

5 questions you should ask when choosing an IoT connectivity provider

QUICK FACTS ABOUT TWILIO

- Quick and Easy SIM Provisioning
- Pay-As-You-Go Pricing
- SIM Lifecycle Management
- Complete Transparency
- Instant Global Reach: 180+ Countries
- API-first Communications Platform

Everyone is talking about the Internet of Things (IoT) and connected devices. But what does it all mean? Simply put, the IoT is the concept of taking any device that you can turn on or off (like your cell phone, a coffee maker, or even a lamp) and connect it to the Internet to facilitate device-to-device communication. Although the impact of the IoT might be difficult for the average person to understand, it's predicted that there will be almost 30 billion connected devices by 2020.¹

This opens up entirely new opportunities for businesses to improve services, create new applications, connect to a global marketplace, and add unforeseen business value. In fact, McKinsey reports that the IoT could have an annual economic impact of \$3.9 to \$11.1 trillion by 2025.² That's a big reason companies worldwide are investing heavily in IoT development.

Today, businesses of all sizes are incorporating the Internet of Things for use cases like asset tracking, digital signage and industrial monitoring. Meanwhile, start-ups are reimagining business models and enabling new ways of connecting, transacting, and sharing information, inventing such connected services as wearable tracking devices, home security solutions, and medical device diagnostics. Of course, they've only begun to scratch the surface.

While many businesses have made inroads advancing IoT solutions, building an infrastructure to support an IoT portfolio is no simple task. CTOs and developers are faced with choosing the right hardware, software, and applications to sustain their business into the next generation—and they need to do so at the speed of technology.

Fortunately, securing and integrating cellular connectivity within your IoT portfolio is one area that shouldn't be too difficult to surmount. Look for a communication provider that has done the hard work for you: one with a secure, reliable global network, developer-friendly APIs, and easy-to-use web-based interfaces for fast provisioning and management of SIMs. As you evaluate cellular IoT connectivity providers, ask these five questions to ensure the right fit from the start.

¹ Statista.com, *Internet of Things (IoT) connected devices installed base worldwide from 2015 to 2025 (in billions)*

² McKinsey and Co., *McKinsey Digital, Unlocking the potential of the internet of things.*



1 How quickly can I get SIMs for my devices, and what do they cost?

Getting SIM cards for your IoT project should be just as easy as acquiring one for your personal use. On top of that, it shouldn't break the bank. So why do telcos make it so hard? From the get go, you shouldn't have to wait weeks (or months!) to get SIMs for your devices, and you shouldn't pay for more connectivity than you need. Unfortunately, many carriers won't even talk to you until you've signed an NDA and promise a purchase of at least 10,000 SIMs. Don't waste time with archaic legalese or investing more than necessary to begin your IoT development. Instead, find a provider who understands your business constraints and can provide SIMs on-demand. And be sure they offer the flexible pricing plans and customization you need to support your unique business requirements.

Twilio's philosophy is to make it easy for anyone, be they an individual developer or enterprise, to start connecting IoT devices right away. That's why we offer our easy-to-use Twilio console that lets you design your own your rate plan and request SIMs wherever you are located. No contracts. No delays. No fuss. If you're unsure which cellular connectivity option is right for you, we can help customize pricing that takes into account variables such as SIM quantity, data usage, and geographic location to ensure the optimal approach for you. Best of all, you'll receive SIMs within two days of placing your order.

WITH TWILIO PROGRAMMABLE WIRELESS, YOU GAIN

- **Ease of Procurement:** Using the Twilio console or our APIs, you can choose a plan and purchase SIMs directly.
- **Speedy delivery:** SIMs can be procured and delivered in two-business days "Amazon-prime style" in the US, and 3-5 business days internationally, compared to waiting weeks for carriers to deliver SIMs.
- **Pay-as-you-go pricing model:** Our simple pay-as-you-go pricing for cellular-connected devices only kicks in when devices are activated.
- **Flexible pricing plans:** Pricing is optimized for both high and low usage so you can architect the rate plan that suits your needs and choose how your SIMs will be used around the world. You can also have multiple rate plans on a single account. We'll work with you to help determine the best option for your use cases.
- **Rate plan calculations:** Will your SIMs travel between countries during the month? Access our 'Rate Plan Estimator' to calculate the optimal rate plan for your use case.
- **Incremental growth:** No big commitment required. Purchase a SIM Starter Pack (3x SIMs) or 10 bulk SIMs and add incrementally as you grow.
- **Automatic volume discounts:** Opt to start with a monthly 'Quota' data spend commitment on a per-SIM basis. As your commitment increases, volume discounts kick in so you receive lower per-megabyte pricing optimized for both high and low usage.



2 Do you have services I can use to track, monitor, and manage the SIM lifecycle?

Like any area of your business operations, you need to have insight into what's working and what isn't, and be able to quickly adapt. That holds true for monitoring device activity for individual SIMs as well. If you purchase SIMs from a telco provider you'll only get insights into connectivity costs and device performance at the time when you receive your monthly bill. To contain costs and analyze your IoT connectivity on-the-fly, you need to know how your SIMs are performing and consuming data on a daily basis. If your carrier doesn't put you in full control of your SIMs, keep looking. You'll want to manage and analyze data usage from the outset, from activating SIMs and monitoring SIMs in every region you have active SIMs. Plus, you should be able to suspend a 'runaway SIM' should you encounter a bad actor or another cause eating up your data usage on your network as soon as it's discovered.

From initial purchase to comprehensive monitoring of global SIM activity, Twilio eliminates the guesswork by giving you total control of your SIM lifecycle with the click of a button on the Twilio Console or via a simple line of code using the Twilio API. Our software gives you the insight you need to control the connectivity of your IoT applications with ease.

WITH TWILIO PROGRAMMABLE WIRELESS, YOU CAN

- **Define SIM capabilities.** Activate, suspend, and deactivate SIMs via the Twilio Console or API. Set to 'ready' to pay MRC only when usage begins for fleets of devices.
- **Set network access rules.** Options for 2G, 3G and 4G data connectivity as well as national and international roaming.
- **Understand usage.** Use the Twilio Console or APIs to easily view the location and usage of every SIM on your account. Metering and billing is available per-SIM or account-wide.
- **View connection status.** Access analytics and usage data for your SIMs to build the exact dashboards you need. See the countries where your SIMs are connecting.
- **Debug and diagnose connectivity issues.** Identify and isolate SIMs that are outside your usage expectations. Easily find connectivity issues using the Twilio Console or APIs with the per-SIM usage metering and billing capability.



3 What capabilities do your APIs have and how fast can I ramp up?

For ease of development and integration with IoT services, APIs are the fastest and most economical way to ensure superior cellular IoT connectivity. Instead of bogging down your team with additional hardware and software integrations, APIs provide a more flexible approach for developers to activate, monitor, and control cellular connectivity with just a few lines of code.

Since our inception, Twilio has been committed to a developer-first mentality with the focus of creating easy-to-use communication APIs for SMS, Voice, and more. Employed by over two million developers worldwide, Twilio APIs are built by developers for developers to get global networks up and running quickly and easily. In the emerging world of IoT, our Programmable Wireless API puts your developers exactly where you want them—in the driver's seat.

WITH THE TWILIO PROGRAMMABLE WIRELESS API, YOU GET

- **One SIM. One API.** Our developer-friendly API for SIM lifecycle management can help define global capabilities for fleets or devices.
- **Build first, deploy later:** There's plenty of time to play in the developer sandbox, with pay-as-you-go pricing.
- **Machine-to-machine communication:** Our Commands API lets you send and receive binary or SMS-based messages to devices without requiring a phone number.
- **Language-agnostic helper libraries:** To ensure ease of integration, extensive documentation, tutorials, and developer libraries are available in six common programming languages.
- **Communication reliability.** Our APIs consistently achieve a 99.999% uptime so you can rest assured your devices are connected 24/7.



4 Can you tell me which countries you have international access and coverage in?

In this digital global economy, you'd think that getting a list of countries in which a provider operates would be an easy task, but many carriers aren't comfortable with that level of transparency. You'll jump through hoops, including non-disclosure agreements, lengthy sales conversations, and other roadblocks before you can access the necessary information you'll want to consider. Maybe that's because carriers are inherently regionalized, and want to lure you in before revealing a disappointingly limited list. Ask for a list of available operators to be upfront with you about the regions they operate in, and what their plans for expansion are.

With Twilio, you can skip the carrier negotiations and NDAs. We're completely transparent in everything we do so you have the information required to make informed decisions before building your IoT experience. Our website lists all operators we have relationships with, worldwide, along with the type of connection offered (2G, 3G or 4G). It's a comprehensive list that's continually updated to illustrate that we offer extensive global reach with the highest-quality internet connections. In August of 2018 alone, we added 57 more countries, making it the most widespread global cellular carrier network available today.

WITH TWILIO PROGRAMMABLE WIRELESS, YOU GET

- **Instant global reach:** Connect your SIM to virtually any available operator in the world. With pay-as-you-go pricing, there's no need to sign a new contract to add a country: it's available from your Twilio console or API.
- **180+ countries and counting:** Twilio's IoT global SIM leverages a comprehensive network of carriers to provide service in over 180 countries from day one.
- **Navigation of global regulations:** Twilio manages a globally distributed network of carriers, and proactively follows each country's telco laws and regulations so you don't have to.
- **Global carrier redundancy:** All connections are measured in real time, allowing us to effortlessly optimize and route traffic throughout our global network to deliver the highest quality and reliability. A single cellular provider network just can't compete.



5 How reliable and scalable is your IoT connectivity platform?

You may think the success of your IoT project depends on the hardware alone, and while that's partly true, if your connectivity fails, what's the point? The fact is that the connectivity partner you choose today will determine the growth and ultimate success of your foray into the IoT. Look for a provider—a partner—with services built on top of a global communication platform and provides the freedom to move quickly, manage connectivity with ease, and customize and scale as your business grows.

With Twilio as your partner, you get more than just great cellular connectivity; you get a cloud communications infrastructure that can support all of your ongoing communication needs, including:

- **Unparalleled global reach:** Leverage a reliable global network of Tier 1 Operators.
- **Communication reliability.** A resilient software-based communications platform which consistently achieves a 99.999% API uptime.
- **Wireless-specific security features:** An option for a Virtual Private Network for your SIMs and two X.509 certificates are securely generated on the SIM at the time of manufacture for secure authentication to your favorite cloud service.
- **Operational excellence:** We maintain rigorous and continuous maintenance of infrastructure, underlying technologies, performance and support activities, documentation, and security.
- **A partner you can trust:** Our platform is relied upon by over 50,000 companies, and two million developers. And we're growing daily.



One SIM. One API. Instant global reach.

As with any emerging technology, the Internet of Things is not without challenges. However, the opportunities are vast, and those who navigate wisely will reap the rewards. Competing in the world of the IoT is hard enough without burdening yourself with the need to source, integrate, and manage a connectivity provider. Choose a connectivity partner who has done the hard work for you: one who is innovating right alongside their customers.

At Twilio, our philosophy is simple: to give you the communication tools and global cellular connectivity you need to succeed, whether connecting IoT devices in your backyard or around the world. No contracts. No delays. No-nonsense solutions. As you evaluate IoT connectivity vendors, consider Twilio, recognized by Gartner, Forrester, Ovum, and IDC as an industry leader in cloud communications.

[Talk to us](#)[Learn more](#)

Twilio powers the future of business communications, enabling phones, VoIP, and messaging to be embedded into web, desktop, and mobile software. We take care of the messy telecom hardware and expose a globally available cloud API that developers can interact with to build intelligent and complex communications systems.