WATCHING THE CLOUDS

Leveraging cloud-based resources to deliver live-streamed video
Take Away

Cheap
Easy
High quality
and it
Scales
Who are we?
Academic Technology Services, Amherst College

Marcus DeMaio
Video Production Specialist
mdemaio@amherst.edu

Aaron Coburn
SysAdmin/Programmer
acoburn@amherst.edu
Live broadcasts

14 student teams, lectures, special events
Student operated/Low cost
Live Streaming

Initial solution

Streaming From Campus ~ Darwin Streaming Server

Webcasting Software ~ Quicktime Broadcaster

Tap Existing Infrastructure ~ Team Camera/Operator
Initial efforts with QuickTime Broadcaster

User limits, bandwidth limits, unstable platform

320 x 240 screen size
15 frames per second
80 concurrent users max

Fall 2008
An experiment running a Wowza streaming server in the Amazon cloud
Commencement 2011

Low budget, easy deployment

480 x 360 900kbps 30fps
~250 concurrent viewers

Server and Licensing fees
$25.06

Commencement 2011
Low budget, easy deployment
Inauguration
October 2011

640 x 360 1000kbps 30fps
Telestream’s Wirecast
Scoreboard, multiple cameras, stills, prerecorded clips
Multiple devices
Live sporting events
Basketball and ice hockey 2011-2012
February 25-26, 2012

NESCAC Semi & Final Games
Men’s & Women’s Basketball

Total Cost = ~$200
March 3-4, 2012

Men’s Hockey, Men’s & Women’s NCAA Basketball Tournament

Total Cost = ~$250
CONCURRENT VIEWERS BY CPU USAGE

△ 5 Cores

□ 20 Cores

0% 25% 50% 75% 100%

0 250 500 750 1000
STREAMING TO MOBILE DEVICES

Feb. 25-26 (21% Mobile)

Mar. 3-4 (23% Mobile)

iPad

iPhone

(not set)

iPod Touch

Android Devices

Graph showing streaming to mobile devices with bars for iPad, iPhone, (not set), iPod Touch, and Android Devices.
Managing the cloud server

Self-service web application
Managing the cloud server

Turning it on and off
Managing the cloud server

Monitoring statistics
Cheap, easy, professional
And it scales
Questions?

mdemaio@amherst.edu

acoburn@amherst.edu