## Slide 1

ARIZONA SUNBELT
CHAPTER
**◉MPI**

MEETING PROFESSIONALS INTERNATIONAL

**HIGH-SPEED INTERNET ACCESS (HSIA):**
*WHAT YOU NEED TO KNOW WHEN*
*'FREE' IS NOT AN OPTION*

**Thursday, September 5, 2013**

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## Slide 2

**Presented by**

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eventgenuity.
*The Power of Creative Imagination™*

APEX

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## Slide 3

Learner Outcomes

1. Understand the factors driving Internet bandwidth consumption at meetings and events.
2. Learn best practices for managing and reporting Internet bandwidth usage.
3. Improve attendee satisfaction and outcomes by providing adequate bandwidth to support meetings' growing technology demands.

## Slide 4

# TODAY'S REALITY

## Slide 5

**How It All Began**

- **March 2012 – Hilton Anatole, Dallas, TX Meeting of CIC's Standards Committee**
  - **Technology advances are outdistancing our knowledge of them**
    - **Examples**
      - **June 29, 2007 – iPhone introduced**
      - **October 2008 – first Android-powered phone sold**
      - **January 27, 2010 – iPad introduced**
  - **Realization that we don't know what we need to know**
  - **Bandwidth workgroup formed**

## Slide 6

**THE GROWTH OF PERSONAL CONNECTIVITY**

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## Bandwidth Defined

**"The amount of data that can be transmitted** (upload) **or received** (download) **per second."**



(Proposed APEX Glossary Definition)

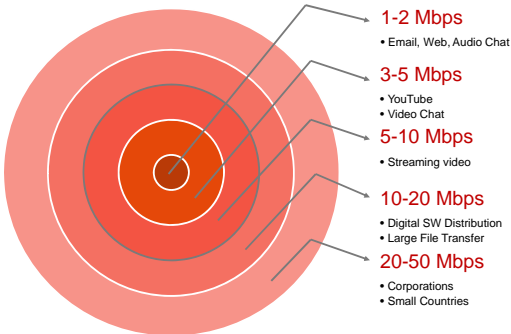## Types of Bandwidth

- Shared
- Dedicated
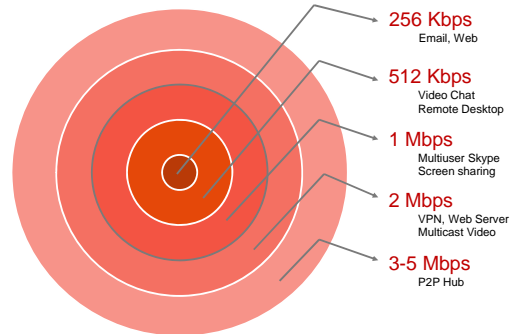
- Download
- Upload

- Symmetric
- Asymmetric



**Test your own download/upload speeds at http://www.speedtest.net**

## Typical Download Bandwidth ⬇



**1-2 Mbps**
- Email, Web, Audio Chat

**3-5 Mbps**
- YouTube
- Video Chat

**5-10 Mbps**
- Streaming video

**10-20 Mbps**
- Digital SW Distribution
- Large File Transfer

**20-50 Mbps**
- Corporations
- Small Countries

## Typical Upload Bandwidth ⬆



**256 Kbps**
Email, Web

**512 Kbps**
Video Chat
Remote Desktop

**1 Mbps**
Multiuser Skype
Screen sharing

**2 Mbps**
VPN, Web Server
Multicast Video

**3-5 Mbps**
P2P Hub



## Wireless Infrastructure

## Wireless Interference



## External Factors



Netflix US @netflix

We're sorry for the Christmas Eve outage. Terrible timing! Engineers are working on it now. Stay tuned to @Netflixhelps for updates.

Reply    Retweet    Favorite    More

## Bandwidth Planning



Presenters    Exhibitors

Show Management    Attendees

## Top 5 Reasons Why HSIA Fails

1. Inadequate Bandwidth
2. Inadequate Wi-Fi infrastructure
3. Wi-Fi interference
4. External Factors
5. Lack of Planning





20 minutes later
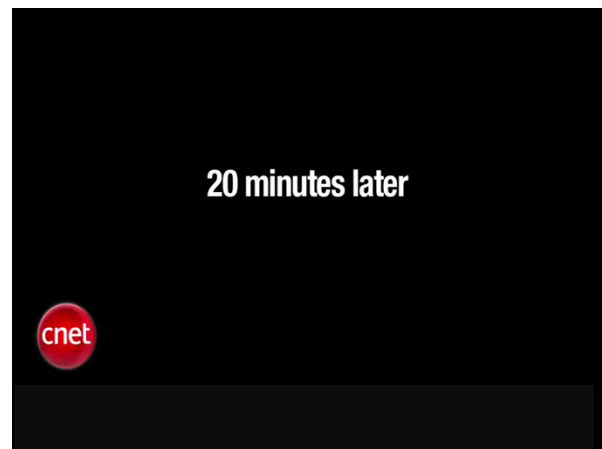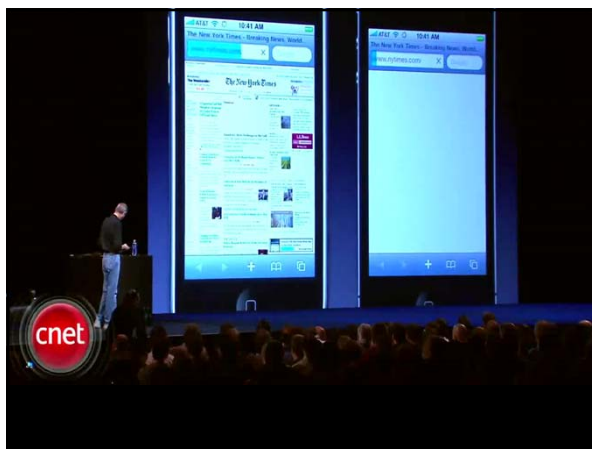
**Why Manage Bandwidth?**
**Prioritize what's most important**

- Event-critical applications
- Prevent bandwidth-greedy applications from impacting others
  - This includes potential exhibitor hotspots from interfering with your bandwidth
- Protect video streaming from break-ups

**Why FREE Is Often Not An Option**



# I need food…

- **What meal period?**
- **For how many?**
- **Buffet, plated or grab and go?**
- **Hot or cold?**
- **What's your budget?**

# I need Internet

- **For how many people?**
- **How many devices?**
- **What types of devices?**
- **What will they be using it for?**
- **How much bandwidth?**
- **How critical is it to the success of the meeting?**

  http://www.corbinball.com/mobile/index.cfm?fuseaction=co

### Ten Things We All Need To Know About Bandwidth

*Is there a disturbance in your force?*

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### #1: What is the Demand?

Number of participants?

Expected use of the Internet?
- Low
- Medium
- High

Number and type of devices in use?
- Smartphones
- Tablets
- Laptops

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### #2 What Are Your Presenter Requirements

Does the presentation require Internet?
- Live demos
- Application training
- Remote collaboration

How much bandwidth is required?
- Low
- Medium
- High

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### #3 Shared or Dedicated Bandwidth?

- SHARED
  - OK for casual use
  - Non event-critical needs

- DEDICATED
  - Presenters
  - Critical event needs
  - Large events

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### #4 What Should Be Shared/Dedicated?
**Shared**
  - Analogous to airline overbookings
  - Shared bandwidth generally offered on a 'best effort' basis
    – no performance guarantee
- **Dedicated**
  - Set aside by provider and always available for your use

*Best practice*

*Keep attendee bandwidth and event operations bandwidth separate*

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### #5 Verify Bandwidth Delivered

Verification:

- http://www.speedtest.net
- http://www.speakeasy.net/speedtest/

- Ask your provider for usage reports

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### Introducing the Bandwidth Estimator

- Developed by **PSAV** - free to use and found at
  http://www.conventionindustry.org/StandardsPractices/APEX/bandwidthconnectivity/bwidthestimator.aspx

**Bandwidth Estimator for Meetings and Events**

APEX - Event Bandwidth Estimator

**Users(#):** *

Must be a multiple of ten, up to 1000

**Type:** Low ▼

| | |
|---|---|
| Low | Email and simple Web Surfing |
| Medium | Web Applications and Streaming Audio |
| High | Instructor Lead Web Training, Large File Transfers, SD Video Stream |

**Multiple devices:** ☐

Check if most attendees will have multiple devices

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### #6 Exhibitors' Wireless Networks

Exhibitors' Wi-Fi equipment can interfere with the in-house network

*How do I manage this?*

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### #7 Site Inspection & Evaluation

- Bandwidth availability
  - How is it managed?
- Who manages the network?
- Wi-Fi system age / technology version
- Who is the on-site Expert
- Who is your expert?

*Your expert needs to connect with their expert!*

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### #8  Pricing Models

- **By Connection**
  - Bandwidth per connection?
  - Scalable?
  - Sufficient?

- **By Bandwidth**
  - Verifiable.
  - Scalable.
  - Inform future event planning.

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### #9  Bandwidth for Event Apps

Bandwidth – What does the app do?
- Basic event information (Low)
- Post pictures to social media (Medium)
- Stream the event (High)

Wireless – How many devices?
- Need enough wireless access points to handle all the devices

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### #10  Why not "Free"?

**Rising costs**
- Bandwidth
- Infrastructure
- Rapidly evolving technology
- Support expectation

**Venues will decide**
- Where might free work?
- How much bandwidth?
- What support will be offered?
- What level of re-investment is sustainable?

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### RFPs

- **Information to provide to the Venue**
  - Profile of the meeting
  - Number of devices/bandwidth/ applications
  - Prior event reporting

- **Information provided by the Venue**
  - Wi-Fi and Bandwidth
  - Support and Access Method

### Post-Event Follow-up

- What went well?
- What didn't
- How will you gauge attendee experience?

- **Reporting:**
  - Wireless Device Utilization
  - Bandwidth

*How will you know you got what you paid for?*

REPORTS

### Next Steps

- Presentation available on CIC website
- Glossary of terms
- Bandwidth estimator
- Addition to RFP Workbook
- Site visit check list
- Presentation to Local Chapters available
- APEX bandwidth workgroup continues
- Articles in industry publications and white papers (archived on CIC website)

# Questions?

APEX
ACCEPTED
PRACTICES
EXCHANGE

**For more information and resources:**
http://www.conventionindustry.org

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