

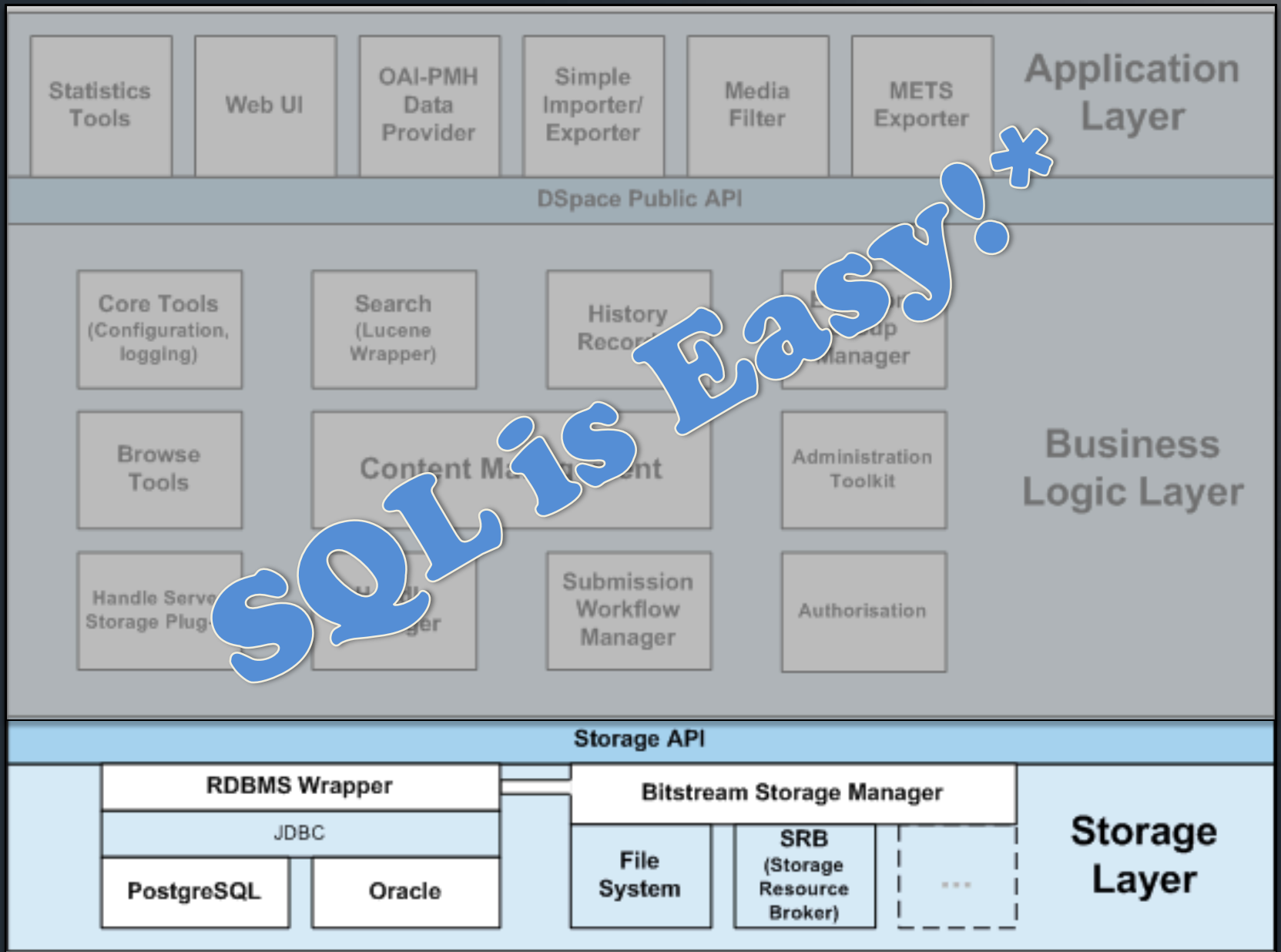
# Improving DSpace Backups, Restores, Migrations

Tim Donohue  
DuraSpace

# Have you ever had this happen?

Manager: “Can you fix this problem,  
I’ve heard it’s just a database tweak?”

Developer: “Sure – that sounds simple  
enough.”



\*Except when it is not

# An error has occurred

---

**java.lang.NullPointerException:**

Cocoon stacktrace [\[show\]](#)

Java stacktrace [\[show\]](#)

Java full stacktrace [\[show\]](#)

---

The [Manakin](#) / [DSpace](#) digital repository software.



Oh no...

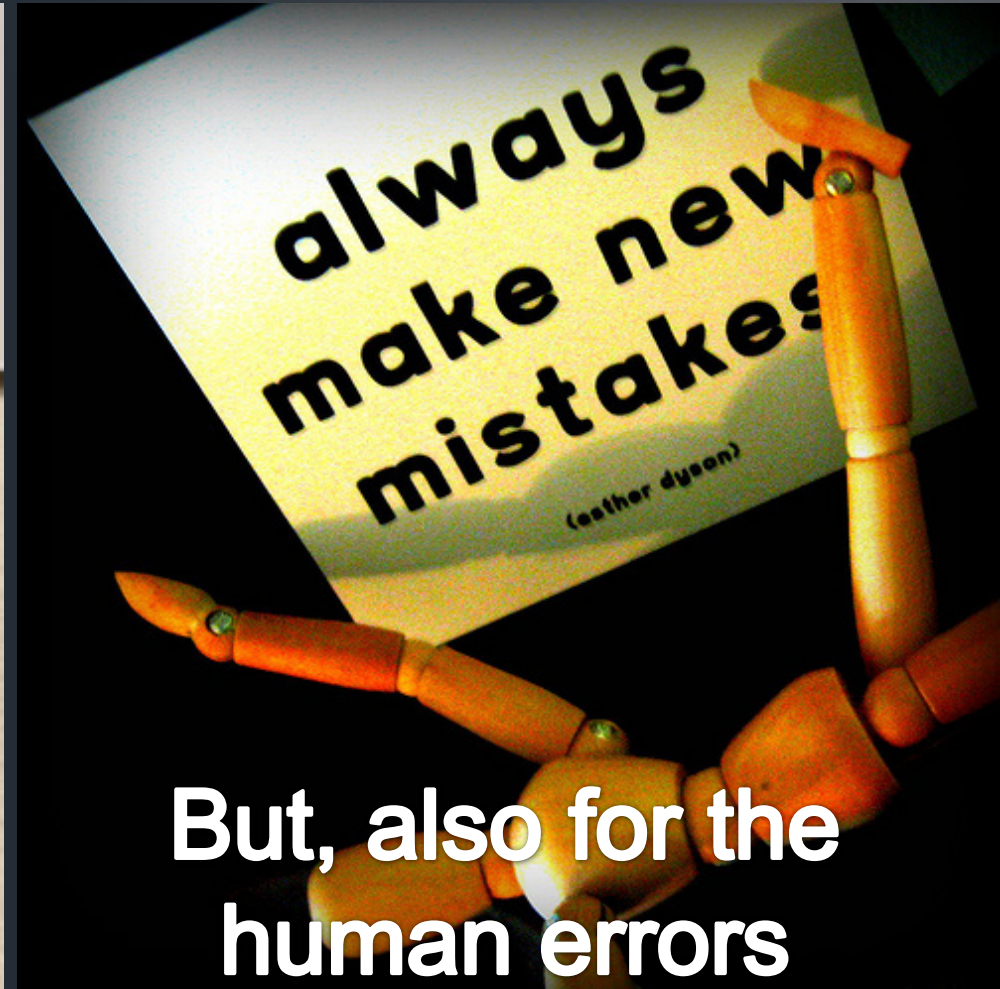
Or, This?

I accidentally deleted my entire collection!

We need good backups...



Not just for this



But, also for the human errors

# How to Backup DSpace today



**Database**



**Assetstore folder**

Full Database Backup



Folder Backup



# How to Restore all of DSpace



**Database**



**Assetstore folder**

Full Database Backup

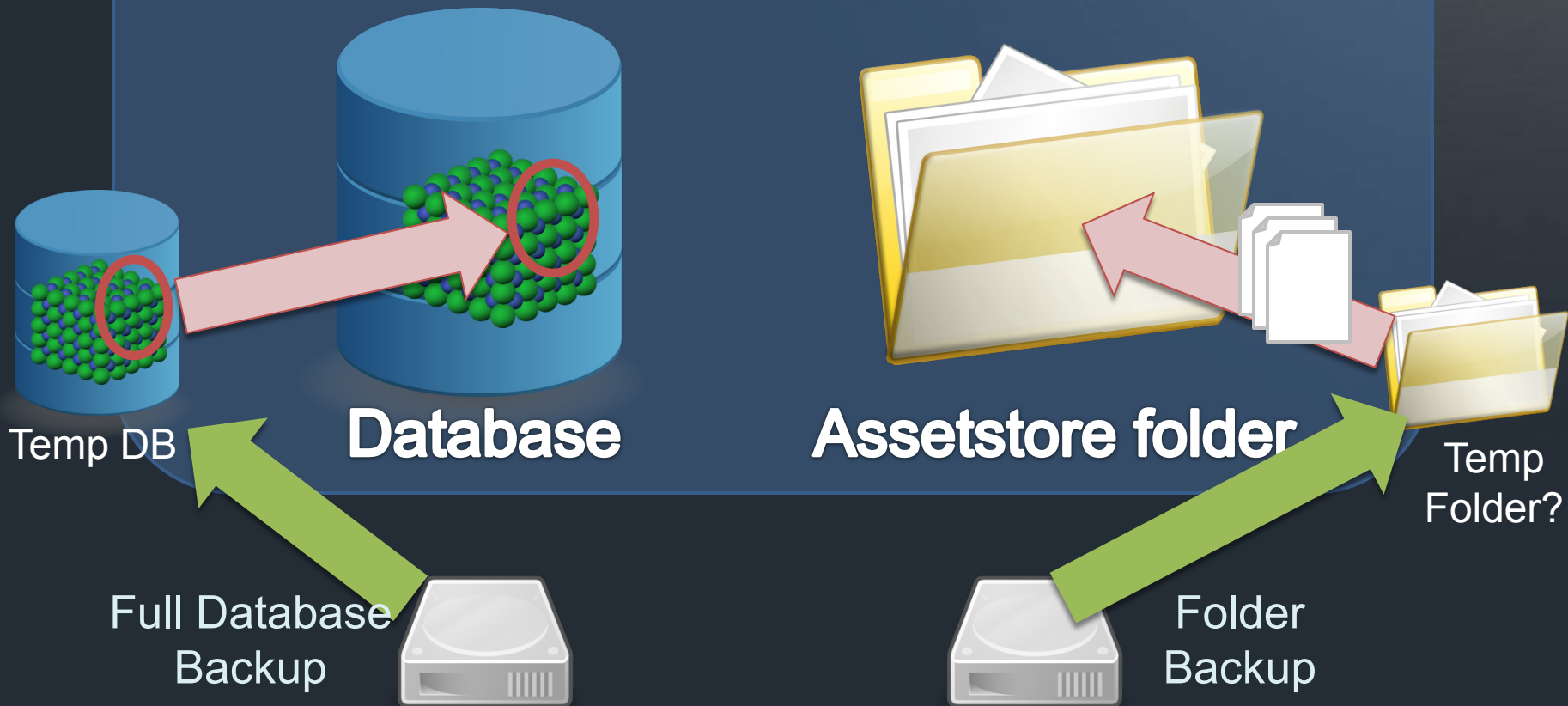


Folder Backup





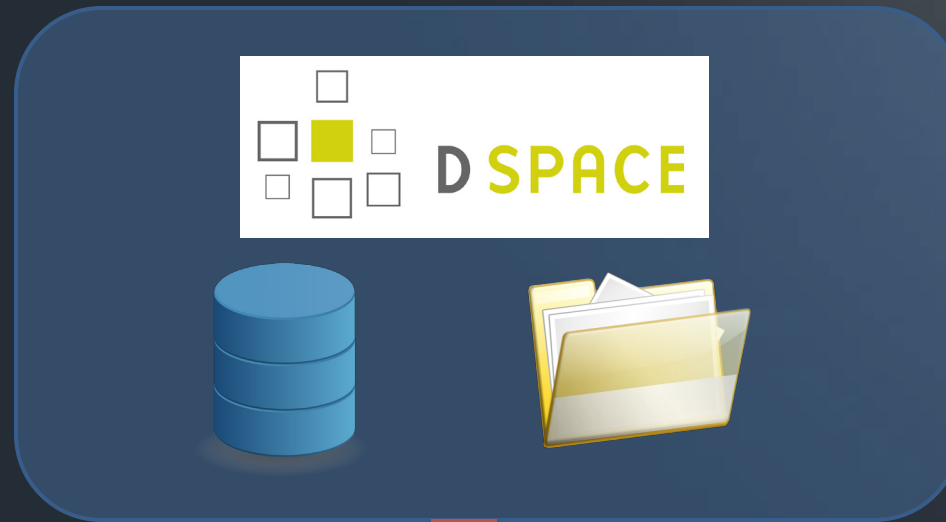
# How to Restore just a Collection



# How to Restore just a Collection



# A New Route: Archival Info Pkgs



Package for each  
Community,  
Collection & Item



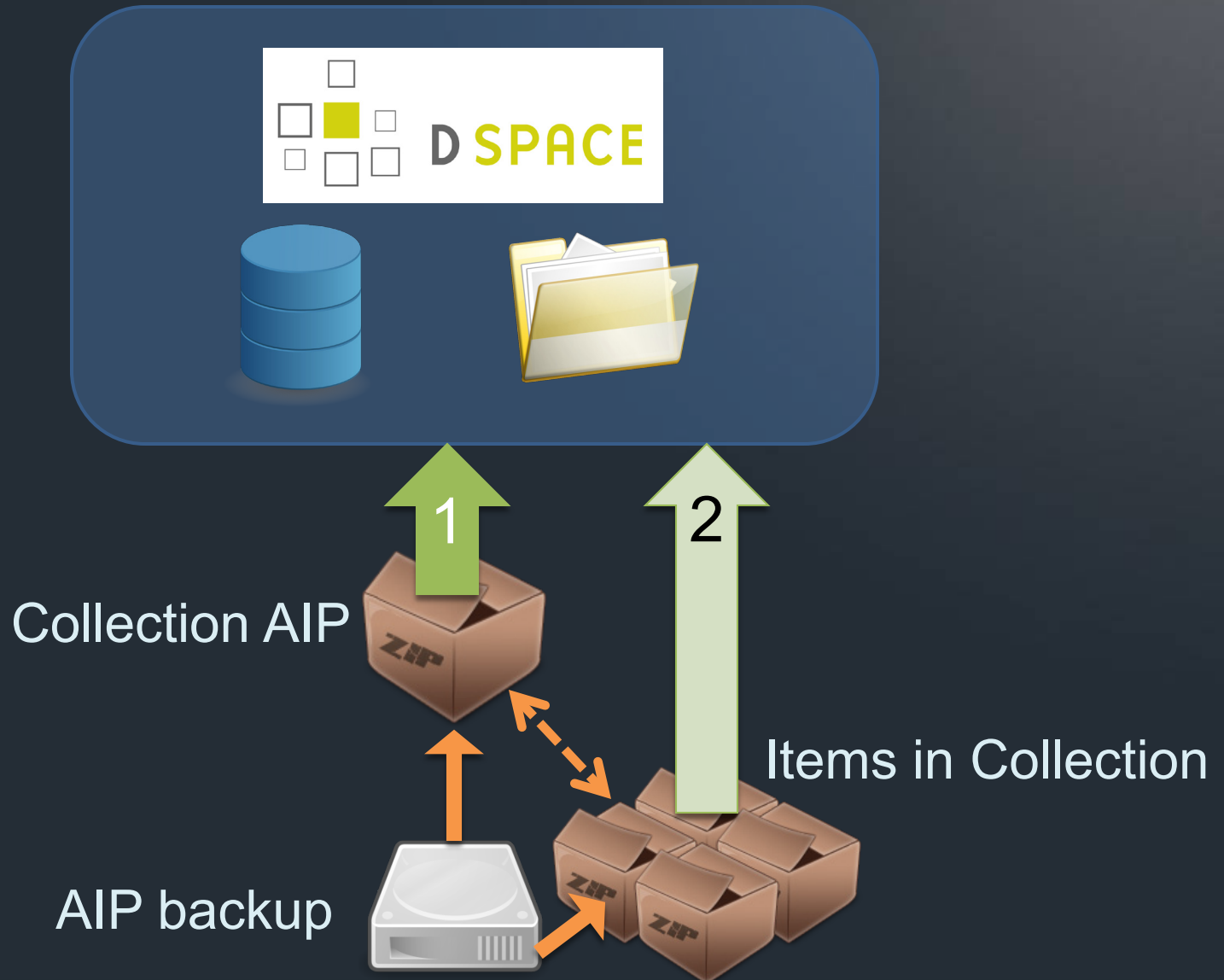
AIP backup



# A New Route: Restore All



# A New Route: Restore a Collection



# What's in an AIP?



**License**



**METS**

**(DIM / MODS / PREMIS)**



**Content Files  
or Logos**



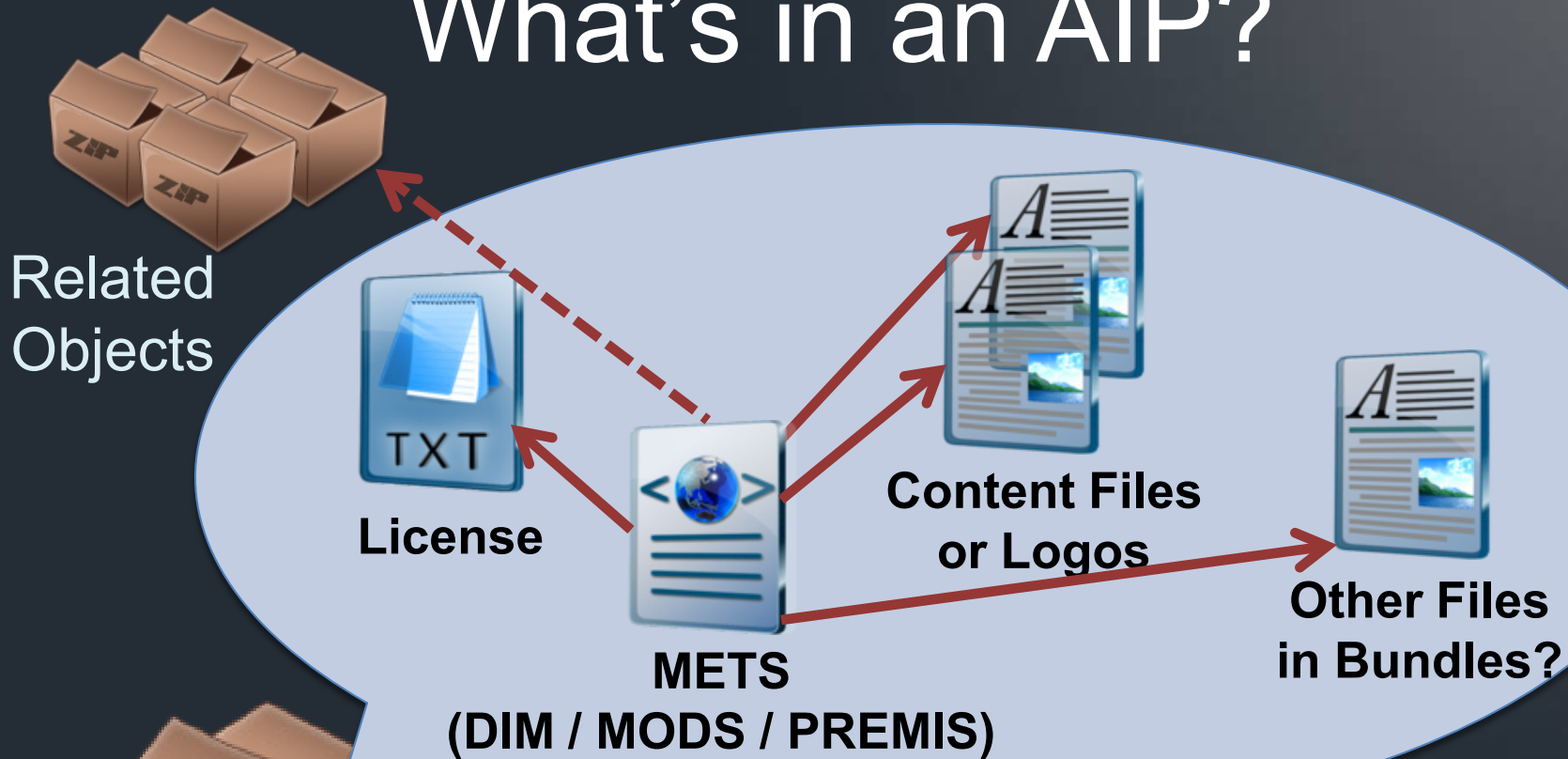
**Other Files  
in Bundles?**



**Other Future Formats? BagIt?**

Archival Information Package (AIP)

# What's in an AIP?



Descriptive Metadata: DIM & MODS  
Tech/Preservation Metadata: PREMIS

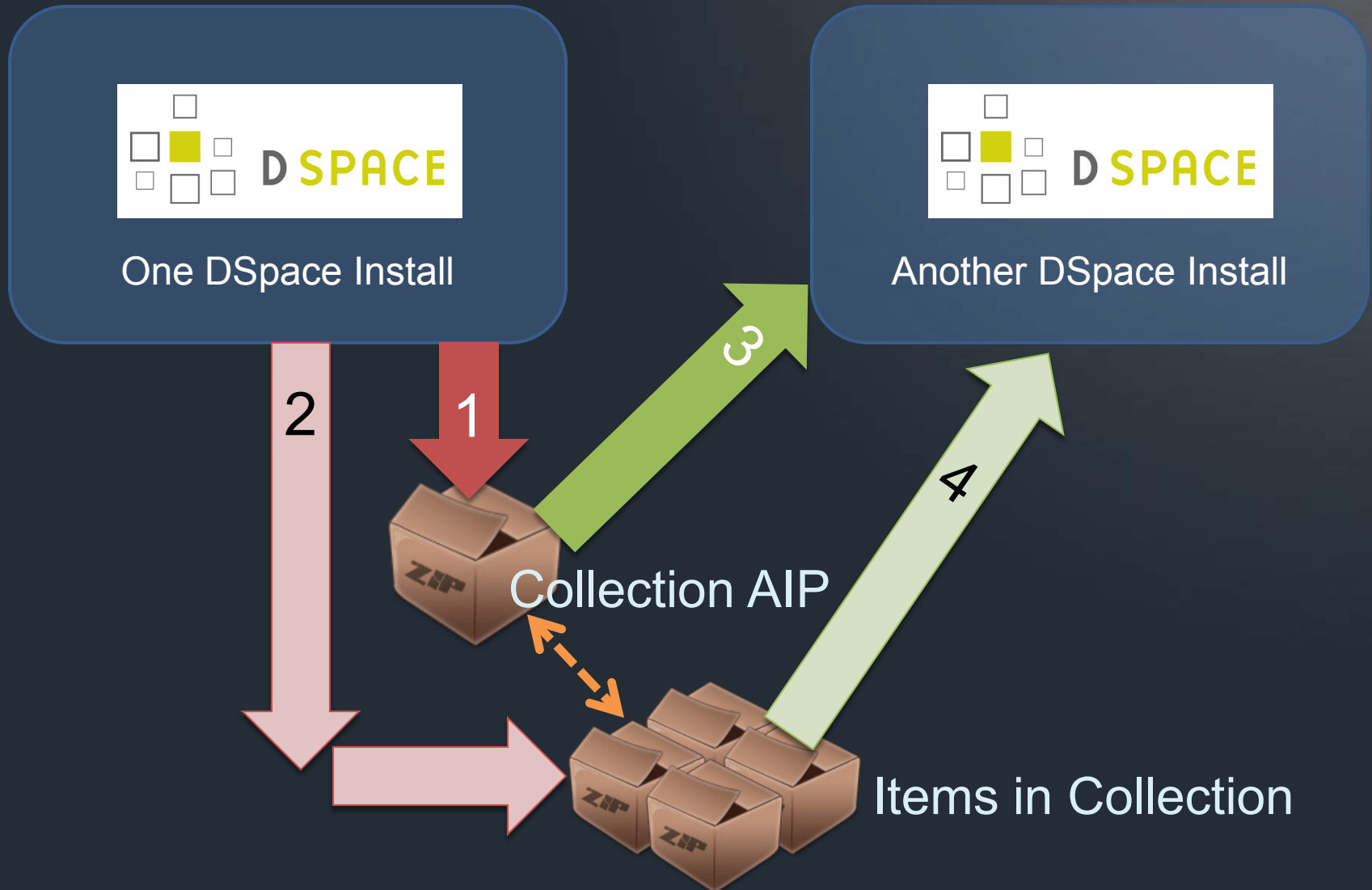
# Additional Features



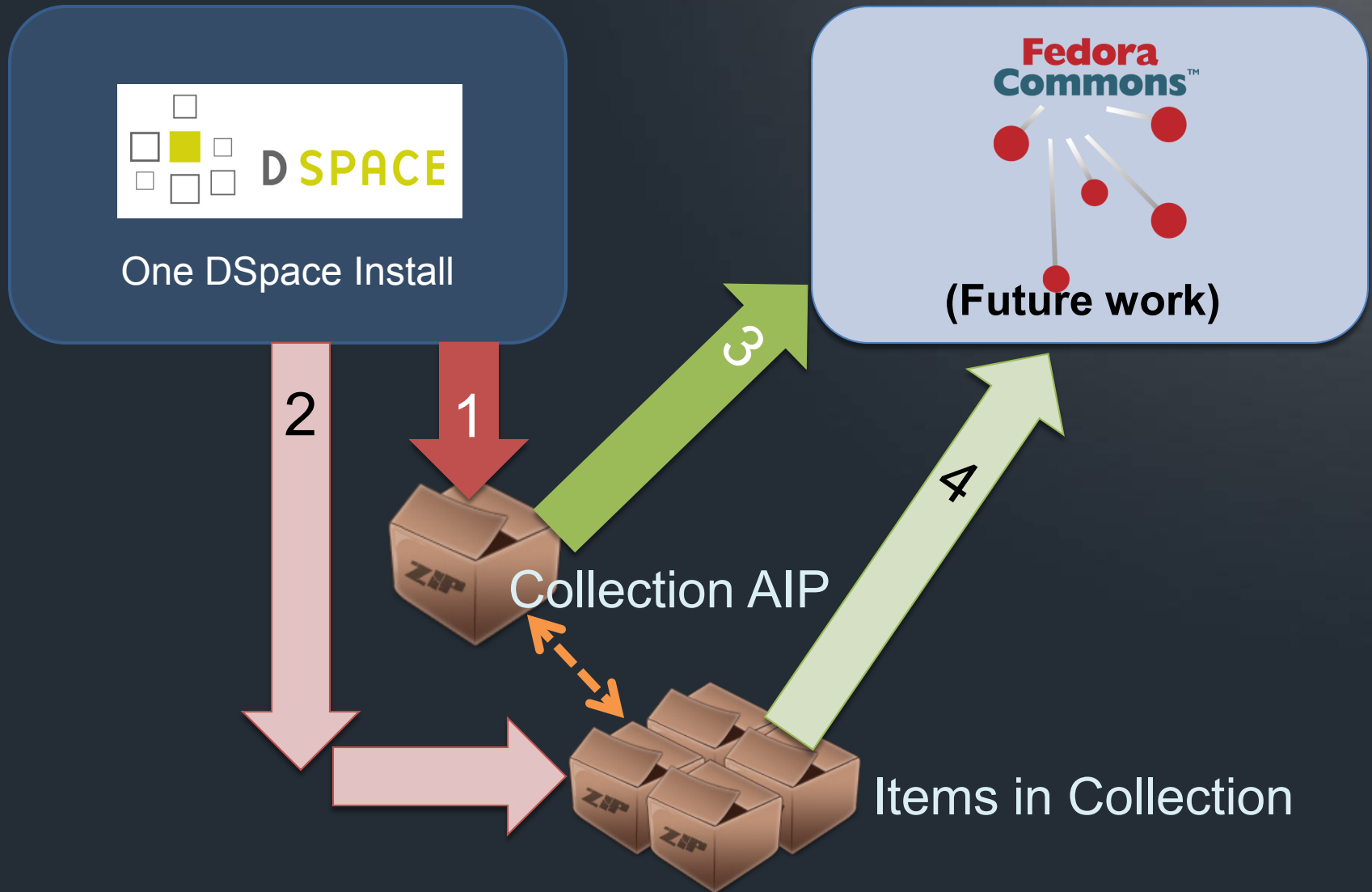
- **Three Ingestion Modes (for AIPs)**
  - **Restore:** revive missing/deleted objects
  - **Replace:** overwrite existing objects
  - **Submit:** create a new object
- **Easier Migration of Content**
- **DuraCloud Integration**



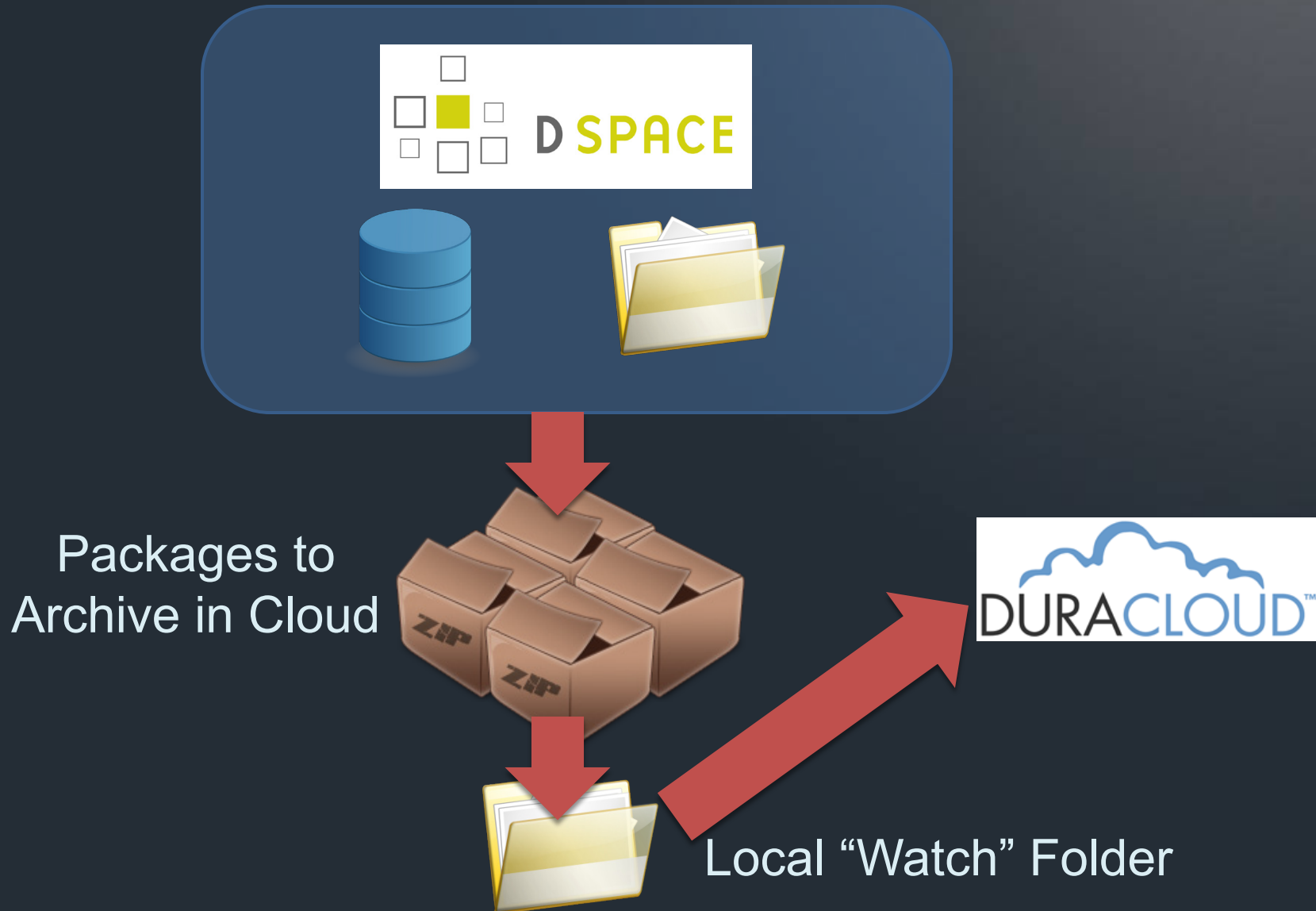
# Migrate a Collection



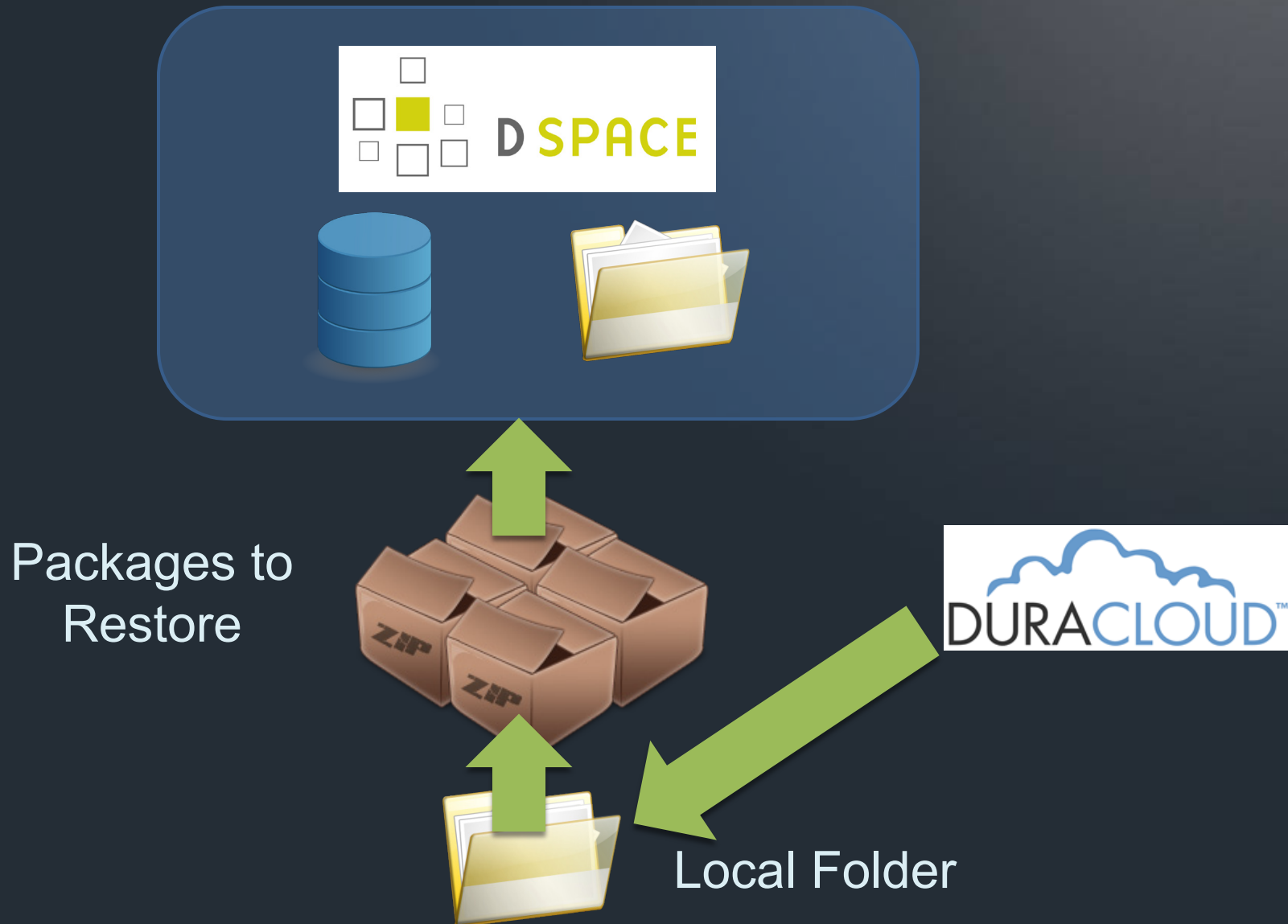
# Migrate a Collection



# DuraCloud Integration



# DuraCloud Integration



# Current Status

- Code still in development (DuraSpace, MIT, IUPUI) – Preparing for 1.7 Release
- Restore Limitations
  - Cannot restore Rights/People/Groups
- Export Limitations
  - Cannot Export only *\*changed\** objects
- Command-line only
  - No Admin UI for export/import

# Future Work

- **Incremental Backup (only what's changed)**
- **Backup Rights / People / Groups**
- **DSpace Curation Tool(s)**
  - **Synchronize Backup (e.g. DuraCloud) with DSpace**
  - **Auditing – Compare AIP to object**
- **Admin User Interface?**

**THANK  
YOU!**

- MIT/UCSD PLEDGE Project (Larry Stone)
- MIT (Richard Rodgers & Bill Hays)
- IUPUI (Mark Wood)



# Photo Acknowledgments

- Tech Support: <http://www.flickr.com/photos/igalko/4202300413/>
- Melted Computer: <http://www.flickr.com/photos/alexmuse/242086997>
- Always make new mistakes:  
<http://www.flickr.com/photos/elycefeliz/4448688868/>
- Harddrive icon: <http://www.openclipart.org/detail/34537>
- Folder icon: <http://www.openclipart.org/detail/13740>
- Database icon: <http://www.openclipart.org/detail/68413>
- Crystal icon: <http://www.openclipart.org/detail/58609>
- Zip Pkg icon: <http://veryicon.com/icons/system/capital-icon-suite-mac/zip-10.html>
- File icons: <http://veryicon.com/icons/system/rhor-v2-part-3/>
- Lego Box: <http://www.flickr.com/photos/oskay/2156907025/>
- Circuit Board: <http://www.flickr.com/photos/amagill/2877921712/>
- Clouds: <http://www.flickr.com/photos/pagedooley/2511369048/>
- Thank You: <http://www.flickr.com/photos/darwinbell/2602728681/>



# Contact Info

Tim Donohue

DuraSpace

[tdonohue@duraspace.org](mailto:tdonohue@duraspace.org)

More Info on DSpace Wiki:

<http://wiki.dspace.org/AipBackupRestorePrototype>



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