |
| A4   | Hours per year (24x7)                               |                | 8,736     |
| A5   | Average annual fully loaded salary of mid-developer |                | \$100,000 |
| A6   | Hourly  | $A5/A3$        | \$48      |

Source: Forrester Research, Inc.

## Costs

This section outlines the investment made by the composite organization based on the discussions with partners using the OpenEdge platform. The composite organization had two main costs: annual software subscription costs and distribution of revenue costs to Progress Software. We have also estimated other costs, including training as well as planning and hardware costs, but did not include them in the ROI. These costs do not vary in a material way when partners are using alternative, non-Progress platforms to build and support applications.

### *Annual Software Subscription Fees*

This section describes the software subscription fees. The composite organization needed three PSDN Premier Subscriptions for its 15 developers. The organization also purchased 2 PSDN Add-On Subscriptions to support the prior two product releases (one subscription per lease). Each PSDN Premier and PSDN add-on subscription allows five users. The partners receive vendor discount for their annual subscription depending on their level of partnership. Table 4 illustrates the calculation.

**Table 4: Annual Software Subscription Fees**

| Ref. | Metric  | Calculation                   | Per period |
|------|---|-------------------------------|------------|
| B1   | PSDN Premier  |                               | \$1,500    |
| B2   | Number of PSDN subscriptions for developers                 |                               | 3          |
| B3   | PSDN Premier Add-On   |                               | \$600      |
| B4   | Number of PSDN add-on subscriptions to support prior models |                               | 2          |
| Bt   | Annual software subscription fees                           | $B1 \times B2 + B3 \times B4$ | \$5,700    |

Source: Forrester Research, Inc.

*Distribution Of Revenue Costs*

The next component of cost is the distribution of revenue to Progress Software. The estimated costs are based on the number of named users per customer. Based on the interviews with Progress partners, we estimate that the composite organization sells its application to 200 new customers. Each customer has on average 15 named users. Progress costs a total of \$805 per named user. This includes \$585 for OpenEdge Enterprise RDBMS, \$110 for OpenEdge Application Server Enterprise Edition, and \$110 for OpenEdge Client Deployment (client networking). In our interviews, we found that on average, partners receive vendor discounts that reduce these list costs by around 35%. The discount increases based on the amount of revenue received from the partner and the level of partnership. Table 5 presents this calculation.

**Table 5: Distribution Of Revenue Costs**

| Ref. | Metric   | Calculation                                | Year 1   | Year 2    | Year 3    | Year 3    |
|------|--|--|----------|-----------|-----------|-----------|
| C1   | Total new customers                            |  | 200      |           |           |           |
| C2   | Percent of new customers annually              |  | 2%       | 8%        | 30%       | 60%       |
| C3   | Average number of named users per customer     |  | 15       |           |           |           |
| C4   | OpenEdge Enterprise RDBMS                      |  | \$585    |           |           |           |
| C5   | OpenEdge Application Server Enterprise Edition |  | \$110    |           |           |           |
| C6   | OpenEdge Client Deployment — client networking |  | \$110    |           |           |           |
| C7   | Percent discount received                      |  | 35%      |           |           |           |
| Ct   | Distribution of revenue cost                   | $C1 * C2 * C3 * (C4 + C5 + C6) * (1 - C7)$ | \$31,395 | \$125,580 | \$470,925 | \$941,850 |

Source: Forrester Research, Inc.

*Other Costs (Not Included In ROI)*

The partners Forrester interviewed acknowledged that their respective development organizations invested in annual training for developer staff and planned for hardware and infrastructure upgrades to meet new market demands. However, these costs were consistent for both Progress and non-Progress platforms. Therefore, Forrester did not include these costs in the ROI.

*Total Costs*

Table 6 illustrates the total costs of using OpenEdge for the composite organization.

**Table 6: Total Costs — Non-Risk-Adjusted**

| Costs                             | Year 1     | Year 2      | Year 3      | Year 4      | Total         | Present value |
|-----------------------------------|------------|-------------|-------------|-------------|---------------|---------------|
| Annual software subscription fees | (\$5,700)  | (\$5,700)   | (\$5,700)   | (\$5,700)   | (\$22,800)    | (\$19,875)    |
| Distribution of revenue cost      | (\$31,395) | (\$125,580) | (\$470,925) | (\$941,850) | (\$1,569,750) | (\$1,242,379) |
| Total costs                       | (\$37,095) | (\$131,280) | (\$476,625) | (\$947,550) | (\$1,592,550) | (\$1,262,254) |

Source: Forrester Research, Inc.

## Benefits

The second component of TEI is evaluating the value gained from the usage and investment in OpenEdge for the partners interviewed. These organizations improved their application developers' productivity by writing less code and eliminating programming errors, which leads to faster quality assurance and reduced post-sales support effort. The organizations also noted that as a result of productivity improvements, they have been able to improve their time-to-market. We have created a structure for organizations to measure the impact of that benefit internally.

### *Improvement In Developer Productivity*

This benefit accounts for 79% of the overall gain. The partners we interviewed explained that their application developers using OpenEdge versus alternative platforms can produce the same application around 40% faster. The developers producing the application also write fewer lines of code, resulting in a smaller number of errors. Consequently, the quality assurance effort is reduced, and their applications can reach the market faster.

The developers' productivity gain was fully attributable to this analysis. While the interviewees expressed the improvement in quality assurance, they were not able to fully differentiate what percent of quality assurance activities had been reduced as a part of the application and what portion was attributable to the platform and the language used. One of our interviewees cited a study that his organization completed with a local university to understand how complexity measurement of source code and real errors are combined. The result illustrated that the normal number of errors compared with the lines of code was one-tenth of what they had seen in other projects developed on non-Progress platforms. Forrester did not include this data point in the analysis to measure the improvement in quality assurance activities; however, we recommend that users measure that within their environment. Table 7 presents the productivity gain from IT developers. To remain conservative, Forrester estimates that the organization was able to realize 50% of benefits in year 1 and 100% in years 2 and 3, respectively.

**Table 7: Improvement In Developers' Productivity Gain**

| Ref. | Metric  | Calculation         | Year 2    | Year 3    | Year 4    |
|------|---|---------------------|-----------|-----------|-----------|
| D1   | Total developers                                    |                     | 15        |           |           |
| D2   | Developer productivity gain                         |                     | 40%       |           |           |
| D3   | Average annual fully loaded salary of mid-developer |                     | \$100,000 |           |           |
| D4   | Percent of benefit realized                         |                     | 50%       | 100%      | 100%      |
| Dt   | Improvement in developers' productivity gain        | $D1 * D2 * D3 * D4$ | \$300,000 | \$600,000 | \$600,000 |

Source: Forrester Research, Inc.

*Improvement In Post-Sales Support Effort*

Our interviewees explained that one of the selling points of using OpenEdge within their IT development environment was the ability to reduce post-sales support effort. This is a cost reduction that they have been able to pass directly to their end users. Our interviewees all expressed that they rarely receive support calls related to the platform. They use this benefit as a selling point, particularly for application developers who cater to a niche market where the end users are mainly focused on features and functionality. Per our interviews, OpenEdge is fully integrated with the database, and the end user is not required to have an in-house database administrator to manage day-to-day activities.

Forrester estimates that the composite organization has three full-time support staff with an annual fully loaded salary of \$65,000 per individual. Based on our interviews, Forrester assumes that the composite organization has been able to improve support staff productivity gain when supporting end user platform-related issues. To remain conservative, Forrester estimates that the organization was able to realize 50% of benefits in year 1 and 100% in years 2 and 3, respectively. Table 8 illustrates the calculation.

**Table 8: Improvement In Post-Sales Support Effort**

| Ref. | Metric                                   | Calculation         | Year 2   | Year 3    | Year 4    |
|------|--|---------------------|----------|-----------|-----------|
| E1   | Total support staff                      |                     | 3        |           |           |
| E2   | Support staff productivity gain          |                     | 80%      |           |           |
| E3   | Yearly rate per worker                   |                     | \$65,000 |           |           |
| E4   | Percent of benefit realized              |                     | 50%      | 100%      | 100%      |
| Et   | Improvement in after-sale support effort | $E1 * E2 * E3 * E4$ | \$78,000 | \$156,000 | \$156,000 |

Source: Forrester Research, Inc.

*Incremental Gross Revenue Gain*

The incremental revenue gain resulting from the shorter application time-to-market is the final benefit described by our interviewees. These organizations were able to deliver their application 30% faster on average when developing on the Progress platform versus the alternative platform. However, Forrester did not estimate this gain for the composite organization because the production cycle varied from organization to organization.

We recommend that users estimate the monthly revenue generated per customer, the number of new customers signed on during the initial year that the application is launched, and the average time-to-market for the alternative solution and that they use the 30% improvement, a default value that Forrester has captured through customer interviews to estimate the value gained for the respective organization. Table 9 demonstrates this outline.

**Table 9: Incremental Gross Revenue Gain**

| Ref. | Metric                                  | Calculation         |
|------|---|---------------------|
| F1   | Monthly net revenue                     |                     |
| F2   | Total new customers                     |                     |
| F3   | Average production cycle (months)       |                     |
| F4   | Improvement in time-to-market in months |                     |
| Ft   | Incremental gross revenue gain          | $F1 * F2 * F3 * F4$ |

Source: Forrester Research, Inc.

*Total Benefits*

Table 10 presents the total benefits resulting from the usage of OpenEdge within.

**Table 10: Total Benefits — Non-Risk-Adjusted**

| Benefits                                     | Year 1     | Year 2           | Year 3           | Year 4           | Total              | Present value      |
|--|------------|------------------|------------------|------------------|--------------------|--------------------|
| Improvement in developers' productivity gain | 0          | 300,000          | 600,000          | 600,000          | 1,500,000          | 1,219,384          |
| Improvement in after-sale support effort     | 0          | 78,000           | 156,000          | 156,000          | 390,000            | 317,040            |
| <b>Total benefits</b>                        | <b>\$0</b> | <b>\$378,000</b> | <b>\$756,000</b> | <b>\$756,000</b> | <b>\$1,890,000</b> | <b>\$1,536,424</b> |

Source: Forrester Research, Inc.

## Risk

Risk is the third component within the TEI model; it is used as a filter to capture the uncertainty surrounding different cost and benefit estimates. If a risk-adjusted ROI still demonstrates a compelling business case, it raises confidence that the investment is likely to succeed because the risks that threaten the project have been taken into consideration and quantified. The risk-adjusted numbers should be taken as “realistic” expectations, since they represent the expected values considering risk. In general, risks affect costs by raising the original estimates, and they affect benefits by reducing the original estimates.

For the purpose of this analysis, Forrester risk-adjusts cost and benefit estimates to better reflect the level of uncertainty that exists for each estimate. The TEI model uses a triangular distribution method to calculate risk-adjusted values. To construct the distribution, it is necessary to first estimate the low, most likely, and high values that could occur within the current environment. The risk-adjusted value is the mean of the distribution of those points.

Take the case of IT productivity gain: The \$1,219,384 value used in this analysis can be considered the “most likely” or expected value. This variability represents a risk that must be captured as part of this study. Forrester uses a risk factor of 105% on the high end, 100% as the most likely, and 90% on the low end. This has the effect of increasing the cost estimate to take into account the fact that original cost estimates are more likely to be revised upward than downward. Forrester then creates a triangular distribution to reflect the range of expected costs, with 98.3% as the mean (198.3% is equal to the sum of 105%, 100%, and 90% divided by three). Forrester applies this mean to the most likely estimate, \$1,219,384, to arrive at a risk-adjusted value of \$1,194,996.

The following *general* management and process risk was considered in this study:

- Similar to any application development, partners that are planning to use OpenEdge to develop, deploy, and manage their application may require additional OpenEdge skills or competencies.

The following risks specific to OpenEdge were considered in this study:

- Where application feature and functionality is not the primary point of discussion, selling to customers not familiar with Progress Software could extend the sales cycle or increase the amount a partner must spend on product marketing.
- The risk that Progress Software could be acquired or could decide to change its focus away from the OpenEdge platform.

The following tables show the values used to adjust for uncertainty in cost and benefit estimates. Different cost and benefits estimates have different levels of risk adjustments. Based on the comments from the interviewed customers, we applied risk to the benefits to adjust for any uncertainty. Forrester used list prices for all annual software subscriptions and revenue distribution fees. Readers are urged to apply their own risk ranges based on their own degree of confidence in the cost and benefit estimates.

**Table 11: Total Costs — Risk-Adjusted**

| Costs                             | Year 1     | Year 2      | Year 3      | Year 4      | Total         | Present value |
|-----------------------------------|------------|-------------|-------------|-------------|---------------|---------------|
| Annual software subscription fees | (\$5,700)  | (\$5,700)   | (\$5,700)   | (\$5,700)   | (\$22,800)    | (\$19,875)    |
| Distribution of revenue cost      | (\$31,395) | (\$125,580) | (\$470,925) | (\$941,850) | (\$1,569,750) | (\$1,242,379) |
| Total costs                       | (\$37,095) | (\$131,280) | (\$476,625) | (\$947,550) | (\$1,592,550) | (\$1,262,254) |

Source: Forrester Research, Inc.

**Table 12: Total Benefits — Risk-Adjusted**

| Benefits                                     | Year 2    | Year 3    | Year 4    | Total       | Present value |
|--|-----------|-----------|-----------|-------------|---------------|
| Improvement in developers' productivity gain | \$294,000 | \$588,000 | \$588,000 | \$1,470,000 | \$1,194,996   |
| Improvement in after-sale support effort     | \$76,440  | \$152,880 | \$152,880 | \$382,200   | \$310,699     |
| Total benefits                               | \$370,440 | \$740,880 | \$740,880 | \$1,852,200 | \$1,505,695   |

Source: Forrester Research, Inc.

## Flexibility

Flexibility, as defined by Forrester's TEI methodology, represents an investment in additional capacity or capability today that could be turned into future business benefits for some future additional cost. This provides an organization with the "right" or the ability to engage in future initiatives but not the obligation to do so. The value of flexibility is unique to each organization, and the willingness to measure its value varies from company to company (described in more detail in Appendix B).

Through our interviews, the partners who were selling their application as SaaS were able to reduce time and effort when they produced end-of-month reporting that led to reduction in administrative effort. Our interviews revealed that the composite organization reduced its end-of-month reporting from 14 to 5 days. It is important to measure what costs were eliminated or reduced as a result of this reduction. Based on the Forrester Flexibility methodology, in order to recognize this benefit, the composite organization needs to either invest in an infrastructure to host the solution or hire a third party to manage its SaaS environment. We outline the metrics to measure this benefit in Table 13.

**Table 13: Reduction In End-Of-Month Reporting**

| <b>Metrics</b>         | <b>Calculation</b>   |
|------------------------|--|
| Asset value (benefit)  | IT or business costs avoided, revenue generated, capital saved                                 |
| Cost to acquire option | Planning and discovery, subscription, and annual maintenance are example of costs to consider. |
| Expiration             | Time to expire, in years   |
| Flexibility            | Black-Scholes option pricing model   |

Source: Forrester Research, Inc.

### **TEI Framework: Summary**

Considering the financial framework constructed above, the results of the Costs, Benefits, Risk, and Flexibility sections using the representative numbers can be used to determine ROI, NPV, and payback period. Tables 14 and 15 show the consolidation of the numbers for the organization interviewed.

It is important to note that values used throughout the TEI framework are based on in-depth interviews with an organization. Forrester makes no assumptions as to the potential return that other organizations will receive within their own environment. Forrester strongly advises that readers use their own estimates within the framework provided in this study to determine the expected financial impact of using the OpenEdge platform.

**Table 14: Summary Financial Non-Risk-Adjusted Cash Flow**

| <b>Categories</b>       | <b>Year 1</b> | <b>Year 2</b> | <b>Year 3</b> | <b>Year 4</b> | <b>Total</b>  | <b>PV</b>     |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total costs             | (\$37,095)    | (\$131,280)   | (\$476,625)   | (\$947,550)   | (\$1,592,550) | (\$1,262,254) |
| Total benefits          |               | \$378,000     | \$756,000     | \$756,000     | \$1,890,000   | \$1,536,424   |
| Total                   | (\$37,095)    | \$246,720     | \$279,375     | (\$191,550)   | \$297,450     | \$274,170     |
| ROI                     | 22%           |               |               |               |               |               |
| Payback period (months) | 2             |               |               |               |               |               |

Source: Forrester Research, Inc.

**The Total Economic Impact™ Of The Progress OpenEdge Platform**

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**Table 15: Summary Financial Risk-Adjusted Cash Flow**

| <b>Categories</b>       | <b>Year 1</b> | <b>Year 2</b> | <b>Year 3</b> | <b>Year 4</b> | <b>Total</b>  | <b>PV</b>     |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total costs             | (\$37,095)    | (\$131,280)   | (\$476,625)   | (\$947,550)   | (\$1,592,550) | (\$1,262,254) |
| Total benefits          |               | \$370,440     | \$740,880     | \$740,880     | \$1,852,200   | \$1,505,695   |
| Total                   | (\$37,095)    | \$239,160     | \$264,255     | (\$206,670)   | \$259,650     | \$243,442     |
| ROI                     | 19%           |               |               |               |               |               |
| Payback period (months) | 2             |               |               |               |               |               |

Source: Forrester Research, Inc.

## Study Conclusions

Forrester's in-depth interviews with OpenEdge's customers yielded several important observations:

- Based on information collected in interviews with current Progress Software partners, Forrester found that organizations developing, deploying, and managing their applications on the Progress platform can realize benefits from developers' productivity gain and support cost savings as compared with an alternative platform.
- Our interviewees qualitatively described that the quality assurance team had detected a smaller number of issues in applications developed on OpenEdge than in applications developed on alternative platforms. In addition, the ability to detect and reproduce issues is faster with the Progress platform than with the alternatives. They attribute this improvement to less and more usable code. Progress tools can be used if the problem is related to the language and not the application.
- The partners selling their application as SaaS were able to reduce time and effort when they produced end-of-month reporting that led to reduction in administrative effort. In order to recognize this benefit, the organization needs to either invest in an infrastructure to host the solution or hire a third party.

The financial analysis provided in this study illustrates the potential way an organization can evaluate the value proposition of using the OpenEdge platform. Based on information collected in four in-depth customer interviews, Forrester calculated a risk-adjusted ROI of 22% for the composite organization with a payback period of about two months. All final estimates are risk-adjusted to incorporate potential uncertainty in the calculation of benefits.

## Appendix A: Composite Organization Description

In this TEI study, Forrester has created a composite organization to illustrate the quantifiable costs and benefits of developing, deploying, and managing an application on the Progress Software platform OpenEdge versus an alternative (non-Progress) platform. The composite organization is intended to represent:

- A \$60 million US-based firm.
- An ERP software provider.

The composite organization's core product, an ERP module, is written on several application development platforms, including the Progress Platform.

The composite organization develops, deploys, and manages its core product in order to modernize the architecture and interfaces to support new technologies and add new features to the application. The composite organization sells its new solution to 200 customers within a four-year financial horizon. On average, the composite organization sells 15 seats per customer.

The organization receives 35% discounts on the fees that are expected to be paid to Progress Software. Those fees include \$585 for OpenEdge Enterprise RDBMS, \$110 for OpenEdge Application Server Enterprise Edition, and \$110 for OpenEdge Client Deployment. The composite organization is using the latest version of the OpenEdge. The organization has purchased three PSDN Premier Subscriptions for the latest version of the application and two PSDN add-on subscriptions to manage the prior two versions of the solution.

The organization interviewed received discounts from both subscriptions of PSDN Premier and PSDN add-on, as well as the distribution of revenue for OpenEdge Enterprise RDBMS, OpenEdge Application Server Enterprise Edition, and OpenEdge Client Deployment. The discount varies depending on the level of partnership and the annual revenue generated.

## Appendix B: Total Economic Impact™ Overview

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their solutions and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

The TEI methodology consists of four components to evaluate investment value: benefits, costs, risks, and flexibility. For the purpose of this analysis, the impact of flexibility was not quantified.

### Benefits

Benefits represent the value delivered to the user organization — IT and/or business units — by the proposed OpenEdge or project. Often OpenEdge or project justification exercises focus just on IT cost and cost reduction, leaving little room to analyze the effect of the technology on the entire organization. The TEI methodology and the resulting financial model place equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization. Calculation of benefit estimates involves a clear dialogue with the user organization to understand the specific value that is created. In addition, Forrester also requires that there be a clear line of accountability established between the measurement and justification of benefit estimates after the project has been completed. This ensures that benefit estimates tie back directly to the bottom line.

### Costs

Costs represent the investment necessary to capture the value, or benefits, of the proposed project. IT or the business units may incur costs in the forms of fully burdened labor, subcontractors, or materials. Costs consider all the investments and expenses necessary to deliver the proposed value. In addition, the cost category within TEI captures any incremental costs over the existing environment for ongoing costs associated with the solution. All costs must be tied to the benefits that are created.

### Risk

Risk measures the uncertainty of benefit and cost estimates contained within the investment. Uncertainty is measured in two ways: the likelihood that the cost and benefit estimates will meet the original projections and the likelihood that the estimates will be measured and tracked over time. TEI applies a probability density function known as "triangular distribution" to the values entered. At a minimum, three values are calculated to estimate the underlying range around each cost and benefit.

### Flexibility

Within the TEI methodology, direct benefits represent one part of the investment value. While direct benefits can typically be the primary way to justify a project, Forrester believes that organizations should be able to measure the strategic value of an investment. Flexibility represents the value that can be obtained for some future additional investment building on top of the initial investment already made. For instance, an investment in an enterprisewide upgrade of an office productivity suite can potentially increase standardization (to increase efficiency) and reduce licensing costs. However, an embedded collaboration feature may translate to greater worker productivity if activated. The collaboration can only be used with additional investment in training at some future point in time. However, having the ability to capture that benefit has a present value that can be estimated. The flexibility component of TEI captures that value.

## Appendix C: Glossary

**Discount rate:** The interest rate used in cash flow analysis to take into account the time value of money. Although the Federal Reserve Bank sets a discount rate, companies often set a discount rate based on their business and investment environment. Forrester assumes a yearly discount rate of 10% for this analysis. Organizations typically use discount rates between 8% and 16% based on their current environment. Readers are urged to consult their organization to determine the most appropriate discount rate to use in their own environment.

**Net present value (NPV):** The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

**Present value (PV):** The present or current value of (discounted) cost and benefit estimates given an interest rate (the discount rate). The PV of costs and benefits feed into the total net present value of cash flows.

**Payback period:** The breakeven point for an investment. The point in time at which net benefits (benefits minus costs) equal initial investment or cost.

**Return on investment (ROI):** A measure of a project’s expected return in percentage terms. ROI is calculated by dividing net benefits (benefits minus costs) by costs.

### *A Note On Cash Flow Tables*

The following is a note on the cash flow tables used in this study (see the Example Table below). The initial investment column contains costs incurred at “time 0” or at the beginning of Year 1. Those costs are not discounted. All other cash flows in Years 1 through 3 are discounted using the discount rate shown in Table 2 at the end of the year. Present value (PV) calculations are calculated for each total cost and benefit estimate. Net present value (NPV) calculations are not calculated until the summary tables and are the sum of the initial investment and the discounted cash flows in each year.

### **Example Table**

| Ref. | Category | Calculation | Initial cost | Year 1 | Year 2 | Year 3 | Total |
|------|----------|-------------|--------------|--------|--------|--------|-------|
|      |          |             |              |        |        |        |       |

Source: Forrester Research, Inc.