

# A Look at Apache OODT Balance Framework

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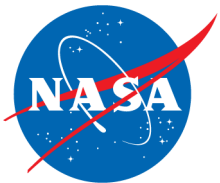
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- Brief overview of Apache OODT
- Problem – Solution
- What is Balance?
- Installation & Configuration Demonstration

# The Start

## ORIGINALLY DEVELOPED AT NASA'S JET PROPULSION LABORATORY

- Funded initially in 1998 by NASA's Office of Space Science
- Envisioned as a national software framework for sharing data across heterogeneous, distributed data repositories



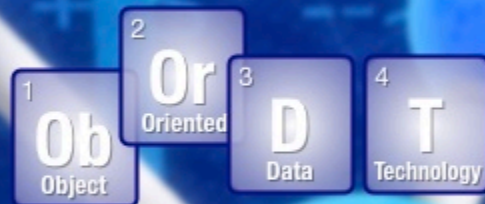
# ODDT at Apache

- Entered “incubation” at the Apache Software Foundation in 2010
- Selected as a top level Apache Software Foundation project in January 2011
- The first NASA project to live at Apache™.



# Just What is OODT?

- Object Oriented Data Technology  
<http://oodt.apache.org>



**Catalogs, archives, metadata, & more**

Data grid framework for  
transparent search and discovery  
of disparate science resources

- ✗ Interaction primarily via command line
- ✗ No reusable front end components



## The Solution is Apache OODT Balance!

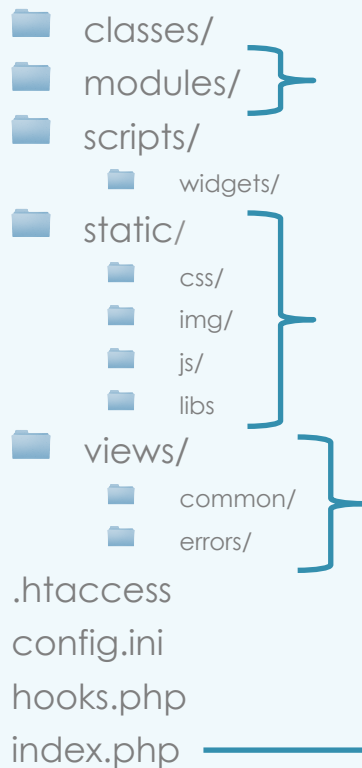
- ✓ Supports reuse
- ✓ Provides a common, modular code base
- ✓ Highly configurable layer to interface with Apache OODT core

# What is Balance?

- ▣ Lightweight PHP Web Application Framework
- ▣ Great support for Apache OODT integration
- ▣ Creates a standard environment
- ▣ Available as a PHP Extension and Application Repository package



# Application Skeleton



More on this later

Store all resources



Plain PHP files



Configure application



**KICKOFF BALANCE  
BOOTSTRAP!**



# Balance Library

Balance Core

Interfaces

# Balance Core

Application  
Class

Request  
Class

Response  
Class

Data  
Response  
Class

# Interfaces

Authentication  
Provider

Authorization  
Provider

Data Provider

Widget  
Provider

# Installation & Configuration Demonstration

Easily install and quickly configure your site using OODT Balance

# PEAR Package Install

- ▣ **Apache OODT PEAR channel – for easy install**
  - ▣ <http://pear.apache.org/oodt/>
- ▣ JIRA Issue: INFRA-5910
  - ▣ <https://issues.apache.org/jira/browse/INFRA-5910>
- ▣ Workaround

```
$ svn co https://svn.apache.org/repos/asf/oodt/tags/0.4/balance/lib/pear/ balance_lib
```

```
$ cd balance_lib
```

```
$ pear package
```

```
$ sudo pear install --force Org_Apache_Oodt_Balance-0.*.0.tgz
```

- ▣ Balance Extensions → “Modules”
- ▣ Modules Available
- ▣ OODT at Work
- ▣ Modules Demonstration

# Balance Extensions (Modules)

*“With component-oriented software, just grab what you need and apply dabs of software glue.”*

- ▣ Self-contained
- ▣ Loosely connected
- ▣ “Drop-in” applications

# Modules Available

- CAS-Browser: Browse a File Manager Catalog
- Monitor: Monitor an OODT Workflow Manager
- Profile: Instant LDAP profile management
- Newsfeeds: Flexible Text & RSS Feed support
- Puny: Content manager
- Wizard: Integrated multi-page forms



**CO<sub>2</sub> Virtual Science Data Environment**

Jet Propulsion Laboratory  
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**Welcome!**

This site represents a collaborative multi-organizational effort...  
This site aims to simplify the process of discovering, accessing, and utilizing high-quality research assets...

**Latest Datasets**

- ACOE Level 2 Products
- TOCOM (IPCC)
- AMR2010 (IPCC-09)
- AMR2010 (IPCC-09)

**Instrumental Data**

- Advanced Very High Resolution (AVHRR)
- Advanced Very High Resolution (AVHRR)
- Advanced Very High Resolution (AVHRR)
- Advanced Very High Resolution (AVHRR)

**Airborne Cloud Computing Environment**

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**EDRN**

National Cancer Institute

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**Early Detection Research Network**

Biomarkers: The key to early detection

**About eCAS**

The EDRN Catalog and Archive Service (eCAS) is the official source for research data generated by EDRN participants.

**Data Access**

Some of the data on this site is not made available to anonymous users. Data currently undergoing annotation or review requires a login name.

**Data Browser**

Autoantibody Biomarkers

We have implemented a high throughput platform for quantitative analysis of serum autoantibodies, which we have applied to lung cancer discovery of novel antigens and for validation in prognostic sera collected at the ...

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**Regional Climate Model Evaluation System**

Jet Propulsion Laboratory  
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**RCMES + CORDEX / IPCC**

Supporting flexible model-observation comparison, analysis, and visualization

**Collaborations with CORDEX/IPCC**

RCMES is supporting the efforts of the Intergovernmental Panel on Climate Change and the Coordinated Regional Downscaling Experiment.

**ACCE**

Airborne Cloud Computing Environment

RCMETS

SKA

**Square Kilometre Array Data Center**

Jet Propulsion Laboratory  
California Institute of Technology

Home | About this Site | Browse Data | Process Data

**Welcome to the Square Kilometre Array Data Center**

This website is currently under development and present functionality is limited. As we move forward, new features and data will be added so please check back soon.

**Browse Data**

Data in the SKA Data Center is made available for access as it is ingested.

**Process Data**

For more information regarding the SKA Data Center project, please contact Dr. Chris Matthews at matthewc@jpl.nasa.gov

# OODT at Work

Works for planetary science, earth science, radio astronomy, biomedicine, astrophysics, and more

# Module Demonstration

# Thank you!

It's constantly evolving - join and help!

- <http://oodt.apache.org>
- WIKI: <https://cwiki.apache.org/OODT/>
- JIRA: <https://issues.apache.org/jira/browse/OODT>

Join the mailing list:

- [dev@oodt.apache.org](mailto:dev@oodt.apache.org)