

# Dell EMC SD-WAN Solution Powered By VMware Helps Healthcare Firms Meet Network Demand

Forrester Consulting conducted a Total Economic Impact™ (TEI) study to provide readers with a framework to evaluate the potential financial impact of Dell EMC SD-WAN Solution powered by VMware on their organizations. To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed five customers with experience using Dell EMC SD-WAN Solution, one of whom is with a healthcare organization. This summary is based on a full TEI study, which can be downloaded [here](#).

Through these customer interviews and data aggregation, Forrester concluded that Dell EMC SD-WAN Solution has the following three-year financial impact: \$19.2 million in benefits versus costs of \$8 million, resulting in a net present value (NPV) of \$11.1 million and an ROI of 139%.

**Quantified benefits.** The following risk-adjusted quantified benefits are representative of those experienced by the companies interviewed:

- › **Avoided cost of legacy network hardware of \$100,000 per existing site.** Customers avoided up to \$100,000 in legacy network hardware costs per site and annual maintenance fees of up to \$14,000 per site. One interviewee estimated their company saved 80% to 90% on hardware alone when switching to Dell EMC SD-WAN Solution.
- › **Decreased data transportation costs up to \$6,000 per site annually.** Interviewees reported diminishing use of expensive multi-protocol label switching (MPLS) connections at existing sites while avoiding additional MPLS costs at new sites. At an estimated \$500 per month, a customer with 1,000 sites could save \$6 million annually.
- › **Reduced cost of expansion of up to \$127,000 per new site.** Organizations avoided legacy hardware and maintenance costs at new sites as well as at existing sites, while also reducing implementation and ongoing management costs at these new sites.
- › **Fifty percent reduction in costs from centralized network management.** Dell EMC SD-WAN Solution's centralized management allowed organizations to redeploy 50% of their IT resources previously managing network infrastructure to more strategic initiatives.
- › **Thirty-two hours in additional annual productivity per affected employee.** Dell EMC SD-WAN Solution also provided additional network resilience, resulting in increased uptime that allowed employees previously affected by downtime to remain productive.



**ROI**  
139%



**Benefits PV**  
\$19.2 million



**Costs PV**  
\$8 million



**Payback**  
<3 months

## SUMMARY

Based on a commissioned study, "The Total Economic Impact Of Dell EMC SD-WAN Solution Powered By VMware"

## METHODOLOGY

The objective of the TEI 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 of Dell EMC SD-WAN Solution, including interviews with Forrester analysts, Dell Technologies stakeholders, and five current Dell EMC SD-WAN Solution customers. Forrester constructed a financial model representative of the interviews using the TEI methodology.

## COMPOSITE ORGANIZATION

This analysis uses a composite organization, based on the interviewees, to present the aggregate financial analysis.

## RISK ADJUSTMENT

Forrester risk-adjusted the financial model based on issues and concerns of the interviewed organizations to account for uncertainties in benefit and cost estimates.

# The Dell EMC SD-WAN Solution Powered By VMware Customer Journey

For this study, Forrester conducted five interviews with Dell EMC SD-WAN Solution customers. Interviewed customers include the following:

INDUSTRY	REGION	INTERVIEWEE	NUMBER OF AGENTS
Construction	North America	Director of infrastructure and operations; Junior network administrator	750 employees 41 edge sites
Financial services	North America	Vice president and Information security officer	1,000 employees 140 edge sites
Education	North America	Chief information officer	40,000 stakeholders 212 edge sites
Telecommunication	Asia	Global vice president of strategy and products	200,000 employees 1,000 sites
Healthcare	North America	Chief information officer	32,000 employees 5,000 sites

## Key Investment Drivers And Results

The interviewees shared the following investment drivers:

- › **Transition to the cloud.** Customers noted that MPLS may have made sense in their legacy on-premises environments, but it ceased to provide value for cost in their increasingly cloud-heavy environments since all cloud data must run over expensive copper or fiber lines through a data center before reaching the branch site, and vice versa.
- › **High costs of data transport and new network buildouts.** Interviewees noted the cost savings inherent from switching from MPLS to broadband, which can be 20 times to 400 times cheaper, and the high expense of establishing new sites with legacy network architecture as additional drivers for seeking out Dell EMC SD-WAN Solution.
- › **Regulatory requirements.** The interviewee from the healthcare provider said their company needed a vendor that could provide the visibility of SD-WAN while also meeting regulatory requirements. They said: "We went with Dell Technologies because we needed a vendor with adequate scale that they wouldn't fall over from the kind of regulatory requirements we have."

The interviewees said their organizations achieved these key investment results:

- › **Reduced transport costs.** Customers reported saving between 20% and 90% of transport costs by switching from MPLS to broadband with Dell EMC SD-WAN Solution. The solution also provided more responsive support than telecom providers.
- › **Improved network performance.** Customers experienced up to 17 times higher download speeds, an up to 500% increase in bandwidth, and latency reductions up to 30% with Dell EMC SD-WAN Solution. The healthcare interviewee said, "Telemedicine has caused a lot of network traffic growth, which has scaled well thanks to Dell EMC SD-WAN Solution."
- › **Easy network management.** Customers saved IT time, money, and effort with Dell EMC SD-WAN's centralized management compared to decentralized, often on-site management with legacy network models.

"Dell Technologies was not the first SD-WAN vendor we have used, but it has easily proven itself to be the fastest to deploy."

*Chief information officer,  
healthcare*



17x higher download speeds



500% increase in bandwidth



30% reduction in latency

## Composite Organization

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an ROI analysis that illustrates the areas financially affected, covered in greater detail in the full study. The composite organization has the following characteristics:

**Description of composite:** This global business has approximately 100,000 full-time employees spread across its corporate offices and branch sites. It is currently undergoing a digital transformation initiative and becoming increasingly cloud-centric. It now relies on cloud applications for employee productivity as well as cloud infrastructure to operate some of its customer-facing products.

**Company characteristics:** The organization operates four data centers and a total of 1,000 corporate and branch sites worldwide. It is experiencing a period of growth, opening new offices and branch sites as it expands into new markets. It is shifting away from MPLS connectivity toward a software-defined WAN that leverages dual broadband for its combination of resiliency and cost effectiveness.



### Key assumptions

4 data centers  
1,000 corporate and branch sites  
100,000 FTEs

## Dell EMC SD-WAN Solution Powered By VMware Investment Benefits

Dell Technologies' SD-WAN Solution combines Dell Technologies hardware with VMware SD-WAN by VeloCloud, incorporating VMware SD-WAN software, VMware SD-WAN Gateways, and Dell EMC SD-WAN Dedicated Orchestrator. The combined solution enables healthcare customers to be more agile, efficient, and productive by updating their network environments to carry more bandwidth, prioritize critical applications, and be more resilient — all at a lower cost. The healthcare interviewee said their organization saw standardization benefits from their investment as well. They said: "Standardization is probably the biggest benefit we've had thus far. We've moved away from 'artisan' networks at our hospital sites. We can very easily apply the same policies across all sites and no longer need to train engineers in the intricacies of the various individual networks."

The benefit impact experienced by the composite organization is based on the past and current experiences of the five interviewees. Over three years, the composite organization expects risk-adjusted total benefits to be a present value (PV) of \$19.2 million.

"Dell EMC SD-WAN Solution allowed us to dynamically scale IP addresses as we added more assets and connected devices without having to reengage a network resource. That was a big win for us.

*Chief information officer,  
healthcare*



## Total Benefits

REF.	BENEFIT	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Avoided cost of legacy network at existing edge sites	\$2,422,500	\$5,142,500	\$5,737,500	\$13,302,500	\$10,762,941
Btr	Reduced data transport costs across existing and new sites	\$567,000	\$1,701,000	\$2,835,000	\$5,103,000	\$4,051,217
Ctr	Reduced cost to connect and operate new sites	\$690,228	\$1,551,456	\$1,893,456	\$4,135,140	\$3,332,257
Dtr	Increased efficiency from centralized network management	\$216,000	\$378,000	\$540,000	\$1,134,000	\$914,470
Etr	Additional productivity from reduced network downtime	\$50,400	\$50,400	\$50,400	\$151,200	\$125,337
	Total benefits (risk-adjusted)	\$3,946,128	\$8,823,356	\$11,056,356	\$23,825,840	\$19,186,222

- › **Avoided cost of legacy network at existing edge sites worth \$10.7 million.** On average, the composite organization decommissions 25% of its legacy network appliances with Dell EMC SD-WAN data center and edge appliances as it rolls out Dell EMC SD-WAN solution to its 1,000 total sites. It saves \$50,000 in one-time legacy appliance end-of-lifecycle replacement costs as well as \$7,000 annually in maintenance fees per decommissioned appliance.
- › **Reduced data transport costs across existing and new sites worth over \$4 million.** The composite reduces its reliance on MPLS by 50% at sites where Dell EMC SD-WAN solution is deployed. This saves approximately \$250 per month or \$3,000 annually per deployed site.
- › **Reduced cost to connect and operate new sites worth over \$3.3 million.** When deploying to brand-new edge sites, the composite saves \$50,000 in avoided legacy appliance costs and \$7,692 in professional services implementation costs per site. It also saves \$7,000 in legacy network maintenance fees and \$12,000 in avoided time costs of managing the new network on-site on an annual basis per site.
- › **Increased efficiency from centralized network management worth over \$914,470.** With centralized network management, the composite can shift IT resources from on-site network management to other more strategic initiatives, saving time costs associated with decentralized management of 20% in Year 1, 35% in Year 2, and 50% in Year 3 for a team of 10.
- › **Additional productivity from reduced network downtime worth \$125,337.** On average, the composite avoids four network outages annually, each with a length of 8 hours. On average, 100 employees are affected with each outage, regaining 50% of this lost time in additional productivity.
- › **Unquantified benefits include additional profit from reduced network downtime, increased network visibility, and improved employee satisfaction.** If an edge site is revenue-producing, then any downtime at that site could have a negative effect on revenue. Increased uptime with Dell EMC SD-WAN therefore could result in additional revenues at these sites. Customers also shared that increased network visibility allowed them to hold service providers to account when troubleshooting application bottlenecks, while their edge-site employees were happier thanks to improved network performance.

## Dell EMC SD-WAN Solution Powered By VMware Investment Costs

The composite organization experiences three categories of cost associated with the Dell EMC SD-WAN Solution investment. Over three years, the composite organization expects risk-adjusted total costs to be a PV of \$8 million.

“Dell has materially reduced the number of hops on our networks from 14 to three, resulting in a 20% to 30% reduction in latency.”

*Chief information officer,  
healthcare*



50% of network IT resources redeployed to more strategic initiatives

“We’re seeing a 70% reduction in labor costs to operate our new network thanks to centralized management.”

*Chief information officer,  
healthcare*



“Dell Technologies is definitely part of our team. [Dell representatives] helped with laying down boxes, with SD-WAN enablement in conference rooms, and with dealing with our cloud infrastructure and application providers. They even helped with architecting our network.”

*Chief information officer,  
healthcare*



## Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Ftr	Cost of Dell EMC SD-WAN premium subscription	\$0	\$1,700,500	\$3,380,500	\$3,401,000	\$8,482,000	\$6,894,932
Gtr	Cost of deployment and implementation	\$33,000	\$266,112	\$532,224	\$532,224	\$1,363,560	\$1,114,642
Htr	Cost of ongoing centralized network management	\$0	\$8,580	\$12,870	\$17,160	\$38,610	\$31,329
	Total costs (risk-adjusted)	\$33,000	\$1,975,192	\$3,925,594	\$3,950,384	\$9,884,170	\$8,040,903

- › **Subscription costs.** The composite opts for a Premium-level subscription including a cloud gateway, and it deploys Dell EMC SD-WAN Solution at four data centers, 1,000 existing edge sites, and 50 new edge sites for a three-year risk-adjusted total PV of \$6,894,932.
- › **Deployment and implementation costs.** The organization requires a team of five FTEs working 10 days to complete a network and application analysis and the use of a third-party contractor for 1.5 days at a cost of \$800 per day to implement Dell EMC SD-WAN Solution at each site for a three-year risk-adjusted total PV of \$1,114,642.
- › **Ongoing management costs.** The organization needed two IT professionals working between 1 and 2 hours weekly at \$75 per hour to manage Dell EMC SD-WAN Solution on an ongoing basis for a three-year risk-adjusted total PV of \$31,329.

## A Dell EMC SD-WAN Solution Powered By VMware Investment Today Can Create Future Opportunities

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

- › **Flexibility in times of crisis.** Interviewees said that Dell EMC SD-WAN Solution provided necessary flexibility during the COVID-19 pandemic. The healthcare interviewee said their organization had to accommodate an unprecedented number of patients at sites in New York state during the height of the crisis. The increase in patients required an equal increase in connected hospital equipment and nurse workstations. If not for having implemented Dell EMC SD-WAN Solution, the organization would have had to have sent network engineers to each site for one to two weeks, risking their health and potentially their lives in order to count devices and connect them to the network. Thanks to Dell EMC SD-WAN Solution, the organization was able to accommodate the increase in network load, as well as count and register new devices remotely and in real time. The interviewee described this effort as a “massive scale out” and said, “When unforeseen things like that happen, having a scalable architecture is vital.”
- › **Standardization.** The healthcare interviewee especially found standardization to be one of the largest benefits of the investment. The organization’s decision makers expected to experience continued time savings and deployment cost benefits from having a standardized, software-defined network architecture.

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 so.

“Dell Technologies’ solution has proven critical given the recent outbreak of COVID-19. We were able to massively scale out our architecture at New York hospital sites to accommodate new patients while sparing the lives and health of our network engineers who could manage these networks remotely.”

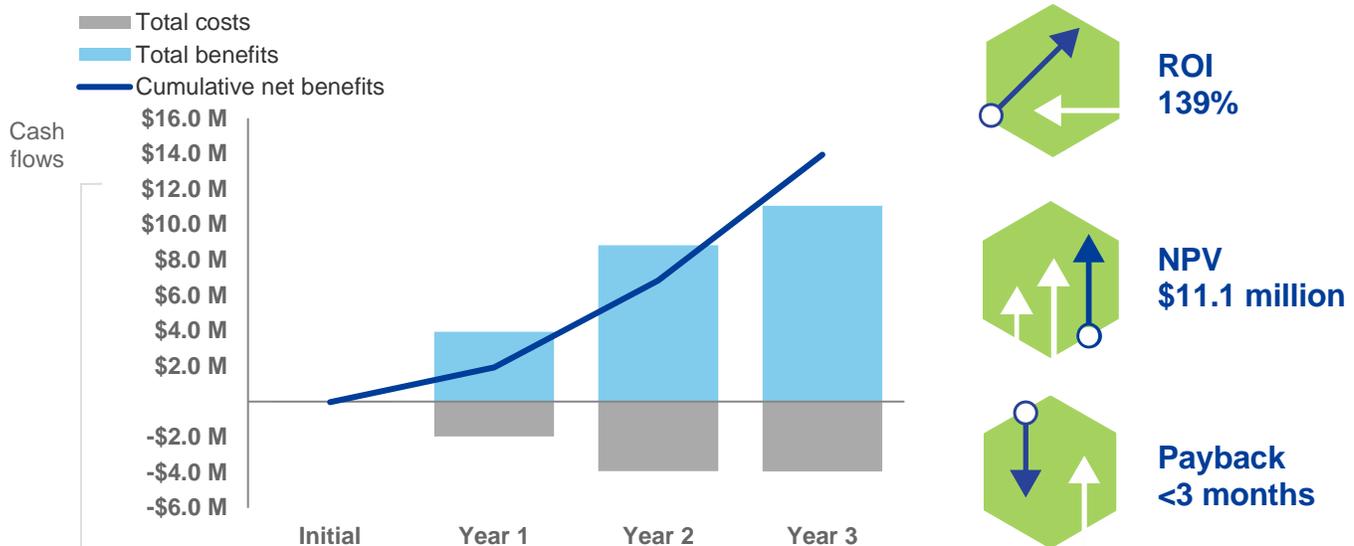
Chief information officer,  
healthcare



- › **Internet of things (IoT).** The healthcare interviewee said their organization also experienced flexibility benefits from Dell EMC SD-WAN Solution's ability to scale dynamically as on-network connected devices grew.

## Financial Summary

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 in Dell EMC SD-WAN Solution. Forrester assumes a yearly discount rate of 10% for this analysis.



For more information, you can download the full Dell EMC SD-WAN Solution Powered By VMware TEI analysis [here](#).

## Disclosures

The reader should be aware of the following:

- › The study is commissioned by Dell Technologies and delivered by Forrester Consulting. It is not meant to be 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 Dell EMC SD-WAN Solution.
- › Dell Technologies reviewed and provided feedback to Forrester. 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.
- › Dell Technologies provided the customer name(s) for the interview(s) but did not participate in the interview(s).

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### ABOUT TEI

Total Economic Impact™ (TEI) 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. The TEI methodology consists of four components to evaluate investment value: benefits, costs, risks, and flexibility. <https://go.forrester.com/consulting/content-marketing-consulting/>

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