

ABSTRACT

Cloud computing had been developing lately as software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS). Watching videos, listening to music, even playing game can be done without having a required infrastructure thanks to cloud computing. Game as a service (GaaS) is an developed cloud computing model based on infrastructure as a service model.

On this final project, game as a service cloud gaming server implemented using open-source GamingAnywhere accessed by single or multi user by wire local network (*Ethernet*) or wireless local network (WLAN). Server capture the audio and video frame from the game then encode those frame and deliver those frame to the client. After the client receive the A/V frame, client will decode received frame so the user could play the game and input the control. Control from client is some inputs from keyboard, mouse and joystick will be transmitted to the server cloud. To obtain implemented cloud game system performance, some experiment conducted using three kinds of game and some scenarios along with Quality of Experience experiment to some respondent.

Playing game using server render proved more efficient on resource usage compared playing game using self-render as CPU, RAM and GPU. On CPU Usage just used maximal 25%, on RAM maximal 150 MBs, GPU *Memory* maximal 65 MBs, GPU Usage below 20% and 25 fps on frame rate.

Keyword : GamingAnywhere, GaaS, Cloud computing