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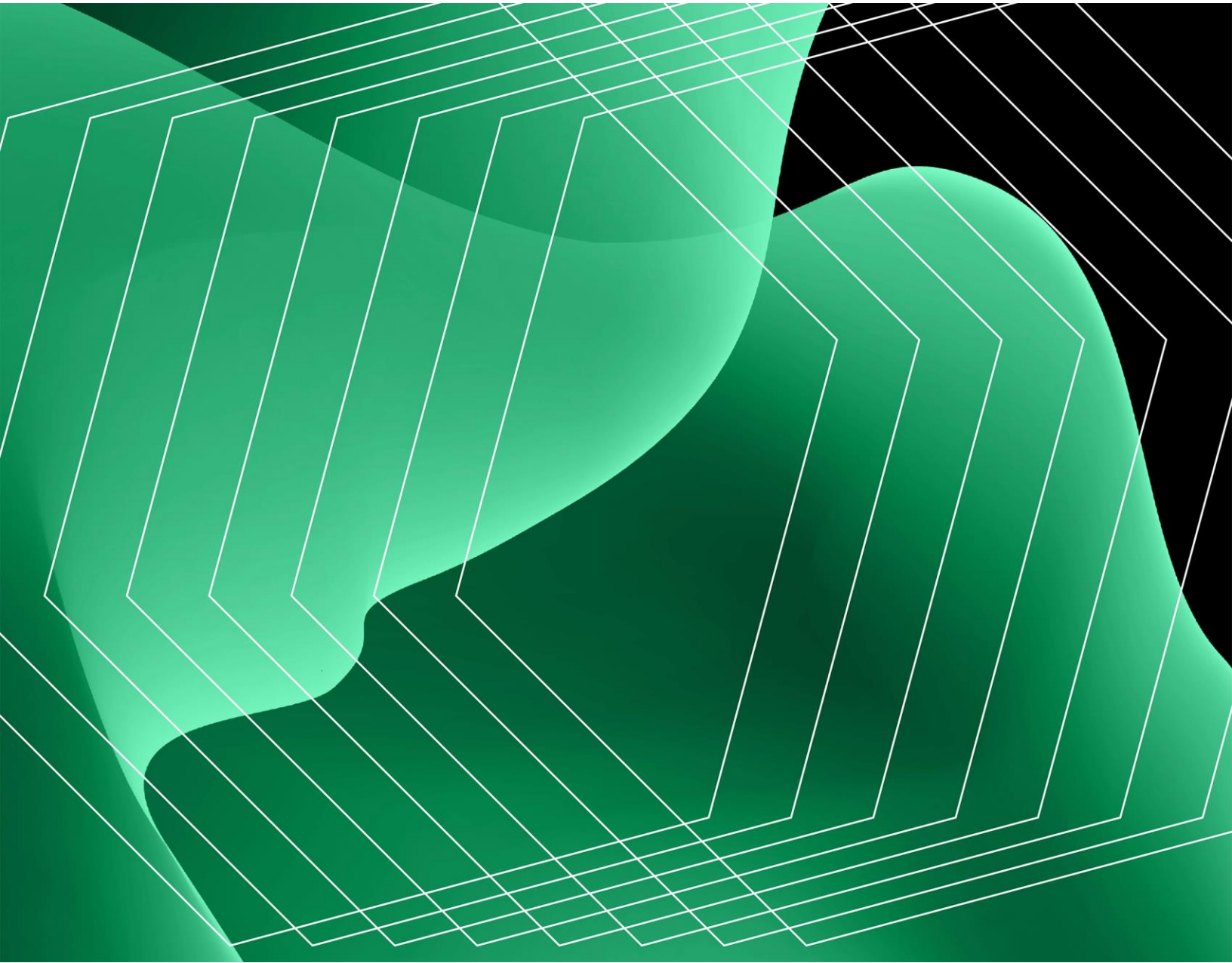
The Total Economic Impact™ Of Juniper Mist Wired And Wireless Access

Cost Savings And Business Benefits Enabled By Juniper Mist In Campus And Branch Networks

A Forrester Total Economic Impact™ Study
Commissioned By Juniper, January 2025



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ABOUT FORRESTER CONSULTING

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

Executive Summary

IT leaders are challenged to deliver next-generation network ecosystems for mobile and hybrid work environments while optimizing operational efficiency and security and using artificial intelligence (AI)-driven capabilities for enhanced productivity. Juniper Mist addresses the myriad challenges of managing corporate campus and branch networks through its cloud-managed platform and AI-driven capabilities embedded in Marvis Virtual Network Assistant (Marvis VNA). Juniper Mist helps modern organizations reduce unplanned downtime, which can enable faster troubleshooting; enhance end-user productivity; and make wired, wireless, and WAN infrastructure easy to deploy and manage.[1]

Managing corporate networks presents many challenges that can have a significant impact on an organization's productivity, operational efficiency and security. Delivering strong and high-reliability radio signal performance is critical, especially in environments like hospitals or industries with high-volume transactions (e.g., financial services) where downtime can affect critical operations. As organizations expand operations, the scalability and flexibility of the network — and the network management platform — are also critical considerations. Finally, no technology platform is complete without a layer of AI sitting atop a cloud-based platform for automation and enhanced productivity.[2]

The Juniper Mist Wired And Wireless Access platform addresses the myriad challenges of managing corporate networks through its cloud-managed platform and AI-native capabilities. By simplifying deployment, enhancing stability, improving troubleshooting, ensuring scalability, bolstering security, and optimizing user experience, Juniper Mist provides a comprehensive solution that meets the evolving needs of modern organizations across campuses and branches. Within local area networks (LAN), the Juniper solution includes wireless access points and switches, along with various cloud-hosted services that leverage Marvis AI for key operational tasks, such as service-level assurance, event correlation, root-cause identification, predictive analytics, anomaly detection, and self-driving network operations. One of the key services is Marvis VNA, an AI-native conversational assistant that provides proactive insights and actions for seamless monitoring, troubleshooting, and proactive next-generation support.

Juniper commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Juniper Mist in wired and wireless campus settings.[3] The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Juniper Mist on their organizations.

Return on investment (ROI)
110%

Payback
13 months

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed five representatives from four organizations with experience using Juniper Mist. For the purposes of this study, Forrester aggregated the interviewees' experiences and combined the results into a single composite organization that is a global B2B organization with $1 billion in annual revenue and 5,000 employees in 50 global locations.

> "With Juniper, our troubleshooting processes have significantly improved. Issues that previously took over an hour to resolve can now be addressed within minutes. The AI capabilities of Marvis have been invaluable in identifying problems beyond human detection."
>
> MANAGER OF INFRASTRUCTURE, MHB

Prior to investing in the Juniper Mist solution, the interviewees' organizations were facing significant challenges with their existing network infrastructures. Their previous environments based on legacy, on-premises wireless controllers were plagued by frequent downtime, were complex to deploy and configure, had limited troubleshooting

capabilities, and had high total costs of ownership. The systems lacked the agility and resiliency necessary to successfully operate across a modern network landscape. The on-premises nature of the legacy infrastructures meant they were cumbersome to use and required IT technicians to make field trips when there were problems or upgrades to install.

After the investment in Juniper Mist, the interviewees' organizations drastically enhanced their network stability and performance issues, improved visibility across their networks, and were able to leverage AI-based troubleshooting capabilities. This enabled them to proactively avert unplanned downtime and network issues and enhance end-user productivity. Interviewees said the Mist platform, including the Juniper switches and access points, was easier to deploy and configure than other solutions. They also said that with Marvis VNA, their organizations' NetOps and IT ops professionals became more efficient in resolving network issues and they leverage saved time to focus on more strategic initiatives.

Net reduction in unplanned downtime with Juniper Mist with Marvis VNA by Year 3

95%

KEY FINDINGS

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

- **Avoided revenue loss from unplanned downtime.** The Juniper Mist platform, in conjunction with the management of Juniper's switches and APs, reduces the composite's unplanned downtime by 95% by Year 3. Assisted by Marvis VNA, the Juniper Mist network management on the cloud enables the composite organization to quickly identify and remotely recover from unplanned network

disruptions. By retaining 0.4% of its revenue in Year 1, 0.5% in Year 2, and 0.5 % in Year 3, the composite organization manages to recoup a three-year profit of nearly $978,000.

- **Time to resolve viable network IT tickets reduced by 60% by Year 3.** Marvis enables the Juniper Mist platform to triage networking IT tickets and eliminate many tickets by automatically providing relevant solutions. The composite organization eliminates or automatically resolves 70% of the tickets by Year 3 compared to the prior state. Additionally, the platform reduces the composite's mean time to resolution (MTTR) for viable tickets by 60% by Year 3, so IT tech support professionals detect and resolve tickets more efficiently. From the efficiency gains, the composite organization saves nearly $324,000 over three years.
- **End users save 22 hours annually by Year 3 from eliminated or automatically resolved network issues.** With Juniper Mist, the composite organization's employees are more productive with the elimination or automatic resolution of nuisance network issues. End users save time by not having to report, wait for, and incorporate fixes for relatively trivial network issues. The three-year value of this benefit for the composite is nearly $237,000.
- **Faster quarterly configuration updates that reduce the required time by 80%.** The composite organization reaps the benefits of increased speed to deployment (which occurs in Year 0) coupled with more efficient and remote configuration updates. In the prior state, the quarterly configuration update of each AP took an average of 3 hours, skewed by the need for technicians to do manual updates in the field. With Juniper Mist's cloud-based platform, this time is reduced by 80% by Year 3. From this efficiency gain, the composite organization saves more than $559,000 over three years.
- **Savings from avoided cost of maintaining legacy network infrastructure worth $682,000.** This benefit quantifies the costs the composite organization would incur to maintain its legacy network infrastructure. In that alternative scenario, it would replace part of the outdated hardware each year so that the network would not fail — basically what needed to be done to maintain the status quo without catastrophic consequences. Including the cost of minimal hardware

and software upgrades each year and the FTE efforts of support, this benefit results in cost savings of more than $682,000 for the composite over three years.

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

- **Enhanced brand reputation.** Uptime and guaranteed uptime are important for most organizations, especially businesses with operations that rely on 24/7 network reliability. Several interviewees noted that a reduction in unplanned downtime enabled their organization to reduce risks to its brand reputation.
- **Mission-critical and lifesaving benefits.** Given the nature of the interviewees' organizations — especially one that is a prominent healthcare services provider — it should not be surprising that the risk profile and mission-critical aspect of the network rise to a different level when patients' lives may be at stake. While it is challenging to quantify the value of lives saved, the benefit is immeasurable.
- **Reduction in carbon footprint.** Interviewees consistently stated that, in terms of making configuration updates or troubleshooting for networking issues, the Juniper Mist platform on the cloud eliminated or greatly reduced the need for truck rolls to remote sites. While there are quantitative measures for evaluating the carbon impact from reduced truck rolls, the interviews did not yield sufficient data to triangulate on a carbon reduction value and the consequent impact on an organization's bottom line.
- **Proactive network management.** With the Juniper Mist solution's operations infrastructure, network engineers became more proactive when identifying issues. And with Marvis VNA, the organizations could transition from reactive troubleshooting to proactive remediation by automatically resolving issues and recommending actions for issues that may have otherwise taken days to notice.

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

- **Juniper solution costs and ongoing maintenance costs.** The composite's new hardware and supporting software licensing costs are based on configuring 50 locations with 60 switches and 500 access points in Year 0 and annual subscriptions for Wired and Wireless Assurance (Juniper Mist management subscriptions) with Marvis VNA in years 1 through 3. Additionally, at full deployment, the composite organization requires two NetOps/IT ops

professionals who spend 20% of their time providing ongoing support. This totals just under $1.3 million over three years.

- **Juniper deployment and training costs.** The composite organization deploys the Juniper network (e.g., switches, APs, and configuration with the Juniper Mist platform) in Year 0, which is much more efficient compared to what it experienced while installing its legacy campus LAN. For the full deployment of the Juniper network, the composite organization utilizes two NetOps/IT ops professionals who collectively spend 1,000 FTE hours for the deployment. Juniper also provides professional services to support deployment. Additionally, there are some training costs for the network support professionals. Over three years the composite organization spends just under $63,000 for these front-end-loaded expenses.

The representative interviews and financial analysis found that a composite organization experiences benefits of $2.78 million over three years versus costs of $1.33 million, adding up to a net present value (NPV) of $1.45 million and an ROI of 110%.

Net reduction in time to resolve viable tickets with Juniper Mist by Year 3

60%

Return on investment (ROI)

110%

Benefits PV

$2.78M

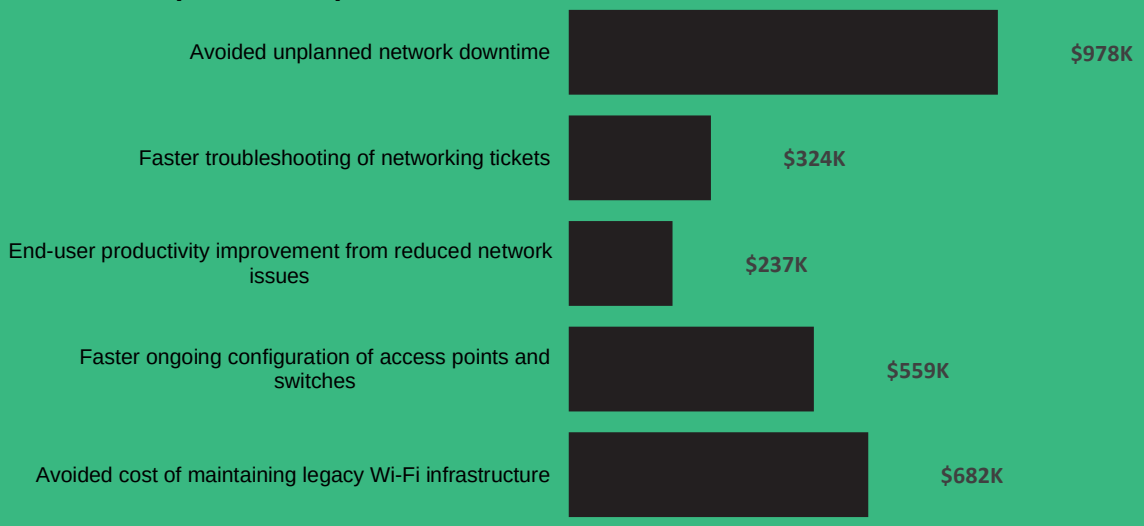
Net present value (NPV)

$1.45M

Payback

13 months

Benefits (Three-Year)



“I have asked the CFO, ‘How has your wireless experience been?’ And they said, ‘Well, it’s been great. I haven’t had any problems.’ For me, that’s your first indicator. Was it worth it for us to make this change? Now, I’m able to tell them your wireless experience is so much better than it was and at less than half the cost.”

NETWORK TECHNICIAN, CHILDREN’S HOSPITAL

TEI FRAMEWORK AND METHODOLOGY

From the information provided in the interviews, Forrester constructed a Total Economic Impact™ framework for those organizations considering an investment in Juniper Mist Wired And Wireless Access.

The objective of the 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 Juniper Mist Wired And Wireless Access can have on an organization.

Due Diligence
Interviewed Juniper stakeholders and Forrester analysts to gather data relative to Mist Wired And Wireless Access.

Interviews
Interviewed five representatives at four organizations using Juniper Mist Wired And Wireless Access to obtain data about costs, benefits, and risks.

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

Financial Model Framework
Constructed a financial model representative of the interviews using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewees.

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

The Juniper Mist Wired And Wireless Access Customer Journey

Drivers leading to the Juniper Mist Wired And Wireless Access investment

Interviews

Role	Company	Region	Revenue	Employees	Juniper Deployment
Infrastructure services leader Network services leader	ServiceNow	HQ: NA Operations: >60 global locations	>$9 billion	>23,000	30 locations 2,500 APs, EX Switches, Wired/Wi-Fi Assurance/Marvis VNA
Network technician	Children's hospital (name undisclosed)	HQ: NA Operations: >28 regional locations	>$2 billion	>6,000	>25 locations 900 APs, EX Switches, Wired/Wi-Fi Assurance/Marvis VNA
CIO	University of Reading	HQ: EMEA Operations: 4 EMEA campuses	>$400 million	>4,500	3 locations 1,875 APs, EX Switches, Wired/Wi-Fi Assurance/Marvis VNA
Manager of infrastructure	Malaysia Marine and Heavy Engineering Holdings Berhad (MHB)	HQ: APAC Operations: >4 global locations	>$700 million	>4,000	All locations 200 APs, EX Switches, Wired/Wi-Fi Assurance/Marvis VNA

KEY CHALLENGES

Forrester interviewed five decision-makers who oversee network infrastructure deployment and usage at four organizations. Each interviewee held a senior role in IT and/or network management and was actively involved in broader efforts to standardize on Juniper Mist with the accompanying hardware infrastructure.

Prior to investing in the Juniper Mist solution, the interviewees' organizations faced significant challenges with their existing network infrastructure. Based on legacy, on-premises wireless controllers, their previous environments were plagued by frequent

downtime, were complex to manage, and had high total costs of ownership. None of the interviewees' organizations had leveraged the cloud for wireless network operations in its prior state. As a result, their systems lacked the agility and resiliency necessary to successfully operate across a modern network landscape. The on-premises nature of their legacy infrastructures made them cumbersome to use and required IT technicians to make field trips when there were problems or upgrades to install.

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

- **Complex deployment and configuration.** Interviewees said it was complex, expensive, and frustrating for network engineers to deploy their organizations' legacy solutions. Prior Wi-Fi systems often required extensive manual configuration and deployment, which was time-consuming and prone to errors. Furthermore, the deployment processes needed to be manually repeated at each of the organizations' locations. Getting the network environment up and running was a very time-intensive process for network engineers.
- **Performance issues and network stability.** The interviewees' organizations had previously implemented many different solutions for blended wired and wireless networking. This created disjointed views of the overall networks and hampered the organizations' abilities to identify issues, which could go unidentified for weeks before they were reported to IT. Traditional systems suffered from frequent outages and performance issues due to outdated firmware or complex upgrade processes. Traditional systems also struggled with load balancing and ensuring consistent connectivity, which impacted productivity for the entire organization.
- **Lack of visibility and limited troubleshooting capabilities.** Without having access to the correct data at the correct time, IT teams were forced to be reactive. They could only troubleshoot an issue once it was brought to their attention and after they pinpointed the source of the issue. Legacy networks often required manual intervention to diagnose and resolve issues, including truck rolls into remote locations. Additionally, each legacy network solution had its own rules and commands to follow, which further delayed issue resolution.

- **Poor end-user experiences.** Providing a seamless user experience is essential, especially in environments with high user density and diverse device types (e.g., laptops, tablets, cell phones, etc.). Prior to implementing the Juniper Mist solution, the interviewees' organizations repeatedly experienced network disruptions. The inability to rapidly detect network issues disrupted end-user productivity and negatively impacted their network experiences. This is especially critical for organizations that rely on wireless performance for operations (e.g., manufacturing organizations).

> "We needed to transform our network based on simplicity, scalability, and Zero Trust. With a partner like Juniper, we converged on a solution that embodied these principles."
>
> INFRASTRUCTURE SERVICES LEADER, SERVICENOW

SOLUTION REQUIREMENTS

The interviewees' organizations each searched for a next-generation, cloud-based wireless infrastructure solution that is reliable, cost-effective, easy to manage, and enables organizational growth. They searched for a solution that could:

- Provide a modern and holistic system for the organization's network architecture and management.
- Enable rapid deployment and configuration through automated processes and templates.
- Increase visibility, AI-driven insights, and analytics into networking issues to improve troubleshooting and faster resolution of unplanned downtime.

- Automatically detect and resolve common issues to reduce the need for manual intervention.
- Enhance network stability with features like microcode upgrades and proactive optimization through AI-driven insights.
- Improve network predictability and reliability.
- Reduce the total cost of ownership and increase the ease of operations.
- Improve user experience and eliminate disruptions to user productivity.

> "The radio performance was better. Plus, the ease of deployment, management, and maintenance [was better]. Some of the features, such as the quick reboot times or microcode upgrades, were also huge benefits. And our total cost of ownership … was the number one driving factor."
>
> NETWORK TECHNICIAN, CHILDREN'S HOSPITAL

> "The PoV (proof of value) demonstrated the power of an AI-driven, unified stack solution that not only simplified management, but that also provided essential end-to-end visibility."
>
> NETWORK SERVICES LEADER, SERVICENOW

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 five interviewees, and it is used to present the aggregate financial analysis in the next section. The composite organization has the following characteristics:

Description of composite. The composite is a global B2B organization with $1 billion in annual revenue. It employs 5,000 people located in 50 global sites (including some data centers).. The composite's internal and customer-facing operations are highly reliant on technology and the flow of significant data across its networks.

Prior state. The composite organization had a legacy Wi-Fi network with switches and access points (APs) that are outdated or being retired. The legacy solution for Wi-Fi management was on-premises and not cloud-based. In the prior state, the composite organization's 50 global locations were outfitted with significantly more than 100 switches and 500 APs. The composite organization needed to invest in and build out a network environment that enhances end-user experience and simplifies network operations for NetOps and IT staff.

Deployment characteristics. The composite organization seeks to deploy a Wi-Fi-first, carpeted workspace network infrastructure with a cloud-based network management platform. To that end, after an initial PoC period, the composite replaces its existing campus network hardware and software with Juniper switches and APs managed via the Juniper Mist Cloud. Specifically, the organization uses Juniper EX4100 series switches and Juniper AP34 series access points while leveraging the following Juniper cloud services: Wi-Fi Assurance, Wired Assurance, and Marvis VNA. In Year 0, the composite fully deploys the solution across all 50 of its locations with 60 switches and 500 APs. This configuration is based on working with Juniper sales and support and based on the composite's networking needs.

Key modeling assumptions. To quantify the economic and productivity benefits that the composite organization derives from the deployment of Juniper Mist, Forrester uses the following set of assumptions in the financial model:

- Forrester only considers a site or location to be relevant if there are more than 50 employees at the location.

- Because the composite fully deploys Juniper Mist to all locations in Year 0, the benefits of the overall solution begin to accrue in Year 1.
- In terms of the effective value gained from the Juniper Mist platform, the composite derives 80% of the effective value in Year 1, 90% in Year 2, and 100% in Year 3 and onward. Forrester assumes this is due to ongoing learnings from using a newer technological solution.

Key Assumptions

$1 billion in annual revenue

5,000 employees globally

50 locations (each with >50 employees)

Deployment of 60 switches in Year 0

Deployment of 500 APs in Year 0

Analysis Of Benefits

Quantified benefit data as applied to the composite

Total Benefits						
Ref.	**Benefit**	**Year 1**	**Year 2**	**Year 3**	**Total**	**Present Value**
Atr	Avoided unplanned network downtime	$351,302	$397,526	$439,128	$1,187,957	$977,823
Btr	Faster troubleshooting of networking tickets	$121,824	$131,058	$138,996	$391,878	$323,491
Ctr	End-user productivity improvement from reduced network issues	$85,176	$95,823	$106,470	$287,469	$236,618
Dtr	Faster ongoing configuration of access points and switches	$201,278	$226,437	$251,597	$679,312	$559,146
Etr	Avoided cost of maintaining legacy Wi-Fi infrastructure	$274,320	$274,320	$274,320	$822,960	$682,193
	Total benefits (risk-adjusted)	$1,033,900	$1,125,165	$1,210,511	$3,369,576	$2,779,271

AVOIDED UNPLANNED NETWORK DOWNTIME

Evidence and data. Interviewees said Juniper Mist in conjunction with Juniper's switches and APs reduced their organizations' planned and unplanned downtimes. Planned downtime deals with installation and configuration updates, which the interviewees' organizations usually performed over weekends or overnight. In their prior states, the organizations regularly experienced extended unplanned downtimes due to Wi-Fi network failure. When the failure was attributed to hardware that was remotely located, the legacy on-premises wireless solution could not reboot the access point remotely, and it would require a field visit. With Juniper Mist on the cloud, interviewees said their organizations could remotely perform simple hardware resets, resulting in less overall unplanned downtime. For organizations that rely on 24/7 operations (e.g., hospitals) or have peak usage periods (e.g., college campuses), unplanned downtime can be particularly debilitating.

- The network technician for a children's hospital relayed their organization's challenges: "With [our previous vendor], we went through three or four emergency code upgrades during business hours. I remember coming in one

morning and wireless networks were just unavailable. They weren't working in the entire organization. For about 6 hours, we had no wireless. We had to do an emergency code upgrade, and it was a painful process."

- The manager of infrastructure for MHB stated: "Maintaining uninterrupted network connectivity is critical for our operations. With Juniper's solution, we have enhanced reliability, ensuring that our teams can consistently follow business processes and deliver results to our clients onsite."
- The CIO for the University of Reading stated: "There's obviously a huge impact if we don't have Wi-Fi. If we lose access to the library or during exams, that's a problem. There's a time of year when we do a lot of recruitment with a lot of students involved. If we lost Wi-Fi, the income we could lose is huge."

> "Previously, outages experienced higher mean time to repair due to the complexities of a multivendor setup and the absence of comprehensive telemetry. It has now been one year since we transitioned to the new Juniper solution. As a result of operating on a unified stack with an AI overlay, we have significantly reduced downtime, and our troubleshooting time has decreased from hours to mere minutes."
>
> **NETWORK SERVICES LEADER, SERVICENOW**

Modeling and assumptions. This benefit is focused on the revenue the composite retains by reducing overall unplanned downtime specifically related to the failure of the Wi-Fi network (not any other unrelated technology failure). For the composite organization, Forrester assumes the following:

- In the prior state, the composite organization experienced 60 hours of unplanned downtime per year due to Wi-Fi network issues.

- With Juniper Mist and networking hardware, the composite reduces its unplanned downtime by 95%. The net reduction (row A3) is based on the effectiveness of the Juniper Mist solution by year, resulting in 76% unplanned downtime reduction in Year 1, 86% reduction in Year 2, and the full 95% reduction by Year 3.
- Based on 3,120 hours of annual operations (52 weeks times five business days times 12 hours per day), the composite organization generates $321,000 in revenue per hour. Given that these outages are usually regional in nature, Forrester conservatively models the lost revenue of downtime for a particular geographic region to be $96,300 (spread over three regions).
- To determine the net business impact for the composite, the revenue benefit is converted into operating profit. Forrester assumes that the operating margin for the composite's industry is 10%.
- With the usage of Juniper Mist, the composite organization retains more than 0.4% of its revenue in Year 1, nearly 0.5% of its revenue in Year 2, and more than 0.5% of its revenue by Year 3.

Risks. Forrester recognizes these results may not be representative of all experiences and that the profit gains will vary among organizations depending on the following factors:

- The amount of unplanned downtime each year in the prior state will depend on the type of legacy Wi-Fi networking solution and the relative sophistication of the NetOps team.
- The hourly cost of downtime will depend on the revenue, product, and customer profile of the organization, including hours of business operations.

Results. To account for these risks, Forrester adjusted this benefit downward by 20%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of nearly $978,000.

Net reduction in unplanned downtime with the Juniper Mist Wired And Wireless solution by Year 3

95%

"I can't even remember the last time we had an outage on the Wi-Fi. We've gone from 99.9% uptime to 99.99%."

CIO, UNIVERSITY OF READING

Avoided Unplanned Network Downtime

Ref.	Metric	Source	Year 1	Year 2	Year 3
A1	Unplanned network downtime per year (hours)	Interviews	60	60	60
A2	Lost revenue per hour of downtime for impacted region	Composite	$96,300	$96,300	$96,300
A3	Net downtime reduction with Juniper Mist	Interviews	76%	86%	95%
A4	Operating margin	Composite	10%	10%	10%
At	Avoided unplanned network downtime	A1*A2*A3*A4	$439,128	$496,908	$548,910
	Risk adjustment	↓20%			
Atr	Avoided unplanned network downtime (risk-adjusted)		$351,302	$397,526	$439,128
	Three-year total: $1,187,957			**Three-year present value: $977,823**	

FASTER TROUBLESHOOTING OF NETWORKING TICKETS

Evidence and data. Interviewees noted that the Juniper Mist platform with Marvis VNA offered the ability to triage networking IT tickets and, more importantly, to automatically resolve many tickets by providing relevant solutions. This freed up IT resources to focus on issues that required manual intervention. Additionally, the network visibility and remediation capabilities of the Juniper Mist platform (also enabled by Marvis VNA) allowed interviewees' organizations to more efficiently resolve network-related tickets that needed further expertise to resolve. Even in the case of individual tickets that were not tied to regional unplanned downtime, the holistic view and cloud-based aspects of the Juniper Mist platform greatly reduced the number of field trips to resolve simpler hardware issues like rebooting or reconfiguration of drivers/software.

- The network services leader for ServiceNow noted: "Marvis acts like a digital team member, proactively monitoring and taking necessary remediation actions. In scenarios in which Marvis is unable to take remediation actions, the telemetry from the Mist AI platform simplifies and accelerates our troubleshooting, reducing incidents and ticket volume."
- The manager of infrastructure for MHB outlined: "Previously, resolving certain connectivity issues required significant time and effort, including onsite visits. Juniper has streamlined these processes, saving us time and improving response efficiency."
- The CIO for the University of Reading stated: "The number of support tickets we get at the start of term has significantly reduced. The system and the AI itself can sort out some of the connectivity issues that students have. ... We'd get over a thousand calls in the first month of the term, and now we're down to about 300 to 400. The system and AI are able to sort out a lot of those connectivity issues."
- The network technician for the children's hospital explained: "We would probably average six to 10 trouble tickets throughout the organization per month before Juniper. Now, we likely see one to two per month, and the vast majority of those are honestly people who don't understand the difference between cellular and Wi-Fi. ... Before Juniper, I would say, on average, [it required] probably 5 hours for a wireless ticket for investigation, discovery, [and] site survey, and to provide a satisfactory report. With Juniper, I would say [for] the vast majority of our tickets

that come in, we're able to dispatch and provide that same level of information and resolution to the end users within about 30 minutes."

> "The resolution time has significantly improved. [It's] now 50% to 70% faster compared to what it used to be before the network transformation."
>
> NETWORK SERVICES LEADER, SERVICENOW

Modeling and assumptions. This benefit is focused on how the composite's IT support team improves productivity due to reduced network related tickets and a reduction in MTTR for tickets that require further investigation. For the composite organization, Forrester assumes the following:

- In the prior state, the composite organization encountered 50 network-related IT tickets per week (2,600 per year). Forrester assumes that a good number of these tickets are simple user error and somewhat nuisance tickets.
- It previously took the composite an average of 1.5 hours to resolve each ticket in the prior state. This average is influenced by the time taken to resolve tickets that require a field visit.
- With proactive and behavior-based evaluation, Juniper Mist with Marvis VNA reduces the number of tickets that require further investigation by 70% for the composite. The net reduction in the number of tickets automatically resolved through Juniper Mist and Marvis VNA (row B3) is based on the effectiveness of the Juniper Mist solution by year: There's a 56% reduction in Year 1, a 63% reduction in Year 2, and a 70% reduction by Year 3.
- Row B4 reflects the amount of time the composite's IT tech support team saves due to the elimination or automatic resolution of simple tickets by Marvis VNA.

- The gross reduction in MTTR for resolution or remediation of tickets that require further investigation is 60%. The net MTTR reduction (row B6) is based on the effectiveness ramp of the Juniper Mist platform.
- The reduction in time for the resolution of IT tickets is 824 hours in Year 1, 779 hours in Year 2, and 702 hours in Year 3 (row B7).
- The fully burdened hourly salary for an IT tech support FTE is $45. This is based on an average annual salary of $70,000 with a 35% loading for benefits, etc.
- Forrester does not apply a productivity adjustment factor for FTEs focused on tickets and problem resolution activities.

Risks. Forrester recognizes that these results may not be representative of all experiences and that the profit gains will vary among organizations depending on the following factors.

- The number of network related IT tickets per week (and year) in the prior state will vary by the type of organization and the complexity of the organization's network.
- The time required to investigate and remediate valid network related IT tickets in the prior state will depend on the relative sophistication of the legacy Wi-Fi network management platform and the physical expanse of the network.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of nearly $324,000.

Net reduction in tickets automatically resolved by Juniper Mist by Year 3

70%

Net reduction in time to resolve viable tickets with Juniper Mist and Marvis VNA by Year 3

60%

"Previously, I would say [it took] probably 1 to 3 hours per ticket to resolve. With Juniper Mist, the AI has done a lot of the troubleshooting already, so it reduces the time by a third or half."

CIO, UNIVERSITY OF READING

Faster Troubleshooting Of Networking Tickets					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
B1	Network-related tickets before Juniper Mist	Composite	2,600	2,600	2,600
B2	Time required to solve each ticket before Juniper Mist (hours)	Interviews	1.5	1.5	1.5
B3	Net reduction in tickets automatically resolved by Marvis VNA	Interviews	56%	63%	70%
B4	**Subtotal: Reduction in time due to avoided network-related IT tickets (hours)**	**B1*B2*B3**	**2,184**	**2,457**	**2,730**
B5	Network-related tickets to be resolved after auto-resolution	B1*(1-B3)	1,144	962	780
B6	Net reduction in MTTR tickets with Juniper Mist	Interviews	48%	54%	60%
B7	**Subtotal: Reduction in time due to faster resolution of IT tickets remaining (hours)**	**B5*B2*B6**	**824**	**779**	**702**
B8	Total time savings for impacted tech support team (hours)	B4+B7	3,008	3,236	3,432
B9	Fully burdened hourly salary for a tech support FTE	TEI Standard	$45	$45	$45
Bt	Faster troubleshooting of networking tickets	B8*B9	$135,360	$145,620	$154,440
	Risk adjustment	↓10%			
Btr	Faster troubleshooting of networking tickets (risk-adjusted)		$121,824	$131,058	$138,996
	Three-year total: $391,878			**Three-year present value: $323,491**	

END-USER PRODUCTIVITY IMPROVEMENT FROM REDUCED NETWORK ISSUES

Evidence and data. Interviewees said the Juniper Mist platform improved employee productivity by reducing network issues and faster resolution of issues when compared to their organizations' prior networks. Previously, IT teams had no visibility into network issues, and they only became aware of them when an employee would submit a ticket. With the Juniper Mist solution, data is ingested from numerous sources (including access points, switches, and firewalls), which provides end-to-end insight into network health. Network engineers gained the ability to proactively detect faults for which they previously had no visibility, and they could proactively resolve network issues before they affected end users. Additionally, Marvis VNA offers the ability to automatically resolve many tickets by providing relevant solutions. Interviewees said this not only frees up IT resources, but that it also saves time for end users who no longer have to report, wait for, and incorporate fixes for relatively trivial issues.

- The network technician for the children's hospital stated: "The wireless environment is far more stable and performing better than it ever has. That is a great benefit for our medical staff."
- The CIO for the University of Reading noted: "We're in the cloud. There's no on-premises to worry about. The architecture is much more resilient than it used to be, which means a much better user experience for our students."

Modeling and assumptions. This benefit quantifies the productivity improvement for the broader end-user (employee) community that no longer must expend time and energy on network-related tickets that are automatically identified by Marvis VNA. For the composite organization, Forrester assumes the following:

- The number of tickets that are automatically or expediently identified and resolved with the help of Marvis VNA is the difference between row B1 and row B5.
- In the prior state, end users spent an average of 30 minutes dealing with reporting, waiting for, and incorporating fixes related to these tickets.
- Five end users are impacted by a given IT ticket.
- The average fully burdened hourly rate for an end user or business user is $52 (rounded).
- Forrester applied a productivity adjustment factor for the composite organization that represents the percentage of productivity savings realized. For example, 1 hour of time savings does not necessarily translate into 1 hour of productive work. For these productivity-based cost savings, the composite organization's end users productively utilize 50% of their time savings.
- Each of the composite's end users ends up saving an average of 17 minutes in Year 1, 20 minutes in Year 2, and 22 minutes by Year 3. It is important to note that this benefit does not quantify the time savings for end users whose tickets need to be further investigated (row B5) and are resolved faster with the Juniper Mist platform.

Risks. Forrester recognizes that these results may not be representative of all experiences and that end-user productivity gains will vary among organizations depending on the following factors:

- The number of network-related IT tickets per week and year in the prior state will vary by the type of organization and the complexity of the organization's network.
- The time end users spent dealing with the logistics and resolution of relatively simple tickets in the prior state will depend on the relative efficiency of the organization's tech support team.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of under $237,000.

End-User Productivity Improvement From Reduced Network Issues					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
C1	Tickets automatically avoided with Juniper Mist	B1-B5	1,456	1,638	1,820
C2	Time disruption for end users dealing with auto-resolved tickets (hours)	Interviews	0.5	0.5	0.5
C3	Users impacted per issue	Composite	5	5	5
C4	Fully burdened hourly salary for a business user	TEI Standard	$52	$52	$52
C5	Productivity adjustment factor	TEI Standard	50%	50%	50%
Ct	End-user productivity improvement from reduced network issues	C1*C2*C3*C4*C5	$94,640	$106,470	$118,300
	Risk adjustment	↓10%			
Ctr	End-user productivity improvement from reduced network issues (risk-adjusted)		$85,176	$95,823	$106,470
	Three-year total: $287,469		**Three-year present value: $236,618**		

FASTER ONGOING CONFIGURATION OF ACCESS POINTS AND SWITCHES

Evidence and data. Interviewees noted two important benefits of moving to a cloud-based platform for their organization's campus: more efficient initial deployment and ongoing configuration. They said legacy, on-premises network management solutions required more manual effort during initial deployment. Even software or firmware updates for switches and access points required technicians to physically travel to where the hardware was located and sometimes swap it out. Each interviewee emphasized that the Juniper Mist solution increased speed to deployment, coupled with

remote configuration updates, while delivering maximum scalability and performance for their organizations.

- The manager of infrastructure for MHB described the impact on business operations: “Configuration updates, which previously took hours, can now be completed within minutes. Juniper's tools have allowed us to perform updates seamlessly, reducing downtime and eliminating the need for after-hours work.”
- The network services leader for ServiceNow noted: “Network deployment and configuration standardization improved significantly with the use of templates. What used to be mostly manual is now automated and almost zero touch.”
- The CIO for the University of Reading stated: “Once you’ve done a configuration of an access point, you just go to your next access point, [and] plug it in. It picks up the prior configuration, and off you go.”

Modeling and assumptions. Because the composite organization fully deploys the Juniper switches and APs in Year 0, the quantification of faster deployment time cannot be captured in this benefit. It is, however, captured as a negative expense in Year 0 under initial costs (cost G). This benefit quantifies how the composite organization can do quarterly configuration updates faster than before, saving time for NetOps and IT ops professionals. For the composite organization, Forrester assumes the following:

- End users do not save time for these quarterly updates because the prior state and current state updates are done over the weekend or outside of working hours.
- All 500 APs and 60 switches (row D1) need to be updated with software upgrades on a quarterly basis (row D2).
- It previously took an average of 3 hours for the composite to configure an AP. This average is influenced by the time taken for configuring hardware in the field.
- With the cloud-based Juniper Mist platform and the ability for remote access, the composite sees an 80% gross reduction in the time required for updates. The net reduction (row D3) is based on the effectiveness of the Juniper Mist solution by year: There’s a 64% reduction in Year 1, a 72% reduction in Year 2, and an 80% reduction by Year 3.

- The fully burdened hourly salary for a NetOps/IT ops professional is $65 (rounded).
- For the productivity-based cost savings, the composite organization's NetOps and IT ops professionals productively utilize 80% of their time savings.

Risks. Efficiency gains from faster configuration of the network infrastructure may vary depending on the following:

- The number of hardware devices (APs and switches) and locations being updated will vary.
- The complexity of the deployment with the organization's legacy network will vary.
- The hourly rate of network and IT engineers will vary.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of more than $559,000.

Net reduction in configuration time using Juniper Mist by Year 3

80%

> "We would preload the code to the access points and then, when the access points would reboot, it would take anywhere from 10 to 20 minutes per access point for that AP to come back online. With Juniper, it's a matter of minutes."
>
> NETWORK TECHNICIAN, CHILDREN'S HOSPITAL

Faster Ongoing Configuration Of Access Points And Switches					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
D1	Juniper hardware devices requiring configuration or updates	Composite	560	560	560
D2	Configuration updates	Composite	4	4	4
D3	Time required for configuration update per access point before Juniper (hours)	Interviews	3.0	3.0	3.0
D4	Percent of net time savings for configuration per access point with Juniper	Interviews	64%	72%	80%
D5	Fully burdened hourly salary for a NetOps/IT ops FTE	TEI Standard	$65	$65	$65
D6	Productivity adjustment factor	TEI Standard	80%	80%	80%
Dt	Faster ongoing configuration of access points and switches	D1*D2*D3*D4*D5* D6	$223,642	$251,597	$279,552
	Risk adjustment	↓10%			
Dtr	Faster ongoing configuration of access points and switches (risk-adjusted)		$201,278	$226,437	$251,597
	Three-year total: $679,312			**Three-year present value: $559,146**	

AVOIDED COST OF MAINTAINING LEGACY WI-FI INFRASTRUCTURE

Evidence and data. Each interviewee acknowledged that their organization was either at the end of multiyear contract with a legacy vendor or had outdated Wi-Fi network equipment. Basically, each was at the point of having to upgrade its legacy network (e.g., hardware switches, APs, and the software platforms that managed everything). While their organizations ended up selecting the Juniper solution (hardware in conjunction with the Juniper Mist software subscriptions), interviewees also noted that the Juniper solution had a more compelling total cost of ownership than other options.

Modeling and assumptions. This benefit quantifies the cost the composite organization incurs to maintain its legacy network infrastructure by replacing part of the outdated hardware each year so that the network would not fail. In other words, it quantifies the cost to maintain the status quo without catastrophic consequences. For the composite organization, Forrester assumes the following:

- In the prior state, the composite deployed 20% more APs to support the network.
- Twenty percent of the existing network of APs need to be upgraded each year (row E1).
- The cost of enterprise-grade access point hardware, related switches, maintenance, and network management software is $2,280 per AP.
- It takes 4 hours of NetOps and/or IT ops time for the deployment of each replacement AP.
- The fully burdened hourly salary for a NetOps/IT ops professional is $65 (rounded).

Risks. Forrester recognizes that these financial model results may not reflect the unique experiences of organizations using Juniper Mist, and this cost savings benefit can be impacted by the following factors:

- The specifics of the legacy infrastructure (e.g., APs, switches, on-premises network management equipment) will vary by company and industry.
- The number of units needing to be replaced annually will vary depending on what type of legacy systems the company has in place.

Results. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of just over $682,000.

Avoided Cost Of Maintaining Legacy Wi-Fi Infrastructure					
Ref.	**Metric**	**Source**	**Year 1**	**Year 2**	**Year 3**
E1	Legacy access points needing upgrade	Composite	120	120	120
E2	Avoided cost of planned hardware, maintenance, and software Wi-Fi network upgrades	Composite	$273,600	$273,600	$273,600
E3	Avoided NetOps/IT ops FTE time needed for deployment of upgrades (hours)	E1*4	480	480	480
E4	Fully burdened hourly salary for a NetOps/IT ops FTE	TEI Standard	$65	$65	$65
Et	Avoided cost of maintaining legacy Wi-Fi infrastructure	E2+(E3*E4)	$304,800	$304,800	$304,800
	Risk adjustment	↓10%			
Etr	Avoided cost of maintaining legacy Wi-Fi infrastructure (risk-adjusted)		$274,320	$274,320	$274,320
	Three-year total: $822,960			**Three-year present value: $682,193**	

UNQUANTIFIED BENEFITS

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

- **Enhanced brand reputation.** Uptime and guaranteed uptime are important for most organizations, especially businesses with operations that rely on 24/7 network reliability. While benefit A quantifies the operational impact of avoided unplanned downtime, interviewees said their organizations also want to mitigate any reputational risk and possible legal exposure. Several noted that a reduction in unplanned downtime enabled their organization to reduce risks to its brand reputation.
- **Mission-critical and lifesaving benefits.** Given the nature of the interviewees' organizations — especially one that is a prominent healthcare services provider — it should not be surprising that the risk profile and mission-critical aspects of the network rise to a different level when patients' lives may be at stake. While caregivers obviously are the frontline providers of patient care, they rely on technology and systems that essentially cannot go down, and it is challenging to quantify the value of lives saved. The network technician at a children's hospital stated: "We live in a 24/7 clinical care, critical care environment. We have emergency services, we have a level 1 trauma center, we've got operating theaters, and we have transplant units. Any downtime is unacceptable."
- **Reduction in carbon footprint.** Interviewees consistently stated that, in terms of configuration updates or troubleshooting for networking issues, the Juniper Mist platform on the cloud eliminated or greatly reduced the need for truck rolling (i.e., sending a technician into the field for hardware located in remote sites). On a related note, the infrastructure services leader at ServiceNow stated: "Our device footprint previously required multiple racks of network equipment, generating significant heat and demanding extensive cooling. Now, in most locations, we've reduced it to just one or two racks, drastically reducing electricity and cooling consumption."

  While there are quantitative measures for evaluating the carbon impact from reduced truck rolls, the interviews did not focus on collecting sufficient data in terms of the relative percentage of upgrades and troubleshooting field trips in the

prior state vs. with Juniper Mist. The use of carbon credits can also have a positive impact on an organization's profitability.

- **Proactive network management.** With the Juniper Mist solution's operations infrastructure, interviewees said network engineers became more proactive when identifying issues. Previously, they could only pin down network issues when they impacted end users, and these users submitted IT tickets. But with Marvis VNA's capabilities, these engineers gained the ability to correlate events for rapid root-cause identification long before it might become problematic. Furthermore, with Marvis VNA, the organizations could transition from reactive troubleshooting to proactive remediation by automatically resolving issues and recommending actions for issues that may have otherwise taken days to notice.

> "For most locations, we had large spaces and resources dedicated for the network infrastructure. Transitioning to a wireless-first strategy and combining that with the Juniper solution has helped us cut our spaces and resources requirement by half, contributing towards our goal of achieving net-zero carbon emissions by 2030."
>
> INFRASTRUCTURE SERVICES LEADER, SERVICENOW

FLEXIBILITY

The value of flexibility is unique to each customer. There are multiple scenarios in which a customer might implement Juniper Mist Wired And Wireless Access and later realize additional uses and business opportunities, including:

- **Leveraging additional AI capabilities.** Based on the quantified benefits, interviewees' organizations are clearly taking advantage of the Marvis VNA capabilities driven by Mist AI. Given the fast-evolving generative AI landscape,

interviewees said they're optimistic about the prospects for additional AI features that might enable new use cases that might further improve the productivity of NetOps and IT ops professionals.

- **Improved security posture.** Some of the interviewees noted that the Juniper Mist platform is more secure and reliable compared to their organization's legacy networking platform. In general, this was in the context of running configuration updates en masse without having security concerns. These interviewees stated that not having to worry about the security posture of their Wi-Fi network infrastructure was very important to them.
- **Reorienting networking resources around more value-added projects.** With new automation capabilities, more efficient network management, and increased understanding of their network landscapes, the interviewees' network and IT teams were able to spend less time on day-to-day operations of network upkeep. Instead, they were able to focus on long-term strategic technology initiatives.

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

> "Before Juniper, we were updating quarterly. With Juniper, we're getting push updates. We're frequently getting notifications and recommendations from Mist, especially on the security updates."
>
> MANAGER OF INFRASTRUCTURE, MHB

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**
Ftr	Ongoing costs: Juniper solution costs and ongoing maintenance	$813,199	$180,779	$180,779	$180,779	$1,355,534	$1,262,768
Gtr	Initial costs: Juniper deployment internal, external, and training costs	$56,126	$2,730	$2,730	$2,730	$64,316	$62,915
	Total costs (risk-adjusted)	$869,324	$183,509	$183,509	$183,509	$1,419,850	$1,325,683

ONGOING COSTS: JUNIPER SOLUTION COSTS AND ONGOING MAINTENANCE

Evidence and data. Interviewees noted that their organization's Juniper Networks networking hardware and software licensing costs were based on the number of locations and an assessment of the number of employees optimally served per AP. These costs include the resources needed for ongoing support of the Juniper Mist platform.

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

- In Year 0, the composite organization purchases 60 EX4100 series switches and 500 AP34 access points to deploy at more than 50 locations for a total price of $775,000, including a discount that is considered standard for this size configuration.
- The composite pays an additional $131,950 annually for Wi-Fi Assurance, Wired Assurance, and Marvis VNA subscriptions. This modeled cost also incorporates a consistent standard discount.
- At full deployment, the composite organization requires two NetOps/IT ops professionals who spend 20% of their time providing ongoing support.

- The average fully burdened annual salary for a NetOps/IT ops professional is $135,000.
- Pricing will vary. Contact Juniper Networks for additional details.

Risks. The following risks can potentially impact hardware, licensing and ongoing costs.

- Potential add-ons and new features could increase the solution cost.
- The amount of NetOps and IT ops resources needed for ongoing support will vary based on the organization's needs.

Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of under $1.3 million.

> "With Juniper, we were able to put everything in a single platform and reduce the total number of access points we needed."
>
> MANAGER OF INFRASTRUCTURE, MHB

Ongoing Costs: Juniper Solution Costs And Ongoing Maintenance						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
F1	Juniper access points, switches, and Mist licensing fees	Composite	$774,475	$118,170	$118,170	$118,170
F2	NetOps/IT ops FTEs providing ongoing management of Juniper Mist	Composite	0	2	2	2
F3	Percent of NetOps/IT ops FTE time dedicated to supporting Juniper Mist	Interviews		20%	20%	20%
F4	Fully burdened annual salary for a NetOps/IT ops FTE	TEI Standard	$135,000	$135,000	$135,000	$135,000
Ft	Ongoing costs: Juniper solution costs and ongoing maintenance	F1+(F2*F3*F4)	$774,475	$172,170	$172,170	$172,170
	Risk adjustment	↑5%				
Ftr	Ongoing costs: Juniper solution costs and ongoing maintenance (risk-adjusted)		$813,199	$180,779	$180,779	$180,779
	Three-year total: $1,355,534			**Three-year present value: $1,262,768**		

INITIAL COSTS: JUNIPER DEPLOYMENT INTERNAL, EXTERNAL, AND TRAINING COSTS

Evidence and data. Interviewees stated that the initial deployment of the Juniper network (e.g., switches, APs, and configuration with the Juniper Mist platform) was much more efficient compared to what they experienced while installing their legacy Wi-Fi networks. The path to deployment varied by organization depending on how quickly it wanted all locations migrated to the same technology platform and the resources available to the organization. These internal and external deployment costs pertain to the overall process of deploying the Juniper network configuration. This includes internal IT staff and some professional services from Juniper. There was also some baseline training needed for the NetOps and IT ops engineers who would be involved in deployment and ongoing support of the Juniper platform.

- The manager of infrastructure for MHB outlined their organization's deployment journey: "With Juniper Mist, we completed our network migration in just two months. [The] timeline that would have been significantly longer without the support of AI-driven tools."
- The network services leader for ServiceNow noted: "Bringing up a new office network used to be challenging, requiring engineers onsite. Now, we can deploy a network at a new location remotely with a few clicks."

- The network technician for a children's hospital stated: "Our initial deployment of the [legacy] network was a five to six month process in total with four months of that with a consultant engineer on site. So, it was a very long, arduous process, and [it was] very expensive. With Juniper, we did a 24-AP deployment in two weeks to ensure that there weren't any issues. After that, we did a six-week rollout of 900 access points across the environment. The deployment was fantastic. The PoC deployment essentially became the template for us to go live."
- The CIO for the University of Reading stated: "Juniper has their own training academy. Mist [requires] probably a few weeks of training to know what you're doing."

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

- The professional services assistance with deployment provided by Juniper in Year 0 is based on estimates for similarly scoped deployments.
- For the full deployment of the Juniper network in Year 0, the composite organization needs 2 hours per AP for a total of 1,000 FTE hours.
- The fully burdened hourly salary for a NetOps/IT ops professional is $65.
- Row G4 captures the time savings for the NetOps and IT ops engineers for deploying 500 Juniper APs and 60 switches and configuring them for initial deployment with Juniper Mist compared to the less efficient deployment for an alternative solution.
- In Year 0, 10 NetOps/IT ops professionals need to be trained on the Juniper hardware and software infrastructure. Based on organizational growth and attrition, an additional two professionals need to be trained in subsequent years.
- It takes 20 hours of annual training time per FTE to use Juniper.

Risks. The following risks can potentially impact the cost of deploying the Juniper Wi-Fi network platform:

- The complexity and scope of the transition from the organization's legacy network solution to the Juniper Mist platform will vary.

- The number of FTEs dedicated to the adoption and management of the platform will vary.

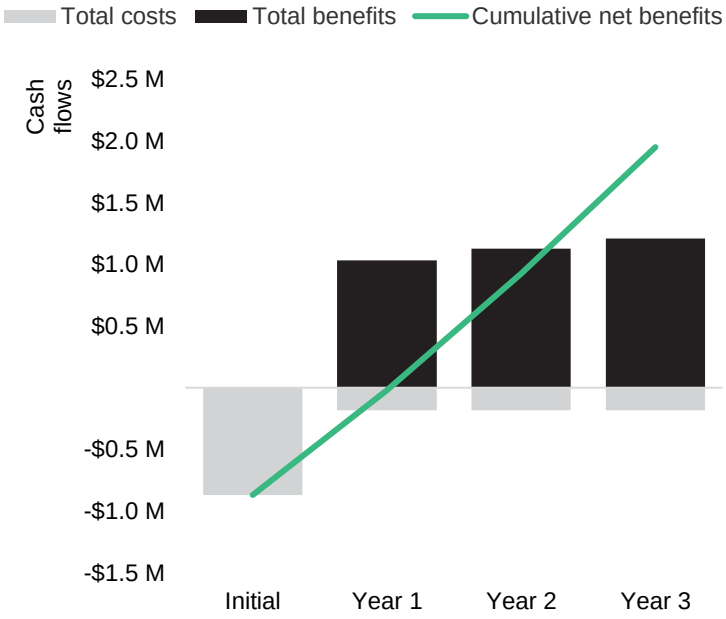
Results. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year, risk-adjusted total PV (discounted at 10%) of about $63,000. Without the Year 0 adjustment for faster deployment, the three-year, risk-adjusted PV of this cost would be just more than $141,000.

Initial Costs: Juniper Deployment Internal, External, And Training Costs						
Ref.	**Metric**	**Source**	**Initial**	**Year 1**	**Year 2**	**Year 3**
G1	Professional services implementation costs with Juniper	Composite	$50,000			
G2	NetOps/IT ops FTE effort for deployment of Juniper solution (FTEs)	Composite	1,000	0	0	0
G3	Fully burdened hourly salary for a NetOps/IT ops FTE	TEI Standard	$65	$65	$65	$65
G4	Cost savings from Year 0 deployment of Juniper not captured in Benefit D	Composite	($74,547)	$0	$0	$0
G5	**Subtotal: Juniper solution deployment costs**	**G1+(G2*G3)+G4**	**$40,453**	**$0**	**$0**	**$0**
G6	NetOps and IT ops FTEs requiring training	Composite	10	2	2	2
G7	Training time (hours)	Composite	20	20	20	20
G8	Average hourly rate for a network engineer	D5	$65	$65	$65	$65
G9	**Subtotal: Training costs**	**G6*G7*G8**	**$13,000**	**$2,600**	**$2,600**	**$2,600**
Gt	Initial costs: Juniper deployment internal, external, and training costs	G5+G9	$53,453	$2,600	$2,600	$2,600
	Risk adjustment	↑5%				
Gtr	Initial costs: Juniper deployment internal, external, and training costs (risk-adjusted)		$56,126	$2,730	$2,730	$2,730
Three-year total: $64,316			**Three-year present value: $62,915**			

Financial Summary

Consolidated Three-Year Risk-Adjusted Metrics

Cash Flow Chart (Risk-Adjusted)



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

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Analysis (Risk-Adjusted Estimates)

	Initial	Year 1	Year 2	Year 3	Total	Present Value
Total costs	($869,324)	($183,509)	($183,509)	($183,509)	($1,419,850)	($1,325,683)
Total benefits	$0	$1,033,900	$1,125,165	$1,210,511	$3,369,576	$2,779,271
Net benefits	($869,324)	$850,392	$941,656	$1,027,002	$1,949,726	$1,453,588
ROI						110%
Payback						13.0 months

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."

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.

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.

APPENDIX B: SUPPLEMENTAL MATERIAL

Related Forrester Research

The Foundation Of Your Future: Virtual Network Infrastructure, Forrester Research, Inc., September 12, 2024.

The State Of AIOps And Observability, Forrester Research, Inc., January 31, 2024.

APPENDIX C: ENDNOTES

[1] This study is exclusively focused on wired and wireless networks and not wide area networks (WANs).

[2] Source: The IoT-Ready Wireless Solutions Landscape, Q1 2024, Forrester Research, Inc., January 9, 2024.

[3] 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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