



## AT&T Consulting Services – SIP Transformation Services

Most organizations are migrating from traditional TDM and ISDN services to SIP trunking for voice, video and integrated capabilities. There are many reasons for this shift, but the primary one is cost savings. Analysts report that costs for PSTN trunking services can be reduced by up to 50% depending upon the specific network configuration and current spend. SIP trunking involves connecting corporate voice traffic to a service provider's network over a data circuit rather than over multiple TDM lines. Traditional TDM T1s and ISDN PRIs provide voice circuits in bundles of 23, which almost invariably means businesses wind up paying for more lines than they actually need most of the time. SIP enables purchasing only the number of concurrent calls that are required, with the flexibility to add more capacity on demand during heavy call periods. SIP trunking can also reduce intracompany long distance fees by transporting voice calls over the corporate data network, resulting in potentially significant cost savings. Other benefits include better visibility into call patterns, improved disaster recovery, centralized management, hardware consolidation and service provider standardization.

Using SIP for contact centers can also improve performance and network efficiency as SIP was designed to not simply emulate TDM voice applications but to enhance their capabilities. SIP supports delivery of customer data (such as caller account numbers) without requiring a separate technology function. For example, past Computer Telephony Interface (CTI) applications used middleware and translation routes to identify the call destination and match the computer endpoint associated with the answering agent, resulting in higher deployment, support and network costs and an inconsistent customer experience. SIP has the inherent ability to include attached customer data as an element in the packets delivering the voice without cumbersome additional applications. This allows multimedia touch-points to perform naturally and efficiently. Some of the benefits of integrating SIP in the contact center include:

- Enhanced customer experience
- Better support of the access channel (e.g. Email, web chat, social media, mobility, SMS, etc.)

- Support mechanism of the customer's choice
- Improved customer interaction
- Reduced cost per transaction

While carriers provide the SIP transport, organizations need to be prepared for their own respective responsibilities in the transformation. This is particularly true for organizations moving to a centralized solution in which calls are delivered first to their data centers before being sent over the corporate WAN to remote offices. This can represent a major change to the network architecture, as traditional voice trunking services are usually deployed at the remote site. In most cases, deploying SIP requires that new network elements called Session Border Controllers (SBCs) be deployed to terminate the SIP trunks and provide security, enhanced call routing and other critical functions. In addition, many organizations lack expertise in configuring and managing their voice platforms, including PBXs, Contact Centers and Unified Communications (UC) solutions, to take advantage of the new capabilities. Adding to the complexity is that SIP includes multiple standards. For example, AT&T's SIP implementation includes support for six Requests for Comment (RFCs) including how call transfers, DTMF handling, codec negotiation, error recovery, and other features are addressed. A further complexity is that SIP has optional extensions available and each equipment vendor is free to implement SIP as they see best. This can cause interoperability challenges when integrating components from different vendors. So in addition to carrier coordination, end-user organizations need to be prepared to shoulder a number of key responsibilities in their SIP transformation, or risk implementation delays, problems during test and turn-up of SIP services, and "Day 2" management challenges that can negatively impact user and customer satisfaction.

In order to be successful, companies need to first understand how moving to SIP will impact their voice and data environments. To do that effectively, they need to evaluate their existing infrastructure to ensure that it is capable of supporting SIP services; or, if not, what would be required to enable that support. This could include upgrading

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the bandwidth of their WAN environment, upgrading or reconfiguring their LAN and WAN to address Quality of Service (QoS) and/or making changes to their existing PBX, Contact Center and UC solutions. They also need to understand how SIP will affect their costs for delivering communications services. Additionally, they need to better understand how the introduction of this new SIP service will impact their ability to effectively incorporate it into their existing operations framework and manage it long term. A comprehensive solution architecture must be developed that encompasses not only the network and SIP trunking services themselves, but also the systems deployed in the data center and possibly remote sites as applicable. To minimize the risk of service disruption, a non-production proof of concept or production pilot should be performed that includes extensive testing of integration, interoperability, functionality and management. Load testing of the new solution is often recommended before shifting voice traffic to SIP trunking. Finally, the organization must effectively plan the migration and SIP service transformation prior to execution and then deliver on that plan to the full production environment.

AT&T Consulting provides a programmatic approach to SIP Transformation, including a full life cycle approach from readiness to Day 2 service support. In order to be as flexible as possible to unique customer needs, we build custom-tailored SIP transformation programs based on the following activities:

- SIP Readiness Assessment
- SIP Strategy and Architecture
- SIP Design and Engineering
- SIP Testing and Piloting
- SIP Transformation Planning
- SIP Transformation and Governance
- SIP Service Management

### SIP Readiness Assessment

The first and most urgent need for a SIP transformation is to perform a readiness assessment. Such an assessment helps identify the aspects of the environment that will be impacted by moving to SIP and identifies the potential risks of SIP adoption. Equipment vendors for infrastructure elements such as routers and SBCs may provide basic or enhanced services and aligning their product refresh cycles with SIP readiness is critical. AT&T Consulting has experience with a broad array of platforms, including SBCs, PBXs, Contact Centers and UC solutions that will be impacted by the deployment of a SIP-based architecture. Additionally, AT&T Consulting has vast experience with evaluating current service management situations relating to the existing Voice services portfolio and what impact SIP trunking will introduce into the mix.

### SIP Strategy and Architecture

Although they provide similar functions (transporting voice), the underlying transport and protocols between TDM/ISDN trunks and

SIP trunks are completely different. As such, the architecture of an environment migrating to SIP can change dramatically. This is particularly the case if a company is moving from distributed voice trunk services to centralized call delivery. The solution must address security, high availability, supportability and interoperability. The potential cost savings of moving to SIP must be considered in the context of the costs of the required changes in the environment. AT&T Consulting provides customers with an architectural framework for integration of SIP in phases within the current TDM/ISDN environment and a strategy for deploying SIP within the enterprise.

### SIP Design and Engineering

AT&T Consulting provides design and engineering expertise to address the detailed configuration and integration aspects of a SIP architecture. This service focuses on the development of the equipment configurations, test plans and integration plans required to integrate the elements into a SIP environment. Target SIP infrastructure elements include IP addressing, routers, SBCs, PBXs, Contact Centers and UC platforms. Consultants provide detailed configuration and integration parameters for each element impacted by SIP integration.

### SIP Testing and Piloting

AT&T Consulting can assist customers with the definition and deployment of lab environments for proof of concept testing as well as pilot deployments to validate integration and educate IT staff. These environments are developed to test SIP trunking functionality and integration into the PBX, Contact Center and UC solutions. AT&T Consulting can develop bills of materials, lab and pilot design and assist customers in the validation and execution of the testing and production environments. Load testing of the new architecture is strongly recommended prior to shifting production voice traffic to identify any issues that may affect the call quality or delivery of calls during peak times.

### SIP Transformation Planning

AT&T Consulting can develop an overall governance plan and integration schedule that can be utilized to ensure seamless transformation to SIP. Integration planning includes development of the overall deployment schedule and identification of necessary resources and tasks, and takes into account input from the teams involved in program governance.

### SIP Transformation and Governance

AT&T Consulting can assist customers with either project-based work scope or “Trusted Advisor” augmentation of existing IT teams in technical or governance capacities. Staff augmentation consists of subject matter experts delivering defined tasks around a SIP migration including project management, design and engineering, and integration activities. The governance model incorporates the development of project based teams that own and manage the transformation to SIP. The governance plan will incorporate engineering, operations, communications, procurement, field engineering and internal project management teams under one umbrella responsible for deployment of SIP services.

### SIP Service Management

AT&T Consulting can assist in the development of a SIP Service Management Strategy that can start in the SIP Readiness Assessment phase and steward the introduction of this new service into Day 2 management. AT&T Consulting's SIP Service Management approach focuses on current operations architecture (People, Process and Tools) against the SIP service Target State to define a risk minimized and organizationally acceptable transition and Day 2 care model. This capability, tied to our expertise in developing solutions in the core SIP service infrastructure, helps address critical readiness issues as well as the eventual development of a robust SIP support model.

### AT&T Consulting SIP Services Value Proposition

AT&T Consulting provides a world class methodology, expertise and experience, and heritage as a Trusted Advisor. AT&T offers a proven methodology and approach, training, and experience; best-of-breed solutions; a global network of proven technology; and its history of stability and success to deliver solutions that are effective and efficiently delivered. As a leader in network technologies and communications for over a century, AT&T possesses the global delivery capability to help companies appropriately and cost-effectively address their SIP Trunking requirements.

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