



Collaborative Class Room

Fourth Garuda Partners Meet

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Bangalore

November 28-29, 2008

Outline



- Objectives/Goals
- Experiments
- Planned Activities

Objectives/Goals



- To implement advanced collaborative grid-based software for learning (Access Grid over Globus)
- To experiment and evolve interfaces for leveraging the network infrastructure for grid middleware and services specifically for e-learning (QoS, Multicasting and High Quality video transmission)
- To conceive and architect Grid based learning mechanism for Health education

Motivation

- Collaborative Tool (Access Grid)
- High quality video transmission (DVTS)
- Virtual Class Room Set-up
- Meta data based Content Search

Experiments



- Virtual Class room set-up using Video Conferencing between C-DAC KP and EC on Computer Networks Course
- Observations
 - Students have shown interest to participate in the course
 - Necessary equipment has to be set-up every time lecture is scheduled and expert's availability
 - Instructor Centric Approach
 - Interaction between students and faculty is good (Synchronous)
- Recommendations
 - Flexible Options
 - E-Learning (anytime, anyplace) is to be justified
 - LMS usage

High quality video experiments using DVTS



- Study of network set-up and required physical infrastructure
 - Different Cameras
 - Bandwidth (10 Mbps)

- Observations (23 Hrs)
 - Quality is not up to the mark
 - Packet Loss is observed
 - Insufficient Bandwidth

- Recommendations
 - Carryout further study on effective usage of DVTS
 - Effectiveness of DVTS over 30Mbps line
 - Multicasting of video transmission

Summary



- Two workshops on Computer Networks have been conducted over Garuda Grid with C-DAC, Knowledge Park and ERNET. Using Moodle as LMS and video conference facilities and setting up the virtual network lab
- Conduction of Computer networks course for C-DAC, ACTS and C-DAC, FPGDST students
- Conduction of PKI course for ERNET
- Experimentation with High Quality video transmission (Point to Point) using DVTS has been carried out over LAN & WAN.
- Installation of Access Grid within one-site (LAN) is done.



Planned Activities

Virtual Class Room Set-up



■ Objectives

- Setting up of LMS over Garuda Grid between C-DAC KP, Pune & Hyderabad to deliver video lectures
- Online Self Assessment
- Student – Faculty Interaction
- Convenience to the faculty as well as students
- Justification of using LMS

Contd..



■ Use Case

- Live Video lectures will be transmitted over Garuda link to the students in the class room using LMS.
- Expert can pause the live transmission and can answer student's queries
- An additional reference material viz., Articles, PPTs etc., through LMS can be provided as part of course.
- Students after accessing the video content on their PCs later can give self assessment test on respective subjects daily.

Contd...



- Implementation of Access Grid over WAN
- Meta data based Content Search Facility
- Standards Conformant LMS with Service Oriented Architecture is to be explored. Identified SOA based e-Learning Tool (ILIAS) and exploring its functionality
- Integration of Standards Conformant Assessment Module

Thank You