



Why a Digital-Ready Network Makes Business Sense

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EXECUTIVE SUMMARY

Digital Transformation Is a Business Strategy — Requiring Strong IT Partnership

While organizations are leveraging new digital competencies to revolutionize product and service delivery, it is important to remember that digital transformation (DX) is not a technology initiative but a business strategy. CEOs understand that digital transformation represents the potential for real growth by fundamentally changing the customer experience. And they are actively looking towards IT leaders for strong partnership because they recognize that these new business models will be underpinned by technologies such as cloud, mobile, social, and big data and analytics — what IDC collectively refers to as the 3rd Platform.

To a large extent, over the past five years, compute and datacenter infrastructure has taken the lead in adopting faster, more agile and automated approaches to supporting digital transformation with private, public, and hybrid cloud strategies. In many cases, network transformation has been left behind, leaving it as a vulnerability and constraint to many organizations' digital initiatives. At the same time, deploying a digital-ready network will probably prove to be the most critical element for an organization's successful digital transformation.

Growing Network Demands

Most of today's networks were designed to provide fast, reliable connectivity but not to meet the new demands that digital transformation will inevitably make on them. These fast-emerging demands include the scale, agility, security and insights to keep up with all the needs of cloud, mobility, IoT and new digital business models.

All of these factors mean that your network needs to be well aligned to your organization's business intent, to be in tune with what the business needs and be able to quickly respond to business policies.

In fact, far from being the weak link in the IT infrastructure, the network actually has the opportunity to transform into the most valuable piece of the IT puzzle for DX. The communications and data benefits inherent in next-generation enterprise technologies mean little without a network to connect stakeholders to these benefits. Many IT leaders already recognize the opportunities delivered by network transformation. In a recent survey, IDC found that over the next two years, 45% of organizations worldwide are planning to rapidly adopt a more automated and "self-driving" network that better aligns



Deploying a digital-ready network will probably prove to be the most critical element for an organization's successful digital transformation.



The organizations interviewed are achieving benefits of \$188,000 to \$745,000 per 100 users per year by advancing their digital network readiness.

with digital business needs (source: IDC's [Digital Network Readiness Survey](#), May 2016). In this survey, IDC used the Cisco Digital Network Readiness Model as a framework to quantify how mature networks around the globe are today. See [Is Your Network Ready for Digital Transformation?](#) (IDC White Paper #US41912917, January 2017) for additional survey details. To better understand and quantify the business value associated with the adoption trends, IDC carried out a number of interviews with customers that are well along on their digital network journey.

Customer Interviews Uncover and Quantify Points of Business Value

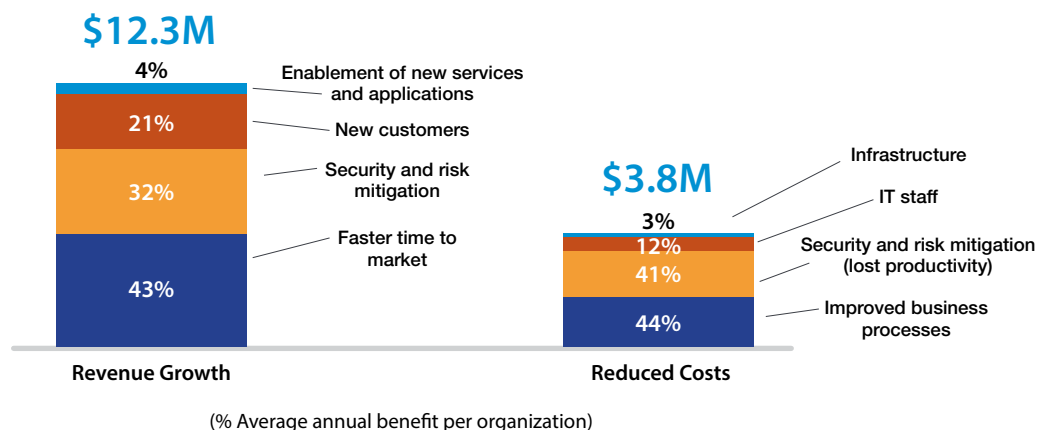
To gain deeper-level insight and further develop the business case for a digital-ready network, IDC conducted in-depth interviews with 25 large and midsize organizations, concerning their digital network transformation efforts. In these interviews, the organizations indicated the main realized and potential positive business outcomes. On a high level, there was consensus that digital-ready networking solutions improved network efficiency and reliability, providing greater confidence to implement innovative business strategies and expansion plans.

Many organizations are already realizing millions of dollars in annual benefits — in both revenue and cost savings — as a result of making their networks more digital ready. The organizations interviewed were able to realize significant benefits at the top and the bottom of the income statement: adding on average \$12.3 million in new revenue to the top and reducing costs by \$3.8 million, including reducing IT staff, risk mitigation, and business process costs — totaling \$16 million in business value (see Figure 1). The bulk of revenue generation can be traced to faster time to market, while the bulk of cost savings is attributed to improved business processes.

These organizations are achieving benefits of \$188,000 to \$745,000 per 100 users per year by advancing their digital network readiness.

FIGURE 1

Stronger Digital Network Readiness Leads to Millions of Dollars in Benefits



Source: IDC's Digital Network Business Value Research, 2016

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Introduction

IDC conducted in-depth interviews with 25 companies that have recently deployed networking initiatives that enhance their network architecture readiness across three areas: automation, analytics, and security. The interviews were designed to gather information regarding how these organizations improved their networks and networking operations and the resulting impact on their business from increasing their digital networking readiness.

Organizations interviewed ranged in size from 500 to 130,000 employees, with a median of 2,150 employees. The organizations represent 3 regions (North America, EMEA, and AP) and 11 industries (see Table 1).

TABLE 1

Demographics of Organizations		
	Average	Median
Number of employees	9,706	2,150
Number of IT staff	597	61
Percentage of total employees using information systems	88%	1.00%
Number of IT users	9,016	1,750
Number of business applications	153	52.5
Industries	Business services, education, finance, food and beverage, government, healthcare, industrial automation, insurance, service provider, technology, transportation	
Geographies	NA, EMEA, APJ, LA	

Source: IDC's Business Outcomes Research, August 2016

The interviewed organizations were screened to ensure that they had made significant moves to increase their digital network readiness. Questions were designed to elicit metrics from before and after they had deployed networking initiatives. In this way, we could compare metric levels from one stage to another and create a picture of the benefits of moving to more advanced stages of network readiness (please see the Appendix for additional details). Because these companies were adopting multiple initiatives, they were moving up multiple stages at a time in many cases. Business initiatives within these organizations drove the forward advancement of the network — enabling faster adoption of new capabilities.



The customers interviewed cited high-level benefits to their digital-ready networks, such as automating workflows and processes, lowering the total cost of ownership (TCO) of network infrastructure, better leveraging cloud technologies and IoT, and being able to scale the network with more agility.

Customers Cite Top-of-Mind Benefits

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Among the factors supporting these benefits were standardized configurations and faster WAN deployments. These benefits, which reduce the time on the front end to getting the network up and running, were cited as reverberating throughout the enterprise, resulting in time savings that allowed IT to focus on strategic efforts to add business value, including the integration of new business applications. Even though these digital readiness efforts are early stage and not yet at full scale, compelling benefits are already emerging and adding momentum to the case for digital network readiness. The following section explores in more quantitative detail the business outcome benefits associated with digital network readiness.

Business Enablement: Innovation, Agility, User Experience

The primary benefits of enhancing network capabilities and initiatives are to optimize IT's ability to align with business needs and thereby enable the business to realize the benefits of digital transformation and deliver the most business value.

IDC studies have shown that organizations in advanced stages of digital network readiness exhibit stronger business performance than organizations with less developed networks. IDC identified the following areas where the 25 companies were able to enable their businesses via more developed networks to achieve better business outcomes (a summary of benefits is provided in Table 2).

Innovation

In this study, innovation refers to the ability to move resources and operations into new business or organizational areas to drive new business or improve operational processes. Organizations in the study were able to reduce the time spent on network operations by an average of 28% and freed up roughly 20 weeks of time that will enable further investment in innovation.

Another measure of innovation is an increase in the percentage of network staff time allocated for new projects. Here, companies were able to increase that time by an average of 239%. What did those organizations do with the additional time?



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The organizations interviewed were able to reduce the time to market for new services by an average of 41%, with the most extreme case being an 80% reduction in time.

- » **Manufacturer:** “Working on adding to remote connectivity and communications — that is still evolving. Using new technologies and applications to experiment and develop new internal services.”
- » **Warehousing:** “We’re trying to be creative, looking at new applications and new networks and cutting-edge technologies.”
- » **Financial services:** “We’re trying to use it to invest in newer-generation technologies ... focus more on cloud and software-defined technologies.”

Agility

In this study, agility refers to the ability to make decisions more quickly and confidently and then execute more quickly with less failures. An agile organization can reduce the time needed to deploy new business-enabling applications and services and bring new products and services to market faster and more reliably with a higher customer acceptance rate. This in turn can drive revenue growth. Agility is also critical in reducing the time needed to expand the organization by facilitating the opening of new branches.

The organizations interviewed were able to reduce the time to market for new services by an average of 41%, with the most extreme case being an 80% reduction in time. By increasing network performance through automation, organizations not only enhanced time to market for new applications but also were able to realize significant gains in the number of new applications developed and deployed. On average, the number of new applications increased by 178%; this average encompasses a wide range of improvements reported by customers — from 0% (no change in applications) to 300% (1 app before/4 apps after) to 400% (10,000 apps before/40,000 apps after).

Because most of the organizations are fairly distributed enterprises, the ability to open new branches quicker was a significant benefit in terms of both requiring fewer resources and generating revenue faster. On average, companies reduced the time to bring a new branch online by 52%.

- » One manager explained it clearly: “We’re at least twice as efficient now. Before, it would take us 16 hours. Now, we can do it in 5 hours. There’s also dollars saved. Before it was probably about \$12,000; now, we can do it for probably \$4,000. We now do two to four branches per year. Before it was maybe one to two per year. The network improvements helped the bottom line, so it’s kind of a trickle-down effect as to whether the larger number of branches being opened is because of the network upgrade or not.”

User Experience

In this study, user experience refers to the ability to deliver more reliable, intuitive, and better-performing services to employees, partners, and customers. One way to enhance the user experience is to improve the performance of important business applications/services, which optimizes the adoption and use of the applications and therefore the value.

- » Improved performance of unified communications (voice, video) and collaboration applications by 34%
- » Improved performance of cloud-based/SaaS business applications by 37%
- » Improved performance of mobile applications by 21%
- » Improved performance of IoT applications by 10%
- » Faster execution of business transactions by 23%

TABLE 2

Agility	Network Maturity Stage			
	1 to 2	2 to 3	3 to 4	4 to 5
Time to bring new branch on-line	26%	6%	19%	23%
Time to market for new products and services	5%	26%	40%	12%
Innovation				
Time keeping the lights on	12%	18%	22%	76%
Increase time for new initiatives	159%	103%	49%	61%
Customer experience				
Increase performance of critical applications	12%	9%	22%	37%

IDC's Digital Network Business Value Research, 2016

Networking Cost Savings Benefits

The increased simplicity and reduced costs associated with deploying and maintaining a more digital-ready network are core benefits reported by the organizations.

Network Infrastructure Cost Savings

In many cases, the organizations are realizing considerable infrastructure cost savings due to upgrades they made as part of their digital initiatives. These included upgrading WLANs, switches, and routers and introducing virtualized systems and central management to deliver new capabilities and greater efficiency and flexibility.



The 25 organizations were able to reduce WAN telecom costs by an average of 21%, saving \$61 per user per year.

On average, the 25 companies were able to reduce their annual costs for physical network infrastructure (switches, routers, firewalls, load balancers, and WLANs) by 43%, saving \$181 per user per year. These savings often resulted from using more efficient devices, leading to consolidation of hardware and management systems.

WAN Infrastructure Benefits

In addition to lowering networking infrastructure costs, the organizations were able to reduce WAN telecom costs. One financial company deploying network initiatives was able to realize significant savings in WAN costs:

"We've been able to get greater leverage from our WAN [carrier]. The network upgrade helped us because we were able to cancel all of those separate data services and consolidate everything to one provider, and since we're having quality of service on the WAN, we are able to unify the voice delivery as well. We actually estimated that we saved approximately \$1.3 million per year on it. The majority of the funding for the project was [paid for by] the WAN savings."

The 25 organizations were able to reduce WAN telecom costs by an average of 21%, saving \$61 per user per year.

Networking Organization Productivity: Reducing Opex

Even more significant than infrastructure and WAN savings was the ability to reduce the time and cost required to administer, maintain, and manage the network environment. Through automation and orchestration deployed to enhance the network architecture, the organizations were able to move valuable network staff resources to more strategic and innovative purposes:

- » "Our network architecture has allowed us to become about 95% virtual. We have been able to automate daily jobs like monitoring and alerting, becoming more efficient."
- » "If we were trying to do what we're doing now, but do it with traditional equipment, it would be a full-time thing ... 100% for four people ... I think we could do it, but it would be hard. I think we're avoiding hiring ... three to four people."

On average, the 25 companies interviewed were able to reduce their costs associated with deployment, support, and management of network systems by 30%, saving \$332 per user per year.

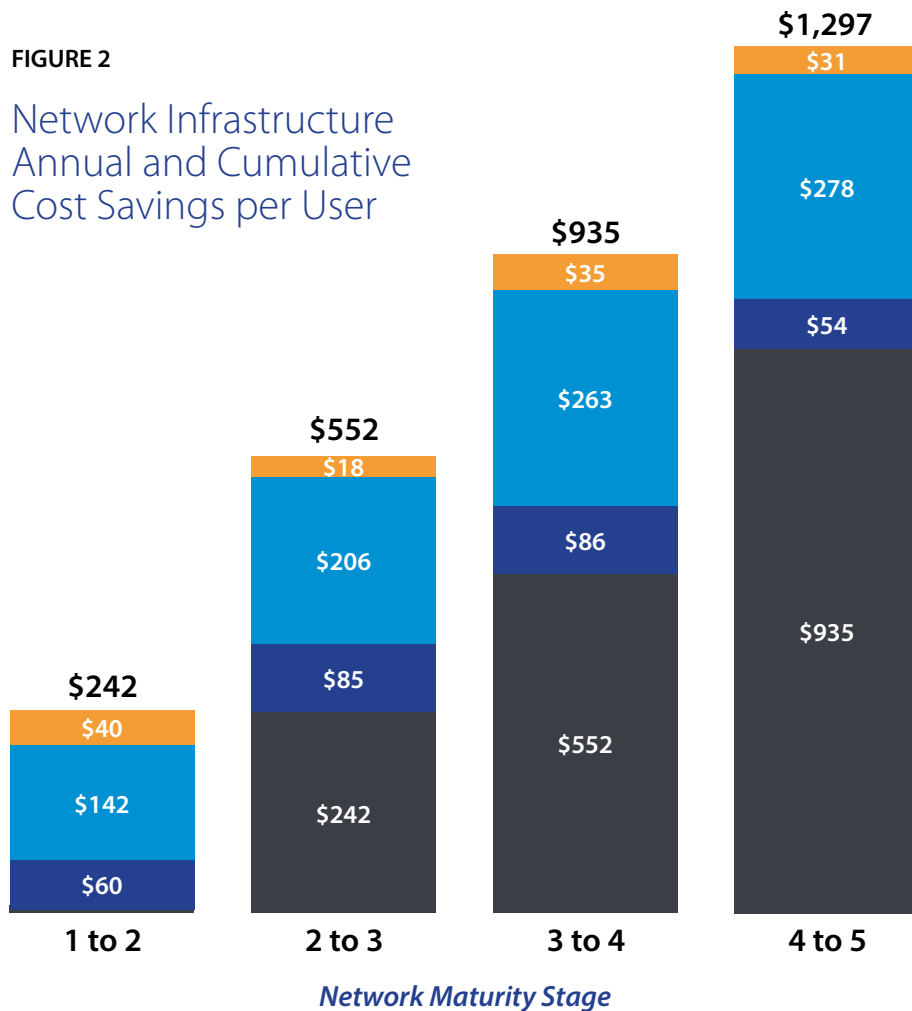
If we assess network opex and capex reduction benefits on a readiness stage-by-stage basis, we can see that companies at more advanced stages of readiness tend to realize the greatest benefits (see Figure 2).



On average, the 25 companies interviewed were able to reduce their costs associated with deployment, support, and management of network systems by 30%, saving \$332 per user per year.

FIGURE 2

Network Infrastructure Annual and Cumulative Cost Savings per User



- Reduction of WAN costs
- Reduction of network infrastructure support staff costs
- Reduction of network infrastructure costs
- Cumulative savings from prior stages

IDC's Digital Network Business Value Research, 2016



Organizations in the study saw significant benefits in this area. Reducing the risks of disrupted business operations and maximizing a positive customer experience resulted from delivering more reliable and secure services.

Risk Mitigation/Security

The Ability to Reduce the Threat of Security Breaches and Unplanned Network Outages to Business Operations

An emphasis on risk mitigation and security can result in faster resolution of security breaches as well as a reduction in unplanned downtime, improving employee productivity and reducing lost revenue. A highly reliable network is usually a well-managed network. Organizations in the study saw significant benefits in this area. Reducing the risks of disrupted business operations and maximizing a positive customer experience resulted



An insurance company improved its network security, performance, and reliability, enabling it to develop a new business strategy and accelerate deployment of new applications worth \$3 million in revenue growth.

from delivering more reliable and secure services. Giving the organization the confidence to roll out new digital capabilities and services with minimum risk (on-time delivery, compliance, service levels, etc.) is another very important benefit and motivates the organization to press forward with digital transformation projects.

Reliable and secure operations are important not just for risk mitigation but also for enabling the organization to further its digital transformation. As two respondents from manufacturing companies explained:

- » “But with the improved network reliability, we can focus on newer services. We are working on new initiatives — for example, IoT ... with ecommerce and B2B. So new initiatives and more that we are only planning. It will open up many more possibilities.”
- » “It’s primarily on the breach front, but it also helps in other areas like data loss prevention ... because we’re able to compartmentalize the network. We’ve been able to reduce the number [of breaches] and the risk. In terms of the reliability and robustness, it’s increased overall uptime. We were sitting around probably in 95% uptime, and we’ve been able to increase that substantially. And now, if there’s an impact again, it’s usually isolated to one particular location.”

Business Productivity

Creating a More Competitive Business Model to Drive Revenue Growth and Profitability, Employee Productivity, and Enhanced Business Processes

Organizations were able to leverage their network architecture to better achieve business strategy and accelerate business growth. An industrial automation company developed growth strategies and new products enabling it to get involved in new markets, such as IoT, and new offerings such as automation solutions with new partner relationships.

- » A manufacturer realized a \$10 million increase in revenue due to being able to generate product more quickly. The customer pursued more stability, enhanced network availability, remote management capabilities, and centralized management. The result was a more stable network that allowed for more centralization and greater delivery of resources and, in turn, faster product generation.
- » A financial company was able to generate \$1.5 million by entering new vertical markets. This market entry was enabled by increased use of and better leverage of cloud services.
- » An insurance company improved its network security, performance, and reliability, enabling it to develop a new business strategy and accelerate deployment of new applications worth \$3 million in revenue growth.

Challenges/Opportunities

Organizational Concerns

The role of IT in enabling the organization to innovate and move forward with digital initiatives has rarely been more important. IT leaders have the opportunity to partner closely with business leaders to develop a network strategy and road map that supports and even in some cases preempts the business strategy. However, paradigm shifts within IT can be difficult both for the IT department itself and for related business stakeholders.

IT leaders may be challenged with changing the perception of the network as a cost center as opposed to a business enabler. IT staff can have trouble adjusting to new ways of deploying and managing infrastructure, the lines of business may be reluctant to learn and embrace new tools, and organizational gatekeepers may not immediately connect the dots between a digital-ready network infrastructure and higher-level business objectives. Digital network readiness represents a major shift in thinking with regard to all of these attributes. Advocates for the digital-ready network need to recruit allies within each stakeholder group to demonstrate the benefits of software-defined networks, virtualization, automation, analytics, and the resulting synergy between network and business objectives.

Opportunities

IDC advises digital network readiness advocates to focus on the opportunities for each group: For IT, highlight the ability to spend less time on reactive troubleshooting, maintenance, and manual tasks and more time on creating business-driving opportunities for employees and customers on the network. For line-of-business stakeholders, focus on the transformative DX tools and applications that a digitally ready network enables. For organizational gatekeepers, highlight the results of peer organizations and internal pilots and the resulting cost savings and revenue impact, where applicable.

Conclusion

IT has the opportunity to completely redefine the role networking plays in the business. But that requires executing on a vision that continuously aligns the network with ever-changing business needs. Fortunately, the right network architectures and supporting technologies required to deliver on that vision are rapidly becoming available. Automation, programmability, self-protecting, and self-healing capabilities move IT away from “keeping the lights on” and provide more time and opportunity to serve as a strategic partner to business initiatives across functional areas.

It will be imperative for IT to build a clear network road map and clearly communicate the business value of the evolving network to a diverse set of enterprise decision makers. IDC research shows that

stronger network readiness leads to positive business outcomes, and in reality, enterprises will need to rely on quickly aligning the network with business demands to remain competitively viable. IT leaders have an opportunity to communicate this new paradigm as well as their three- to five-year networking road map to the business.

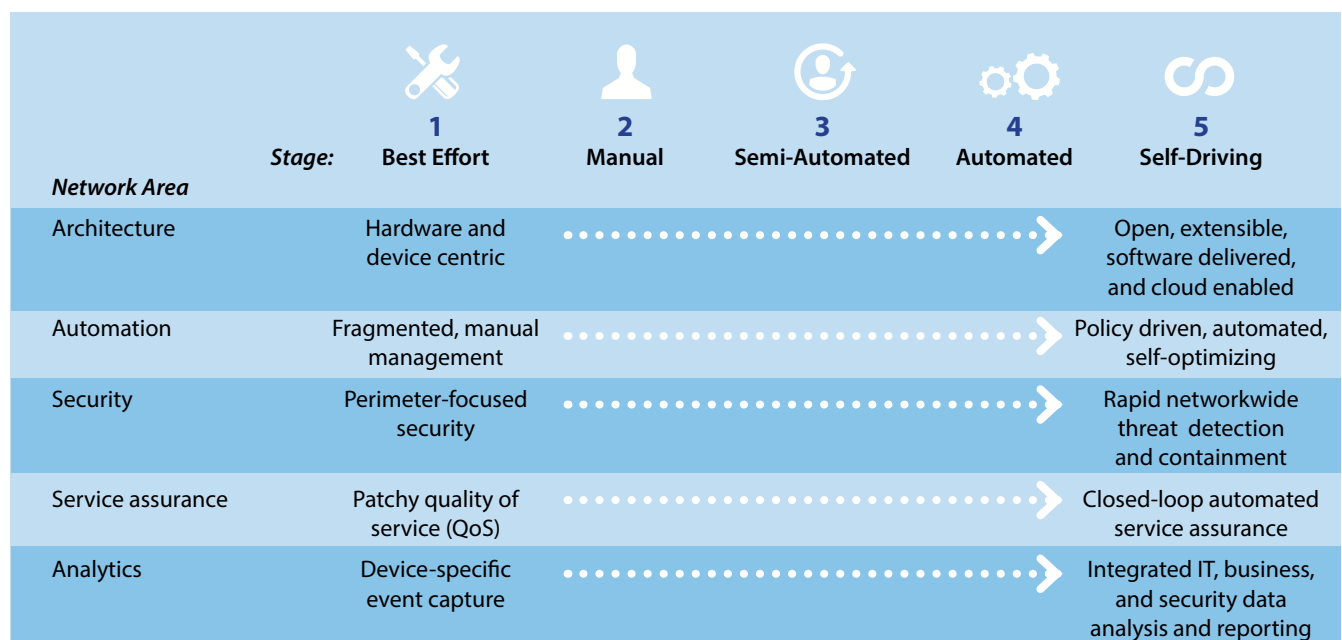
Failure to progress on a digital network readiness plan over the next two years will leave organizations competitively exposed to the majority of organizations that have the intent to move forward ambitiously with digital network initiatives. With solid proof point demonstration and careful partner selection, IT leaders can plan and execute a business-driven digital network road map successfully and with minimum risk.

Appendix

Cisco network experts and thought leaders worked closely with IDC to build the Cisco Digital Network Readiness Model (www.cisco.com/go/dnaadvisor). This model aims to help your network planners and architects gain a clearer picture of where you are on the journey to a network that rises to the aforementioned DX challenges. It also helps your IT leaders and business leaders synchronize the network road map with business priorities — and achieve that much-needed alignment. The model framework is based on a five-stage maturity standard used in IDC MaturityScape research and broadly utilized in business and IT consulting communities. The five stages of network maturity begin with a “best effort” network and end with the vision of a network that continuously and automatically adapts to the changing needs of digital business (e.g., “self-driving”) (see Figure 3).

FIGURE 3

Cisco Digital Network Readiness Model



Source: www.cisco.com/go/dnaadvisor

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