

PROJECT INTRODUCTION

Objectives

This project involves the development of OGSA-based Grid Services to centralize the discovery of idling resources, the submission of image rendering jobs, the distribution of the to-be-rendered images and the collation of the already-rendered images for an eventual display to the user.

Project Investigator / Manager

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Period of Project

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Website

<http://www.nyp.edu.sg>

Abstract

Image rendering is a CPU intensive process that often takes too much of a time. The investigators feel that the nature of Grid Computing which allows division of frames of images-to-be-rendered to be submitted for independent renderings across numerous nodes in a Grid network will help speed up the whole process substantially.

PROJECT DETAILS

Description

This image rendering project leverages on an open source rendering tool software called POV-Ray.

There are several important Grid services developed in this project, namely:

- A Grid service to execute image rendering job on a particular node;
- A Grid service to locate available Grid nodes in the network;
- A Grid service to handle transferring of POV-Ray codes to job nodes and pieces of the rendered images from them; and
- And finally, a Grid service to collate all the pieces of the rendered images into one single image result.

Image Rendering Job Submission (with Povray) Result

- Job executed at: s1k39.nyp.edu.sg (Frame 1 to Frame 13) s1k42.nyp.edu.sg (Frame 14 to Frame 26) s1k41.nyp.edu.sg (Frame 27 to Frame 40)	- Image Type : gif
- Total time taken: 40 seconds to complete	- Image Size : 80 (W) x 110 (H)
- Total time takes: 77 seconds to complete (for Non Grid Computing Method usage - running only at www1.nyp.edu.sg)	- Total Frame : 40

The Rendered Image:

