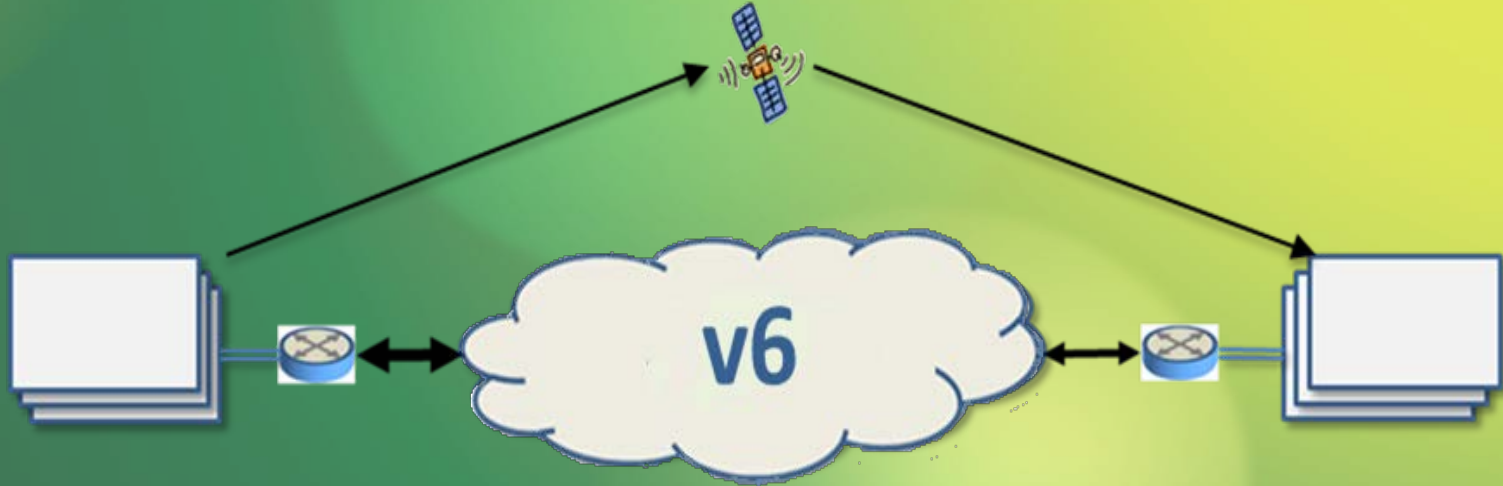
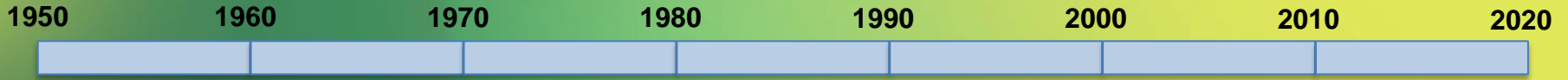


Interconnection v6 Update



TechCon14, Las Vegas
April 2014

We are Currently in our 5th Generation



▼ IXCv1



“Bicycling”
tapes

▼ IXCv2



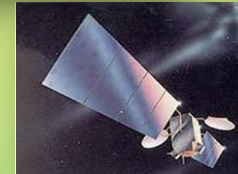
Analog
Terrestrial

▼ IXCv3



Analog
Satellite

▼ IXCv4



Digital
Satellite

▼ IXCv5



Digital Satellite
& NRT



Timing

NGIS to v6 Countdown Timer - September 30,
2016

916

days

15

hours

:

26

minutes

:

56

seconds

. 440



The Need

- Disruptive Industry changes
 - Changing viewer technologies
 - Changing consumption behaviors
 - Changing regulatory environment
 - Changing business challenges
 - Changing business opportunities



The Baseline

- Continued, equitable distribution to the Public Media community
 - And hence, to all of the American Public



Beyond the Baseline

- Support Public Media thru:
 - Increased collaboration @ national and local levels
 - Increased efficiency @ national and local levels
 - Enabling business rather than technology decisions
 - Reducing system wide costs
 - Enabling refocus on the core business

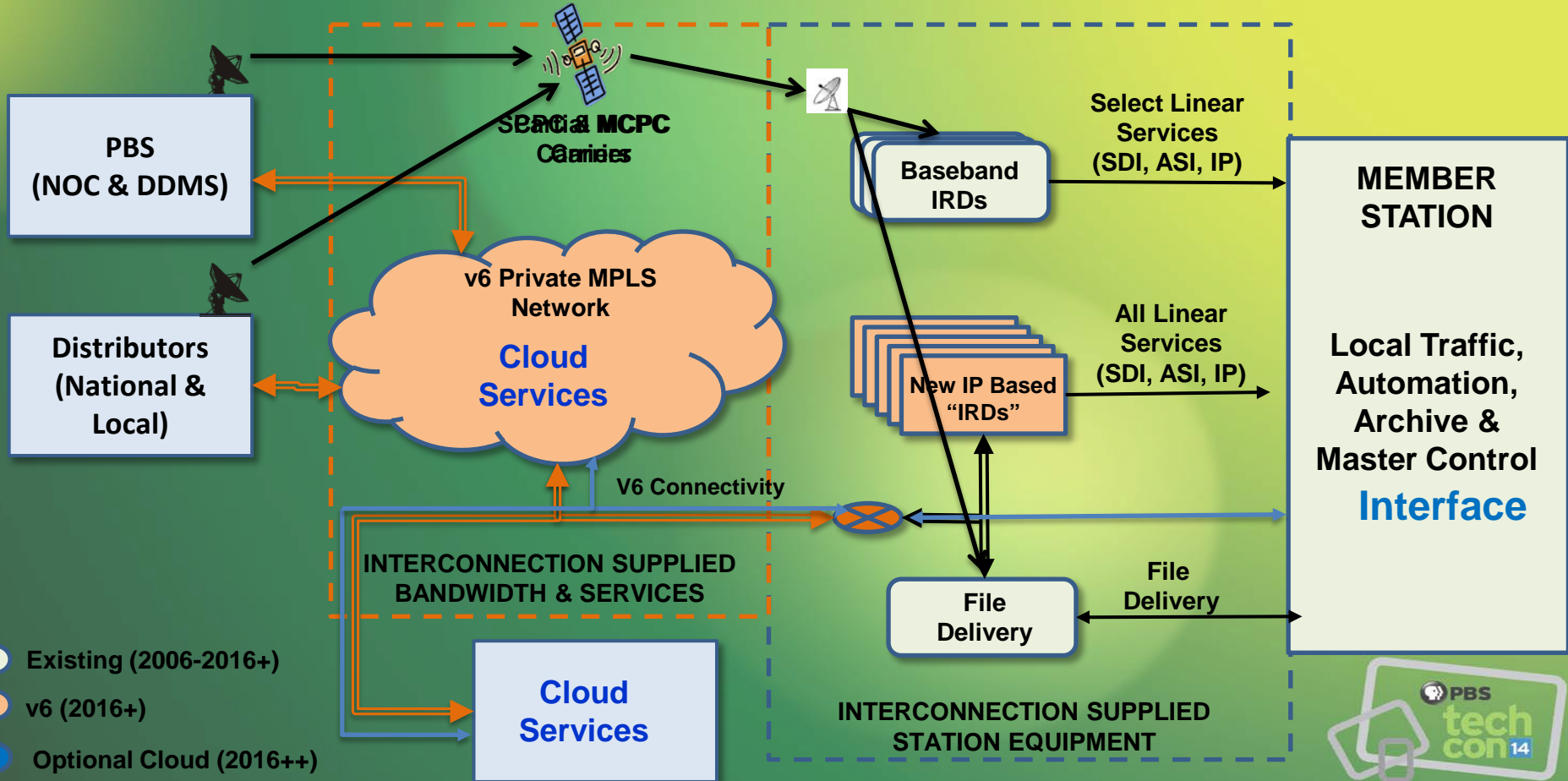


Deployment

- Careful Planning
- Work Hard
- Work Smart
- Collaboration
- Communication



Candidate Architecture

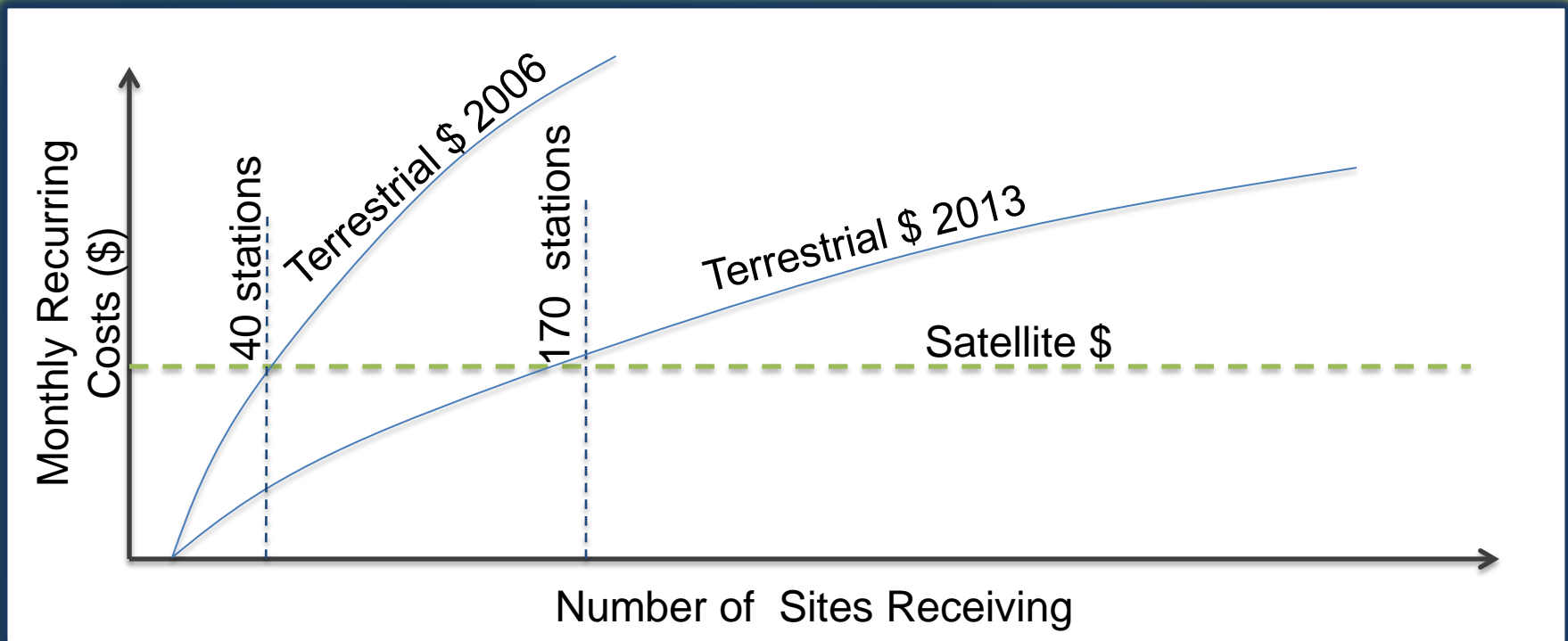


Current Efforts

- Feasibility Study – 2012 - 2013
- RFI – Oct 2013 - Mar 2014
- Proof Of Concept '13 – 2013 - 2014
- Collaboration – Ongoing



Cost Comparison



RFI

- Publicly Issued October 21st 2013
 - 3 RFI's in one – Connectivity, Cloud Services, System Integration & Products
- Objectives
 - Gather industry feedback on candidate architecture
 - Gather industry feedback on alternate architecture
 - Gather budgetary pricing

RFI Responses



- 120+ vendors expressed interest
- 60+ vendors responded

RFI Review

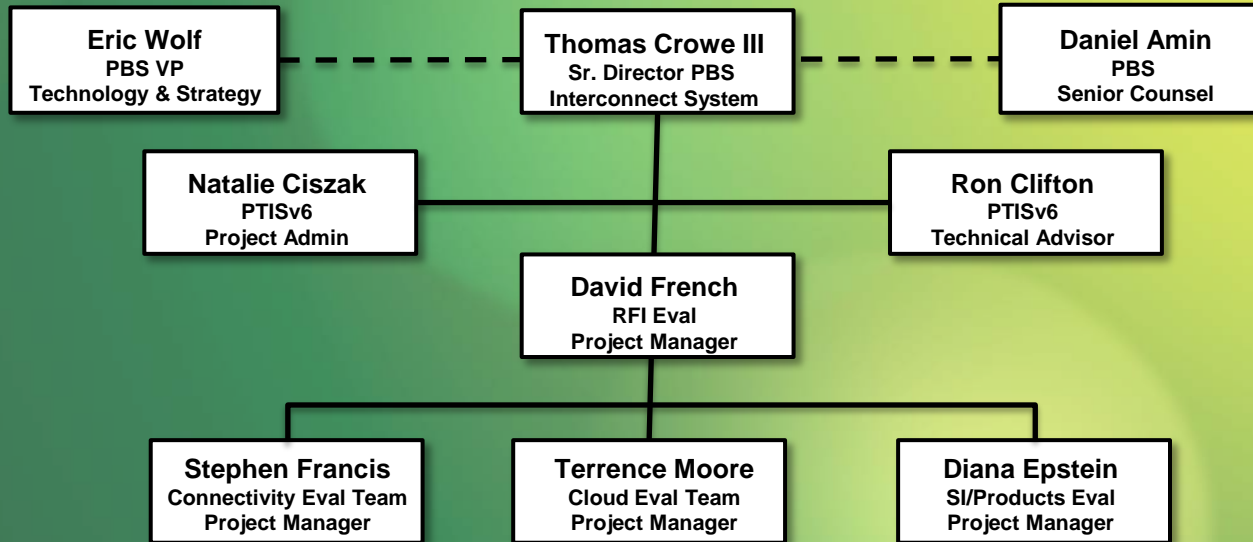
- Teams created for each section:
 - 4 PBS + 2 Station representatives
- All submissions were reviewed & scored
- Teams met together to choose overall top responses
- Top 12 vendors invited in to present



RFI Wrap Up

- Draft summary reports being composed
- Follow up discussions being scheduled
- Recommendations to follow
- Vendors being contacted for Proof Of Concept '14

RFI Eval Process Project & Team Structure



- Kevin Crane, WNPT
- Wayne Pacena, KAMU
- Chris Homer, PBS
- Ken Walters, BPS
- Tom Crowe, PBS
- Ron Clifton, Consult.

- Bill Hayes, IPTV
- Greg Johnson, KVIE
- Chris Contakes, PBS
- Steve Wynn, PBS
- Tom Crowe, PBS
- Ron Clifton, Consult.

- George Hopstetter, WTIU
- Ling-Ling Sun, WOSU
- Bob Ham, PBS
- Philip Schoene, PBS
- Tom Crowe, PBS
- Ron Clifton, Consult

RFI Eval. Team Comments

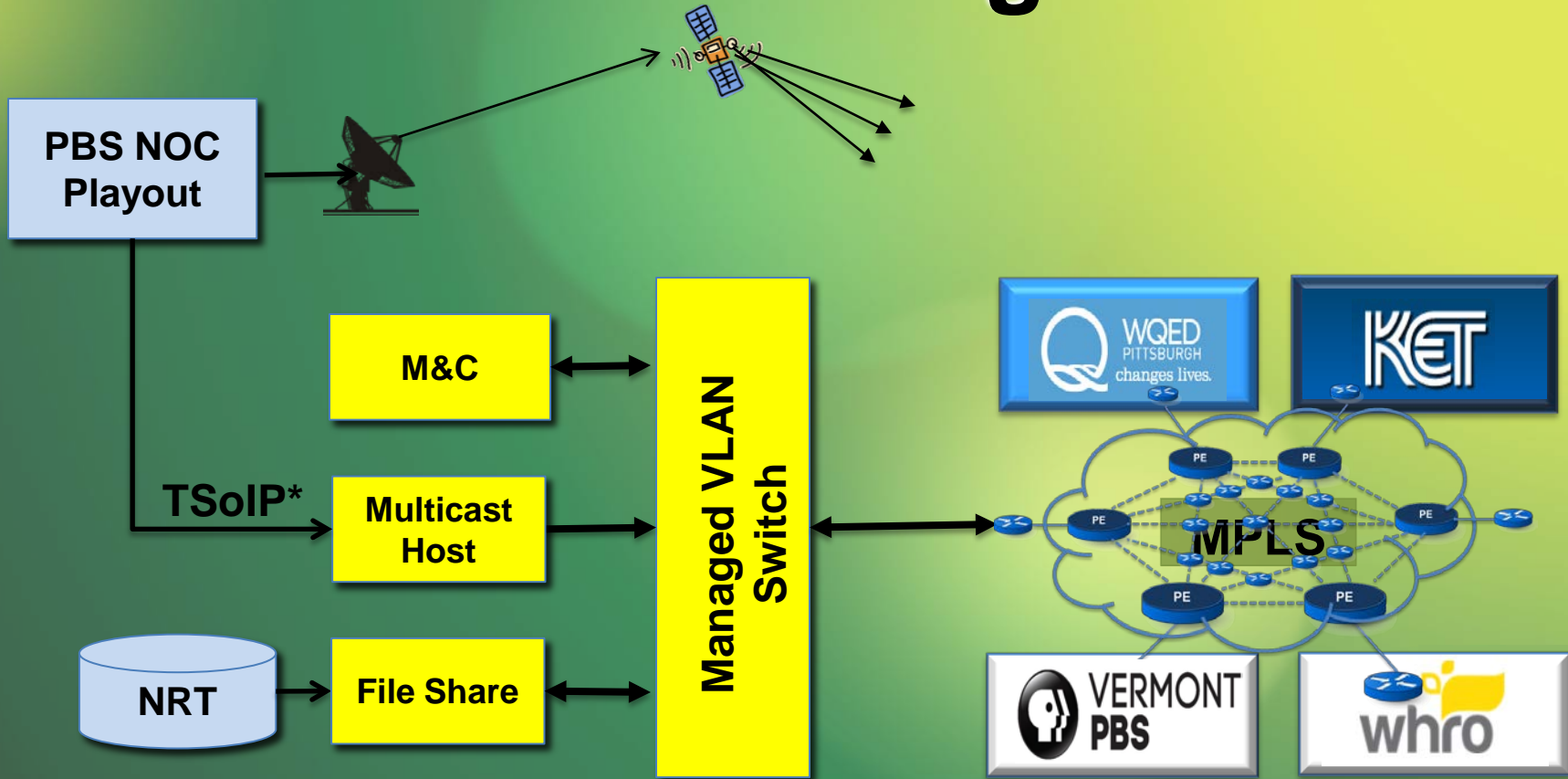
- Kevin Crane VP Content & Technology / **NPTV**
- Bill Hayes Dir. Engineering & Tech. / **IPTV**
- George Hopstetter Dir. Operations & Eng. / **WTIU**
- Greg Johnson Dir. Engineering / **KVIE**
- Wayne Pecena Asst. Dir. Edu B'cast Svc / **KAMU**
- Ling Ling Sun Chief Engr. TV / **WOSU**

Proof of Concept '13 - Objectives

- Test Candidate Architecture
 - Validate connectivity assumptions
 - Validate configurations & settings
 - Document for use in RFP and later testing
- Training & Experience
 - PBS & Station Staff
 - Requirements for install & Support



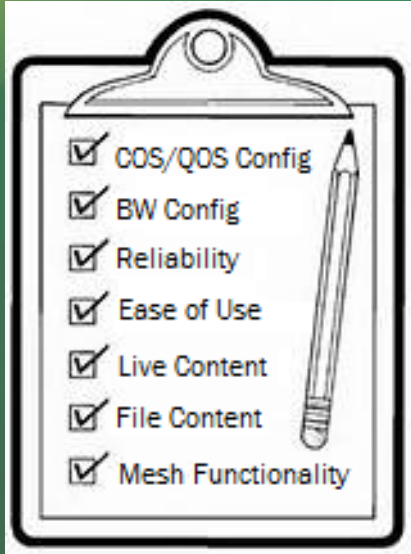
PoC'13 - Configuration



*TSolP = Transport Stream over IP

Proof of Concept '13 – Process

- Scripted Test Plan



- Tested bandwidth limits
- Tested COS/QOS* functionality
- Tested reliability
- Challenged assumptions
- Challenged sales claims

* COS/QOS= Class of Service/Quality of Service

Proof of Concept '13 – Results

- We Broke Everything! . . .
 - And learned the boundaries
 - 100Mb/s is really 96 Mb/s
 - COS/QOS works (but is a bear to configure)
 - There are always tradeoff's



Proof of Concept '13 – Results

- 3 Stations went live with v6
- 3 consecutive days, 6-8 hours / day
 - Avoided this year's Sun Outages
 - Avoided a DI discrepancy



PoC '13 Station Comments

- Fred Engel Sr. Director, Technology



PoC Station Comments

- Glenn Dudley
Dir. Of Engineering



PoC Station Comments

- Bob Boone Sr. Systems Engineer
- Paul Ford Sr. Studio Engineer



PoC Station Comments

- Paul Byers Executive Dir. Engineering

What's Next?

- Collaboration – Ongoing
- Equipment Evaluations – June 2014-2015
- Proof of Concept '14 – July 2014-2015
- RFP – Late 2014-2015
- Alpha/Beta/Deployment – 2015



Collaboration

- Public Media
 - Member Stations
 - Distributors
 - NPR
 - CPB
- Vendors
- Industry



Equipment Evaluations

- The Familiar
- The IT Familiar
- The Somewhat Familiar
- Somewhat New
- Completely New



Proof of Concept '14

- All stations invited!
- Registration link created
 - https://www.surveymonkey.com/s/v6_PoC_14_Station_Volunteer_Registration
 - Response on or before 4/18/2104
- Required effort
 - 5 h/week average from 7/1/2014-4/1/2015
 - Weekly feedback on testing
 - ETAC V6 WG participation



Proof of Concept '14

- Selection Criteria
 - Up to 20 sites will be selected for participation
 - Selection criteria (if needed)
 - Cost of connection
 - Connectivity
 - Station diversity
 - Geographic diversity



Proof of Concept '14

- Goals
 - Connectivity
 - Availability
 - Installation
 - Product Shootouts
 - Metadata
 - Workflows
- Cost
- Reliability



Summary

- V6 Interconnection is underway
 - Address fundamental changes
 - New business roles, technical workflows
 - Refocus on core missions
- PoC '14 volunteers needed



Interconnection v6 Kiosk

Live Terrestrial NPS Delivery

Terrestrial File Sharing

Cloud Services

Signup Info for PoC '14

in the Exhibit Hall



Questions?

