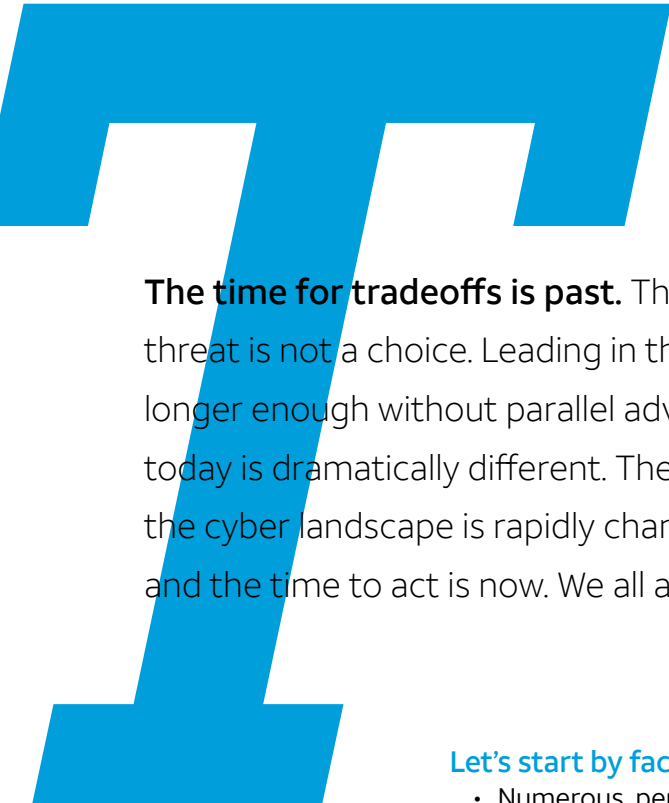


Leading the Air Force of the future, today.

A Public-Private Partnership powered
by Commercial Networks and Innovation





The time for tradeoffs is past. The need to balance between budget and threat is not a choice. Leading in the domains of land, air and sea are no longer enough without parallel advancements in technology. The network today is dramatically different. The explosion of data is unprecedented. And the cyber landscape is rapidly changing every day. Networking is war fighting and the time to act is now. We all agree—but how—is the question.

Let's start by facing the challenges.

- Numerous, persistent network outages impact Air Force enterprise and weapon system operations
- The network that serves this nations warfighters was conceived decades ago
- Complex and uneven architectures—with large operating footprints—are difficult to maintain
- Competing funding priorities severely limit the ability to keep pace with industry
- Extreme costs for basic services—in the billions—for NIPR and SIPR
- Significant lags in lifecycle management hinder effectiveness
- Multiple tools and applications don't allow for unification
- Airmen are needed to defend mission systems, not to maintain the outdated enterprise

We combat the challenge, every day.

Combating network congestion is a challenge that we face every day as demand continues to skyrocket. Data traffic on the AT&T network increased more than 250,000% from January 2007 through December 2016. Our advanced network carries more than 150 petabytes of traffic on an average business day.

When it comes to transformation, we get it. This principle is not new to us, however, it is profound for the Department of Defense—simply because of a long held perception that commercial networks are not as hardened or as secure. Yet, AT&T secures more connections than any communications company in North America.

AT&T has unparalleled visibility into new and evolving security threats. Every single day we see around 30 billion malicious scans—where attackers are probing for vulnerabilities—and 400 million spam messages on our global IP network. Our security experts manage 5 billion malicious scans and 200,000 malware events that are targeted specifically to us every day.

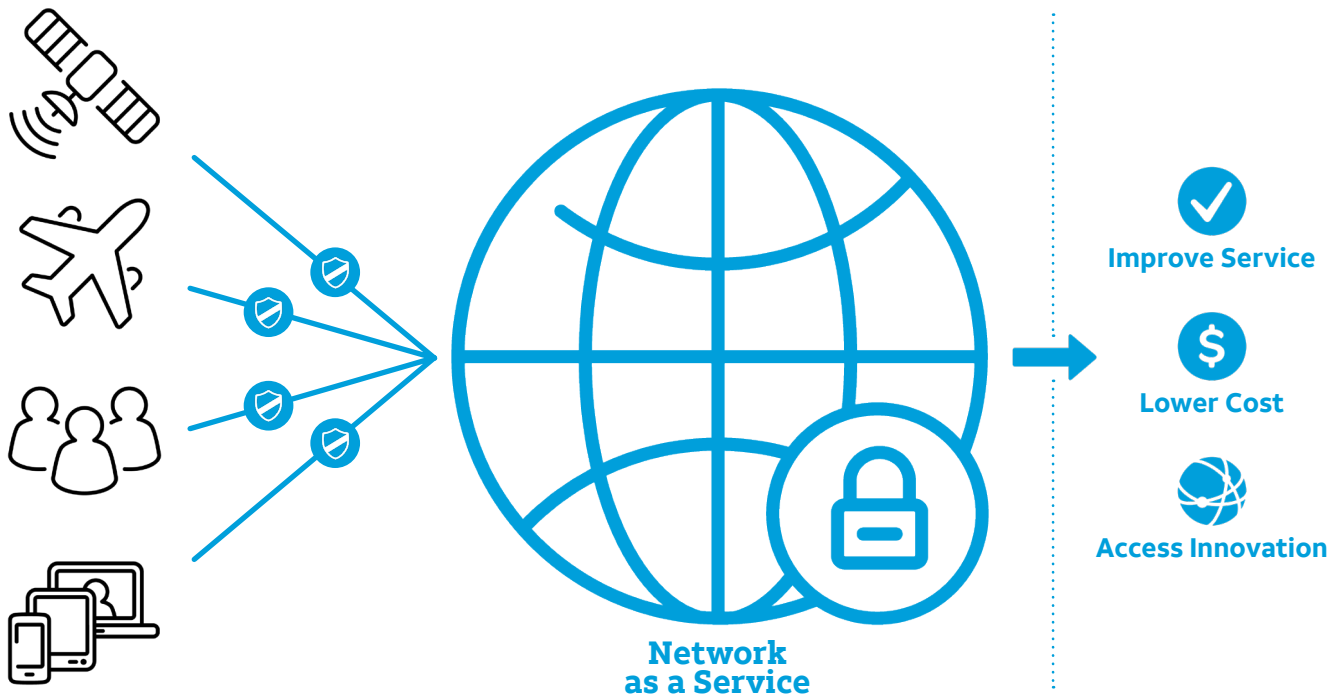


Figure 1 Connect DOD bases, systems, assets and people to improve service, lower cost and access innovation.

Leverage our Network innovation.

By delivering the Network “as a Service” (see Figure 1), Air Force networks (enterprise and mission) can transition to the AT&T Global MPLS Virtual Private Network with Managed Router Service and Managed Security Service. Our move to a software-defined network (SDN), with network function virtualization (NFV), helps us be more responsive, efficient, and more secure.

Network as a Service applies to all networks and there are multiple ways to accomplish this. We can migrate the transport only (referred to as the Wide Area Network) or we can migrate the Base Area Networks and we can migrate them all in stages. From there, the Air Force can move mission networks (like the Space Ground Station network and many more) to the Global MPLS.

This solution applies to any network environment that is sustained and supported by Government personnel or contracts (see Figure 2). Allowing the DOD to focus on its core mission instead of maintaining and sustaining complex, legacy systems. This applies to any legacy network originally built decades ago or those that require interoperability among multiple endpoints.

Figure 2

Government Sustained Networks	Legacy Networks	Interoperable Networks
Base, Post, Annex, or Installation Networks NIPR, SIPR, AORs, COCOMMs, etc. Global Transport on the DOD GIG	Distributed Common Ground System Test Ranges Launch Ranges	Space Enterprise Ground Networks Smart Base Networks

Benefits gained from Network as a Service



FINANCIAL

- Significant TCO Savings
- Pay by usage and SLA
- Eliminate BITI costs



PERSONNEL

- Pivot to mission roles
- Reduce administration
- Access to industry expertise



TECHNOLOGY

- Faster delivery
- Better performance
- Optimized costs



MISSION

- Increase operation agility
- Extend security to endpoints
- Embed network defense

Transition, scale and achieve.

Benefits across financial, personnel, technology and mission delivery may be realized with a Network as a Service model. Financial estimates include saving millions in year 1 on NIPR and SIPR while reducing annual spend on AFIN. There is also the ability to eliminate BITI and other costly infrastructure upgrade programs. Thousands of airmen may be transitioned to operational roles by Full Operating Capability with the elimination of administrative management, monitoring and paperwork. Increased cyber resilience and scale to (SDN) to shift control of the network from hardware to software. Improve mission delivery by seamlessly integrating with 24AF and DODIN. Achieve availability and latency requirements, increase sensor and analytics through the network—all to enhance situation awareness and command & control.

Investing in the future, today.

Our total investment (U.S. and international) over the last 5 years (2012-2016), including capital investment and acquisitions of spectrum and wireless operations, is more than \$140 billion. Capital expenditures were \$22.4 billion for full-year 2016 and \$6.0 billion in 1Q 2017. Between 2012 and 2016, AT&T invested more in the United States than any public company.

We have invested more than \$600 million in our Network Disaster Recovery program and >145,000 working hours on NDR field exercises since 1992. This includes specially trained managers, engineers and technicians from across the United States, as well as a fleet of more than 290 self-contained equipment trailers and support vehicles.

As a founding member of the Veteran Jobs Mission which commits to hire 100,000 Veterans by 2020, AT&T alone aims to hire 20,000 Veterans by 2020. We're supporting the Veterans who make our country stronger and providing disaster relief support to those who need it the most. We've invested more in the future of our country than any other public company.

Take advantage of the investment.

The challenges for government entities to self-build a network of this magnitude would be insurmountable. Through commercial networks and innovation, the Air Force can take advantage of these investments today with the "as a Service" model.

To learn more about leading the
Air Force of the future—today, visit
att.com/publicsector