

## Cisco Spark Hybrid Services

Use Cisco Spark™ Hybrid Services to integrate your on-premises assets with Cisco Spark in the Cisco® Collaboration Cloud. When you do, you can protect your investments and provide even greater collaboration capabilities for a more delightful end-user and administrator experience.

### Cisco Spark Hybrid Services Overview

More and more, organizations are choosing collaboration services from the cloud. Why? Cloud services are easier and faster to deploy, they don't require the upfront capital of on-premises systems and they can free up IT staff to focus on what matters most to the business.

Many organizations, however, are unable or do not want to move all their services to the cloud. Often, they are not ready to replace everything they have on premises or they want to augment their current collaboration tools with those from the cloud. But having tools from both the cloud and the premises can create bifurcated user experiences with tools that do not work together as one.

Cisco solves this problem with Cisco Spark Hybrid Services. These services connect what you have on premises with Cisco Spark in the cloud to provide a single, integrated experience. If you like the capabilities of [Cisco Spark](#), you can integrate those capabilities with what you currently deploy on premises for an even better end-user and administrator experience. The Cisco Spark Hybrid Services are Call Service, Calendar Service, Directory Service, and Media Service.

**Hybrid Call Service:** This service is ideal for organizations that want the capabilities of Cisco Spark but that already have or would prefer to use [Cisco Unified Communications Manager, Business Edition 6000](#) or [7000](#), or a Cisco Powered™ cloud service from a certified [Cisco Hosted Collaboration Solution](#) partner for call control. Hybrid Call Service can enable you to use the Cisco call control you have and integrate it so tightly with Cisco Spark message and meetings that your end users will never know they are not a single service. It makes the Cisco Spark service aware of all calls across the unified communications system and connects them so they work together. Capabilities include instant desktop sharing, ability to use the Cisco Spark app as a mobile client, integrated call history between the mobile and Cisco Spark phone, and desk phone control.

**Hybrid Calendar Service:** This service integrates your on-premises Microsoft Exchange with Cisco Spark message and meeting capabilities. Hybrid Calendar Service easily and automatically creates a Cisco Spark space when scheduling meetings and makes it easier to schedule a meeting, especially from a mobile device. For example, adding "@spark" to an Outlook meeting invite will automatically create a Cisco Spark space with all meeting invitees for pre- and post-meeting messaging and document sharing. Adding "@webex" to an Outlook meeting invite will automatically schedule a meeting and include the meeting join information in the meeting invitation (requires certain license entitlement).

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**Hybrid Directory Service:** This service connects Active Directory to Cisco Spark and enables a user to see all company contacts in the Cisco Spark app so that they can click to meet, message, or call. It also provides user synchronization between Microsoft Active Directory and Cisco Spark user management. Hybrid Directory Service simplifies the administrative experience by automatically synchronizing Microsoft Active Directory users with Cisco Spark (creating, updating, deleting) so that users are always current in Cisco Spark.

**Hybrid Media Service:** This revolutionary capability removes the deployment decision of premises versus cloud for Cisco Spark meetings. It places our Cisco Spark meeting engine on-premises to provide local media processing. The result is on-premises video quality and optimized Internet bandwidth. And it delivers this with simplicity, flexibility, and rapid iteration of new functionality of the cloud.

Each of these services can be deployed together or individually.

### Cisco Spark Hybrid Services Benefits

- **They are highly secure.** Security is integral to Cisco Spark and the Cisco Spark Hybrid Services. Cisco has used its extensive experience gained from securing the world's largest networks. By combining this knowledge with the hardware and software elements of our market-leading communications and cloud services, we've built Cisco Spark and its hybrid capabilities.
- **They offer a better user experience.** End users and IT administrators get the best of cloud and premises. Cisco Spark Hybrid Services combine the cloud and the premises together for integrated experiences that are unique and improved. Examples include the ability to instantly share your desktop, automatic directory synchronization, and simplified meeting scheduling from mobile devices.
- **They ease the transition to the cloud.** Cisco Spark Hybrid Services can enable organizations to take advantage of Cisco cloud services without discarding their existing investments. Instead, they can integrate them deeply together for better user experiences.

### How Cisco Spark Hybrid Services Work

Cisco Spark Hybrid Services use Hybrid Service Connectors to securely connect Cisco Spark to an organization's premises or to the Cisco Hosted Collaboration Solution (HCS) in a partner cloud. The connectors are software applications that are installed on-premises or in the Cisco HCS partner cloud and that enable integration with Cisco Spark. Two of them—the Call Connector and Calendar Connector—run as modules within [Cisco Expressway™](#). The Directory Service Connector runs as a service on a Microsoft Windows Server for Microsoft Active Directory synchronization. Cisco Spark Hybrid Media Service uses a Hybrid Media Node, software that is installed on a Cisco UCS® server on the customer premises.

There are no incremental subscriptions or fees for deploying Cisco Spark Hybrid Services. The Hybrid Service Connectors and Cisco Expressway are downloadable free of charge and are part of the Cisco Spark service.

### Cisco Spark Hybrid Call Service

Many organizations want the full capabilities of Cisco Spark meetings, messaging, and calling, but already have a Cisco phone system. They may also be using Cisco Jabber® for their mobile calling and collaboration, and may not be ready to, or do not want to, move their call capabilities to the cloud.

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Cisco Spark Hybrid Call Service allows these organizations to keep their existing Cisco call control and get all the additional benefits of the Cisco Spark service. Hybrid Call Service combines the Cisco Spark meeting and messaging capabilities in the Cisco Collaboration Cloud with these Cisco call control systems:

- [Cisco Unified Communications Manager](#)
- [Cisco Business Edition 6000](#)
- [Cisco Business Edition 7000](#)
- [Cisco Hosted Collaboration Solution](#) (check to see if your Cisco Hosted Collaboration Solution provider offers Cisco Spark Hybrid Services)

Cisco Spark Hybrid Call Service has two services components, called **Call Service Aware** and **Call Service Connect**. Call Service Aware makes Cisco Spark aware of calls within your existing Cisco call control. Call Service Connect can enable calls between Cisco Spark and your existing call control so that they appear to users as one system. Call Service Aware must be enabled in order to activate Call Service Connect. Call Service can enable the following use cases:

- **Instant meetings:** A very common case today is that you pick up your desk phone to call a coworker, and while on the phone, you suddenly realize that sharing a document, slides, or a photo, for example, would speed the decision making and the understanding of the topic. Call Service Aware can enable instant desktop sharing when you call another Cisco Spark user. No formal meeting is required. When Cisco Spark sees you have made a call to another Cisco Spark user, the Cisco Spark app on your desktop will automatically begin a meeting and allow screen sharing with a single click.
- **Mobile audio and video calling using the Cisco Spark app:** Call Service Connect enables Cisco Spark to become a soft phone by connecting the Cisco Spark app to a user's current Cisco call control. Cisco Spark users can make and receive calls to anyone just as if they were at their desk. They can call coworkers through their extensions using the company dial plan. This includes any number reachable by their desk phone, including video bridges. Calls from the Cisco Spark app are routed through their enterprise phone system. This promotes a great user experience, especially on the go, as you do not have to switch between apps. 'Click-to-call' is available from within the Cisco Spark app itself.
- **Easier reachability:** Users can use their office phone number across all their devices, even when making and receiving calls from the Cisco Spark app. When called, their desk phone, Cisco Jabber, and Cisco Spark will ring. Answering the call on any one of them stops the ringing on the other devices.
- **Voice and video calling between Cisco Spark and Cisco Jabber:** Call Service Connect allows Cisco Jabber, Cisco Spark, or Cisco IP phone users to call anyone and not worry which device or application the other person is using. This gives end users the choice to use the application that best suits their needs.
- **Unified call history:** Today, call history is often locked onto the device on which the call was made. Yet the call history is one of the most convenient ways to find and reach someone. With Call Service Aware, that valuable call history is unlocked from on-premises devices and made available in Cisco Spark. All calls made by a user will be listed in the Cisco Spark app and also across their enterprise phone system. As you make and receive calls from your Cisco desk phone, Cisco Jabber client, or Cisco Spark app, your call history is pushed into the cloud. When combined with Call Service Connect, this allows you to call people back easily.

- **Communications history in one place:** With Call Service Aware, your call history isn't just available from the Cisco Spark app. If the person you called is also a Cisco Spark user, the call event is added to your one-to-one Cisco Spark space with that person. This means that your one-to-one space includes not only your messaging, but also your calling interactions with that person. Have you ever placed a call to someone and wished you remembered when you last spoke, so that you could refer to it in your call? "Hey Bob, when we spoke three weeks ago, I told you I'd follow up with a new proposal." With Cisco Spark Hybrid Services, the history of that call three weeks earlier is right there in the space. Scroll up to see all of your Cisco Spark messages and calls with that person.

### How Cisco Spark Hybrid Call Service Works

Hybrid Call Service uses the Call Connector software that runs as a module within [Cisco Expressway](#). Call Connector uses APIs to discover user devices configured in Cisco call control and monitors them for call activity. Call events are reported to Cisco Spark, which creates instant meetings and updates Cisco Spark spaces and call history. Call Connector also creates or updates a virtual remote device that represents Cisco Spark within Cisco call control. Call Service Connect uses this remote device to extend calls to Cisco Spark, and to allow calls from Cisco Spark to be identified with the calling user. In addition, Call Service Connect requires a Cisco Expressway firewall traversal solution to enable these calls between Cisco Spark and your existing call control.

### Requirements for Cisco Spark Hybrid Call Service

To enable Hybrid Call Service, organizations will need to use one of the Cisco call controls in Table 1. Note that Cisco Business Edition has Cisco Unified Communications Manager as part of all of its packages, so make sure you have the right version.

**Table 1.** Cisco Call Control Options

On-Premises Call Control	Version
Cisco Unified Communications Manager	10.5(2)SU3 and above
Cisco Hosted Collaboration Solution (check to see if your provider is offering Cisco Spark Hybrid Services)	10.6 and above

Customers will need to procure one or more of the Cisco Spark offers outlined in Table 2.

**Table 2.** Cisco Spark Offers

Cisco Spark Applicable Offers	SKU
Business Messaging	A-SPK-NU-M1
Business Messaging and Basic Meetings	A-SPK-NU-M2
Business Messaging, Basic Meetings, and Advanced Meetings	A-SPK-NU-M3

Customers will need to deploy Cisco Expressway (Table 3). Organizations using Cisco Hosted Collaboration Solution do not need Cisco Expressway on their premises. Instead, their Hosted Collaboration Solution partner will deploy it in the cloud as part of their Cisco Spark Hybrid Service offering.

**Table 3.** Cisco Expressway Details

Requirements	Version
Cisco Expressway - No charge. Download from Cisco.com	x8.7.1 and above

## Cisco Spark Hybrid Calendar Service

As more and more users become mobile, they want to schedule meetings from their mobile phones. Built-in mobile calendar applications do not allow plug-ins. Consequently, there is no easy way to add Cisco Spark space or meeting join information in a mobile app. Using Microsoft Outlook Web Access (OWA) is difficult and forces users to manually copy and paste the meeting join information. This problem is so significant that many users wait until they get to the office or open up their laptop to schedule meetings.

Cisco Spark Hybrid Calendar Service overcomes these issues so that you can schedule meetings and create a Cisco Spark space on any device, anywhere.

For users with Cisco Spark basic meeting capabilities, adding “@spark” to an Outlook invitation automatically opens a new Cisco Spark space with the invitees, allowing that team to begin the conversation and share documents and ideas before the meeting even starts (Figure 1).

Users with a Cisco Spark Advanced Meetings subscription are able to add “@webex” to an Outlook invitation to automatically populate the body of the invitation with the WebEx powered meeting join information. They can alternatively add both “@spark” and “@webex” to the location field. “@webex” adds the meeting join information to the invitation, and “@spark” will automatically create a space with the people invited.

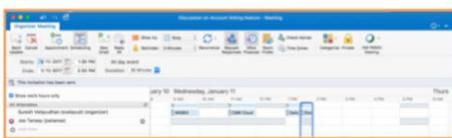
These capabilities do not require any plug-ins. No manual cutting and pasting of information is necessary. Simply adding “@webex” to a meeting invitation allows people to schedule meetings from anywhere on any device, including OWA and any mobile device that supports adding Microsoft Exchange.

**Figure 1.** Adding “@spark” to an Invitation

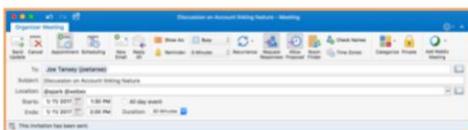
### Scheduling Your Meeting

and add a room immediately with @Spark

#### 1 Schedule



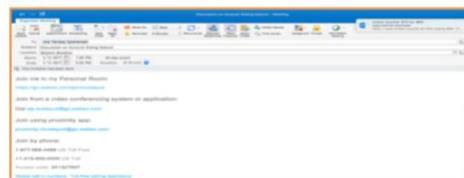
#### 2 Add @Spark



#### 3 Send



#### 4 Join info automatically added



Adding “@spark” can also enable users to join the meeting directly from the Cisco Spark space. A calendar artifact is also added to the space with the schedule details, including the booking owner.

Table 4 outlines the different capabilities available to users when scheduling meetings, based on the company’s chosen Cisco Spark level of service.

**Table 4.** Scheduling Capabilities by the Level of Cisco Spark Used

Cisco Spark Service Level Purchased	Description of Cisco Spark Service Level	Cisco Spark Hybrid Calendar Service Benefits by Level
<b>Business Messaging</b>	<ul style="list-style-type: none"> <li>• Business-class messaging</li> <li>• One-to-one and 3-way video calling with screen sharing</li> <li>• Ability to join Cisco Spark and SIP-based meetings</li> </ul>	Adding “@spark” to the Outlook invitation creates a Cisco Spark space and puts the meeting information in the space.
<b>Business Messaging and Basic Meetings</b>	<ul style="list-style-type: none"> <li>• Everything included with Business Messaging</li> <li>• Ability to host instant 25-party meetings with screen sharing with other Cisco Spark users</li> </ul>	Includes everything within the Business Messaging, but users can schedule basic meetings in Microsoft Outlook with up to 25 users.
<b>Business Messaging, Basic Meetings, and Advanced Meetings</b>	<ul style="list-style-type: none"> <li>• Everything included with Business Messaging and Basic Meetings</li> <li>• Ability to host meetings powered by WebEx with screen sharing and with external participants on any device, including third-party standards-based devices</li> <li>• A Personal Room</li> <li>• Ability to schedule meetings from within Cisco WebEx</li> </ul>	<p>By adding “@webex” to the Outlook invitation’s location, users can schedule advanced meetings powered by WebEx with up to 200 users.</p> <p>Adding “@spark” to the Outlook invitation’s location causes a Cisco Spark space to be created automatically with all the attendees and meeting information in the space. This allows users to start the conversation before the scheduled meeting.</p> <p><b>Note:</b> Cisco Spark Advanced Meetings can be scheduled in Microsoft Outlook without Cisco Hybrid Calendar Service by using capabilities inherent in Cisco WebEx. The benefit of using Cisco Hybrid Calendar Service is the simplicity of needing only to add “@webex” to the meeting location. This is especially useful on a mobile device, as no plug-ins are needed.</p>

### How Cisco Spark Hybrid Calendar Service Works

Cisco Spark Hybrid Calendar Service uses a Calendar Connector deployed on [Cisco Expressway](#) on-premises to enable the service. Calendar Connector subscribes to Exchange Web Service (EWS) calendar feedback messages for each user. When a user adds “@spark” to the invitation’s location field, Calendar Connector securely creates a new Cisco Spark space and adds the invitees to the space, then updates the invitation with the link to the space for each attendee to see in their own calendar. When a user adds “@webex,” Calendar Connector retrieves the Personal Room join details, then updates the meeting with the booking owner’s own Personal Room link, video address, and telephone dial-in numbers for each attendee to see in their own calendar.

### Requirements for Cisco Spark Hybrid Calendar Service

Table 5 shows the product requirements for Cisco Spark Hybrid Calendar Service deployment.

**Table 5.** Product Requirements for Cisco Spark Hybrid Calendar Service Deployment

Product	Version
<b>Any Cisco Spark paid offer (check for country availability)</b>	Any paid offer
<b>Cisco Expressway (can be downloaded from Cisco.com at no charge)</b>	Version 8.7.1 and above
<b>Microsoft Exchange</b>	2010 SP3/2013/O365
<b>Cisco WebEx – Use for @webex scheduling only; not required for @spark (If purchasing Cisco Spark Advanced Meetings, Cisco WebEx does not need to be purchased, as its capabilities are already included in Cisco Spark Advanced Meetings.)</b>	T29.13 and above

## Cisco Spark Hybrid Directory Service

Deploying Cisco Spark Hybrid Directory Service simplifies the administrator's experience. It takes the hassle out of updating user information in the cloud by automatically synchronizing it with the Microsoft Active Directory on your premises. Cisco Spark Hybrid Directory Service supports Cisco Spark meetings, messaging, and calling capabilities.

For administrators, Cisco Spark Hybrid Directory Service simplifies not only the Cisco Spark onboarding experience, but also the day-to-day operations. Without Cisco Spark Hybrid Directory Service, administrators must either manually add, delete, or edit Cisco Spark users through the Cisco Cloud Collaboration Management portal or upload a file every time they need to add or change a user that has changed in the Microsoft Active Directory. The Cisco Spark Hybrid Directory Service automatically synchronizes an organization's on-premises Microsoft Active Directory users to Cisco Spark. And Cisco Spark Hybrid Directory Service securely eliminates the need to manage multiple directory databases. When an employee leaves the company, as soon as the user is deleted from Microsoft Active Directory their Cisco Spark account is deactivated. The user will no longer be able to log in to Cisco Spark and will be removed from all spaces and services.

For end users, Cisco Spark Hybrid Directory Service provides accurate and up-to-date directory content for all Cisco Spark users. And because profile data in the Cisco Collaboration Cloud is synchronized with the premises (verified names, email addresses, and company avatars), it can help ensure that your users are communicating with the right people.

Table 6 outlines Cisco Spark Hybrid Directory Service features and benefits for administrators.

**Table 6.** Cisco Spark Hybrid Directory Service Features and Benefits for Administrators

Feature	Description and Benefit
<b>Easy-to-use dashboard</b>	The dashboard provides a synchronization schedule, summary, and status of synchronization, and the status of the Directory Connector. Administrators can view the dashboard when they log in to the Directory Connector.
<b>Full and incremental synchronization</b>	Synchronize the entire directory. Or just synchronize the incremental changes to save on processing power and shorten synchronization time.
<b>Scheduled synchronization</b>	Set a synchronization schedule by day, hour, and minute.
<b>Lightweight Directory Access Protocol (LDAP) filters</b>	Define LDAP search criteria and provide efficient imports.
<b>Dry run</b>	Conduct a dry run of changes to the directory before they are implemented. Then run a report to see that the changes you want to make are what you expect.
<b>User attribute mapping</b>	Map Microsoft Active Directory attributes to corresponding Cisco Spark attributes.
<b>Event viewer</b>	Use the event viewer to determine if there were any issues with the synchronization.
<b>Troubleshooting</b>	Once an administrator enables troubleshooting, logs will be written that can be sent to technical support.
<b>Automated upgrade</b>	The administrator is sent a notification when a new version of Directory Connector is available, and is given a choice of whether to upgrade.
<b>High availability</b>	Configure multiple connectors so that there is a backup, in case the main connector or the machine hosting it goes down.

## How Cisco Spark Hybrid Directory Service Works

Directory Connector provides all the features of the Cisco Spark Hybrid Directory Service. It is client software installed on a local Microsoft Windows server and synchronizes identities between the on-premises Microsoft Active Directory and Cisco Spark user management system. Microsoft Active Directory acts as the system of record. Director Connector communicates with Active Directory, then communicates with Cisco Spark through a highly secure API to create, update, or delete users.

You can run synchronizations, view and monitor synchronization status, and configure Hybrid Directory Service using the Directory Connector user interface.

Customers can download Cisco Spark Hybrid Directory Service from the [Cisco Cloud Collaboration Management portal](#), free of charge.

## Requirements for Cisco Spark Hybrid Directory Service

Table 7 shows the requirements for Cisco Spark Hybrid Directory Service.

**Table 7.** Hybrid Directory Service Requirements

Products	Version
Any Cisco Spark paid offer (check for country availability)	Any paid offer
Windows Server (to host the Cisco Hybrid Directory Service)	Windows Server 2003, 2008, 2012
Microsoft Active Directory	2008, 2008 R2, 2012, and 2012 R2
.NET Framework	V3.5

## Cisco Spark Hybrid Media Service

Users want simple meeting experiences with rich audio, video, and content sharing. They want to join a meeting from whatever device they choose, with a great, consistent experiences on each one.

Providing this capability is not always simple. IT has to be concerned with scalability, reliability, and costs, along with delivering these great experiences to their users. And one of the biggest decisions can be whether or not to deploy cloud-based or premises-based meetings. Each meeting deployment model has its own benefits. But why should IT have to choose between those benefits? What if they could buy and deploy the right mix of on-premises and cloud meetings? That is what Cisco Spark Hybrid Media Service does for Cisco Spark meetings.

Hybrid Media Service is a simple, secure way to create unique value by enabling Cisco Spark meetings to be deployed not just from the cloud, but also on-premises and even as a mix of both. It provides:

- **Quality and privacy:** Local media processing improves audio, video, and data sharing quality and reduces Internet bandwidth consumption.
- **Simplified resource planning:** Transparent overflow to the cloud simplifies resource planning and solution sizing. It eliminates resource limitations for your meetings, even very large ones. Best of all, users get one seamless meeting experience, regardless of whether they are joining from the cloud or your premises.
- **Cloud simplicity on your premises:** Hybrid Media Service enables on-premises meetings without the operational overhead. It offers a single management system across all Cisco Spark meeting deployment types. And it provides cloud-based provisioning, usage metrics, and automated delivery of software updates right to your premises – just as if it was in the cloud.

To learn more about Hybrid Media Service and its benefits for Cisco Spark meetings, please read its [data sheet](#).

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### For More Information

To learn more about how Cisco Spark Hybrid Services can transform your communications, visit <http://www.cisco.com/go/sparkhybrid>.

To learn more about Cisco Spark, visit <http://www.ciscospark.com>.



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