



# The ROI of Plutora Environment Management

## Why you need to intelligently manage your environments

An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) Analytic ROI Assessment

Prepared for Plutora  
Stephen D. Hendrick  
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# THE ROI OF PLUTORA ENVIRONMENT MANAGEMENT

## WHY YOU NEED TO INTELLIGENTLY MANAGE YOUR ENVIRONMENTS

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# THE ROI OF PLUTORA ENVIRONMENT MANAGEMENT

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### EXECUTIVE SUMMARY

Managing preproduction environments is the key to ensuring efficient application development and effective management of an application's SDLC. Plutora's environment management (Plutora) is the leading environment management tool in the industry.<sup>1</sup> Empirical research and advanced analytics were used to develop a multidimensional ROI model for Plutora. This ROI model showed how ROI varied by the number of annual production releases that large enterprises performed over a four-year time horizon. EMA's random survey of environment managers at 159 large North American enterprises included 52 who used Plutora as their primary environment management tool. This survey was used as the basis for quantifying the benefits driven by Plutora.

The number of annual production releases (NAPR) by respondents ranged from 40 to 240, with a mean of 80. One of the most important findings in this research was that the ROI for Plutora was positive and increasing across every level of NAPR and year. This means that the breakeven occurs in year one. This also means that Plutora is providing a highly scalable solution to environment management, with net benefits that scale with production release volume and net costs that are relatively fixed.

The ROI for Plutora across the four-year time horizon was 269% at 40 NAPR and increased to 414% at 240 NAPR. Breakeven occurs in year one and takes 10 months at 40 NAPR and decreases to 5 months at 240 NAPR. The four-year total net benefits delivered by Plutora are \$1,175,684 at 40 NAPR and scale up to \$6,792,678 at 240 NAPR.

**40 to 240**

**Number of Annual  
Production Releases  
(NAPR)**

**269% to 414%**

**Four-Year ROI (based on  
NAPR)**

**5-10 Months**

**Breakeven Point in Year  
One (based on NAPR)**

**\$1.2M to \$6.8M**

**Four-Year Net Benefit  
(based on NAPR)**

<sup>1</sup> EMA Environment Management Survey, June 2018

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Five benefits drove the ROI of environment management by Plutora.

- **Accelerating Application Development.** Drives 48% of the benefits. Plutora is very effective at scheduling and eliminating environment misconfiguration. This means that developers, who are expensive resources, are provided with a reliable environment when they need it, thereby eliminating time developers would otherwise spend chasing misconfiguration issues or spending time on root cause analysis when their application breaks because of the environment. The four-year benefit from accelerating application development ranged from \$454,000 to \$3,734,000.
- **Environment Management Headcount Redeployment.** Drives 21% of benefits. Plutora provides a comprehensive environment for managing the lifecycle of thousands of environments. Manual efforts to manage these environments are labor-intensive and Plutora is a scalable tool that can improve environment manager productivity. This “found time” enables environment managers to focus on activities like extended process automation, environment maintenance, and environment standardization. The four-year benefit to the business of environment management headcount redeployments ranges from \$681,000 to \$1,048,000. This reflects the redeployment of 2.8 environment managers on average.
- **Improved Application Quality.** Drives 17% of benefits. Plutora improves application quality by virtually eliminating misconfiguration problems. This improves developer productivity by focusing more time on development, which leads to higher-quality apps, downstream productivity gains in QA, and help desk productivity. This four-year benefit to the business ranges between \$190,000 and \$2,226,000.
- **Faster Provisioning of Environments.** Drives 11% of benefits. Plutora reduced the time required to deliver the right environment to developers at the right time, as well as manage the SDLC. The four-year benefit to the business of faster provisioning ranges from \$227,000 to \$1,049,000. It is useful to note that 40% of application development by Plutora users was occurring in the public cloud, and the tendency was to rely more on the public cloud as NAPR increases.
- **Optimizing Environment Use.** Drives 3% of benefits. Plutora is shown to help enterprises reduce their inventory of predefined environments. The timely retirement of environments no longer needed, as well as a better rationalization of the catalog of environments that are kept in inventory, drive this benefit. The four-year benefit to the business of optimizing environment use ranges from \$63,000 to \$376,000.

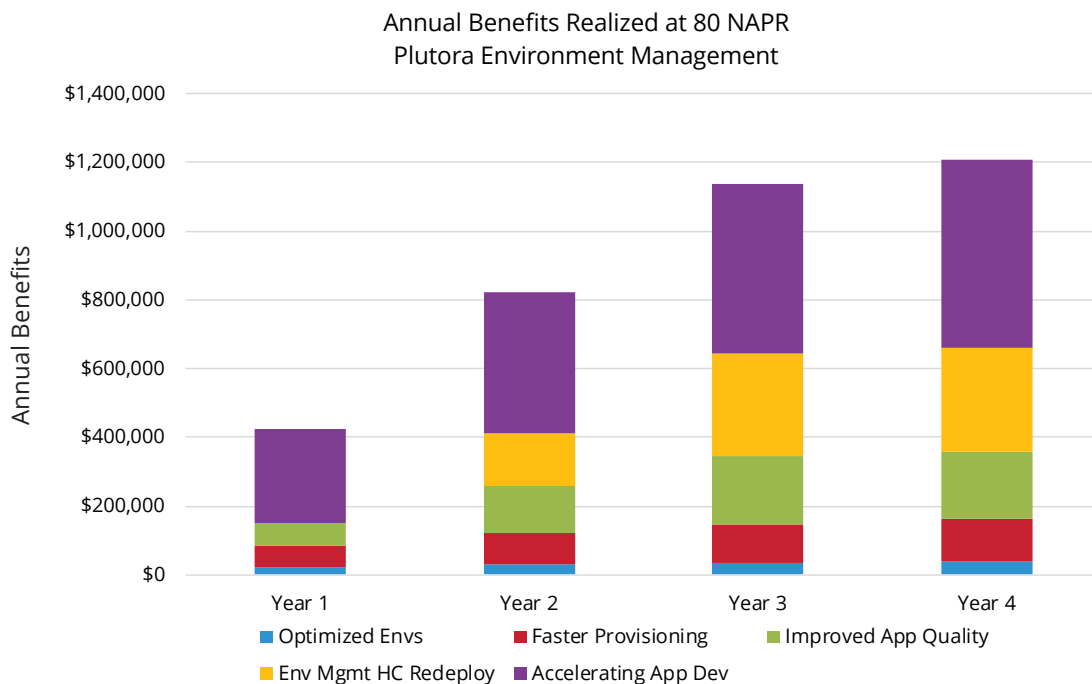


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Figure 1 is a representative view of the benefit value generated by Plutora for an average customer (80 NAPR) over a four-year time horizon. The utility of this diagram is that it provides a window into the scale of each benefit category over time while also showing how each of the benefits phase in.

Figure 1: Plutora Benefits by Benefit Type and Year



Source: EMA, 2019

Figure 1 shows that all benefits phase over time, but collectively generate a significant degree of economic value to enterprises using Plutora. Given that the annual cost of Plutora is \$225,000 at 80 NAPR, the net benefits even at this level of DevOps activity are considerable and deliver a meaningful economic contribution every year.

The ROI analysis in this report reflects the efficiency and productivity that Plutora brings to large enterprises. The fact that Plutora drives meaningful ROI at any production volume greater than 40 per week and provides a four-year ROI in the 300%-400% range for most enterprises is a testimony to the effectiveness of Plutora at managing environment lifecycles.

## INTRODUCTION

Environment management solutions, such as Plutora, are designed to make key pipeline activities like continuous integration and continuous delivery (CI/CD) and application release automation (ARA) more efficient. This is accomplished through software that centralizes bookings, resolves conflicts, tracks system dependencies, and eliminates the inconsistencies in configuration management and change control processes for environments needed to support application development. Managing environments was straightforward prior to the adoption of agile methodology because IT shops developed a small number of mostly monolithic back office applications using waterfall methods. Over the last decade, everything changed.

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Agile methods are now the primary approach that large enterprises use for application development.<sup>2</sup> Agile's shift to a greater number of smaller, self-directed, multifunctional teams and shorter release cycles means more contention for environments. Recent EMA research on optimizing DevOps initiatives shows rapidly increasing adoption of agile methods across large enterprises in 2019 and 2020. This will significantly increase the number of requests for environments. Increasing adoption of agile also means architecting around microservices and containers as enterprises look to right-size components and their resource demands.

As applications move through the pipeline toward staging and release, their runtime complexity and dependencies increase. In staging and release, runtime environments often include a container or VM, OS, middleware components, data services, the application, and instrumentation/monitoring components. Ensuring that the appropriate version of each of these is provisioned and that all necessary dependencies are met is not an easy task. The only way to manage the hundreds or thousands of cloud, on-premise, and hybrid environments needed by customers today would be unimaginable without the use of Plutora.

With this backdrop, Plutora approached EMA to better understand the state of the environment management market and analyze the ROI delivered by Plutora. The foundation for this project was a North American survey of environment managers at 159 large enterprises. In this random sample, EMA found 52 enterprises that were using Plutora and the experience of these respondents drove this ROI analysis. It is important to note that these Plutora customers were randomly selected and not handpicked reference accounts, as is so often the case in many ROI analyses. The predictive models presented in this report were developed using advanced analytics based on this survey data. For a detailed understanding of how these predictive models were developed, see the methodology section of this paper.

Plutora is the clear leader in environment management.<sup>3</sup> This is due to its ability to manage environments at scale across their lifecycle. While environment management is delivered as a component of Plutora's platform, this analysis looks only at environment management functionality and not the other components of the Plutora Value Stream Management Platform, which include release orchestration, deployment orchestration, and environment management.

### ROI MODEL FOR PLUTORA

The ROI of Plutora is a function of the economic benefits it delivers relative to its operational cost. However, the empirical and analytic approach used in this ROI analysis enables ROI to be calculated for each year of the four-year time horizon and any number of annual production releases (NAPR) performed each year between 40 and 320. This provides a far more comprehensive understanding of how Plutora drives ROI and enables companies to more easily and accurately determine the ROI to expect.

The number of annual production releases in the environment management study dataset ranged between 40 and 240, with a mean of 80. Because of today's trends in agile development, microservices, and containerization; this ROI model was calibrated to perform at NAPRs between 40 and 320. Although the predictive model equations can calculate ROI at any level of NAPR between 40 and 320, the NAPR dimension is shown in increments of 20 for legibility.

<sup>2</sup> EMA DevOps 2020 Research, June 2018

<sup>3</sup> EMA Environment Management Survey, June 2018

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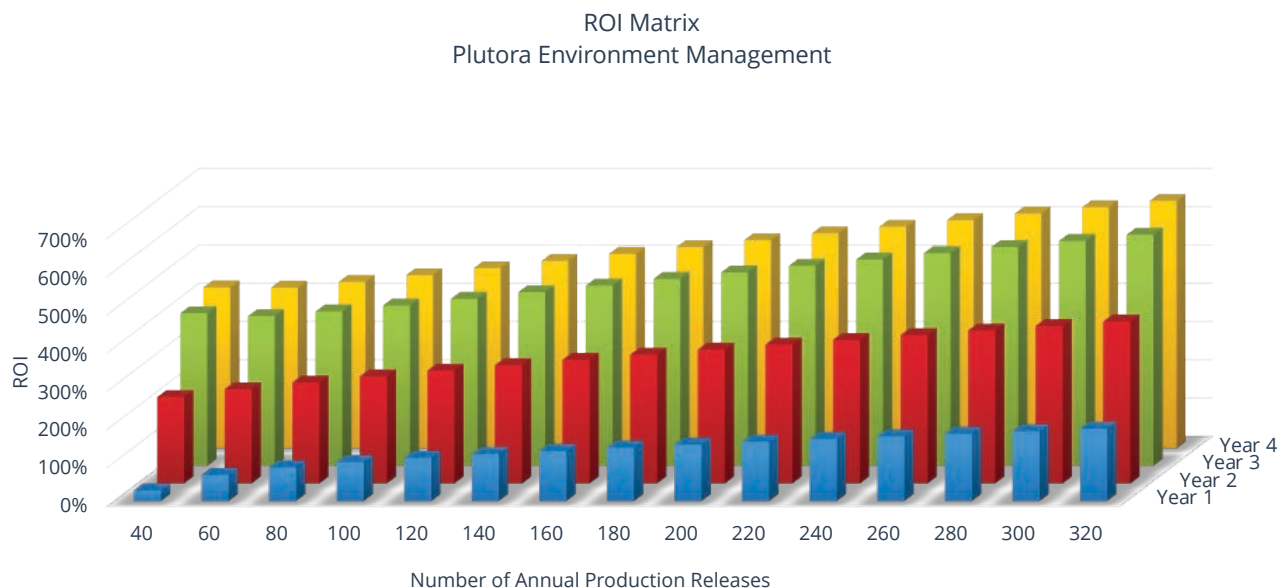
## WHY YOU NEED TO INTELLIGENTLY MANAGE YOUR ENVIRONMENTS

### ROI Results

Figure 2 shows the ROI results for Plutora. Like most figures in this report, the data shown is segmented by NAPR and by year. The most exciting finding in Figure 2 is that the ROI for Plutora is positive for every combination of an NAPR and year. This means that **breakeven is always achieved within year one** and that benefits always exceed cost by the end of year one. The ROI results in Figure 2 ranged from 28% at 40 NAPR in year one to 162% at 240 NAPR. Because some benefits were phased in over the four-year time horizon, year one provides a fully mature view of Plutora ROI. Figure 2 also shows that in year four, ROI ranges from 421% at 40 NAPR to 580% at 240 NAPR. The four-year total ROI (not shown in Figure 2), which blends together the result across the four years, is 269% at 40 NAPR and increases to 414% at 240 NAPR.

Another striking characteristic of this ROI matrix is that **Plutora ROI increases as NAPR and time increase**. The increase by NAPR is due to the economies of scale that occur from benefits that happen by release, compared to the relatively fixed cost of licensing Plutora. The increases by year are because some benefits take time to phase in.

Figure 2: ROI Results for Plutora



Source: EMA, 2019

Enterprises using Plutora will see significantly increasing ROI in two ways. First, the ROI increases over time due to the conservative way that benefits phase in. Second, ROI increases as NAPR increases. These findings are important because they demonstrate that Plutora delivers significant business value for enterprises deploying 40 or more production releases per year. Forty production releases per year is nearly a rate of one production release per week, which is characteristic of enterprises that are early in their journey to becoming an agile firm. Even more compelling is how ROI increases as the number of production releases rises from one per week to close to one per day. This demonstrates the inherent scalability of Plutora and its ability to support evolving needs.

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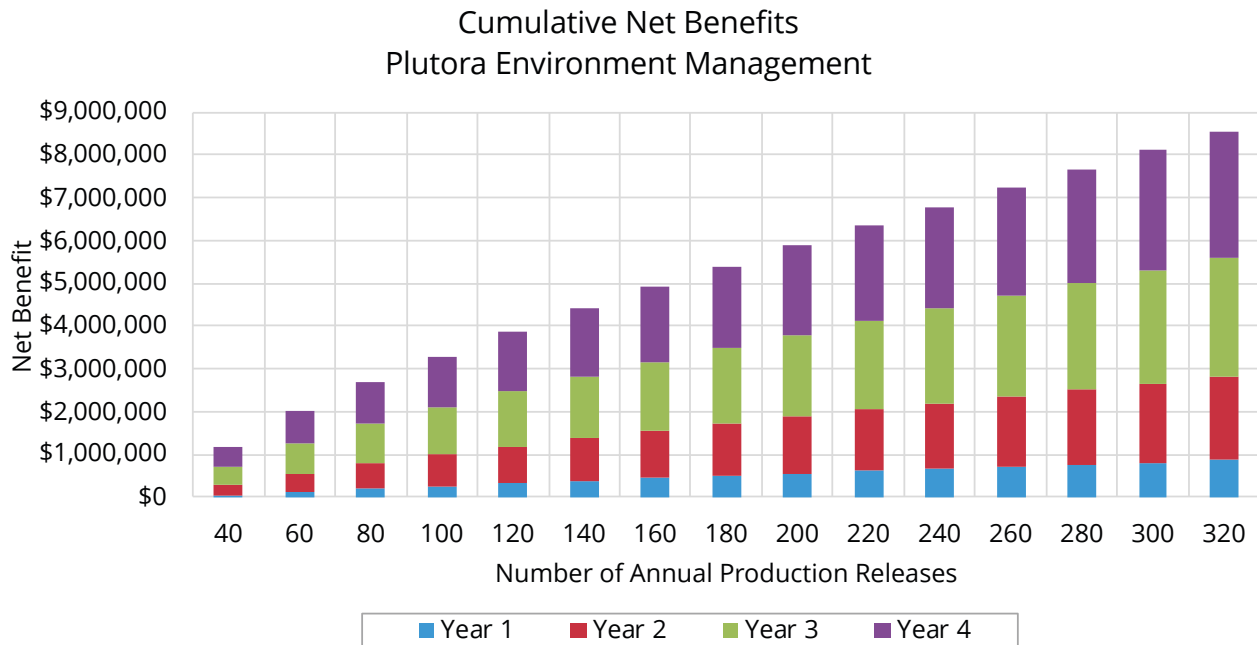
### Net Benefits

Net benefits (benefits after costs) are important metrics for two reasons. First, they are the primary metric that drives ROI. Second, the distribution of net benefits explains the value delivered by the product.

Figure 3 shows the total net benefits delivered by Plutora. These net benefits are shown cumulatively, so the total net benefits by year can be seen at any NAPR. An important characteristic of this distribution is a positive net benefit for any year and any NAPR. This implies that on an annual basis, net benefits are always larger than net cost and consistent with that ROI, which is always positive.

Figure 3 shows a net benefit of \$30,000 in year one at 40 NAPR. This net benefits rises to \$247,000 in year two, \$437,000 in year three, and \$461,000 in year four. The four-year net benefit at 40 NAPR reaches nearly \$1.2 million. This is a remarkable accomplishment considering the small number of production releases needed to drive this net benefit. This suggests that the tiered pricing of Plutora is well aligned with the value delivered.

Figure 3: Cumulative Net Benefits from Using Plutora



Source: EMA, 2019

At 80 NAPR, which was the mean of the sample, net benefits are \$198,000 in year one and rise to \$595,000 in year two, \$911,000 in year three, and \$982,000 in year four. The cumulative net benefit at 80 NAPR is therefore nearly \$2.7 million at the end of four years. For enterprises with more mature agile methods and an NAPR of 240, net benefits amounted to \$664,000 in year one, \$1.5M in year two, \$2.2M in year three, and \$2.4M in year four.



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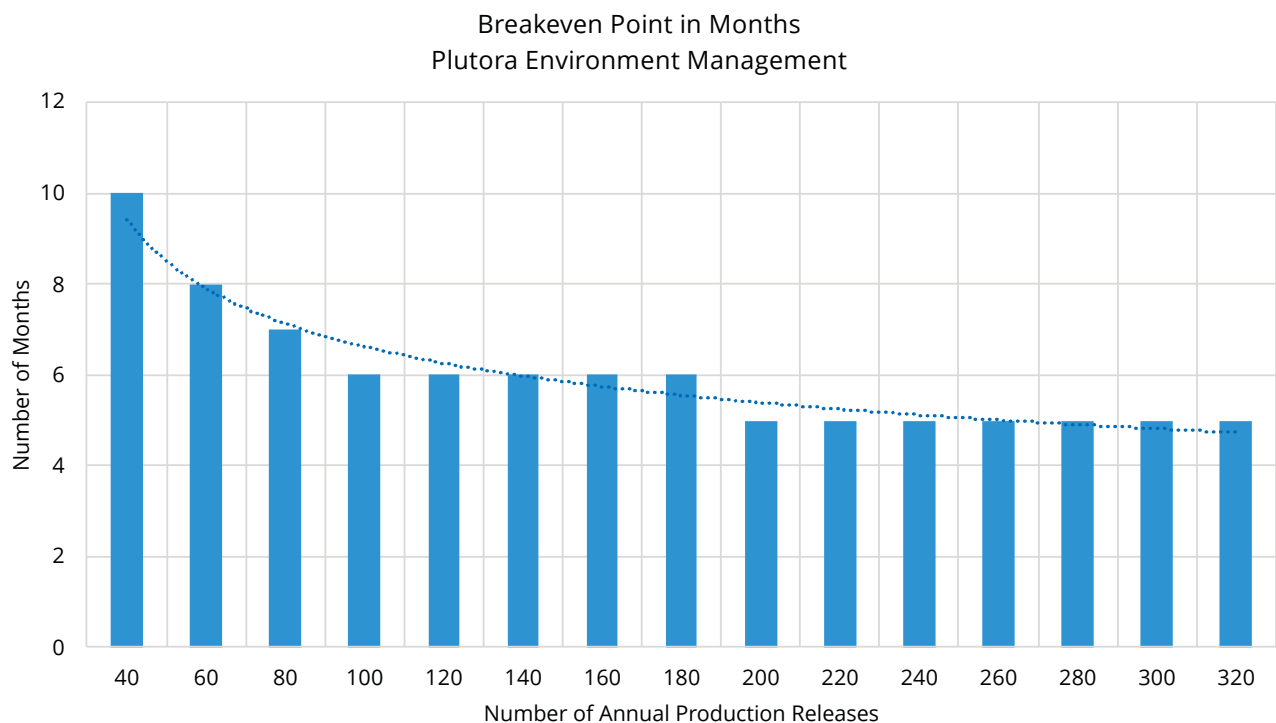
## WHY YOU NEED TO INTELLIGENTLY MANAGE YOUR ENVIRONMENTS

### Breakeven Points

The breakeven point in using Plutora will always be within the first year. Figure 4 shows where this breakeven point will occur if the annual operating cost of Plutora is paid at the beginning of the year and the benefits are distributed evenly across the year.

Figure 4 shows that the longest breakeven point occurs at ten months at 40 NAPR. This contrasts with a six-month breakeven point between 100 and 180 NAPR, and five months at 200 NAPR and beyond. The dotted trendline displayed in Figure 4 displays a more granular view of these breakeven points.

Figure 4: Breakeven Points in Year One for Plutora



Source: EMA, 2019

Keep in mind that although the annual cost of Plutora remains relatively stable each year, benefits phase in primarily during years one and two. On a cumulative basis, the benefits derived in year one will completely subsidize the operating cost of Plutora in years two and beyond at any level at or above 60 NAPR.

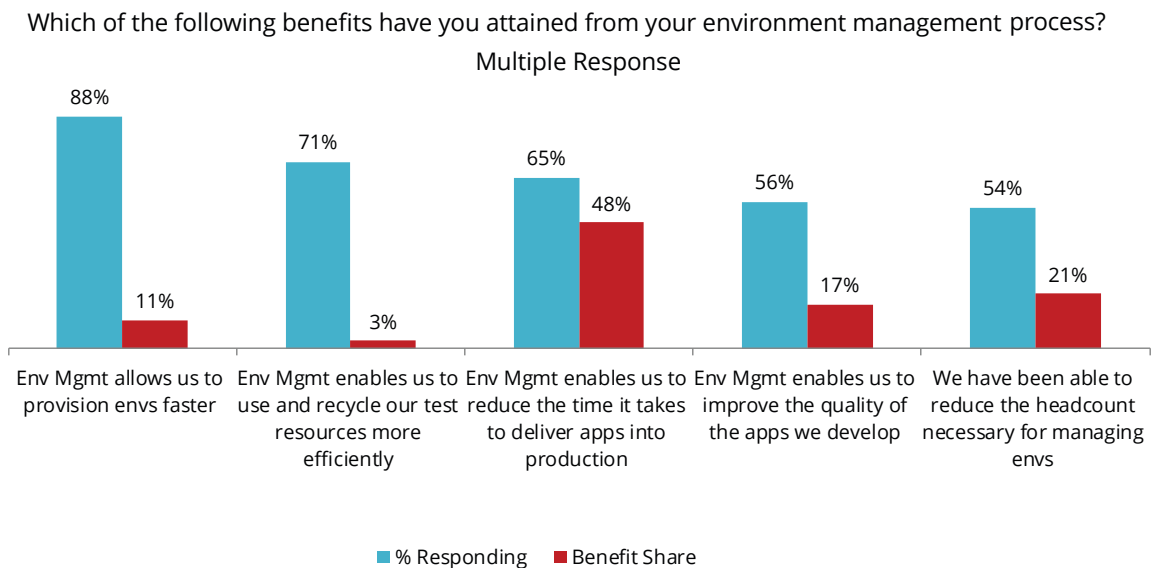
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## WHY YOU NEED TO INTELLIGENTLY MANAGE YOUR ENVIRONMENTS

### BENEFITS MODELS FOR PLUTORA

Plutora users identified five areas where Plutora is driving economic benefit. The multiple-response distribution by these users is shown as the left-hand bars in Figure 5. Each blue bar represents the percent of Plutora users who said they received an economic benefit. The right-hand red bars in Figure 5 show the distribution of economic value across these five benefits.

Figure 5: Benefits of Using Plutora



EMA 2018 TEM Survey, June 2018, Q20, N=52

Source: EMA Environment Management Survey, 2018, Q20, N=52

For each benefit Plutora users identified, EMA asked additional questions to quantify the scope of the benefit received – large, small, or none. These benefits describe cost avoidance and included faster provisioning of environments, more efficient use of environments, the acceleration of application development, improved application quality, and environment management headcount reductions. The scope of the benefits received involved understanding the impact that Plutora had on developers, QA, and environment management efficiency. A detailed analysis for each of these benefits follows.

### Accelerating Application Development

Accelerating application development was the single largest driver of net benefits for Plutora. When an environment is configured incorrectly or not delivered on time due to scheduling conflicts, developer productivity suffers. When this happens, developers often try to resolve the configuration issues themselves. The result is development time spent either chasing non-bugs or time wasted waiting for a correct environment to be delivered. Key developer productivity issues resolved by Plutora include:

- Full transparency of status and state regarding all environments
- Full stacks correctly versioned and validated
- Delivery of environments to developers exactly when needed
- Elimination of resource contention due to scheduling difficulties
- Improved upstream and downstream communication

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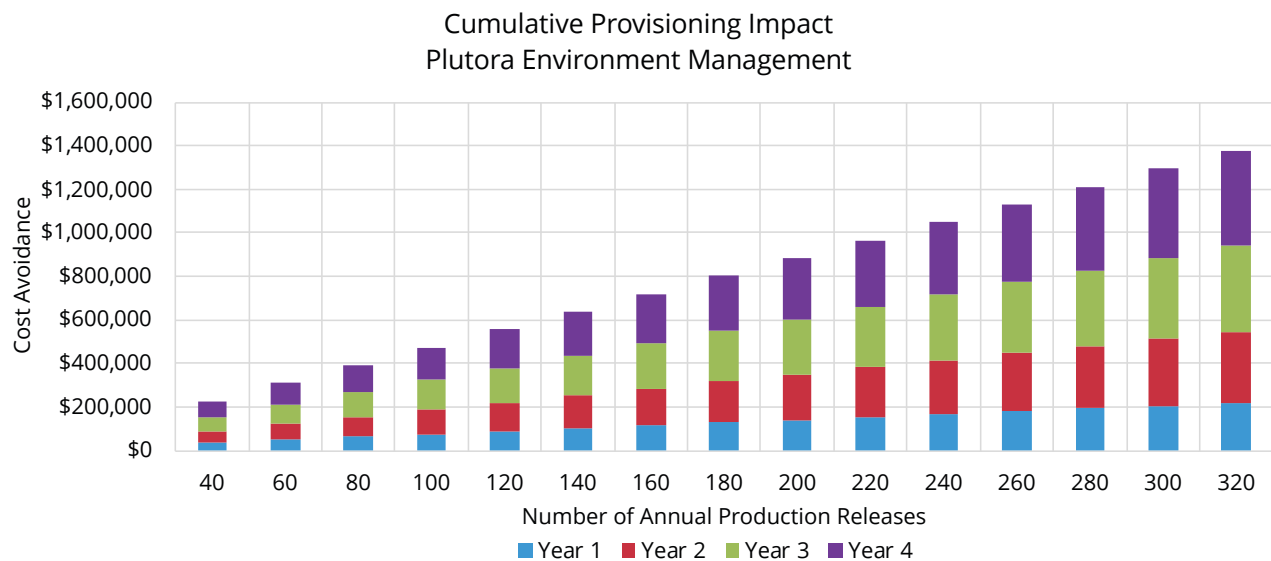
## WHY YOU NEED TO INTELLIGENTLY MANAGE YOUR ENVIRONMENTS

In EMA's sample of enterprises using Plutora, the mean number of dev/test days saved per release was 7.5. Factoring in the fully loaded daily cost for a developer, multiplied by the days saved, multiplied by the number of annual production releases, this becomes a significant cost savings.

The benefit from accelerating application development was best modeled as a nonlinear logarithmic function. The reason for this is the need to account for tribal knowledge and best practices that are assimilated by IT based on experience. As the enterprise learns how to become more efficient at accelerating application development, it will adopt improved behaviors that will drive diminishing returns as NAPR. This accumulated tribal knowledge and improved behavior takes time to assimilate, so it was phased in over the four-year time horizon.

Figure 6 shows the cumulative benefits of accelerating application development by Plutora.

Figure 6: The Cumulative Benefit of Accelerating Application Development



Source: EMA 2019

Figure 6 shows that at 80 NAPR, Plutora drives \$273,000 of cost avoidance in year one, \$410,000 in year two, \$492,000 in year three, and \$547,000 in year four. As an enterprise becomes more agile and drives an increasing number of production releases per year, application acceleration cost avoidance will increase as well, but at a decreasing rate. However, because the mean number of production releases per year was just 80 in EMA's sample, this model shows the potential for significant gains as an enterprise increases NAPR by 50% to 100%.

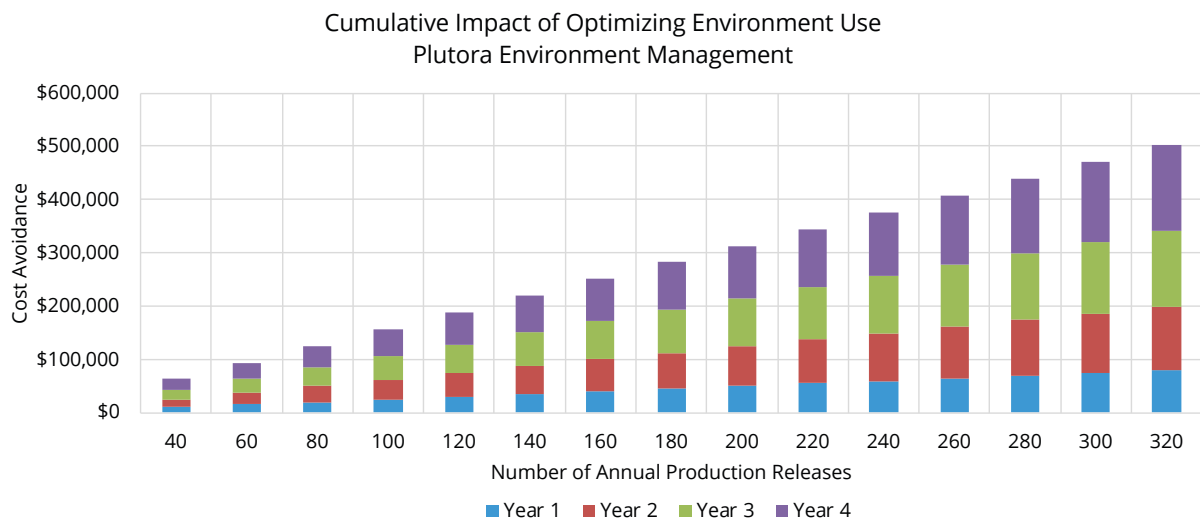
# THE ROI OF PLUTORA ENVIRONMENT MANAGEMENT

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### Environment Management Headcount Redeployment

Enterprises using Plutora find that the inherent scalability of the tool enables an environment manager to manage a far greater portfolio of environments than when using a more manual approach (spreadsheet) or internally developed solution. Most large enterprises manage hundreds or even thousands of environments. Since human capital costs are always significant, any reduction in force or reassignment of environment managers will likely drive meaningful cost avoidance. EMA's sample of Plutora customers collectively indicated that they were able to redeploy environment manager staff by 25%. Figure 7 shows the cumulative benefit from reducing environment management headcount.

Figure 7: The Cumulative Benefit of Reducing Environment Management Resources



Source: EMA 2019

Figure 7 shows the model developed from this data but phases in the benefit beginning in year two. This is because most enterprises will decline to make significant staffing changes until the new technology has been well-vetted. For this reason, EMA shows no cost avoidance in environment manager costs in year one. At a mean of 80 NAPR, there is about \$151,000 in cost avoidance in year two and \$302,000 in years three and four. The four-year cumulative cost avoidance for environment managers at 80 NAPR is \$754,000.

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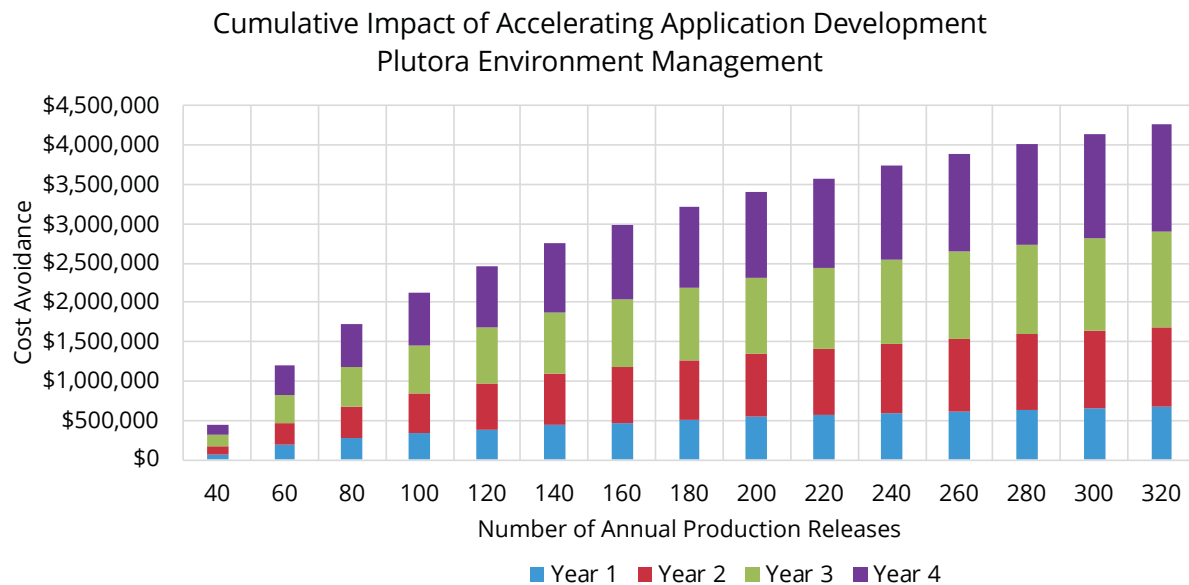
## WHY YOU NEED TO INTELLIGENTLY MANAGE YOUR ENVIRONMENTS

### Improved Application Quality

During CI/CD, as well as the final stages of application development, there is a wide variety of functional, nonfunctional, and user experience tests that need to occur. These tests are performed on increasingly complex environments as the application moves through the pipeline. This is especially true for microservice-based applications in which many development tasks are run in parallel and then merged for final functional and integration testing. For final non-functional testing (including performance and security), as well as user acceptance testing, the environment must either closely emulate or be virtually identical to the production environment. The window for testing applications at this point is typically fixed due to deployment commitments. However, environment requirements are most specific at this point in the lifecycle, and the potential for misconfigurations is at its highest. Delays due to misconfigurations at this point simply mean wasted time developing or testing applications while waiting for the proper resources.

Plutora customers clearly agree that misconfigurations occur all too frequently, and they collectively found that Plutora has made developers, QA, and help desk staff 11% more productive. This found time means applications have higher quality, fewer bugs are found, and fewer calls to the help desk occur. Figure 8 quantifies the cumulative improvements to the efficiency of quality assurance at large enterprises.

Figure 8: The Cumulative Benefit of Improving Quality Assurance Efficiency



Source: EMA 2019

Figure 8 shows that the efficiency cost avoidance to QA in year one of using Plutora at 80 NAPR is about \$68,000. This cost avoidance steps up to \$137,000 in year two and \$196,000 in years three and four. The cumulative four-year benefit at 80 NAPR is just under \$597,000. The linear behavior of this model belies an interesting marginal analysis. The unit cost avoidance per release increases with release volume but at a decreasing rate, plateauing just beyond 320 NAPR. Since most enterprises cluster close to 80 NAPR, this means that significant marginal gains in QA unit cost avoidance can be found for enterprises that find ways to drive more production releases per year.



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### Faster Provisioning of Environments

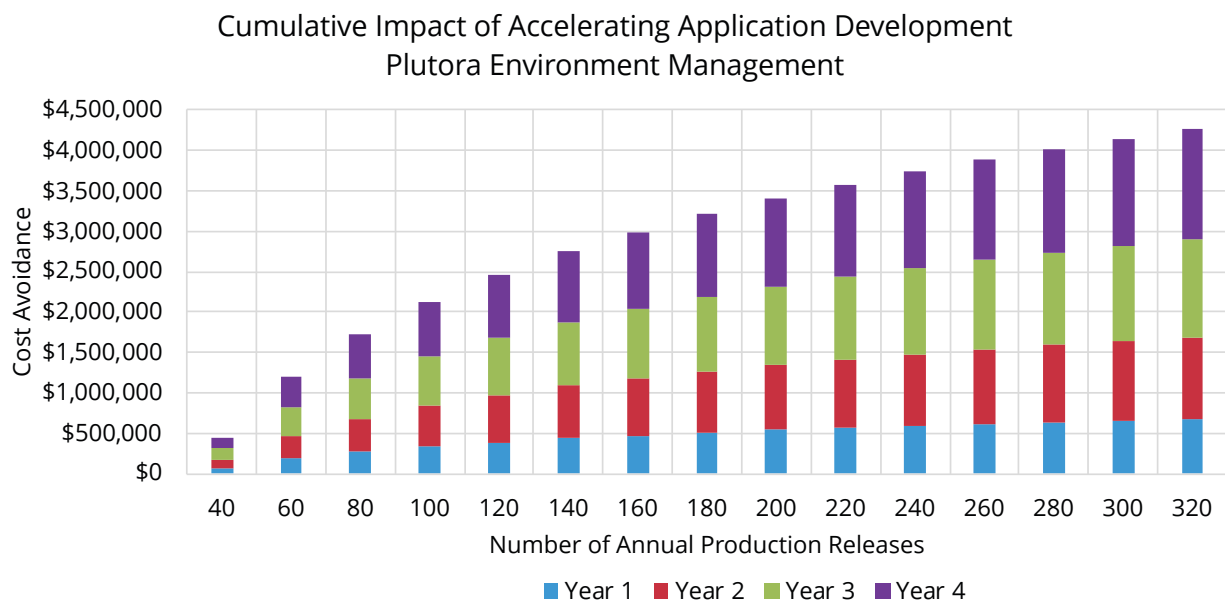
Today's approach to application delivery is highly componentized and requires the just-in-time availability of an environment when it is needed for development, testing, or staging. Provisioning an environment means assembling a curated stack that can include physical infrastructure, OS, middleware, database, security, and management/monitoring components. There are two activities involved with provisioning. The first is understanding what needs to be provisioned, when, and for how long. The second is instantiating the environment, which can be done either manually or through automation.

One of the most significant challenges facing an enterprise is how to manage the lifecycle of these environments. When a request comes in for an environment, a tremendous amount of time can be wasted on determining which environments are in inventory, how their attributes differ from what is being requested, and modifying an existing environment to fit current requirements. While automation tools and scripts can accelerate the instantiation process, the lifecycle of the environment still needs to be managed, which is where Plutora adds value. The challenge in managing environments at scale is to have a way to manage their lifecycle, which means managing requests, instantiating/customizing environments, and then retiring the environments when they are no longer needed. Once the lifecycle of environment management is addressed, automation can be introduced at various points in the lifecycle to improve productivity.

To gauge the impact Plutora had on provisioning, EMA looked at the difference in time to provision an environment before and after their use of Plutora. Based on the environment manager costs, the number of environments managed by the enterprise, the number of annual production releases, and how this benefit would be phased in, EMA was able to model this benefit.

Figure 9 quantifies the cumulative economic impact of faster provisioning based on the number of annual production releases over a four-year time horizon.

Figure 9: The Cumulative Benefit of Faster Provisioning by Plutora



Source: EMA 2019

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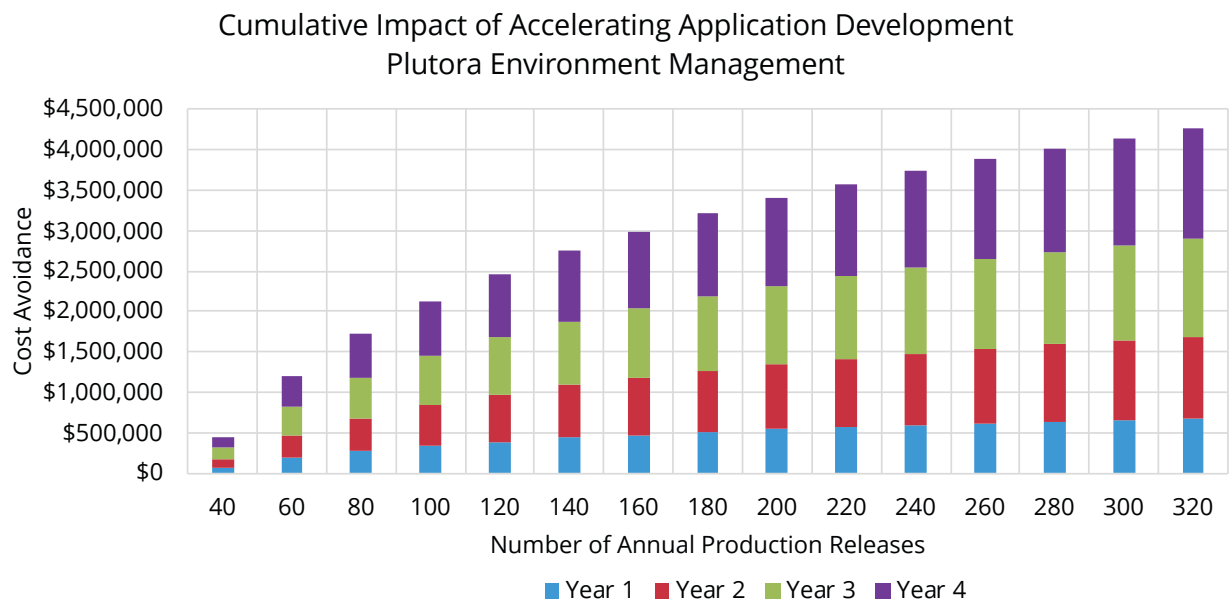
The benefit of faster provisioning is a linear function that was phased in over a four-year time horizon. This model is a very conservative view into provisioning because it only looks at the movement of applications into production and doesn't capture the use of Plutora in development, test, or staging. At the sample average of 80 NAPR, faster provisioning attributed to Plutora drove cost avoidance of about \$62,000 in year one, \$93,000 in year two, \$112,000 in year three, and \$124,000 in year four. The cumulative impact over the four years at this level of production releases would be \$391,000. While faster provisioning only drives about 11% of total net benefits, it's an easy win for an enterprise because nearly 90% of Plutora users experienced this benefit.

### Optimizing Environments Use

Because Plutora is effective at managing the lifecycle of environments, an enterprise can wait longer before instantiating environments and retirement environments as soon as they are no longer needed. This helps the enterprise manage scarce resources more efficiently, thereby consolidating the number of environments that the enterprise needs to keep in their catalog. Across EMA's sample, the mean number of environments was 180 and the number of environments they were able to eliminate ranged between 2 and 25. This represents a 5% decrease on average in the number of environments that enterprises needed to keep in their catalog. While optimizing environment use only contributed 3% to overall net benefits, it is another easy win for enterprises because this benefit is a natural consequence of the better environment governance enabled by the Plutora.

Figure 10 shows in the cumulative benefit of optimizing environment use. This benefit is driven by the infrastructure and software licensing costs to instantiate an environment. In today's economy, the cost of a VM or container is relatively inexpensive, whether it is on-premise or in the cloud.

Figure 10: The Cumulative Benefit of Optimizing Environment Use



Source: EMA 2019

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Figure 10 shows that at 80 NAPR, enterprises can avoid about \$20,000 of environment costs in year one, \$30,000 in year two, \$36,000 in year three, and \$40,000 in year four. The cumulative savings over the four-year time horizon is \$125,000. This environment optimization benefit is also conservatively modeled, because it doesn't effectively account for expensive database or middleware runtime licenses.

### COST MODEL FOR PLUTORA

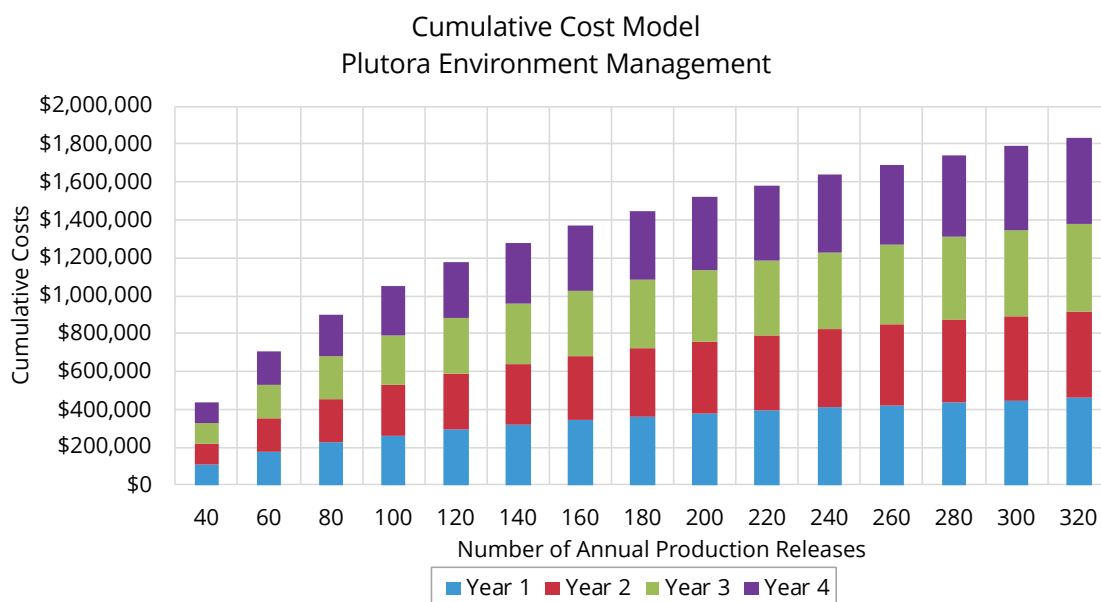
The cost model for Plutora primarily revolves around software licensing costs. The reason for this is that all large enterprises have been managing and will continue to manage their environments. The only real differentiator is how they choose to do so. Most enterprises initially use a homegrown approach to environment management and then move to a commercial product as their IT software development activities begin to scale. Consequently, Plutora usually replaces an existing "solution," which is often based on spreadsheets. This means that the primary cost of implementing Plutora is simply its licensing cost and potentially professional services to address any unique integration needs.

#### Software Licensing Costs

At the time of this ROI analysis, Plutora was using a three-tiered pricing model for licensing its platform. Plutora's pricing varied based on the scale and complexity of how the product was used. Professional services were essentially packaged into the tiered pricing in the form of custom integrations and reporting. The continuous cost model that EMA developed for Plutora was optimized for fit between 40 and 320 NAPR. A nonlinear logarithmic curve was purposely selected for its ability to accurately reflect pricing for each of the three tiers, as well as the pricing that plateaued at higher levels of NAPR once a customer had transitioned to the highest-priced tier.

As shown in Figure 11, the annual cost at 80 NAPR—which is the mean of the Plutora sample—is just over \$225,000 in each year.

Figure 11: Cumulative Cost Model for Plutora



Source: EMA 2019



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The simplicity of the Plutora pricing drives an equally simple cost model. The model develops a cost for each NAPR level, and this cost repeats on an annual basis. Annual costs plateau beyond 180 NAPR, which suggests that enterprises that can scale their application development to very high levels will see comparatively fixed total costs and decreasing marginal costs. At the other extreme, enterprises with fewer than 40 production releases may find the cost of Plutora (even at the lower pricing tier) a little difficult to justify given the small volume of releases and environments under their management.

### METHODOLOGY

The ROI approach used here evaluates marginal benefits and marginal costs to calculate ROI. This is a comparative methodology that looks at the specific costs and benefits in using Plutora compared to the approach used prior to Plutora. Generally, the prior approach was often a spreadsheet or an internally-developed system. The net benefits found using this approach speak to the quantified improvements found by switching to Plutora and the net costs are based on licensing and professional services.

This ROI approach is unique in the way that data is collected, and advanced analytics are used to develop predictive models, making this approach truly data-driven and able to deliver multidimensional results. This provides a far more detailed, accurate, and nuanced approach to ROI that is both unmatched in the industry and unparalleled in its ability to explain how a product will deliver ROI over time at any volume of activity.

### The Advantages of Empirically-Driven ROI

The ROI approach used here is also based on empirical data and advanced analytics. Both characteristics are a significant departure from most ROI approaches, which are based on a handful of reference account interviews. The empirical data used in this analysis is based on a sample of 52 large enterprises in which Plutora is the primary product used for environment management. These 52 large enterprises were part of a larger sample of 159 North American large enterprises who answered questions about environment management. These enterprises were randomly encountered and are not handpicked reference accounts. The advantage of using an empirical approach to ROI is that the larger sample size provides two unique advantages over traditional ROI interview-based analysis.

- A larger sample significantly improves the accuracy of the results. Error margins based on this sample of 52 respondents are 3-4 times smaller than the usual 3-5 interviews often employed by other firms who build ROI models. Shrinking the error margin ensures that the results are more trustworthy and reliable.
- A larger sample also means that the results are more readily transferable to users, rather than just being representative of the enterprises interviewed. This means that your results in using Plutora will more closely align with the results presented in this report in comparison to traditional interview-based ROI models.

# THE ROI OF PLUTORA ENVIRONMENT MANAGEMENT

## WHY YOU NEED TO INTELLIGENTLY MANAGE YOUR ENVIRONMENTS

### The Advantages of Using Advanced Analytics to Calculate ROI

The ROI approach used here is described by EMA as “analytic ROI” because it uses advanced analytics to develop predictive models for each benefit and cost. Each predictive model is optimized regarding its choice of independent variable and type of model to create. Each predictive model has an equation that is developed using regression, where the dependent variable is a benefit or cost and the independent variable is either the number of annual production releases (NAPR) or number of test environments (NTE) the enterprise reports. The type of regression model developed (linear or nonlinear) is based on the specific quantitative use case for the benefit or cost, whether the equation must pass through the origin, and the goodness of fit ( $R^2$ ) for the model. A further regression between NAPR and NTE enables EMA to express NAPR as a transformation of NTE and express all net benefits as a function of NAPR.

EMA also builds a four-year time horizon into analytic ROI models. This is done because benefits and costs can be phased in or phased out over time. A four-year time horizon ensures that the analytic ROI model can stabilize by year three or four.

A distinct advantage of this analytic ROI model is that the ROI and net benefits of Plutora vary with the level of production releases. Analytic ROI can predict the ROI that an enterprise will experience based on their level of production release activity (from 40 to 320 annual production releases) and by year (years one through four). The added dimensionality of this matrix of ROI results enables a far more detailed and nuanced understanding of the economic benefits, ROI, and scalability provided by Plutora. In summary, analytic ROI is unique in its ability to deliver the following capabilities:

- Multidimensional ROI results provide far greater insight into how a product delivers benefits at scale and over time.
- The multidimensional results of analytic ROI provide a more precise way to predict the benefits and ROI users can expect from the product.

### ABOUT PLUTORA

Plutora provides value stream management solutions for enterprise IT, improving the transparency, speed, and quality of software development and delivery by correlating data from toolchains across a portfolio and analyzing critical indicators of every aspect of the delivery process. Acting as the “catwalk above the factory floor,” Plutora ensures the organizational alignment of software development with business strategy and provides visibility, analytics, and insights into the entire value stream. This approach guides continuous improvement and digital transformation progress through the measured outcomes of each effort. Plutora ensures governance and management across the entire portfolio by orchestrating release pipelines, managing hybrid test environments, and orchestrating complex application deployments—all independent of methodology, team structure, technology, and level of automation.



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Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals, and IT vendors at [www.enterprisemanagement.com](http://www.enterprisemanagement.com) or [blog.enterprisemanagement.com](#). You can also follow EMA on [Twitter](#), [Facebook](#), or [LinkedIn](#).

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### Corporate Headquarters:

1995 North 57th Court, Suite 120  
Boulder, CO 80301  
Phone: +1 303.543.9500  
Fax: +1 303.543.7687  
[www.enterprisemanagement.com](http://www.enterprisemanagement.com)

3846.060419



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