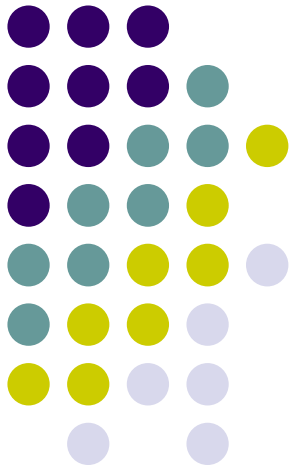
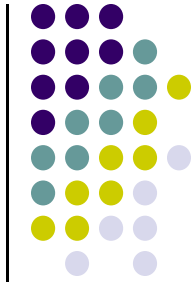
‘Seeding’ the Cloud Library

precipitating change
in library infrastructure



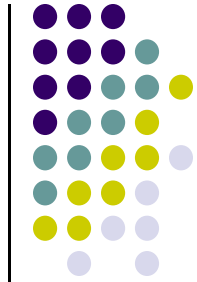
Vision



Emergence of shared digital and shared print repositories creates new operational efficiencies for research institutions

Collections move 'into the cloud' as a shared network resource

Requires development of new infrastructure for managing, monitoring, consuming shared services



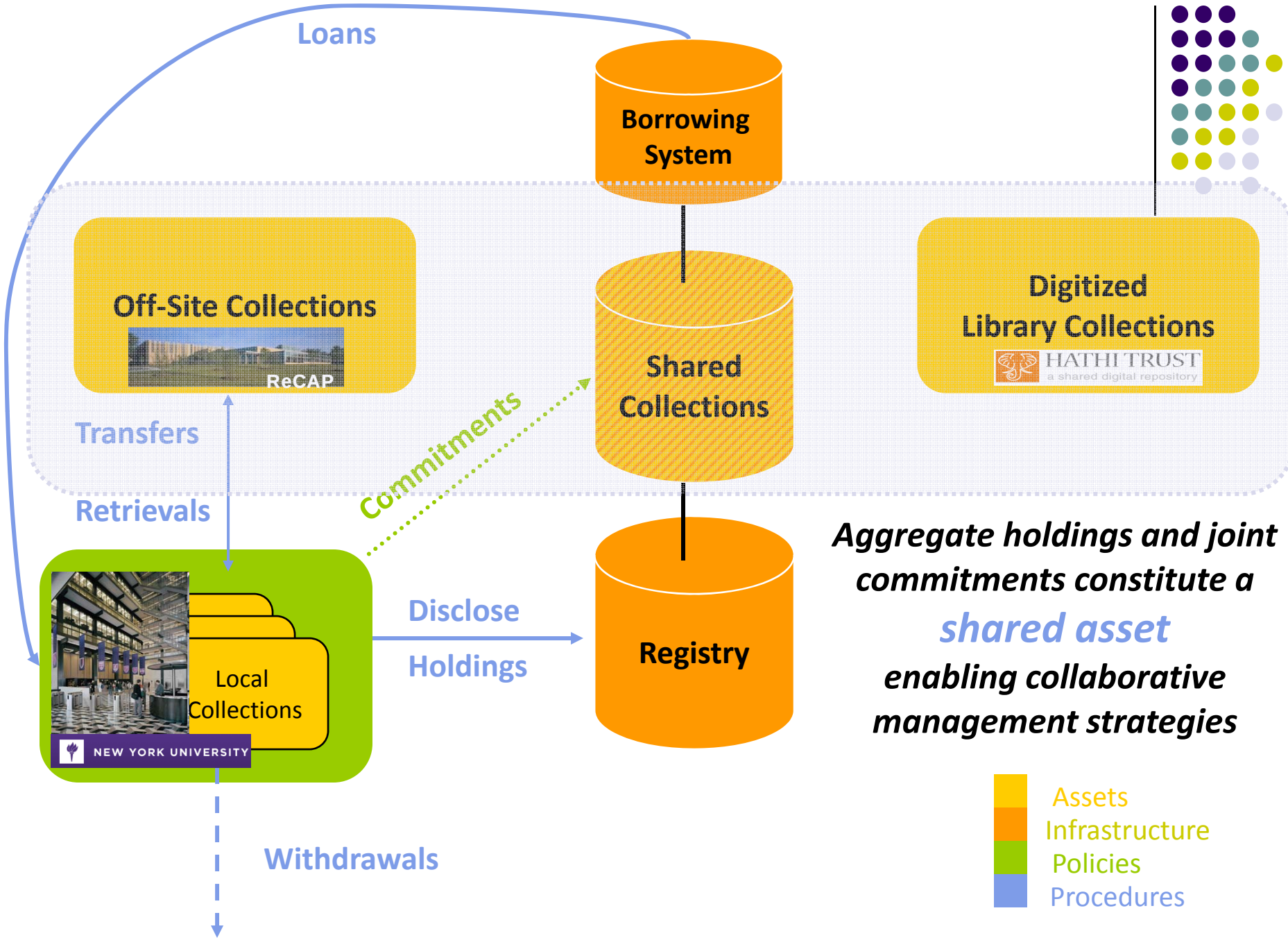
Disclosure mechanisms

Metadata services

What kind of infrastructure is needed to support the cloud library?

Service level agreements

Business models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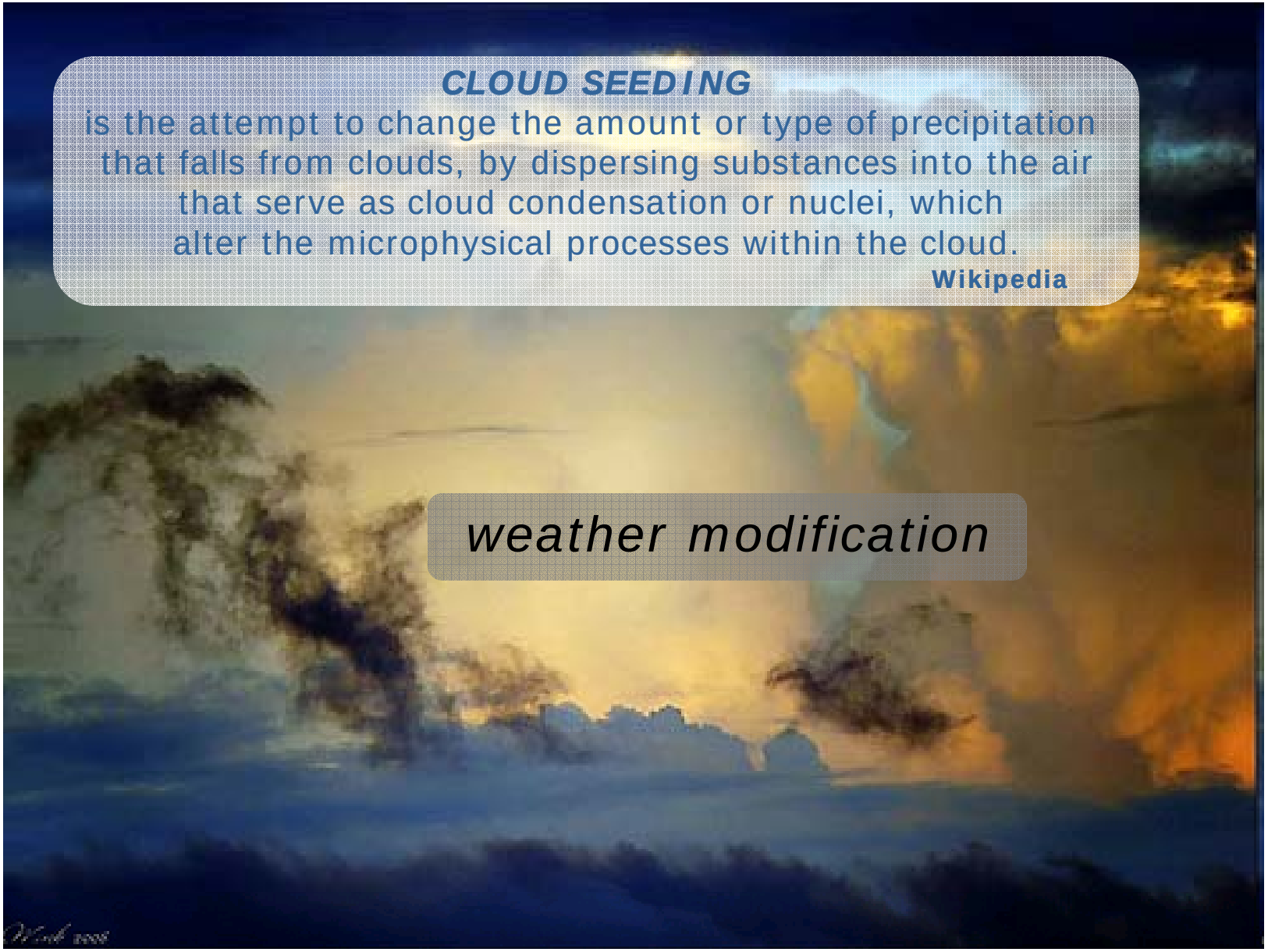
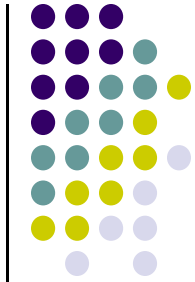


"Clouds on Steroids" photo by Wink (http://www.flickr.com/photos/intherough/3069405146/)

Case Study

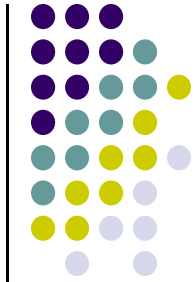


Hathi as trusted supplier and preservation agent for digitized print

ReCAP as trusted supplier and preservation agent for print

Mid-size research library as consumer of ‘cloud library’

Current Context: NYU



Major library renovation scheduled in 2012

New environmentally controlled off-site storage

Est. 400,000 volumes to be removed in coming year

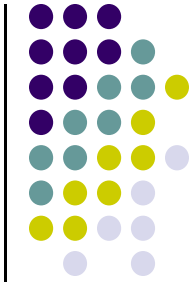
Anticipate further transfers of 100,000 volumes / yr

Currently focused on dual-format licensed content

Emergence of HathiTrust is “game changing”

Enables strategic relegation of broader range of formats

Plan of Work (proposed)



Phase I: **Characterize Aggregate Collection** (May-June?)

Assess duplication rates across NYU, ReCAP and HathiTrust; compare to existing data on supply and demand patterns in aggregate academic collections

Phase II: **Model Service Expectations** (July-August?)

Identify core svc req'ts to increase NYU reliance on Hathi and ReCAP; draft sample RFP

Phase III: **Calibrate Supplier Service Offering** (August–Sept?)

Evaluate feasibility and cost requirements for meeting stated expectations; draft implementation framework

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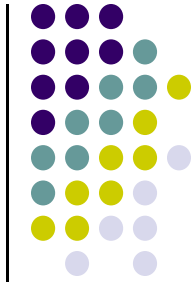
Phase IV: **Test Implementation Framework** (October →?)

Test reliability of joint service agreements against targeted space savings / cost avoidance at NYU

Some early observations



Currently examining intersection of ***HathiTrust*** *(May 2009),* ***NYU*** *library holdings and a subset of WorldCat representing relatively* ***widely-held scholarly titles*****.**

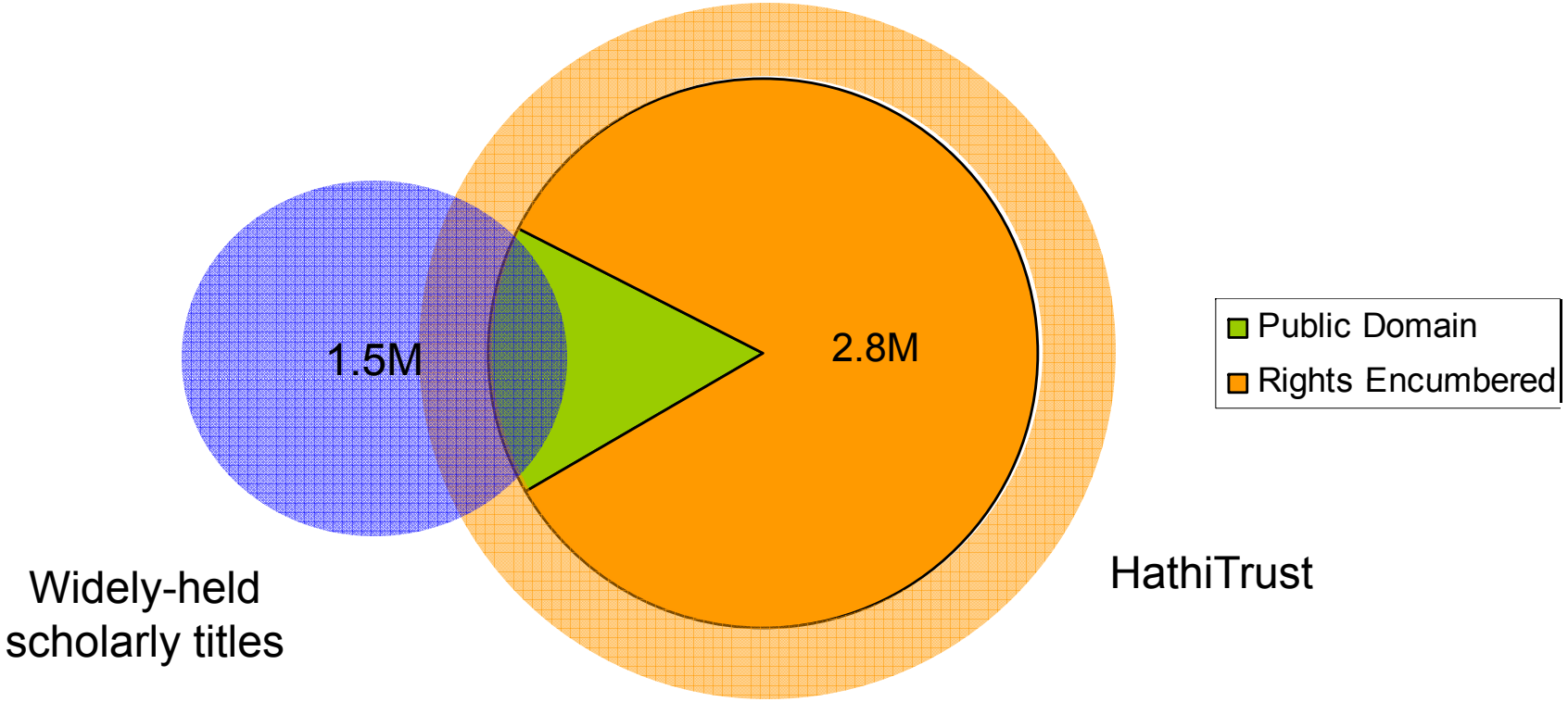
Titles in the public domain constitute greatest potential library 'cost avoidance' benefit

***** Enables reduction in physical inventory (for some)

* Supports disciplinary migration to digital formats

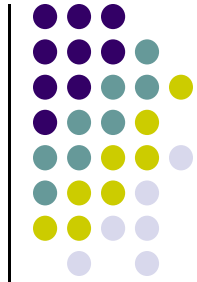
* Maximizes benefit of shared investment

Ca. May 2009, 33K widely-held scholarly titles available as public domain content from HathiTrust



Scope and impact increases each month

Calculating Benefit



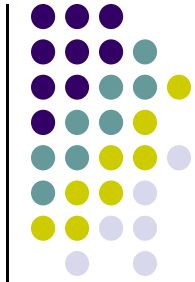
At minimum…

avg. 50 libraries holding 33,000 PD titles

19 miles of shelf-space regained

aggregate cost avoidance $6.2M

Managing Risk . . .



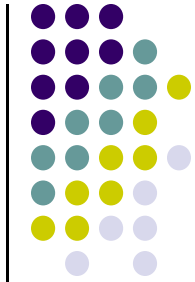
Lowest-risk targets for relegation: *widely duplicated* scholarly print titles that are *held in ReCAP* and *available as public domain content in Hathi*

- *High redundancy rate = low preservation risk*
- *Digital formats support new forms of scholarly work*
- *Regional print repository elevates confidence in preservation & access*

As of May 2009, nearly 12,000 such titles at NYU

Rate of duplication increases each month as new content is added to Hathi and ReCAP -- ***at a rate faster than annual collection growth in ARL libraries***

. . . Maximizing Benefit



Much greater opportunities for space/cost savings for in-copyright titles -- and much greater reliance on robust physical delivery networks.

Success of shared digital repositories [Hathi]
in creating operational efficiencies for academic libraries
is highly dependent upon reciprocal service agreements with
shared physical repositories [ReCAP] and
the ***emergence of joint business agreements*** with
institutional consumers [NYU].

Value of partnership increases as number of participants grows

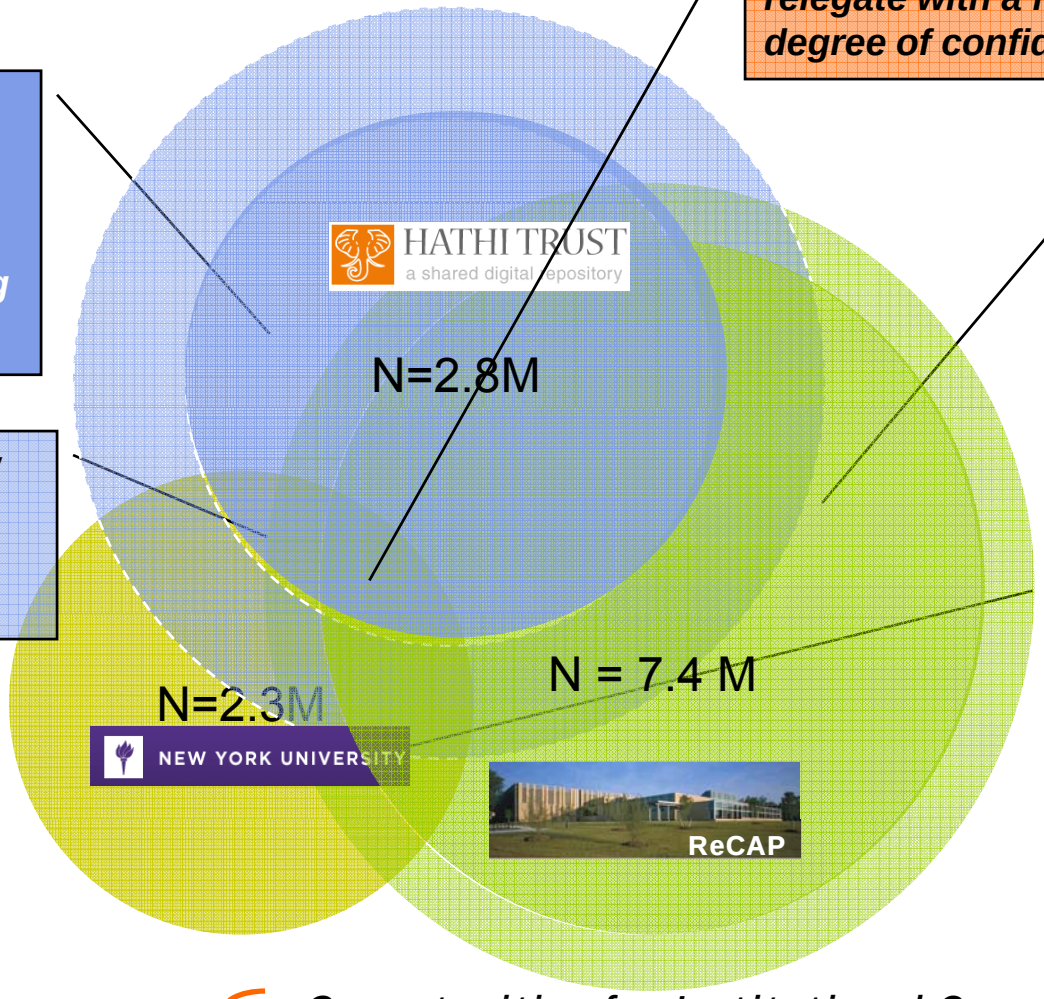
Material that NYU can ***relegate with a high degree of confidence***

Material that NYU can obtain through HT dependent on copyright status – means of ***enhancing 'local' collection***

Material that NYU can already source through existing ILL – ***enhance local collection***

Material that NYU may choose to ***relegate based on copyright/ availability***

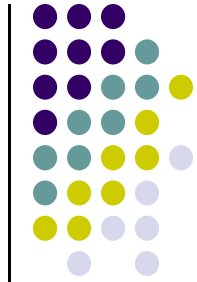
Material that NYU may choose to ***relegate with appropriate service level agreement***



Intersections

Opportunities for Institutional Cooperation
Shared Policy Frameworks
Joint Service Agreements
Increased Operational Efficiencies

In-copyright content is critical



We can't anticipate -- or wait for -- outcomes of Google Settlement

Shared print repositories can serve as distribution hubs *and*

Back-fill digital repositories as gaps are found

A virtuous circle

Cost Factors

Delivery costs from shared print provider must be

< retrieval from local off-site ***and***

≤ existing ILL costs (~$15 per item)

to **enable cost-effective transfer of service**

Can shared print repository provide 24-48 hour delivery for under $15 per item?

…for an adequate volume of material to justify recurring annual fee?

Supply Factors

Consumer library must have sufficient confidence in on-demand availability of shared print inventory to justify relegation or discard

Can shared print repository guarantee a retrieval 'failure rate' ≤ ratio of unmet requests (NoS) at consumer library?

Service Level Factors

Consumer library must have **sufficient confidence in preservation guarantees** of shared print repository to enable significant reduction in inventory

Can shared print repository guarantee a loss rate and environmental conditions that meet community norms?

Absence of audit framework/agency may constitute 'reverse salient'

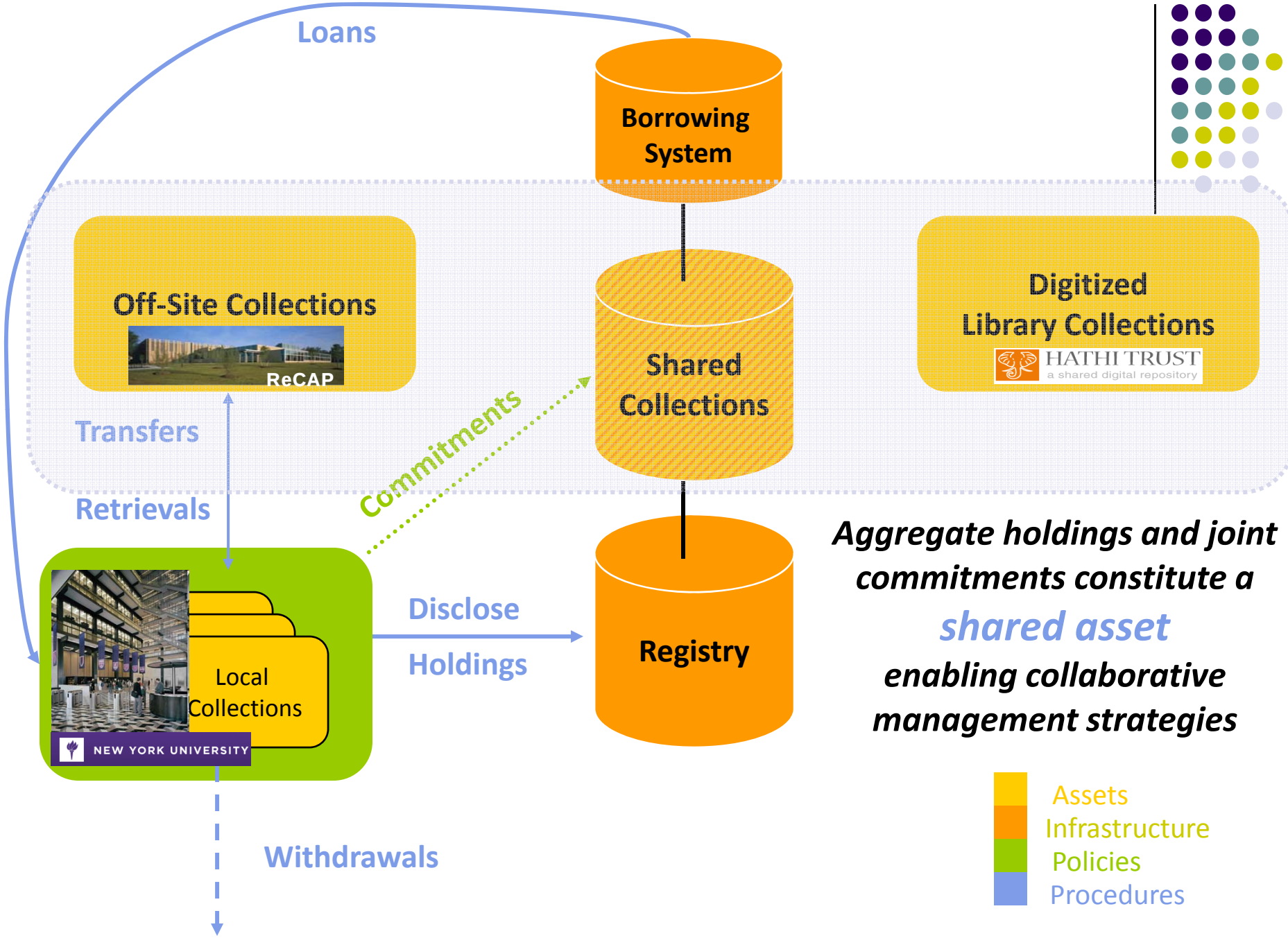
. . . not without peril

June 19th, 2008

When Cloud Seeding Goes Wrong: Cement Chunk Falls From the Sky

Written by Ian O'Neill

The Russian Air Force, during a mission to clear the skies of potentially rain-filled clouds, dropped a mixture of silver iodide, liquid nitrogen and cement powder in an attempt to seed the clouds. This form of climate modification is common practice in Russia, when attempting to engineer dry days on public holidays and special events in Moscow. However, during the cloud seeding operation last week, cement dropped from one of the aircraft failed to fragment when falling through the air, falling as a solid mass, crashing through the roof of a Moscow suburban home...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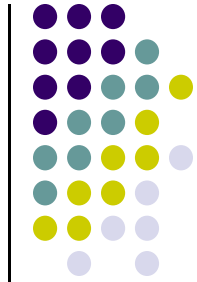

"...the patient art of 'growing infrastructures' will depend less on the Herculean figure of the master engineer, and more on a series of ***pragmatic, modest and strategically informed interventions***, undertaken on the basis of imperfect knowledge and limited control."

P. Edwards et al, Understanding Infrastructure (2007), p. 39