

AT&T Consulting and Professional Services

Accelerate your Internet Protocol Version 6 (IPv6) transition with our trusted expertise

Benefits of IPv6

- IPv6 has enhanced security
- Supports more efficient network routing
- Ideal for IoT growth and emerging technologies
- Helps federal agencies maintain compliance

Benefits of AT&T Consulting and Professional Services

- We address business challenges by applying specialized technology expertise
- We make complexity simple
- We offer advisory, professional, subscription, and managed services
- We'll help reduce project risk

The transition to IPv6 is vital for scalability, security, network efficiency, and your digital infrastructure

The world has run out of new Internet Protocol Version 4 (IPv4) addresses, which are needed to connect devices to the internet. That's the main reason why businesses are switching (IPv6). IPv6 provides other benefits like stronger security and helps new technologies such as smart devices and cloud computing work better. For all U.S. federal agencies, the transition to IPv6 is mandatory for compliance.

Experts started talking about this transition back in 2012. Regional Internet Registries (RIRs) published exhaustion timeframes for IPv4 addresses. After address exhaustion came and went, the industry turned to an interim solution: carrier-grade Network Address Translation (NAT). This workaround extended the lifetime of IPv4 significantly. NAT allowed address sharing, which slowed the depletion of the IPv4 address pool.

NAT, however, has its drawbacks. It can increase network latency, create traffic bottlenecks, increase network complexity, and complicate troubleshooting. Using NAT can also increase operational costs.

Some businesses have been slow to move to IPv6 due to transition costs and concerns about legacy equipment compatibility. Many Fortune 500 companies are realizing that IPv6 is a strategic necessity. It allows them to remain competitive as compliance, cloud adoption, and seamless partner interconnection come into play.

Key drivers accelerating the adoption of IPv6 include:

Cloud and platform modernization: Cloud-first and Software as a Service (SaaS) platforms are increasingly IPv6-native.

Security and network architecture: Zero Trust architecture requires IPv6 reachability for enforcement and monitoring. Better security features in IPv6 support advanced encryption, authentication, and access control mechanisms.

Device and edge scalability: Mobile, IoT, and edge devices scale more efficiently with IPv6.

Global and partner connectivity: Global supply chains and partner networks demand IPv6 interconnection.

Compliance and federal alignment: Federal partnerships increasingly mandate IPv6 compliance for interoperability and funding eligibility.



Challenges of an IPv6 transition

Why is it so hard for some businesses to move to IPv6? Here are some of the key issues:

Legacy systems. Many existing systems are incompatible with IPv6 and require replacement or significant reconfiguration. Operating both IPv4 and IPv6, known as dual stack, complicates operations as well, requiring staff experienced in both.

Limited vendor support. Without vendors to support security, management, and monitoring, it will be hard for companies to use it.

Skills and awareness gaps. Some companies can't find engineers to deploy and troubleshoot IPv6. Some leaders still don't understand the importance of adoption. Both of these challenges can slow deployment and make it harder for companies to comply with federal regulations.

We can help you implement IPv6

AT&T Consulting and Professional Services provides a full suite of IPv6 consulting services to help customers prepare and transition to IPv6.

These services address the full IPv6 life cycle development, help you to engage us in a flexible manner, and significantly de-risk and speed up the transformation. We'll take you through these stages:

- Readiness assessment
- Strategy and architecture
- Design and engineering
- Testing and piloting
- Transition planning and governance

Readiness assessment

The first step is a thorough readiness assessment. This evaluation identifies network, application, and security components impacted by IPv6 and clarifies risks, costs, and upgrade needs. Most devices and systems can use IPv6, but some work better than others. It's critical to synchronize technology refresh cycles with IPv6 capabilities. Structured inventories and gap analyses help establish a roadmap for sustainable IPv6 integration.



Strategy and architecture

Here, a clear enterprise-wide IPv6 strategy is developed that aligns with technical, business, and compliance requirements. We design scalable addressing frameworks, routing solutions, and security policies suited for hybrid and cloud environments. There is also a focus on maintaining interoperability with IPv4 while ensuring a forward-looking foundation for growth.

Design and engineering

We use our design and engineering expertise to configure network hardware and cloud resources. This includes specifying IP addressing, integrating routers, switches, firewalls, load balancers, Intrusion Detection Systems/Intrusion Prevention System (IDS/IPS), WAN solutions, and cloud gateways. Configuration standards and integration parameters are defined for reliable and secure operation in dual-stack and IPv6-only scenarios.

Testing and piloting

Proof-of-concept lab testing and pilot deployments validate IPv6 integration and prepare IT teams for production rollout. These controlled environments test interoperability in dual-stack and IPv6-only setups, minimizing risk during full deployment. Structured pilots clarify bill of materials and implementation plans for seamless scaling.

Transition planning and governance

Advanced planning and governance ensure a well-managed IPv6 transition, aligning schedules, resources, and roles across teams. Defined frameworks and clear accountability such as RACI project management models support both project and program oversight. Unified governance aligns technical priorities with business objectives, reduces risk, and supports continuity throughout the IPv6 migration process.

Why AT&T Consulting and Professional Services

Since 1999, AT&T Consulting and Professional Services has delivered world-class expertise in secure networking, cloud, voice, mobility, and IoT solutions across the full project lifecycle—from advisory and deployment to premier support services. Our seasoned professionals bring unique and diverse experiences, combining industry insights with proven best practices. This means we can help you harness innovation, overcome barriers to technology adoption, and accelerate your business outcomes in the most cost-effective way. With AT&T Consulting and Professional Services, you gain a trusted partner dedicated to taking your business to new heights.

Ready to take your business to the next level? Contact us at CPS@att.com to discover how AT&T Consulting and Professional Services can help.

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