Cloud Computing and its Relevance to Distance Learning

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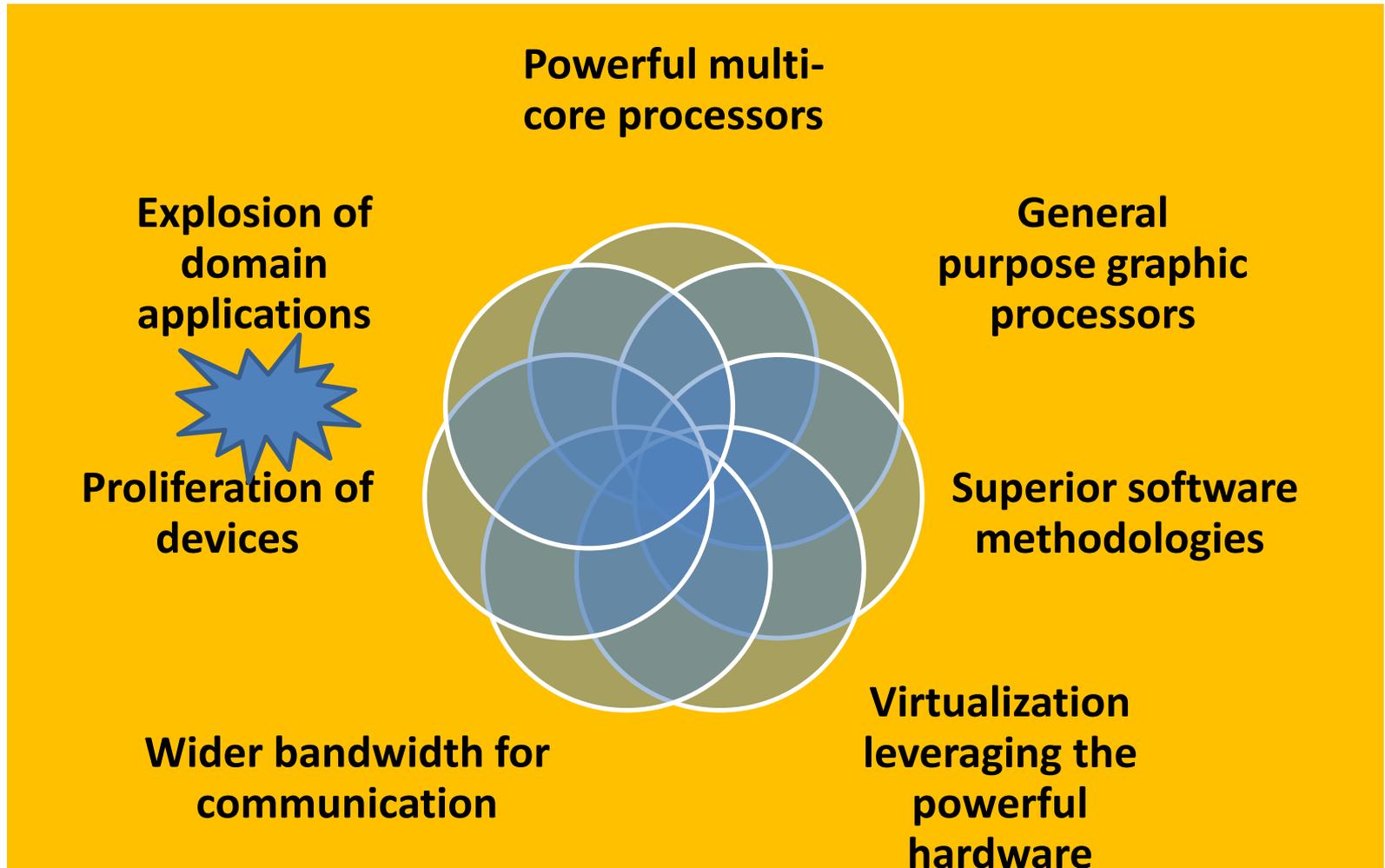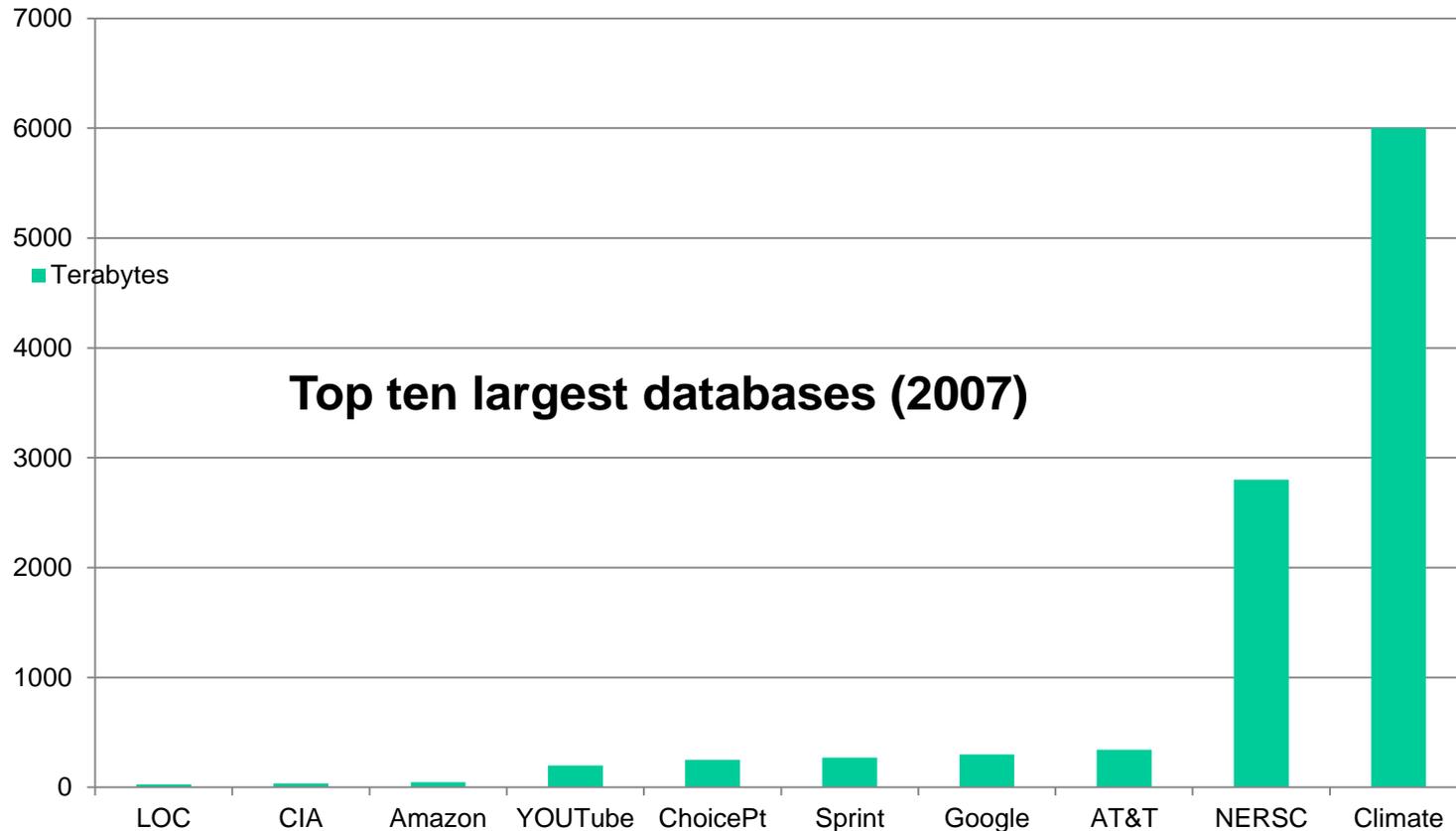
Jessica Poulin

What is cloud Computing?

- How is it different from web-based application or mobile application?
- Is it here to stay?
- Big data and cloud relationship?
- How DO students learn on the cloud?
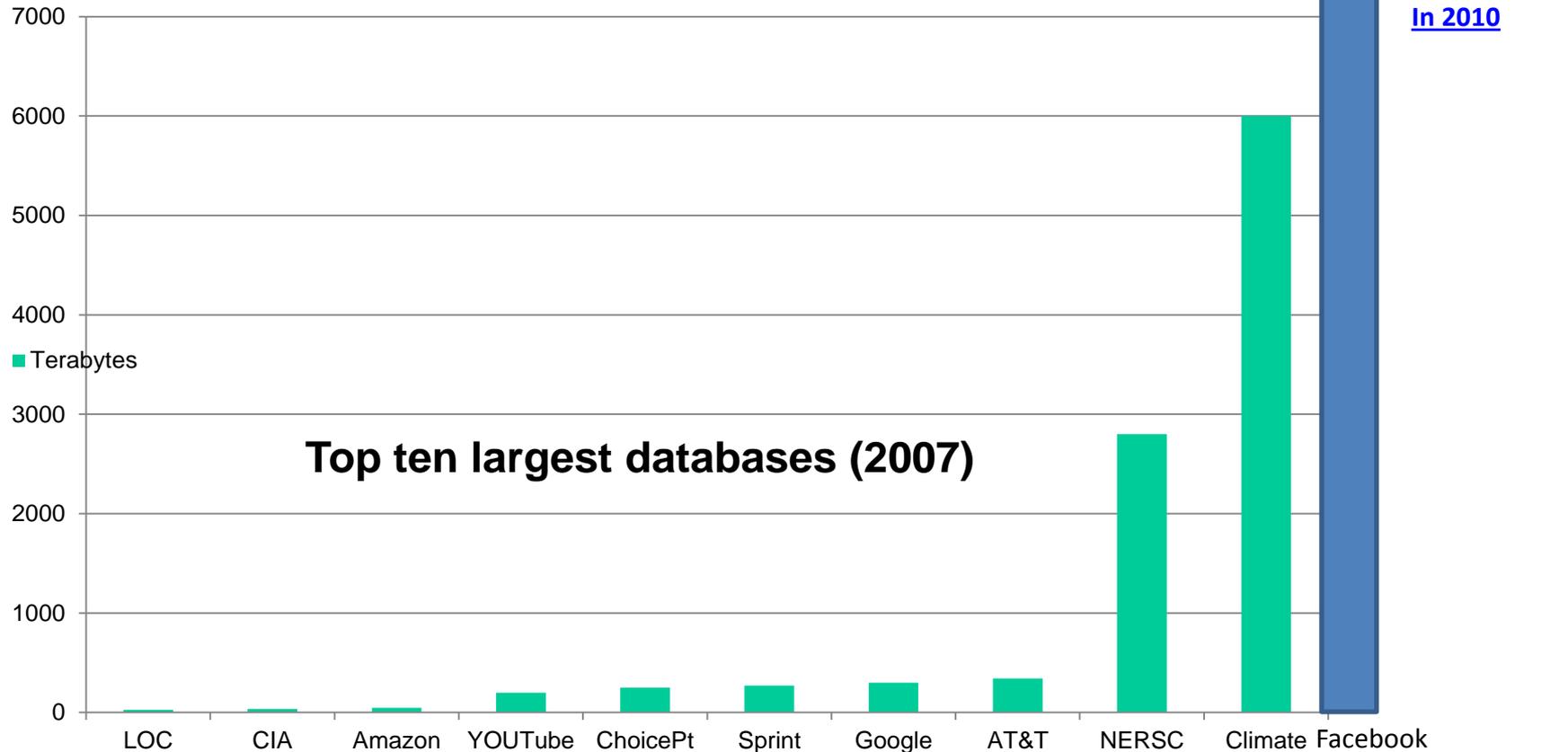- BIO & CSE collaboration
- Latest URL:
  http://popfrontpage.appspot.com/

Introduction: A Golden Era in Computing

Powerful multi-core processors

General purpose graphic processors

Superior software methodologies

Virtualization leveraging the powerful hardware

Wider bandwidth for communication

Proliferation of devices

Explosion of domain applications

Top Ten Largest Databases

Top ten largest databases (2007)

Ref: http://www.focus.com/fyi/operations/10-largest-databases-in-the-world/

Top Ten Largest Databases in 2007 vs Facebook 's cluster in 2010

21 PetaByte In 2010

Top ten largest databases (2007)

Legend: ■ Terabytes

Categories (x-axis): LOC, CIA, Amazon, YOUTube, ChoicePt, Sprint, Google, AT&T, NERSC, Climate, Facebook

Y-axis: 0, 1000, 2000, 3000, 4000, 5000, 6000, 7000

Ref: http://www.focus.com/fyi/operations/10-largest-databases-in-the-world/

Basic Migration Drift NR-Mating Mutation Selection M+S   Graph

Full Screen

Migration

Population: 200

Frequency of
A_1 allele (Red):   0.32

Frequency of
A_1* in Migrants: 0.53

Fraction of
Migrants(M):   0 |————————| 1   0.1

Dominance: RED

Step n generations forward: 1   10   100   1000

Next   Clear

Result

⬤ 129 $f(A_1)$: 0.406 $N(A_1A_1)$: 33

🔵 71 $f(A_2)$: 0.594 $N(A_1A_2)$: 96

Current generation: 15 $N(A_2A_2)$: 71

Check for Hardy-Weinberg

Google App Engine Load Monitoring on 10/11/2010