AT&T Business







It's time to modernize your network

Fiber, 5G, and voice for the future-forward business

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What is network modernization?

Digital transformation

Digital transformation (DX) describes digitizing analog technology, legacy operations, products, and services. Migrating applications and data to the cloud instead of housing them in physical machines onsite is one example of digital transformation.

Network modernization

Network modernization on the other hand precedes DX. It lays the groundwork for it. For example, before you install an internet-based phone system, you need the bandwidth, low-latency, and consistent performance to accommodate the flow of increased data across your network.

Prime before you paint

Metaphorically speaking, network modernization is the primer; DX is the layers of paint you apply on top of it. For best results in DX, you should always prime before you paint.

The why, what, and how of modernizing your network

In this eBook, we'll cover:

- Why you should act quickly to modernize your network
- What a modernized network can look like
- How to take the next steps on your journey



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Section 1: Why it's important to modernize your network

There has never been a greater need for network modernization than today.

92% of C-suite executives say moderate-to-considerable improvements to infrastructure and applications are needed in order to better adapt to external change[1]

35% or nearly 1/3 of IT decision makers cite legacy IT systems as their chief barrier to achieving their organizations' digital objectives[1]

70% of CEOs globally say their level of network maturity is negatively affecting business delivery[2]

[1] "IT's changing mandate in an age of disruption," white paper by The Economist Intelligence Unit, 2021.
[2] "70% Of CEOs Say Their Network Is Slowing Business Growth," BusinessWire, October 20, 2022, https://www.businesswire.com/news/home/20221020005120/en/70-Of-CEOs-Say-Their-Network-Is-Slowing-Business-Growth-New-NTT-Study-Finds.

However, despite big plans businesses aren't following through

When it comes to taking the next steps in network modernization, the longer you wait, **the harder it becomes to modernize.** Why? Because over time, **aging networks compound other technical challenges.** The following stats show that while many companies have plans to modernize their networks, they aren't prioritizing them.



86%

of network operators or administrators surveyed **planned** to modernize their network[1], yet a mere…



5%

of network operators or administrators have **modernized their network**[1]



51%

of the respondents said their companies had only finished **less than half** of their network modernization projects[1]

All these numbers translate into… opportunity.

The business that accelerates its network modernization today will be advantageously ahead of its competitors tomorrow.

[1] Brian T. Horowitz, "Costs, Tech Skills Impeding Network Modernization Efforts," Information Week, 10 February 2023, https://www.informationweek.com/cloud/costs-tech-skills-impeding-network-modernization-efforts.

Pain points and performance inhibitors

How many of these are you experiencing on your data and voice networks? How much would your business and growth improve if these were suddenly removed from the equation?

Legacy technology and equipment, aging and near (or at) obsolescence

- Relying on copper lines instead of transitioning to fiber
- Little to no adoption of 5G technologies
- Non-unified communications; minimal voice and collaboration upgrades
- Security gaps (discovered and undiscovered)
- Competitive disadvantage

Speeds not matched with needs

- Not enough bandwidth
- Latency issues
- Performance for business-critical operations
- Quality of voice data detriment to customer service and collaboration
- Unable to handle large volumes of data

Outdated applications

- Causing costly downtime
- Lacking network infrastructure to support newest applications
- Incompatibility issues with other internal and external applications
- Loss of data
- Security gaps (discovered and undiscovered)

[1] IDC, "Future of Connectedness Survey," 2022.



Top connectivity-related challenges

An IDC survey of enterprise executives and decision makers revealed their top connectivity-related challenges[1]:

1. Data security
2. Modernizing or automating IT management
3. Aligning IT capabilities with business expectations for staying connected
4. Incorporating new / emerging technologies (e.g. artificial intelligence, cloud, Internet of Things)
5. Aligning IT budgets and skill constraints with future goals
6. Regulatory compliance or data protection
7. Data growth across the enterprise
8. Data siloes due to lack of integration across critical business systems
9. Limited investment in data management tools

You probably have some of the same challenges in your business. Remember, whether directly or indirectly, each of these is influenced by the state of your network and how far along the modernization trail you are.

Use case: Restaurant chain feasts on fiber as foundation of their network modernization

The owner of the restaurant chain* had good news and bad news.

The good news?
Steady growth. The company was opening new restaurants in new areas and achieving new heights in revenue.

The bad news?
Their network was built on outdated, legacy technologies. Growth was stressing the chain's voice and data networks. It faced an ongoing challenge to deliver adequate bandwidth to support security, point-of-sale (POS), and other critical business functions.

Fiber to the rescue
Blazing fast fiber internet delivered with 99% reliability[1] and the bandwidth and latency to support operations at nine geographically diverse locations.

A cloud-based, unified collaboration system fully integrated with office phones and wireless devices provided a major boost to company efficiency.

And a managed cybersecurity solution—that performs better on a fiber network—defends the data with 1,000+ cyber defense professionals, 8 security operations centers across the globe, and 670 billion flows on the network analyzed daily.

> **"AT&T Business Fiber allows for our POS system to work properly in tandem with our surveillance and security systems."**
>
> CIO, restaurant chain in the Midwest

Learn more about the solutions we used to modernize this business:

AT&T Business Fiber®

AT&T Office@Hand

AT&T Cybersecurity



* Based on a real AT&T Business customer and use case. Details and quote anonymized.
[1] Based on network availability.

Network modernization benefits your customers

Dion Hinchcliffe, the Vice President and Principal Analyst of Constellation Research, described a seamless customer experience as "**the most important discriminating factor** for how a business will perform."[1]

It's hard—if not impossible—to build a seamless, digital-first experience on legacy technology, whether you have some or many archaic components stitched into your infrastructure.



66% of customers expect organizations to understand their wants and needs[2]

52% expect personalization of products and services[2]

70% percent value convenience more than branding[2]

32% of customers will abandon a brand after a single bad experience—even if they already loved the brand[3]

Keeping your customers happy helps keep you happy with your bottom line. But your legacy technology may be holding you back when it comes to delivering a satisfying customer experience.

[1] BTOES Insights. "What is Digital Transformation Workplace?", accessed February 7, 2023, https://insights.btoes.com/what-is-digital-transformation-workplace.

[2] Vala Afshar, "What Is Customer Engagement? Key Findings from Global Research To Help Your Business Grow," Salesforce.com, accessed February 6, 2023, https://www.salesforce.com/resources/articles/customer-engagement/.

[3] PwC, "Experience is everything: Here's how to get it right," accessed February 8, 2023, https://www.pwc.com/us/en/advisory-services/publications/consumer-intelligence-series/pwc-consumer-intelligence-series-customer-experience.pdf.

Network modernization **benefits** your employees

Employees, like consumers, have gotten used to **seamless, empowering user experiences** on the technology they use. If you can't give your employees this type of experience, you could be hurting your business on two fronts.

Efficiency

What more could you accomplish by **cutting up to 70% of the costs** associated with tedious, daily, routine, repetitive tasks performed by employees?

The Harvard Business Review published research showing businesses of all sizes that were early adopters of automating processes via machine learning "saw gains in bottom-line performance using machine-reengineering to **slash 15% - 70% of costs** from certain processes. At the same time, some saw a **tenfold improvement** in workforce effectiveness or value creation."[1]





Employee experience

The issues caused by your legacy technology **may harm your ability** to recruit and keep great employees.

The CIO of a healthcare-sector company noted that his company is focused on automation to not only **boost efficiency**, but to **enhance the employee experience.** "It's the difference between a customer care rep having to get into 6 or 10 different systems to get information a customer needs, versus creating a simple portal to query," he said.[1]

[1] "Maintaining Momentum on Digital Transformation: CIOs Share Strategies to Sustain Speed," Harvard Business Review: Analytic Services, January 31, 2022

Network modernization can increase profits. Here's how:

Reduced budget consumption

The older your tech gets, the more money it takes to keep it up and running. The U.S. federal government is a prime example of this truth. In 2019, the U.S. federal government spent 80% of its "IT budget on Operations and Maintenance (aging legacy systems)."[1] That left only 20% of the budget for development, modernization, and enhancement.

Agility

Scale up or down quickly to accommodate changing numbers of employees and offices, or for seasonal fluctuations.

Security

Security lapses can cost you; increase the efficacy of your security by modernizing the network. This improves solution performance as well as closes potential gaps hackers can exploit.

Business continuity

Replace those legacy systems that can cause service disruptions and are harder to maintain.

Costs

Reduce capital investments and integrate cost-effective, efficiency-driving solutions to overcome, and ultimately remove, the cost transitioning away from legacy.

Greater strategic diligence

Legacy equipment is like a black hole that sucks time from your day. A lot of time. Time that might be spent planning for future initiatives and growth. In a recent survey of CIOs, more than half declared that they must dedicate from 40% - 60% of their time to managing legacy IT instead of shifting towards strategic activities.[2]

"While most organizations have come to value the critical importance of digital transformation to their long-term success, they sometimes have less appreciation for the integral role that optimized IT with a modernized network infrastructure and operational practices plays in enabling the fulfillment of digital transformation initiatives. [3]"

Brad Casemore, Research Vice President, Datacenter and Multicloud Networks at IDC

[1] "Information Technology: Agencies Need to Develop and Implement Modernization Plans for Critical Legacy Systems," U.S. Government Accountability Office, April 27, 2021, https://www.gao.gov/products/gao-21-524t.

[2] Marlin Metzger and Thorsten Bernecker, "Legacy modernization: A digital transformation. How to modernize your IT infrastructure," Deloitte: 2022, Accessed February 11, 2023, https://www2.deloitte.com/us/en/pages/technology/articles/legacy-infrastructure-modernization.html.

[3] Brad Casemore, "Network Modernization: Essential for Digital Transformation and Multicloud," March 23, 2020.

Section 2: What modernized networks look like

Use case: Ambulance service needed an emergency network modernization

The problem
When you call for an ambulance, you desperately need the call to connect. However, for this ambulance service,* their legacy copper lines didn't always deliver.

The pain with rain
Besides being unreliable in the best of weather, the phone lines really struggled in the rain: Callers to the ambulance service often heard only static during downpours.

Time to modernize
With nearly two dozen employees answering 3,000 calls per year covering nearly 1,000 square miles of rural area, the ambulance service decided it was time to modernize their network.

> "Our fiber-based dedicated internet and our cloud-based phone and collaboration have been our lifelines."
>
> Executive Administrative Director of ambulance service

The solutions

- **Consulting:** The ambulance service enlisted consultants throughout the process to help them assess, blueprint, and deploy their new services so the transition was smooth and fast.
- **Internet:** Dedicated internet (1 Gbps plus 99.95% service reliability and symmetrical upload and download speeds) gives them secure connectivity with guaranteed speeds and bandwidth because it isn't a shared connection. This enhances all the applications and solutions the ambulance service run, including their cloud-based phone platform.
- **Phone:** Thanks to their new cloud-based phone and collaboration platform, the ambulance service's 9-1-1 and dispatch function seamlessly. Not only that, they can now communicate clearly with hospital staff en route to the emergency room, supporting positive patient outcomes.

The success of the ambulance service's modernization has led to calls from other agency directors asking for advice.



Learn more about the solutions we used to modernize this business:

AT&T Voice and Collaboration

AT&T Dedicated Internet

AT&T Consulting and Professional Services

* Based on a real AT&T Business customer and use case. Details and quote anonymized.

Your network is only as strong as its foundation

Modern networks are built on fiber, 5G, and cloud- and internet-based phone platforms. Why? It's all about providing the best infrastructure to move high volumes of data with the least amount of latency, bottlenecking, and performance fluctuations.

What does that look like?



Fiber
Fiber connectivity upgrades everything. It can give you greater reliability, security, and speeds across your network.

5G
5G, preferably built on top of fiber infrastructure, makes mobility faster and more experiential. And it also serves up powerful solutions at your network's edge.

Phone
Cloud-based and internet-based phone sends voice and other data (for example fax, video, instant messaging) to support a host of essential collaboration solutions.

Don't forget consulting

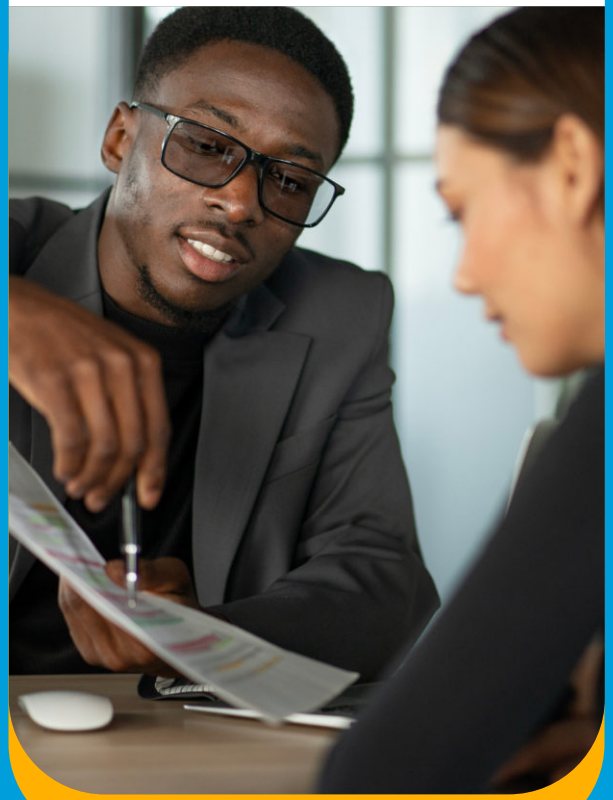
Consultants can help you unravel complexity, chart a clear path forward, and even execute the plan—all while avoiding potential minefields, blind spots, and costly errors.

Section 3: How do I modernize my network?

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Step 1

Know the network



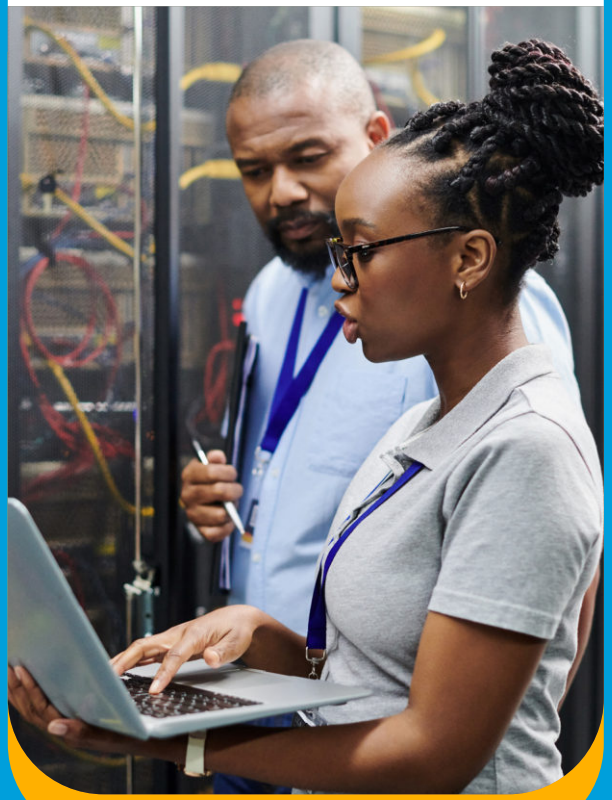
Step 2

Prep the network



Step 3

Feed the network



Step 1: Know the network

Map

Networks tend to sprawl over time. Endpoints proliferate. Solutions get added on top of solutions. New tech gets grafted onto old tech. Bits and pieces fall into disuse and forgotten about. Before you can modernize, you need to know what exactly it is you're modernizing. Depending on the complexity of your network, it may be valuable to enlist consultants to help you map the architecture.

Pain points

What are your biggest pain points in the network? Not enough bandwidth? Too many outages? Growth outpacing the ability of your tech and IT to keep up? Budget? Employee efficiency? Poor or mediocre end user and customer experience? Use your list of challenges to prioritize how you modernize.

Industry needs

Another factor to consider as you rank your priorities is industry-specific focus. Consider the business-critical applications your company has in place now and has plans for in 3-5 years. For example, if you're in manufacturing, you'll likely want to prioritize bandwidth and edge computing. If you're in transportation of cargo, you'll likely want to prioritize Internet of Things (IoT)-related modernization. And if you're in finance, you'll want to prioritize connectivity that offers enhanced security.

Step 2: Prep the network

Back up data. Replace service contracts on outdated solutions and equipment. Prune areas of budget consumption so you can invest as much as possible into the modernization effort. (What you invest today in modernization lays the groundwork for a rolling return on investment (ROI) far into the future.).





Step 3: Feed the network

Your network is hungry for data. It's now time to optimize your network so it can consume as much data as you need to feed it.

Start with fiber. Fiber connectivity upgrades everything.

Businesses of all sizes today need a foundation of future-fitted connectivity to thrive. They need ultra-high-speed, fiber optic internet. You get greater reliability, security, and speed with a 100% fiber network.

Get the reliability of a **100% fiber network** for a powerful connection. **Don't settle for less.**

Think of your network as a system of roads. The type and quality of the road is crucial to supporting the number and types of vehicles—the solutions and apps you use—that drive across it. A rutted dirt trail? Slow and bumpy—even if you have a Formula One race car. An eight lane, newly paved interstate? Smooth and blazing fast—built to handle incredible traffic volume and the highest performing vehicles.

Your core apps and services function better on a provider's modernized core network. When you team with a provider whose future-ready connectivity includes options for fiber, the network rewards you with fluidity, agility, and capacity.

And don't forget leaning on the expertise of those who can provide fiber network consulting. This can lighten the burden your team bears while reducing the time it takes to complete each phase of transition: planning, road map, execution, and management.

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What is fiber?

Fiber delivers data over fiber optic cables where the data travels in pulses of light rather than electricity.

A deeper dive: This technology uses light transmitted inside translucent tubing to carry signals. The major backbone networks for the internet use fiber technology rather than electrical signaling and can reach transmission speeds far greater than copper-based technologies. Fiber technologies are easily adaptable to providing dedicated access over the last mile to the user, rather than shared bandwidth, making it particularly useful for businesses with high bandwidth / low latency requirements.

> "The reliability [of fiber from AT&T Business] has been really good; we've never had any problems with service outages, which is critical to us. I can't say that for some of the other providers that we have."
>
> Anonymized quote from actual customer

AT&T Business can help you with your fiber. Learn more about:

AT&T Dedicated Internet

AT&T Business Fiber®

Ethernet Solutions

5G for mobility and the edge

While 5G transforms the performance and user experience of your mobile devices, it's not exclusively for mobile devices.

Mobility

5G is changing the user experience with:

- Faster speeds
- Enterprise-grade performance, even in bandwidth-intense locations
- New ways to build stronger experiences with consumers

Not to mention that 5G technology is:

- Versatile enough to integrate into your existing systems
- Secured by layering the latest in-device protection for identity and data
- Often available in standard 5G and 5G+ configurations

The edge

The network edge—that place where your network meets other networks—can be better controlled and secured thanks to 5G.

- Bring public clouds and ecosystems closer to where you need them most to serve multiple locations at once
- Connect, control, and compute data at your onsite—from a factory floor to a retail store to a headquarters location
- Maintain security and control over data

5G can fuel a variety of edge solutions: Multi-access edge computing (MEC), on-premises cellular networks, private cellular networks, and Secure Access Service Edge (SASE).

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AT&T Business can help you with your edge solutions. Learn more about:

AT&T Multi-Access Edge Computing

AT&T On-Premises Cellular Network

AT&T Private Cellular Networks

AT&T Private Cellular Networks – Events

AT&T Network Edge

AT&T Secure Access Service Edge (SASE)



Voice data

If you boil it down to its basics, business is all about talking to people. It's how things get done. So, modernizing your legacy voice network should be high on your list of tasks.

Major types of legacy voice technology

Do you rely on copper wire-based legacy tech, like plain old telephone service (POTS), Central Exchange (Centrex), or primary rate interface (PRI)?

- **POTS** – standard phone service provided by the local telephone via the Public Switched Telephone Network (PSTN).
- **Centrex** – In the 1970s was the mainstream telephony solution for enterprises.
- **PRI** – Phone system operates through a physical connection to the public Switched Telephone Network (PSTN), and can support up to 23 concurrent voice channels per PRI trunk.

If you do rely on any of these, you have been facing—and continue to face—escalating maintenance costs, consumption of physical space, too much physical interaction, and continued specialized training for a legacy technology.

Key challenges of your legacy voice

- Compatibility issues
- Providers not investing in legacy infrastructure, retiring services
- Not enough lead time to transition hundreds or thousands of endpoints
- Spare parts harder to find
- Technicians trained in your system harder to find
- Must invest in new hardware to increase capacity
- Increasingly higher maintenance costs
- Lack of scalability
- Outdated technology
- Security vulnerabilities
- Limited functionality
- Doesn't support a hybrid work environment
- Deteriorating state of aging systems increases risk of multi-day outages
- Investing to keep legacy tech running makes for a low return on investment (ROI)
- Hurts the customer, employee, and partner experience



Are you—

- ☐ Invested in legacy and outdated platforms?
- ☐ Looking to move to the cloud?
- ☐ Needing to call and collaborate across different business devices from a cloud-based platform?
- ☐ Wanting to integrate phone, video, and messaging?
- ☐ Looking for a secure, reliable, and quality cloud voice solution that underpins your collaboration and contact center platform?
- ☐ Needing to handle specialty data lines like alarms, elevators, FAX, point-of-sale terminals, out of band signaling, and more?
- ☐ Trying to integrate internet phone service with your private branch exchange (PBX)?
- ☐ A smaller business looking for simplicity and performance?
- ☐ A mid-to-enterprise size business looking for robust, feature-rich, options that fit you like a glove?
- ☐ Getting a consistent wireline and wireless experience at home, in the office, and on the go?



Make voice and collaboration part of your modernized ecosystem

5G and fiber are the keys to raising your voice and collaboration capabilities to new heights. These are the foundational technologies that underpin every data transport service, solution, and application you'll use. Just as the sun powers Earth's ecosystems, so do fiber and 5G power and nourish tech ecosystems.

When you raise your voice and collaboration to another level, your user experience will reach another level (customer experience, employee experience, partner experience). This translates into better business, happier customers, more fulfilled and higher-performing employees, and tighter integration with your key partners.

AT&T Business can help you with your voice and collaboration. Learn more about:

AT&T Office@Hand

AT&T Phone for Business

AT&T Phone for Business – Advanced

AT&T IP Toll-Free

AT&T IP Flexible Reach (SIP Trunking)

AT&T Cloud Voice for Microsoft Teams

Voice and Collaboration Consulting

Conclusion: Eyes on the prize. It's time to modernize.



It's time to unlock your network modernization with fiber, 5G, and voice for the future of your business.

Network modernization should precede digital transformation—just as the primer should precede the paint—for best results. The right connectivity makes other parts of your network, and therefore your digital evolution, stronger.

Achieve your fullest business potential with **flexible, intelligent, and highly secure** network solutions.

When you team with a provider whose future-ready network flows through fiber and harnesses the potency of 5G, while offering portfolios of solutions that help cover virtually every business need (consulting, voice and collaboration, mobility, 5G, business internet, networking services, Internet of Things, cybersecurity, and cloud), you can create a network built around your specific business needs—a network that rewards you with fluidity, agility, and capacity.

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We're ready to help you modernize your network. Contact your AT&T Business account team today.

Why AT&T Business?

See how ultra-fast, reliable fiber and 5G connectivity protected by built-in security give you a new level of confidence in the possibilities of your network. Let our experts work with you to solve your challenges and accelerate outcomes. Your business deserves the AT&T Business difference—a new standard for networking.