

A Forrester Total Economic Impact™  
Study Commissioned by GTT  
July 2019

# The Total Economic Impact™ of GTT SD-WAN

Business Benefits and Cost Savings  
Enabled by GTT SD-WAN

# Contents

<b>Executive Summary</b>	<b>1</b>
Key Findings	1
TEI Framework and Methodology	3
<b>Customer Implementations of GTT SD-WAN</b>	<b>4</b>
Interviewed Organizations	4
Key Challenges	4
Solution Requirements	5
Key Results	6
Composite Organization	6
<b>Analysis of Benefits</b>	<b>7</b>
Improved Productivity from Downtime Avoidance	7
Network Management Time Savings	8
Legacy Network Cost	9
Operational User Productivity	10
Unquantified Benefits	11
Optimizing Network for Cloud Apps	11
Application Performance Efficiency	12
Flexibility	12
<b>Analysis of Costs</b>	<b>13</b>
Total Cost	13
<b>Financial Summary</b>	<b>14</b>
<b>GTT SD-WAN: Overview</b>	<b>15</b>
<b>Appendix A: Total Economic Impact</b>	<b>16</b>
<b>Appendix B: Supplemental Material</b>	<b>17</b>

**Project Director:**  
Varun Sedov

## ABOUT FORRESTER CONSULTING

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

© 2019, Forrester Research, Inc. All rights reserved. Unauthorized reproduction is strictly prohibited. Information is based on best available resources. Opinions reflect judgment at the time and are subject to change. Forrester®, Technographics®, Forrester Wave, RoleView, TechRadar, and Total Economic Impact are trademarks of Forrester Research, Inc. All other trademarks are the property of their respective companies. For additional information, go to [forrester.com](https://forrester.com).

# Executive Summary

## Benefit Highlights



**\$406K benefit by avoiding 10 days of downtime per year**



**80% reduction in effort to manage network service**



**35% reduction in network costs**



**Increased network speed by up to 200%**

Forrester has repeatedly stressed the importance of the network in addressing the demands of digital business. Cloud, virtualization, and mobile devices can wreak havoc on network and operations if infrastructure and networking professionals struggle to keep up with the changes needed to move users, data, and applications fluidly across the entire business and its supporting parts, such as cloud services.

GTT commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment enterprises may realize by deploying its software-defined wide area network (SD-WAN) service. GTT SD-WAN optimizes bandwidth utilization and network performance to access all applications in the data center and the cloud. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of GTT SD-WAN on their organization. It also highlights additional benefits that can be realized from an SD-WAN deployment.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed two GTT customers, each with more than one year of experience using GTT SD-WAN. The first customer we interviewed was a major global manufacturer and the second customer was a multinational automotive distribution, retail, and services company.

Prior to using GTT SD-WAN, both interviewed customers used a static network connectivity method to access their hosted applications and services, which yielded limited success in establishing cloud environments or increasing cloud adoption. This left the customers with high latency, unreliable application delivery, and a lack of flexibility when building or developing cloud environments. The customers wanted to update their network infrastructure to keep up with a rapidly evolving digital environment. Both customers selected GTT, citing the provider's ability to efficiently manage bandwidth and provide consistent high-speed connectivity, as well as the unique capability to support virtual environments — all available as a managed service.

## Key Findings

**Quantified benefits.** The following risk-adjusted present value (PV) quantified benefits are representative of those experienced by the organizations interviewed. They reflect the financial analysis associated with the combination of both organizations (referred to throughout the study as the composite organization). All values are reported in three-year net present value (NPV):

- › **Downtime avoidance resulting in \$406K of productivity gains.** By facilitating concurrent active lines and bonding circuits to route traffic dynamically, GTT SD-WAN can actively and intelligently optimize networks to ensure there is no impact of downtime on employees.
- › **Network management time savings of \$51K.** By offering a fully managed service network, GTT SD-WAN frees up network administrators' time from dealing with network configuration and downtime issues.



**ROI**  
**213%**



**Benefits PV**  
**\$1.29M**



**NPV**  
**\$880K**



**Payback**  
**<6 months**

- › **Reduced network costs resulting in \$105K of cost savings.** By switching to an SD-WAN architecture with GTT, customers reduced costs associated with their previous MPLS environment. These savings were driven by aligning the application requirement more closely to the access method, selecting lower cost access options for lower priority traffic.
- › **\$43,975 per site across 20 sites.** Forrester determined an NPV of \$43,975 per site at an organization with 20 sites deploying SD-WAN connections.
- › **Increased network speed by up to 200%.** Forrester quantified the direct impact of GTT SD-WAN on user productivity through faster network speed. Uploading large files over a slow network takes time and impacts worker productivity. Through faster network speed, operational user productivity improved by a risk-adjusted PV of \$352K.

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

- › **A network optimized for the cloud.** The network is the central nervous system of the business — whether it's delivering cloud-based digital services to customers, facilitating in-store transactions, or supporting back-office operations. GTT SD-WAN was reported to improve the performance and dependability of the network, which has a direct impact on business performance.
- › **Flexibility.** The GTT SD-WAN infrastructure is composed of a small universal box (uCPE) that can be shipped globally. This increases flexibility and allows updates and changes to be made much more quickly.
- › **Application performance efficiency (latency reduction).** One of the key benefits to organizations is being able to better integrate cloud services with their private network. With GTT SD-WAN, applications are intelligently directed over the most optimized routes, which means that networking issues and slowdowns in performance do not occur.

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

- › **Solution costs totaling \$379K.** These are the costs associated with using GTT SD-WAN for the composite organization
- › **Internal labor and implementation costs, totaling \$35K.** This is the cost of IT resources to implement and maintain the network for the composite organization.

**Total Benefits.** Forrester's interviews with existing clients and subsequent financial analysis found that an organization would experience benefits of \$1.29M over three years versus costs of \$414K, adding up to a net present value (NPV) of \$880K and a ROI of 213%.

## TEI Framework and Methodology

From the information provided by the interviewees as well as GTT, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing GTT SD-WAN.

The objective of this framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that GTT SD-WAN can have on an organization:

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



### **DUE DILIGENCE**

Interviewed GTT stakeholders and Forrester analysts to gather data relating to GTT SD-WAN.



### **CUSTOMER INTERVIEWS**

Interviewed two organizations using GTT SD-WAN to obtain data with respect to costs, benefits, and risks.



### **COMPOSITE ORGANIZATION**

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



### **FINANCIAL MODEL FRAMEWORK**

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



### **CASE STUDY**

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

## DISCLOSURES

Readers should be aware of the following:

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

Forrester makes no assumptions as to the potential ROI that other organizations will receive. Forrester strongly advises that readers use their own estimates within the framework provided in the report to determine the appropriateness of an investment in GTT SD-WAN.

GTT 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.

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

# Customer Implementations of GTT SD-WAN

## BEFORE AND AFTER THE GTT SD-WAN INVESTMENT

### Interviewed Organizations

For this study, Forrester interviewed two GTT SD-WAN customers. The first organization is a major manufacturer, with just under 5,000 employees and a global reach spanning 40 countries. The organization required a high amount of network bandwidth, higher levels of resiliency, as well as global access to applications. The second organization, a leading multinational automotive distribution, retail, and services company, moved to GTT SD-WAN to have the ability to onboard applications and services faster. Additionally, the enterprise wanted to reduce the time it takes to go from an initial concept to a working product.

### Key Challenges

Traditionally, enterprise-grade networking was needed chiefly between customer sites and has relied on purpose-built, expensive hardware to manage routing in the WAN. However, in an increasingly digital world, companies rely on globally distributed cloud solutions to deliver consistent performance that can be scaled — this is exactly why it's now important for businesses to have enterprise-grade connectivity everywhere. During the interviews, both organizations expressed specific challenges that led to the adoption of GTT SD-WAN.

- › **Keeping up with digital transformation.** Most digital transformation initiatives are doomed from the start because the network platform isn't good enough to support them, especially when enabling a cloud IT service model. One interviewed organization cited this as a key challenge. Previously, it could barely support the current bandwidth required to function day-to-day, let alone consider support for future requirements. Speed and flexibility enable organizations to respond and adapt to market needs when required.

In the cloud model, software-defined networking acts to simplify multicloud connectivity by addressing the need for speed and flexibility and overcoming network performance limitations. SD-WAN can be implemented over public internet or private networks (or as a hybrid). These technologies can be used to bond multiple access connections into a single logical connection, providing increased resilience and performance to support increasing bandwidth requirements.

- › **Lack of dynamic control capabilities.** Inability to control the network in an agile, dynamic manner impacts how business is conducted, especially when businesses such as the ones interviewed rely on network lines to host, share, and retrieve large amounts of content. SD-WAN can greatly lessen the administrative burden, by having dynamic, automatic failover in place. If a line goes down, another takes over, avoiding impact on the bottom line.

“We conducted a very deep benchmark and GTT excelled in terms of handling bandwidth, improving speed and provided a unique capability in developing virtual environments — a one-stop-shop.”

*Network manager, manufacturing*



- › **The need to standardize network infrastructure.** One of the customers is a global company. It has a strong sales and operations structure and a solid foothold in Europe, Asia, and the US. However, its current network infrastructures were not built to scale geographically. Universal customer premises equipment (uCPE) enables firms to control their network changes using software rather than configuring or replacing dedicated hardware devices, which dramatically accelerates service delivery, remote configuration, and management of devices to enable customers to order new services or adjust existing ones. This need had to be met to support the organization’s business objectives of growing and expanding into other markets.

## Solution Requirements

The interviewed organizations searched for a solution that could:

- › **Improve cloud application performance and ease cloud adoption.** Firms that want to deliver differentiated services to their customers are increasingly depending on cloud environments to be flexible and efficient. Traditional networks have been designed to deliver applications from a central hub with low latency, to the detriment of the performance of cloud applications and simplification of integration.
- › **Simplify WAN complexity.** SD-WAN has emerged to abstract the traditional complexity of the WAN by providing a software-defined overlay to manage multiple connection types as well as the ability to automate traffic between links per defined application policies. The intrinsic capability of GTT SD-WAN enables customers to take back control of the WAN and reduce dependence on multiprotocol label switching (MPLS) access solutions.
- › **Deliver failover protection.** In the event of a failover, having the ability to instantly transfer tasks from a failed component to an active line avoids disruption and maintains operations, and best of all it is an automated feature.
- › **Standardize and improve networking infrastructure across different locations.** Driven by the needs of digital business transformation, the market is evolving from traditional branch routers to undergo dramatic change by increasing the use of cloud services and bandwidth-heavy applications across the WAN. GTT SD-WAN enables organizations to build high-performing software-defined WANs and boosts the reliability of connections being made consistently across the globe to sites and offices.

“We have doubled the throughput for our locations by switching to GTT SD-WAN.”

*Network manager, manufacturing*



## Key Results

The interviewed organizations concluded that key results from the GTT SD-WAN investment include:

- › **Reduced costs and improved network performance.** The interviewed organizations utilized more bandwidth at a reduced cost, which has directly resulted in improved communications between different office locations and sites across the globe.
- › **Agility to support digital transformation efforts.** GTT provides the capabilities that enable organizations to utilize cloud environments at scale — driven by the dynamic network bandwidth they have access to.
- › **Improved network management.** With less downtime, there is a reduced amount of time that is allocated to fixing or managing the network, thereby resulting in immediate cost reductions without impacting network performance.

This results in a direct savings in hardware, access, and maintenance costs from switching to GTT SD-WAN. Additionally, there was also a key result attributed directly to user productivity through faster network speed. Interviewed organizations saw results immediately. They were able to send larger files any time during the day, from any location, without it hindering network performance or impacting speed.

## Composite Organization

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

- › A multinational based in 20 sites around the globe, which included regions in Africa, Asia Pacific, Europe, the Middle East, South America, the US, and Canada.
- › With an estimated annual revenue of more than \$1 billion and 2,500 employees, the composite organization offers hundreds of products to its customers and clients.
- › The organization adopted GTT SD-WAN to improve the performance and resiliency of their network, as well as reduce costs associated with managing their MPLS WAN across branches.

“We needed more bandwidth, the ability to create virtual environments, access, and upload files from any location — all at speed. GTT SD-WAN has all of the tools for us to meet our goals for growth.”

*Network manager, manufacturing*



# Analysis of Benefits

Based on the interviewed organization, Forrester constructed a TEI framework and an associated ROI analysis that illustrates the quantifiable financial benefits of GTT SD-WAN.

## QUANTIFIED BENEFIT DATA AS APPLIED TO THE COMPOSITE

Total Benefit					
Benefit	Year 1	Year 2	Year 3	Total	Present Value
Improved productivity from downtime avoidance	\$151,313	\$163,292	\$177,606	\$492,210	\$405,946
Network management time savings	\$20,218	\$20,824	\$21,449	\$62,490	\$51,704
Eliminated legacy network costs	\$194,400	\$194,000	\$194,000	\$583,200	\$483,444
Operational user productivity	\$131,255	\$141,947	\$153,580	\$426,782	\$352,021
<b>Total benefits (risk-adjusted)</b>	<b>\$497,185</b>	<b>\$520,463</b>	<b>\$547,034</b>	<b>\$1,564,682</b>	<b>\$1,293,115</b>

### Improved Productivity from Downtime Avoidance

Prior to deploying GTT SD-WAN, one of the customers that Forrester spoke with experienced a significant amount of downtime as they operated in an active-passive networking environment. When downtime occurred, normal business operations for internal collaboration (e.g., designers sharing files at the head office) and engaging with suppliers and trade customers at affected local sales offices would not be possible until the backup line was up and running. With an active-active deployment of GTT SD-WAN, this downtime and pain point was almost eliminated.

By using multiple active lines that route traffic dynamically, whenever a failover occurs (as soon as one line goes down) the secondary line takes over as the primary line. In fact, the failover line to the backup line would be near 0ms; users wouldn't be able to tell that there was a failover simply because of SD-WAN's ability to actively and intelligently optimize lines.

**Modeling and assumptions.** For the composite organization, Forrester assumes the following:

- › In the previous network environment, the organization experienced 0.5 operational days of annual downtime at each of its 20 locations that are connected to SD-WAN.
- › The amount of downtime an organization experiences with its current network may affect the benefits realized by other organizations that deploy SD-WAN.

To account for these risk factors, Forrester applied a 10% risk adjustment, yielding a three-year, risk-adjusted total PV of \$405,900.

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of almost \$1 million.

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

## Improved Productivity from Downtime Avoidance: Calculation Table

Ref.	Metric	CALC.	Year 1	Year 2	Year 3	Total	Present Value
A1	Total number of days of downtime for previous MPLS WAN	Assumption	0.5	0.5	0.5		
A2	Sites connected to SD-WAN	Customer provided	20	20	20		
A3	Total days of downtime across all locations (annual) prior to SD-WAN	Annual	10	10	10		
A4	Average number of employees per location	Customer provided	125	131	138		
A5	Average fully loaded salary per day	Assumption	\$269	\$277	\$286		
A6	Productivity conversion	Assumption	50%	50%	50%		
	Improved productivity from downtime avoidance savings (annual)	$A3 \times A4 \times A5 \times A6$ (rounded)	\$168,125	\$181,435	\$197,340	\$546,900	\$451,052
	Risk adjustment	↓10%					
	<b>Improved productivity from downtime avoidance savings (risk-adjusted)</b>	<b>Annual</b>	<b>\$151,313</b>	<b>\$163,292</b>	<b>\$177,606</b>	<b>\$492,210</b>	<b>\$405,946</b>

## Network Management Time Savings

GTT offers a fully managed service support for SD-WAN, offering first-, second-, and third-line support. For the organizations interviewed, this has freed up significant time for network administrators who were offering first-line support for their prior environment.

**Modeling and assumptions.** For the composite organization, Forrester assumes the following:

- › One network administrator manages the network.
- › With the previous environment, each team member committed 30% of their total time to the task of managing the MPLS WAN.

The following are potential risks that may affect this benefit category:

- › The complexity of existing tools that organizations use for network management.
- › The efficiency of existing processes that organizations employ to manage the network environment.

To account for these risks, Forrester applied a 10% risk adjustment, yielding a three-year, risk-adjusted total PV of \$51,700.

## Time Saved in Managing Network: Calculation Table

Ref.	Metric	CALC.	Year 1	Year 2	Year 3	Total	Present Value
B1	Network administrator hourly rate	US Bureau of Labor Statistics	\$45	\$45	\$45		
B2	Number of network administrators dedicated to managing the MPLS WAN	Customer provided	1	1	1		
B3	Percentage of time dedicated to managing the previous MPLS environment	Customer provided	30%	30%	30%		
B4	Total network administrator time dedicated to managing the MPLS environment	2,080 hours*B2*B3	624	624	624		
B5	Reduction in effort to manage network with GTT SD-WAN	Assumption	80%	80%	80%		
	Network management time savings	(B1*B4)*B5	\$22,464	\$23,138	\$23,832	\$69,434	\$57,449
	Risk adjustment	↓10%					
	<b>Network management time savings (risk-adjusted)</b>		<b>\$20,218</b>	<b>\$20,824</b>	<b>\$21,449</b>	<b>\$62,490</b>	<b>\$51,704</b>

## Eliminated Legacy Network Costs

By switching to an SD-WAN architecture with GTT, the composite organization is able to reduce the costs associated with the network while also improving the quality of service to locations. Previously, the composite organization relied on MPLS WAN, which was available at a higher cost than SD-WAN.

**Modeling and assumptions.** For the composite organization, Forrester assumes the following:

- › The organization replaced its dedicated single active connection with a dedicated active-active solution. GTT SD-WAN can bond circuits together and produce an overall lower risk by getting more bandwidth and lower cost.
- › The benefits calculation accounts for the elimination of the legacy MPLS circuits. The costs of the GTT solution are discussed in the Analysis of Costs section below.

The following risk factors may affect the benefits realized by other organizations that are deploying SD-WAN:

- › The cost of an organization's existing network options.
- › The cost of broadband at each branch location.

To account for these risks, Forrester applied a 10% risk adjustment, yielding a three-year, risk-adjusted total PV of \$483,400.

## Legacy Network Costs: Calculation Table

Ref.	Metric	CALC.	Year 1	Year 2	Year 3	Total	Present Value
C1	Existing MPLS WAN	Monthly	\$900	\$900	\$900		
C2	Number of sites connected to SD-WAN	Customer provided	20	20	20		
	Legacy network costs	$C1 \times C2 \times 12$	\$216,000	\$216,000	\$216,000	\$648,000	\$537,160
	Risk adjustment	↓10%					
	<b>Legacy network costs (risk-adjusted)</b>		<b>\$194,400</b>	<b>\$194,400</b>	<b>\$194,400</b>	<b>\$583,200</b>	<b>\$483,444</b>

## Operational User Productivity

In the legacy network environment, uploading large files over a slow network wasted and hindered worker productivity. Since using the SD-WAN service from GTT, and due to the two-fold increase that the solution was able to provide to network speed, the composite organization was able to save approximately 25 days.

**Modeling and assumptions.** The composite organization had approximately 1,000 users who send and retrieve on average 5 large files a week, which they classify as being 1GB+ or above in size per file. The firm highlights that they save at minimum 2 minutes per file with the new solution, which translates into 8,667 hours of improvement in productivity in Year 1. The average salary per 1,000 personnel equates to \$70,000 per year, assuming that the worker has 50% productivity (taking into consideration lunch breaks, personal leave, etc.) as well as the following assumptions:

- › Transaction of large (1GB+) files uploaded per week.
- › Time saved per upload (minutes).
- › Average salary of worker.
- › 50% productivity.

The resulting benefits of GTT SD-WAN to the network performance will vary widely based on use case, back-end complexity, and unique technical requirements. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of \$352,000.



Knowledge workers can save 2 minutes per upload of large (1GB+) files.

## Operational User Productivity: Calculation Table

Ref.	Metric	CALC.	Year 1	Year 2	Year 3	Total	Present Value
D1	Users requiring large file transfer	Customer provided	1,000	1,050	1,103		
D2	Large (1GB+) files uploaded per week	Assumption	5	5	5		
D3	Time saved per upload (minutes)	Assumption	2	2	2		
D4	Total time saved (hours)	$D1 * D2 * D3 * 52 / 60$	8,667	9,100	9,559		
D5	Average fully loaded salary	Assumption	\$70,000	\$72,100	\$74,263		
D6	Productivity conversion	Assumption	50%	50%	50%		
	Operational user productivity	$(D5 / 2,080) * D4 * D6$	\$145,839	\$157,719	\$170,644	\$474,202	\$391,135
	Risk adjustment	↓10%					
	<b>Operational user productivity (risk-adjusted)</b>		<b>\$131,255</b>	<b>\$141,947</b>	<b>\$153,580</b>	<b>\$426,782</b>	<b>\$352,021</b>

## Unquantified Benefits

While not quantified, the interviewed organizations expressed and experienced additional benefits that Forrester deems important in the evaluation of GTT SD-WAN.

### Optimizing Network for Cloud Apps

- › Forrester’s research reinforces what we heard from interviewed organizations: businesses depend on network professionals to deliver highly available and dependable technology services to internal and external customers. The network is the central nervous system of the business — whether it’s delivering digital services to customers, facilitating in-store transactions, or supporting back-office operations. As Forrester’s research “Adapt Your Network Strategy to Thrive in a Shifting Ecosystem” shows, improving customer satisfaction and revenue require the superior performance and dependability of a network extended to accommodate new demands.
- › The form and function of GTT SD-WAN is in the infrastructure — composed of a small universal box (uCPE) which runs its software on generic silicon chips, rather than the proprietary hardware traditionally used for routing. These boxes can be deployed across many sites at low cost and are usually controlled centrally with local customization available. This increases flexibility and allows updates and changes to be made much more quickly.

“As we roll out cloud CRM to each country and location, we need to optimize the user experience and enhance the access to that platform. If we had to do that on an MPLS WAN, it would require design, and we’d have to spend a lot of money on extra services with our provider to prioritize the traffic to the CRM. It would just be a more complex and time-consuming process, whereas using SD-WAN you can do it in just a few clicks.”

*Global enterprise architect at an automotive distribution, retail, and services company*



### Application Performance Efficiency

- › One of the key benefits for the composite organization is being able to better integrate cloud services with their private network and be able to interoperate with their cloud services more easily. SD-WAN is a sophisticated service, yet what makes the GTT solution unique is the integration with its low latency and software-defined network, which creates a hybrid environment to support on-premises and cloud-based applications.
- › Additionally, applications are intelligently directed over the most cost effective access methods in alignment with SLA requirements. The optimized network platform ensures networking issues and slowdowns in performance rarely happen. The composite organization can support greater bandwidth and have improved performance due to the active-active setup provided by GTT SD-WAN. Additionally, the enablement of network integration or separation can bridge and connect disparate networks from various providers. In other words, it delivers the benefits of a unified IT architectural environment.

### Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. A customer might choose to implement GTT SD-WAN and later realize additional uses and business opportunities.

- › The typical enterprise has been consolidating a sprawling data center footprint by investing in third-party clouds and creating its own cloud infrastructure. By leveraging GTT SD-WAN, a firm can increase its products and offerings where new technologies (i.e., the internet of things) can be utilized.

Flexibility would also be quantified when evaluated as part of a specific project.

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

# Analysis of Costs

## QUANTIFIED COST DATA

Total Cost						
Cost	Initial	Year 1	Year 2	Year 3	Total	Present Value
GTT SD-WAN solution cost	\$12,285	\$147,420	\$147,420	\$147,420	\$454,545	\$378,897
Internal labor and implementation	\$15,230	\$7,615	\$7,843	\$8,078	\$38,767	\$34,705
<b>Total costs (risk-adjusted)</b>	<b>\$27,515</b>	<b>\$155,035</b>	<b>\$155,263</b>	<b>\$155,498</b>	<b>\$493,312</b>	<b>\$413,602</b>

### Total Cost

The composite organization incurred costs related to GTT SD-WAN that included:

- › The solution cost based upon the figures provided by the interviewed organizations, which include the hardware, software and network that is being used as part of the GTT SD-WAN service.
- › Internal resources which were also used to work with GTT for labor and implementation purposes. The interviewed firms said it took approximately three weeks for a deployment across 20 sites, requiring two internal resources to support implementation.

It's important to note that the solution cost for GTT SD-WAN is an estimate and readers are encouraged to get a direct quote from GTT.

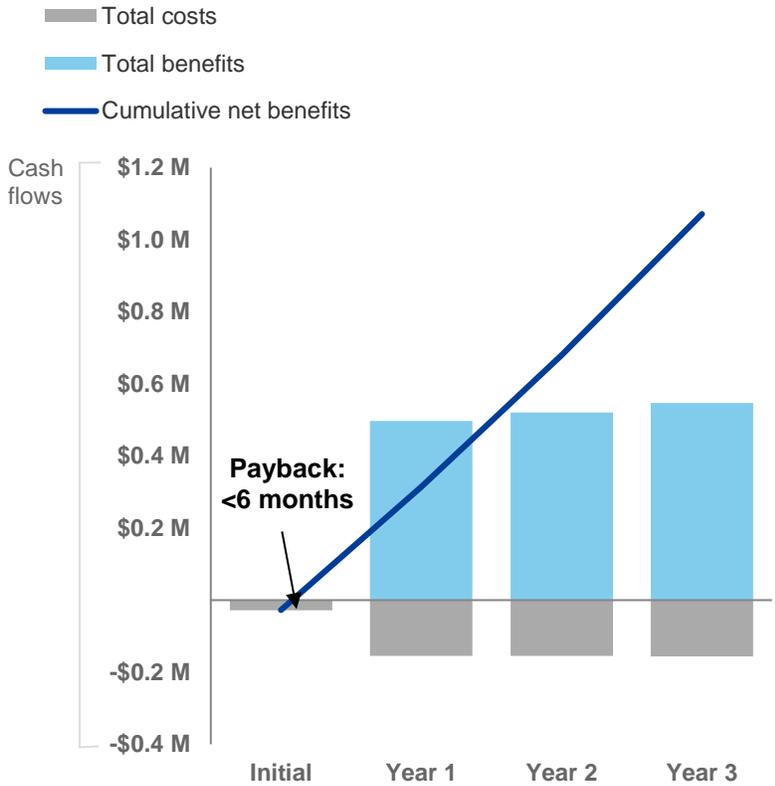
Forrester adjusted this cost upward by 10% yielding a three-year risk-adjusted total PV of \$413,602.

The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of more than \$414,000.

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

# Financial Summary

## CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS



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 Table (Risk-Adjusted)**

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	(\$27,515)	(\$155,035)	(\$155,263)	(\$155,498)	(\$493,312)	(\$413,602)
Total benefits	\$0	\$497,185	\$520,463	\$547,034	\$1,564,682	\$1,293,115
Net benefits	(\$27,515)	\$342,150	\$365,199	\$391,536	\$1,071,370	\$879,513
ROI						213%
Payback period						<6

# GTT SD-WAN: Overview

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

## GTT SD-WAN

### Network Smarter

SD-WAN gives you more control, more visibility, and affordable broadband access options. By working with GTT, you also get our expansive global reach, expert service, and a commitment to simplicity.

### Broadest Range of Access Options

GTT offers the widest range of access options, making it simple and cost-effective to integrate new locations and add network bandwidth as needed. GTT SD-WAN includes EoC or DSL, cable, network-based firewall and a managed SD-WAN device for a single monthly price. We also offer 3G/4G wireless connectivity and ethernet over fiber for higher-speed requirements.

### Everywhere You Work: Seamless Global Coverage

GTT SD-WAN leverages our global, Tier 1 IP backbone, which transports client traffic between locations, to any destination on the internet or to any of our securely interconnected public cloud service providers around the world. Our SD-WAN offering is available worldwide, with a range of access options per country.

### Proactive Approach Optimal Performance: Improved Network Performance and Visibility

SD-WAN continuously optimizes your network, in real time, by routing traffic over the best available WAN circuit. This capability enables you to prioritize mission-critical and latency-sensitive applications, such as voice and video, delivering optimal performance. We provide full visibility into performance and bandwidth usage by application, location, and user through the GTT portal.

### Maximum Data Security: Enhanced Data Security

GTT SD-WAN includes end-to-end encryption for secure data transmission across our network and the public internet. Protect your internet-bound traffic with our integrated, network-based firewall solution. Advanced firewall features are also available for additional internet security, including protection against external threats like DDoS.

### End-to-End Management: A Single, Managed WAN

Take advantage of the benefits of SD-WAN without the risks of unpredictable costs and operational complexity. Our dedicated technical experts will design, implement, install and optimize your SD-WAN service from end to end, leveraging our experience as an established managed services provider.

**GTT can help you transition to SD-WAN at your own pace, starting with a service trial. For more information on SD-WAN, including our 60-day satisfaction guarantee, contact us today.**

## Contact Us

For more information, visit [gtt.net](http://gtt.net) or call:

Americas: +1 512 592 4858, EMEA: +44 20 7489 7200, AP: +852 8107 1088.

# 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: Supplemental Material

## *Related Forrester Research*

“Adapt Your Network Strategy to Thrive in a Shifting Ecosystem,” Forrester Research, Inc., July 28, 2017.

## *Online Resources*

More information on GTT is available at <https://www.gtt.net/services/wan/sd-wan/>.