ANEKA

Next Generation Enterprise *.NET* Cloud Computing Platform

ANEKA in Entertainment:
Film Rendering, Special Effects, 3D Gaming, etc.

Maximise ROI
- Leverage idle hardware you already own
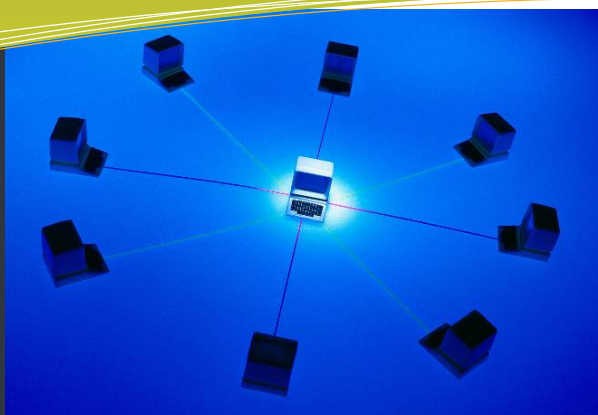- Use Public Cloud resources only when needed

Scalability and Quality
- Ability to scale to hundreds of servers
- Improve images with multiple simulations

Speed time to market
- Shorten editing process

Solution Is ANEKA

Contents

Introducing Manjrasoft Pty Ltd

Manjrasoft Pty Ltd is a start-up business focused on developing Next Generation .NET-based Cloud Computing technologies that ultimately save you time and money.

What else do we do?

- Develop flexible and scalable Building Blocks that are central to Cloud Computing platforms.

- Develop software optimised for networked Multi-core computers to accelerate applications.

- Provide Quality of Service (QoS) and Service Level Agreement (SLA)-based management solutions enabling application scheduling, dispatching, pricing, accounting for enterprise and/or public network computing environments.

Introducing Aneka

The first of Cloud Computing technologies being commercialised is **"ANEKA",** which is a proven platform for .NET-based enterprise Cloud Computing.

ANEKA is a patented (PCT pending) Cloud computing technology building block that enhances:

- **Applications development** through a support for **rapid creation** of legacy and new applications using innovative parallel and distributed programming models.

- Ability of organisations to **harness** computing resources within an enterprise for **accelerating** execution of "compute" or "data" - intensive applications.

Meet the CEO

Dr. Rajkumar Buyya

CEO – Manjrasoft Pty Ltd
Director, GRIDS Laboratory, University of Melbourne, Australia

Dr Buyya is:

- **Globally recognised** *as a thought leader in Utility and Distributed Computing.*
- *Over* **15 years experience** *in research, design and development of high-performance distributed computing systems.*
- *Received the* **2009 IEEE Medal for Excellence in Scalable Computing**, *IEEE Computer Society TCSC, USA.*
- *For Entertainment Sector or other Opportunities, contact Raj at:*
raj@manjrasoft.com

**ANEKA
Your choice
for Enterprise
.NET
Cloud Solutions**

Introducing the
ANEKA
PLATFORM

ANEKA – the first choice for flexible, extensible .NET enterprise Cloud application development and deployment.

ANEKA allows servers and desktop PCs to be linked together to form a very powerful computing infrastructure.

This allows companies to become energy efficient and save money without investing in greater numbers of computers to run their complex applications.

Typical customer environments include: **CAD, 3D Rendering, Drug Discovery, Life Sciences, Data Mining & Investment Risk Analysis.**

ANEKA provides a set of services that make enterprise cloud construction and development of applications as easy as possible without sacrificing flexibility, scalability, reliability and extensibility.

The key features supported by *ANEKA* are:

- A configurable and flexible execution platform (container) enabling -

    - pluggable services;
    - security implementations - multiple authentication / authorisation mechanisms such as role-based security and Windows domain-based authentication;
    - multiple persistence options including RDBMS, SQL Express, MySQL and flat files;

- SDK (Software Development Kit) supporting multiple programming models including –

    - Object oriented thread model,
    - Task model for legacy applications
    - Map Reduce model for data-intensive applications
    - Custom tools such as Design Explorer for parameter sweep studies

- Easy to use management tool for SLA and QoS negotiation and resource allocation.
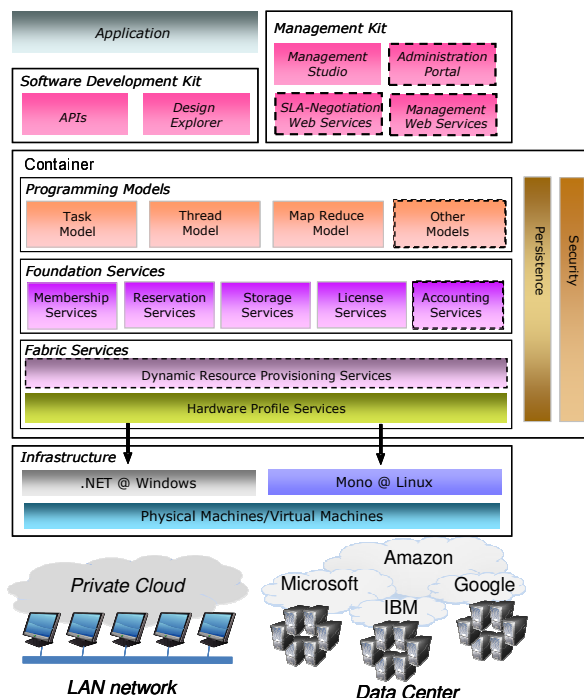
ANEKA TECHNICAL OVERVIEW

Model choice

ANEKA offers four programming models which are closely aligned to many business and scientfic applications, and also offers the unique ability to add more models as required.

Chose from:

- Aneka task
- Aneka thread
- Map Reduce
- Custom Models

ANEKA is built on a decentralised architecture. Each **ANEKA** node consists of a configurable container which includes information & indexing, scheduling, execution and storage services. **ANEKA** supports multiple programming models, security, persistence and communications protocols.

ANEKA provides a flexibile and extensible environment which runs multiple applications simultaneously and supports complex models and dependencies within those applications.
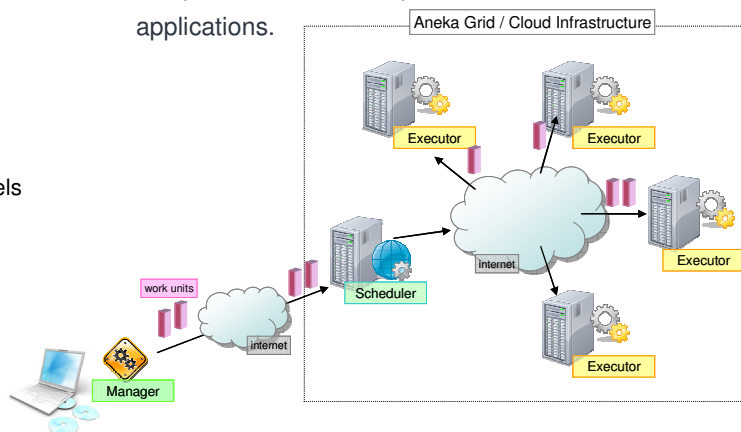
EYE ON IT

Current Industry Trends

"The clouds are gathering"
Nearly every major technology vendor, industry player and academic institutions have signalled or released a cloud computing offering . At Manjrasoft we believe that most large corporate, ISVs and Services providers require both reliable and scalable technologies in a cloud environment. **ANEKA** is a product that meets this need – Try it and See!

"Everyone is talking Clouds"
Who isn't talking clouds? The hype around cloud computing is growing. At Manjrasoft, we believe that cloud computing is here to stay. Many are building enterprise clouds.

Enterprise Cloud Technology Tips

Q: Many of the grid & cloud products only support Linux – what can I use on my Microsoft based systems ?

A: ANEKA is the first .NET-based enterprise cloud computing platform that supports multiple programming models. With most corporates using Windows-based PCs as desktops, a .NET-based solution enables you to seamlessly integrate your desktops with enterprise grid/cloud systems.

If you are looking to develop new .NET distributed computing applications or cloud/grid enable your legacy .NET applications, ANEKA is the product for you. Using ANEKA's DesignExplorer, a corporate developer, a software vendor or a services provider can quickly turn legacy applications into cloud/grid applications. This build and deploy model allows the user to take advantage of the scalable and reliable grid / cloud computing environment provided by ANEKA.

Generic Entertainment ares to use ANEKA include
Film Rendering, Special Effects, 3D Gaming, etc.

Benefits

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Sample Scenario:

Large online games use game portals to provide tournaments and private matches for various computer games. Players choose their favorite game and play with others online. A game controller is responsible for scheduling matches to different game servers, initializing a particular game plugin according to the type of game. A single game controller works well for a small number of simultanious matches, however, does not scale to large number of matches. So the game controller needs to scale for large numbers.

Solution: ANEKA

By making the game controller and plug-ing "ANEKA-aware" the game controller is able to scalle to hundreds or thousands of users. The ANEKA-enabled game controller works   with ANEKA enterprise Cloud infrastructure to achieve higher scalability of the game engine.

ANEKA – GET IT

Recommended Uses

Aneka Thread

An application as a collection of one or more independent threads. A thread model fits better for architecting and implementing new applications, algorithms on clouds as this models gives finer degree of control and flexibility.

Aneka Task

An application as a collection of one or more tasks, where each task represents an independent unit of execution. This model is more suitable for grid/cloud enabling of legacy applications.

Map Reduce

This model is designed to model the MapReduce concept and applicable to processing of large data intensive applications. A MapReduce application is executed in a parallel manner through two phases.

Custom

Develop an application which uses one or all of these models or create a new model with ANEKA.