

Developer's Guide to Messaging

Getting Started

Security & Compliance

Scaling & Recovery

Getting Started

Unlock the full potential of your messaging solution with SignalWire, the Programmable Unified Communications platform designed to streamline the integration of voice, video, messaging, and AI features into your tech stack. This guide offers resources and insights to begin using SignalWire's comprehensive set of tools to build scalable, customizable, and compliant messaging applications.

Introduction to The Campaign Registry (TCR)

If you're using an application platform (e.g. SignalWire) to send customers messages from a local U.S. phone number, you need to register with the Campaign Registry regardless of your use case. This is an industry-wide initiative to prevent spam and improve your deliverability. If you choose to use SignalWire as a Campaign Service Provider (CSP), you'll find that we make this process incredibly simple through our TCR wizard.

- ✓ Get started with understanding TCR and how to register.
- ✓ Discover best practices and our tips for getting registered the first time.

[Explore our TCR Overview](#)
[How to Register with TCR](#)
[TCR Pricing Guide](#)

Become a CSP

If you're looking to become your own Campaign Service Provider (CSP), start here! As a CSP, you can directly manage your Brands and Campaigns with TCR, giving you more control over your messaging operations. To get started, register with TCR and create a Brand, ensuring all information is accurate for identity verification. Then follow this guide.

- ✓ Register with TCR, create Brands and Campaigns, and associate them with SignalWire via the Dashboard or REST APIs.
- ✓ Learn what a Campaign Service Provider is, and if you should become one. Get
- ✓ guidance on DCA election, vetting requirements, associated fees, and best practices.

[Learn About Becoming a CSP](#)

AI Automation

SignalWire's AI voice agents can use SMS as part of conversational flows. Using SignalWire Markup Language, you can script advanced actions like sending SMS messages, fetching real-time data, or transferring calls within AI interactions. This guide demonstrates how to build an AI assistant that can handle diverse tasks, such as sharing alerts via SMS.

- ✓ Automate tasks such as sending SMS alerts or managing call flows.
- ✓ Build AI systems that can handle diverse use cases.
- ✓ Leverage SignalWire's tools to deliver personalized communication solutions with advanced SMS capabilities.

[Enhance AI Agents with SMS-sending Capabilities](#)

Messaging Guide Overview

Looking for code examples on a specific task? Easily find the exact SignalWire guides you need by using the Product, SDK, and Language filters. Quickly pinpoint the most relevant documentation for your messaging project.

- ✓ Get examples in multiple languages to integrate SignalWire features into various projects.
- ✓ Optimize and maintain campaigns with bulk management tools.
- ✓ Send and receive your first SMS, send SMS from the browser, forward texts to email, and more.

[Messaging Guide Showcase](#)
[RELAY \(v4\) Node.js SDK](#)
[Compatibility REST API](#)

Getting Started with Messaging APIs

SignalWire's Messaging APIs allow you to add real-time notifications, alerts, and transactional messages to your platform across multiple channels.

- ✓ Test delivery on multiple carriers to ensure high reliability.
- ✓ Use dynamic content to tailor communications based on customer interactions.

[Learn More About Messaging API](#)
[Get Started with Platform Free Trial](#)

Multi Factor Authentication

Provide your users protection against many security threats that target user passwords and accounts. Use Multi Factor Authentication (MFA) or Two Factor Authentication (2FA) to generate one-time-passwords via SMS.

- Authenticate users through a secret token that is sent to them over SMS.
- Enable 2FA for users without making any changes to existing application logic or database structure.

[Request MFA Token via SMS](#)
[2FA via SMS Guide](#)

SignalWire Developer Documentation

Our comprehensive documentation covers everything from initiating your first voice call to integrating advanced AI features.

[View SignalWire Developer Docs](#)

SignalWire Github Repository

Access open-source projects, sample code, and libraries on Github. Explore best practices, debug, or clone projects to fast-track your development.

[View SignalWire Github](#)

Developer Support & Community Resources

At SignalWire, developers never work alone. We offer extensive resources to help you build, scale, and optimize your messaging platform. Access our Developer Blog for the latest best practices and emerging trends, and engage with the SignalWire Community for advice and collaboration.

Developer Blogs

Stay informed with articles covering a wide range of topics, from TCR updates to new messaging features.

[SignalWire Blog Library](#)

SignalWire Community Channels

Connect with other developers, share knowledge, and get real-time help from peers and SignalWire experts.

[Join the SignalWire Community](#)

Security & Compliance

Security and compliance are crucial in many industries, particularly within regulated sectors such as healthcare, finance, and international markets. SignalWire's security features ensure that your platform meets industry standards, protecting you and your customers.

Regulatory Compliance

SignalWire is compliant with several major global regulatory frameworks:

HIPAA: Secure communications meet HIPAA requirements for patient data protection.

GDPR: Data handling practices comply with GDPR standards for businesses operating in the EU, including data retention, encryption, and user consent.

PCI-DSS: Sensitive payment information and cardholder data is protected by a range of security measures designed to safeguard information during transactions.

SOC 2 Type 2: Systems meet the highest standards for security, availability, confidentiality, processing, integrity, and privacy.

[HIPAA/PCI Compliance Overview](#)

Pro Tip: Implement a compliance-first mindset by incorporating features like encryption at the API level, ensuring sensitive data never leaves secure environments. Keep compliance configurations flexible to quickly adjust for evolving regulatory requirements.

End-to-End Encryption

SignalWire provides end-to-end encryption for voice, video, messaging, and data exchanges. Ensure communication is secure from the moment it leaves your system until it reaches its destination, protecting against unauthorized access.

Global Data Residency

For businesses that need to comply with data residency laws, SignalWire's global infrastructure allows developers to select specific regions to store data, maintaining compliance with laws like GDPR that mandate local data storage.

[Explore Security and Privacy Resources](#)

Scaling & Recovery

Leveraging SignalWire's cloud-based architecture allows developers to build a scalable and resilient messaging platform using infrastructure and recovery tools that meet the demands of both everyday operations and unforeseen challenges.

Elastic Scaling

Handle large volumes of calls, messages, and video interactions during peak traffic without over-provisioning. APIs and call flows should be optimized to take advantage of this elasticity.

Global Load Balancing

Distributing communications across regional data centers minimizes latency and optimizes performance. Design call flows with redundancy in mind, allowing traffic to be rerouted to different regions during high demand or localized issues.

Pro Tip: Implement automated performance monitoring to quickly detect and address bottlenecks as they occur during peak usage times. Regularly simulate peak traffic scenarios to ensure seamless performance under pressure.

Geo-Redundancy

Regional data centers act as backups for one another. If a data center in one region experiences downtime, traffic is automatically routed to another location, ensuring uninterrupted service.

Failover Mechanisms

Implement failover mechanisms using SignalWire's APIs, ensuring that critical communication flows are rerouted to backup systems in the event of an outage. This ensures that customer communications are not disrupted.

Real-Time Monitoring & Alerts

SignalWire provides tools for real-time monitoring of system performance and communication flow health. Set up automated alerts to detect failures or unusual traffic patterns early, allowing quick action in the event of system issues.

Backup and Restore

Secure storage options provide encrypted backups that can be quickly retrieved during a disaster recovery situation.

Key Criteria for Choosing a Messaging Provider

Platform & Connectivity

- Cloud options
- Integration capabilities
- Network quality
- Scalability

Security & Compliance

- Security features
- Compliance and certifications

Advanced Features

- Reporting and analytics
- Multichannel support
- AI and automation

Resiliency

- Disaster recovery

Global Operations

- Global reach
- User-friendly interface
- References and case studies

Operational Excellence

- Pricing structure
- Customer support and SLAs

Ready to Start Building?

SignalWire is the platform of choice for developers looking to build customizable, scalable, and compliant messaging solutions. Whether you're starting out or scaling an existing platform, SignalWire's tools are here to help.

[Create Your First Project](#)

