

NEW TECH

# **New Technology: The Projected Total Economic Impact™ Of Microsoft Government Cloud Solutions For CMMC Compliance**

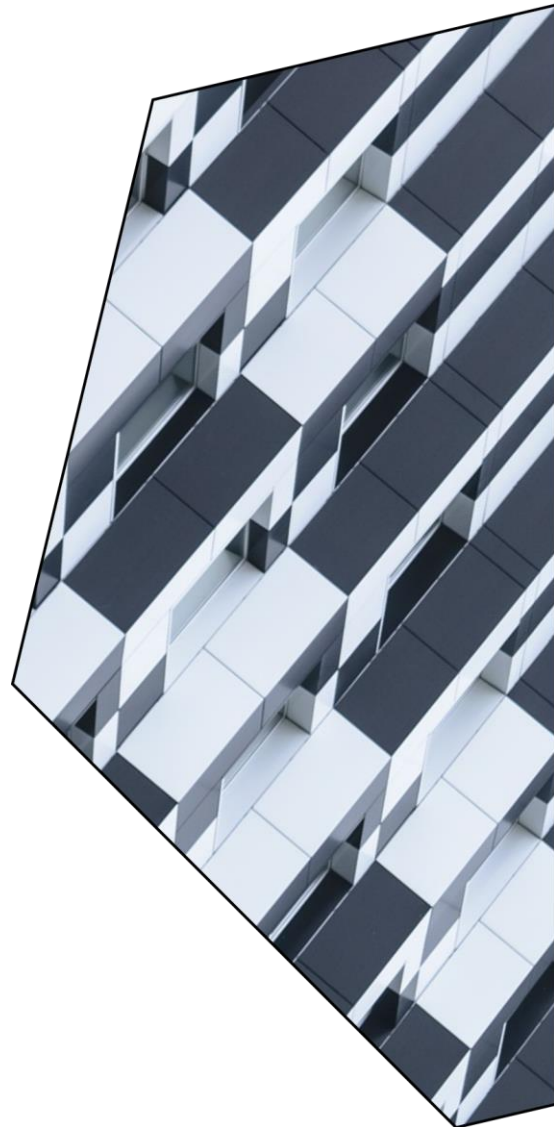
Cost Savings And Business Benefits  
Enabled By Microsoft

**JUNE 2022**

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## ABOUT FORRESTER CONSULTING

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## Executive Summary

The US Department of Defense introduced the Cybersecurity Maturity Model Certification to substantiate the cybersecurity practices of the defense industrial base, aiming to implement the CMMC requirement in contracts by May 2023. In some cases, organizations will need to be assessed by a CMMC third-party assessor organization that will require them to demonstrate maturity in over 110 processes and practices. Lack of certification may jeopardize new contract opportunities with the US government.

Microsoft government cloud solutions for compliance with the Department of Defense's (DoD) Cybersecurity Maturity Model Certification (CMMC) can accelerate the accreditation process for organizations in the defense industrial base (DIB). Organizations leveraging these solutions are equipped to control and protect sensitive data, and expect to avoid excessive professional service costs, reduce efforts related to assessments and ongoing administration, reduce attrition, and avoid costs related to legacy solutions and additional environments.

Microsoft commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying government cloud solutions for CMMC compliance.<sup>1</sup> The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Microsoft government cloud solutions for CMMC compliance on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed four representatives with experience using Microsoft government cloud solutions for CMMC compliance, and two representatives from a Microsoft partner company. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization.

### KEY STATISTICS



Projected return on investment (ROI)  
**25% to 152%**



Projected net present value (NPV)  
**\$312K to \$1.9M**

Prior to using Microsoft government cloud solutions for CMMC compliance, these interviewees noted how their organizations were in need of guidance and expertise to navigate their journey toward CMMC compliance. Proposed CMMC requirements have evolved since being introduced in early 2020, and DIB organizations needed to take steps toward compliance despite the uncertainty of the exact requirements they will face. Establishing and documenting maturity in the proposed processes and practices was an uncertain, heavy burden for current personnel. The anticipated cost of hiring additional employees and retaining professional services for assistance in building out a secure enclave with solutions from multiple vendors was substantial.

After the investment in Microsoft government cloud solutions for CMMC compliance, the interviewees observed an acceleration of their organizations' journeys toward CMMC compliance and projected benefits related to a reduction of professional

services costs, reduced assessment-related efforts, reduced attrition, and avoided costs related to retired legacy solutions and additional environments.

### KEY FINDINGS

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

- **Avoided excessive professional services costs.** Microsoft government cloud solutions are seamlessly deployed and help address many of the requirements for CMMC compliance, reducing the need for overly complex, multivendor solutions that require additional professional services to implement. This benefit is worth a projected \$455,000 to \$909,000.
- **Reduction of assessment-related efforts.** At least one CMMC third-party assessor organization (C3PAO) also leverages Microsoft government cloud solutions and the prevalence and familiarity of Microsoft products is expected to expedite CMMC assessments. The solutions also provide a system security plan and other documentation required for assessment. These reductions of assessment-related efforts are worth a projected \$68,000 to \$205,000.
- **Reduced operational overhead.** Moving applications to the Microsoft cloud environment shifts some of the administrative burden and is worth a projected \$305,000 to \$678,000.
- **Reduced attrition.** Adopting new technologies, such as the Microsoft government cloud solutions, provides exciting career opportunities and is expected to reduce attrition for the composite organization, which is worth a projected \$27,000 to \$61,000.
- **Avoided cost of legacy solutions.** Microsoft government cloud provides integrated security solutions and gives the composite organization the opportunity to retire or avoid other solutions that would have been needed for compliance.

This benefit is worth a projected \$373,000 to \$622,000.

- **Avoided cost of disaster recovery (DR) and other environments.** The Microsoft platform gives the composite organization a simplified, cost-effective path to creating robust disaster recovery and development environments that otherwise are not an option. This benefit worth a projected \$318,000 to \$636,000.



Avoided professional services savings:

**\$455K to \$909K**

**Unquantified benefits.** Benefits that are not quantified for this study include:

- **Accelerated CMMC compliance.** Microsoft government cloud solutions for CMMC compliance can be deployed in just a few weeks compared to months or more than a year for alternative solutions.
- **Enhanced security.** Integrated security solutions provided nearly real-time analytics and data to identify gaps and potential vulnerabilities.
- **Improved management of remote workforce.** The virtualized environment Microsoft enabled provided transparency and controls that facilitated management of devices a dispersed, remote workforce used.
- **Competitive advantage from increased opportunity to innovate.** The reduction of ongoing administration efforts freed personnel to focus on delivering business value and the integration of other products and solutions increased opportunities to innovate.
- **Experience and guidance from Microsoft and its partner network.** Interviewees noted a

variety of ways they benefitted from the breadth and depth of experience and guidance from Microsoft and its partner network.

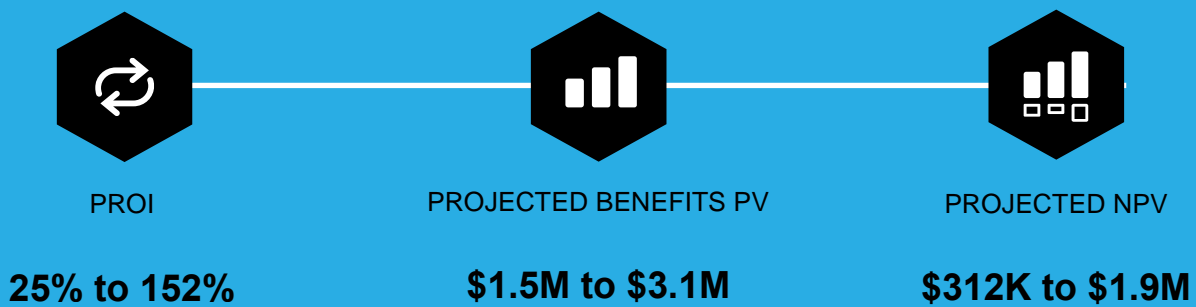
**Costs.** Three-year, risk-adjusted PV costs for the composite organization include license and professional services. Expert guidance toward implementing the government cloud solutions and Microsoft license costs total \$1,234,000.

Forrester modeled a range of projected low-, medium-, and high-impact outcomes based on evaluated risk. This financial analysis projects that the composite organization accrues the following three-year net present value (NPV) for each scenario by enabling Microsoft government cloud solutions for CMMC compliance:

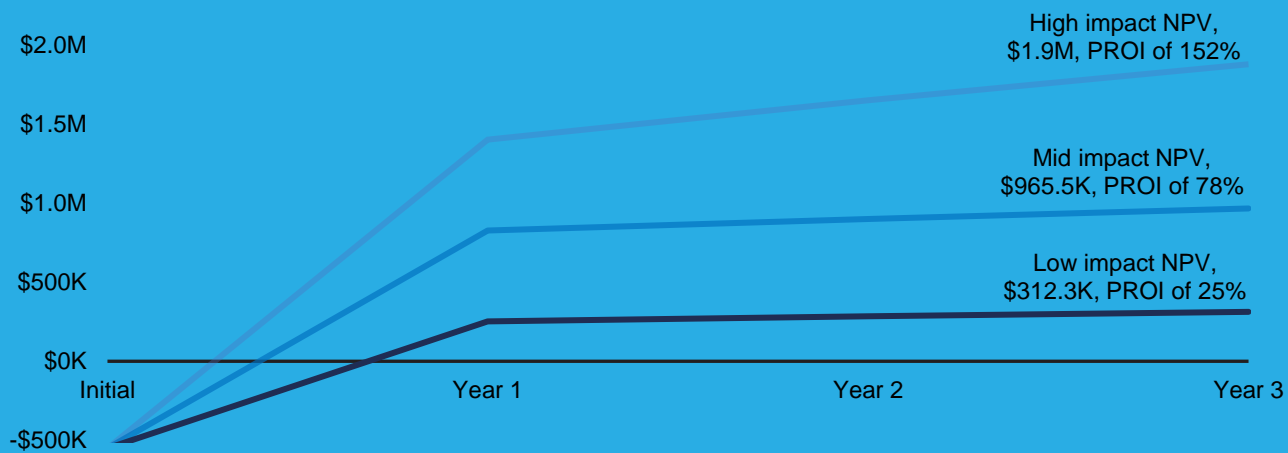
- Projected high impact of a \$1,877,000 NPV and projected ROI of 152%.
- Projected medium impact of a \$966,000 NPV and projected ROI of 78%.
- Projected low impact of a \$312,000 NPV and projected ROI of 25%.

**“ [Microsoft government cloud solutions] take us away from day-to-day monitoring and allows [the team to] learn additional features and services, build out different ideas and capabilities, and continuously evolve our programs.”**

**— CISO, operations and maintenance**



### Three-Year Projected Financial Analysis For The Composite Organization



## NEW TECH TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a New Technology: Projected Total Economic Impact™ (New Tech TEI) framework for those organizations considering an investment in Microsoft government cloud solutions for CMMC compliance.

The objective of the framework is to identify the potential cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the projected impact that Microsoft government cloud solutions for CMMC compliance can have on an organization.

### DISCLOSURES

Readers should be aware of the following:

This study is commissioned by Microsoft 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 study to determine the appropriateness of an investment in Microsoft Government Cloud Solutions for CMMC compliance.

Microsoft 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.

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



### DUE DILIGENCE

Interviewed Microsoft stakeholders and Forrester analysts to gather data relative to government cloud solutions for CMMC compliance.



### EARLY-IMPLEMENTATION INTERVIEWS

Interviewed four representatives at organizations using Microsoft government cloud solutions for CMMC compliance in a pilot or beta stage and one Microsoft partner to obtain data with respect to projected costs, benefits, and risks.



### COMPOSITE ORGANIZATION

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



### PROJECTED FINANCIAL MODEL FRAMEWORK

Constructed a projected financial model representative of the interviews using the New Tech TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees.



### CASE STUDY

Employed four fundamental elements of New Tech TEI in modeling the investment's potential 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 Microsoft Customer Journey

■ Drivers leading to the investment in government cloud solutions for CMMC compliance

Interviews			
Role	Organization	IT users	Locations
Thomas Graham, VP and CISO	Redspin — first authorized C3PAO	125	1
IT director	Information and engineering services	2,000	7
IT director of infrastructure and security	Aerospace	2,800	6
CISO	Operations and maintenance	7,000	16

## KEY CHALLENGES

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

- **Navigating the uncertainty about evolving CMMC standards.** The interviewees discussed the uncertainty around CMMC and the need to make business decisions to prepare for accreditation when the path forward was unclear.
- **Preparing documentation for assessment.** The effort to gather and prepare required documentation is a daunting task. Thomas Graham, VP and CISO at Redspin, provided his analysis, saying, “Probably 90% of the organizations that have undergone assessment [are] failing on their documentation.”

## PARTNER INTERVIEWS

To provide additional perspective on Redspin’s use case, Forrester interviewed Tim Lally, CEO, and Andrew Lally, director of technology, at KTL Solutions. KTL Solutions is a Microsoft partner.

## 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.

**Description of composite.** The organization is dependent on government contracts that will be contingent upon level-two CMMC accreditation. It has 500 knowledge workers across multiple locations including remote employees. It has a current infrastructure that includes but is not limited to on-premises and cloud-based Microsoft solutions.

**Deployment characteristics.** The composite organization deploys the Microsoft 365 Government — GCC High platform with Azure Government. To account for a range of outcomes, Forrester uses ranges of estimates the interviewees provided and adjusts the estimated impacts based on the relative size of the composite compared to the organization in which the benefit was observed.

### Key Assumptions

- **500 knowledge workers in multiple locations**
- **Seeks level-two CMMC accreditation**
- **Deploys Microsoft 365 Government GCC High with Azure Government**



# Analysis Of Benefits

■ Quantified benefit data as applied to the composite

Total Projected Benefits					
Benefit	Year 1	Year 2	Year 3	Total	Present Value
Total projected benefits - Low	\$1,156,750	\$313,500	\$313,500	\$1,783,750	\$1,546,219
Total projected benefits - Mid	\$1,788,500	\$363,500	\$363,500	\$2,515,500	\$2,199,426
Total projected benefits - High	\$2,420,250	\$577,000	\$577,000	\$3,574,250	\$3,110,596

## AVOIDED EXCESSIVE PROFESSIONAL SERVICES COSTS

**Evidence and data.** Interviewees discussed the need for expertise and guidance on their CMMC journeys and how leveraging Microsoft government cloud solutions for CMMC compliance simplified the process and reduced the overall need for professional services.

- Thomas Graham from Redspin said: “This project was not something that you could do as a secondary exercise [in addition to normal job tasks]. Standing up the environment is one thing, but then you also need to understand all the other components that you also need to put in place such as the firewalls, the backup solutions, and the documentation.”
- The CISO in operations and maintenance said, “We’ve probably spent about a million dollars [and] I think we would have had to spend two to three million if we were on full on-prem ... mostly consulting services.”
- The CISO in operations and maintenance continued: “[Microsoft’s fast track] and partner incentive program really helped us. That probably accelerated us years and probably saved us \$600,000 to \$700,000 just in leveraging their incentive programs.”

**Modeling and assumptions.** Forrester assumes that the cost of professional services the composite organization needs for the implementation of Microsoft government cloud solutions for CMMC compliance is between \$500,000 to \$1 million — less than it is if deploying alternative solutions.

**Results.** This yields a three-year projected PV (discounted at 10%) ranging from \$455,000 (low) to \$909,000 (high).

**“Being able to leverage [Microsoft] for all these different solutions and having them integrate is a lot easier for us than trying to glue a bunch of different solutions together.”**

*IT director of infrastructure and cybersecurity, aerospace*

Avoided Excessive Professional Services Costs					
Ref.	Metric	Source	Year 1	Year 2	Year 3
A1 <sub>Low</sub>			\$500,000	\$0	\$0
A1 <sub>Mid</sub>	Projected professional services spend without Microsoft	Interviews	\$750,000	\$0	\$0
A1 <sub>High</sub>			\$1,000,000	\$0	\$0
At <sub>Low</sub>			A1 <sub>Low</sub>	\$500,000	\$0
At <sub>Mid</sub>	Avoided excessive professional services costs	A1 <sub>Mid</sub>	\$750,000	\$0	\$0
At <sub>High</sub>			A1 <sub>High</sub>	\$1,000,000	\$0
Three-year projected total: \$500,000 to \$1,000,000			Three-year projected present value: \$454,545 to \$909,091		

### REDUCTION OF ASSESSMENT-RELATED EFFORTS

**Evidence and data.** Interviewees told Forrester that Microsoft government cloud solutions for CMMC compliance reduced the effort needed to prepare required documentation. The interviewees also believed current Microsoft certifications, along with the prevalence and familiarity with the Microsoft platform, will expedite CMMC assessments, further reducing the overall effort toward achieving CMMC accreditation.

- Andrew Lally, the director of technology at KTL Solutions, a Microsoft partner, said: “Microsoft provides [customers] their [system security plan] (SSP) for both Microsoft 365 as well as Azure Government, which is something the assessors wanted to see. ... That’s a huge help to get that and be able to provide it to the assessors and show Microsoft’s cloud has a FedRAMP authority to operate (ATO), and how they’re meeting all these practices with a mapping guide of how the FedRAMP ATO practices are mapping to CMMC — everything meshes and they can just inherit from the implementations done by Microsoft.”
- When asked about if Microsoft has reduced assessment-related efforts, the CISO in

operations and maintenance said: “Yes, it reduces the amount of documentation greatly. I think it’s going to streamline the audit because of the reciprocity we can leverage from both Microsoft’s existing FedRAMP certifications and their predocument processes will save us a lot of time. It will streamline the audit even more.”

This interviewee continued: “The blueprints and predefined templates that Microsoft has specifically for CMMC also has accelerated our timeline greatly because we’re not trying to figure out what do we need to do. It’s pretty clear. We get the template, we understand what components we need to execute and put in place on our side, and [the audit] can just focus on that.”

**“Having all that information rolled into one solution makes my internal audit team a lot more efficient. We can make that self-attestation with ... a higher degree of confidence and integrity.”**

*CISO, operations and maintenance*

**Modeling and assumptions.** Forrester assumes the following to quantify this benefit:

- Without Microsoft government cloud solutions, the composite organization utilizes 1.5 to 2.5 FTEs to prepare required documentation and to facilitate the CMMC assessment.
- With Microsoft, the composite organization utilizes one FTE to prepare documentation and facilitate the CMMC assessment.

- The fully burdened annual salary of an FTE performing these tasks is \$150,000.

**Results.** This yields a three-year projected PV (discounted at 10%) ranging from \$68,000 (low) to \$205,000 (high).

<b>Reduction Of Assessment-Related Efforts</b>					
Ref.	Metric	Source	Year 1	Year 2	Year 3
B1 <sub>Low</sub>			1.5	0	0
B1 <sub>Mid</sub>	Projected FTE effort to prepare documentation and facilitate assessment without Microsoft	Interviews	2.0	0	0
B1 <sub>High</sub>			2.5	0	0
B2			Actual FTE effort needed to prepare and facilitate assessment	Interviews	1.0
B3	Fully burdened annual salary	TEI standard	\$150,000	\$150,000	\$150,000
Bt <sub>Low</sub>		$(B1_{Low}-B2)*B3$	\$75,000	\$0	\$0
Bt <sub>Mid</sub>	Reduction of assessment-related efforts	$(B1_{Mid}-B2)*B3$	\$150,000	\$0	\$0
Bt <sub>High</sub>		$(B1_{High}-B2)*B3$	\$225,000	\$0	\$0
<b>Three-year projected total: \$75,000 to \$225,000</b>		<b>Three-year projected present value: \$68,182 to \$204,545</b>			

### REDUCED OPERATIONAL OVERHEAD

**Evidence and data.** The transition to a cloud-based solution, as well as the seamless integration of productivity and collaboration applications, reduced the administrative efforts of IT personnel.

- The CISO in operations and maintenance explained: “[Microsoft government cloud solutions] allow us to do a lot more automation so there’s less need for manual intervention, especially on the day-to-day side. That allows my folks to learn new services, new processes, new models, new ways to deliver, and allows them to start investing or looking at AI whereas before they would have just no time to do it.”
- The CISO continued: “I need [the team] to shift from doing the lower keep-the-lights-on tasks to more strategic thinking [and] threat analysis. ... I would probably have to bring in additional FTEs if we’re going to do both. [With Microsoft], ... I don’t need to necessarily grow my head count. It is probably saving me two to three FTEs [by] leveraging the Microsoft solutions.”

**Modeling and assumptions.** Forrester assumes the following to quantify this benefit:

- The composite organization avoids 0.5 to 1.5 FTE hires in Year 1 and one to two FTE hires in Years 2 and 3 by deploying Microsoft government cloud solutions for CMMC compliance.
- The fully burdened annual salary of a projected hire is \$150,000.

**Results.** This yields a three-year projected PV (discounted at 10%) ranging from \$305,000 (low) to \$678,000 (high).

**“It’s easy through the Microsoft tools and consoles to pull the evidence fairly rapidly to be able to provide to an auditor.”**  
*CISO, operations and maintenance*

Reduced Operational Overhead					
Ref.	Metric	Source	Year 1	Year 2	Year 3
C1 <sub>Low</sub>			0.5	1.0	1.0
C1 <sub>Mid</sub>	Projected FTE hires avoided with Microsoft	Interviews	1.0	1.0	1.0
C1 <sub>High</sub>			1.5	2.0	2.0
C2	Fully burdened annual salary	TEI standard	\$150,000	\$150,000	\$150,000
Ct <sub>Low</sub>		C1 <sub>Low</sub> *C2	\$75,000	\$150,000	\$150,000
Ct <sub>Mid</sub>	Reduced operational overhead	C1 <sub>Mid</sub> *C2	\$150,000	\$150,000	\$150,000
Ct <sub>High</sub>		C1 <sub>High</sub> *C2	\$225,000	\$300,000	\$300,000
<b>Three-year projected total: \$375,000 to \$825,000</b>			<b>Three-year projected present value: \$304,846 to \$677,874</b>		

## REDUCED ATTRITION

**Evidence and data.** Deploying the latest technologies provided more interesting career opportunities that could attract talent and improve employee retention.

- The CISO in operations and maintenance explained: “The marketplace is ... really in the employees’ favor because there’s such a shortage [of talent]. If I’m not able to let them follow some of their passions, I’ll lose them and I’ll have a high turnover. ... I think the same with the infrastructure folks and everybody else. If we weren’t moving to the cloud and to new technologies, people would be getting bored and we will be seeing a high level of turnover. Because we’re on the latest technology, that will also help with our ability to recruit talent.”
- When asked about the projected attrition using an alternative solution, the same CISO said: “Within the IT org, it will probably save us 5 to 6 FTEs [a year]. ... We do a trial before we [hire], so that’s six months ... [and] we’re usually paying

their salary plus 10% of their salary to a third party.”

**Modeling and assumptions.** Forrester assumes the following to quantify this benefit:

- Attrition for the composite organization is 0.5 to 1.5 FTEs less in Year 1 and one to two less in both Year 2 and Year 3.
- The fully burdened annual salary of a replacement FTE is \$150,000.
- Replacement FTEs are hired through a staffing firm that charges a 10% fee on the FTEs’ annual salaries.
- The composite organization retains the replacement FTEs through the staffing firm for six months before hiring them directly.
- Replacement FTEs spend two weeks performing onboarding tasks.

**Results.** This yields a three-year projected PV (discounted at 10%) ranging from \$27,000 (low) to \$61,000 (high).

Reduced Attrition						
Ref.	Metric	Source	Year 1	Year 2	Year 3	
D1 <sub>Low</sub>			0.5	1.0	1.0	
D1 <sub>Mid</sub>	Reduced attrition (FTEs)	Interviews	1.0	1.0	1.0	
D1 <sub>High</sub>			1.5	2.0	2.0	
D2	Fully burdened annual salary	TEI standard	\$150,000	\$150,000	\$150,000	
D3	Fee paid to staffing firm	Interviews	10%	10%	10%	
D4	Trial period with staffing firm (years)	Interviews	0.5	0.5	0.5	
D5	Onboarding period for replacements (years)	2 weeks onboarding/52 weeks	0.04	0.04	0.04	
Dt <sub>Low</sub>		$(D1_{Low} * D2 * D3 * D4) + (D1_{Low} * D2 * D5)$	\$6,750	\$13,500	\$13,500	
Dt <sub>Mid</sub>	Reduced attrition	$(D1_{Mid} * D3 * D4 * D5) + (D1_{Mid} * D3 * Dt_{Low})$	\$13,500	\$13,500	\$13,500	
Dt <sub>High</sub>		$(D1_{High} * D4 * D5 * Dt_{Low}) + (D1_{High} * D4 * Dt_{Mid})$	\$20,250	\$27,000	\$27,000	
<b>Three-year projected total: \$33,750 to \$74,250</b>			<b>Three-year projected present value: \$27,436 to \$61,009</b>			

## AVOIDED COST OF LEGACY SOLUTIONS

**Evidence and data.** Microsoft government cloud solutions were deployed with integrated security solutions and enabled the interviewees' organizations to retire legacy security solutions as well as other solutions, such as on-premises file shares, data servers, and remote desktop environments.

- The CISO in operations and maintenance said: "In the security realm, we're really expanding into the Azure information protection and data loss prevention solutions. We've been slowly leveraging more and more the Azure multifactor authentication (MFA) solution and sun-setting a lot of our legacy MFA solutions [and] other technologies around data protection in favor of the multiple [Microsoft] Defender solutions, defender for employing advanced threat protection and then the Office 365 Defender Solutions. ... From a security perspective, we're probably saving close to \$700,000 to \$800,000 a year and we're able to leverage the Microsoft solutions."
- The CISO also mentioned other legacy solutions could be consolidated or eliminated with the government cloud solutions: "We're migrating a lot of our technology into [Microsoft] cloud offerings. In the meantime, as we moved over to Teams and the collaboration abilities there, we started sun setting [other vendor solutions], which were either hosted by a third party or on-

premises. We moved into OneDrive to start eliminating some of our on-premises file shares and data."

- The CISO continued: "We moved a lot of our Exchange from on-premises into online as well [and preparing a] big migration to leveraging file shares online. We are moving more into using database as a service offered by Microsoft to get rid of our structured query language (SQL) servers that are deployed as either on-prem or an infrastructure as a service (IaaS) model."
- Andrew Lally, director of technology at KTL Solutions, said: "If I were going to stand up a remote desktop environment on-premises, that's a large effort and different expertise than what you have for the Exchange side and you need to stand up all the resources. If you want something that has the high availability that you get in that cloud environment, that can double your cost because now you need multiple systems and to deploy to multiple areas."

**Modeling and assumptions.** Forrester assumes that the composite organization saves \$100,000 to \$150,000 per year on retired security solutions and \$50,000 to \$100,000 per year on other applications and services.

**Results.** This yields a three-year projected PV (discounted at 10%) ranging from \$373,000 (low) to \$622,000 (high).

### Avoided Cost Of Legacy Solutions

Ref.	Metric	Source	Year 1	Year 2	Year 3
E1 <sub>Low</sub>			\$100,000	\$100,000	\$100,000
E1 <sub>Mid</sub>	Reduced cost of security solutions	Interviews	\$125,000	\$125,000	\$125,000
E1 <sub>High</sub>			\$150,000	\$150,000	\$150,000
E2 <sub>Low</sub>			\$50,000	\$50,000	\$50,000
E2 <sub>Mid</sub>	Reduced cost of other applications and services	Interviews	\$75,000	\$75,000	\$75,000
E2 <sub>High</sub>			\$100,000	\$100,000	\$100,000
E <sub>t</sub> <sub>Low</sub>		E1 <sub>Low</sub> +E2 <sub>Low</sub>	\$150,000	\$150,000	\$150,000
E <sub>t</sub> <sub>Mid</sub>	Avoided cost of legacy solutions	E1 <sub>Mid</sub> +E2 <sub>Mid</sub>	\$200,000	\$200,000	\$200,000
E <sub>t</sub> <sub>High</sub>		E1 <sub>High</sub> +E2 <sub>High</sub>	\$250,000	\$250,000	\$250,000
<b>Three-year projected total: \$450,000 to \$750,000</b>			<b>Three-year projected present value: \$373,028 to \$621,713</b>		

### AVOIDED COST OF DISASTER RECOVERY AND OTHER ENVIRONMENTS

**Evidence and data.** Migrating to the cloud enabled organizations to stand up cost-optimized disaster recovery (DR) and other environments.

- The CISO in operations and maintenance said: “One of the major factors outside of the CMMC why we wanted to move to the cloud is we couldn’t afford a true DR [environment]. ... Moving to the cloud allows us to do that in a much more cost-optimized way.”
- The same interviewee continued: “Using Azure site recovery [and related solutions], it gave us the ability to test and execute our recovery plans and really changed how we were doing backups. It gave us a lot more confidence in the ability because we became geographically dispersed. We’re no longer in our single data center.”
- The CISO also said: “We didn’t really have good robust dev environments and leveraging Azure’s ability to create different descriptions and protect them differently — it gave us the ability to build

out true dev test environments that we couldn’t do or couldn’t afford to do with our on-prem solutions.”

- When asked about the cost of building out these additional environments, the CISO said, “Somewhere between \$3 million to \$7 million just for the DR. ... [and] probably another \$700,000 to \$1 million we save annually by not having to build [the dev test] out on-prem.”

**Modeling and assumptions.** Forrester assumes that the composite avoids spending \$300,000 to \$600,000 to set up a disaster recovery environment and \$50,000 to \$100,000 to set up other environments.

**Results.** This yields a three-year projected PV (discounted at 10%) ranging from \$318,000 (low) to \$636,000 (high).

Avoided Cost Of Disaster Recovery And Other Environments					
Ref.	Metric	Source	Year 1	Year 2	Year 3
F1 <sub>Low</sub>			\$300,000	\$0	\$0
F1 <sub>Mid</sub>	Avoided cost of disaster recovery environment	Interviews	\$450,000	\$0	\$0
F1 <sub>High</sub>			\$600,000	\$0	\$0
F2 <sub>Low</sub>			\$50,000	\$0	\$0
F2 <sub>Mid</sub>	Avoided cost of other environments	Interviews	\$75,000	\$0	\$0
F2 <sub>High</sub>			\$100,000	\$0	\$0
Ft <sub>Low</sub>		F1 <sub>Low</sub> +F2 <sub>Low</sub>	\$350,000	\$0	\$0
Ft <sub>Mid</sub>	Avoided cost of disaster recovery and other environments	F1 <sub>Mid</sub> +F2 <sub>Mid</sub>	\$525,000	\$0	\$0
Ft <sub>High</sub>		F1 <sub>High</sub> +F2 <sub>High</sub>	\$700,000	\$0	\$0
<b>Three-year projected total: \$350,000 to \$700,000</b>			<b>Three-year projected present value: \$318,182 to \$636,364</b>		



## UNQUANTIFIED BENEFITS

Additional benefits that customers experienced but were not able to quantify include:

- **Accelerated CMMC compliance.** Interviewees noted that the time needed to deploy Microsoft 365 Government — GCC High on Azure Government and achieve CMMC compliance was much faster than alternative solutions. The Microsoft solutions could be deployed in a matter of weeks compared to months or even years in some cases.

Andrew Lally of KTL Solutions said: “If we had to stand up a compliant email system, that’s months of work. We have to get the servers, install the software, and do all of the security configurations on it. That’s a lot of effort and a couple of different roles when you’re trying to roll out an enterprise system [for which] you now need to [retain] those experts.”

He continued: “If I was going to set up a network all on-premises still using Microsoft operating systems and enterprise software, that’s probably a year or year-and-a-half to get everything situated and coordinate with the networking, Exchange, hardware, and back-end storage teams. It definitely would not be an inexpensive or quick project.”

He also said: “As far as the technical implementation [for Microsoft government cloud solutions], ... that was a couple months’ worth of time from the time [Redspin] signed the contract and we were done handing over the environment. Since then, we have brought that time frame down ... to a couple weeks ... and then we move into getting the organization ready as far as their culture and processes.”

Andrew Lally also noted that the current chip shortage would have an adverse impact on deploying alternative solutions: “We have the shortage of chips and if someone told me today

that they wanted to put this all on-premises, we’d have to give them a timeline of a couple of months after ordering all the hardware for it even to be delivered [before] we can get started. [Microsoft government cloud solutions] is definitely the quickest and easiest path”

The CISO in operations and maintenance said: “We probably wouldn’t be 50% of where we are today without [Microsoft government cloud solutions and partner support]. And then on top of the partners, Microsoft leveraging their Fast Track programs and a lot of their incentive programs also provide a lot of resources to us to help us move that process along much smoother and much quicker.”

**“The accelerated time frame [to a CMMC-compliant state] is something that I don’t think can be beat.”**

*Andrew Lally, KTL Solutions*

- **Enhanced security.** Interviewees acknowledged that, by implementing the necessary solutions, procedures, and processes to achieve CMMC compliance, their organizations increased their overall security levels and reduced the probability of any potential gaps.

Thomas Graham, the VP and CISO at Redspin, said: “[Microsoft government cloud solutions] provide the lowest risk for us as an organization to be able to perform this type of work, which benefits not only the DoD, but also for us as we do not have to maintain physical infrastructure.”

The CISO in operations and maintenance said: “It’s greatly strengthened the security of the

environment. We saw that in the first six months after getting the consolidated tools [integrated]. ... The data integration was huge for us. The analytics and all my security tools in the same language or reporting into the same [security information and event management] (SIEM). [They] all play nicely with each other with their data capability. We were able to close a lot of gaps that we found very quickly to reduce what would've been vulnerabilities and we couldn't have done that without the heavy integration that we had."

**“The Microsoft stack is solid – the features are now proven, tested, and when configured correctly, you can pass a CMMC assessment.”**

*Andrew Lally, KTL Solutions*

- Improved management of remote workforce.** Thomas Graham at Redspin explained that the Microsoft solutions improved the organization's capabilities for managing a remote workforce. He said: "The virtualized model provided greater mobility given the distributed nature of our workforce as well as allow for easier and better security because ... we can configure it to where you can't save anything to the local device. If the laptop is lost, all we have to do is kill the credentials and the information can no longer be accessed through that account."
- Competitive advantage from increased opportunity to innovate.** The CISO in operations and maintenance said: "We have a whole group within our organization ... heavily focused on the AI, the bot component — the next

generation stuff that we're building off of the Microsoft platforms that we would then offer back to our customers. ... Every DoD contract seems to [request you] show innovation through your process. Doing this shows our innovation and sets us up better for the re-competes. ... We've able to start doing that sooner so when it comes to the actual re-compete, ... we have the ability to show our last two years and we have already made these improvements well beyond what was in the initial contract."

- Experience and guidance from Microsoft and its partner network.** Interviewees explained why Microsoft's experience with certifying products under other standards and regulations matters.

The CISO in operations and maintenance said: "Microsoft is very helpful. Our account management team was great [and] extremely helpful the whole way through, even to the point where I would say [during the] first year of our journey, our account manager almost acted like a program manager for us."

Thomas Graham at Redspin said: "Whenever we realized we needed additional documentation from Microsoft on some of their back end stuff that is their responsibility as part of the CMMC model, they were really responsive."

The IT director of infrastructure and cybersecurity in aerospace said: "We're an engineering and manufacturing business so there are a lot of engineering tools that we support [while] Microsoft ... doesn't support all the different file types or engineering-type applications. ... Microsoft has been really good about putting us in touch with the technology partners that they think would best meet our needs."

**FLEXIBILITY**

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement government cloud solutions for

CMMC compliance and later realize additional uses and business opportunities, including:

- **Scalability.** The Microsoft platform enables organizations to scale up or down with minimal effort. Andrew Lally at KTL Solutions said: “Office 365 is completely SaaS so that scales and Microsoft handles worrying about all of that for you. [Customers can] just keep adding users to their hearts content.”

He continued: “As you grow, if you need more machines, it’s not complicated. You can use the admin interfaces to deploy more machines. [You can deploy] a few [or] a hundred machines all at once. You just type 100 in the box or the number of VMs and tell it to deploy and it’ll go through the steps of getting all those machines deployed out there and ready so that users can start using them.”

- **Support legacy Microsoft productivity and collaboration tools.** The IT director of infrastructure and cybersecurity in aerospace said: “We were already a Microsoft customer. Most of our data is in some kind of Microsoft format so leveraging Microsoft solutions to accomplish this made logical sense. And then knowing that Microsoft [is] able to be successful in supporting our requirements here and provide a solid foundation to support us through our journey was also a big part of that value proposition.”

The CISO in operations and maintenance said: “Because we were already in the Microsoft platform, it was more of a decision about [whether] there a reason not to use Microsoft. If we did not have Microsoft, then we’d have to go vet multiple products, do proof-of-concept [exercises], and I think we would also lose some of the integrations between these different products.”

- **Leverage additional solutions.** The CISO in operations and maintenance said: “It definitely impacted our strategic thinking of really pushing cloud-first across the board. It’s given us the opportunity to relook at all of our applications’ start programs around refactoring our applications to ... enrich the data. Enrich the data that is leveraged more, have it more scalable, it helps solve a lot of our disaster recovery and continuity of operations challenges that we were having within on-prem solution or didn’t have within on-prem solution.”

The IT director of infrastructure and cybersecurity in aerospace said: “Originally, we weren’t looking at the Power BI platform [since] we had some standalone solutions but because we are Office 365, we started to look at that and now that’s the foundation for our BI platform. Leveraging Azure Data Lakes and Databricks and all those different technologies. Having that accessibility has allowed us to implement some technologies rapidly that we maybe not would have considered before. The foundation is there. It was easy to turn these things on.”

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

**“Being able to leverage the built-in technologies all within the [Microsoft] ecosystem has really advanced our abilities. ... It’s all integrated.”**

*IT director of infrastructure and cybersecurity, aerospace*

# 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
Gtr	License and professional service fees	\$550,000	\$275,000	\$275,000	\$275,000	\$1,375,000	\$1,233,884
	Total costs (risk-adjusted)	\$550,000	\$275,000	\$275,000	\$275,000	\$1,375,000	\$1,233,884

## LICENSE AND PROFESSIONAL SERVICE FEES

**Evidence and data.** Interviewees described costs to prepare for CMMC accreditation. Estimates for the total spend included professional services to assist with the implementation of Microsoft government cloud solutions and additional license costs.

Microsoft corroborated the costs incurred by some of the interviewees and provided data showing incremental license costs of approximately \$500 per user.

**Modeling and assumptions.** Forrester assumes that the composite organization pays the following costs:

- \$500,000 for professional services.
- \$500 per user license fee for 500 users.

**Risks.** The cost of implementing Microsoft government cloud solutions can vary across organizations due to differences in:

- The security posture and maturity of the legacy environment.
- The CMMC accreditation level sought.

**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 \$1.23 million.

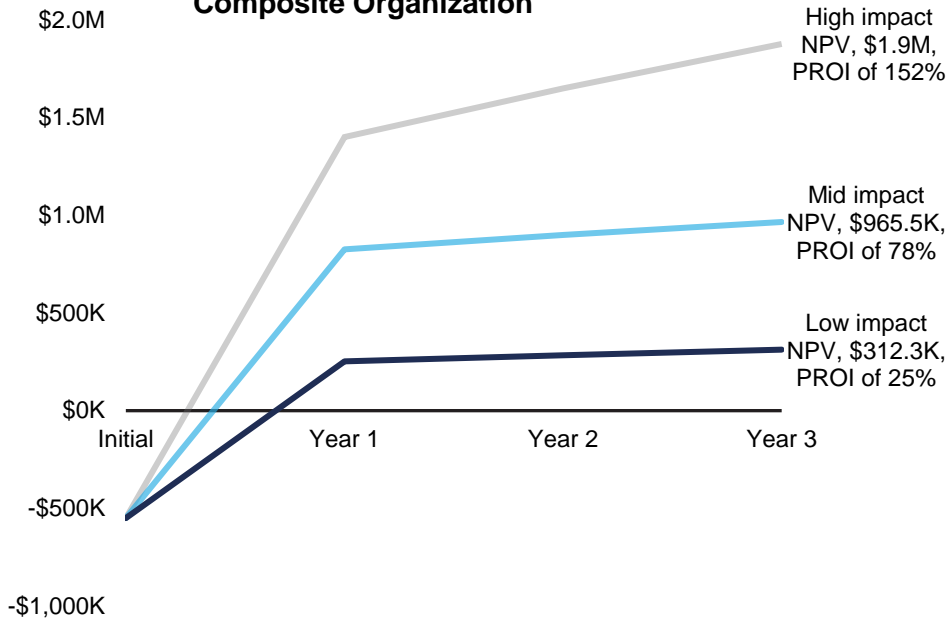
## License And Professional Service Fees

Ref.	Metric	Source	Initial	Year 1	Year 2	Year 3
G1	Professional services	Composite	\$500,000			
G2	Users	Composite		500	500	500
G3	License cost per user	Composite		\$500	\$500	\$500
Gt	License and professional service fees	G2*G3	\$500,000	\$250,000	\$250,000	\$250,000
	Risk adjustment	↑10%				
Gtr	License and professional service fees (risk-adjusted)		\$550,000	\$275,000	\$275,000	\$275,000
Three-year total: \$1,375,000			Three-year present value: \$1,233,884			

# Financial Summary

## CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

### Three-Year Projected Financial Analysis For The Composite Organization



The financial results calculated in the Benefits and Costs sections can be used to determine the PROI and projected NPV for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

**These risk-adjusted PROI and projected NPV 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	(\$550,000)	(\$275,000)	(\$275,000)	(\$275,000)	(\$1,375,000)	(\$1,233,884)
Total benefits (low)	\$0	\$1,156,750	\$313,500	\$313,500	\$1,783,750	\$1,546,219
Total benefits (mid)	\$0	\$1,788,500	\$363,500	\$363,500	\$2,515,500	\$2,199,426
Total benefits (high)	\$0	\$2,420,250	\$577,000	\$577,000	\$3,574,250	\$3,110,596
Net benefits (low)	(\$550,000)	\$881,750	\$38,500	\$38,500	\$408,750	\$312,335
Net benefits (mid)	(\$550,000)	\$1,513,500	\$88,500	\$88,500	\$1,140,500	\$965,542
Net benefits (high)	(\$550,000)	\$2,145,250	\$302,000	\$302,000	\$2,199,250	\$1,876,712
PROI (low)						25%
PROI (mid)						78%
PROI (high)						152%

# Appendix A: New Technology: Projected Total Economic Impact

New Technology: Projected Total Economic Impact (New Tech TEI) is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value of their products and services to clients. The New Tech TEI methodology helps companies demonstrate and justify the projected tangible value of IT initiatives to senior management and key business stakeholders.

## TOTAL ECONOMIC IMPACT APPROACH

**Projected Benefits** represent the projected value to be delivered to the business by the product. The New Tech TEI methodology places equal weight on the measure of projected benefits and the measure of projected costs, allowing for a full examination of the effect of the technology on the entire organization.

**Projected Costs** consider all expenses necessary to deliver the proposed value of the product. The projected cost category within New Tech TEI captures incremental ongoing costs over the existing environment that are 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

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<sup>1</sup> 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.



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