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Accessible Virtual Meetings
Introduction

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  ○ Nationally Certified American Sign Language Interpreter (NIC Advanced)

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  ○ Former President of Deaf & Hard-of-Hearing DHS (employee resource group)
  ○ Certified Professional in Accessibility Core Competencies
The assessments provided herein should not be construed to be an endorsement or approval by the Federal Government of any specific platform or program.

No representations are made in this presentation as to whether or how certain platforms are or are not in compliance with legal or regulatory requirements from FCC, DHS, or other Federal agencies or legislation.

To view this presentation in context with presenter remarks, please see: https://www.youtube.com/watch?v=rR9RfhvM2sU
Agenda

- Accommodations vs. Accessibility
- Challenges and Opportunities
- Best Practices
- Equipment and Technology Recommendations
- Virtual Conferencing Platforms Overview
  - Zoom
  - Cisco WebEx
  - Google Meet
  - Adobe Connect
  - Microsoft Teams
  - Live Streaming (e.g. YouTube, Facebook, Twitter)
- So how do I pick a platform?
- Q&A Session
“For most people, technology makes things easier.

For people with disabilities, however, technology makes things possible.

Mary Pat Radabaugh
Director of IBM’s National Support Center for People with Disabilities
1998
Accommodation is **not** the same as accessibility.

- Accommodations are for **individuals** and are **reactive**.
- Accessibility is for **populations** and is **proactive**.
- Accessibility should make content **available to all**, in equally effective ways, at the **same time**.
- Accessibility is the goal, accommodations are just tools to reach it.
Virtual Meetings: Challenges

- Platform limitations (Technical)
- Environmental limitations (Security, budgetary)
- Licensing limitations
  - Some features not uniformly available (e.g. higher-tier licenses).
- Diverse access methods/user interface (UI)
  - Inconsistent user experience
- Limited ability to provide technical support
  - Screen share does not share screen share tools
- Turn taking awkwardness
  - Lack of access to conversational cues
- Conflicting accommodations
  - Limited screen space and bandwidth
- Lack of experience and/or training

Diagram: Low Demands vs. Low Controls vs. High Demands vs. High Controls
Virtual Meetings: Opportunities

- Interface customization
- User control of Assistive Technology
- Expanded pool of participants
  - Geographic, disability, time
- Productivity
- Richer remote interactions (as opposed to “conference call”)
- …?
Virtual Meetings: Universal Meeting Design

- Establish a single **Point of Contact**
- Ask for **help**
- Do a **technology test** in advance
- Broadcast the **Communication Rules**
  - Sample at the beginning of this presentation
- Embrace good meeting **management techniques**
Meeting Management Techniques

**Agenda:** Distribute a detailed agenda prior to your meeting*

**Attendee List:** Make available a list of confirmed attendees

**Moderator:** Assign one participant to serve as meeting moderator

**Name Announcements:** Remind participants to identify themselves before they begin to speak

**Manage turn-taking:** Establish a clear procedure (or utilize a digital tool) to manage turn taking

**Document sharing:** Distribute any relevant documents well in advance of the meeting*

*Any/all document distribution should consider accessibility of those documents (e.g. word format, PDF, plaintext, braille, videos to be captioned & audio described)
**Communication style:** Describe the content of the graphics, speak at a moderate rate and stay on topic for ease of communication.

**Check In:** At the beginning of your meeting take a moment to ask whether all attendees have what they need for effective communication.

**Solicit Feedback:** Provide a contact for and specifically solicit feedback on accessibility of the meeting.

**Screen share sparingly:** Screen/content is not accessible to screen readers users and can take screen space away from video that may be needed. Use with caution and consider toggling shared content on and off only when needed.
Equipment and Tech Recommendations

**Fine tune your audio**
- Use a headset whenever possible
- Split your audio between input and output; input via device’s built-in microphone, output to headphones or other isolated audio device
- Only use **one** audio connection method (phone or computer, not both)

**Fine tune your video**
- Frame your shot
- Consider an external webcam
- Disable autofocus if possible
- Consider turning off your video when it is not needed*

**Provide multiple connection options**
- Maintain flexibility for your attendees by allowing for as many different connections as possible (e.g. IP audio, phone audio, audio only, video only)
Once Upon a midnight dreary.
While I pondered weak and weary.
Over many **acquaint, incurious** volume of forgotten lore.
While I nodded, nearly napping, suddenly there came a tapping.
As of **someone** gently **wrapping wrapping up my chambered or just some visitor I muttered tapping at my chain. Would or only this and nothing more.**

Once Upon a Midnight dreary while I pondered weak and weary over many a quaint and curious volume of Forgotten lore while I nodded nearly napping suddenly there came a tapping as of **someone** gently rapping rapping at my chamber door tis some visitor. I muttered tapping at my chamber door only this and nothing more.
<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Highly accessible via screen reader</td>
<td>● Integrated meeting management tools lack sophistication</td>
</tr>
<tr>
<td>● Simple intuitive User Interface (UI)</td>
<td>● Captioning display lacks customization, sophistication, consistency.</td>
</tr>
<tr>
<td>● Side by side mode/dual monitor support</td>
<td>● Security concerns continue to be prevalent, especially amongst government entities</td>
</tr>
<tr>
<td>● High quality video/audio with low stutter rate</td>
<td>● Built-in live ASR using Otter.ai - but for Business or Pro accounts only (not gov)</td>
</tr>
<tr>
<td>● Non-video participants can be hidden</td>
<td></td>
</tr>
<tr>
<td>● Built-in support for captioning (via participant or vendor)</td>
<td></td>
</tr>
<tr>
<td>● Supports up to 100 video participants (350 total)</td>
<td></td>
</tr>
<tr>
<td>● Multi-pinning and multi-spotlight support</td>
<td></td>
</tr>
<tr>
<td>● Can move captions box around the window</td>
<td></td>
</tr>
</tbody>
</table>
Platforms: Zoom
Platforms: Zoom (Placement of Captions)

And that means that your subtitles as well appear at the bottom of your screen.
Platforms: Zoom (Roll-up captioning)

appear as closed captions down at the bottom of the zoom session. You can adjust some of the
## Platforms: Cisco WebEx

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Easy to procure; security and enterprise ready</td>
<td>● Not usable for screen reader users.</td>
</tr>
<tr>
<td>● Capability to create a separate module for captioning (Multimedia viewer)</td>
<td>● Complex user interface requires training to navigate</td>
</tr>
<tr>
<td>● Centralized feature management (administrators)</td>
<td>● Unintuitive video “pinning” functionality</td>
</tr>
<tr>
<td></td>
<td>● Inflexible video interface</td>
</tr>
<tr>
<td></td>
<td>● Centralized feature management (administrators)</td>
</tr>
<tr>
<td></td>
<td>● Additional steps to join a meeting</td>
</tr>
</tbody>
</table>
Platforms: Cisco WebEx

Weekly Sync Up Meeting

Catherine Sinu
Benoit Lapointe
Alison Cassady
Barbara German
Karen Atams
Adrian Delamico
Maria Rossi
Sherry McKenna
Brandon Burke
Sam Sheepdog
Simon Jones
Marc Brown
James Weston
Geconmo Edwards
Tod Calandra
Suzy
## Platforms: Google Meet

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>● FedRAMP approved for some agencies</td>
<td>● Not widely available to government agencies</td>
</tr>
<tr>
<td>● Easy to use and intuitive</td>
<td>● Max number of video participants depends on license (100, 150, 250)</td>
</tr>
<tr>
<td>● Automated captioning has high accuracy and names speakers (isolated audio channels)</td>
<td></td>
</tr>
<tr>
<td>● Grid layout for video</td>
<td></td>
</tr>
<tr>
<td>● Screen reader and keyboard accessible</td>
<td></td>
</tr>
<tr>
<td>● Audio via phone connection</td>
<td></td>
</tr>
<tr>
<td>● Browser based- no download required</td>
<td></td>
</tr>
</tbody>
</table>
Platforms: Google Meet

Meet
## Platforms: Adobe Connect

### Adobe Connect

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Majority of federal agencies use it</td>
<td>● Bandwidth intensive, deprioritize video</td>
</tr>
<tr>
<td>● Easy to procure; security and enterprise ready</td>
<td>● Complex user interface</td>
</tr>
<tr>
<td>● Grid layout for video feed</td>
<td>● Not usable for screen reader users</td>
</tr>
<tr>
<td>● Maximum user interface flexibility; can add a dedicated pod for captioning</td>
<td>● No video pinning functionality</td>
</tr>
<tr>
<td>● HTML5 client and desktop application available</td>
<td>● Requires additional licenses for add-ons such as conference lines</td>
</tr>
</tbody>
</table>
Platforms: Adobe Connect

Chat (Everyone)

John Smith: Welcome to the meeting everyone

Share My Screen

Web Links 3

Notes

Meeting agenda

Files

Upload File... Download File(s)

Attendees (3)

John Smith

Isabella Roswell

Marcus North

Ask me anything
Platforms: Adobe Connect
Platforms: Adobe Connect

TO REALLY FIND OUT HOW MANY ARE STILL IN BACKLOG AND HOW MANY WERE RUNNING THE LAST 24 HOURS UNTIL WE CAN GET INTO A 24-HOUR CYCLE.

Guest A: that looks fine.
Guest A: I can see you.
## Platforms: Microsoft Teams

### Pros

- Easy to procure; security and enterprise ready
- Available to almost all government agencies with Office 365
- Built-in across Office 365 applications for real-time collaboration
- Embedded invite for one click meetings via Outlook
- Multi-pinning enabled

### Cons

- “All-in-one” platform with numerous features that may confuse users
- Accessibility issues (e.g. guests unable to pin, unreliable captioning, screen reader access)
- Not user-friendly & not intuitive
- Captioning only feasible using their Azure AI; no other way to feed captions from CART provider
- License dilemma to obtain alternative methods for accommodations
Platforms: Microsoft Teams
Platforms: Microsoft Teams (Captioning example)

*unedited, real-time
58 seconds video
## Platforms: Live Streaming

### Pros
- Less bandwidth
- More control of broadcasting various content and video feeds to audience, especially picture-in-picture ASL interpreter and burn-on captioning
- Ease of access to virtually everybody who have a computer or mobile device

### Cons
- Requires many moving parts along with technical-intensive knowledge to implement solutions, especially with accessibility
- Burn-in or embedded captions on streams are not accessible to screen reader or refreshable braille display users
- Streaming services can be over reliant on ASR generated captioning
- Does not allow for a great degree of user customization
Platforms: Live Streaming (Bad example)

<table>
<thead>
<tr>
<th>Platforms</th>
<th>Bad Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>YouTube</td>
<td>![YouTube Icon]</td>
</tr>
<tr>
<td>Twitter</td>
<td>![Twitter Icon]</td>
</tr>
<tr>
<td>Facebook</td>
<td>![Facebook Icon]</td>
</tr>
</tbody>
</table>

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**5 Day Results - NYC**

<table>
<thead>
<tr>
<th>Area</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronx</td>
<td>2.0%</td>
<td>1.4%</td>
<td>1.4%</td>
<td>0.8%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>1.2%</td>
<td>1.2%</td>
<td>1.6%</td>
<td>0.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Manhattan</td>
<td>1.1%</td>
<td>1.4%</td>
<td>1.0%</td>
<td>0.8%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Queens</td>
<td>1.4%</td>
<td>1.7%</td>
<td>1.3%</td>
<td>1.1%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Staten Island</td>
<td>0.9%</td>
<td>2.0%</td>
<td>1.6%</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Total</td>
<td>1.3%</td>
<td>1.5%</td>
<td>1.4%</td>
<td>0.9%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

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*Governor Andrew M. Cuomo*

**STARTED.**
Platforms: Live Streaming (Good example)

YouTube  Twitter  Facebook

SO LET'S START THE WAY WE ALWAYS START BY
Platforms: Live Streaming (Size & Transition)
Platforms: Live Streaming (Burn-on Captions)

YouTube  Twitter  Facebook

>> GOOD AFTERNOON. MY NAME IS GOVERNOR JOHN CARNEY, I'M THE GOVERNOR OF THE STATE OF DELAWARE.

de.gov/coronavirus
<table>
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<th>Pros</th>
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<tr>
<td>● Less bandwidth</td>
<td>● Cost-intensive</td>
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<tr>
<td>● More control of broadcasting various content and video feeds to audience, especially picture-in-picture ASL interpreter and burn-on captioning</td>
<td>● Requires many moving parts along with technical-intensive knowledge to implement solutions, especially with accessibility</td>
</tr>
<tr>
<td>● Ease of access to virtually everybody who have a computer or mobile device</td>
<td>● Burn-in or embedded captions on streams are not accessible to screen reader or refreshable braille display users</td>
</tr>
<tr>
<td>● Some vendors incorporated accessibility features in their platform and/or design</td>
<td>● Does not allow for a great degree of user customization</td>
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</tbody>
</table>
we continue to iterate and create new features all of the time, and our big one we have been working on for this year is a feature called voice over recognition which is on bevis intelligence which recognizes the key elements
None of the virtual meeting platforms are perfect.

Sorry

- Check with your agency/organization to identify which platforms you already have access to
- Engage people with disabilities to test and evaluate those platforms with you
- Implement meeting management strategies to compensate for weaknesses in your platform
- Utilize other services as possible to compensate for weaknesses in your platform (e.g. separate captioning streaming website, hand raising tool)
Wrap Up

- Ask: “How can I help?”
- Don’t let the perfect be the enemy of the good, but...
  - Don’t stop collecting feedback and iterating
- Stay flexible
- Spend time to save time

Contact Us

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- Brandon Pace (DHS): Brandon.Pace@hq.dhs.gov
- Archived Presentation:
  https://www.accessibilityonline.org/cioc-508/archives/110839