CANARIE

CA*net 4

Advanced Applications Program

Quarterly Progress Report

CANARIE

Project Information

Lead Contractor:	McGill University			
Project Name:	Shared Spaces		Project #:	AAP-03
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Participant 1:	University of British Columbia			
Participant 2:	BCnet			
Date:	August 10, 2005.			
Claim Period:	January 1, 2005	To:	June 30, 2005.	

Impact Report

The project enabled the continued employment of two full time positions.

An excellent collaboration was established among the networking staff of Canarie, the two universities and the two ORANs involved in the project which enabled the development of a comprehensive plan for 10Gig connectivity designed to accommodate not only this project, but also other projects requiring such connectivity now and in the future in British Columbia and Quebec.

Because this was the first milestone of the project, it was too early for there to be other impacts.

Project Activities

1. Schedule

The original intention was to first establish uncompressed standard definition video transmission between McGill and the University of British Columbia before moving on to work on high definition video transmission. The assumption was that software development for high definition video transmission would take until late December 2005 and that network testing could begin in the meantime using standard definition video.

The original plan neglected to take into account that uncompressed standard definition video transmission requires gigabit connectivity that was not available at the UBC end and would not be ready by Milestone 1 due to the necessity to install fiber. At the same time, progress on

software development for high definition video transmission proceeded much faster than had been expected. At Milestone 1, the project was finalizing the specifications for the first two new servers to handle high definition video and it therefore seemed counter-productive to stop that work and spend time on shipping to UBC old servers for standard definition that would be used very briefly if at all.

At Milestone 1, the video capture method had been selected although this was not supposed to be completed until Milestone 2.

Canarie had agreed to fund separately the installation of network hardware and fiber locally at each end to handle the 10 Gigabit connectivity necessary to handle three simultaneous uncompressed high definition video feeds. It had been assumed that prices for 10 Gig equipment would rapidly decrease so that the funding required would be modest and planning times short. This price reduction did not occur and carefully planning to ensure maximum benefit at minimum cost necessitated far more lengthy consultations than had been foreseen among network personnel from Canarie, McGill, UBC, BCnet and RISQ. At Milestone 1, a plan had been agreed upon and detailed specifications were being finalized.

So although it may appear as though the project is behind schedule on the establishment of end to end video transmission, it is actually ahead of schedule for the transmission of high definition video.

2. Deliverables

1. Project web site established.
   Complete. The URL is http://www.canarie.mcgill.ca

2. Project staff hired.
   Complete.

3. End-to-End Lightpath infrastructure installed and operational.
   Postponed to Milestone 2. See "Section 1 – Schedule" above.

4. Initial project servers installed and tested at McGill and UBC, successful completion of operations test.
   Postponed to Milestone 2. See "Section 1 – Schedule" above.

5. Standard definition SDI video and multichannel audio operational between McGill and UBC television studios.
   Postponed to Milestone 2. See "Section 1 – Schedule" above.

6. Test setup at McGill of 3 plasma displays connected to high definition cameras.
   Complete. The report is attached as Appendix 1.

7. Plan established for HD video transmission software development process.
   Complete and software development ahead of schedule. See "Section 1 – Schedule" above.

8. Report on proposed solution for multichannel audio echo cancellation or conclusion that it is not feasible.
   Complete. The report is attached as Appendix 2.

9. Report on video capture method selected for development.
   Completed ahead of schedule. The report is attached as Appendix 3.

Updated Project Plan

See "Schedule" above under "Project Activities" for a detailed explanation of changes to the Project Plan. An updated Project Plan for Milestone 2 appears below.

Milestone 2 – December 31, 2005.

1. End-to-End Lightpath infrastructure installed and operational.
2. Initial project servers installed and tested at McGill and UBC, successful completion of operations test.
3. Solution found for HD video to multiple plasma displays in native resolution to maximize quality and minimize latency.
4. Test transmission completed of multichannel audio and single HD video stream to single display between McGill and UBC.
5. Report on network performance during HD video transmission.
6. Progress report on multichannel audio echo cancellation if applicable.
7. Progress report on software development for multicast transmission.

Technological Progress

As reported in the section "Schedule" above under "Project Activities," progress on software development for high definition video transmission proceeded much faster than had been expected with the result that the transmission of a single HD video stream between McGill and UBC is predicted to occur much earlier in Milestone 2 than originally planned. Also as reported above, a comprehensive plan for 10Gig connectivity was completed. Detailed reports on technological progress are attached in the following appendices:

Appendix 1: Report on setup of 3 plasma displays connected to high definition cameras
Appendix 2: Report on multichannel audio echo cancellation
Appendix 3: Report on video capture method selected for development

Communications

There were no communications related to the project that took place during the reporting period.

Web Site Information

http://www.canarie.mcgill.ca