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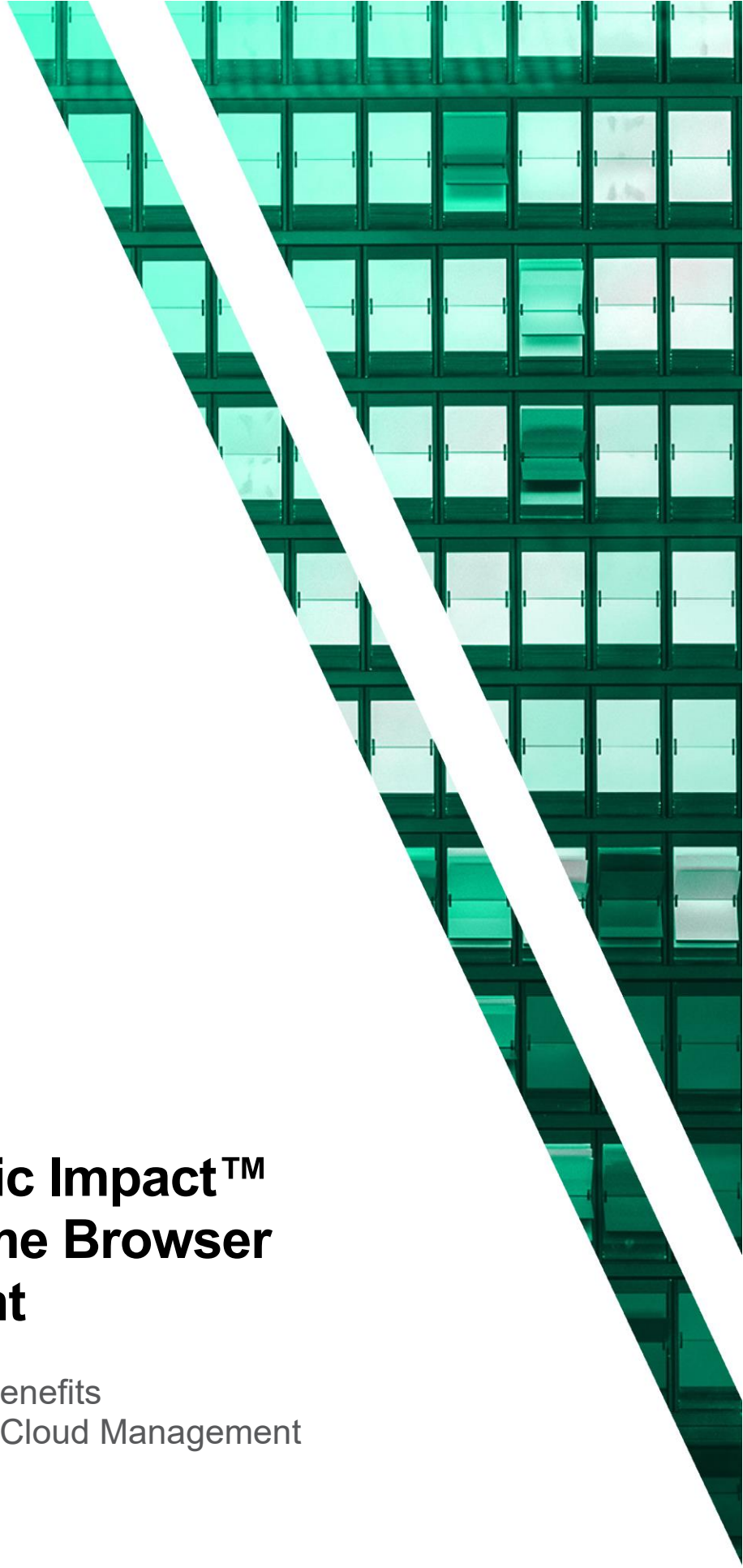

The Total Economic Impact™ Of Google's Chrome Browser Cloud Management

Cost Savings And Business Benefits Enabled By Chrome Browser Cloud Management

MAY 2023

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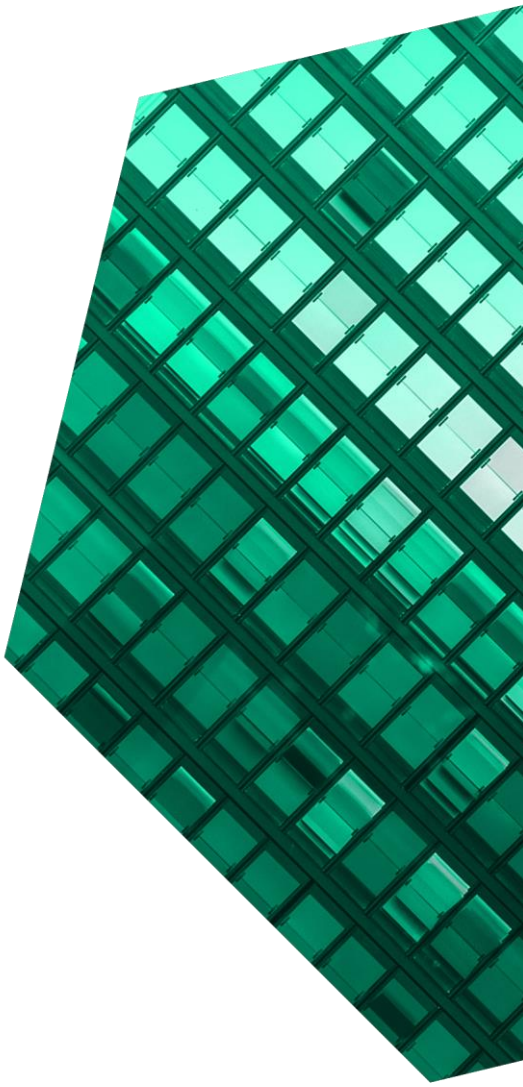


ABOUT FORRESTER CONSULTING

Forrester provides independent and objective research-based consulting to help leaders deliver key transformation outcomes. Fueled by our customer-obsessed research, Forrester's seasoned consultants partner with leaders to execute on their priorities using a unique engagement model that tailors to diverse needs and ensures lasting impact. For more information, visit forrester.com/consulting.

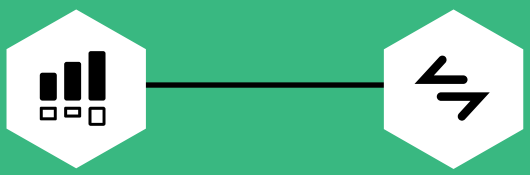
Executive Summary

An increasingly remote workforce challenges IT professionals in two important ways. First, they must provide a stable and intuitive interface for employees in a wide variety of positions and with a range of digital skills to reliably get their work done. Just as importantly, they must protect their organization from the threats that providing such easy access can expose it to. Central, cloud-based management of all the organization's browsers can provide IT and security teams with a powerful tool to help them do both.

Google's Chrome Browser Cloud Management solution allows enterprise IT teams to centrally manage and secure their Chrome deployment across operating systems and devices. Managing the browser from the cloud ensures that updates and policies pushed out from IT will be deployed as soon as users open their browsers, and that optimizes both user experience and organizational security.

Google commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Chrome Browser Cloud Management.[1] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Chrome Browser Cloud Management on their organizations.

KEY STATISTICS



Net present value (NPV)
$10.42M

Payback period
<6 months

Reduction in help desk tickets:

30%

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four representatives with experience using Chrome Browser Cloud Management. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization, a diversified global financial services company.

Prior to using Chrome Browser Cloud Management, these interviewees noted how their organizations struggled to maintain effective security while providing remote workers with a means to get their work done efficiently. While this did not present a major concern historically, the shift to remote work associated with the COVID-19 pandemic brought it to the forefront.

After the investment in Chrome Browser Cloud Management, the interviewees agreed their organizations enjoyed more employee and IT team productivity as well as improved security. In addition, their organizations were better able to continue on their path to digital transformation.

KEY FINDINGS

Quantified benefits. Three-year, risk-adjusted present value (PV) quantified benefits for the composite organization include:

- **Enhanced end-user experience delivers more than $3.7 million in employee productivity.** The fact that all users' browsers are automatically updated with the latest version of Chrome (and the composite organization's policies) creates a more stable environment for both remote and in-office workers. More granular application of policies and customized browser settings provides users at the composite organization with the right tools to accomplish their jobs. A 30% reduction in service tickets, and a 20% time savings for developers are key examples of how workforce productivity improves.
- **Increased IT productivity using Chrome Browser Cloud Management to manage browsers saves $4.2 million.** The company's IT professionals spend less time responding to tickets, packaging and confirming updates, and managing a complex testing environment resulting from multiple versions of Chrome across the organization, In fact, the IT team spends 75% less time on these activities.

Developer time saved:

20%

- **Improved security avoids $2.6 million in breaches, compliance fines, and security team tasks.** Despite a much larger group of remote workers accessing corporate data and applications, central control of the browser in the cloud ensures that all updates, patches, and policies are present on all of the composite organization's browsers.

Unquantified benefits. Benefits that provide value for the composite organization but are not quantified in this study include:

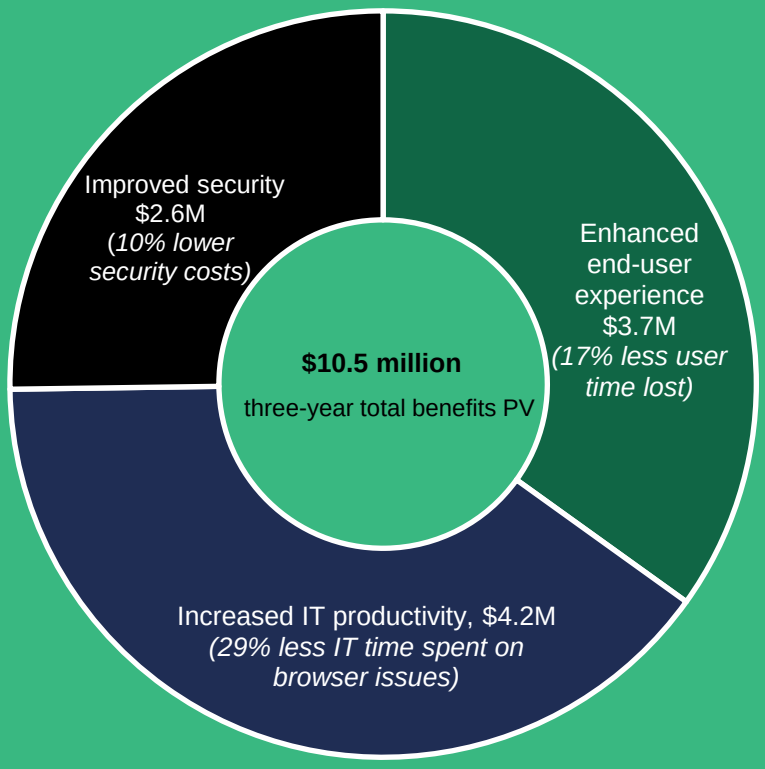
- **Increased confidence in IT process and personnel.** The improved user experience resulting from consistently up-to-date browsers and functional corporate applications gives end users more confidence in the IT team's decisions and processes.
- **Lowered organizational risk.** Work teams and individual contributors gain confidence that systems will work as they are supposed to, and this removes an element of risk from every project, resulting in a more innovative approach to their work.

Costs. Three-year, risk-adjusted PV costs for the composite organization include:

- **Administrative costs of $50,000.** There are no additional fees paid to Google for Chrome Browser Cloud Management, so the investment required comprises internal time to run proofs of concept, plan and communicate the new browser management approach, and revise policies over time.

The representative interviews and financial analysis found that a composite organization experiences a net present value (NPV) of $10.5 million over three years. Since there are no additional fees paid to Google for Chrome Browser Cloud Management, the investment required to implement it, while it is detailed in the financial tables, is much too small to form the basis of a meaningful return on investment (ROI) calculation. The investment in implementing Chrome Browser Cloud Management, however, is paid back in less than six months.

Benefits (Three-Year)



“Chrome policies are instant when you connect to the internet. We can deploy policies in a more granular way and understand who is using Chrome how and where in our company.”

— Senior director of technology and collaboration, manufacturing

TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in Chrome Browser Cloud Management.

The objective of the framework is to identify the cost, benefits, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that Chrome Browser Cloud Management can have on an organization.

Forrester Consulting conducted an online survey of 351 cybersecurity leaders at global enterprises in the US, the UK, Canada, Germany, and Australia. Survey participants included managers, directors, VPs, and C-level executives who are responsible for cybersecurity decision-making, operations, and reporting. Questions provided to the participants sought to evaluate leaders' cybersecurity strategies and any breaches that have occurred within their organizations. Respondents opted into the survey via a third-party research panel, which fielded the survey on behalf of Forrester in November 2020.

DUE DILIGENCE

Interviewed Google stakeholders and Forrester analysts to gather data relative to Chrome Browser Cloud Management.

INTERVIEWS

Interviewed four representatives at organizations using Chrome Browser Cloud Management to obtain data with respect to costs, benefits, and risks.

COMPOSITE ORGANIZATION

Designed a composite organization based on characteristics of the interviewees' 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 interviewees.

CASE STUDY

Employed four fundamental elements of TEI in modeling the investment impact: benefits, costs, flexibility, and risks. Given the increasing sophistication of ROI analyses related to IT investments, Forrester's TEI methodology provides a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Google Chrome Browser Cloud Management Customer Journey

Drivers leading to Chrome Browser Cloud Management Adoption

Interviews

Role	Industry	Region	Employees
Digital project manager	Retail	Global, EMEA HQ	100,000
Senior director of technology and collaboration	Manufacturing	Global, US HQ	2,700
Desktop infrastructure lead	Healthcare	Northeastern US	21,000
Senior director of enterprise architecture	Insurance	Midwestern US	8,000

KEY CHALLENGES

One interviewee, a senior director of enterprise architecture in the insurance business, very succinctly summed up the challenges the organizations faced before rolling out Chrome Browser Cloud Management. They said: "I think with most organizations, you bring in a browser, [and] you find how painful it is to keep it up to date and keep it out of the security troubles that it gets itself into. And then you decide, 'Okay, how do we start centralizing the management a little bit better?'"

"All of the user pain points and all of the digital support team's pain points came together, so Chrome Browser Cloud Management was almost a no-brainer — and this is the best part — at no cost."

Senior director of technology and collaboration, manufacturing

The interviewees noted how their organizations struggled with common challenges, including:

- **Lack of visibility into global status of the organization's browsers.** Interviewees had little ability to see how many active browsers they had, how they were being used, and whether they were up to date and secure. A digital product manager at a retailer recalled: "We could not visualize the global status of browsers and it was a huge amount of work to be sure every single browser was up to date after each update. Since we rotated responsibility for browser updates, it was even more of a mess."
- **Inability to customize policies by instance, function, or individual.** According to a senior director of technology and collaboration in a manufacturing company, "When I joined, there was no way to detect the profile adequately based on the device policies, which meant that if I was logging in to my company browser or my personal Gmail or any other instance of Chrome, I would get the same policies pushed out to all instances, which meant that I would have extensions that I didn't need and couldn't remove over on my Gmail side."
- **Suboptimal security situation for remote work.** Although they did not have good visibility

into status, many of the interviewees were concerned about security compliance during the pandemic and the ensuing adoption of hybrid work policies. According to the senior director of technology and collaboration in manufacturing: "A lot of remote users would only get Active Directory synchronization when they logged into our virtual private network. And there wasn't a guarantee that somebody would do so in a consistent manner. There were things that needed to be pushed out that weren't being pushed out in a timely manner because of this."

SOLUTION REQUIREMENTS/INVESTMENT OBJECTIVES

The interviewees' organizations searched for a solution that could:

- **Enable secure remote work.** Every organization was looking for this, often at different turning points. Some were in the middle of a modernization or digital transformation, some were responding to pandemic shutdowns, and others were formalizing some level of hybrid work.
- **Optimize IT and security teams' time to respond to critical business needs.** This was especially the case for organizations moving to Chrome Browser Cloud Management around the time of the COVID-19 pandemic. A key motivator was to free up IT personnel to focus on people who were unable to connect or get their work done and for security teams to focus on ensuring that the rapid move to remote work didn't compromise data safety.
- **Improve user experience with better granularity.** This covered many areas, such as the convenience of having plug-ins and bookmarks saved across instances or available immediately with a new role; the ability to benefit from the latest Chrome updates; and even better device performance with fewer agents running.

COMPOSITE ORGANIZATION

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an ROI analysis that illustrates the areas financially affected. The composite organization is representative of the four interviewees, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The organization is a $15 billion global financial services company with headquarters in the United States. The company employs 30,000 people (including many who work at physical branch locations), and approximately 50% of them work remotely at least part of the week. Its IT team of 350 people manages just over 35,000 browsers, as many managers use multiple devices for work while employees in the branches often share a browser.

Key Assumptions

- **Financial services**
- **Global, with US HQ**
- **$15 billion revenues**
- **30,000 employees**
- **40% to 50% remote**

Analysis Of Benefits

Quantified benefit data as applied to the composite organization

Total Benefits						
Ref.	**Benefit**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Atr	Enhanced end-user experience	$1,173,569	$1,486,310	$1,799,051	$4,458,930	$3,646,889
Btr	Increased IT productivity	$1,201,050	$1,714,266	$2,227,482	$5,142,798	$4,182,152
Ctr	Improved security	$828,215	$1,120,715	$1,286,358	$3,235,288	$2,645,592
	Total benefits (risk-adjusted)	$3,202,834	$4,321,291	$5,312,891	$12,837,016	$10,474,633

ENHANCED END-USER EXPERIENCE

Evidence and data. Interviewees described several different ways in which deploying Google Chrome Browser Cloud Management delivered a better digital user experience for their end users. These ranged from automatic updates that allow them to work without interruption from sign-on to sign-off to customized browser settings that provide people in different functions with the right plug-ins, bookmarks, and other settings to facilitate their work.

- The senior director of enterprise architecture at an insurance company recalled: “The experience before [was], ‘Chrome is telling me I need to update … or Chrome needs this plug-in. I’m going to go ahead and do that.’ Then it would fail, and suddenly I couldn’t join a meeting, or I couldn’t look at content or do a plug-in to my email or SMS or whatever. Afterward, the experience improved drastically.”
- A senior director of technology and collaboration in manufacturing explained: “We were implementing a new tool that would improve user experience, but it doesn’t work well unless you have a certain extension. We were able to push the extension out and check to ensure everyone had it before sending the notice that the new tool was available. Employees didn't have to do anything. The tool just worked because the extension was already there.”
- The senior director of enterprise architecture at an insurance company explained how some end users benefited more than average from Chrome Browser Cloud Management. They noted: “We have a large developer community, and they are our power users. This makes their jobs easier because they automatically get a special package of plug-ins that they would have had to ask for — and wait for — before. I would estimate that saved 20% of developer time.”

“It’s so much easier for the users because they don’t have to install add-ons or other clients and so on. Everything is available directly in the browser.”

Digital project manager, retail

Modeling and assumptions. In order to model the value of this benefit, Forrester assumes:

- The composite organization's IT team manages 35,000 browsers, updated 12 times per year.
- Fifteen percent of browsers fail to update each time as a result of end users not connecting to VPN, missing emails with instructions to update, or otherwise failing to complete an update.
- The users of these browsers lose an average of 30 minutes of productivity when their browsers are not up to date.
- Each of the company's 30,000 employees loses almost 6 hours per year waiting for resolution of help desk tickets, assuming 356,400 tickets are generated by the organization (see the "Increased IT Productivity" benefit calculation table, Row B9) and a conservative expected resolution time of 30 minutes per ticket.[2]
- Conservatively, employees generate 10% fewer tickets in the first year as a result of deploying Chrome Browser Cloud Management. This figure rises to 20% in Year 2 and 30% in Year 3.
- The average employee gains 30 minutes each year by avoiding the need to look for and add needed plugins, recreating browser settings and bookmarks across devices, or as a result of position changes.
- In addition to the time spent doing these tasks, employees gain, conservatively, another 40 minutes annually because they don't have to regain lost focus on their work.[3]
- The average fully burdened hourly wage of users across the organization is $39.
- The composite organization recaptures 50% of this time savings in productive work.

Risks. The risk that another organization may experience a different value from this benefit is related to:

- The failure rate on browser updates.
- The amount of time users lose when browsers are out of date.
- The number and average resolution time for help desk tickets.
- The time employees spend recreating browser settings.
- The average hourly wage of employees.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of $3.7 million.

Enhanced End-User Experience

Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Total Chrome browsers	Composite	35,000	35,000	35,000
A2	Average updates/changes per year	Interviews	12	12	12
A3	Percentage of browsers that failed to update	Interviews	15%	15%	15%
A4	Hours lost per failed update	Assumption	0.5	0.5	0.5
A5	Average fully burdened hourly wage	TEI standard	$39	$39	$39
A6	Subtotal: End-user wasted time saved	A1*A2*A3*A4*A5	$1,228,500	$1,228,500	$1,228,500
A7	Lost productive hours due to IT incidents (tickets)	B9*30 minutes	178,200	178,200	173,200
A8	Reduction in tickets with Chrome Browser Cloud Management	Interviews	10%	20%	30%
A9	Average fully burdened hourly wage	TEI standard	$39	$39	$39
A10	Subtotal: End-user productivity gain from reduced disruption and downtime	A7*A8*A9	$694,980	$1,389,960	$2,084,940
A11	Hours lost per affected employee due to resetting browser settings	Assumption	0.50	0.50	0.50
A12	Average hours lost due to context switching related to A11	Forrester research	0.67	0.67	0.67
A13	Employees affected per year	Assumption	15,000	15,000	15,000
A14	Subtotal: Increased efficiency from browser customization	A9*(A11+A12)*A13	$684,450	$684,450	$684,450
A15	Productivity recapture rate	TEI standard	50%	50%	50%
At	Enhanced end-user experience	(A6+A10+A14)*A15	$1,303,965	$1,651,455	$1,998,945
	Risk adjustment	↓10%			
Atr	Enhanced end-user experience (risk-adjusted)		$1,173,569	$1,486,310	$1,799,051
	Three-year total: $4,458,930			**Three-year present value: $3,646,889**	

INCREASED IT PRODUCTIVITY

Evidence and data. Interviewees agreed that deploying Chrome Browser Cloud Management saved their IT organizations a significant amount of time. This was partly the result of automating the update process itself (and having the assurance that all browsers were compliant, rather than chasing down those with issues). In addition, IT saw reduced time spent on scheduling and managing testing for new apps and other products in the latest version of Chrome, as well as less need for imaging.

- The senior director of enterprise architecture in the insurance industry detailed: "We went from two FTEs managing application testing plus 15% to 20% of any project hours dedicated to it, down to less than one FTE and 5% to 10% of project hours. It's also now less work to do the imaging, so we saved two headcount there as well."
- At a global retailer, the digital project manager recalled: "We went from a manual process of pushing out updates on registry keys and doing weekly conformity checks to just being able to manage everything on the admin console. We used to spend three or more days a month on updates, and now it's down to less than two days per quarter."

Total IT time saved testing, imaging and updating:

75%

Finally, the same reduction in ticket volume that saved end users time in the previous benefit discussion also saved time for the IT team. With a consistently up-to-date browser environment as well as a robust and customized set of plugins, interviewees told Forrester that employees created 20% to 45% fewer service tickets after the deployment of Chrome Browser Cloud Management.

Modeling and assumptions. In order to model the value of this benefit for the composite organization, Forrester assumes:

- Before the Chrome Browser Cloud Management deployment, the equivalent of 10 FTEs handle policy management and application testing, while 3.5 FTEs handle imaging.
- IT team members save 50% of that time in the first year, 65% in Year 2, and 75% in Year 3 and beyond.
- The amount of time spent updating and checking on updates decreases by 78%, from 1,008 hours to 224 hours per year.
- By Year 3, the IT time devoted to testing, imaging and updating drops by 75%.
- The fully burdened IT hourly wage is $58.
- The composite organization's employees each generate an average of one help desk ticket per month, at an average cost of $18 per ticket.[4]
- As with the previous benefit, using Chrome Browser Cloud Management conservatively reduces tickets by 10% in Year 1, 20% in Year 2, and 30% in Year 3.

Risks. The risk that an organization may experience a different magnitude of benefit is driven by:

- The amount of time the IT team spends testing, imaging, and managing updates before they begin using Chrome Browser Cloud Management.
- The ticket generation rate in the organization.
- The average hourly wage of the IT team.

Results. To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV of $4.2 million.

Increased IT Productivity

Ref.	Metric	Source	Year 1	Year 2	Year 3
B1	IT hours spent on app testing before Chrome Browser Cloud Management	Interviews	20,800	20,800	20,800
B2	Hours spent on imaging before Chrome Browser Cloud Management	Interviews	7,280	7,280	7,280
B3	Percentage of time saved with Chrome Browser Cloud Management on testing and imaging	Interviews	50%	65%	75%
B4	Hours spent updating before Chrome Browser Cloud Management	Interviews	1,008	1,008	1,008
B5	Hours spent updating with Chrome Browser Cloud Management console	Interviews	224	224	224
B6	Total hours saved	(B1+B2)*B3+B4-B 5	14,824	14,824	14,824
B7	Average fully burdened IT wage	TEI standard	$58	$58	$58
B8	Subtotal: testing/imaging hours saved	B6*B7	$859,792	$859,792	$859,792
B9	Annual help desk tickets	Interviews	356,400	356,400	356,400
B10	Average cost per help desk ticket	HDI	$18	$18	$18
B11	Reduction in tickets with Chrome Browser Cloud Management	Interviews	10%	20%	30%
B12	Subtotal: Reduced cost of help desk tickets	B9*B10*B11	$641,520	$1,283,040	$1,924,560
Bt	Increased IT productivity	B8+B12	$1,501,312	$2,142,832	$2,784,352
	Risk adjustment	↓20%			
Btr	Increased IT productivity (risk-adjusted)		$1,201,050	$1,714,266	$2,227,482
	Three-year total: $5,142,798		**Three-year present value: $4,182,152**		

IMPROVED SECURITY

Evidence and data. Interviewees described for Forrester how deploying Google Chrome Browser Cloud Management improved their organizations' security. They were unanimous in their opinion that the browser-based nature of Chrome Browser Cloud Management drove much higher compliance with organizational security (and other) policies. This was especially important during the shift to remote work during the COVID-19 pandemic, when they struggled to balance their organizations' needs for access and security. It continues to be important, though, as interviewees estimated that one-third to two-thirds of their employees worked remotely on any given day.

A senior director of technology and collaboration at a manufacturing company recalled: "A lot of remote users would only get Active Directory synchronization when they logged into our virtual private network (VPN). And there wasn't a guarantee that somebody would do so in a consistent manner. There were things that needed to be pushed out in Chrome that weren't because of this."

Another boost in security came from being able to provide access to — or actually install — appropriate extensions and apps. In addition to improving employee experience by providing easy access to work-related tools, it greatly reduced the chance that employees would download a security threat.

The senior director of enterprise architecture in the insurance industry highlighted the dilemma: "A lot of organizations … just give everybody admin rights, and it's done. Everybody can download anything they want, but that's just not acceptable for our industry. It's not going to happen."

Interviewees' organizations benefited from the status and usage data available to them with Chrome Browser Cloud Management, and they relayed how helpful that data could be. The senior director of enterprise infrastructure mentioned: "We get visibility into usage trends, so if someone is using their browser more than average, or at unusual times, we can see that and be more proactive. I'd say that has led to a 4% or so reduction in risk."

Finally, Chrome Browser Cloud Management reduced the workload for security analysts. The same senior director of enterprise infrastructure explained, "Our security team is involved in all the testing and imaging we do, so their workload has gone down, just as the endpoint management team's has."

> **"Our remote workers were often not up to date because they hadn't signed into VPN. Now we can push updates in the cloud, so they get them as soon as they open the browser."**
>
> *Digital project manager, retail*

Modeling and assumptions. In order to model the value of this benefit, Forrester assumes:

- The composite organization experiences four breaches per year, each costing a total of more than $1.8 million.[5] These projected costs include both internal and external elements.
- Each breach also affects 20% of the composite organization's 30,000 employees for 4.4 hours, reducing their productivity by 75%.[6]
- The average fully burdened hourly wage across the organization is $39.
- The organization pays approximately $9,000 annually in compliance fines.[7]
- The deployment of Chrome Browser Cloud Management delivers a 5% reduction in the risk of breach and fines in the first year, rising to 8% in Year 3.

    - Note that this is incremental to the substantial reduction in risk of malware and phishing attacks for enterprises deploying Chrome Browser itself (as documented in an earlier Forrester TEI study).

- The security team works along with the IT team on policy management, application testing, and reimaging, but it spends approximately half the time the IT team spends. They regain this time after Chrome Browser Cloud Management is deployed.
- The fully burdened hourly wage for security analysts is $65.

Risks. The risk of another organization experiencing a different value for this benefit is driven by:

- The likelihood and size of a data breach.
- The degree of productivity impact to employees across the organization.
- The amount of time security analysts dedicate to testing and reimaging related to policy/browser updates.
- The average wage of affected employees, including of the security analysts.

Results. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year, risk-adjusted total PV of more than $2.6 million.

Improved Security

Ref.	Metric	Source	Year 1	Year 2	ar 3
C1	Predicted cost per breach	Forrester custom research	$1,815,900	$1,815,900	$1,815,900
C2	Predicted breaches per year	Forrester custom research	4.0	4.0	4.0
C3	Number of employees	Composite	30,000	30,000	30,000
C4	Portion affected by breach	Assumption	20%	20%	20%
C5	Average hours impacted per breach	Forrester custom research	4.4	4.4	4.4
C6	Reduction in productivity during breach	Assumption	75%	75%	75%
C7	Average fully burdened hourly wage	TEI standard	$39	$39	$39
C8	Subtotal: Predicted total cost of breaches	(C1*C2)+(C2*C3*C4*C5*C6*C7)	$10,352,400	$10,352,400	$10,352,400
C9	Median annual compliance fines (not related to breach)	GDPR Enforcement Tracker	$9,000	$9,000	$9,000
C10	Estimated risk reduction due to Chrome Browser Cloud Management	Interviews	5%	7%	8%
C11	Subtotal: Reduced risk of breach and fines	C8*C10	$518,070	$725,298	$828,912
C12	Security team hours saved testing and re-imaging	(B1+B2)*B3	7,020	9,126	10,530
C13	Fully burdened security analyst wage	TEI standard	$65	$65	$65
C14	Subtotal: Improved security analyst efficiency	C12*C13	$456,300	$593,190	$684,450
Ct	Improved security	C11+C14	$974,370	$1,318,488	$1,513,362
	Risk adjustment	↓15%			
Ctr	Improved security (risk-adjusted)		$828,215	$1,120,715	$1,286,358
	Three-year total: $3,235,288			**Three-year present value: $2,645,592**	

UNQUANTIFIED BENEFITS

Interviewees mentioned the following additional benefits that their organizations experienced but were not able to quantify:

- **Increased trust in the IT team.** Interviewees related that when digital tools worked correctly, as they were more likely to do with Chrome Browser Cloud Management in place, end users had more confidence in the professionalism of the IT team. This, in turn, improved the work experience and motivation of that team. The senior director of enterprise architecture in the insurance industry shared: "I think with us deploying Chrome Browser Cloud Management and managing the updates, it allows the user community to trust the process and trust the technology that's being pumped out. Because we used to have people come to us all the time and say, 'I'm using my personal desktop, and it's on version 11; you're still on 6. What's up with that?'"

  The senior director of enterprise architecture in insurance reported: "Users have more confidence in us and our processes because they see they're getting regular updates, using the latest version of Chrome, and have the right extensions installed. There's also less concern on the security team's side because our profiles and images are more consistent and centralized."
- **Reduced organizational risk.** Interviewees also commented on the value of Chrome Browser Cloud Management in terms of the assurance it gave them that their projects would be successful. The senior director of technology and collaboration in manufacturing shared: "We have way more control over predictability — our ability to know whether or not an application or a service that we are rolling out will work for our users. That amount of predictability decreases risk on projects."

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement Chrome Browser Cloud Management and later realize additional uses and business opportunities, including:

Enabled digital transformation. The IT professionals Forrester spoke with believed that Chrome Browser Cloud Management was an important enabler of their organizations' longer-term modernization and digital transformation programs. The desktop infrastructure lead in the healthcare vertical explained, "One of our requirements for digital transformation was that people shouldn't have to connect to the network to get their work done, so Chrome Browser Cloud Management really helped enable that by making remote management possible."

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

Analysis Of Costs

Quantified cost data as applied to the composite organization

Total Costs							
Ref.	**Cost**	**Initial**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Dtr	Administrative costs	$38,280	$4,849	$4,849	$4,849	$52,827	$50,338
	Total costs (risk-adjusted)	$38,280	$4,849	$4,849	$4,849	$52,827	$50,338

ADMINISTRATIVE COSTS

Evidence and data. While there are no incremental fees for Google Chrome Browser Cloud Management, interviewees explained to Forrester that they incurred some minimal testing, implementation, and ongoing administrative costs. These were all internal costs associated with IT time to accomplish the tasks.

- The senior director of technology and collaboration in manufacturing stated: "We did POCs mid-March through mid-June to understand the impact of moving from Active Directory to Chrome Browser Cloud Management. We started the rollout with 100 employees in early July, and by the end of July, we had rolled it out completely. It was about 120 person-hours for the testing and implementation."
- A senior director of enterprise architecture at an insurance organization agreed, noting: "Implementation costs were *very* minimal. A little bit of training for IT and security teams, maybe some organizational communication costs. It should be completely seamless to the end user."

Modeling and assumptions. The composite organization experiences some internal costs to prepare for and use Google Chrome Browser Cloud Management. These costs are included for the sake of completeness, but they are too small to form the basis of any realistic ROI calculation. In order to model the cost, Forrester assumes:

- IT invests 250 person-hours in early proofs of concept and rollout planning.
- Approximately 350 IT team members (including help desk employees) receive an average of 1 hour of training preceding rollout.
- The team's 20% turnover rate requires an additional 70 hours of training time each for new employees.
- Policy adjustments require approximately 1.5 hours per quarter.
- The average fully burdened hourly wage of IT personnel is $58.

Risks. The risk that another organization will experience different administration costs is driven by:

- The length and extent of pilot testing the organization chooses to undertake.
- The size of the IT team requiring training.
- The wages of those involved in these tasks.

Results. To account for these risks, Forrester adjusted this cost upward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of just over $50,000.

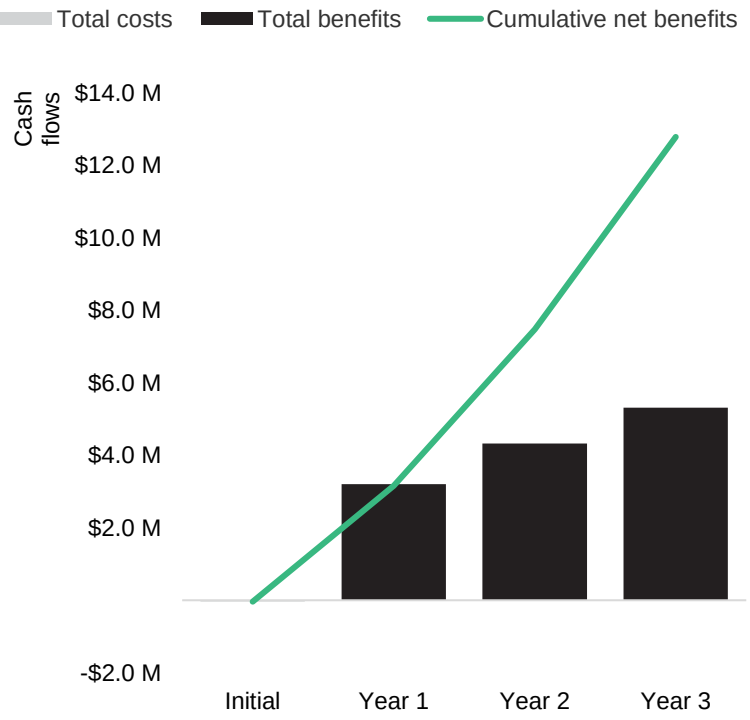
Administrative Costs

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
D1	Initial piloting and implementation	Interviews	250			
D2	IT/help desk training	Interviews	350	70	70	70
D3	Ongoing policy adjustment	Interviews	0	6	6	6
D4	Average IT fully burdened hourly wage	TEI standard	$58	$58	$58	$58
Dt	Administrative costs	D1*D2*D3*D4	$34,800	$4,408	$4,408	$4,408
	Risk adjustment	↑10%				
Dtr	Administrative costs (risk-adjusted)		$38,280	$4,849	$4,849	$4,849
	Three-year total: $52,827			**Three-year present value: $50,338**		

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.

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 Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	($38,280)	($4,849)	($4,849)	($4,849)	($52,827)	($50,338)
Total benefits	$0	$3,202,834	$4,321,291	$5,312,891	$12,837,016	$10,474,633
Net benefits	($38,280)	$3,197,985	$4,316,442	$5,308,042	$12,784,189	$10,424,295
Payback period (months)						<6

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.

Appendix B: Endnotes

[1] 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.

[2] Source: Kallio, Sami, "80% of the Employee Lost Productivity Caused by IT Support Comes From Just 12.6% of Tickets," Service Desk Show blog post, October 31, 2022.

[3] Source: "How To Wake Up From The Nightmare Of Workplace Technology Distraction," Forrester Research, Inc., April 26, 2019.

[4] Source: Rumburg, Jeff, "Understanding the Service Desk Metric of Cost Per Ticket," HDI, December 28, 2021.

[5] Source: Forrester Consulting Cost Of A Cybersecurity Breach Survey, Q4 2020.

[6] Ibid.

[7] Source: GDPR Enforcement Tracker, CMS.Law, 2022.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