History:

We started FreeSWITCH because we wanted to solve *our* own challenging problems.

We could not find a stable, scalable way to implement our 2004 call center as a service product. DIY solutions were a collection of random tools with constant stability and maintenance issues. Premade solutions were massively expensive and still required physical data centers anyway.

We built FreeSWITCH on our vision of solving those problems, made a community, and used it for insight. This took us well beyond the original goal. FreeSWITCH became so ubiquitous that the world made many vertical products with it that generate billions of dollars a year.

SignalWire POV:

At SignalWire, we empower businesses with easy-to-use and customizable cloud communications tools. **Programmable Unified Communications** supplants one-size-fits-all solutions, sparking innovation and growth.

Telecommunications (technology-assisted human communication) is one of the most important technologies humankind has ever developed. It has evolved from written messages on paper carried by messenger to a vast array of devices and mediums, such as telephones and computers, using audio and video.

Telecommunications have pushed businesses forward with every advancement as long ago as the telegram. The more information can be easily shared or discussed, the better it is for buyers and sellers alike. Modern telephone networks and the Internet have pushed this concept even further. Industries like entertainment, health care, education, and customer service have all benefited greatly.

Before SignalWire began, our founding team spent the better part of 2005-2015 helping to innovate the concept of IP Communications at scale with disruptive open-source technology.

Unfortunately, in recent times, there has been a massive slowdown in the evolution of this technology. Large providers often sacrifice innovation to avoid cannibalizing profits, which leads to rigidity and suffering for end users. Innovation was stifled, and this short-sightedness caused a traffic jam ahead of us.

We started SignalWire because we wanted to take our pioneering communications technology that took decades to develop and present it in a digestible format that allows customers to deploy exactly what they want, freeing them from the obstacles of time, cost, and resources.

We fundamentally believe in our dedication to removing obstacles and paving the way forward for each other as well as our customers. That mentality drives everything we do and empowers us to innovate and grow as a global community.

There is a crisis in the communications industry.

Strategies to execute the transformation to cloud communications infrastructure often present three significant pitfalls. These can lead to a reluctance to commit fully or to avoid the transformation entirely as everyone around them evolves.

The first pitfall comes from trying to deploy on-premise solutions. They are the most rigid of all the options and by far the most costly. Physical hardware becomes obsolete in a short time, causing endless refresh cycles. The hardware will likely fail, causing late-night support issues that stop businesses cold. Most of the hardware requires expensive support contracts per unit, and the businesses are at the mercy of the vendors.

The next pitfall is encountered by businesses who choose to use a series of end-to-end applications. They are forced to use multiple products, some repetitive in nature, getting phone service with one company, customer call centers with another, and video and conferencing service from another. Nothing is connected. These application providers are more focused on the status quo than moving their customers forward. This leads to a loss in productivity and a lousy customer experience for end-users.

The last common pitfall plagues businesses that try the other option, which is to build something proprietary. They face a litany of challenges they did not anticipate. There are huge decisions to make, and most evolve around going well outside their core competencies. This comes with the burdens of hosting and maintaining complex services and staffing developers with rare and elusive skill sets. In the end, many businesses scrap the project after wasting years of money and opportunity costs. The ones who managed to get something working often are too late and are plagued with maintenance and other distractions.

SignalWire is uniquely qualified to provide businesses with a path to cloud communications that reduce and eliminate distractions and obstacles while providing access to all of the features that were previously only available in expensive end-to-end solutions coupled with ever-evolving advanced features not available from anywhere else.

We see a world where all businesses can set up and own the entire chain of communications to and from their company, combining traditional phone-number-based communications with mobile app and web-app-based paradigms. We make that a reality by focusing on solving the most challenging infrastructure and feature deployment problems and presenting them to customers as point-and-click options. Integrations with SaaS tools and simple scripting unlock everything in between.

This vision benefits not only our customers but also our customers' customers. Everyone universally despises the idea of calling somewhere and dealing with ancient auto-attendants that hang up on you or send you in circles or being asked for your account number by no less than five people while still not getting to someone who can help. Instead, powerful AI Agents

can gather information and perform tasks to solve problems and narrow down the number of calls that end up on hold. Clear lines of communication from corporate websites, phone lines, and mobile applications can coalesce in one place, be easy to use, easy to extend, and always on.

SignalWire sets itself apart in the cloud communication landscape by offering highly customizable solutions, a stark contrast to the rigid packages offered by many. Our innovative use of advanced technologies, like AI, and an accessible, open-source foundation enable us to meet diverse business needs more effectively. This approach not only breaks from industry norms but also addresses the evolving communication challenges faced by businesses today.

At SignalWire, we believe that by making powerful cloud communications tools and features easily programmable, configurable, and accessible to all businesses without the overhead of one-size-fits-all solutions, the result will be prosperous innovation and growth for the entire ecosystem. **Programmable Unified Communications** unlock a new era of simplicity and control for everyone.

Solution:

SignalWire Call Fabric is the implementation of **Programmable Unified Communications** where users can create and arrange communication pathways on-demand. This encompasses all the features of an IP PBX, UCaaS, Soft-Switch and makes the features available as high-level primitives. In programming, a primitive are the building blocks you have to work with when creating the code. Since we are trying to reduce complexity, the primitives in Call Fabric, known as Resources, are features deconstructed to the ideal puzzle pieces that can be arranged in endless combinations. Rather than spending time programming these very, very complex concepts from the ground up, APIs are just used to create and position resources.

A resource is simply **something that can be called**. meaning a 1 or 2 way audio/video/text stream can be established to it.

Initial resources include:

Scripts and markup: (SWML/RELAY/cXML) Create a script or program that can interact and control the calls by routing, collecting data, invoking digital employees with AI Agents.

Rooms: A room is a multi-user conference where many callers can talk over audio or video. There are live prieviews of the room and the ability to move around between different rooms.

Subscribers: Registered user accounts for end-users to have a virtual phone line into the system that can find and call other resources and gateway to the traditional phone network. These subscribers can register with desk phones, the SignalWire mobile app or custome clients that can be developed with our SDK.

AI Agents: A digital employee powered by AI that can interact with the caller, transfer calls, and do actions in the real world.

Callflow Builder: A visual tool to create voice menus, call routes, and applications that can be deployed instantly and called at scale.

All of These resources can be created and managed from the SignalWire Dash and made accessible by assigning them a phone number, web address, or SIP address, allowing unification from all mediums to call and interface with the system.

EXAMPLES

A company can create a subscriber account for each employee, giving them a business phone number and a web address. A main toll-free number and a web phone on the main website can be deployed to point to a voice menu designed with the call flow builder that routes calls between AI Agents and the various employees.

A remote work environment can be added to allow subscribers to meet in various video conferences, which they can access from a web or mobile app.

A voice assistant can be created that integrates with the middleware of the company, looks up information, and routes calls to appropriate destinations. This can be traditional or AI-driven, depending on the complexity of the situation. This opens the door to custom call center functionality designed in minutes.