# GEC 9 Demonstration
# TransCloud: The Next Architecture for the Cloud

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**November 3, 2010**
[http://www.icair.edu](http://www.icair.edu)
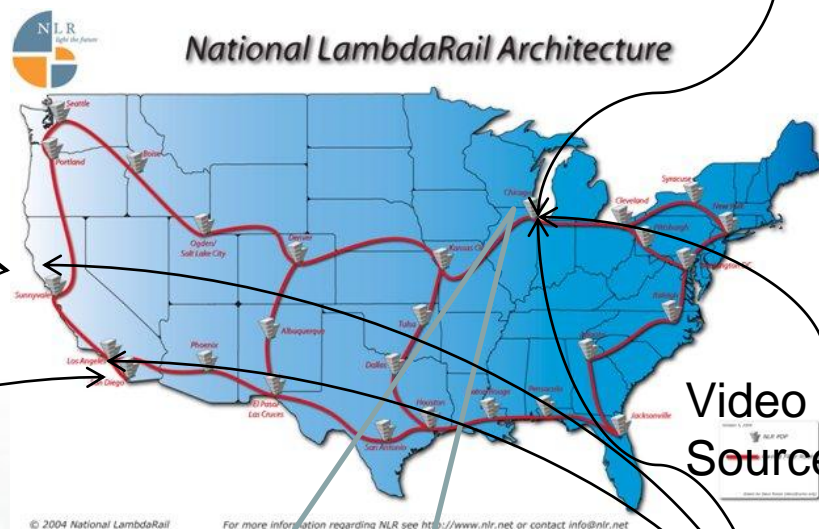[http://www.geni.net](http://www.geni.net)

- A Cloud where services migrate, anytime, anywhere in a world where distance is eliminated

    - Joint project between GENICloud and iGENI

    - GENICloud provides seamless interoperation of cloud resources across sites, administrative domains

    - iGENI utilizes private networks of intelligent devices to offer low-latency, high-bandwidth communication between physically-distant infrastructures

Transcoding cloud 1

Transcoding cloud 2

•GENICloud: set of protocols, standards, management software that enables interoperation of distinct cloud resources

• iGENI: Advanced distributed global environment that enables dynamic creation of communication services, including those based on rapid migration of virtual network and cloud resources

National LambdaRail Architecture

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Video Sources
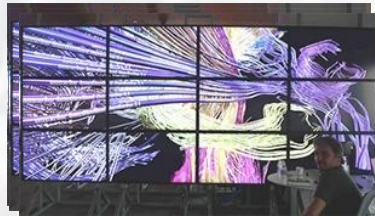
OpenFlow Switches

Transcoding cloud 3

UCSD GENICloud

HP Labs OpenCirrus GENICloud

iCAIR GENI Cloud

- GENI has been an indispensible resource for the Transcloud

  – GENI Standard (Slice-Based Facility Architecture) is the key to interoperation of multiple clouds and forms the critical federation standard

  – Deep network programmability and long-distance L2 networking are vital to seamless migration

- Key Future Goals

  - Hosting researchers on the TransCloud platform

  - Key Resource for e-Science, network science

  - Intercontinental expansion of the TransCloud