Integration of Cloud Computing and Cloud Storage Overview and Introduction

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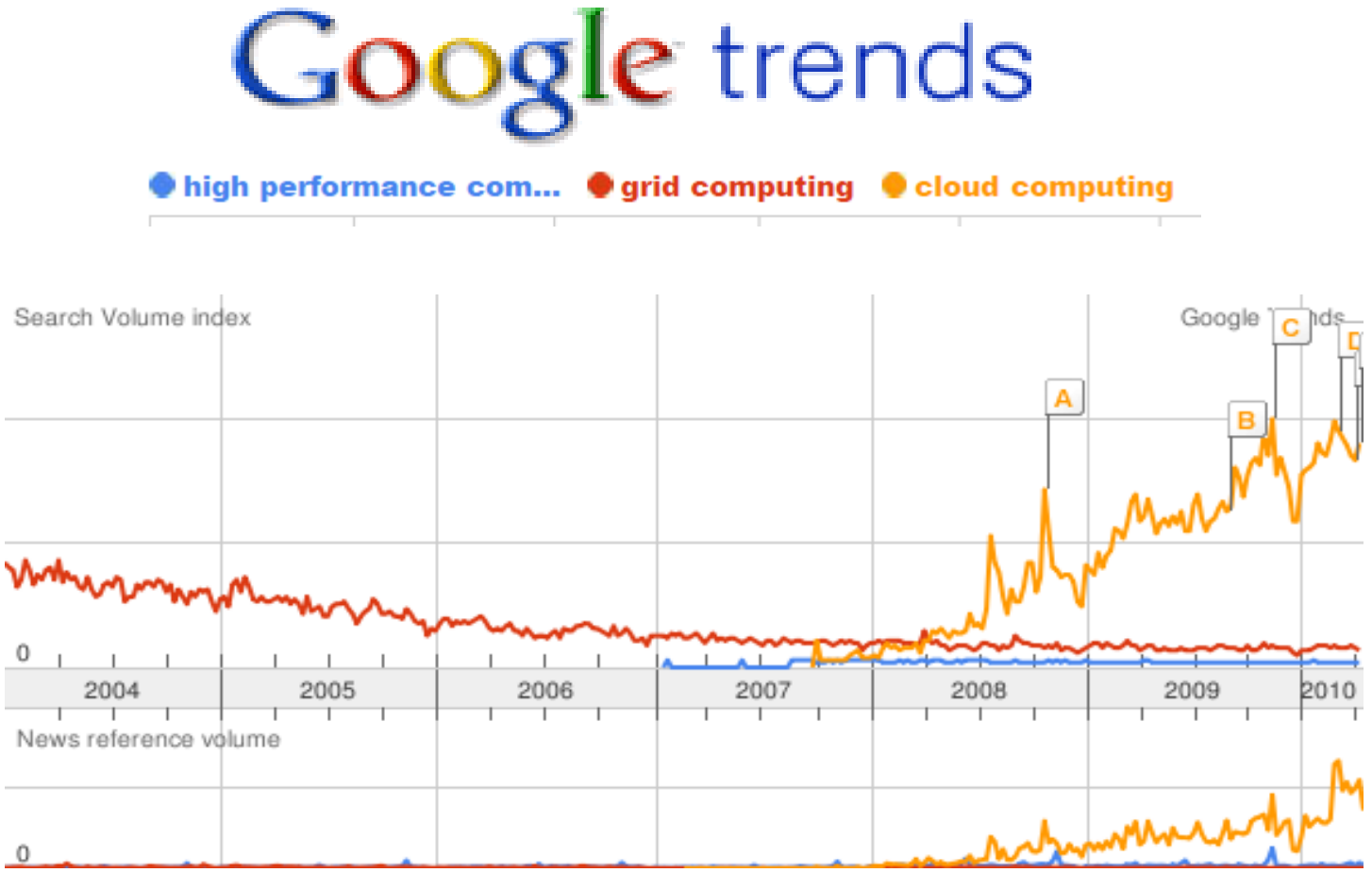
Level of General Interest in Cloud Computing



Where Would One Look To Find Cloud Computing?


Engine Yard
IronScale
NETSUITE
ONE SYSTEM. NO LIMITS.
Google App Engine
Microsoft
Joyent
CloudTest/Soasta
appzero
HOSTING.com
Join Now
developer.force.com.
Get a Free Developer Edition Account
SAP Business ByDesign
VCL
SAVVIS
Salesforce
IBM
workday.
3tera
GO GRID
amazon web services
CLOUDWORKS
10gen
RIGHTSCALE
Windows Azure
MOSSO
the hosting cloud

Plus Numerous Others…….

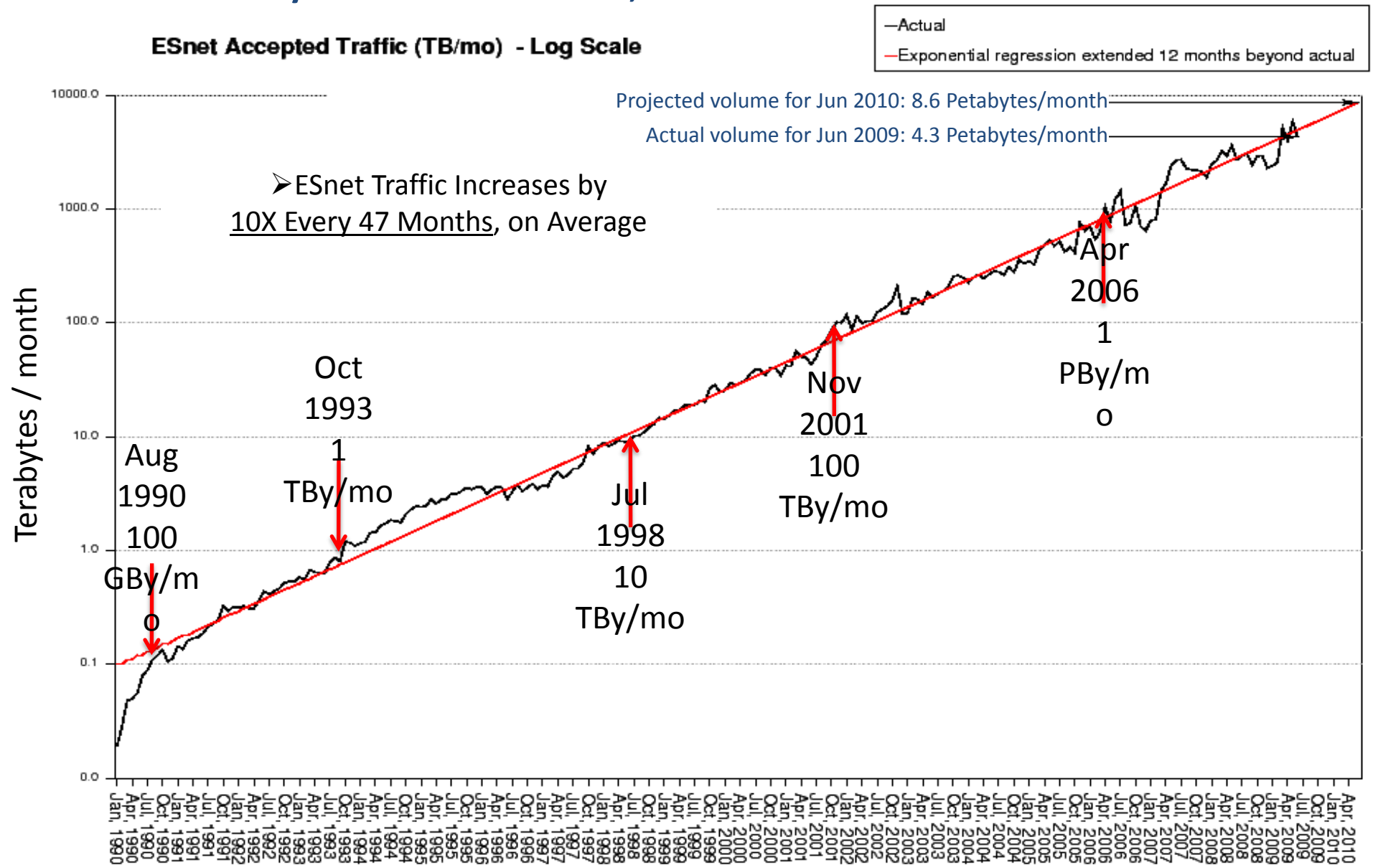
So many choices…

Picking a Cloud Option is Only The First Step

- Data are not always located near the computation and analysis infrastructure
  - There is data available ….large quantities of data …
  - In many geographically different places…
  - With millions of files holding that data
- Goal is to extract useful information from data
- These large data collections need computational systems for analysis
- One option is to move the data to the compute location

Observation of Current and Historical ESnet Traffic Patterns

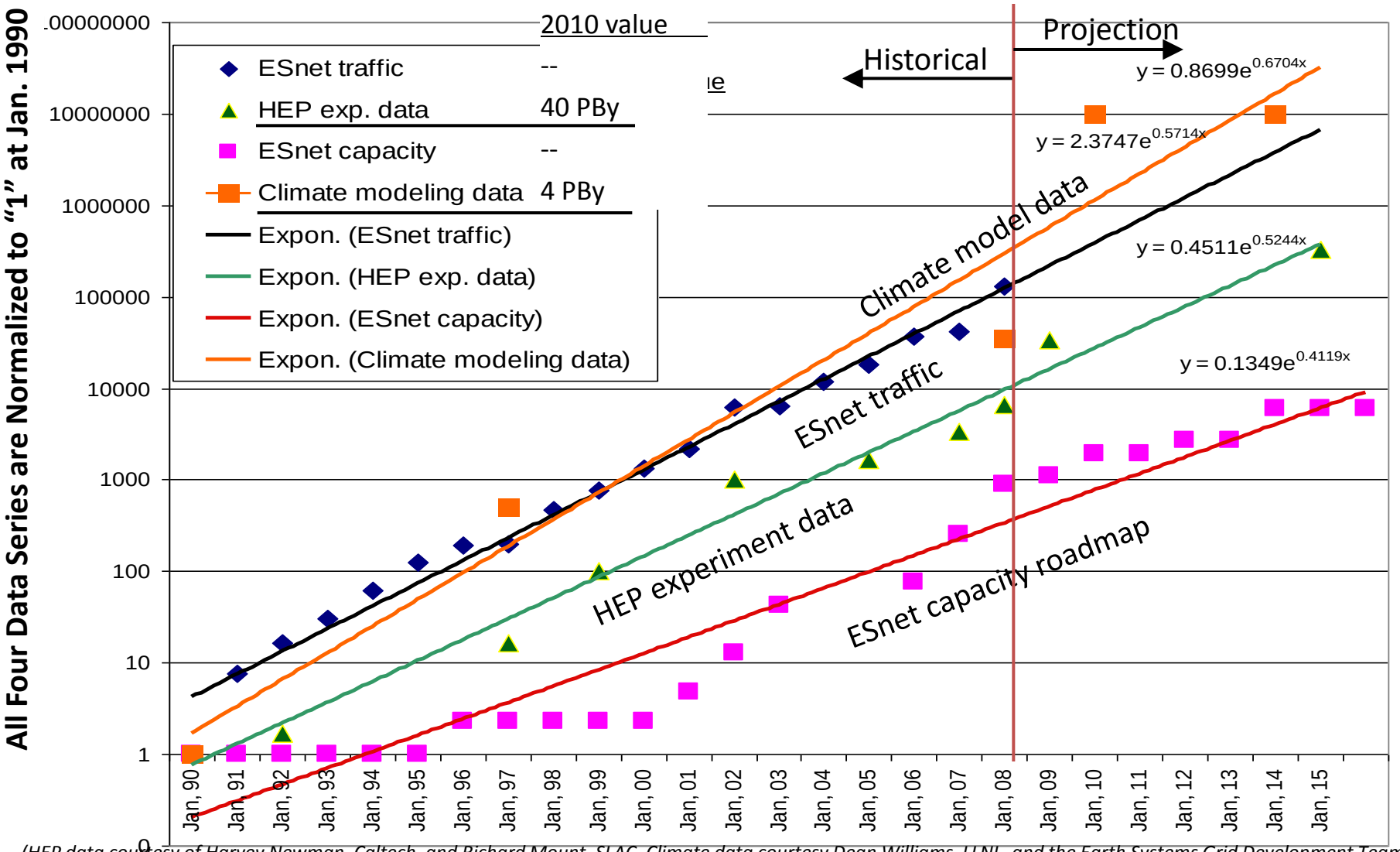
Courtesy of William Johnston, LBL



Log Plot of ESnet Monthly Accepted Traffic, January 1990 – June 2009

Network Traffic, Science Data, and Network Capacity Long-term trends

Courtesy of William Johnston, LBL



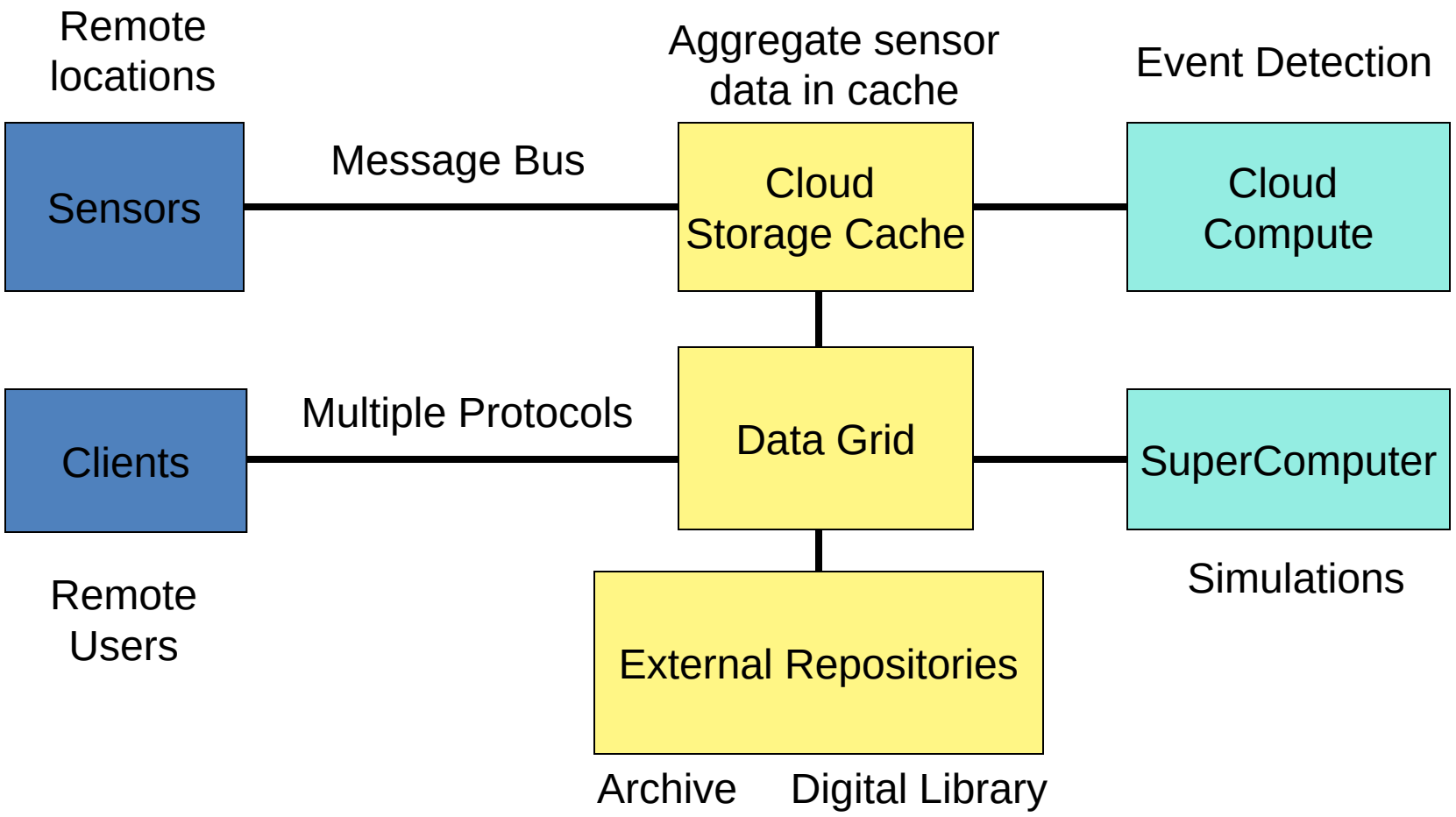
(HEP data courtesy of Harvey Newman, Caltech, and Richard Mount, SLAC. Climate data courtesy Dean Williams, LLNL, and the Earth Systems Grid Development Team.)

In The Tutorial This Afternoon

- What are the types of options for cloud computing
- How does one select a cloud computing option from among the numerous choices
- What are the important design questions to ask when constructing a coherent cyberinfrastructure of computing and data

Data Grids

Policy-based Data Management



Questions