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E-BOOK

# Platform Evaluation Guide





# Platform Evaluation Guide

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# What is Twilio?

The Twilio Customer Engagement Platform allows developers to easily add trusted, reliable communications—SMS, Email, Voice, Video, WhatsApp, and more—to any application.

Twilio offers a comprehensive suite of channel APIs, powerful serverless tools, and fully-programmable solutions that can be rapidly deployed and are ready to use in just minutes. Our products are all available from a single, global provider—with a widespread network across over 120 countries—and backed by best-in-class security, reliability, and industry expertise.

With Twilio, over 12 million developers across 221,000 of the world's most respected brands have freed their teams from the complexity and cost of disconnected channels, continuous hardware maintenance and scaling, and the need to negotiate global provider relationships. Instead, by partnering with Twilio, these organizations can focus their time, effort, and capital on growing their brand and bringing new ideas to life—on the world's most trusted customer engagement platform.

*Over 12 million  
developers across 221,000  
of the world's most  
respected brands*

## Who uses Twilio?

Companies of all sizes, across every major vertical—from retail and e-commerce, to real estate, financial services, government, and healthcare—rely on Twilio to drive customer communications.

What can be built on Twilio is endless, but some of the most common solutions that we see fall within marketing, operations, and customer service use cases. Here are some examples:





- The American Red Cross streamlines dispatch, staffing volunteers 50% faster using Twilio SMS.
- Stripe trusts Twilio to handle approximately 70% of its total user verifications, driving a 6 point improvement in login success rates
- Marks & Spencer revamped its contact center with Twilio IVR, Programmable Voice, and speech recognition, resulting in 90% call routing accuracy, 98% caller response and engagement, and 10 seconds saved on contact center calls—seeing a \$10M uplift in sales.
- Trulia converts 60% of online leads into clients on its Twilio-powered platform

Visit [customers.twilio.com](https://customers.twilio.com) to explore detailed customer stories highlighting how Twilio customers—like Shopify, Airbnb, Morgan Stanley, Netflix, ING, Stripe, Intuit, Trulia, eBay, and thousands of others—have found success with Twilio.



## *\$10M uplift in sales*

*Marks & Spencer revamped its contact center with Twilio IVR, Programmable Voice, and speech recognition, resulting in 90% call routing accuracy, 98% caller response and engagement, and 10 seconds saved on contact center calls—seeing a \$10M uplift in sales.*



## What do analysts say about Twilio?

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Industry analysts recognize Twilio as one of the pioneers in cloud communications that created the category of Communications Platform as a Service.

We are proud to announce that Twilio has been named a Gartner Representative Vendor in the October 2020 Market Guide for Communications Platform as a Service. We believe this is a powerful step forward in our work toward building a customer engagement platform. [Click here](#) to learn more.

Forrester also took notice of how “[Lyft] developed custom code using Twilio to bind these channels together, as existing technology couldn’t orchestrate the contact flow back and forth across channels, including linking to agents,” with their recent [programmable contact center report](#), where they say that in the next 5 years “CPaaS vendors like Twilio that offer capabilities via APIs

will continue to move “upmarket”; they will add more fully featured, packaged apps for contact centers as well as lower-level APIs to support customizations.” Source. ForresterNow: The Programmable Contact Center: APIs And Low Code Optimize The Customer Journey. December 23, 2020.

*Twilio has been named a Gartner Representative Vendor in the October 2020 Market Guide for Communications Platform as a Service*

IDC recently published a profile of Twilio writing that “Twilio has a broad and deep portfolio of services and is a top player in the core CPaaS voice, messaging, and video segments.” They go on to say that “The future is bright for Twilio. It is the market leader with 26.6% market share by revenue at year-end 2019. It was also the only company to top \$1 billion in revenue. The company has consistently outpaced its rivals in growth, has focused on innovation, and is bringing new services to



market on a regular basis. It is also the most accomplished marketing platform in the industry and the most efficient at productizing and rolling out new solutions.” Source: IDC Vendor Profile: Twilio Company Profile: Twilio Continues to Outpace the CPaaS Sector. September 2020. Doc #US46085120

*“The company has consistently outpaced its rivals in growth, has focused on innovation, and is bringing new services to market on a regular basis. It is also the most accomplished marketing platform in the industry and the most efficient at productizing and rolling out new solutions.”*

Twilio’s growth into customer engagement is also getting the attention of industry analysts.

Omdia writes that Twilio’s recent acquisition of Segment could position the firm as a leading customer engagement provider and that it “expands Twilio’s reach outside customer service and into marketing, a key functional area that will enable connected omnichannel engagement across the greater enterprise.” Source: Omdia Twilio’s Segment Acquisition Could Position the Firm as a Leading Customer Engagement Platform Provider. November 2020.

## Twilio Editions

Depending on the size of your organization or the industries in which you operate, you may require some advanced features in order to meet specific regulatory and compliance requirements—or simply ensure that your organization is safe and secure.

To help meet these needs, we offer Twilio Editions: four different packages of advanced features, addressing specific Security, Data, Administration and Enterprise





needs. Editions packages are specifically tailored to deliver the powerful features you need to run your customer engagement your way.

Every Editions package includes access to Admin Center and unlimited usage of Studio, Twilio's visual workflow builder.

## Security Edition

Security Edition is for Twilio customers who need advanced security controls to meet regulatory and compliance requirements. It includes access to the following features:

- Message Redaction
- Audit Events
- Static Proxy
- Public Key Client Validation
- HIPAA Accounts
- Encrypted Recordings
- Custom Storage



## Data Edition

Data Edition is for Twilio customers who need advanced controls for their data and billing. It includes the following features:

- Account Insights
- Bulk Export
- Custom Invoicing
- Media Retention (beta)

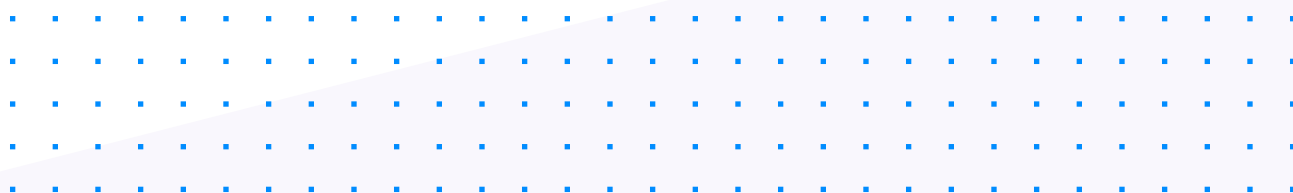
## Administration Edition

Administration Edition is for Twilio customers who need to control how employees access your Twilio account, understand who made which changes, and revoke access when employees leave. It includes the following features:

- Single Sign-On (SSO)
- Audit Events
- 99.99% API Uptime SLA

## Enterprise Edition

Enterprise Edition includes access to all features across our Editions packages. It is a great choice for companies who need to leverage the full capacity of Twilio to support enterprise deployments.







# Developer Experience

The Twilio Customer Engagement Platform is built on the foundation of the company's developer-first ethos, which dates to the company's founding in 2008. From day one, we've grown due to our relentless focus on building tools that enable developers every step of the way. Each facet of Twilio's platform—from our API-first approach, to SDKs, serverless tools, best-in-class documentation, and more—has been tailored to provide a trusted experience that developers not only prefer to build with, but one that they love.

We're not done, either. As the world's most innovative customer communications platform, Twilio continues to enhance its ecosystem and deliver powerful new features to support a richer development environment. When you build on Twilio, you're choosing the platform you can trust to drive efficient, best-in-class experiences for your developers and customers alike for decades to come.

## Building on Twilio

### Channel APIs

Channel proliferation continues to expand as digital transformation accelerates across industries. With Twilio's vast breadth of channel APIs, businesses are fully prepared to bridge communication gaps across every critical channel—today, and well into the future.

Developers are free to take control and accelerate time to market, managing all of their communication channels through a single platform—from SMS and Email, to Voice, WhatsApp, Push and (a lot) more. Both developers and business stakeholders can assess performance across their channels with centralized insights that enable you to understand what's working and quickly take action as necessary. **You can explore all of Twilio's products [here!](#)**



## SDKs

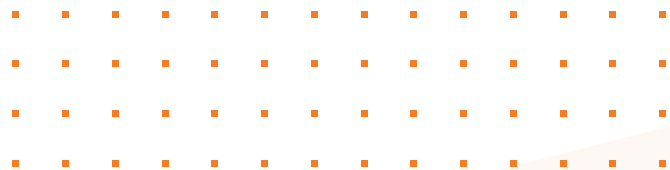
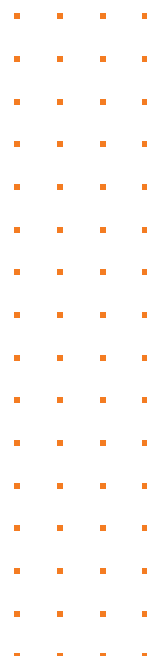
The Twilio customer engagement platform offers developers both server-side and client-side SDKs to support their workflows. Twilio’s server-side SDKs—available in all of the most popular server-side languages, like C#, Java, Node.js, PHP, Python and Ruby—make it easy for you to use Twilio’s REST APIs, generate TwiML, and perform other common server-side programming tasks.

On the client side, Twilio’s JavaScript, iOS, Android and Flex SDKs enable you to create video conversations, initiate VoIP calls, implement real-time chat, and more— whether in a browser, on a device or in a contact center.

As the Twilio platform has developed and new products have been introduced, our API surface has grown too. When it comes to libraries, that kind of development could result in a disconnect, resulting in “API drift.” Not with Twilio. With the help of some automation (and a few layers of manual optimization), Twilio’s helper libraries are auto-generated every two weeks. Our use of CI/CD workflows means that you can trust Twilio to continually improve our libraries at scale, while always benefiting from the most up-to-date functionality available.

## Serverless Tools

Build, deploy, and operate powerful apps at scale without having to manage servers or constantly monitor scale. [Twilio Runtime](#) is a suite of serverless tools—built by developers, for developers—supporting every step of the development process. Runtime includes Twilio CLI, helper libraries, API keys, debugging tools, a powerful visual workflow designer called Studio, and a serverless hosting environment for Node.js code and static assets called [Twilio Functions](#).





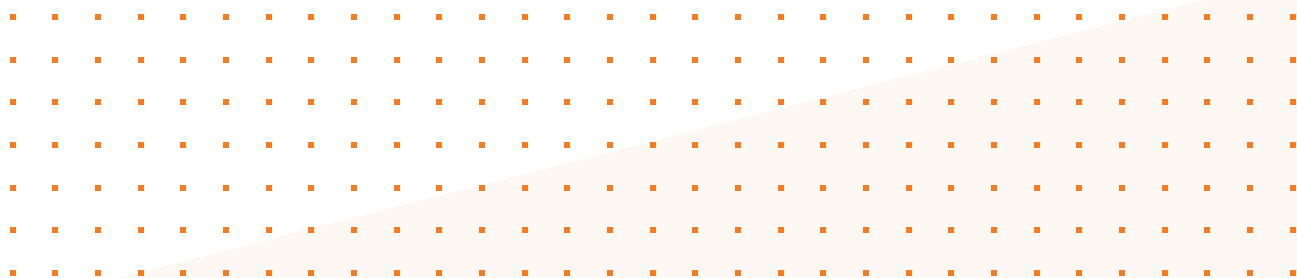
## Services

Building a completely secure communications solution for your business requires far more than reliable and scalable channel APIs and the tools to implement them. It demands services such as identity management, authentication, secure and compliant payments, privacy controls like number-masking, and more. With so many development teams needing to implement these kinds of services, while providing global availability and Enterprise-level scalability, why reinvent the wheel?

Accelerate your time to market and implement years of best practices in just minutes with powerful services provided by Twilio, which have been expertly designed to handle the most common communications use cases.

We deliver services with the level of security, reliability, and scale that the world's most trusted brands expect from us.

- **Identity:** Whether you need to interpret important data and context for who's behind every conversation—things like origin, line, and carrier type, or even caller name and type—or take steps to future-proof yourself (and your customers) from fraudulent account creation and transactions, Twilio's Lookup, Verify and Authy services help ensure that trust and verification is built into every aspect of your communications flow.
- **Intelligence:** Individualized customer interactions can get complicated quickly. As the ability to handle growing demand at scale becomes critical, Twilio can enable your business (and team) to scale with intelligent tools such as AI chatbots featuring Autopilot and Twilio Conversations—a single API to manage scalable, multi-party conversations across channels.





- **Orchestration:** Seeing the big picture is critical to ensuring that each and every customer interaction is handled efficiently. Sometimes this means connecting a customer with the most skilled agent to meet their unique needs. Building a system with intelligent routing at scale requires a lot of code to implement and maintain. With Twilio, you can design and deploy seamless communication workflows across the platform with visual, drag-and-drop builders like Studio. When a human touch is needed, TaskRouter's programmatic, skills-based routing sets up your frontline team for success, while ensuring that each customer is placed into the right agent's hands each and every time.

## Operations & Monitoring

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Built on Amazon Web Services (AWS), Twilio utilizes AWS services as well as third party systems for operational alerting, performance monitoring, log aggregation, configuration monitoring and process automation. Twilio leverages a microservices architecture that expands and contracts based on resource requirements.

We help customers architect for capacity and scale with downstream providers by designing for solutions factors such as capacity, throughput, performance and quality. Twilio will provide best practices and recommend specific configurations in order to meet the expected goals in performance and quality. These decisions are driven by Risk, Business & Privacy Impact analysis methodologies.

The Twilio Super Network provides the engine needed to deliver communications globally, managing partner carrier relationships, aggregation services and compliance needs. Twilio takes a proactive approach to routing, by optimizing routes and spotting potential carrier outages before they impact your customers. We have 12 years of experience developing and enhancing unique internal tools



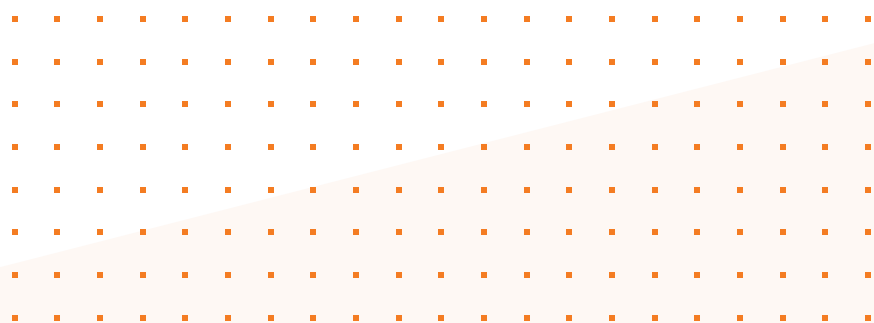
that monitor hundreds of millions of data points per day in order to identify fine-tuned routing optimizations that maximize quality. Twilio's service availability and the status of global telecom carriers is available here:

- [Twilio Service Availability](#)

Twilio employs a network based intrusion detection system (IDS) provided by AWS GuardDuty. Amazon GuardDuty analyzes AWS CloudTrail, VPC Flow Logs, and AWS DNS logs. The service is optimized to consume large volumes of data for near real-time processing of security detections. It uses threat intelligence feeds, such as lists of malicious IPs and domains, and machine learning to identify unexpected and potentially unauthorized and malicious activity within the Twilio AWS environment.

Twilio logs high risk actions and changes in the production network. We leverage automation to identify any deviation from our technical standards and raise issues within minutes of if a configuration change occurs. Twilio also logs user attempts to authenticate to the production environment (both successful and unsuccessful attempts).

Security logs are aggregated within a log aggregation platform and retained for 180 days (90 days hot, 90 days cold). Access to these security logs is limited to the Twilio Security Incident Response and Monitoring team. We consolidate security logs from Twilio devices and AWS and monitor them in a centralized system in SumoLogic, and are time-synced with NIST servers.





## Reporting & Analytics

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Leveraging the internal tooling work described above in “Operations & Monitoring”, a powerful set of self-service external reporting and analytics tools have been released that utilize thousands of monitors at the carrier and customer edges to provide insight to how services perform for their configured services.

Customers have provided feedback that their reporting requirements differ based on the channel and use cases that they deploy. To meet the unique reporting needs of our customers, Twilio has released the Insights tool suite (with more tools planned). These tools provide customers with GUI driven analytics and dashboards, in addition to the existing API access that customers have, that allows them to scrape log data and store it in their own data lake. Three examples of the Insights analytics tools are described below:

- [Twilio Voice Insights](#)
- [Twilio Messaging Insights](#)
- [Twilio Flex Insights](#)



# Performance

## Architecture

### Super Network

The result of more than a decade of partnership with over 1,500 global carriers, Twilio's Super Network abstracts the deep complexity of sending communications to billions of people worldwide while offering levels of redundancy, reliability, and security that no other provider currently offers.

Greater than the sum of its parts, the Super Network uses more than 8,000 network monitors and 800 million data points to detect 98% of incidents before customers do—and 95% of incidents prior to detection by the carriers. The Super Network boasts an average route depth of 4 providers and it is constantly optimizing downstream capacity for 50% utilization levels. Twilio actively measures voice quality on every route within the Super Network in real time, changing route traffic as necessary to consistently deliver the highest quality for you and your customers.



*Twilio's Super Network uses more than 8,000 network monitors and 800 million data points to detect 98% of incidents before customers do—and 95% of incidents prior to detection by the carriers.*



For a detailed overview of the Twilio Super Network—including quality, coverage, provider relationship management, regulatory compliance information and more—download [Twilio’s Super Network Overview](#).

### ***Carrier Network Relationships***

Twilio manages the complexities of provider relationships from end-to-end, so you don’t have to. Our team proactively researches, engages, and onboards only the best providers through a proven qualification process, comprehensive market research, and continual network expansion.

Before entering a country, we conduct a thorough regulatory and legal review, covering provider viability and number marketability based on relevant laws, along with a market assessment that includes a review of available providers and routes to ensure the highest-quality providers are chosen for each individual market.

### ***Phone Numbers***

When it comes to phone numbers, Twilio’s differentiation is rooted in our consistently deep and broad inventory of available numbers (made possible through constant sourcing and proactive inventory management), our dedication to instantly provisioning numbers for use, and our powerful Phone Numbers API. We have the largest selection of phone numbers available for instant provisioning in over 100 countries and 50,000 specific localities to meet the requirements of any use case. The Twilio Phone Numbers API allows you to find the right numbers by searching our global catalog based on your specific needs or filtering capabilities. Before you purchase a number, detailed information about the number’s geodata, regulatory requirements, configuration, and capabilities (like one or two-way messaging or caller ID) are available in an easy-to-view interface.







## Shortcodes

Whether you're sending high volumes of time-sensitive messages, you require a more recognizable brand experience, you're looking to increase deliverability or all of the above, Twilio is at the forefront of shortcodes. We currently offer short codes in 14 countries across the globe, including the US, Canada, UK, Mexico, Brazil, Japan among others. Because of Twilio's reputation within the industry—carriers know and trust that, as a Twilio customer, you have the tools and support you need to follow strict short code guidelines.

Lease a new short code or simply migrate your existing one, hassle-free. Twilio handles the rigorous 8-12 week carrier approval process, so you don't have to.

## Infrastructure

Powering hundreds of thousands of customers across a wide range of channels, the Twilio Customer Engagement Platform handles a global scale with extensive volumes of communication-based transactions. Typical technology stacks consist of physical hardware servers, storage, network connectivity, operating systems, software frameworks, and applications. The inherent reality of distributed software at scale is that the occurrence of failures is not a question of "if," but rather "when and where."

Instead of worrying about network diagrams, servers, and redundant power sources, Twilio believes businesses should be free to focus on building unique communication experiences with their customers. To make this possible, we've spent over 10 years building out the world's most reliable and resilient communications network.

We've deployed our infrastructure across multiple AWS regions that are geographically independent to ensure redundancy. To augment our cloud infrastructure, we deploy physical infrastructure through our Twilio Network Exchange, which enables high-quality direct connections with our carrier partners and customers alike.





But we demand more from our infrastructure than just reliability—we demand real intelligence. We invest millions into our AI, machine learning, and software to identify problems as quickly as possible. In fact, we're often alerting our carrier partners before they're even aware of an issue.

## Cloud Scale

Twilio's data center is the AWS Cloud Computing platform, and our platform is deployed on AWS across the globe. The Infrastructure as a Service (IaaS) layer provides Twilio's platform on-demand computing resources.

When we say that Twilio is built for global scale, it's not promoted lightly—it's undisputedly proven.

We support more than 25 billion calls per year and messaging to over 180 countries. Twilio SendGrid Email has processed over 3 trillion emails—over 1 Trillion in 2020 alone—with a proven ability to support over 5.8 billion per day and over 70 billion messages each month.

## Global Reach

Twilio's global infrastructure provides resilience, redundancy, and low latency through Regions, Edge Locations and private network endpoints. We continually evolve our offerings to increase the capabilities, footprint, and product availability that we offer globally. We offer Edge Locations on 6 continents, including 8 public Edge Locations with AWS and 7 private hardware connections that are available to customers through our Interconnect Product. Edge Locations allow customers to bring Twilio's public and private network connectivity closer to their applications for improved performance, security and reliability.





There are three main components of Twilio's global infrastructure:

- An AWS network backbone
- Twilio's Cloud and physical infrastructure
- How we meet our customers' need for direct, secure access to this infrastructure

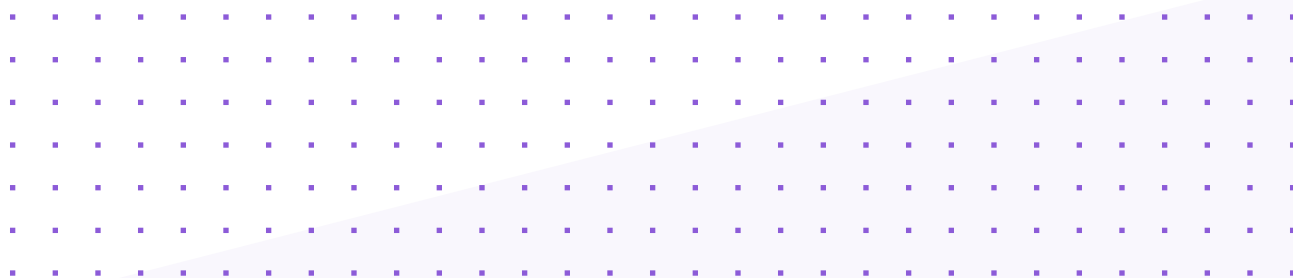
Details on each of the three components and more can be found in our [Twilio Infrastructure E-Book](#).

## Resiliency & Testing Standards

Competitors talk about new product and feature releases every 6 weeks, Twilio releases new products/features/enhancements every 2 days. How are we able to achieve this velocity while maintaining our quality SLAs?

Twilio's platform is built using a 6-dimension engineering framework based on industry standards for product maturity that we call the Operational Maturity Model (OMM). This defines the standards for our engineering and ensures that our products are "well-hardened" for growth and scale.

Find details on our OMM standards in our [Twilio Infrastructure E-Book](#).



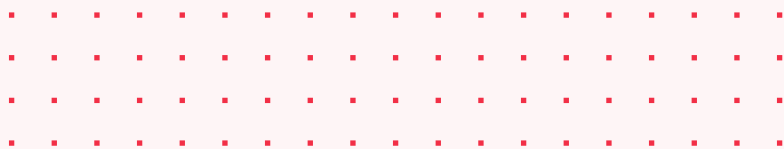


# Security Overview

From the world's largest public companies to early-stage startups, customers rely on Twilio's platform to exchange millions of communications every day, supporting myriad applications. These communications facilitate deliveries, power customer support, and keep mission-critical applications running 24x7x365. Providing a reliable infrastructure is only the first step. These systems must follow the latest security best practices and comply with strict privacy regulations and corporate policies.

While security is a high priority for all teams, a dedicated Security Team manages Twilio's security program. The Twilio security framework is based on the ISO 27001 Information Security Standard and includes programs that cover security on a company-wide basis. Twilio's security is represented at the highest levels of the company, with our Chief Information Security Officer meeting with executive management regularly to discuss issues and coordinate company-wide initiatives. Information security policies and standards are approved by management and are available to all Twilio employees.

Below, you'll find valuable information on key components of Twilio's security practices. For a deep-dive, please refer to the [Twilio Cloud Communications Security Whitepaper](#) which details our complete Security Program and covers policies and procedures, asset and access management, cryptography, physical and operations security, communications and business continuity security, people and product security, cloud and network infrastructure security, compliance, third-party security, and vulnerability management, as well as security monitoring and incident response.





## Data Privacy & Handling

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### Compliance Certifications

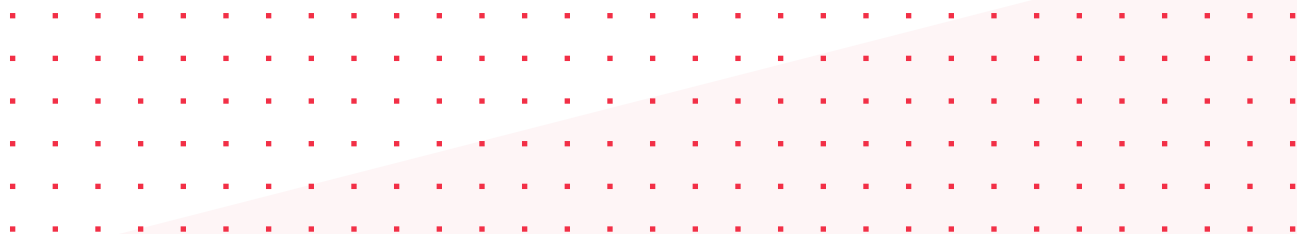
#### *ISO/IEC 27001, ISO/IEC 27017, ISO/IEC 27018*

As part of our information security management system, Twilio is certified under ISO/IEC 27001, a management system that provides specific requirements and practices intended to bring information security under management control. In addition, we have attestations to ISO/IEC 27017 and ISO/IEC 27018—internationally recognized codes of practice that provide guidance on controls to address cloud-specific information security threats and risks, as well as for the protection of personally identifiable information (PII). See [Twilio's ISO/IEC Certifications Documentation](#) for details on our compliance with these standards.

#### *Cloud Security Alliance*

Twilio is a member of the Cloud Security Alliance (CSA), the world's leading organization dedicated to defining and raising awareness of best practices to help ensure a secure cloud computing environment. [Twilio's Cloud Security Alliance listing and consensus assessment](#) is available publicly.

CSA operates the most popular cloud security provider certification program, the CSA Security, Trust & Assurance Registry (STAR), a three-tiered provider assurance program of self-assessment, third-party audit and continuous monitoring. CSA also manages the CSA Global Consulting Program, a professional program that allows cloud users to work with a network of trusted security professionals and organizations that offer qualified professional services based on CSA best practices.





## ***HIPAA Eligibility***

The Health Insurance Portability and Accountability Act (HIPAA) was signed into law in 1996 as part of a larger healthcare reform package in the United States. Twilio's HIPAA eligibility is another milestone for the company in elevating our data privacy and security standards to meet the needs of our customers who are subject to HIPAA regulations.

Twilio customers that rely on our platform to process protected health information (PHI) on their behalf must execute Twilio's Business Associate Addendum (BAA). Twilio's BAA has been developed to account for the specific products and services that our customer engagement platform offers. We operate on what is commonly referred to amongst cloud infrastructure providers as the "shared responsibility model" to help enable our customers to comply with their HIPAA obligations. Additional details regarding Twilio's HIPAA eligibility can be found at [twilio.com/hipaa](https://www.twilio.com/hipaa), and by speaking with your Twilio sales or account representative.

## ***PCI for Voice***

Twilio's Programmable Voice product enables developers to build fully customizable payment solutions on a secure, trusted platform. Programmable Voice is Payment Card Industry Data Security Standard (PCI DSS) Level 1 compliant—the most rigorous certification level available.

Whether you're PCI compliant or building an app that requires PCI compliance, you can rely on Twilio to accept payments securely and reliably. The latest details on Twilio's PCI compliance are available at [twilio.com/pci-compliance](https://www.twilio.com/pci-compliance).

## ***SOC 2 Compliance***

Twilio's Authy and SendGrid offerings are SOC 2 Type 2 compliant, with Twilio Programmable Voice SOC 2 Type 1 compliant. Detailed reports on these products' compliance standards are available to eligible customers, upon request.



## Customer Agreements

For your convenience, Twilio's standard agreements for our Terms of Service, Acceptable Use Policy and Service Level Agreement can be found at the links below:

- [Terms of Service](#)
- [Acceptable Use Policy](#)
- [SLA](#)

## Data Privacy

Privacy and the protection of customer data is core to Twilio's mission of being the world's most *trusted* customer engagement platform. Twilio's privacy program is founded on our [Binding Corporate Rules](#). Our team is always more than happy to discuss specific questions about Twilio's privacy program, but for your convenience, some of the most common and helpful links can be found below:

- [Privacy Statement](#)
- [Data Protection Addendum](#)
- [GDPR](#)
- [Privacy Shield](#)
- [CCPA](#)
- [Sub-Processors](#)

Have additional questions  
about how Twilio is built  
to support your needs?

[Let's talk](#)



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