

NATIONAL KNOWLEDGE COMMISSION

TERMS OF REFERENCE

- Build excellence in the educational system to meet the knowledge challenges of the 21st century and increase India's competitive advantage in fields of knowledge
- Promote creation of knowledge in S&T laboratories
- Improve the management of institutions engaged in intellectual property rights
- Promote knowledge applications in agriculture and industry
- Promote the use of knowledge capabilities in making government an effective, transparent and accountable service provider to the citizen and promote widespread sharing of knowledge to maximize public benefit

ACTIONS - GENERAL

- Motivate, mobilize, support and encourage existing and new knowledge initiatives at various levels in the country
- **Help build knowledge infrastructure and institutions**
- Focus on knowledge for
 - Individual advancement
 - National development
 - Security
- Use knowledge to leverage new economic opportunities from globalization

Scaling Excellence in Education and Research

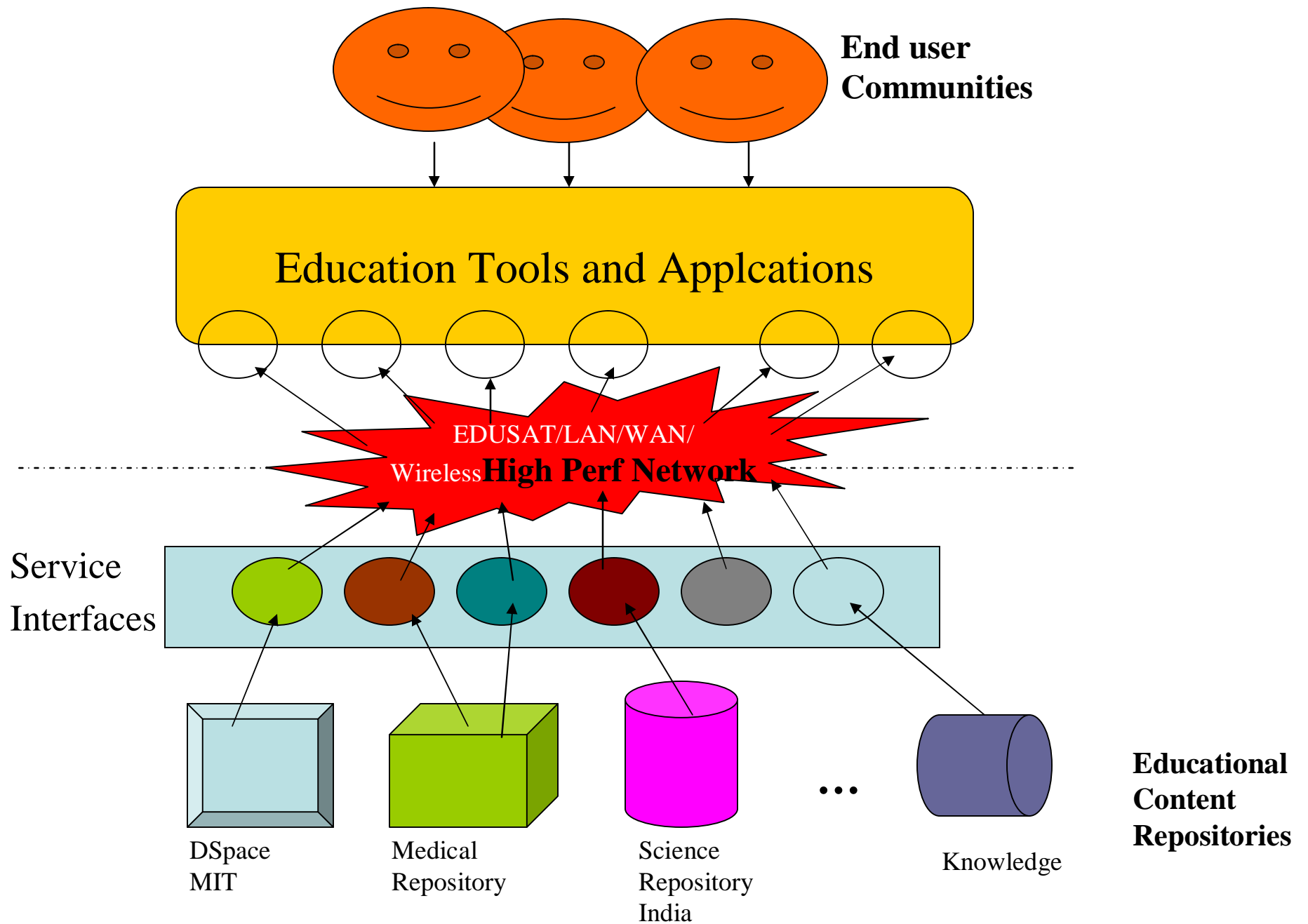
- Extensive Access to Quality Educational Resources
 - For faculty development
 - Direct education (formal and non-formal)
 - Meet hr (kw) needs in all sectors
- Quality Educational and Research Interactions
- Global Participation in Research and Education
 - Sharing
 - Benchmarking

Robust, High Performance Network is Central!

- **High performance networks** not only for advanced research but also **critical infrastructure for educational quality and access.**
- **Network developed and delivered Education will be the mainstream modality**
- Significant step forward in establishing India as a key participant in the Global Knowledge economy.

Opportunities

- Grids and Portals (Domain)
 - Research
 - Education
 - Knowledge Sectors
- iLab
 - Order-of-magnitude higher number of educationally meaningful laboratory experiments through the Internet based on hardware dispersed around the world
- Open Educational Resources
 - **OCW**: large pool of shared and open content (Rich-- visualization)
 - Mednet



Desired Outcome for Internet2

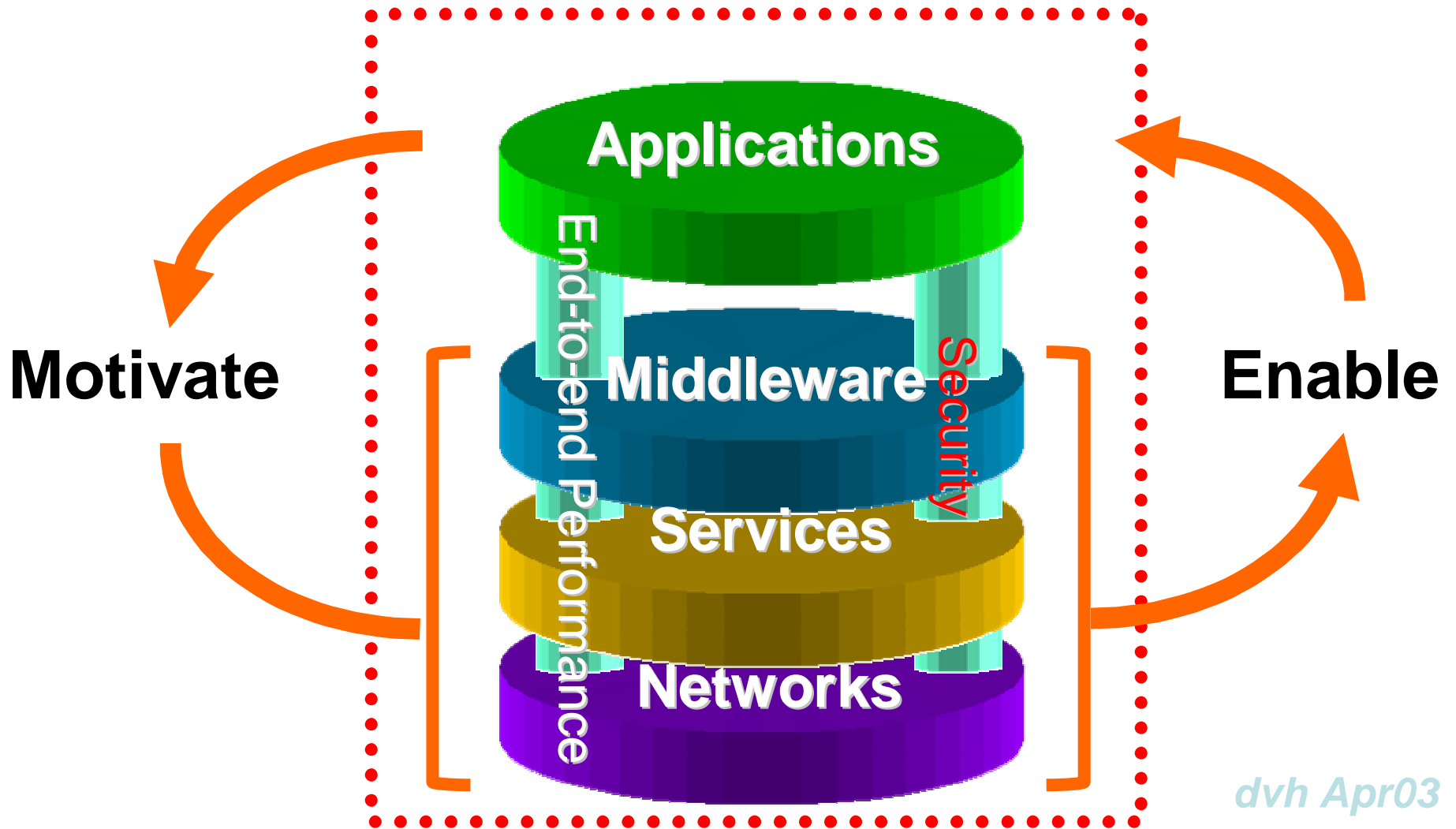
There is a multidimensional “balanced portfolio” of Internet2 Apps

- Impacting both broad and narrow user communities through both
 - Cross-cutting initiatives with broad applicability
 - Rich Collaboration, Digital Libraries, Enhanced Teaching & Learning, Reusable Application Toolkits
 - All disciplines addressed with specific or general applications
 - Health sciences, Arts & Humanities, Social Sciences, Engineering, High Energy Physics, Space/Ocean/Earth Sciences, Languages
- Representing all stages of maturity along the applications lifecycle, from demo all the way to full production in their target community -- with some reaching standardization and productization
- Using and challenging diverse characteristics all layers of the advanced Cyberinfrastructure in different ways
- Involving different kinds of partnerships
 - Industry, international, organizations, governmental agencies...

Internet2 Applications Priorities

- Advance a vision for applications that motivate and, in turn, are enabled by cyberinfrastructure
- Promote large scale adoption of common applications
- Address the critical needs of research subcommunities
- Maintain openness to innovation at the edge
- Address strategic priorities for educational access and quality

Internet2- System View

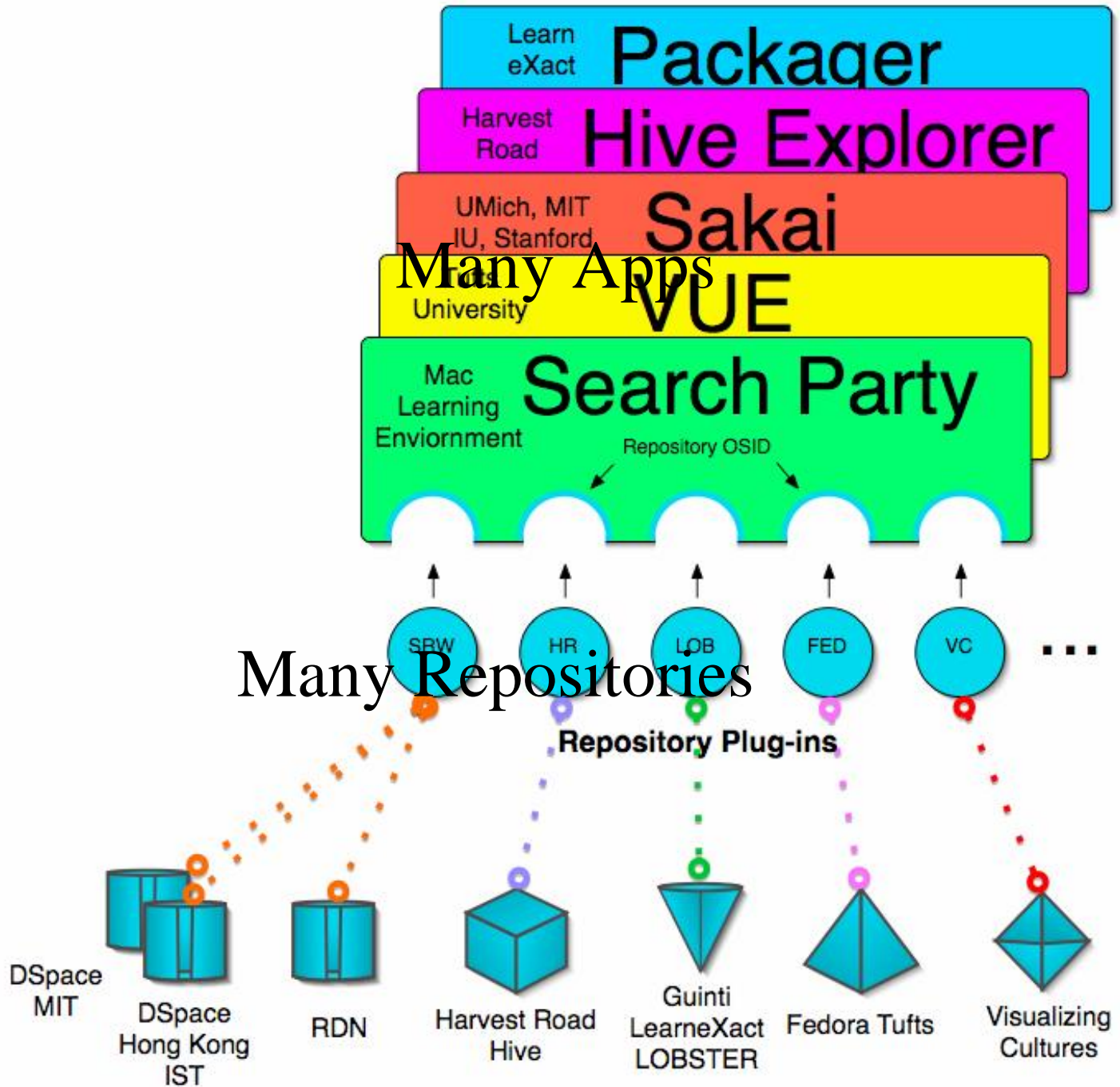


Vision for Internet2 Applications

Internet2 Applications are recognized as key enablers of strategic improvement in higher education's missions of research, teaching & learning and public service

Educational Value Proposition

- Quality Content
- Proximities
 - First Hand; Learner-Teacher; Research-Teaching
- Choice
 - time, location, modality
- Highly Interactive Experiences
 - Experience; Project based; Collaborative
- Transformations in Form
 - Traditional → Virtual
- Transformations in Function
 - Knowing → Affecting and Changing
- **A pedagogy of abundance**
 - **Connected; Continuous; Community**
- **Sustainable Ecology of Educational and Research Opportunity**

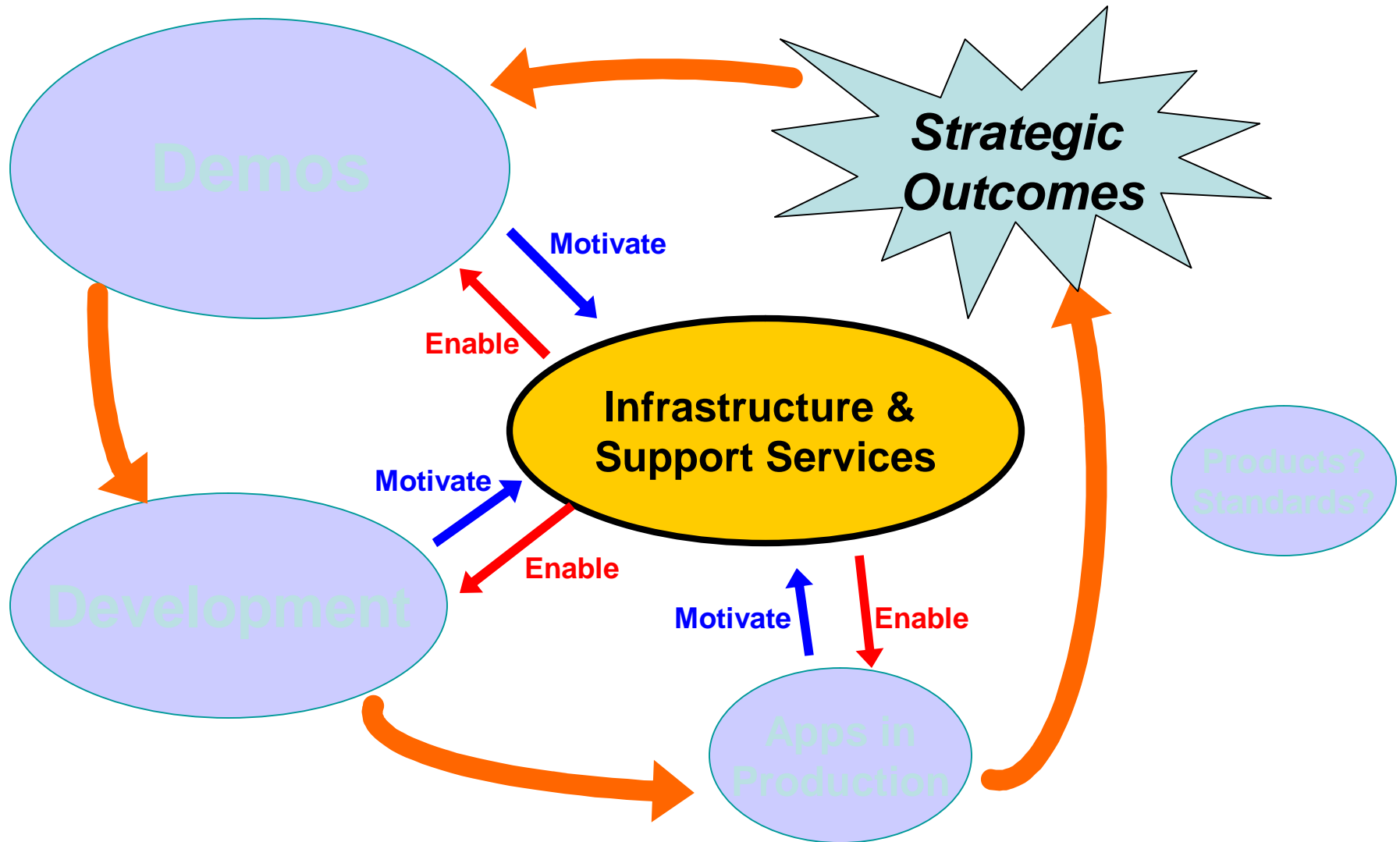


- Endgame:
- Position in Global Know Economy
- Raise the Ceiling to Raise the Floor
- Peering in performance
- End-End Value

- Value Proposition:

- What will it take:
 - Socializing the value proposition

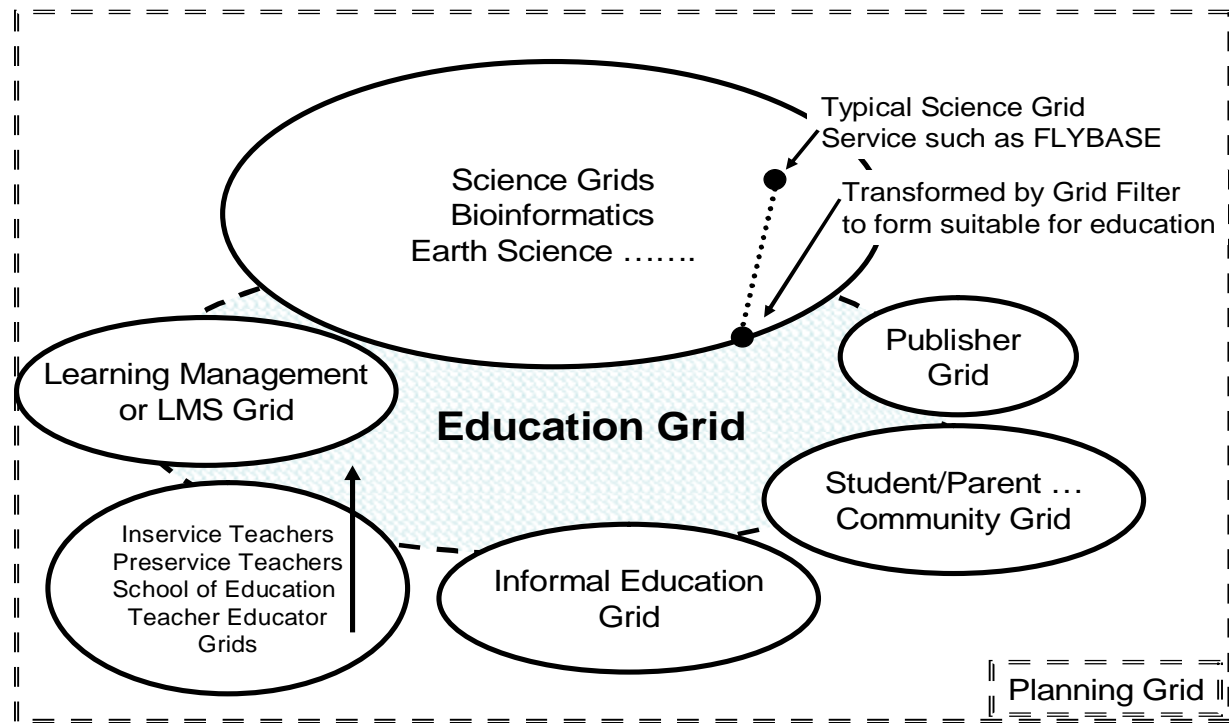
Advanced Apps Lifecycle V.02



Components of I2 Applications Strategy

- Vision
 - Must be a vision for entire Internet2 Applications “enterprise”
- Outcomes
 - Assessable outcomes that advance the vision
- Action plan
 - Requires full engagement of the full I2 community to achieve the outcomes that advance the vision
 - Integration with Internet2-wide planning and resource management
 - Involvement of all Internet2 components: members, management, staff, partners, councils, working groups...
 - Ongoing monitoring, feedback and updates

"field of dreams" a grid of grids:



iLabs at MIT



Flagpole (*Civil Eng.*,
deployed 2000, inactive)



Polymer crystallization
(*Chem. E.*, *deployed 2003*)



Shake table (*Civil Eng.*, *to be deployed early 2004*)



Microelectronics device characterization
(*EECS*, *deployed 1998*)



Heat exchanger (*Chem. E.*, *deployed 2001*)

Open Content

The logo for MIT OpenCourseWare, featuring the text "MIT OPEN COURSEWARE" in a bold, sans-serif font. "MIT" is in black, "OPEN" is in red, and "COURSEWARE" is in black. Below this, "MASSACHUSETTS INSTITUTE OF TECHNOLOGY" is written in a smaller, red, sans-serif font.

MIT OPEN COURSEWARE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

- **Concept: Make the basic teaching materials for 2,000 MIT subjects available on the Web to teachers and learners everywhere free of charge.**
- **MIT has committed to OCW as a permanent, sustainable activity**

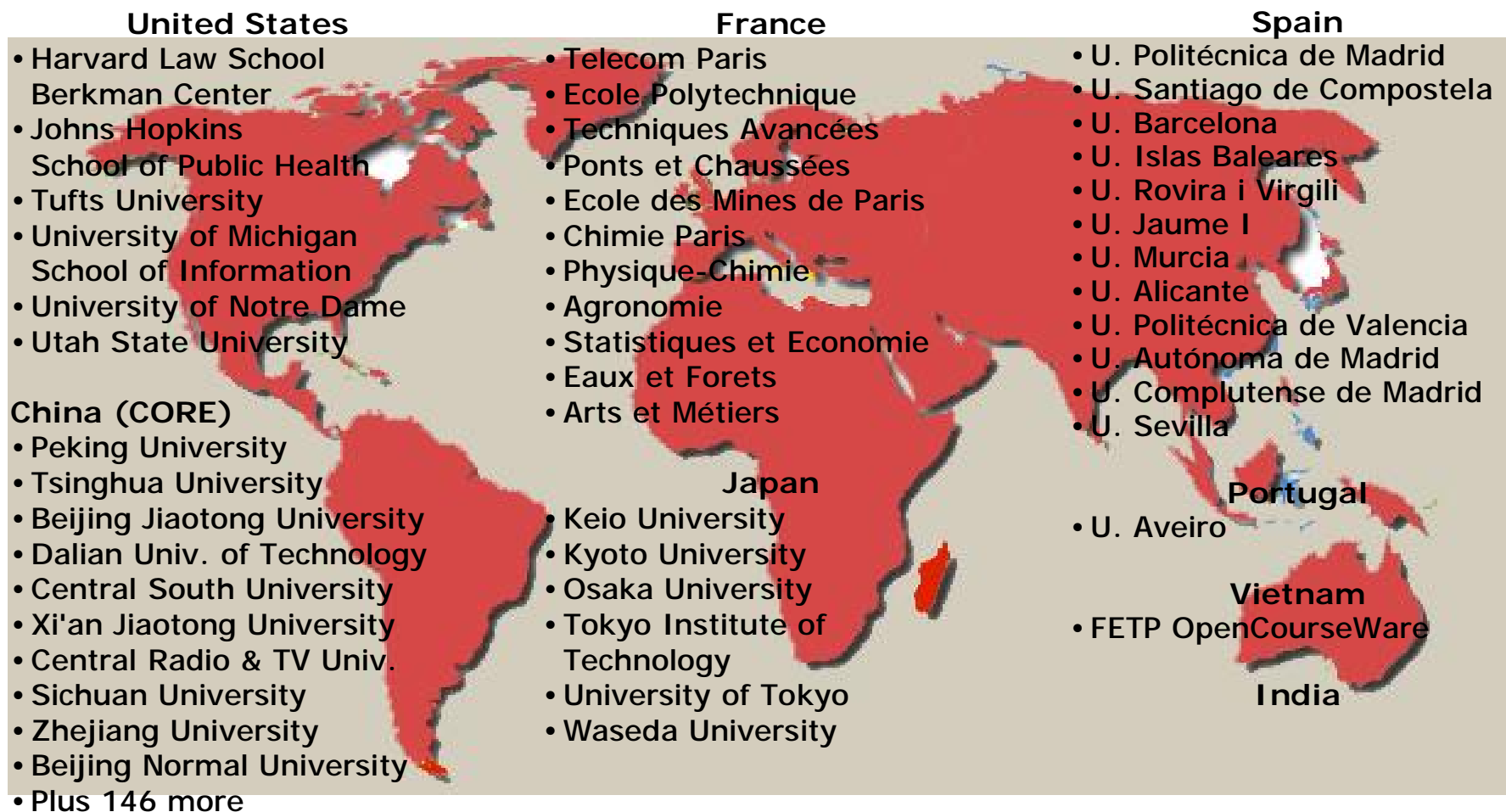
Access Data: Countries with most hits in October 2005 (*outside of U.S.*)

Country		Web Hits
1	China	2,517,286
2	India	1,754,562
3	Canada	1,120,502
4	United Kingdom	958,607
5	South Korea	744,989
6	Taiwan	696,804
7	Brazil	664,815
8	Germany	528,135
9	Turkey	527,048
10	Japan	510,896

Country		Web Hits
11	Italy	491,548
12	Australia	480,520
13	France	441,503
14	Vietnam	422,667
15	Iran	379,500
16	Spain	347,462
17	Portugal	316,773
18	Mexico	307,735
19	Sweden	278,841
20	Singapore	244,598

OCW Movement — Other opencoursewares

Emerging “opencoursewares”



A world map with red highlights on several countries. Text boxes listing universities and institutions are placed over these highlighted areas. The countries and their associated institutions are: United States, France, Spain, China (CORE), Japan, Portugal, Vietnam, and India.

Country	Institutions
United States	<ul style="list-style-type: none">• Harvard Law School Berkman Center• Johns Hopkins School of Public Health• Tufts University• University of Michigan School of Information• University of Notre Dame• Utah State University
France	<ul style="list-style-type: none">• Telecom Paris• Ecole Polytechnique• Techniques Avancées• Ponts et Chaussées• Ecole des Mines de Paris• Chimie Paris• Physique-Chimie• Agronomie• Statistiques et Economie• Eaux et Forets• Arts et Métiers
Spain	<ul style="list-style-type: none">• U. Politécnica de Madrid• U. Santiago de Compostela• U. Barcelona• U. Islas Baleares• U. Rovira i Virgili• U. Jaume I• U. Murcia• U. Alicante• U. Politécnica de Valencia• U. Autónoma de Madrid• U. Complutense de Madrid• U. Sevilla
China (CORE)	<ul style="list-style-type: none">• Peking University• Tsinghua University• Beijing Jiaotong University• Dalian Univ. of Technology• Central South University• Xi'an Jiaotong University• Central Radio & TV Univ.• Sichuan University• Zhejiang University• Beijing Normal University• Plus 146 more
Japan	<ul style="list-style-type: none">• Keio University• Kyoto University• Osaka University• Tokyo Institute of Technology• University of Tokyo• Waseda University
Portugal	<ul style="list-style-type: none">• U. Aveiro
Vietnam	<ul style="list-style-type: none">• FETP OpenCourseWare
India	