The Total Economic Impact™ Of Micro Focus Continuous Quality Solutions

Cost Savings And Business Benefits Enabled By Micro Focus Tools

FORRESTER®

Table Of Contents

Project Director:
Sarah Musto

ABOUT FORRESTER CONSULTING

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit forrester.com/consulting.

FORRESTER®

Key Benefits

Improved productivity through increased test automation:

QA: 60% more efficient Developers: 25% more efficient

Increased velocity with Micro Focus:

Quarterly to monthly releases, improved customer satisfaction

Reduced defects in downtime:

Saving a combined $2.4 million over three years

Executive Summary

Companies are prioritizing digital transformation goals in response to competitive pressures and shifting customer demands that require teams to deliver new and innovative features faster. In order to meet those demands, organizations need to have the right tools and processes in place to deliver high quality software and applications quickly, breaking down silos, standardizing, and increasing automation. Agile and DevOps practices can help organizations achieve the goal of faster delivery with higher quality and lower risk.[1] Application testing is a key piece of this digital transformation, and moving toward Agile and DevOps delivery requires organizations to shift left, moving testing closer to development so that development teams and testers can work together to design, build, and test quickly and iteratively. This cannot be done manually.[2] Manual activities are slow and prone to errors. In the past, testers would manually run through test scripts to ensure software quality, but this only works when releases take place a couple of times a year. Automated tools can automate significant portions of these testing processes, creating efficiency for teams adopting Agile processes. Automation enables continuous testing where the business, testers, and developers collaborate to increase quality. Ultimately, test automation tools minimize the time spent on validating software, allowing teams to focus on innovation and faster time-to-market.[3]

Micro Focus commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Application Delivery Management. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of the Application Delivery Management investment on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed several customers with years of experience using Application Delivery Management tools. These include ALM/ Quality Center, to consistently manage software testing and IT quality management, UFT One, to automate functional testing for web, mobile, API, and enterprise apps, LoadRunner Enterprise, to automate performance testing, and UFT Mobile, which provides an enterprise level end-to-end lab of real mobile devices and emulators for testing.

These interviewed organizations' prior testing processes were primarily manual and siloed, slowing releases to a biannual or quarterly cadence. In order to meet business demand for a more Agile, continuous delivery model, the organizations had to invest in a process and tool transformation. The organizations use Micro Focus tools to standardize and automate testing processes, enabling a DevOps approach that allows organizations to deliver better quality code to market faster.

Key Findings

Quantified benefits. The following risk-adjusted present value (PV) quantified benefits are representative of those experienced by the companies interviewed:

> › **Micro Focus tools improve the productivity of quality assurance (QA) testers by up to 60% and developer testers by up to 25% due to increased automation.** On average, organizations can improve from
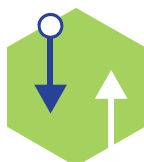
FORRESTER®

ROI
222%

Benefits PV
$12.4 million

NPV
$8.6 million

Payback
14 months

"[Micro Focus tools] are the central heartbeat of how our QA organization runs. It's the day-to-day work that we do. It's full accountability of all the tests we run, our full defect management, it's the way we pull out the metrics and we're able to see where the productivity goes, where we're trending, we're able to see as an organization where we need to shift our work, it's our security blanket. If this is down tomorrow, our team is not operating. We're all in on this in the deep end of the pool."

QA director, health services

20% of manual tests automated to 80% with Micro Focus, freeing up time for QA and developers to focus on more strategic priorities.

› **With improved test automation, staff can repurpose time to increase time-to-market for new releases, generating almost $4 million in incremental operating margin over three years.** Increasing test automation helps organizations shift left, speeding the overall development cycle and improving from quarterly to monthly releases, on average. These releases bring value to the business faster, increasing revenue and the resulting operating margin.

› **Quality improvements lead to a reduction in defects making it into production, saving over $1.2 million over three years.** Organizations use Micro Focus to better report and address defects earlier in the development cycle, leading to fewer defects escaping into production where they are significantly costlier to fix. On average, 8% of defects make it to production before the investment, decreasing to 1% with Micro Focus.

› **By increasing the quality of releases, organizations can avoid unplanned downtime, saving over $1.1 million over three years.** By catching more defects earlier in the development cycle, Micro Focus not only frees up time for staff to work on value-added activities, but it also improves the overall stability and availability of the applications. Avoiding downtime can result in cost savings of on average $500,000 per hour.

Unquantified benefits. The interviewed organizations experienced the following benefits, which are not quantified for this study:

› **In addition to QA and developers, business users also benefit from dashboards and reporting provided by Micro Focus tools, allowing them to make better decisions.** Prior to Micro Focus, business users didn't have visibility into testing processes and were upset by issues with applications in production. With Micro Focus, business users benefit from higher quality applications, giving them the visibility they need into the progress of testing.

› **Interviewed organizations found that the benefits of Micro Focus result in an improvement in customer satisfaction.** With higher quality, more stable applications, and newer features deployed faster, interviewed organizations found that internal and external users of applications were more satisfied with their experience.

› **Some organizations use ALM/ Quality Center to more efficiently provide reporting for compliance and audit purposes.** Previously, it would be a manual process to gather data for audit teams, while with Micro Focus, all test data is stored and easily accessed, saving time and providing auditability.

Costs. The interviewed organizations experienced the following risk-adjusted PV costs:

› **Micro Focus license costs.** This includes upfront and support costs for ALM/ Quality Center, UFT One, LoadRunner Enterprise, and UFT Mobile.

› **Implementation and management.** The interviewees on average spent six months on the implementation of Micro Focus tools, using both internal staff and professional services. There is an incremental investment in hardware to accompany the investment. On average, 1.5 administrator FTEs manage Micro Focus tools on an ongoing basis.

FORRESTER®

› **Training.** QA and developer testers undergo 40 hours of initial training and 16 hours of ongoing training related to Micro Focus tools.

Forrester's interviews with six existing customers and subsequent financial analysis found that an organization based on these interviewed organizations experienced benefits of $12.4 million over three years versus costs of $3.8 million, adding up to a net present value (NPV) of $8.6 million and an ROI of 222%.

Financial Summary
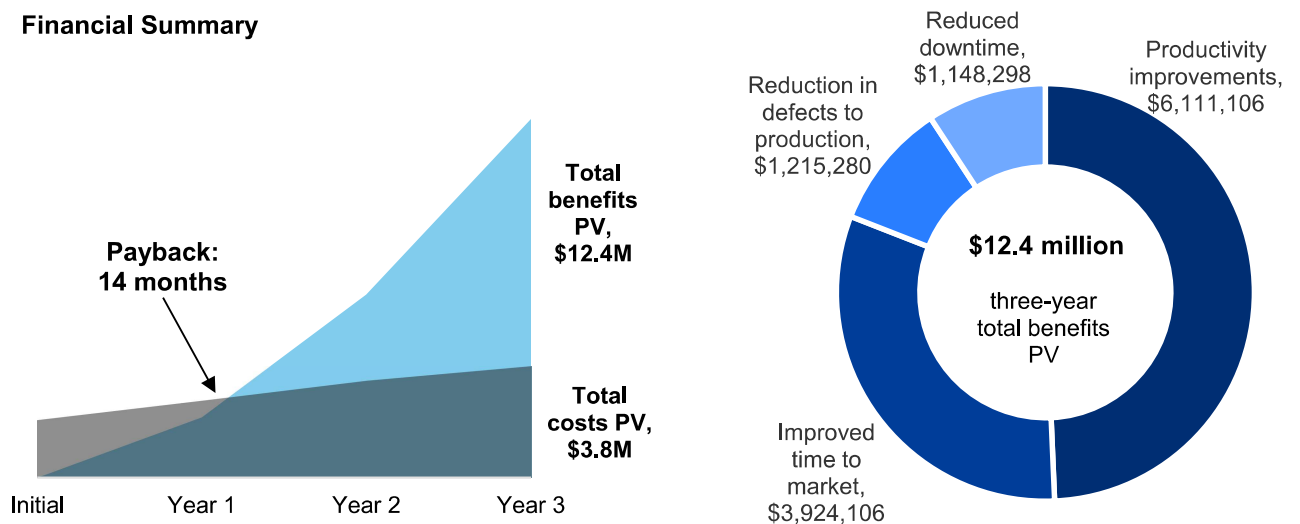
Payback: 14 months

Total benefits PV, $12.4M

Total costs PV, $3.8M

Initial   Year 1   Year 2   Year 3

Reduced downtime, $1,148,298

Reduction in defects to production, $1,215,280

Productivity improvements, $6,111,106

$12.4 million

three-year total benefits PV

Improved time to market, $3,924,106

FORRESTER®

TEI Framework And Methodology

From the information provided in the interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing Micro Focus Application Delivery Management.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that Micro Focus Application Delivery Management can have on an organization:

The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

DUE DILIGENCE
Interviewed Micro Focus stakeholders and Forrester analysts to gather data relative to Application Delivery Management.

CUSTOMER INTERVIEWS
Interviewed six organizations using Application Delivery Management to obtain data with respect to costs, benefits, and risks.

COMPOSITE ORGANIZATION
Designed a composite organization based on characteristics of the interviewed organizations.

FINANCIAL MODEL FRAMEWORK
Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewed organizations.

CASE STUDY
Employed four fundamental elements of TEI in modeling Micro Focus Application Delivery Management's impact: benefits, costs, flexibility, and risks. Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Micro Focus and delivered by Forrester Consulting. It is not meant to be used as a competitive analysis.

Forrester makes no assumptions as to the potential ROI 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 Micro Focus Application Delivery Management.

Micro Focus 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.

Micro Focus provided the customer names for the interviews but did not participate in the interviews.

FORRESTER®

The Micro Focus Customer Journey

BEFORE AND AFTER THE MICRO FOCUS INVESTMENT

Interviewed Organizations

For this study, Forrester conducted six interviews with Micro Focus customers. Interviewed customers include the following:

INDUSTRY	HEADQUARTERED	INTERVIEWEE	MICRO FOCUS PRODUCTS USED
Telecommunications	Europe	Test tools designer	ALM/ Quality Center, UFT One, Sprinter, LoadRunner Professional, LoadRunner Enterprise, UFT Mobile
Automotive	Europe	Central IT	ALM Octane, LoadRunner Professional, UFT One
Health services	United States	QA director, enterprise QA lead	ALM/ Quality Center , UFT One, LoadRunner Enterprise, UFT Mobile
Financial services	UK	Quality engineer	ALM/ Quality Center , UFT One, UFT Developer, LoadRunner Enterprise
Insurance	Japan	IT senior manager	ALM/ Quality Center, UFT One, UFT Developer, LoadRunner Enterprise
Financial services	Russia	Head of testing, service lead for ADM products	ALM/ Quality Center, UFT One, LoadRunner Enterprise

Key Challenges

The interviewees shared common challenges prior to their Micro Focus investment, including:

› **Prior to using Micro Focus tools, testing processes were mostly manual, sometimes nonexistent, and siloed.** For most interviewed organizations, there was not a consistent or standardized process for testing at the organization prior to the Micro Focus investment. Most organizations tested manually, some had pockets of tools in different parts of the organization, and many used spreadsheet software to create reports and manage test cases. Some organizations used freeware software to try to automate testing, but they found that these tools were hard to maintain and lacked functionality. Other organizations didn't have the resources to do performance testing prior to Micro Focus, creating business risk. As one interviewee put it, "We had limited resources, but we had unlimited work" — these manual and siloed processes were not scalable to meet those demands.

› **The organizations needed to move to a more Agile, continuous delivery model in order to meet business demand — this goal could not be achieved without adding automation.** Most organizations were following a more waterfall-type approach, with releases biannually or quarterly. The organizations found that market pressures necessitated faster release cycles in order to remain competitive. One interviewee noted, "Our aim is to deliver better quality code faster, and we soon realized that a DevOps model could help change our working practices to support this objective." The organizations needed tools that could be part of that process in order to speed testing cycles and allow for expanded functional, performance, and mobile testing. One interviewee said, "There was always a frustration that IT was not delivering anything on time." One

> "We had limited resources, but we had unlimited work, typically that's how the world works, I guess. What we were thinking is we couldn't have hired a lot of manual testers, and we wanted to get some automated deployments in place, we wanted to still be able to roll out quality application software, but we had to work smarter."
>
> *IT senior manager, insurance*

FORRESTER®

organization mentioned trying to design test automation tools in house, but they found that it would be significantly costlier than an investment in out-of-the-box tools.

› **Trying to achieve faster releases with the previous processes and tools resulted in defects and performance bottlenecks that impacted customer satisfaction.** Interviewed organizations struggled with issues in production that took time away from developers and testers that could be used delivering new functionality. Downtime and performance issues impacted end users of applications, resulting in lower user satisfaction. One interviewee said that the goal of the Micro Focus investment for them was to reduce downtime because downtime was so costly for their business.

Key Results

The interviews revealed that key results from the Micro Focus investment include:

› **Micro Focus tools make test processes more efficient.** Interviewed organizations noted efficiencies for QA and developers due to automation achieved through Micro Focus tools. One interviewee said that, "With UFT One, we went from three to four days of manual testing to an 8-hour session overnight. It took three months to get to that point, and in the first year we saved over 1,500 man hours." Another interviewee said: "Every time we run our tests, we cover 1 million check points. That is humanly impossible to do. What we do, using these tools, is humanly impossible to validate in that many areas in all of our applications, and we are only able to do that because we have this tooling in place. It's impossible to sustain this kind of growth, and we have hardly grown from our employee growth percentage, but we have probably tripled or quadrupled the number of applications that we get."

› **Due to the increase in test automation, organizations repurpose staff to increase test coverage and focus on value-added activities.** Interviewed organizations increase the amount of manual testing that is automated from a low of 10% to up to 80% with Micro Focus. This increase in automation helps organizations repurpose people to do more meaningful work, which results in cost savings and in improvements to application quality and time-to-market. Organizations mentioned the ability to expand mobile test coverage to more form factors, expand the number of applications tested or the number and types of tests run, the ability to do more analysis, and the ability to focus on developing and testing new features.

› **Using Micro Focus tools helps organizations achieve a faster time-to-market.** The automation of test processes has contributed to earlier testing and the continuous delivery strategies used by these organizations to deliver functionality faster. On average, interviewees move from a biannual or quarterly release cycle to an at-least monthly release cycle, with ambitious goals of weekly or daily release cycles. One interviewee said: "This software enabled us to determine the defects in the development cycle. This led us to decrease the release cycle, and consequently, this leads to lowering time-to-market, which is our ultimate goal. The ultimate goal we receive from using Micro Focus products is decreasing time-to-market."

> "Every time we run our tests, we cover 1 million check points. That is humanly impossible to do. What we do, using these tools, is humanly impossible to validate in that many areas in all of our applications, and we are only able to do that because we have this tooling in place. It's impossible to sustain this kind of growth, and we have hardly grown from our employee growth percentage, but we have probably tripled or quadrupled the number of applications that we get."
>
> *IT senior manager, insurance*

> "This software enabled us to determine the defects in the development cycle. This led us to decrease the release cycle, and consequently, this leads to lowering time-to-market, which is our ultimate goal. The ultimate goal we receive from using Micro Focus products is decreasing time-to-market."
>
> *Service lead for ADM products, financial services*

FORRESTER®

› **Micro Focus tools help organizations catch defects earlier and reduce the number of defects that make it into production, providing higher quality applications that increase customer satisfaction.** The organizations noted improvements in the stability of applications that improved user experience for both internal users and customers. Some organizations also experienced a reduction in costly downtime with Micro Focus. One interviewee said: "Since we're allowed to do more in less time, we're more efficient and we have better coverage than we ever had in the past. So, there's a trade-off there where we can free someone up more or we can go deeper and have better quality coverage and see our defects rate reduce so we're able to increase our quality."

Composite Organization

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas financially affected. The composite organization is representative of the six companies that Forrester interviewed and is used to present the aggregate financial analysis in the next section. The composite organization that Forrester synthesized from the customer interviews has the following characteristics:

Description of composite. The composite is a large, global organization that currently struggles with a waterfall approach to application development that is slow and costly. The organization has quarterly releases, on average, and struggles with defects in production that can cause outages or issues with applications that affect user experience. The organization is challenged to "do more with less" and is considering both process and tool changes to speed time-to-market for releases in order to meet business and competitive demands. The organization's testing processes are mostly manual, with approximately 20% automated.

Deployment characteristics. The composite organization uses its Micro Focus tools enterprisewide and accompanies the investment with an Agile and DevOps transformation currently championed at the organization. The organization deploys on-premises versions of ALM/ Quality Center, LoadRunner Enterprise, UFT Mobile, and UFT One. ALM/ Quality Center is at the center of the composite's test automation processes, providing consistent and reusable processes, and it is also where best cases and execution are stored. It's used by the whole organization, including QA, developers, and business users for tracking and reporting. ALM/ Quality Center is integrated with issue tracking software to enable defects to be escalated and addressed early. ALM/ Quality Center, LoadRunner Enterprise, UFT One, and UFT Mobile are all integrated to automate repetitive testing. UFT One is typically integrated with open source automation servers to replace manual testing. LoadRunner Enterprise is used by a smaller group of testers to load test applications. UFT Mobile is used to test mobile-compatible versions of applications. Initially, the organization tests nine applications with Micro Focus in Year 1 and 25 applications in Year 3. Initially, there are 45 QA users and 25 developer users, these numbers increase by Year 3 with 125 QA users and 75 developer users.

> "I think the most important benefit is that there is a clear-cut process of how to deliver quality software to production. There is no confusion. There is a clear-cut release management process, there is a clear-cut development process, and there's tools that provide audits, there is accountability. Because the tools are in place, there is no, he said/she said situation. The tools are pretty robust, top of the class tools that Micro Focus provides."
>
> *IT senior manager, insurance*

Key assumptions:
- Using ALM/ Quality Center, LoadRunner Enterprise, UFT One, and UFT Mobile
- 200 total users
- 25 applications

FORRESTER®

Analysis Of Benefits

QUANTIFIED BENEFIT DATA AS APPLIED TO THE COMPOSITE
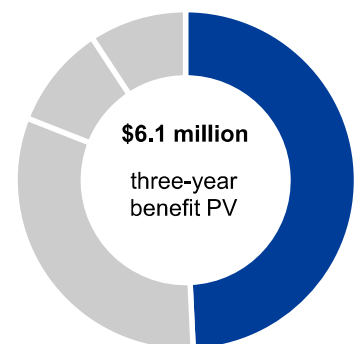
Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Productivity improvements	$817,594	$2,244,375	$4,675,781	$7,737,750	$6,111,106
Btr	Improved time-to-market	$955,393	$1,936,647	$1,936,647	$4,828,687	$3,924,106
Ctr	Reduction in defects to production	$272,160	$483,840	$756,000	$1,512,000	$1,215,280
Dtr	Reduced downtime	$263,500	$450,500	$714,000	$1,428,000	$1,148,298
	Total benefits (risk-adjusted)	$2,308,647	$5,115,362	$8,082,429	$15,506,437	$12,398,790

Productivity Improvements

One of the most immediate benefits to the Micro Focus investment is that the organizations can significantly increase the amount of manual testing that is automated, creating efficiencies for developers and testers and enabling progress toward an Agile and DevOps delivery model. This allows testers and developers to spend more time contributing value-added work, whether it be better or more rigorous test coverage, testing new functionality, or developing new features. It also speeds the overall release cycle.

> One interviewee said: "Using our Micro Focus testing framework, we can create reports on the fly without involving individual QA staff. Our central system is always up-to-date, providing real-time data to our decision makers. This means we can speed up the testing process and quickly escalate issues before they cause problems."

> Another organization found that: "We are able to provide many more test cycles because of automation. And we are also able to increase quality because we are empowering processes with ALM/ Quality Center and our test management, so, we are able to provide our test process much more efficiently."

> Several organizations reported an increase in automation following the Micro Focus investment, examples including:

> • "In the past two or three years, we had only automated 10% of tests in general and now we are up to 30% coverage for test automation."

> • "Our established baseline was 15% automation. And over the last couple of years, since we've been growing and growing, we're probably up to 75% now. And that would have been really difficult to do if we didn't have that visibility in the tools and the ability to accomplish that work when we saw where the opportunities were."

> • "Over the course of 12 months, we were able to reduce the amount of manual application testing, resulting in a 50% increase in automated application testing with UFT One and LoadRunner Enterprise."

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of almost $12.4 million.

$6.1 million

three-year
benefit PV

Productivity
improvements: **49%** of
total benefits

FORRESTER®

- "We have 80% of manual testing automated."
- "We began from 20% and now I think automation runs to near 80%."

› By increasing the amount of manual testing that is automated, the organizations can refocus testers and developers on "the difficult stuff, [such as] analyze the issues versus crank through tasks." Another interviewee said: "It's easier to get working scripts up and running. And so that means that we're probably doing more exploratory type testing and doing more early testing because it's not just a specialist that can do the testing. And I think that's one of the drivers for an increased use in test tools and more people running tests at any one time." Another interviewee echoed, "Obviously, the increase in automation helps with repurposing people to do more meaningful work in other areas, which equates to cost savings."

For the composite organization, Forrester assumes that:

› By Year 3, as more applications are onboarded to Micro Focus, there are 125 QA testers and 75 developers using Micro Focus tools.

› The composite organization was able to improve from 20% of manual tests automated to 80% over the three years with Micro Focus.

› QA testers save 60% of their time due to this increase in automation. Some QA testers are now repurposed as automation engineers to write automation scripts. Developers save 25% of their overall time.

› To measure the value of saved time, Forrester uses a fully loaded compensation, including the value of benefits, of $97,500 for QA and $135,000 for developers.

› Forrester conservatively assumes that 50% of time saved is recaptured for additional productive work.

Risks that could affect the realization of this benefit include:

› The maturity of prior tools and processes could affect the amount of opportunity for improvement, as well as the need for training required to achieve a benefit.

› Interviewees with simpler testing requirements (i.e., one target environment for internal apps) may achieve benefits faster and more significantly than those with more complex testing requirements.

To account for these risks, Forrester adjusted this benefit downward by 5%, yielding a three-year risk-adjusted total PV of $6.1 million.

"Our established baseline was 15% automation. And over the last couple of years, since we've been growing and growing, we're probably up to 75 percent now. And that would have been really difficult to do if we didn't have that visibility in the tools and the ability to accomplish that work when we saw where the opportunities were."

QA director, health services

Impact risk is the risk that the business or technology needs of the organization may not be met by the investment, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for benefit estimates.

FORRESTER®

Productivity Improvements: Calculation Table

| REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
A1	Number of QA staff users	Interviews	45	80	125
A2	Productivity improvement with Micro Focus	Interviews	30%	45%	60%
A3	Average fully loaded compensation, QA	Assumption	$97,500	$97,500	$97,500
A4	Number of developer users	Interviews	25	50	75
A5	Productivity improvement with Micro Focus	Interviews	12%	18%	25%
A6	Average fully loaded compensation, developers	Assumption	$135,000	$135,000	$135,000
A7	Productivity capture	Assumption	50%	50%	50%
At	Productivity improvements	((A1*A2*A3)+ (A4*A5*A6))*A7	$860,625	$2,362,500	$4,921,875
	Risk adjustment	↓5%			
Atr	Productivity improvements (risk-adjusted)		$817,594	$2,244,375	$4,675,781

Improved Time-To-Market

By using Micro Focus tools to improve the amount of test automation and efficiency of testing processes, the organizations are able to shift left, testing and detecting defects earlier and speeding up the entire development cycle, enabling these organizations to get releases to market faster.

> Several interviewees began with twice a year releases, moving to quarterly releases, following a waterfall-type approach to application development. With test automation from Micro Focus, the organizations are able to release new features on a monthly basis, on average. Some organizations are continuing to pursue a continuous delivery model that could deliver daily or weekly deployments.

> By improving time-to-market, the organizations are better able to support their core business needs and strategies. One interviewee said: "Most of what's been worked on is business value stuff where the business wants to enhance the application in some sense. So we have gone from mainly working on defects to now actually providing business value because the business says, 'we need to add this feature, we need to add that feature.'" Another interviewee similarly said, "This software enabled us to determine the defects in the development cycle. This led us to decrease the release cycle, and consequently, this leads to lowering time to market which is our ultimate goal. The ultimate goal we receive from using Micro Focus products is decreasing time to market."

For the composite organization, Forrester assumes that:

> Three applications drive on average $15 million per month in revenue for the composite organization.

> Prior to Micro Focus, the organization had an average quarterly release cycle. With Micro Focus, the organization can release software monthly, with a goal of even faster delivery for the future.

$3.9 million

three-year benefit PV
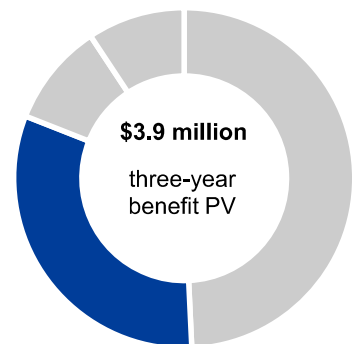
Time-to-market:
32% of total benefits

FORRESTER®

- Forrester conservatively assumes that each release improves revenue generation for that application, through new features, bug fixes, or improved customer satisfaction or acquisition, by 1%.

- The ability to deliver these releases at a faster pace delivers up to almost $23 million in additional revenue per year. With an average operating margin of 10%, the net impact of improving release speed is almost $2.3 million per year in operating profit.

Risks that could affect the realization of this benefit include:

- The difficult nature of defining and attributing the benefit of new releases to application value. According to customers, this can include adding new features that improve customer satisfaction or acquisition, fixing applications to reduce customer churn, or reducing technical debt.

- The number of applications that affect the organization's revenue.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of $3.9 million.

> "Most of what's been worked on is business value stuff where the business wants to enhance the application in some sense. So, we have gone from mainly working on defects to now actually providing business value because the business says, 'we need to add this feature, we need to add that feature.'"
>
> *IT senior manager, insurance*

Improved Time-To-Market: Calculation Table					
REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
B1	Number of revenue generating applications	Assumption	3	3	3
B2	Average monthly revenue per application	Assumption	$15,000,000	$15,000,000	$15,000,000
B3	Number of releases per year, pre Micro Focus	Interviews	4	4	4
B4	Number of months new release is live, pre Micro Focus	12/B3	3	3	3
B5	Number of releases per year, with Micro Focus	Interviews	8	12	12
B6	Number of months new release is live, with Micro Focus	12/B6	1.5	1.0	1.0
B7	Average additional revenue per release	Assumption	1%	1%	1%
B8	Total revenue, pre Micro Focus	B1*(B2*B4)*SUM(1+B7)^B3)	$553,635,676	$553,635,676	$553,635,676
B9	Total revenue, with Micro Focus	B1*(B2*B6)*SUM(1+B7)^B5)	$564,875,591	$576,419,762	$576,419,762
B10	Additional revenue from faster releases	B9-B8	$11,239,915	$22,784,086	$22,784,086
B11	Operating margin	Assumption	10%	10%	10%
Bt	Improved time-to-market	B10*B11	$1,123,992	$2,278,409	$2,278,409
	Risk adjustment	↓15%			
Btr	Improved time-to-market (risk-adjusted)		$955,393	$1,936,647	$1,936,647

Reduction In Defects To Production

A key time and cost savings due to using Micro Focus is improving the quality of releases, resulting in fewer issues in production. Organizations are better able to track and report defects and address these defects

FORRESTER®

earlier in the development cycle, resulting in a much lower cost to fix these defects than if they were to escape into production. This frees up more time for developers to focus on value-added features, as discussed in the previous benefit.

› One interviewee said: "80 points from 100 is the minimum score to achieve a sufficient quality in the project. We've gone from at least 20% of projects surpassing this threshold to now 60% to 80% . . . . With the use of UFT One we are able to decrease the number of defects during the test process."

› Another interviewee noted: "Now absolutely every defect that's being found is being reported. I think another thing too is, we have lots of defects in our test environments, but what really matters is if we're preventing the defects from getting to production. [When a defect gets to production] a worst-case scenario would be something so critical that it needs an immediate fix, meaning we have to pull together a SWAT team, we've got to work through the night, we may have to contact the third-party vendor that's contracted with that application. [When the defect is found earlier] I could be sitting in a bullpen with a developer and I find a bug and I communicate it to them, and they fix it before I can even finish the sentence of saying what the problem is."

› Explained one interviewee, with regard to performance issues: "Without increasing the number of QA engineers, we are able to run higher quality tests, more frequently than before. We have weekly sessions where basically any issues that have gone through into production are discussed. And I can't remember the last time something performance-related made it onto that list. But it used to be a fairly regular occurrence that we were looking for a performance bottleneck of some sort, and that tends to not be the case now."

› Explained one interviewee: "If you can find the defect on the developer's machine, that's like the best case scenario. The next best case scenario is actually when you integrate your code, and then you run some tests in that environment or in a continuous integration environment, but if you can't then the next best case is to find it in QA. Over the last three years, we have gone from 92% efficiency to 98 point something — 1% basically escapes. So what we are saying is there's an almost 99% success rate, just to production."

For the composite organization, Forrester assumes that:

› Forrester defines a "defect" in this instance to be a bug that causes moderate to significant functionality issues or system failures that can lead to impacted user experience or downtime.

› The composite organization averages four defects per month for each of its 25 applications tested using Micro Focus. As applications are onboarded, this increases to 100 total defects per month by Year 3.

› Prior to Micro Focus, 8% of defects made it into production. With Micro Focus, this decreases by 7 percentage points down to only 1% of defects making it into production.

› The cost to fix a defect in production is assumed to be $10,000, while fixing the defect in development or testing is on average 100 times cheaper.

Risks that could affect the realization of this benefit include:

$1.2 million

three-year benefit PV
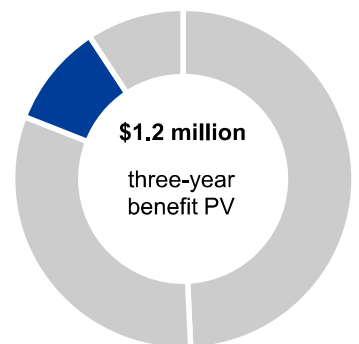
Reduced defects to production: 10% of total benefits

"Without increasing the number of QA engineers, we are able to run higher quality tests, more frequently than before. We have weekly sessions where basically any issues that have gone through into production are discussed. And I can't remember the last time something performance-related made it onto that list. But it used to be a fairly regular occurrence that we were looking for a performance bottleneck of some sort, and that tends to not be the case now."

Quality engineer, financial services

FORRESTER®

› The time and effort put into defect reporting and tracking, which could require training or process improvements.

› The cost to remediate defects in production is variable from organization to organization.

To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $1.2 million.

| REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
	Reduction In Defects To Production: Calculation Table				
C1	Number of defects, per month	Interviews	36	64	100
C2	Percent of defects that went to production, before Micro Focus	Interviews	8%	8%	8%
C3	Percent of defects that went to production, with Micro Focus	Interviews	1%	1%	1%
C4	Cost to fix defect in production	Interviews	$10,000	$10,000	$10,000
Ct	Reduction in defects to production	(C1*12*C2*C4)-(C1*12*C3*C4))	$302,400	$537,600	$840,000
	Risk adjustment	↓10%			
Ctr	Reduction in defects to production (risk-adjusted)		$272,160	$483,840	$756,000

Reduced Downtime

By reducing the number of defects that make it into production, the interviewed organizations can improve the quality and reliability of their applications, reducing costly downtime.

› One interviewee said: "Having seen a reduction in the frequency of those incidents [production issues] means that we have more stable applications out in production and a better end user experience."

› "So, for achieving that goal [of reducing downtime], we started to use Micro Focus products. It definitely has decreased, but it wasn't only because of the Micro Focus products. Because we changed internally in terms of our organization and our standards and our people and culture. During the last five years, it's at least a five times reduction in downtime."

For the composite organization, Forrester assumes that:

› Prior to using Micro Focus, 96 defects made it to production each year. With Micro Focus, this number decreases to 12.

› On average, 1% of defects result in application downtime.

› On average, each outage lasts 2 hours and the cost per hour of downtime for the composite is $500,000. This is an all-inclusive cost that includes not only the cost to resolve the issue but also lost productivity and lost revenue. This cost can vary based on company size, industry, and region, and may be higher than average given the companies in our specific sample. For more information on how the cost of downtime can fluctuate, please reference the Ponemon report on data center outages, which concludes that the average cost per

$1.1 million

three-year benefit PV
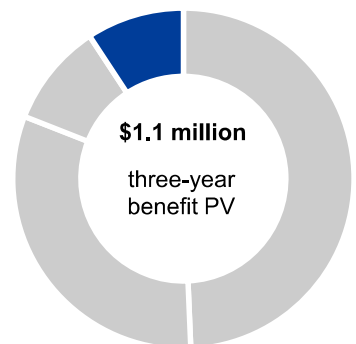
Reduced downtime: 9% of total benefits

"Having seen a reduction in the frequency of those incidents [production issues] means that we have more stable applications out in production and a better end user experience."

QA director, health services

FORRESTER®

downtime is roughly $500,000 across its sample, verifying the figures from our interviewees.[4]

Risks that could affect the realization of this benefit include:

› Multiple issues can lead to downtime, so attributing a reduction in downtime to Micro Focus can be difficult.

› The length and cost of downtime is highly variable by industry and type of application.

To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of $1.1 million.

REF.	METRIC	CALC.	YEAR 1	YEAR 2	YEAR 3
Reduced Downtime: Calculation Table					
D1	Defects to production before Micro Focus	C1*12*C2	35	61	96
D2	Defects to production with Micro Focus	C1*12*C3	4	8	12
D3	Percent of defects that result in downtime	Assumption	1%	1%	1%
D4	Average length of downtime, hours	Interviews	2	2	2
D5	Average hourly cost of downtime	Assumption	$500,000	$500,000	$500,000
Dt	Reduced downtime	(D1-D2)*D3*D4*D5	$310,000	$530,000	$840,000
	Risk adjustment	↓15%			
Dtr	Reduced downtime (risk-adjusted)		$263,500	$450,500	$714,000

Unquantified Benefits

In addition to the quantified benefits listed above, interviewees experienced additional benefits from their investment that they were not able to quantify, including:

› **Micro Focus enables users to give the business more visibility into testing processes, allowing for better decision making.** Interviewed organizations talked about the dashboards and reporting capability in ALM/ Quality Center that shows application testing progress which business users can view. One interviewee said, "We can give a clear definition to the business, saying, if you want this change to go in production, it might take a week of testing or three days of testing. So the business is happy because we are giving enough time that's realistic, and we are putting quality product in production. That was not possible five or six years ago because the tooling was not in place."

› **After the Micro Focus investment, interviewed organizations noted that customer satisfaction improved.** One organization's customer satisfaction score improved by 20%, half of which the organization attributed to the use of Micro Focus specifically to deliver higher quality applications and more frequent releases. Another interviewee commented on more stable applications resulting in a better end user experience. Another interviewee went on: "We do performance testing on all of these applications before we put them to production, and if they don't match the baselines, we actually talk to

"We do performance testing on all of these applications before we put them to production, and if they don't match the baselines, we actually talk to the developers, and find out why a particular area is slowed down. We go back. We do some root cause analysis and then fix it, and until it's fixed, we don't put it into production. Before, the performance was affected, nobody knew why, the customers were complaining — we all put so much importance on the dollar value, that's really important, but just to see that the customers now have this trust in IT, that we can deliver a quality product, is crucial for us."

IT senior manager, insurance

FORRESTER®

the developers, and find out why a particular area is slowed down. We go back. We do some root cause analysis and then fix it, and until it's fixed, we don't put it into production. Before, the performance was affected, nobody knew why, the customers were complaining — we all put so much importance on the dollar value, that's really important, but just to see that the customers now have this trust in IT, that we can deliver a quality product, is crucial for us."

› **Some interviewed organizations also noted compliance benefits.** One organization had an internal auditing department that needed details about testing processes as part of government compliance. It would have been a manual process to gather that data before, but with Micro Focus the organization can easily show detailed reporting in ALM/ Quality Center. Another organization similarly commented that being able to start UFT One tests from ALM/ Quality Center and then store the results back into ALM/ Quality Center gives the organization auditability that it did not have before.

Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are multiple scenarios in which a customer might choose to implement Micro Focus tools and later realize additional uses and business opportunities, including:

› **Several interviewees have started or plan on moving toward parallel test execution to drive even more efficiency.** One interviewee explained: "What we're doing is we're using tools like [open source automation servers] to say, 'I want to run a series of UFT One tests on four or five machines all at the same time,' which frees up the tester to be working on tomorrow's test or analyze test results or do something else." Another interviewee said: "In the last couple of years we looked at parallel test execution as well. We said, instead of having one user — one person equal to one robot — doing this work, how about we configure our framework so that we can run multiple threads, multiple tests at the same time. It's amazing — once we were able to run things in parallel, now we were able to cover more areas but also we could go deeper. So, before, we were looking at only the top 10 or top 15 states, now we are looking at all states."

› **Some interviewees are considering additional investments in Micro Focus tools, including cloud capabilities.** While most interviewed organizations are using on-premises versions of Micro Focus tools, some interviewees are moving forward with a more cloud-focused strategy that may lead them to invest in cloud options like LoadRunner Cloud or UFT Mobile. Moving to Micro Focus' software-as-a-service (SaaS) solutions could reduce the burden on infrastructure and administration costs associated with on-premises solutions. Other interviewees have been upgrading their Micro Focus investment through the years, for example starting with LoadRunner Professional and then moving to LoadRunner Enterprise, or starting with ALM/ Quality Center and then planning on upgrading to ALM Octane for additional functionality.

Flexibility would also be quantified when evaluated as part of a specific project (described in more detail in Appendix A).

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for a future additional investment. This provides an organization with the "right" or the ability to engage in future initiatives but not the obligation to do so.

> "What we're doing is we're using tools like [open source automation servers] to say, 'I want to run a series of UFT tests on four or five machines all at the same time,' which frees up the tester to be working on tomorrow's test or analyze test results or do something else."
>
> *Quality engineer, financial services*

FORRESTER®

Analysis Of Costs

QUANTIFIED COST DATA AS APPLIED TO THE COMPOSITE

Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Etr	Micro Focus license costs	$1,575,000	$315,000	$315,000	$315,000	$2,520,000	$2,358,358
Ftr	Implementation and management	$185,768	$174,350	$174,350	$174,350	$708,818	$619,351
Gtr	Training	$222,264	$254,016	$340,200	$181,440	$997,920	$870,663
	Total costs (risk-adjusted)	$1,983,032	$743,366	$829,550	$670,790	$4,226,738	$3,848,372

Micro Focus License Costs

For the composite organization, Forrester assumes that:

› The composite organization paid upfront costs of $1.5 million for ALM/ Quality Center, UFT One, LoadRunner Enterprise, and UFT Mobile. On an annual recurring basis the organization pays $300,000 per year.

› Forrester assumes the on-premises versions of these products are purchased at the same time upfront. Some interviewees followed a more phased approach where they began with a single product, like UFT One, and then added additional products over time.

Risks that could affect the magnitude of this cost include:

› License costs can vary based on differing license types, test requirements, and vendor discounts.

To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year risk-adjusted total PV of $2.4 million.

> The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of more than $3.8 million.

> Implementation risk is the risk that a proposed investment may deviate from the original or expected requirements, resulting in higher costs than anticipated. The greater the uncertainty, the wider the potential range of outcomes for cost estimates.

Micro Focus License Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
Et	Micro Focus license costs	Assumption	$1,500,000	$300,000	$300,000	$300,000
	Risk adjustment	↑5%				
Etr	Micro Focus license costs (risk-adjusted)		$1,575,000	$315,000	$315,000	$315,000

Implementation And Management

Interviewed organizations took differing approaches to implementation and management. Most organizations took some sort of phased approach, either building up their Micro Focus tool set over time or adding applications to their Micro Focus testing processes over time. Interviewees spoke of the ease of use and ease of integration with Micro Focus tools.

FORRESTER®

- One interviewee commented on the ability to get synergies from using Micro Focus tools together, saying: "The main reasons that we continue to [use Micro Focus] are ease of use and ease of integration with other tools. The big thing that we're doing is moving toward a lot more automation. And we're looking to get more tools talking to one another. Rather than buying product A and product B and using them in isolation, if you use them together, you tend to get more than the sum of the parts in terms of benefit."

- Because the interviewees chose on-premises deployments for their Micro Focus tools, there was an accompanying infrastructure investment. Interviewees invested in a mix of virtual machines (VMs), load generators, and servers. However, the magnitude of the infrastructure investment did not seem to be overly burdensome.

- Interviewed organizations have administrators for their Micro Focus tools that are responsible for upgrades and patching, looking for new features or additional tools to add, integrations between Micro Focus tools and with other tools, and providing training and support for users.

For the composite organization, Forrester assumes that:

- The composite organization uses internal staff and professional services to implement the Micro Focus tool set over the course of six months. Each month requires a total of 120 hours of internal staff time, and the implementation requires $50,000 in total professional services costs. The total blended fully loaded hourly rate of staff participating in the implementation effort is $54.

- The organization procures additional hardware to support Micro Focus tools, spending $80,000 upfront and $16,000 per year in maintenance.

- The organization requires 1.5 administrator FTEs to manage the Micro Focus solution set.

- Forrester uses a fully loaded compensation, including the value of benefits, of $95,000 for administrators.

Risks that could affect the magnitude of this cost include:

- Implementation costs will vary based on the organization's environment, internal skills, need for professional services support, and pace of investment in Micro Focus tools.

- Some organizations already had available infrastructure to use, so no additional cash outlay was made to support Micro Focus.

To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year risk-adjusted total PV of almost $620,000.

"The main reasons that we continue to [use Micro Focus] are ease of use and ease of integration with other tools. The big thing that we're doing is moving toward a lot more automation. And we're looking to get more tools talking to one another. Rather than buying product A and product B and using them in isolation, if you use them together, you tend to get more than the sum of the parts in terms of benefit."

Quality engineer, financial services

Total implementation and deployment time: **six months**

FORRESTER®

Implementation And Management: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
F1	Implementation months	Interviews	6			
F2	Internal hours spent per month	Interviews	120			
F3	Average blended hourly fully loaded compensation	$112,000/2,080	$54			
F4	Professional services cost	Assumption	$50,000			
F5	Additional hardware purchased	Interviews	$80,000	$16,000	$16,000	$16,000
F6	Ongoing administration, FTEs	Interviews		1.5	1.5	1.5
F7	Average annual administrator fully loaded compensation	Assumption		$95,000	$95,000	$95,000
Ft	Implementation and management	(F1*F2*F3)+F4 +F5+(F6*F7)	$168,880	$158,500	$158,500	$158,500
	Risk adjustment	↑10%				
Ftr	Implementation and management (risk-adjusted)		$185,768	$174,350	$174,350	$174,350

Training

The amount of training for Micro Focus users varied across the interviewed organizations, with some interviewees saying minimal time was spent on training, while other interviewees invested significantly in training, typically tied to process changes or improvements accompanying the investment.

› Initially, users underwent longer training sessions to learn how to use the Micro Focus tools as part of current or improved testing processes. Internal courses for users were created both on testing in general and on the different Micro Focus tools.

› On an ongoing basis, interviewees provide training for users for new feature updates, upgrades, or if additional tools are purchased. As one interviewee said: "At those times, we did training, but even then, for resources that already knew how to use the previous tools, the training hasn't been that big of a deal. It's by no means a time or a cost drain."

For the composite organization, Forrester assumes that:

› Initially, new users spend 40 hours on Micro Focus training. On an ongoing basis, users spend 16 hours per year on training on new features and processes.

› The average blended hourly fully loaded compensation, including benefits, for QA and developer staff is $54.

Risks that could affect the magnitude of this cost include:

› Training costs will depend on the existing skill of the users, the current testing processes and any concurrent test process improvements, and the number of tools and integrations that are part of the Micro Focus investment.

To account for these risks, Forrester adjusted this cost upward by 5%,

40 hours of upfront training and **16 hours** of ongoing training, on average

FORRESTER®

yielding a three-year risk-adjusted total PV of about $870,000.

Training: Calculation Table						
REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
G1	Total number of new users	Year 1-Initial	70	60	70	0
G2	Total number of users	A1+A4	70	130	200	200
G3	Initial training hours	Interviews	40	40	40	40
G4	Ongoing training hours per year	Interviews	16	16	16	16
G5	Average blended hourly fully loaded compensation	$112,000/2,080	$54	$54	$54	$54
Gt	Training	((G1*G3)+ (G2*G4)*G5	$211,680	$241,920	$324,000	$172,800
	Risk adjustment	↑5%				
Gtr	Training (risk-adjusted)		$222,264	$254,016	$340,200	$181,440

FORRESTER®

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)
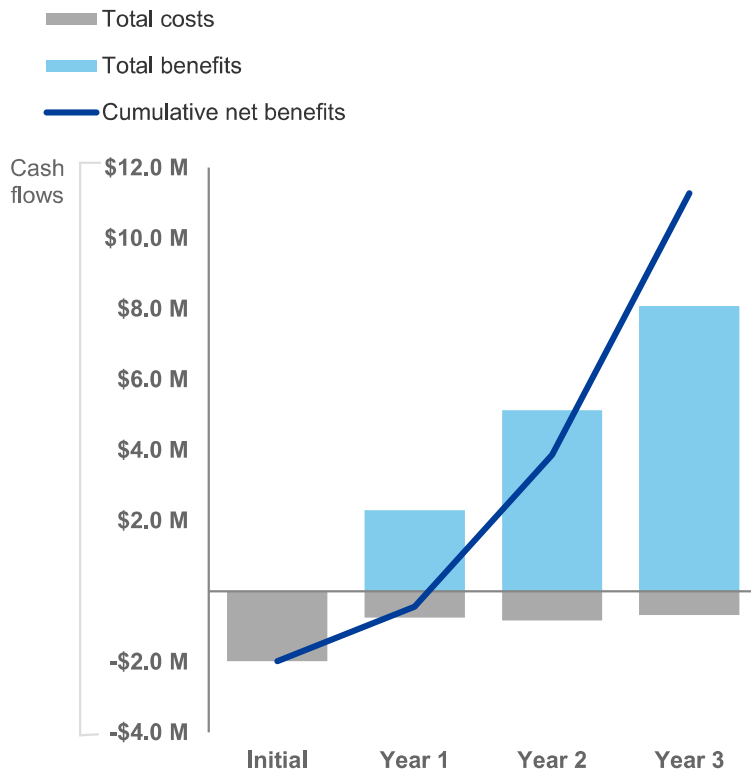
The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

- Total costs
- Total benefits
- Cumulative net benefits

Cash flows

$12.0 M
$10.0 M
$8.0 M
$6.0 M
$4.0 M
$2.0 M
-$2.0 M
-$4.0 M

Initial   Year 1   Year 2   Year 3

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	($1,983,032)	($743,366)	($829,550)	($670,790)	($4,226,738)	($3,848,372)
Total benefits	$0	$2,308,647	$5,115,362	$8,082,429	$15,506,437	$12,398,790
Net benefits	($1,983,032)	$1,565,281	$4,285,812	$7,411,639	$11,279,699	$8,550,418
ROI						222%
Payback period						14 months

FORRESTER®

Micro Focus Continuous Quality Solutions: Overview

The following information is provided by Micro Focus. Forrester has not validated any claims and does not endorse Micro Focus or its offerings.

ALM / Quality Center

Micro Focus ALM/Quality Center provides an integrated quality management platform including test planning and execution across the application lifecycle, to continually improve and deliver high-quality applications on time and ensure that they meet business requirements and standards. With its traceability and visibility into application lifecycle data, organizations can maximize efficiency, streamline processes, and achieve higher quality and faster delivery. With a central repository of requirements and artifacts, users can utilize the comprehensive analysis to get a clear picture of application quality in real time. Micro Focus ALM/Quality Center also helps streamline processes to achieve faster delivery and meet compliance objectives.

Best suited for: CIO, VP of Product, Business Analyst, PMO, Development Manager, QA Manager, Developer, Risk & Compliance Officer

Learn more: www.microfocus.com/almsoftware

......

ALM Octane

Micro Focus ALM Octane provides a comprehensive DevOps management solution that supports enterprise application delivery with high-quality criteria, continuous visibility and delivery across your entire application lifecycle. ALM Octane accelerates Agile transformations for high-quality application delivery at enterprise scale while leveraging existing investments. The Agile and DevOps solution integrates with open source and third-party solutions to support planning, build analytics, end-to-end traceability, and rich reporting.

Best suited for: R&D, QA, Product/Project Manager, QA Manager and DevOps Engineering

Learn more: www.microfocus.com/alm-octane

......

UFT One

Micro Focus UFT One accelerates end-to-end functional testing with one intelligent tool that builds and automates tests for web, mobile, API, RPA, and enterprise apps using embedded AI-based capabilities. With support of 200+ technologies, UFT One increases test coverage from the UI to the API—and everything in between—for true omnichannel app testing.

Best suited for: QA Teams, Automation Engineers, Business Testers

Learn more: www.microfocus.com/uft-one

......

UFT Developer

Micro Focus UFT Developer accelerates software delivery by providing a shift-left functional test automation tool that enables easy test creation using the IDE, language, and testing frameworks of choice. Designed for continuous testing and integration, UFT Developer empowers Developers, Testers, and Automation Engineers to test earlier while improving code quality.

Best suited for: Developers and Testers

Learn more: www.microfocus.com/uft-dev

......

UFT Mobile

Micro Focus UFT Mobile amplifies team productivity by providing a centralized, enterprise-level, end-to-end lab and management gateway of distributed real mobile devices and emulators that helps teams develop, debug,

FORRESTER®

test, monitor, and optimize their omnichannel mobile applications to promote an enhanced user experience across all digital touchpoints. Developers and testers can validate all aspects of the mobile user experience including functionality, performance, and security using services simulations and network virtualization. UFT Mobile supports continuous testing and drives continuous improvement and optimization by analyzing availability and performance of mobile application via production monitoring.

Best suited for: QA Teams, Automation Engineers, Developer Testers

Learn more: www.microfocus.com/uft-mobile

……

LoadRunner Professional

Micro Focus LoadRunner Professional delivers the industry-standard solution for project-based performance and load testing for any application on-premises or in the cloud. The integration of Open Source and 3rd party tools simplifies complex testing scenarios and supports accelerated root cause analysis across multiple platforms and protocols. Using real network conditions or integrated network virtualization, LoadRunner Professional allows performance testing to emulate real-time scenarios saving time and accurately predicting application scalability and capacity, ensuring business applications will support even peak traffic conditions.

Best suited for: Performance Engineers, QA Teams

Learn more: www.microfocus.com/loadrunner-professional

……

LoadRunner Cloud

Micro Focus LoadRunner Cloud is a cloud-based performance testing solution that makes it easy to plan, run, and scale performance tests. Easily design and create a cloud-based performance test without the need to schedule, deploy, and manage load generators. LoadRunner Cloud can accurately predict application scalability and capacity without complicated network and hardware configuration by leveraging the cloud and network virtualization. Problems are detected faster and finding the root cause is easier with intuitive analytics to help customers understand anomalies in real time to easily interpret test results and then determine mitigation options.

Best suited for: Performance Engineers, QA Teams, Development Testers

Learn more: www.microfocus.com/loadrunner-cloud

……

LoadRunner Enterprise

Micro Focus LoadRunner Enterprise is a global performance testing tool which enables customers to manage multiple, concurrent performance testing projects, whether on-premises or in the cloud. With LoadRunner Enterprise, geographically dispersed testing teams collaborate across large-scale performance testing projects, with centralized web access, asset sharing, real time test reviews and scheduling to optimize resource utilization and save time.

Best suited for: Performance Engineers, QA Teams, and Test Centers of Excellence

Learn more: www.microfocus.com/loadrunner-enterprise

FORRESTER®

Appendix A: Total Economic Impact

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 products 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.

Total Economic Impact Approach

Benefits represent the value delivered to the business by the product. The TEI methodology places 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.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

Present value (PV)

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

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.

Return on investment (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.

Discount rate

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

Payback period

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

FORRESTER®

Appendix B: Endnotes

[1] Source: "Agile And DevOps Adoption Drives Digital Business Success," Forrester Research, Inc., October 23, 2018.

[2] Source: "The Forrester Wave™: Omnichannel Functional Test Automation Tools, Q3 2018," Forrester Research, Inc., July 26, 2018.

[3] Source: "Master Your SDLC For Modern Application Delivery," Forrester Research, Inc., November 9, 2018.

[4] Source: "Cost Of Data Center Outages," Ponemon Institute, January 2016 (https://www.vertiv.com/globalassets/documents/reports/2016-cost-of-data-center-outages-11-11_51190_1.pdf).

FORRESTER®