

**NUCLEUS
RESEARCH**

RESEARCH NOTE D87

ROI ANALYSIS YOU CAN TRUST™

ROI Case Study: Microsoft Office InfoPath Windows Test Team

THE BOTTOM LINE

Microsoft's Windows Test Team has used Microsoft Office InfoPath and SharePoint Team Services to communicate effectively with teams about test criteria and procedures and to standardize product testing. Key returns include increases in the productivity of test group managers and the ability to improve product quality without hiring additional quality control personnel.

ROI: 466%

Payback: 3 months

THE COMPANY

The Windows organization within Microsoft includes more than 7000 employees. This organization has overall responsibility for the product delivery, engineering and technical architecture for Windows, .NET, the Windows Server System, and new media technology. It is also responsible for delivering developer tools, framework, and support for .NET. The Windows Test Team, an integral part of the Windows organization, is responsible for testing the entire family of Windows Platform products, including Windows 2000, Windows XP, and Windows 2003 Server. The Windows Test Team is responsible for ensuring that the highest standards of quality and performance are maintained across all Windows platforms.

THE CHALLENGE

The Windows Test Team consists of test managers, testers, and leads responsible for testing various Windows products against a set of predefined criteria. Within this organization are numerous widely dispersed groups responsible for managing the testing of different products in the Windows platform family. The processes that these various work groups were following for managing testing procedures and sharing information were inadequate in a number of ways:

- Ineffective information sharing. It was difficult to disseminate information to all stakeholders about key test initiatives, testing procedures, and criteria for each testing category because of the large number of test teams involved.
- Inadequate enforcement of performance measurement standards. Measuring the performance of different test groups in the Windows hierarchy was difficult. Managers overseeing each team would employ their own system of tracking and evaluating testing progress — using a combination of manually created spreadsheets, team-centric intranets, and individual databases.

The Windows Test Team needed a solution that would enable better communication of test criteria to all involved, support the standards-based measurement of team performance, and increase the overall efficiency of the testing process.

THE STRATEGY

In September 2002, the Windows Test Team began searching for a solution. The group evaluated two alternatives. The first was to develop a Web site using XML documents, designed specifically for disseminating information to all test groups. The other option available to the team was to use the beta version of Microsoft Office InfoPath as the forms authoring and rich information capture tool and Microsoft Office System 2003 as the document publishing tool, in conjunction with SharePoint Team Services. The team eventually selected the second alternative for the following reasons:

- InfoPath would be easier to use and adopt because the Microsoft Office authoring environment was familiar to all the test teams.
- InfoPath would function well with SharePoint Team Services, which was already being used for other internal projects by a majority of the test teams.
- InfoPath's features would support consistent information sharing across all test groups while still allowing customization at the group level.

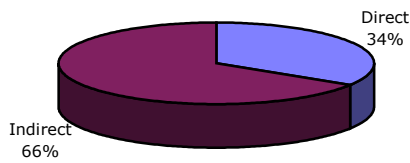
In January 2003, a core team from the Windows Test Team began developing the solution. Two developers were dedicated to the project for a period of one month, with one developer focusing on familiarizing himself with Microsoft Office InfoPath and the second developer concentrating on SharePoint Team Services. A small team from InfoPath, consisting of one developer and one program manager, assisted the Windows Test Team in satisfying some functionality requirements that were specific to the needs of this particular deployment. The group from InfoPath and the Windows Test Team used InfoPath's scripting features to extend the core functionality of InfoPath to meet those specific needs. Outside this core team, select staff from the different test groups spent time defining requirements and selecting standard content for supporting different test categories.

The Windows Test Team implemented the solution with Microsoft Office InfoPath 2003 as the forms authoring and rich information capture tool, Microsoft Office System 2003 in conjunction with SharePoint Team Services as the document publishing tool, and SQL Server at the back end for storing data. The current scope of this implementation includes nearly 90 percent of the test managers in the Windows Test Team. It is Microsoft's practice to demonstrate the quality of new software by running it on its own business units, and the senior management of the Windows organization strongly supported the deployment of InfoPath for the Windows Test Team because it benefited both Microsoft Office InfoPath and Windows.

KEY BENEFIT AREAS

The Windows Test Team has used Microsoft Office InfoPath and SharePoint Team Services to disseminate information and guidelines to different teams in the Windows group for testing

BENEFITS



3-YEAR TOTAL: \$3.19M

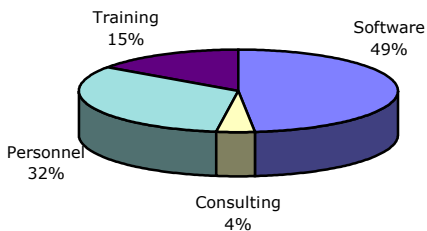
products against predefined test properties and has created a basis for comparing high-level test plans against the actual test results. Nucleus has quantified the following benefits from this solution:

- Reduced time spent on data entry. InfoPath minimizes the need for data reentry or rework by providing users with a single source for accessing, filling out, and submitting forms — saving those employees an average of three hours a week. For example, the availability of a standard process, supported by InfoPath, will allow testers to enter data relating to criteria test results in a single location rather than require them to document those responses in many different files.
- Savings in personnel costs. The Windows Test Team would have had to hire additional staff for quality control to ensure the same level of adherence to best practices and standard testing procedures that InfoPath is capable of supporting. In the absence of the solution, maintaining equally high controls on products would require hiring additional staff.
- Increased productivity of managers. InfoPath enables more efficient tracking of testing progress by managers and the consistent evaluation of performance through reports used at the team, vice president, and group levels. The process improvements save managers an average of an hour each week, allowing them to focus on more critical functions.

KEY COST AREAS

Key costs involved in the InfoPath project included software, consulting, personnel, and training. Software made up nearly half of total project costs. Nucleus included the full list price for Microsoft Office InfoPath licenses and Software Assurance fees as well as maintenance fees for SharePoint Team Services for 250 users as a proxy for this project's software costs. Since the Windows Test Team was already using SQL Server and Windows 2003 Server software, the costs for these licenses are not included in the analysis.

COSTS



3-YEAR TOTAL: \$590,250

Personnel time spent on development and ongoing support made up the next largest cost category, at 32 percent of overall costs. Training made up 15 percent of the investment in the solution, including the time of trainers from the deployment team as well as the time of managers on the Windows Test Team. Consulting accounted for the smallest share of project expenses, reflecting the time spent by the team of two from InfoPath on the project. The Windows Test Team did not have to make a separate investment in hardware because it was able to repurpose existing servers to support the InfoPath-based solution.

LESSONS LEARNED

The project team reported that development of the solution proceeded smoothly and the rollout went according to schedule. The biggest challenge in implementing the solution, however, was equipping the developers from the Windows Test Team with knowledge of Microsoft Office InfoPath, which was still in the early

beta phase of development when the Windows Test project was under way. Therefore, development support received from the InfoPath consultants was critical to the success of the implementation because the development team from InfoPath was able to assist in extending the core functionality of InfoPath to satisfy requirements specific to the Windows Test Team. This is not surprising; it is common for companies deploying newly developed software to require some level of customization and ad hoc development to meet their unique needs.

CALCULATING THE ROI

Nucleus quantified the costs of software, consulting, personnel, and training over a 3-year period to quantify the Windows Test Team's total investment in Microsoft Office InfoPath. Nucleus included the full list price for initial InfoPath licenses and annual Software Assurance fees as well as maintenance fees for SharePoint Team Services as a proxy for this project's software costs. The Windows Test Team was already using SQL Server and Windows 2003 Server software, and the costs for these licenses are not included. While it is likely that companies already operating on the Microsoft platform will have access to these technologies, those organizations that do not own SQL Server or Windows Server software should include the costs of those licenses when quantifying deployment costs.

Direct benefits calculated included avoidance of personnel hires for quality control because of the more effective testing enabled by InfoPath. Nucleus calculated indirect benefits, including increased productivity of test managers and testers, using the average fully loaded cost of employees. Time savings associated with reduced data entry time and faster tracking of performance were multiplied by a productivity correction factor to account for the inefficient transfer of time from time saved to additional time worked.

SUMMARY

Project:	Microsoft Office InfoPath/SharePoint Team Services
Annual return on investment (ROI)	466%
Payback period (years)	0.21
Net present value (NPV)	965,142
Average yearly cost of ownership	196,750

ANNUAL BENEFITS	Pre-start	Year 1	Year 2	Year 3
Direct	0	360,000	360,000	360,000
Indirect	0	703,125	703,125	703,125
Total Benefits per Period	0	1,063,125	1,063,125	1,063,125

DEPRECIATED ASSETS	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Total per Period	0	0	0	0

DEPRECIATION SCHEDULE	Pre-start	Year 1	Year 2	Year 3
Software	0	0	0	0
Hardware	0	0	0	0
Total per Period	0	0	0	0

EXPENSED COSTS	Pre-start	Year 1	Year 2	Year 3
Software	75,000	70,000	70,000	70,000
Hardware	0	0	0	0
Consulting	24,000	0	0	0
Personnel	11,250	60,000	60,000	60,000
Training	90,000	0	0	0
Other	0	0	0	0
Total per Period	200,250	130,000	130,000	130,000

FINANCIAL ANALYSIS	Results	Year 1	Year 2	Year 3
Net cash flow before taxes		933,125	933,125	933,125
Net cash flow after taxes		466,563	466,563	466,563
Annual ROI - direct and indirect benefits				466%
Annual ROI - direct benefits only				115%
Net present value (NPV)				965,142
Payback (years)	0.21			
Average annual cost of ownership		330,250	230,125	196,750
3-year cumulative ROI	964%			
3-year IRR	463%			

FINANCIAL ASSUMPTIONS

All government taxes	50%
Discount rate	15%

All calculations are based on Nucleus Research's independent analysis of the expected costs and benefits associated with the application profiled in the accompanying case. Financial modeling tool, format, and methodology copyright Nucleus Research Inc., all rights reserved.