

# PODS and PBCore

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# The Need

“We need to ensure success across the system,  
where increasingly we are all in  
what are almost forced collaborations,  
triggered by the growing urgency of  
our asset management needs  
and our resource constraints.”



# What is PBCore?

PBCore is:

The Public Broadcasting Metadata Dictionary

- a core set of terms and descriptors (elements)...
- used to create information (metadata)...
- that categorizes or describes...
- media items (sometimes called assets or resources).



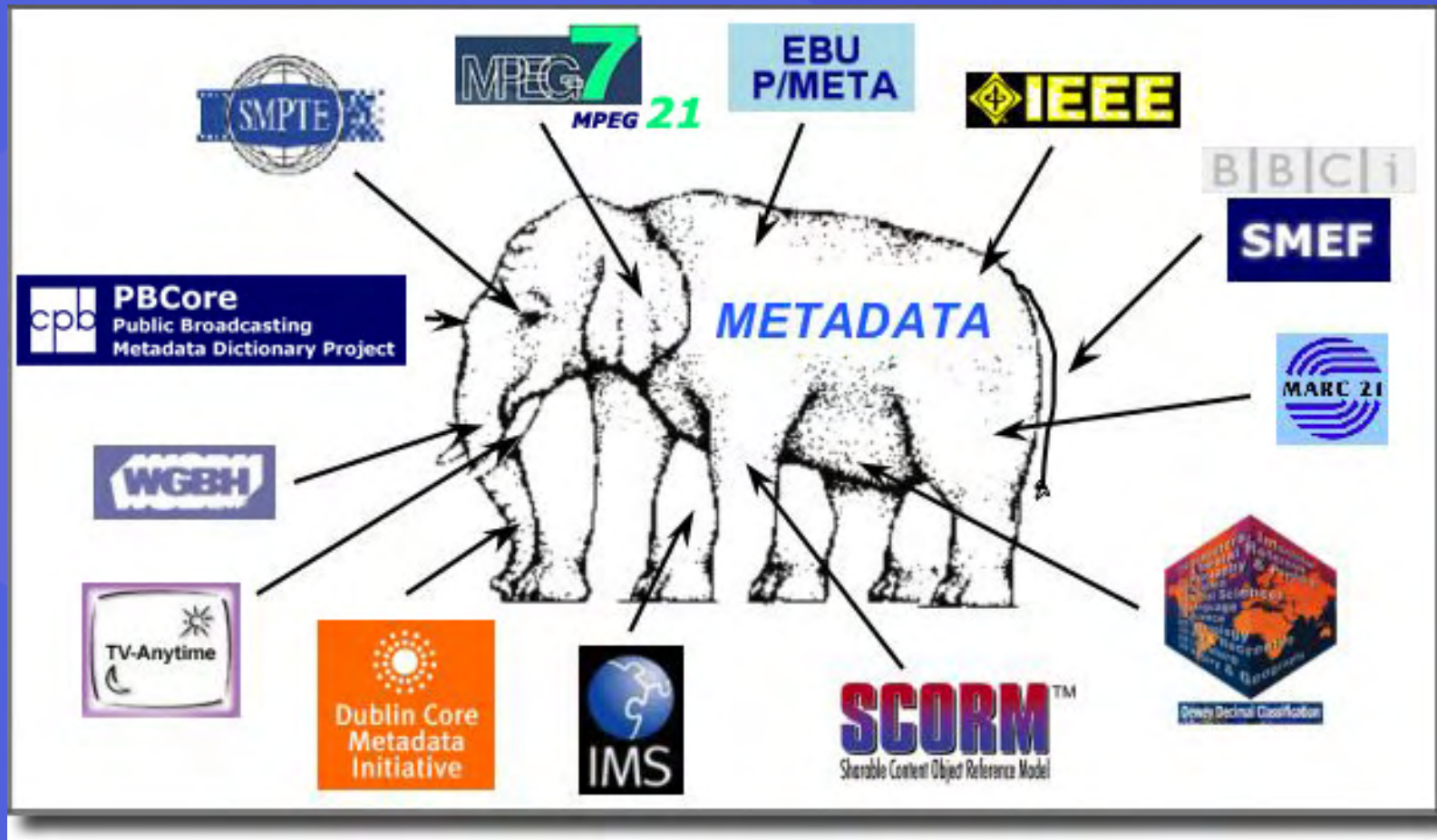
# What is PBCore?

PBCore is:

- A common metadata standard
  - 'You can't use it if you can't find it'
- Built on the foundation of Dublin Core
- Access to metadata, not appropriation of content
- A 'building block', not a 'magic bullet'
- A reference model, not a shrink-wrapped product



# The Problem with Standards



# Data Islands

**National Program Distribution**

**Local Broadcast Payout  
& Traffic (NGIS, PODS,  
BroadView, Scout, etc.)**

**Program Guides**

**Advertising  
& Promotion**

**Internet Services  
& Distribution Options**

**Development, Fundraising  
& Sponsorship**

**Rights & Usage Management**

**Graphics Library Tracking**

**Archiving**

**Production**

**Post-Production**

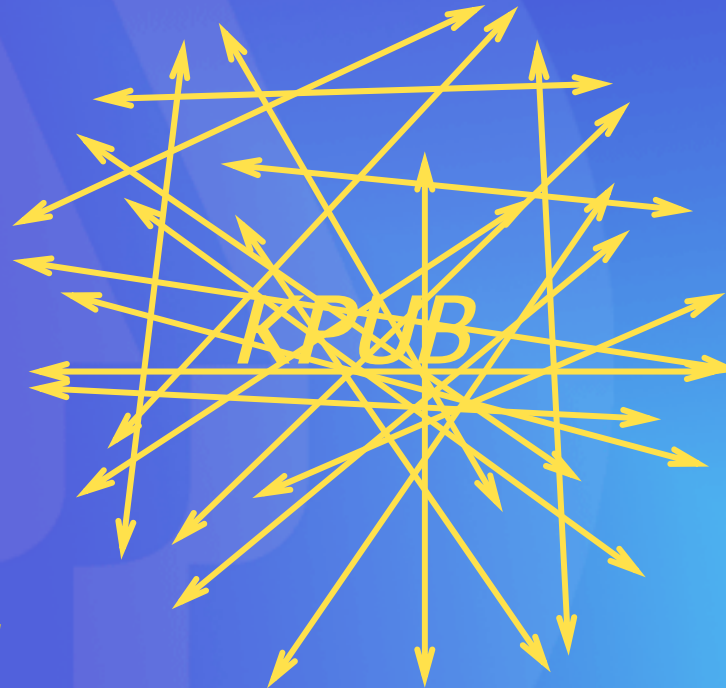
**Facility  
Scheduling**

**Digital Asset  
Management**

**Stock Footage**

**Education Connections**

**Programming**





# Data Islands

*National Program Distribution*

*Local Broadcast Payout  
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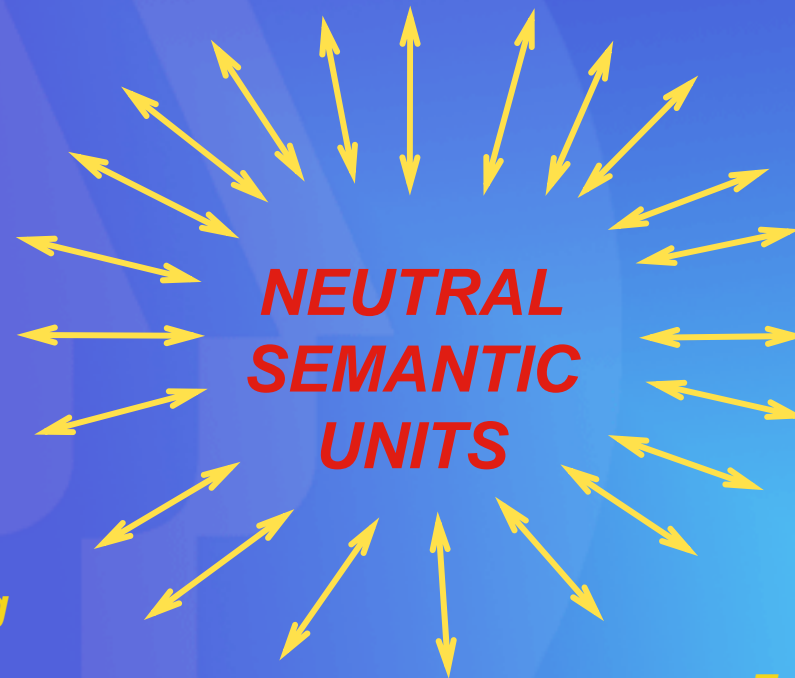
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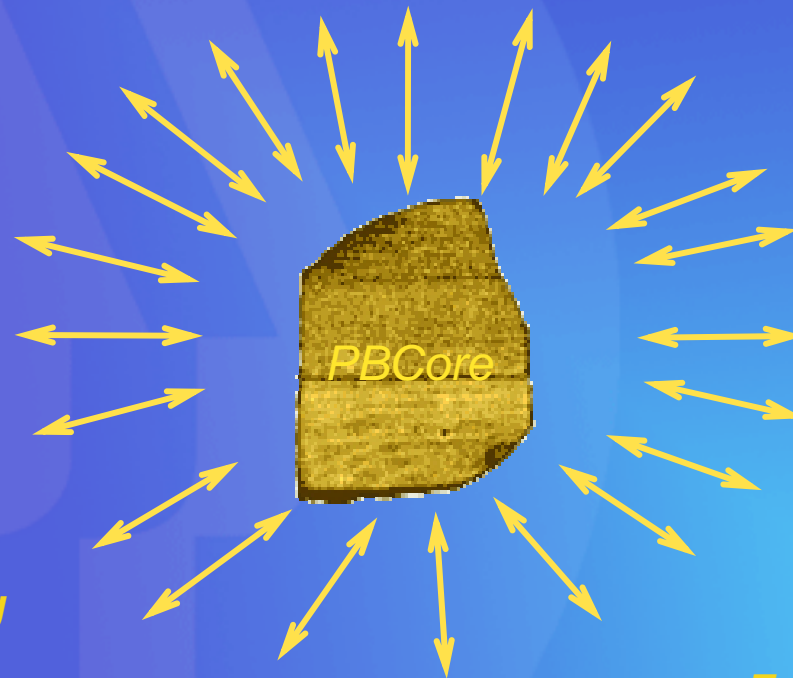
**Facility  
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**Digital Asset  
Management**

**Stock Footage**

**Education Connections**

**Programming**





# Getting to 1.0

- November 2001 - CPB Asset Management Caucus
- April/Sept 2002 - PBMDP Working Group
  - More than 2,300 elements collected & considered
- 2002 - 2004 - Development and Refinement
- February 2004 - Formal Request For Comments (RFC)
- June/July 2004 - Test Implementations
  - Distribution exchange/interoperability (WGBH/PBS, MPR/NPR)
  - Archive/Digitization (KET/University of Kentucky)
  - Initial test mappings to other standards (Agnew/Rutgers University)
- CPB Licensing & copyright - available under Creative Commons
- April 1, 2005 - PBCore 1.0 Published @ pbcore.org
  - 48 Elements + Definitions + Vocabularies



# Dictionary Project Participants

- PBS, APT, NETA
- NPR, PRI
- Public Interactive, PBS.org, NPR Online
- National producers (WGBH, MPR, WNET, Grubin)
- Community radio and TV licensees (KCTS, WGBH, WHRO)
- State Networks
- University radio and TV licensees (KWSU, WPT, WPSX, KUED, WMVS)
- Educators & their Evangelists (WPT, OnCourse, WHRO)
- Subject Matter Experts (AMIA/Rutgers, Academic CoLab, Univ. of Washington)



# Web Resources



**PBCore**  
Public Broadcasting  
Metadata Dictionary Project

**PBCore**  
v 1.0

Development Funding for PBCore provided by the  
Corporation for Public Broadcasting

PBCore is a Metadata & Cataloging Resource  
for Public Broadcasters & Associated Communities

- Home
- Project Background
- PBCore Elements
- User Guide
- Who May Use PBCore
- Licensing PBCore
- Resources & Links
- Contacts
- Site Map
- Working Group
- Feedback
- Join Listserv

**Welcome to PBCore,  
the Public Broadcasting Metadata Dictionary**

 **Announcements and News**

**RSS** Add PBCore Announcements and News to your RSS Reader (What's RSS?)

**NEW!** PBCORE XSD (XML SCHEMA DEFINITION) OVERVIEW READY FOR COMMENTS!

- Join the PBCore Listserv
- Read the PBCore presentations from PBS Tech Conference & NAB (April 2005)
- PBCore Version 1.0 is Published!
- PBCore Embraced by Kentucky Educational Television Digital Archive Project
- Flyer Announcing PBCore Version 1.0 Release
- Summary Report for the PBMD Test Implementations of the PBCore
- Summary Report for the PBMD Request for Comments Surveys for PBCore

 **Take me to the PBCore Dictionary Elements, right now!**

 **Getting Oriented to the Website...**

- ↪ About PBCore
- ↪ Navigating the PBCore Website
- ↪ About the Metadata Elements
- ↪ The PBCore is in Version 1.0

**About PBCore**

The PBCore (Public Broadcasting Metadata Dictionary) was created by the public broadcasting community in the United States of America for use by public broadcasters and related communities. Initial development funding for PBCore was provided by the Corporation for Public Broadcasting. The PBCore is built on the foundation of the Dublin Core (ISO 15836), an international standard for resource discovery (<http://dublincore.org>), and has been reviewed by the Dublin Core Metadata Initiative Usage Board.

Detailed Information on Elements, Properties and Attributes

(13) INTELLECTUAL CONTENT (descriptive, subjective)

(7) INTELLECTUAL PROPERTY (rights & usage)

(28) INSTANTIATION (structural, objective)

EXTENSIONS (TBD)

Tutorials and Background Information

Listserv Links



# PBCore Advocacy

- 18-month project managed by NCAM
  - November 2005 through April 2007
- 
- Advocacy
  - Training
  - Sustainability
- 
- Internal Promotion, Buy-In, Development
  - External Promotion, Buy-In, Harmonization
- 
- Adoption, Implementation and Support



# What's Next?

## A 'Community of Practice'

- Review of related developments
- Use case scenarios & models
- Online training & collaboration
  
- Creation of XML Schema
- Tools
  
- User adoption
- Vendor adoption
- Standards adoption





# PBCore XML Schema

## Introduction

This is an overview document outlining each portion of the schema will be indi

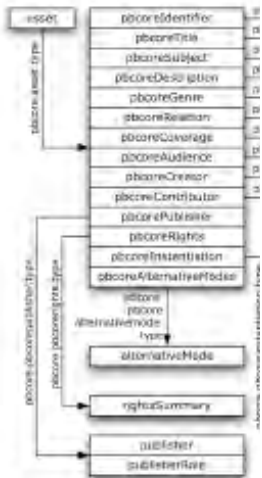


Figure 1: A block diagram of the "asset" tag along with the "asset" types for each of the objects.

## Complete PBCore XML Schema

### Example PBCore asset document

The following is a valid PBCore XML document (as validated against the schema listed in "Complete PBCore XML Schema"). It describes a fictitious asset that has a subset of its attributes listed in Table 1.

Meta-data type	Value
Identifier	1234567
Identifier source	Source
Title	The Geography of Utah
Title type	Project
Subject	National Parks, Natural Bridges, Delicate Arch, Arches National Park, Grand County, Utah.
Subject authority	http://www.lib.lsu.se/metadata/subject-help.html
Description	Program Eighteen of the Geography of Utah series is a video tour of Utah's spectacular national parks and recreation areas. Zion National Park, Bryce National Park, Capitol Reef, Canyonlands, Arches National Park, Flaming Gorge National Recreation Area, Dinosaur National Monument, and the Glen Canyon National Recreation Area are all visited. The controversy of land use and environmental preservation is considered in interviews with San Juan County Commissioner Cal Black and Benjamin Zerby of the National Park Service. Rainbow Bridge National Monument and Canyonlands National Park are only two examples of the land use debate.
Description type	Table of Contents
Genre	Adventure

Table 1: A subset of the asset's description that is to be encoded into the PBCore XML document.

```
<pbcore:asset xmlns:pbcore="http://www.utah.edu/cpbwmetadata/2006" version="1.0">
  <pbcore:pbcoreIdentifier>
    <pbcore:identifier>1234567</pbcore:identifier>
    </pbcore:pbcoreIdentifier>
  </pbcore:pbcoreIdentifier>
  <pbcore:pbcoreTitle>
    <pbcore:title>Geography of Utah, The</pbcore:title>
    <pbcore:titleType>Project</pbcore:titleType>
  </pbcore:pbcoreTitle>
  <pbcore:pbcoreSubject>
    <pbcore:subject>
      National Parks, Natural Bridges, Delicate Arch, Arches National
      Park, Grand County, Utah.
    </pbcore:subject>
    <pbcore:subjectAuthorityUsed>
      http://www.lib.lsu.se/metadata/subject-help.html
    </pbcore:subjectAuthorityUsed>
  </pbcore:pbcoreSubject>
  <pbcore:pbcoreDescription>
    Program Eighteen of the Geography of Utah series is a video tour of
    Utah's spectacular national parks and recreation areas. Zion National
    Park, Bryce National Park, Capitol Reef, Canyonlands, Arches National
    Park, Flaming Gorge National Recreation Area, Dinosaur National
    Monument, and the Glen Canyon National Recreation Area are all
    visited. The controversy of land use and environmental preservation is
    considered in interviews with San Juan County Commissioner Cal Black
    and Benjamin Zerby of the National Park Service. Rainbow Bridge
    National Monument and Canyonlands National Park are only two
    examples of the land use debate.
  </pbcore:pbcoreDescription>
  <pbcore:pbcoreDescriptionType>
    <pbcore:descriptionType>Table of Contents</pbcore:descriptionType>
  </pbcore:pbcoreDescriptionType>
  <pbcore:pbcoreGenre>
    <pbcore:genre>Adventure</pbcore:genre>
  </pbcore:pbcoreGenre>
  </pbcore:asset>
```

Discussion Draft posted April 17, 2006

Provides introduction and discussion of Schema rationale and structure

Includes complete PBCore XML Schema and an example PBCore asset document (record).

Expresses the PBCore dictionary in a concise and structured manner to enable integration and interoperability across multiple systems.

Provides structure to map to and from other schema based products, tools and services



# Open Source Tools

The screenshot shows the 'Media Library Online' website interface. At the top, there is a navigation bar with links for Home, Browse Resources, Forums, About, and Help. Below this is a search bar. The main content area displays a search result for a video titled 'Here and Now #112'. The result includes the following metadata:

- Tape Number:** NPA HNB60 0013
- Title:** Here and Now #112
- Title Type:** Series/Program
- Program or Series Title:** Here and Now
- Project Number:** 103054
- Creator:** Moore, Andy//Producer; Bissen, Kathy//Executive Producer; Doebel, Steven//Director
- Contributor:** Freyberg, Frederica//Anchor; Huffman, Jerry//Co-anchor
- Date Created:** 2003-03-28
- Broadcast Date:** 2003-03-28
- Publisher:** Board of Regents UW//Copyright holder; Education Communications Board//Copyright holder; Wisconsin Public Television//Presenter
- Subject:** economy, business and finance; contracts; consumers; business (general); war; gaming and lottery; hunting; fishing; unrest, conflicts and war; international military intervention

Below the metadata is a 'Description' box containing the following text: 'Description: Senator Mary Panzer (R) Senate Majority Leader discusses the state legislature's threat of bringing a lawsuit against Governor Doyle over the Potawatomi gaming compacts. Panzer reports sending a letter to the Bureau of Indian Affairs to stop the compact from going forward. She explains that Doyle is violating Wisconsin's constitution.' Below the description is another text block: 'U.S. Representatives Ron Kind (D) La Crosse and Paul Ryan (R) Janesville talk about the Iraq war in terms of its intended length and costs. Both agree that the U.S. needs to strengthen relationships with the international community.'

Example:  
Wisconsin Public Television  
Media Library Online  
<<http://wptmedialibrary.wpt.org>>

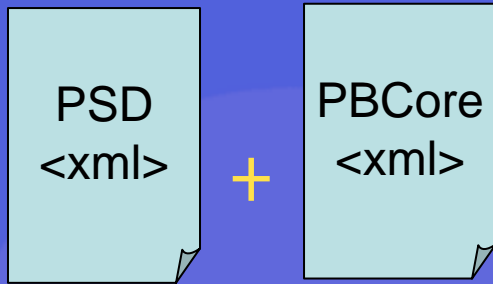
Uses Internet Scout's CWIS software  
<<http://scout.wisc.edu/Projects/CWIS/>>  
Media cataloguing and database tool  
Developed under NSF NSDL project  
Open source  
LAMP (Linux/Apache/MySQL/PHP)  
also OS X, Solaris and FreeBSD  
Functionality (PHP) separated from  
appearance (HTML)

Next Steps:

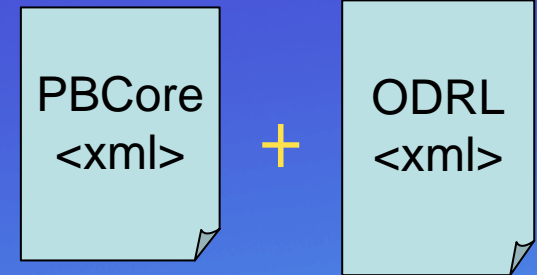
Modify for full PBCore support  
Enable output of PBCore XML records  
Build user group



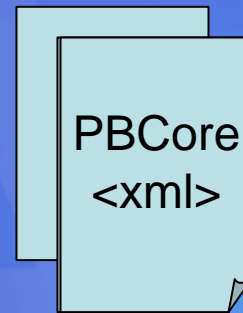
# Mapping and Extensions



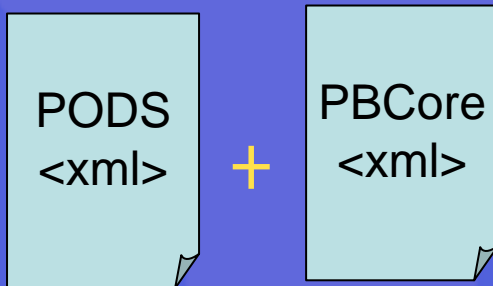
HDRadio PSD



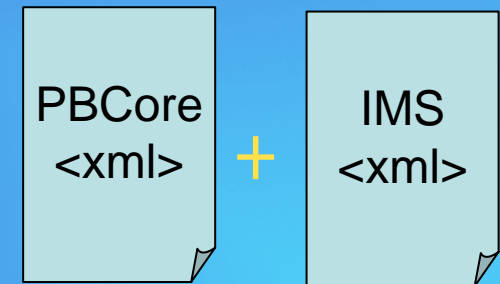
Archiving



PBS



Education



# Liaison with Related Organizations

- AMIA - MIC Union Catalog
  - IMA - Integrated Media Association
  - NDIIPP - WNET/WGBH/PBS/Library of Congress
  - NPR/PRSS - Content Depot
  - PSD Project - PRI, PRX, NPR
  - PBS/APT/NETA - PODS, Broadview, ProTrack, Scout
  - SMPTE - S22 & W25 Metadata Exchange (MXF/AAF)
  - ViDe Video Access Working Group
- Other related standards efforts



# Use Cases and Models

Describe and Disseminate, Demonstrate  
Support and Networking  
Based on Existing System Efforts, such as

- Wisconsin PTV - CWIS
- NDIIPP - Preservation
- Nebraska ETV - Production Workflow
- Penn State - Keystone E-Web
- PSD Project - Mapping Support
- PBS - PODS Mapping Support





# Contact

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