Synergy SKY
CONNECT

Whitepaper

Contents

"It's all very simple. It is an invisible technology with a minimal approach that just works. Meetings start on time now!"

Introduction

How many business video meetings have been compromised by the sheer availability of one too many video conferencing platforms, connection problems, and lack of user-friendliness. Everything is often planned out efficiently but when the time comes, meetings simply do not work as they should. And even when it does, it does not look exactly as it should.

There are two key reasons behind why this happens:

- Interoperability
- Workflow

Users and admins look at their meeting rooms, sensors and SIP endpoints and often find themselves not knowing how to get the best of their resources. Thankfully, it is possible to address this by streamlining and optimizing your current environments.

Synergy SKY CONNECT enables the maximization of investments and leveraging to full power existing setups. Find out how interoperability can help meetings start on time and enable organizations to accomplish their best work.

Current industry challenges
Complex landscape for cross-vendor collaboration

Business video meetings have become critical to all organizations. In recent years, we witnessed a rapid market explosion that forced organizations to adapt to what was available and functional for hybrid work. This introduced more players and technologies resulting in an extraordinarily diverse market where most solutions are proprietary and incompatible.

With the recent rise in popularity of cloud-based video meeting platforms such as Microsoft Teams, 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 shortcomings in a lot of common use case scenarios.

Short-sighted fixes are not enough

Traditionally, it is not easy for a SIP endpoint (Cisco, Poly, Lifesize, etc.) to connect to a Microsoft Teams meeting. It is a prerequisite that the users know 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. This is, of course, 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. Furthermore, 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 difficulty and uncertainty lead most organizations to forego interoperability and reach for the most common, cheap, or convenient solution. These 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.

"You need interoperability because you have several meeting platforms already. Why should you have to invest in another meeting platform just to get interoperability with the platforms you already have?"

Our Solution

Multi-platform collaboration &

seamless meeting experience

Synergy SKY CONNECT makes it easy for users to connect video conferencing devices to Microsoft Teams meetings, and manage video meetings in a multi-vendor and -technology environment. This patent-pending video gateway allows for SIP endpoints, independent of registration, to communicate **bidirectionally** with both audio and video to the Microsoft Teams platform.

Unlike other solutions that only partially address the problem, CONNECT fully removes the uncertainty of scheduling, joining and managing meetings. It ensures meetings work without requiring any technical knowledge from users. It offers a uniform and native Microsoft Teams experience to the invited SIP endpoints regardless of who the organizer is, combined with the features the users expect from a SIP endpoint.

It does so by providing a media handling server that performs SIP signaling-based video protocol gateway services to web conference-based cloud platforms.

But Synergy SKY CONNECT is more than just interoperability. It also includes a self-hosted management suite for video endpoints and meeting rooms that unifies the collaboration experience and administration across calendars, meetings rooms, and video conferencing platforms.


SIP endpoints remain the go-to in the industry

There are approximately 6 million SIP-based video conferencing rooms in the world. Unsurprisingly, they are still perceived as being extraordinarily reliable for business video meetings today due to their robustness, versatility and feature-richness which is second to none in the Unified Communications industry. Cisco Webex is followed by Poly as the endpoint manufacturing leaders.

There are two key reasons why it is chosen by the vast majority of organizations:

• It has been successfully standardized across multiple vendors through the last 20 years and backed up by the Internet Engineering Task Force (IETF).

• It can communicate with multiple vendors.
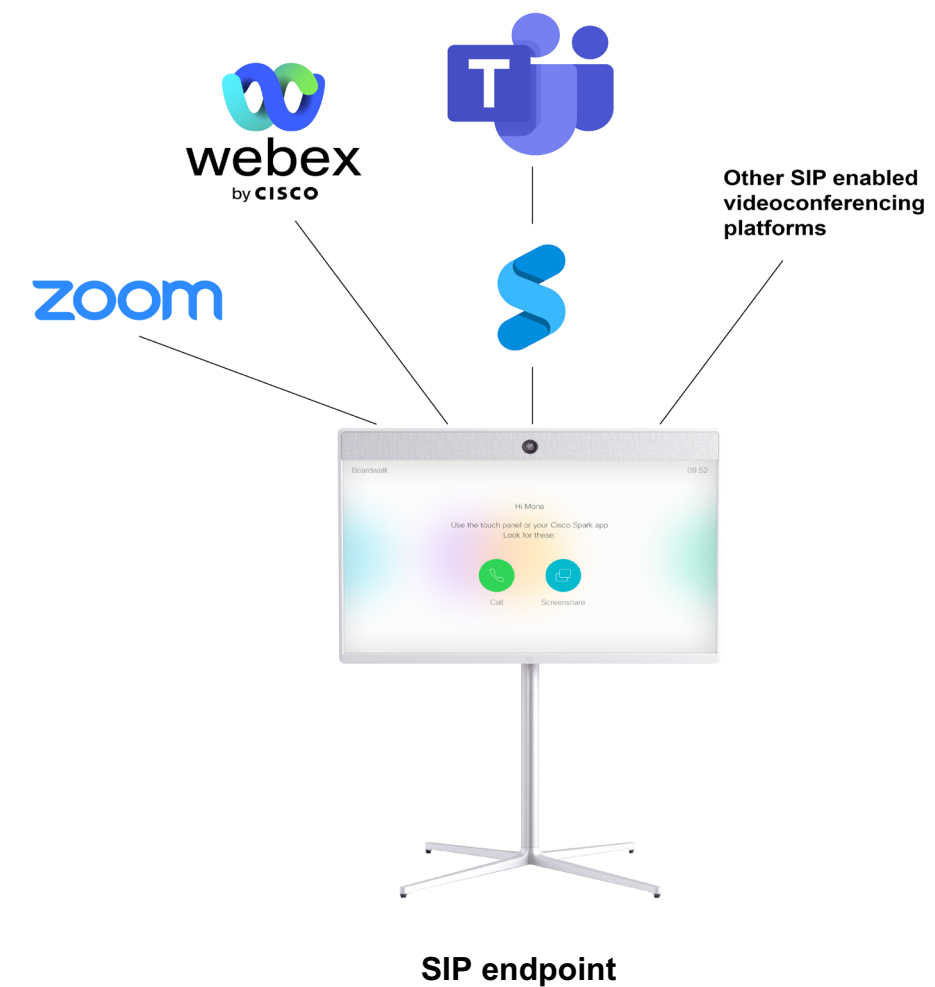
SIP endpoint

Interoperability

The Synergy SKY CONNECT gateway navigates the media translation between the SIP endpoint and Microsoft Teams using the WebRTC guest facilities. All it takes is for the user to leverage the calendar invitations handled by the inbuilt Synergy SKY management suite component of CONNECT, which offers both meetings invite workflow and end-to-end media flow. This ensures consistent, robust connectivity and call quality, as well as the native Microsoft Teams experience the user would have had in a web browser.

The functional diagram on the following page illustrates CONNECT's components and how they interact to enable end-to-end user experience from a simple calendar invitation.

The process begins with a Microsoft Teams invitation, the adding of participants, and the selection of a meeting room with a SIP endpoint (as a participant, e.g. "Room A")

At this point, the Synergy SKY management suite-configured endpoint receives the invitation and begins processing a "green button" to easily join the meeting. A One Button To Push (OBTP) for Cisco users and/or a One Touch Dial (OTD) for Poly video endpoints.

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 is completed, audio and video media flow bidirectionally. The negotiated quality is the one available to a WebRTC guest call participant.
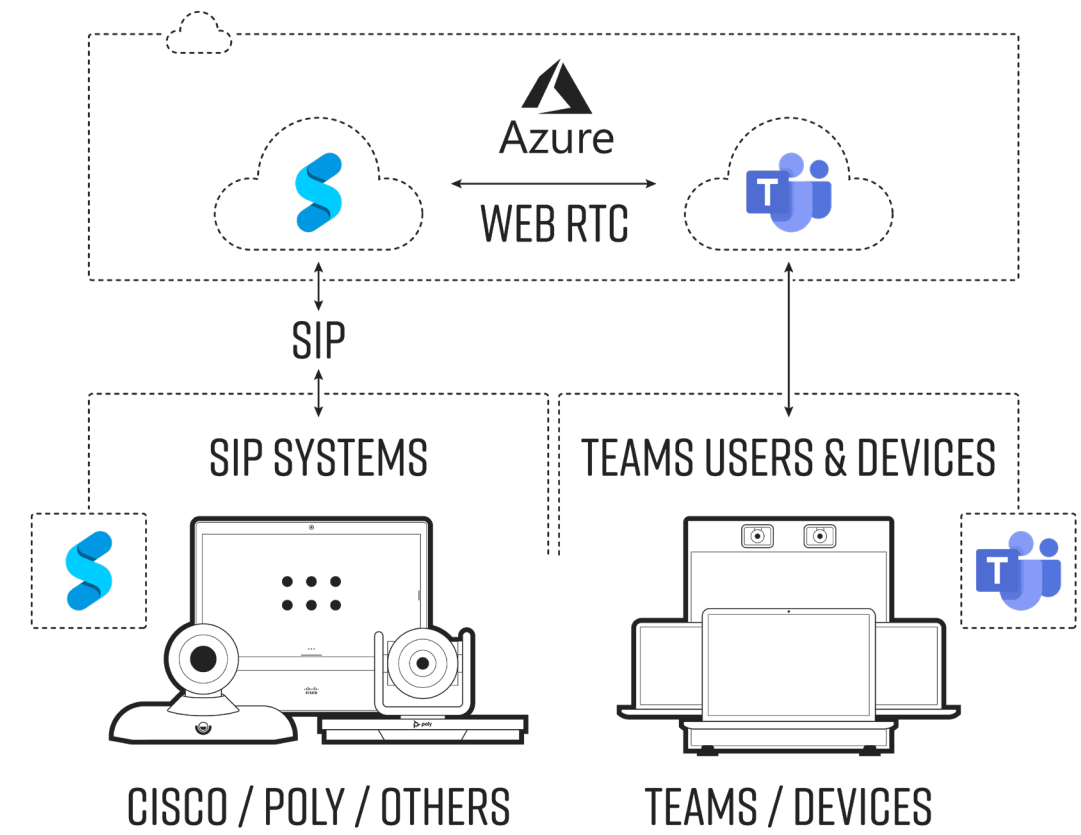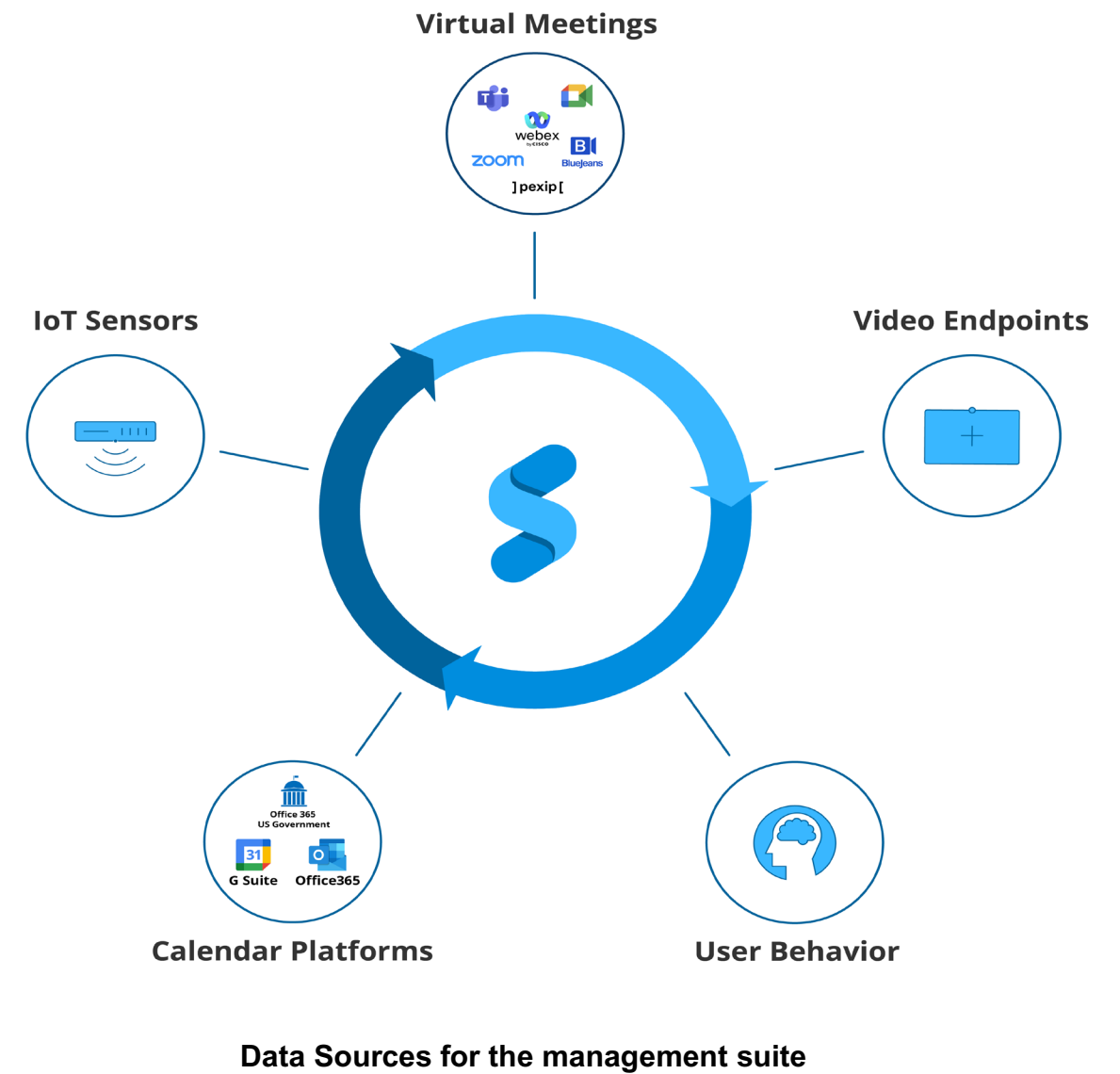

CONNECT's Technical Diagram

Video Conferencing

The management suite component of CONNECT helps streamline the meeting workflow for users and admins. Easily schedule, join and manage meetings while gaining a full overview of user behaviour in a single dashboard. The data points from current technologies play a crucial role in assisting the control, analysis and adjustment of meetings throughout the organization. There is no need to rip n'replace. Support platforms today and tomorrow, on-prem or cloud.

✔ Conference control

✔ No-show detection alerts

✔ End-of-meeting alerts

✔ Auto inserted video details

✔ Forwarded meeting confirmation

✔ One-click-to-join

✔ Touch panel video meeting booking

✔ Whiteboarding

✔ Presentation sharing (PowerPoint Live)

✔ Multi-vendor insights

Meeting Rooms Optimization

Leverage meeting rooms' usage to the fullest. Utilize valuable space correctly depending on the meeting purpose and group size. With the help of sensors and the SIP endpoints, admins have the information required to ensure no time or resources are wasted when users schedule and join a meeting.

✔ Phonebook

✔ Auto release of rooms with no-show

✔ Auto check-in

✔ Platform compatibility check

✔ Participant count

✔ Video system operational health

Virtual Meetings

IoT Sensors

Video Endpoints

Calendar Platforms

User Behavior

Data Sources for the management suite

Technical Information

Deployment model

The Synergy SKY CONNECT gateway is available as a public cloud service*. The inbuilt Synergy SKY management suite component, on the other hand, is available for deployment in an on-prem format as well as a private cloud service. This allows the customers to execute a very rapid deployment, in addition to keeping all their data on-prem in their own company network.

Security

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

Media:
- AES
- SRTP
- SIPS

Interface:
- HTTPS
- SSH

Gateway services that convert calls from one format to another can only secure one leg of the call in each direction. In other words, a customer using a public gateway service can only ensure that both the call to the gateway and the connection from the destination service are 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 are not included in the current product version.

* Synergy SKY CONNECT as a self-hosted gateway that supports Microsoft Teams commercial cloud, GCC, GCC-H, GCC-DoD is available for public agencies under the name Synergy SKY CONNECT for Government.

Supported protocols

The primary function of Synergy SKY CONNECT is to enable SIP to WebRTC calls. Different endpoints and meeting services support a vast collection of media standards. The focus of the product for the time being 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	H.264
Audio	G.711, Opus 8 - 48KhZ
Connectivity	SIP

Supported devices

	VCS Deployment	Webex Deployment
Cisco C Series	✔	
Cisco EX Series	✔	
Cisco DX Series	✔	✔
Cisco SX Series	✔	✔
Cisco MX Series	✔	✔
Cisco Room Series	✔	✔
Cisco Desk Series	✔	✔
Polycom HDX Series	✔	
Polycom RealPresence Group Series	✔	

Solution requirements

The Synergy SKY CONNECT service is hosted in Microsoft Azure.

Our servers are currently deployed in two Azure regions:

AzureCloud.westeurope
AzureCloud.eastus

An up-to-date overview of all Azure IP ranges can be found **here**.

Port requirements:
SIP (TCP): 5060/5061
Media (UDP): 55000-55999
API for the Synergy SKY management suite (TCP): 42009

The Synergy SKY CONNECT solution is deployed in conjunction with the Synergy SKY management suite (previously referred to as Synergy SKY Suite). Please consult its deployment guide for details by clicking **here**.

Conclusion

Organizations that use SIP endpoints for video conferencing and use Outlook, Exchange and O365 or Google Calendar as their calendar to connect to Microsoft Teams meetings can benefit from Synergy SKY CONNECT. **There is no other interop solution in the market that addresses the complexities of cross-vendor collaboration without compromising quality and user friendliness as short-sighted fixes do.** Together with its videoconferencing and meeting room optimization features, Synergy SKY CONNECT interoperability ensures both users and admins have training-free video meeting experiences.

SYNERGY SKY

Get connected today

- Contact your **Synergy SKY representative**

- Visit the **solution page**

- Watch the **video demo**

- Explore **our documentation**

Get a custom demo

Reach out to see how Synergy SKY CONNECT helps you get the simple, consistent, and reliable meetings you need. We are confident that our solution speaks for itself. Zero obligation and zero hassle.