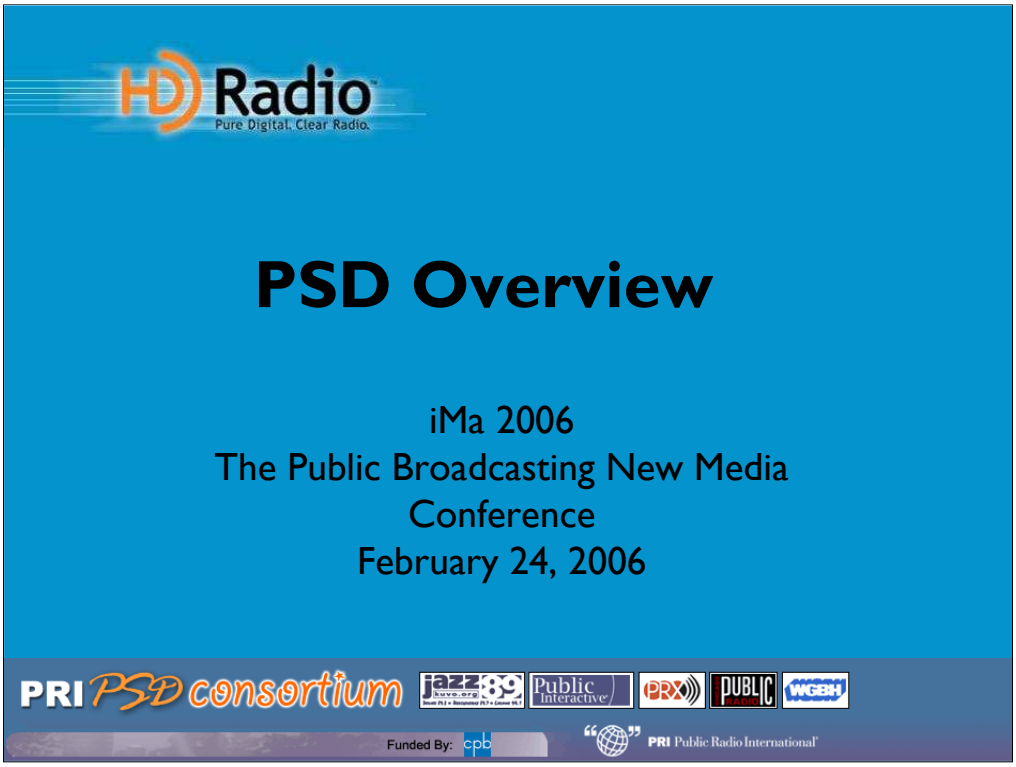

HD Radio
Pure Digital. Clear Radio.
PSD Overview
iMa 2006
The Public Broadcasting New Media Conference
February 24, 2006
PRI PSD consortium
jazz 89
Public Interactive
PRX
PUBLIC RADIO
WGBH
Funded By: cpb
PRI Public Radio International

Thanks to all of you for being here today, and thanks also to the iMa for the opportunity to share this important work here at this conference...

I'm here representing six orgs. we thought it would be too confusing having all six up here, and letting each group talk about what they've done and will be doing in the months ahead around this project.

Quickly recognize WGBH, WBEZ, KUVO --- PI, PRX, and WGBH NCAM, and of course, CPB.

Instead, we'd like to make this session interactive by asking you to respond to what we'll be talking about. We'll open the floor for questions, time-permitting, after each section you see outlined here.

IN the first section I'll be discussing Program Service Data with JORDAN SCOTT, iBiquity's Director of Advanced Services Business Development…and I'll give Jordan a proper introduction in just a moment.

I'll also be talking about a bit of the Nitty-Gritty detail behind PSD and why this is such a great opportunity to work together as a system with this group of six partners leading the way.

And lastly, I'll describe the PSD Consortium project, what each of the partner organizations are doing, and how it will help you as a station, as a producer, or both.

So…on to "What is PSD?"

Jordan's primary focus at iBiquity is to work with stations and networks to fully develop advanced services for the HD Radio system in conjunciton with iBiquity's equipment manufacturers, studio production, and bcast partners.

PSD is a key first generation data component for the HD system. HD advanced services, the focus of Jordan's day job, also include a host of other more advanced data applications that go beyond what we'll talk about today, but around which I'm sure he'd be happy to continue discussions with any of you. Perhaps at next year's iMa once we've all caught up on PSD, Jordan can come back and talk to us all about ADS aspects of the HD system.

So, Jordan… what I'd like to do ask some questions, and then open up the floor for folks here to also ask questions of you.

Before I do that, let me offer a very high-level definition of PSD for those of here that may not be familiar with it.

(click)

Program Service Data, formerly called pgm associated data or PAD is the text display that your listeners will see on their HD radios.

IN the case of music, PSD typically contains the artist, title, and album
In the case of news or talk, PSD could display the show name, the host, and perhaps the person being interviewed.

Jordan, let's begin with the question: why do PSD at all? Why does it matter to us?
A: Two reasons
1. Consumer expectations with all digital media

Mp3 players, iPods, Satellite radio

Consumers expect easy-to-comprehend descriptive information

2. Opportunity for broadcasters beyond this basic customer servic

Stn IDs and slogans

Traffic, weather, emergency alerts

Pledge drive call-in numbers, Underwriter IDs

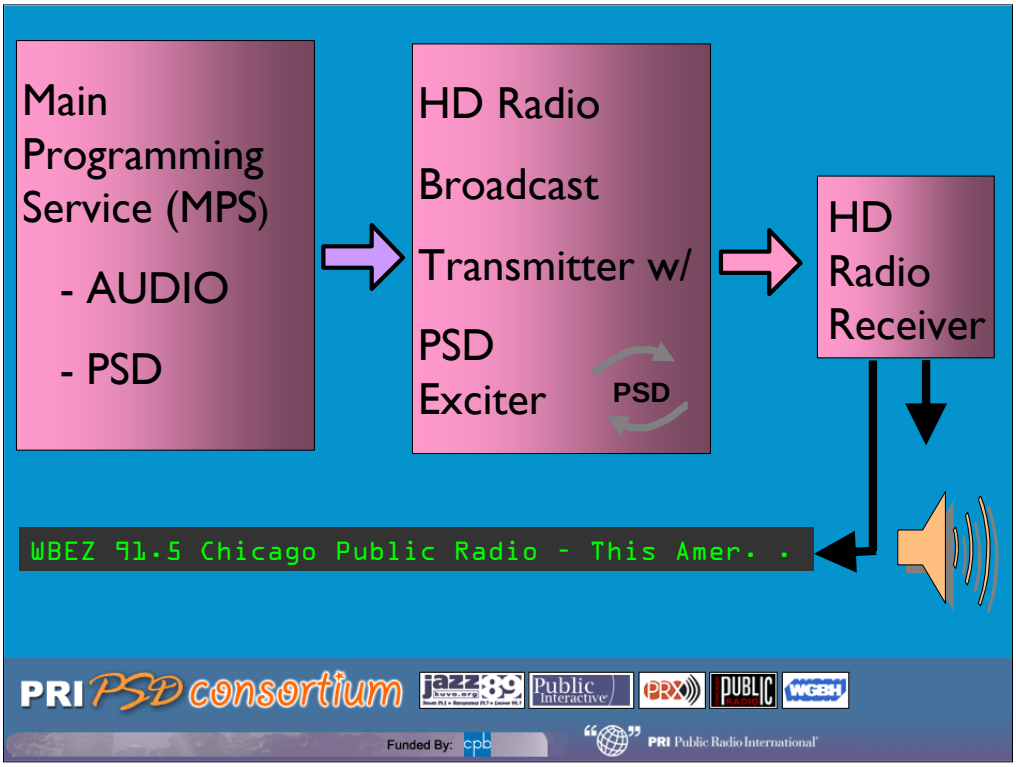
Station website URL for more information

Consumers – Expectation that descriptive information is a standard component of all digital media experiences

Stations can use PSD to enhance announced content
- News, Traffic and Weather
- Underwriting and PSAs
- URLs, pledge phone numbers
- Station slogan

Q: On the very broadest level, how does PSD work?

(click)



(flow chart from slide no. 5)

A: Let's walk through this flow chart

PSD data and audio signal sent to HD Radio Broadcast Transmission System
Two streams synchronized and sent digitally to the HD Radio™ receiver
Receiver splits signal to PSD display and audio speaker

Q: Let's zero in on that box that says "HD Radio Broadcast Transmission System." That's the part that represents the station. What's needed at the station level to make all of this work?

(bottom half of slide no. 6)

A: Your basic requirements are:

Need to be broadcasting digitally (obviously)

Need an automation system that can process PSD data

Need an Importer, and Exporter, and an Exciter (explain what these are)

Q: Once those pieces are in place, and the data and audio streams are synchronized, how frequently are these PSD messages updated for the end user?

A: PSD messages are transmitted continuously

The most recent message repeats until content changes and new data is sent

Messages can't be longer than a 1,000-character text file

Q: In a moment we'll get into the complexity of how and where those "changing PSD messages" are generated. But first let's focus on the message itself. You've been out there working with both broadcasters and manufacturers. What have you learned about successful PSD messages?

A: Two basic things we have learned:

1. Know your audience

they are doing other things while they are listening to you, not watching your PSD continuously. This isn't (and can't be) the same experience as the Internet

2. Be consistent with your values

Approach to PSD should match the "image" you project on-air, on-line, in print

Q: Can you give us some specifics?

(click)

A: You need to think strategically about the fields you will want to display.

For music segments, some fields might be: title, artist, album, genre

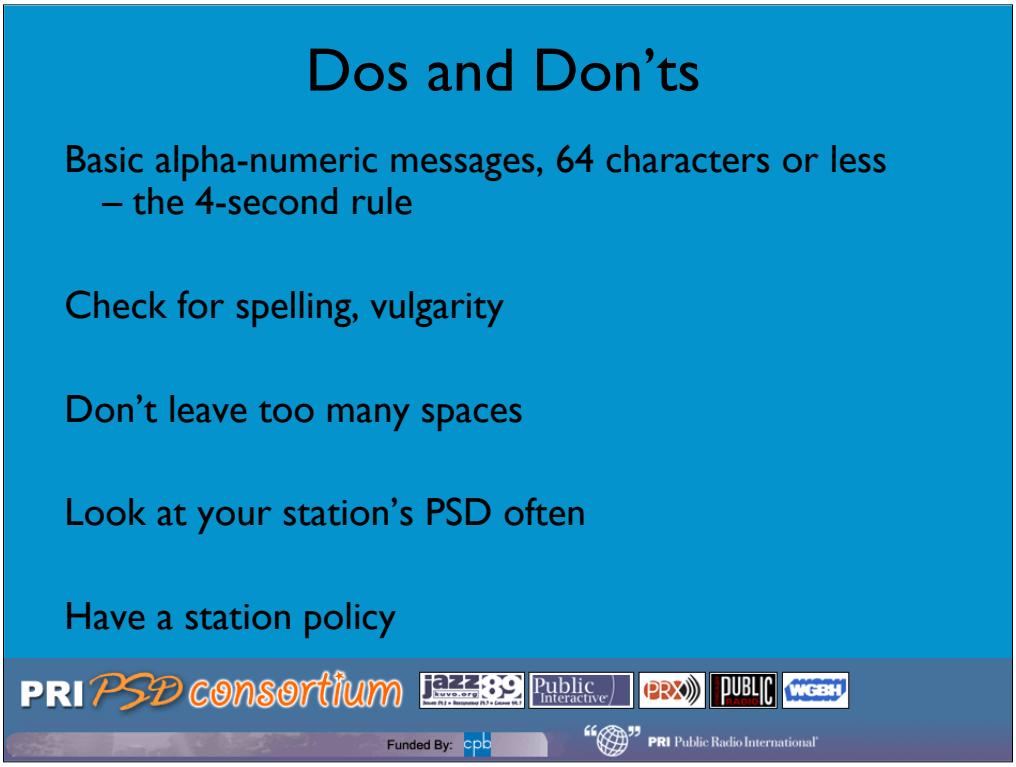
For news segments, some fields might be: program, segment, host

For all stations, consider a field for brief comments ….

Use this judiciously, but in a strategic way that supports and enhances the programming

Commercial stations need a field for advertisers; you will need to decide whether you want a field for underwriter IDs

Segue to next slide



Some do's and don'ts for message development:

Basic alpha-numeric messages, 64 characters or less – a person driving can only look for about 4 seconds

Check your tags for spelling, vulgarity

Don't leave too many spaces – confusing and annoying for listener

Buy an HD receiver to check your message appearance

Decide an approach to PSD programming – will you use it for PSAs, news updates, etc.?

So let's say stations creates perfect PSD messages, broadcast them with their audio… What do they look like at the consumer end?

They'll look different on different receivers

This is why we recommend you buy a receiver (or better yet, several different receivers) to test your message

Some receivers scroll text, others scroll and then hold

Here are some format specific examples….

(talk about receivers shown)

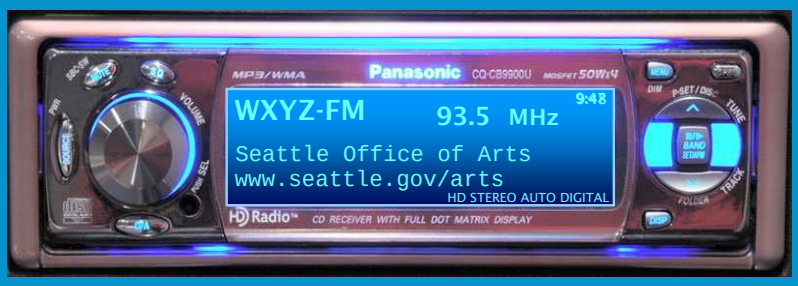
Rich displays vs . Lo-res.

Here are some different PSD messages on a typical receiver (this is a Panasonic)

THREE SLIDES IN A ROW>>>

Song and title only
Supplemental information
News alert

Supplemental information: during PSAs or for Traffic and Weather updates



PRI PSD consortium

Funded By: cpb

PRI Public Radio International

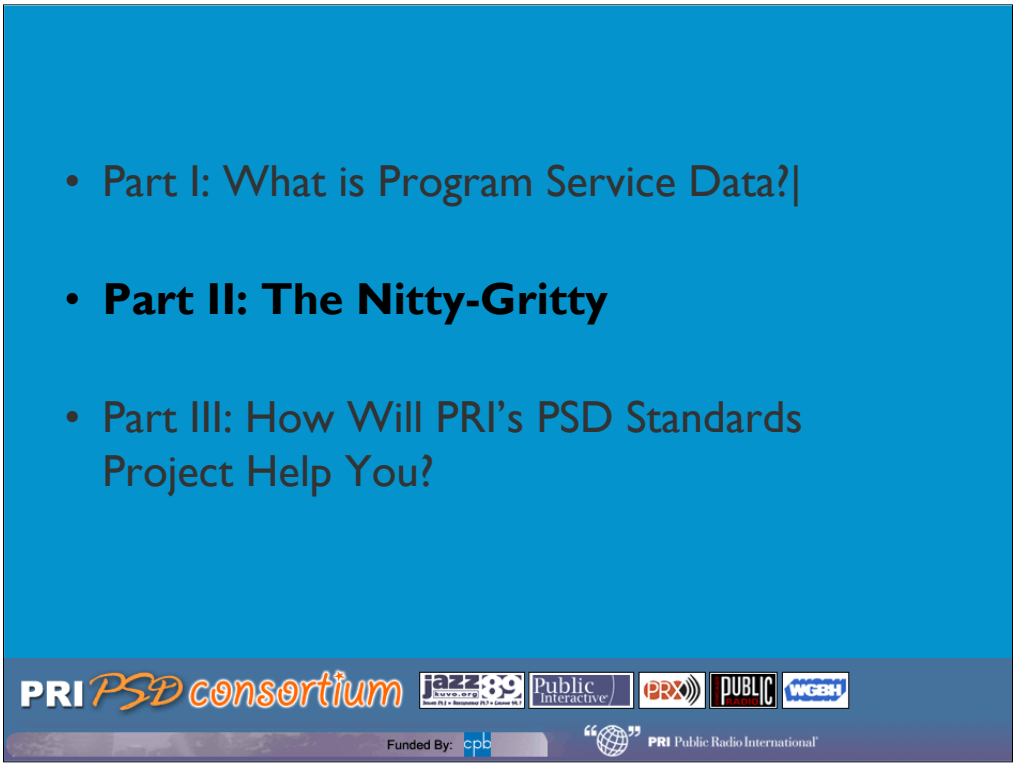
Q: In a moment we'll move onto the details of how PSD messages come from different players in the pubradio system to end up looking like those slides. Last question for you, Jordan: what would you like from *us* today?

A: I'd like your questions and feedback

Helps me improve our education efforts

Helps us understand real-world issues as we work with tech and manufacturing partners

Q: Questions and comments for Jordan?



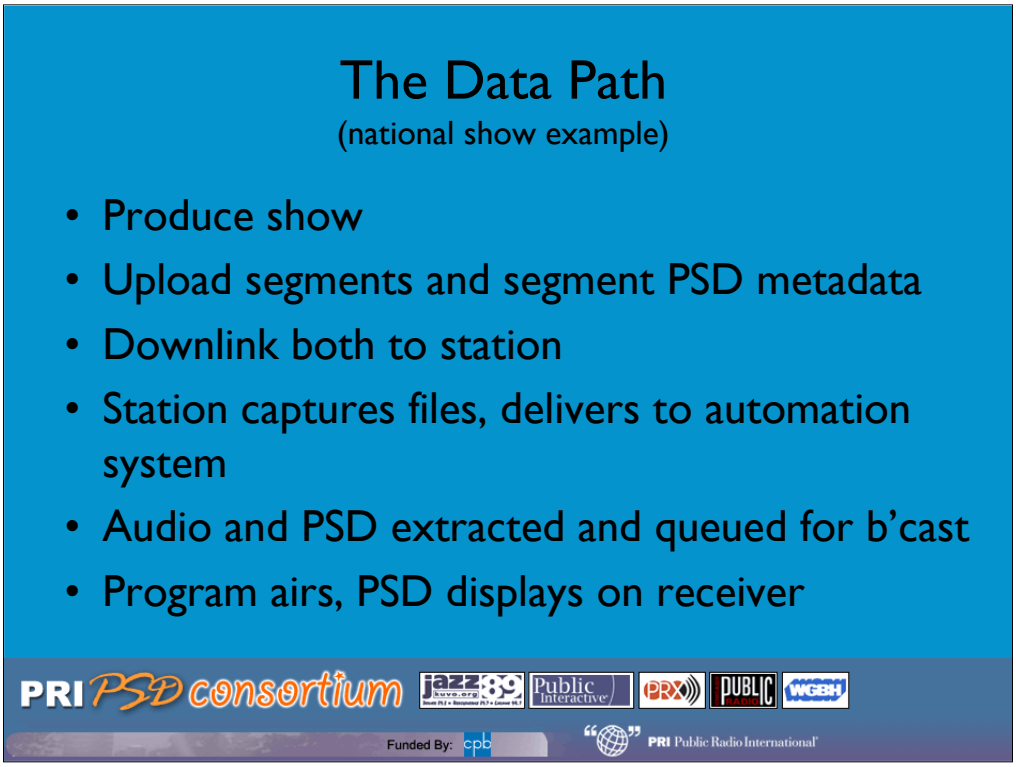
Now we'll look at how and when PSD messages are generated.

I'll try to quickly but in non-techie terms illustrate how PSD happens, beginning with the production cycle and ending with broadcast.

(click)

Starting on the listener end, this is what we might see on the PSD display when WBEZ airs This American Life

If we back-tracked up the data path, here's what we'd find…



TAL produces the show and…

(click) uploads it to PRSS using the producer-facing Content Depot Ingest website which presents TAL producers with the fields necessary to enter PSD metadata…

(click) PRSS combines the audio and the metadata submitted for each of the six segment into six file and then downlinks six files to the station…

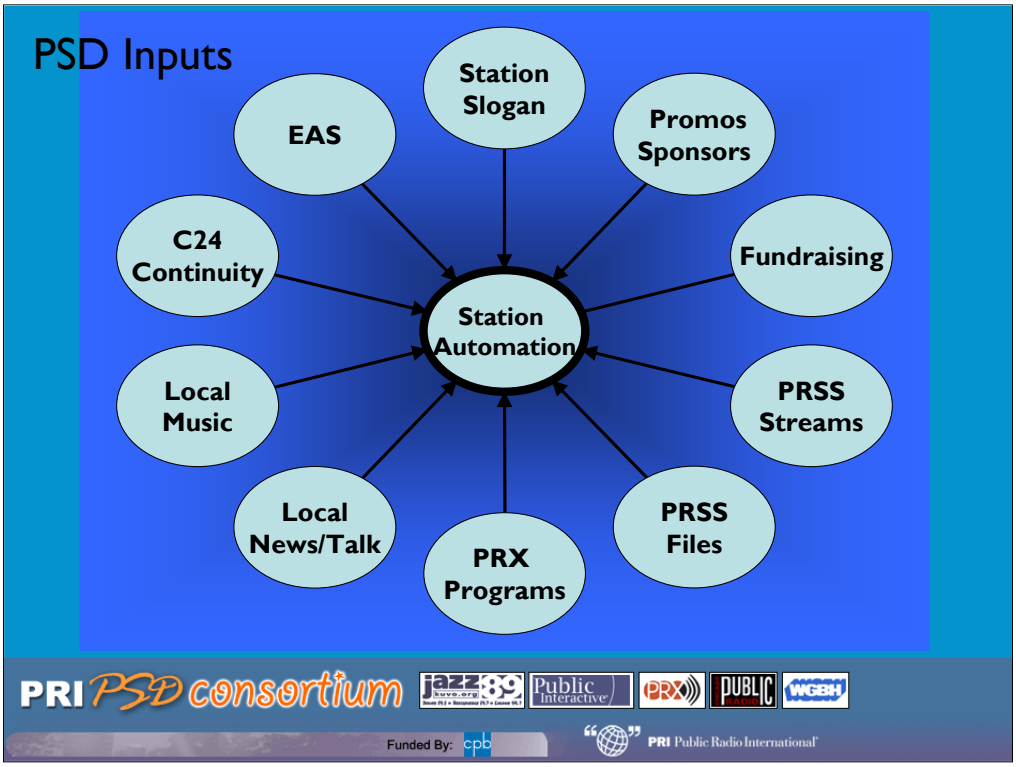
(click) At the station, the six files are captured and delivered to the automation system which...

(click) Extracts the PSD and the audio from the file and queues both for delivery to the transmitter at the appropriate time

(click) Transmission occurs, receiver plays audio and displays PSD

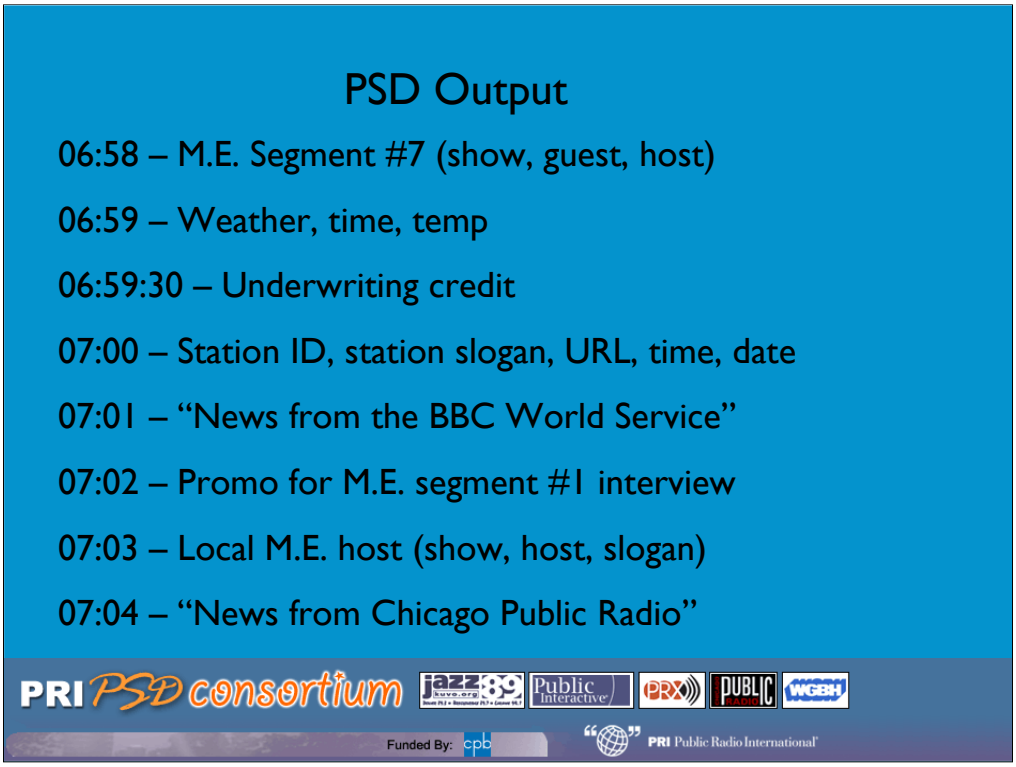
Locally-originated content would follow a similar path, although some of the steps might be reduced or eliminated.

One real challenge for stations, and hence on facet of PSD this project will be looking at very closely, is the complexity and costs associated with producing or acquiring and processing the many varieties of PSD from all of the various local and national sources.



The ten sources shown here are extremely common. Many stations could easily add to (or even double) this list.

These are the most common (walk though quickly)



Here's a mockup of what a station's automation system might look like for five minutes or so on a weekday morning as Morning Edition is ending:

06:58 – M.E. Segment #7 (show, guest, host)

06:59 – Weather forecast, time, temp

06:59:30 – Underwriting Credit

07:00 – Station ID, station slogan, URL, time, date

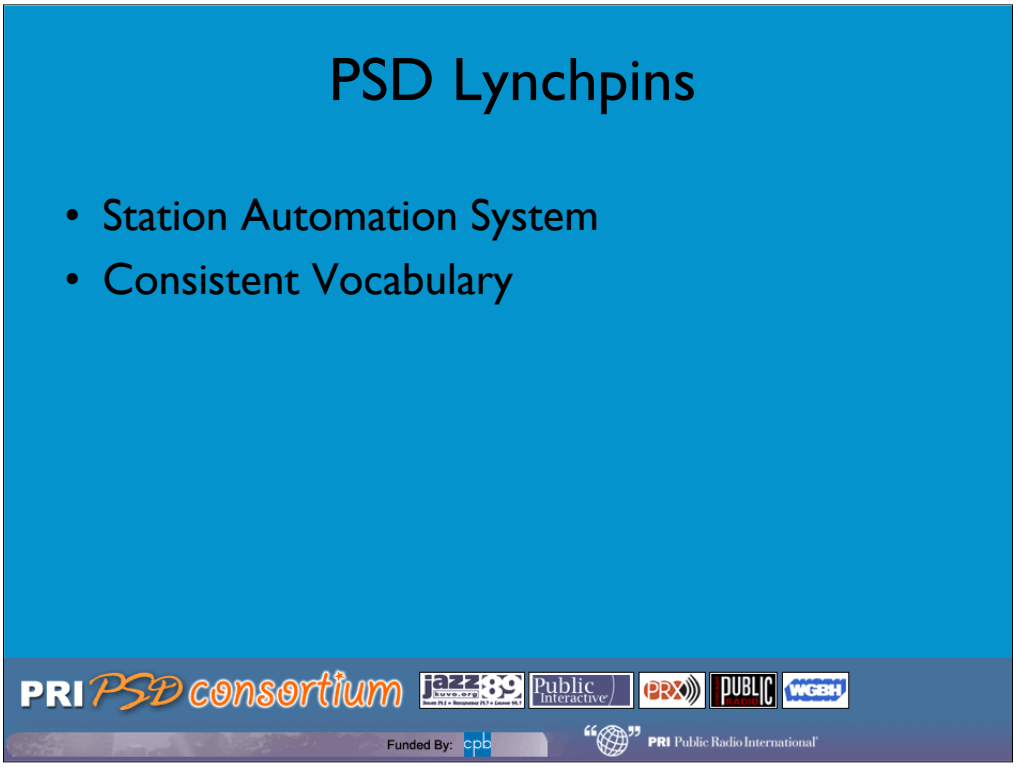
07:01– "News from the BBC World Service"

07:02 – Promo for M.E. segment #1 interview

07:03 – Local M.E. host (show, host, slogan)

07:04 – "News from Chicago Public Radio"

As you can see, within just five minutes or so of a typical morning drive, PSD comes from many sources to serve information to your listeners around local and national programming, promotions, underwriting, station branding, weather, and so forth.



The two lynchpins to facilitate this are

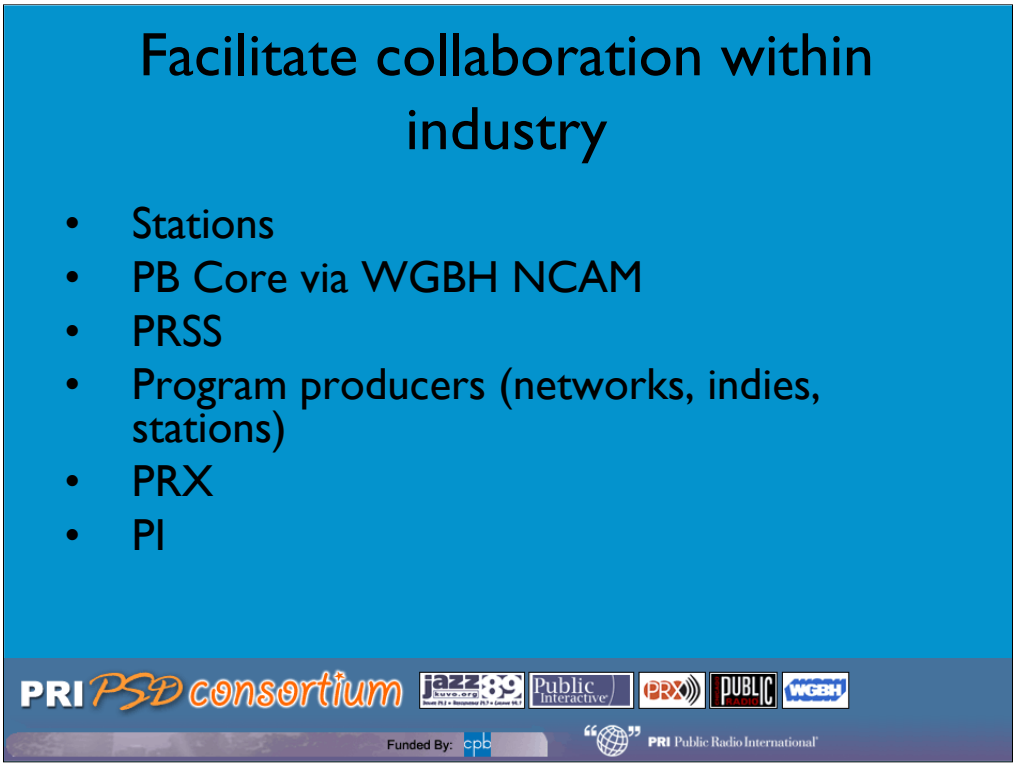
First off, stations must have the capacity to schedule PSD. At the present time, functionality to do so is supported by a wide range of b'cast automation systems.

Stations, producers and distributors must agree on consistent vocabulary. I'll address that in a bit more detail in a moment when I talk about the PSD Consortium Project, but the gist of what that means is this:

To maximize both our efficiency and effectiveness of delivering PSD, as a system, it would be to everyone's benefit to establish consensus around what data we want to include in our first-generation PSD services….and how we want to refer to that data. More on that in a moment when I'll talk about the PSD Consortium…

(click)

Before I talk about the Consortium project, and how each of the partners will contribute to the project, let's take a few minutes to field some questions.



As I said at the start, I'm here today representing six organizations, but the primary focus of this project goes well beyond those six organizations.

The project, officially call PRI's PSD Consortium, has the primary goal to

Facilitate collaboration within the industry. This involves:

Stations

Not only are we working closely with our prototype stations, but we're also reaching out to your station via our station survey, asking you about your plans for PSD, your readiness, and about your challenges and costs.

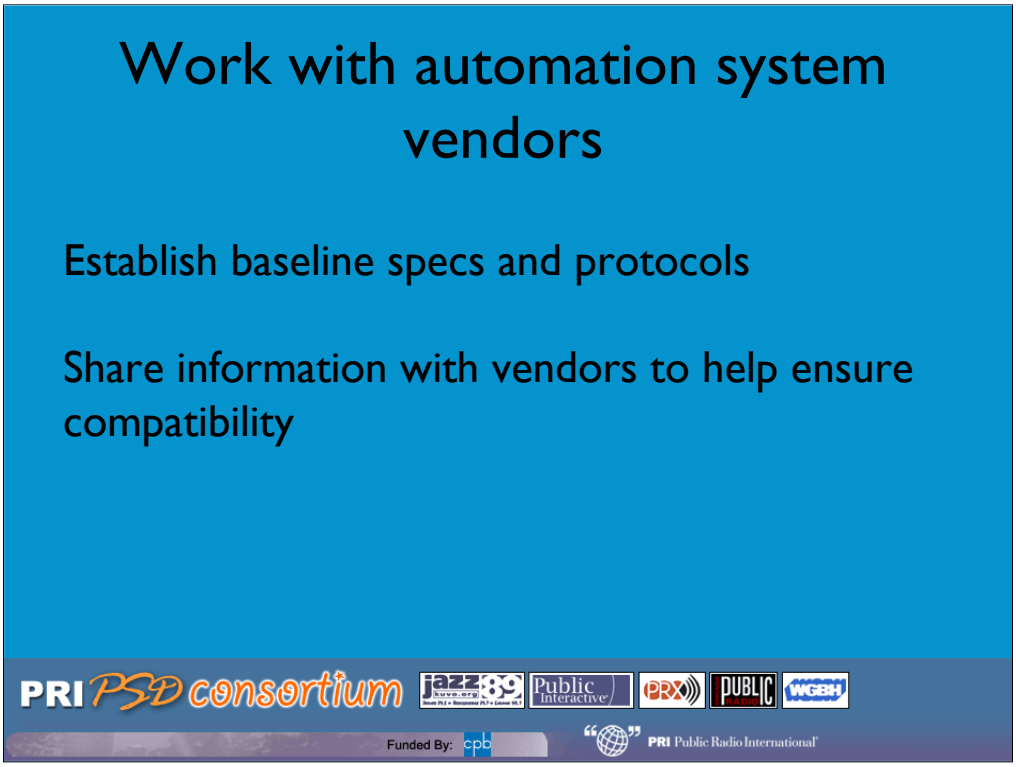
PB Core

Pleased to have WGBH NCAMPB Core as member of PSD Consortium

PBCore is a "metadata dictionary" for public broadcasting – standardized way of describing and using media (funded by CPB)

PRSS

Excellent conversations about what types of metadata will be provided via PRSS, and we expect that we'll continue to work very closely with them as Content Depot launches. As



We're also Work with automation system vendors

As noted in Part II, the automation system is the lynchpin

Consortium will develop specs and protocol **(what was the word you came up with instead of "specs?")**

1. System survey will map out "the state of the system" of station capacity for implementing PSD, including automation system information

2. Prototyping on three stations will isolate specific automation issues

KUVO/Denver

WGBH/Boston

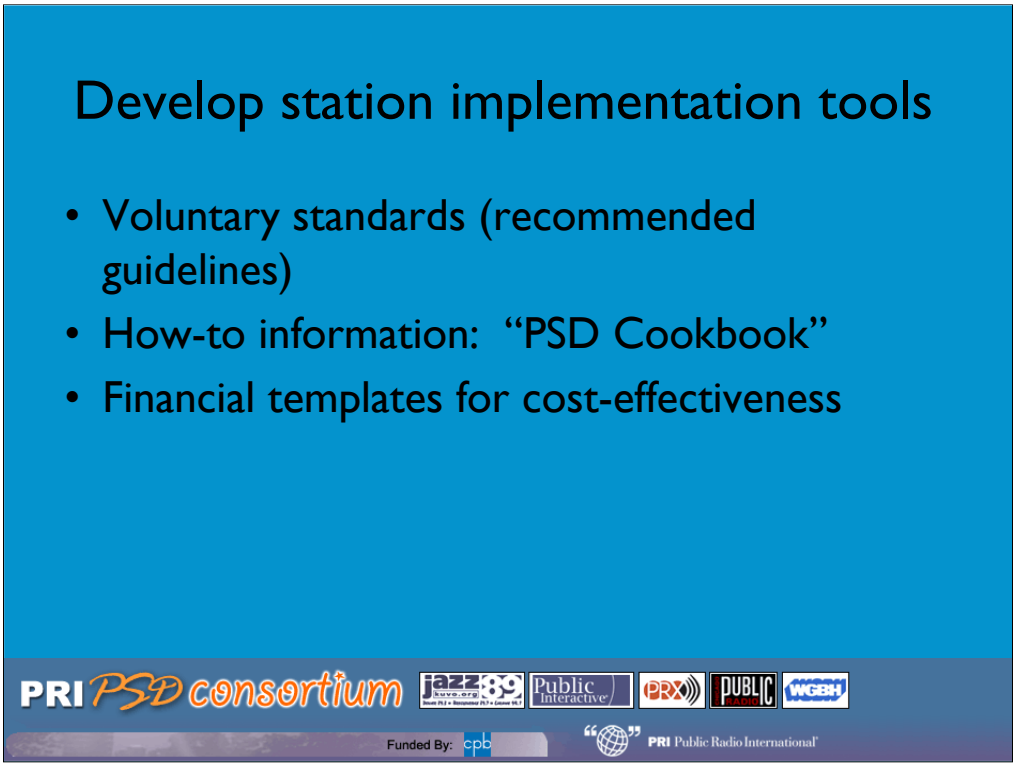
Chicago Public Radio

All three stations have mix of national and locally produced programming

Consortium will share this aggregated information with automation system vendors

It's in everybody's best interest for the technology to be compatible

(click)



Another deliverable or facet of the Consortium is to

Develop Station Implementation Tools

Our ultimate goal is to develop voluntary standards for PSD implementation in pubradio

perhaps recommended guidelines is better phrase since this Consortium are not a regulatory body

We know that top-of-mind for most stations are two questions:

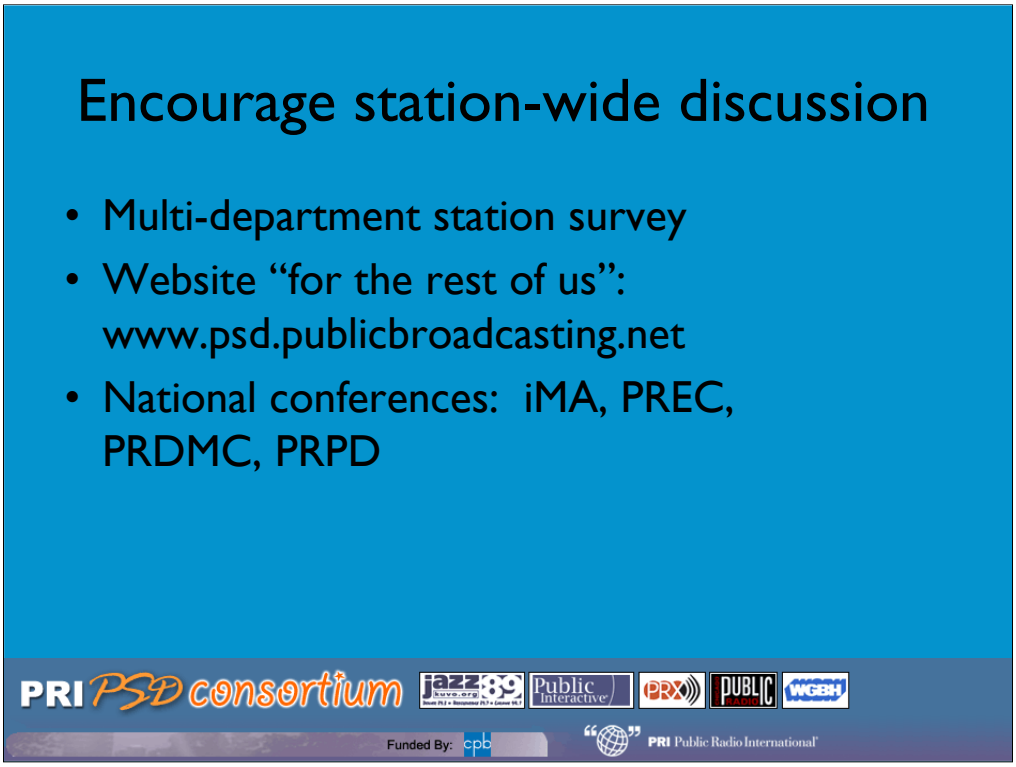
what's it going to take to get this work done by our staff?

And what's it going to cost?

We will develop and make available to all stations:

A how-to guide for most effective and efficient practices in technology and workflow

Cost analysis (based on prototyping) and financial templates for your planning process



And finally, we're working to encourage station-wide discussion

PSD has the potential to affect the entire station:

Management

Programming

Engineering/ops

Development

Underwriting

Marketing

We're trying to get the right conversations happening at your station by:

Encouraging participation in our system-wide survey

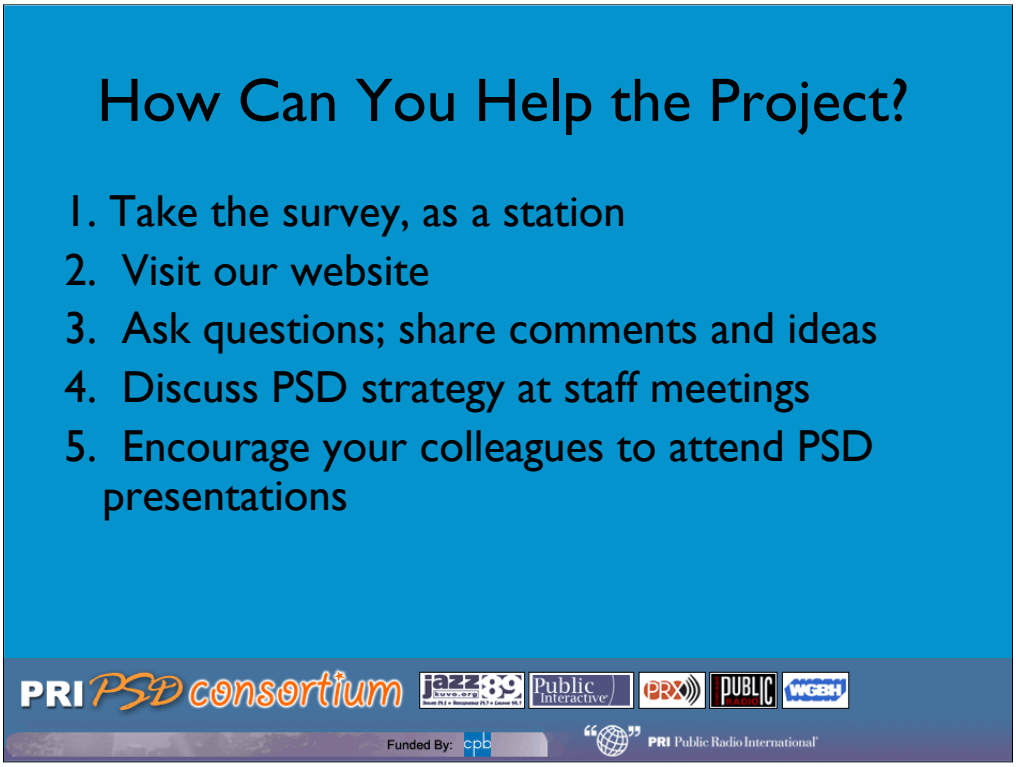
draws on data from multiple departments

Creating a website that is deliberately written for non-techies

all station staff can learn about PSD and about this project

Presenting at 4 professional conferences: iMA, PREC, PRDMC, PRPD

interact with station staff from different departments

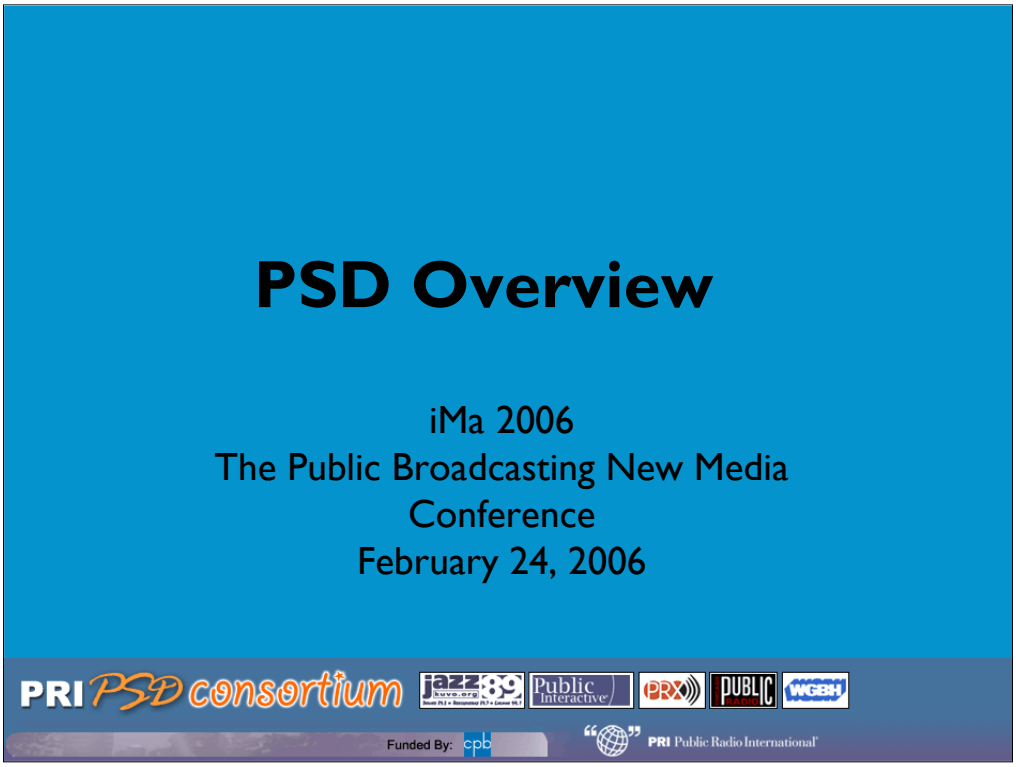


1. Take the survey, as a station
2. Visit our website
3. Ask questions; share comments and ideas
4. Discuss PSD strategy at staff meetings
5. Encourage your colleagues to attend PSD presentations

Thanks again to all of you for participating.

-- and CPB and the partners for their support and for agreeing to be a part of the hard work ahead.

-- and finally, to iBiquity for giving us access to Jordan Scott, Ibiquity's Director of Advanced Services Business Development.



Do we need one slide summarizing the goals of the project…so that bruce can't put me on the spot?

Or do you think that'd be too repetitive?

We should mention Tim somewhere.

Our goal is to establish consensus among public radio stations and producers as to what data they want to include in their first-generation of PSD (formerly PAD) services. Once we've heard from the stations and producers, the desired PSD content will be mapped into PBCore, creating a standardize XML container for PSD content. As with PBCore this information will be released under an open license and will be provided at no charge to manufacturers of automation systems for implementation -- which should be as simple as creating an XSLT transformation to parse the data into a format appropriate for a given automation system or PSD scheduling device.

Break for discussion

Point out partners/players in audience

Q for audience to start them out:

We're just starting out on this project, and want your feedback. What are we missing? What issues do you have that you don't see addressed here?

If discussion lags, tap one of prototype stations to talk about issues they've discovered as they've begun implementing PSD