

Deploying BlueJeans Gateway for Microsoft Teams

An Easy Way to Enable Group Video Endpoint Interoperability with Microsoft Teams

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Executive Summary

This report describes KelCor's experience deploying [BlueJeans Gateway for Microsoft Teams](#), which is a Microsoft approved video gateway that allows group and personal video conferencing endpoints to join Microsoft Teams meetings. Many organizations have significant investments in group video communications equipment and meeting rooms, and these advanced meeting spaces need to join in collaborative sessions conducted in Microsoft Teams.

Configuring the BlueJeans Gateway for our Office 365 subscription took less than 10 minutes. The Gateway provided simplified dialing numbers so that connecting group video endpoints to a Teams meeting was easy, even when using a handheld remote. In our testing, the group video units connected flawlessly to Microsoft Teams meetings, joining the meetings the first time and every time. Video quality on all devices connected to these meetings was excellent. We also tested BlueJeans One Touch Join in which Teams meetings scheduled in Outlook appear on the video endpoint display; by pressing a single button on the handheld remote, we were able to join our group video endpoints to the Microsoft Teams meeting.

Introduction

At the end of September 2018, BlueJeans Network contacted KelCor and asked if it would be willing to deploy BlueJeans Gateway for Microsoft Teams as part of its Office 365 subscriptions. This gateway is designed to connect SIP and H.323 group video conferencing endpoints to Microsoft Teams meetings. BlueJeans wanted KelCor to install the gateway, use it for multipoint video meetings in which both Microsoft Teams clients and SIP or H.323 group video conferencing endpoints joined the meeting, and to describe our experience.

Disclosure on Editorial Control

KelCor has been compensated by BlueJeans to test BlueJeans Gateway for Microsoft Teams and to prepare this paper. The thoughts and opinions expressed herein are those of the author alone, and KelCor has maintained full editorial control throughout.

Establishing the Test Environment

KelCor has a laboratory with full duplex connections to the Internet through a Tier 1 provider with dedicated bandwidth approaching 100 Mbps. We also have multiple Office 365 accounts, each of which are enabled with Microsoft Teams. KelCor had previously deployed Microsoft Teams on the following platforms: Windows PCs, Mac OSX, iPhone, and iPad. BlueJeans Gateway for Microsoft Teams would be an add-on to existing our Microsoft Office 365 subscription.

Also available in our lab was a legacy Tandberg 1700 group video endpoint. BlueJeans provided KelCor with an additional Cisco SX-20 video endpoint for use during the testing period.

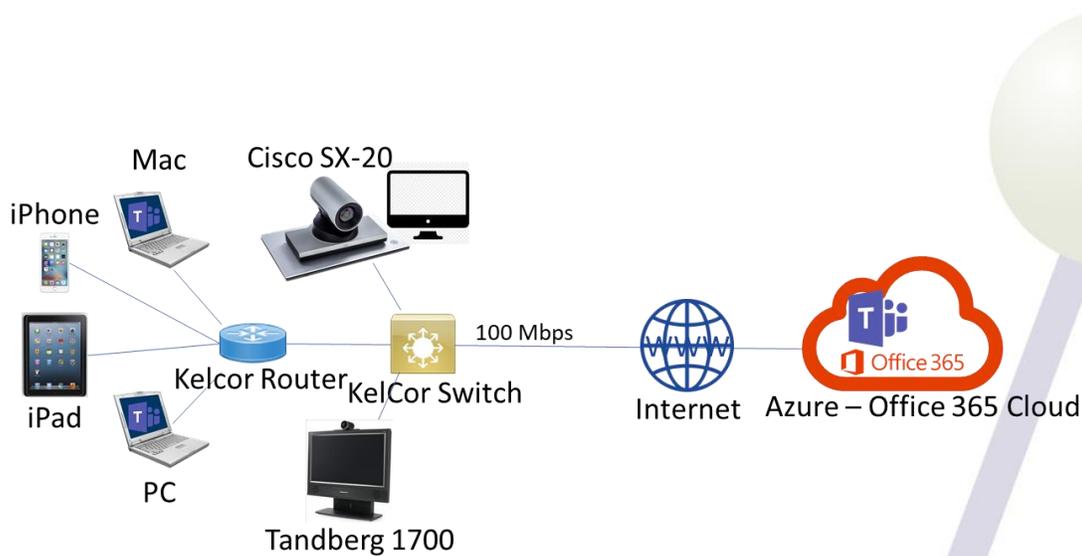


Figure 1. The equipment and network setup for testing BlueJeans Gateway for Microsoft Teams.

Enabling BlueJeans Gateway for Microsoft Teams

BlueJeans wanted KelCor to go through the entire process required to deploy BlueJeans Gateway for Microsoft Teams. Because the Gateway is not generally available until October 31, 2018, KelCor was setup as a Microsoft Technology Adoption Program (TAP) partner.

Provisioning the Gateway is simple, requiring two steps:

1. Consent by KelCor's Office 365 administrator to allow the BlueJeans Gateway application to interact with KelCor's Office 365 domain. The BlueJeans Gateway consent form (shown on the right) describes those elements of an organization's Office 365 the BlueJeans Gateway application will have access to. This allows the Gateway to read calendars, access media streams, etc.
2. Running some PowerShell commands as the Office 365 administrator to enable the gateway. PowerShell is a standard Windows component easily accessible on a Windows PC. Executing

 Microsoft

administrator@kelcor.onmicrosoft.com

Permissions requested

Accept for your organization

BlueJeansGatewayForMicrosoftTeams

This app would like to:

- ✓ Read and create online meetings (preview)
- ✓ Read online meeting details (preview)
- ✓ Access media streams in a call as an app (preview)
- ✓ Join group calls and meetings as a guest (preview)
- ✓ Join group calls and meetings as an app (preview)
- ✓ Initiate outgoing group calls from the app (preview)
- ✓ Initiate outgoing 1:1 calls from the app (preview)
- ✓ Sign in and read user profile

If you accept, this app will get access to the specified resources for all users in your organization. No one else will be prompted to review these permissions.

Accepting these permissions means that you allow this app to use your data as specified in their [terms of service](#) and [privacy statement](#). You can change these permissions at <https://myapps.microsoft.com>. [Show details](#)

the PowerShell Script is straightforward, and BlueJeans gave KelCor all the necessary commands via email.

- a. As a prerequisite, you must first download and then import the [Skype for Business Powershell Online Connector Module](#). The exact PowerShell code to do the import is as follows:

```
Import-Module SkypeOnlineConnector
$userCredential = Get-Credential
$fbSession = New-CsOnlineSession -Credential $userCredential
Import-PSSession $fbSession
```

- b. BlueJeans sent KelCor the eight lines of PowerShell code required to enable BlueJeans Gateway, and all we had to do was cut and paste them into the PowerShell window. The actual code is shown below:

```
# Starting the PowerShell session

1. $cred = Get-Credential <AdminUserId>
2. $session = New-CsOnlineSession $cred
3. Import-PSSession $session -AllowClobber

# Verifying initially that the service is disabled

4. Get-CsTeamsVideoInteropServicePolicy

# Setting up the BlueJeans service, and then verifying the
settings are correct

5. New-CsVideoInteropServiceProvider -Name BlueJeans -
   TenantKey <kelcor unique tenant key>@teams.bjn.vc -
   InstructionUri https://bluejeans.com

6. Get-CsVideoInteropServiceProvider

# ENABLE-ALL: Enabling the service globally for all KelCor
users, and then verifying it is enabled

7. Grant-CsTeamsVideoInteropServicePolicy -
   PolicyName BlueJeansServiceProviderEnabled -Global
8. Get-CsTeamsVideoInteropServicePolicy
```

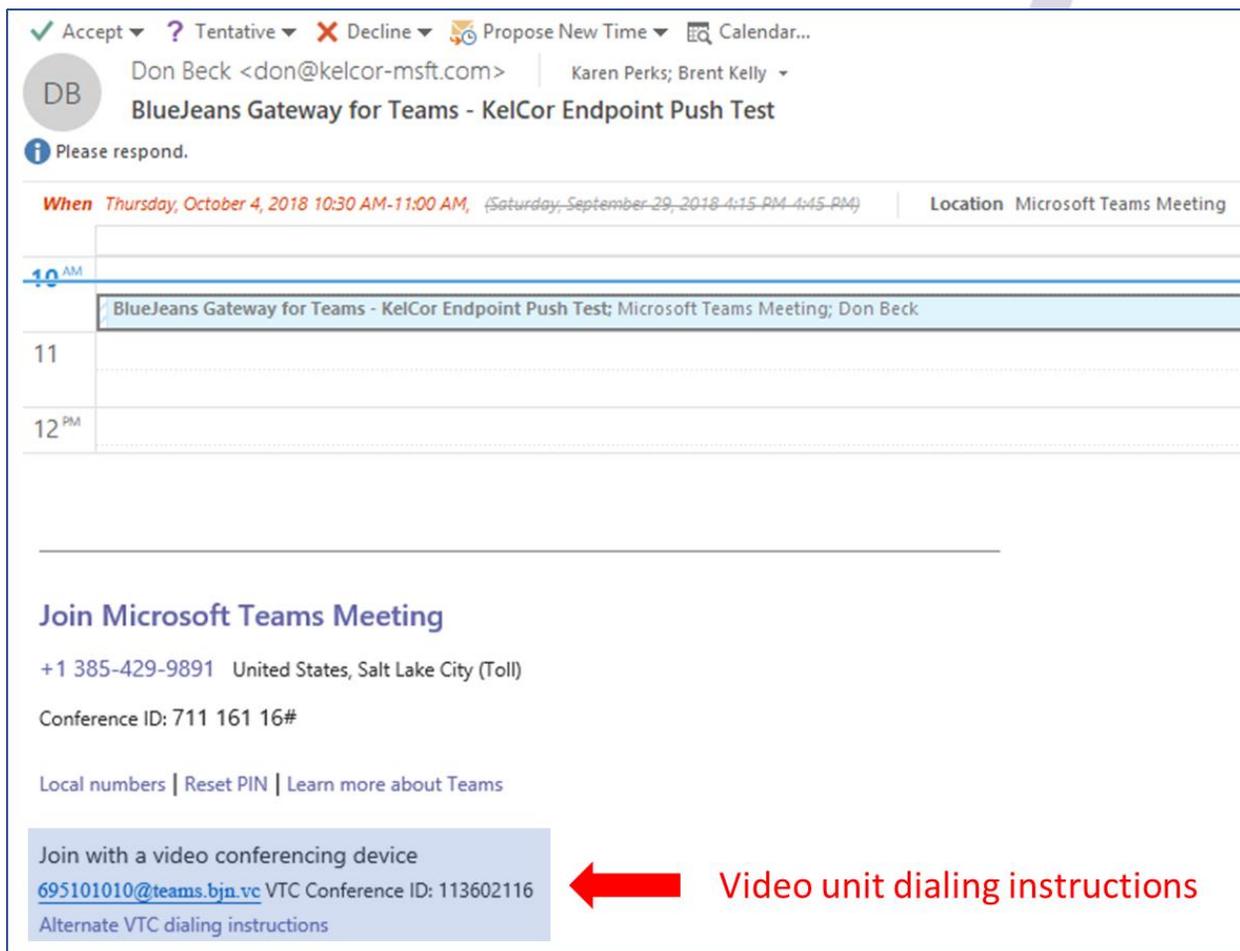
This is all that is required to deploy BlueJeans Gateway for Microsoft Teams so that SIP and H.323 endpoints can join Microsoft Teams meetings. We accomplished it in under 10 minutes.

Once the PowerShell commands had been executed, Microsoft recommended waiting a few hours before trying to use the Gateway so that the Office 365 service changes would be

propagated throughout Microsoft's Azure cloud where BlueJeans Gateway for Microsoft Teams is deployed.

Using the BlueJeans Gateway with SIP or H.323 Video Units Meeting Invitations

Once BlueJeans Gateway for Microsoft Teams is deployed, any meetings scheduled using the Teams calendar or the Teams plugin to Outlook automatically contain the group video endpoint dialing string that enables the endpoint to join the meeting. A sample Teams meeting invitation is shown below.



The screenshot shows a Microsoft Teams meeting invitation. At the top, there are response options: 'Accept', 'Tentative', 'Decline', 'Propose New Time', and 'Calendar...'. The sender is Don Beck <don@kelcor-msft.com> and the attendees are Karen Perks and Brent Kelly. The meeting title is 'BlueJeans Gateway for Teams - KelCor Endpoint Push Test'. Below the title, it says 'Please respond.'. The meeting time is 'Thursday, October 4, 2018 10:30 AM-11:00 AM' (with a note for a previous date) and the location is 'Microsoft Teams Meeting'. A calendar view shows the meeting slot from 10 AM to 11 AM. Below the calendar, there are instructions to 'Join Microsoft Teams Meeting' with a phone number '+1 385-429-9891', 'United States, Salt Lake City (Toll)', and 'Conference ID: 711 161 16#'. There are links for 'Local numbers', 'Reset PIN', and 'Learn more about Teams'. A blue box contains the text 'Join with a video conferencing device' followed by the dialing string '695101010@teams.bjn.vc' and 'VTC Conference ID: 113602116'. Below this is a link for 'Alternate VTC dialing instructions'. A red arrow points from the text 'Video unit dialing instructions' to the dialing string.

Figure 2. A Microsoft Teams meeting invitation showing how a video endpoint can dial into the meeting.

Dialing on the Video Endpoint to Join the Teams Meeting

To join a Teams Meeting, our video endpoints dialed the string [695101010@teams.bjn.vc](tel:695101010@teams.bjn.vc), as shown in the meeting invitation. Note that the number portion of this string (the 695101010 shown above) is a unique identifier for the organization subscribing to BlueJeans Gateway service; each organization will be assigned a unique number by the service.

After dialing this string, the video endpoint is placed in a BlueJeans Gateway lobby. To finish the joining process, the video endpoint needs to dial the VTC Conference ID shown at the bottom of the Outlook meeting invitation, as illustrated below.



Figure 3. The BlueJeans Gateway lobby for Microsoft Teams. From this lobby, the group video endpoint dials the VTC Conference ID to join the specific Teams Meeting the endpoint has been invited to.

After dialing the VTC Conference ID, the video endpoint is placed in a Microsoft Teams lobby where it is parked until someone in the Teams meeting admits the endpoint.



Figure 4. This is the Microsoft Teams lobby screen as seen on the group video endpoint. A video endpoint is placed into this lobby until a participant in the Teams meeting lets this endpoint into the meeting. Note that any participant can let the endpoint in.



Figure 5. The Teams interface running on a Windows PC. A popup is displayed notifying Team meeting participants that a group video endpoint is waiting in the lobby. To admit the endpoint, any meeting participant using the Teams client can click on the "Admit" button. If desired, Teams can be configured to admit guests automatically.

A Dialing Shortcut

A convenient dialing shortcut is available to all BlueJeans Gateway users, which makes joining meetings even easier. You can combine the organization identifier with the conference ID to create a single dialing string that connects through the BlueJeans Gateway, placing the endpoint directly into the Teams meeting lobby. The format is as follows:

<organization identifier>.<conference ID>@ teams.bjn.vc

You can also resolve the “teams.bjn.vc” domain name into an IP address (which happens to be 40.91.78.170) and make the dialing string even simpler:

[695101010.113602116@40.91.78.170](tel:695101010.113602116@40.91.78.170)

KelCor found it much easier to dial into meetings using this shortcut because it eliminated the need to dial using alphanumeric characters from a handheld remote. We only had to dial numbers, the periods, and the ampersand.

BlueJeans One Touch Join

In addition to providing a simple dialing string to join Teams meetings, BlueJeans provides a “One Touch” capability so that group video endpoints can join Teams meeting by pressing one button on the handheld remote or the video endpoint’s control panel. BlueJeans One Touch is a cloud-based service that enables one touch join in supported standards-based video endpoints.

To enable One Touch, KelCor downloaded the BlueJeans listener service and installed it on a Windows PC. Normally, this app is installed on a virtual machine running Windows, Linux, or Mac OS X. KelCor did ask BlueJeans for some technical support to properly install and configure the app. Our modified equipment and network testing configuration for One Touch is shown below.

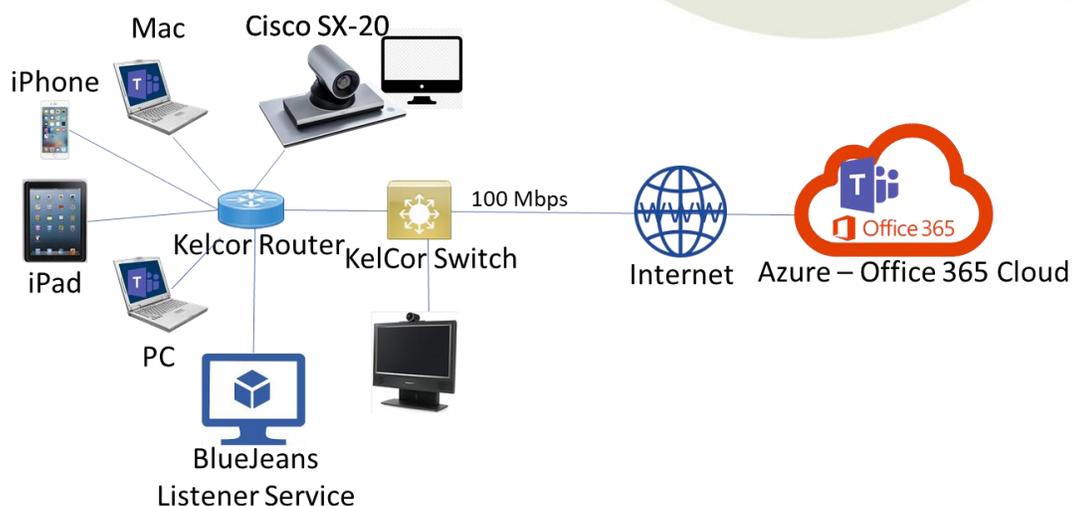


Figure 6. The configuration for testing the BlueJeans One Touch functionality. KelCor set up a server inside the firewall and moved the SX-20 behind that same firewall so that One Touch could communicate with the endpoint.

When a group video endpoint is invited to a Teams meeting via Outlook scheduling, BlueJeans One Touch displays a meeting notice on the video endpoint. Simply pressing the Join meeting button on the handheld remote causes the video endpoint to automatically dial the meeting's dialing string found in the Outlook invitation to enter the Microsoft Teams meeting.

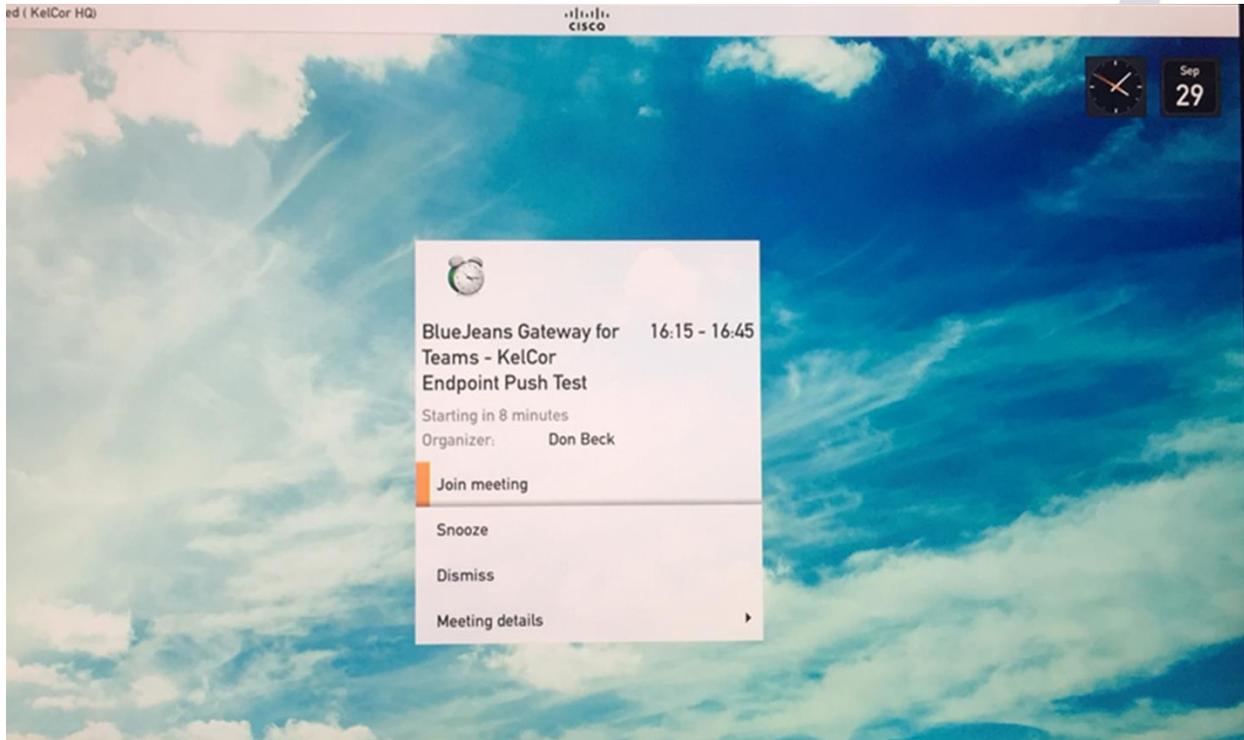


Figure 7. The BlueJeans One Touch service allows video endpoints to join a Microsoft Teams meeting using one touch from the hand-held remote. This screen shows the One Touch capability on a Cisco SX-20 that has been invited to a Microsoft Teams meeting.

One Touch also works with most control panels that can be associated with a video endpoint including Cisco Touch 9, Cisco Touch 10, Polycom Real Presence Touch and Lifesize Icon. It also works on the iPad using the BlueJeans Rooms app that allows the iPad to control a specific endpoint. iPad functionality enabling video endpoints to join a Microsoft Teams meeting will be available in the BlueJeans Rooms app in Q1 of 2019.

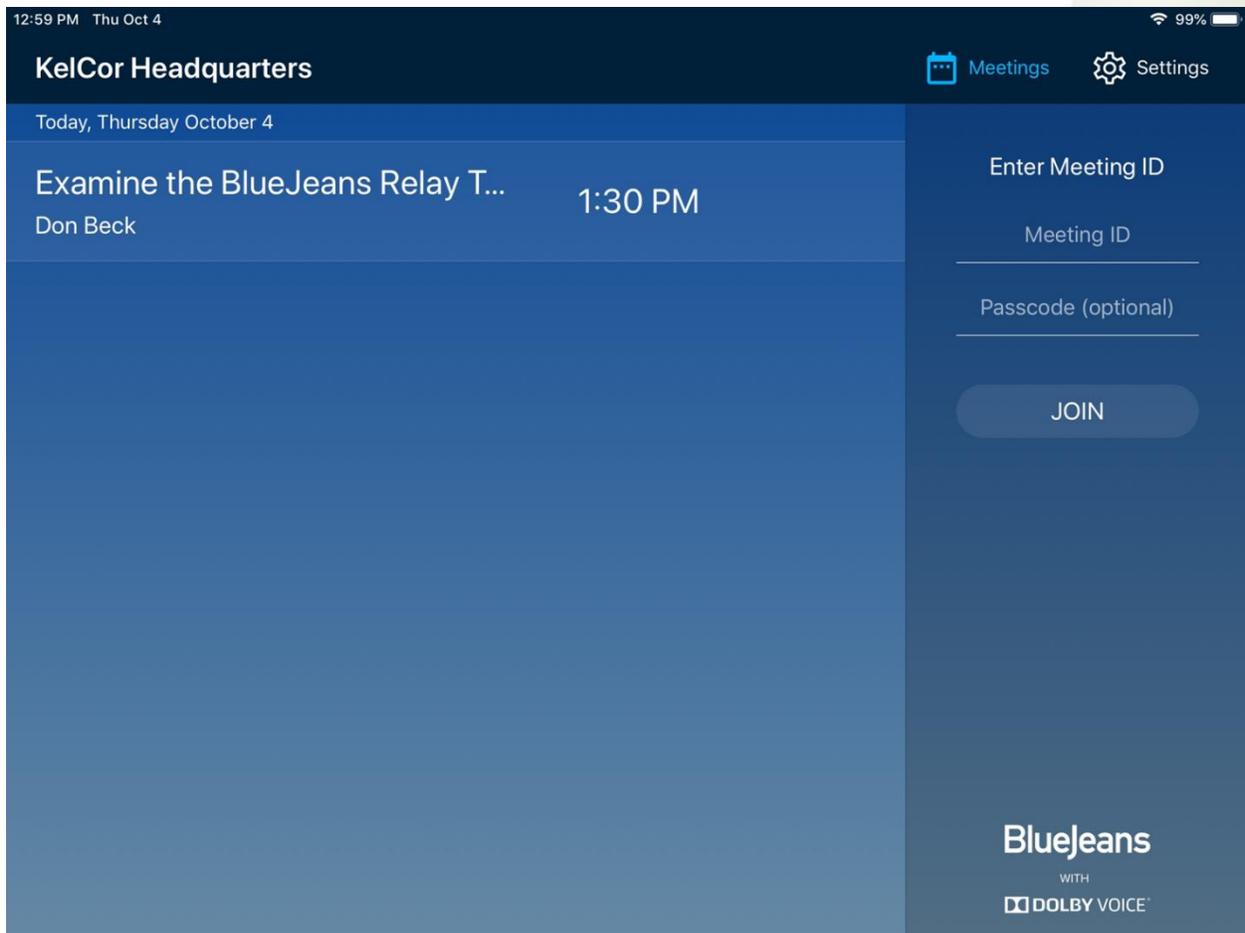


Figure 8. The BlueJeans One Touch interface on the Apple iPad. This iPad is associated with a Cisco SX-20 group video unit and displays all meetings for which this video unit is scheduled. The Join button will be accessible in early 2019 allowing the video unit to join Microsoft Teams meetings via the iPad interface using a single touch.

KelCor's Video Experience

Once BlueJeans Gateway for Microsoft Teams was fully instantiated for KelCor's Office 365 subscription, joining group video endpoints to Teams meetings was easy and straightforward. Teams meeting joins from video endpoints have worked the first time and every time. Video quality is excellent.



Figure 9. A multiparty Microsoft Teams meeting. The PC and the Mac are joining using the Teams client. The Cisco SX-20 and the Tandberg 1700 joined through BlueJeans Gateway for Microsoft Teams.

Screen sharing from a Teams client appears on the group video conferencing unit as one would expect. The page below is a screen shot taken from a Cisco SX-20 in a Microsoft Teams meeting in which a PC is sharing content.

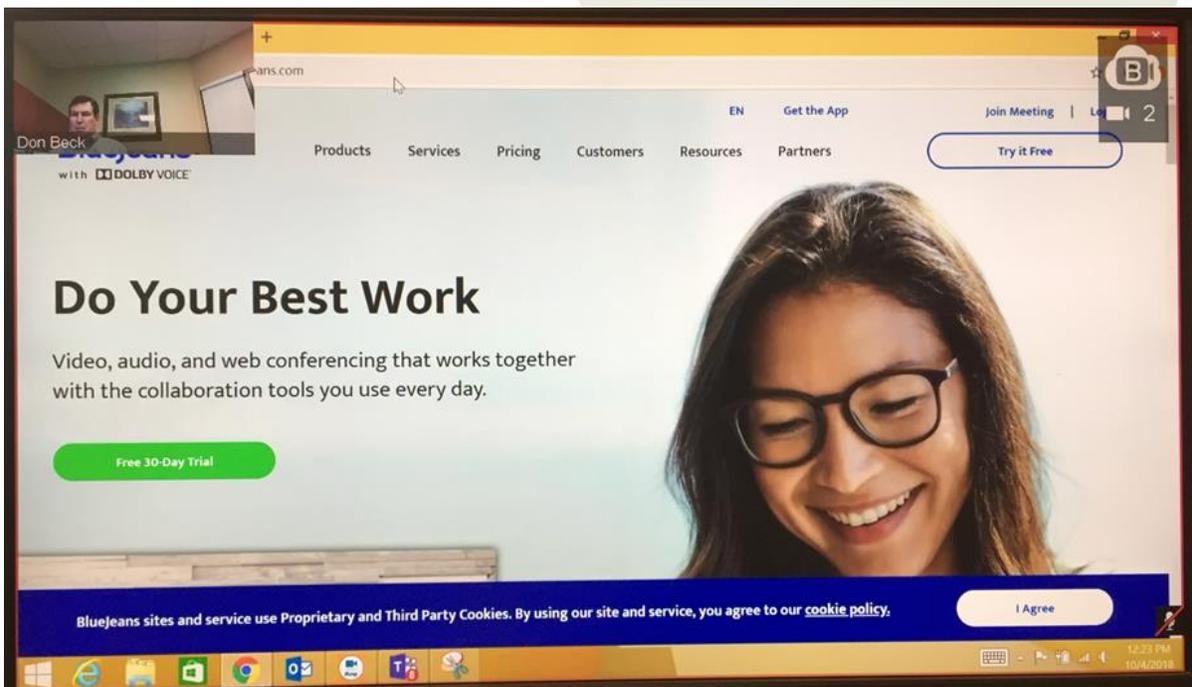


Figure 10. Screen sharing is enabled through the BlueJeans Gateway. This image is a screen shot of the Cisco SX-20 screen when it is engaged in a Teams meeting with a PC running the Microsoft Teams client. The PC is sharing this web page.

Conclusion

KelCor can certify that the BlueJeans Gateway for Microsoft Teams works remarkably well. We have tested it with two SIP-based group video endpoints. To these meetings we have added our own Microsoft Teams clients running on the PC, Mac, iPhone, and iPad. In all our testing, the group video endpoints joined the Teams meetings seamlessly and video from these endpoints displayed properly on all Teams clients in the meeting. In addition, content shared by the Teams clients appeared properly on the group video endpoint displays.

We found setting up the BlueJeans Gateway for Microsoft Teams straightforward: the required consent form was approved and the PowerShell commands to enable the service on all KelCor Office 365 accounts was executed in less than 10 minutes. The BlueJeans Gateway for Microsoft Teams worked as expected.

About the Author

Dr. Brent Kelly is Principal Analyst at KelCor, Inc. where he provides strategy and counsel to CxOs, investment analysts, VCs, technology policy executives, sell side firms and technology buyers. He has made measurable contributions in multiple industries including telecom, manufacturing, electronics, oil field services, chemicals, and mining. Brent has a strong background in numerical methods and applied artificial intelligence along with significant experience developing IoT solutions. He has written hundreds of articles and reports in the unified communications and collaboration industry and regularly delivers webinars and thought leadership addresses at public and private events. Brent has a Ph.D. in engineering from Texas A&M University and a B.S. in engineering from Brigham Young University. Dr. Kelly has served two terms as an elected official in his community and is co-owner with his wife of a [gourmet chocolates manufacturing company](#).

About KelCor

KelCor (www.kelcor.com) is a specialized consulting and analyst firm with a passion for providing client satisfaction through product and service excellence. We have laser focus on the business communications market, emphasizing those products and services that are proven to accelerate an organization's business processes.

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