

Synergy SKY CONNECT

Product Overview

The Product

The Synergy SKY CONNECT product allows SIP (Session Initiation Protocol) based endpoints to connect to Microsoft Teams meetings. Synergy SKY has developed a new patented* solution for interoperability between video conferencing platforms.

The scope of the Synergy SKY technology leverages years of multivendor expertise to ensure a transparent and consistent user experience, no matter the SIP endpoint type or age, when joining a Microsoft Teams meeting.

Synergy SKY has chosen the name “CONNECT” because of its new and innovative way to connect people and give them a more flexible and user-friendly experience.

*Patent pending

Business critical

There are about 6 million SIP based video conferencing rooms in the world. Cisco Webex is the industry leader with Poly as number two, among several other endpoint manufacturers.

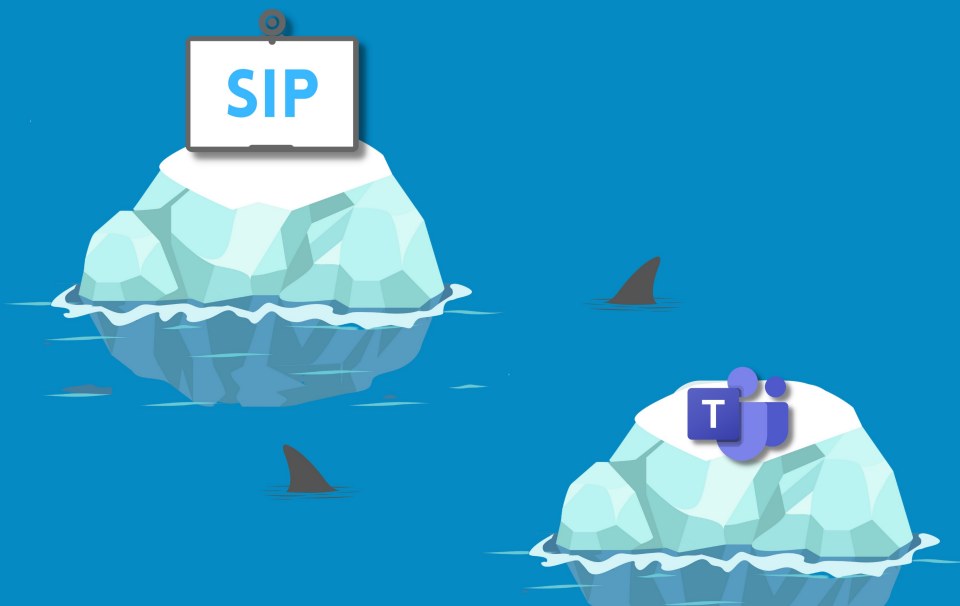
Business video meetings has become critical to all organizations. The rapid market explosion in 2020 forced organizations to adapt to what was available and functional for hybrid work. This introduced more players and technologies.

The market is diverse and most solutions are both proprietary and incompatible. The user experience is poor.

With the recent rise in popularity of Microsoft Teams (and other cloud-based video meeting platforms), the trend has been to gravitate towards single vendor connectivity. These islands of connectivity make it difficult for users to interact with different platforms using technology built for other service platforms.

Existing interoperability solutions (“gateways” or “CVIs”) have limited scope and face challenges and shortcomings in a lot of common use case scenarios.

Synergy SKY. Our company name describes what we do best: creating synergies between vendors and technologies. We see a tremendous opportunity in making business meetings work in today's mixed and hybrid environments. With Synergy SKY CONNECT we solve SIP to Teams, with Synergy Suite we solve the workflow between all major players



The Challenges Synergy SKY CONNECT Solves

A common scenario is when a user wants a SIP based (Cisco, Poly, Lifesize etc.) endpoint to connect to a Microsoft Teams meeting: it is a prerequisite that the user knows who booked the meeting and whether a Cloud Video Interop (CVI) product has been configured to allow the user to connect to the meeting from its preferred video meeting room. Alternatively, the meeting organizer must understand the internal and external participants' access methods to ensure a successful and on-time connection for all users, which is not something to be expected from an average employee

Using different CVI providers also introduces different user experiences when it comes to video layout. The layout will depend on the layout from the CVI provider.

Presentation sharing is not possible with CVI vendors. Microsoft Teams has recently introduced PowerPoint Live in Teams – but this does not work with traditional CVI either.

This complexity and uncertainty lead most organizations to forgo interoperability and reach for the most common, cheap or convenient solution. These short-sighted decisions hurt the end-users as well as the organizations that have invested in superior endpoint technology and close sales opportunities for premium endpoints and meeting services.

Synergy SKY CONNECT removes the uncertainty of scheduled meetings and ensures it simply works. It offers a uniform and native Microsoft Teams experience for the invited SIP endpoints regardless of who the organizer is, combined with features the users expect from a SIP based endpoint

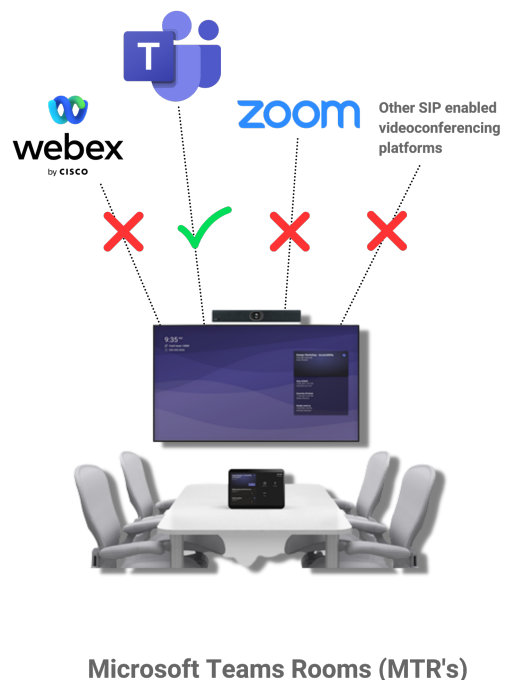
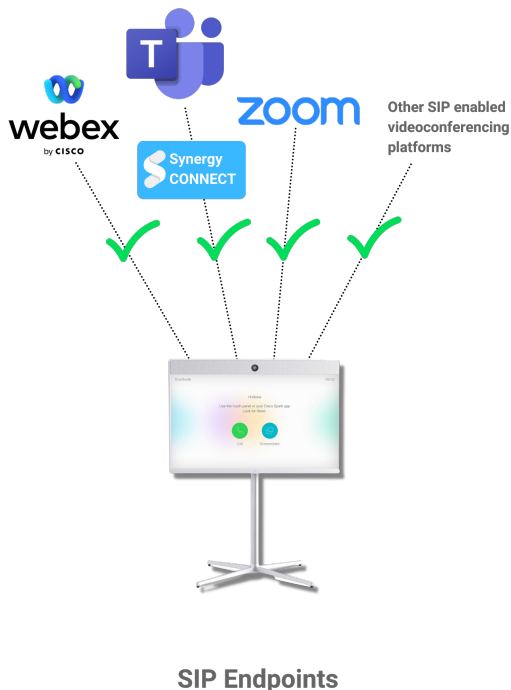
Why SIP endpoints?

SIP endpoints are the most robust, versatile and feature rich endpoints on the market.

SIP has been standardized primarily by the Internet Engineering Task Force (IETF). A

SIP endpoint can communicate with multiple vendors.

SIP is used when you cloud is not an option.



Product Description

Synergy SKY CONNECT is a media handling server that performs SIP signalling based video protocol gateway services to WEB conference-based cloud platforms. This patent pending video gateway allows for SIP based endpoints, independent of registration, to communicate bidirectionally with both audio and video to the Microsoft Teams platform.



Figure 1 – Gateway Hosting Protocol

Synergy SKY CONNECT gateway navigates the media translation between the SIP endpoint and Microsoft Teams using the WebRTC guest facilities. Calendar invitations are handled by the Synergy SKY Suite product. This product pairing offers both meeting invite workflow and the end-to-end media flow, ensuring consistent, robust connectivity and call quality as well as the native Microsoft Teams experience the user would have had in a web browser.

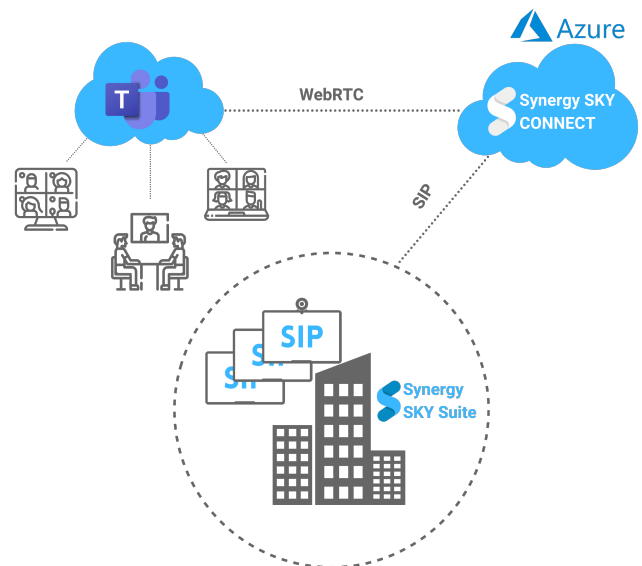


Figure 2 – Hosting Model

The following functional diagram (Fig.3) reflects the components and how they interact to enable the end-to-end user experience from a simple calendar invitation. In this example, the end user creates a Microsoft Teams enabled meeting, adds participants and selects a meeting room with a SIP based endpoint. At this point, the Synergy SKY Suite configured endpoint receives the invitation, and begins processing a “green button” to easily join the meeting (One Button to Push (OBTP) for Cisco Webex and OneTouch Dial (OTD) for Poly). In this case, Synergy SKY CONNECT capabilities are needed to proceed for a successful end-to-end connection.

At meeting time (minus a configurable time buffer) the “green button” is formulated to include the appropriate connection information and sent to the endpoint. At the click of the “green button”, the endpoint calls the Synergy SKY CONNECT module via the SIP protocol, where it is translated to a WebRTC connection and establishes the path to the Microsoft Teams service. Once the interoperability negotiation completes, audio and video media flows bidirectionally. Negotiated quality is as per the available to a WebRTC guest call participant.

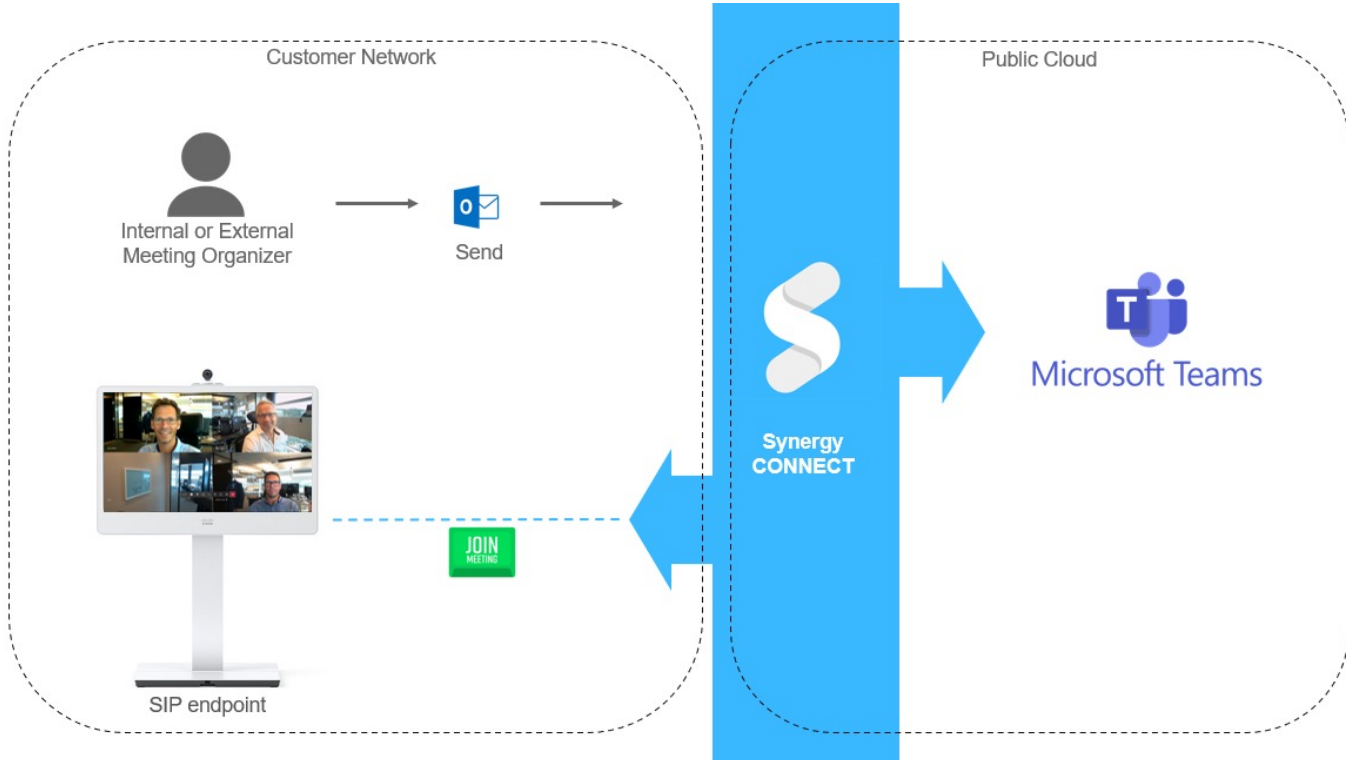


Figure 3 - Meeting Invitation and call initiation

Deployment Model

The Synergy SKY Suite product is available for deployment in an on-prem format as well as a private cloud service. The Synergy SKY CONNECT gateway is only available as a public cloud service. This allows the customers to execute a very rapid deployment, in addition to keep all their data on-prem in their own company network.

Security

The Synergy SKY CONNECT product has been built from the ground up to provide secure control for both media and operational interactions. The platform will support the following security protocols:

Media:

- AES
- SRTP
- SIPS

Interface:

- HTTPS
- SSH



End-to-End Call Security

Gateway services that convert calls from one format to another can only secure one leg of the call in each direction. This means that a customer using a public gateway service can only ensure that the call to the gateway is secure and that the connection from the destination service is secure.

However, since the Gateway is by nature a man-in-the-middle appliance, the call cannot be guaranteed secure from source to destination.

Security schemes such as on-screen key displays and administrator validation tools are a potential solution to these concerns. These features will not be part of the initial product release.

Supported Protocols

The primary function of the Synergy SKY CONNECT product is to enable SIP to WebRTC calls. Different endpoints and meeting services support a vast collection of media standards. The initial focus of the product is to support the most popular and common mechanisms to ensure the most robust of implementations. The following media and connectivity standards are supported:

Synergy SKY CONNECT	Standard
Video	<i>H.264</i>
Audio	<i>G.711, Opus, AAC-LC/LD*, G.722*(Roadmap), Siren 14/22 (Roadmap)</i>
Connectivity	<i>SIP, BFCP</i>

System Requirements

The Synergy SKY CONNECT Solution is deployed in conjunction with the Synergy SKY Suite. Please consult the Synergy SKY Suite deployment guide for details:

<https://support.synergysky.com/hc/en-us/articles/360018233719-Getting-Started-with-a-New-Installation>