

**Manjrasoft**

**2010 Asia Pacific New Product Innovation,  
Cloud Management Platforms**





## **Frost & Sullivan's Global Research Platform**

Frost & Sullivan is entering its 49<sup>th</sup> year in business with a global research organization of 1,800 analysts and consultants who monitor more than 300 industries and 250,000 companies. The Company's research philosophy originates with the CEO's 360 Degree Perspective, which in turn serves as the foundation of its TEAM Research methodology. This unique approach enables us to determine how best-in-class companies worldwide manage growth, innovation and leadership. Based on the findings of this Best Practices research, Frost & Sullivan is proud to present the 2010 New Product Innovation in the Cloud Management Platforms domain to Manjrasoft Pty Ltd. for developing the innovative Aneka solution.

## **Significance of the New Product Innovation Award**

### ***Key Industry Challenges Addressed by Product Innovation***

Cloud infrastructure has been gaining immense attention amongst enterprises in the recent years as they offer attractive cost savings in terms of storage and computing resources. With businesses increasingly handling rising volume of data, it has become imperative for them to adopt more efficient storage alternatives. That apart, the role of Information Technology (IT) services in businesses has also witnessed an exponential rise. Consequently, there is also a growing need to optimize the usage of computing resources within enterprises. While the industry has seen the rise of many cloud solutions lately, key issues such as reliability and security have challenged its large scale adoption.

### **Security and Transparency**

Security is a key issue pertaining to cloud environments. Since cloud management platforms involves storage and processing of data on the cloud provided by a cloud vendor, both companies and individual users are, understandably, concerned about the security implications of storing critical data in the cloud. Users operating applications and data on clouds hosted on a private cloud vendor's hardware, inevitably lose a certain degree of control over their data. This poses a major challenge impeding the adoption of cloud solutions amongst users.

### **Reliability and Service Level Agreements**

As cloud computing matures and garners more users, it has become imperative for vendors to support stronger grade of performance reliability. Service Level Agreements (SLAs) assume a key role with respect to this challenge as it inherently serves an able platform for defining user expectations. With companies gearing to leverage cloud

environments for executing their business-critical projects, it is important for the stakeholders to instill stronger levels of reliability amongst users. Consequently, reliability forms a key challenge for the developers in this space.

### **Regulatory, Legal and Compliance Issues**

Companies are required to undergo stringent checks from auditors to ensure adherence to various standards and regulations. But if the application that needs to be certified is running in cloud, it would be difficult to check for compliance as it would not be possible to show that the application running in cloud satisfies the benchmark that has been based on noncloud applications. This issue is yet to be addressed and many companies with such compliance issues are skeptical to adopt cloud platforms. Secondly, there are also legal issues with regard to cloud computing. Some countries have rules asserting that personal data of its citizens such as social security numbers and other related information should not be stored outside its boundaries.

### **Impact of New Product Innovation Award on Key Stakeholders**

The New Product Innovation Award is a prestigious recognition of Manjrasoft Pty Ltd's accomplishments in the Cloud Management Platforms domain. An unbiased, 3<sup>rd</sup> party recognition can provide a profound impact in enhancing the brand value and thereby accelerating the Manjrasoft's growth. As captured in Figure 1 below, by researching, ranking, and recognizing those who deliver excellence and best practices in their respective endeavors, Frost & Sullivan hopes to inspire, influence, and impact three specific constituencies:

- **Investors**

Investors and shareholders always welcome unbiased and impartial third party recognition. Similarly, prospective investors and shareholders are drawn to companies with a well-established reputation for excellence. Unbiased validation is the best and most credible way to showcase an organization worthy of investment.

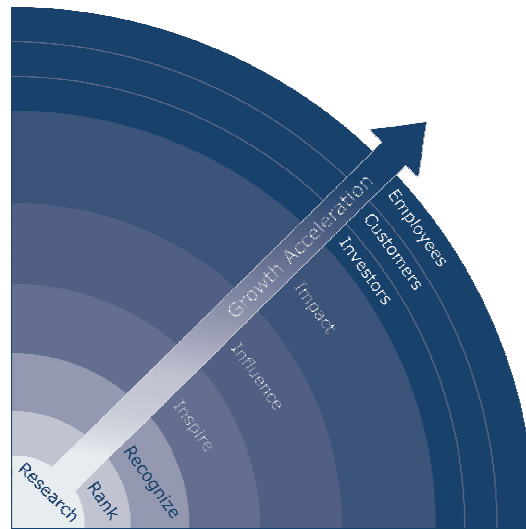
- **Customers**

3rd party industry recognition has been proven to be the most effective way to assure customers that they are partnering with an organization that is leading in its field.

- **Employees**

This Award represents the creativity and dedication of Manjrasoft Pty Ltd's executive team and employees. Such public recognition can boost morale and inspire your team to continue its best-in-class pursuit of transforming Manjrasoft Pty Ltd into an industry leader in the Cloud Management Platforms.

**Figure 1: Best Practices Leverage for Growth Acceleration**



### **Key Benchmarking Criteria for New Product Innovation Award**

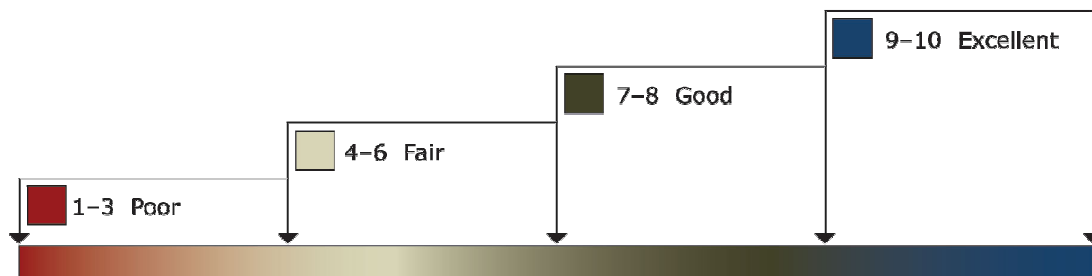
For the New Product Innovation Award, the following criteria were used to benchmark Manjrasoft's performance against key competitors:

- Innovative Element of the Product
- Leverage of Leading Edge Technologies
- Value Added Features/Benefits
- Increased Customer Value
- Customer Acquisition/Penetration Potential

## Decision Support Matrix and Measurement Criteria

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Matrix (DSM). The DSM is an analytical tool that compares companies' performance relative to each other with an integration of quantitative and qualitative metrics. The DSM features criteria unique to each award category and ranks importance by assigning weights to each criterion. The relative weighting reflects current market conditions and illustrates the associated importance of each criterion according to Frost & Sullivan. Fundamentally, each DSM is distinct for each market and award category. The DSM allows our research and consulting teams to objectively analyze each company's performance on each criterion relative to its top competitors and assign performance ratings on that basis. The DSM follows a 10-point scale that allows for nuances in performance evaluation; ratings guidelines are shown in Figure 2.

**Figure 2: Performance-Based Ratings for Decision Support Matrix**



This exercise encompasses all criteria, leading to a weighted average ranking of each company. Researchers can then easily identify the company with the highest ranking. As a final step, the research team confirms the veracity of the model by ensuring that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.

**Figure 3: Frost & Sullivan's 10-Step Process for Identifying Award-Recipients**



## Best Practice Award Analysis for Manjrasoft Pty Ltd

The Decision Support Matrix, shown in Figure 4, illustrates the relative importance of each criterion for the New Product Innovation Award and the ratings for each company under evaluation. To remain unbiased while also protecting the interests of the other organizations reviewed, we have chosen to refer to the other key players as Competitor 1 and Competitor 2.

**Figure 4: Decision Support Matrix for New Product Innovation Award**

Measurement of 1–10 (1 = lowest; 10 = highest)	Award Criteria					
	Innovative Element of the Product	Leverage of Leading Edge Technologies	Value Added Features/Benefits	Increased Customer Value	Customer Acquisition/Penetration Potential	Weighted Rating
<b>Relative Weight (%)</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>20%</b>	<b>100%</b>
Manjrasoft Pty Ltd	8	9	9	8	9	8.6
Competitor 1	7	7	7	8	8	7.4
Competitor 2	7	7	6	6	7	6.6

### Criterion 1: Innovative Element of the Product

Cloud management platforms have been garnering immense attention amongst both SMBs and tier-I companies in the recent past. With stiff competition in this space, it has become extremely important for companies to differentiate their products from other competing solutions in this space. In this regard, the innovative element defining a given product promises to serve as a key criterion in evaluating its performance.

Aneka is a cloud application platform supporting the rapid development and deployment of high performance and elastic applications on clouds. The solution is further equipped to support seamless workload distribution capabilities from multicore servers to hybrid clouds integrating public and private cloud infrastructures. The solution integrates powerful middleware which enables building and managing an interconnected clouds. The solution also leverages Microsoft's .NET framework to support the development, deployment and administration of distributed applications. Furthermore, the solution also provides immense flexibility in terms of scheduling, provisioning and monitoring results in both public and private networking environments. The solution offers strong market-oriented benefits by compressively considering multitude of parameters including pricing, accounting and Service Level Agreement (SLA)/ Quality of Service (QoS).

Such high grade of performance clearly endorses the credibility of the product in terms of its performance. This in turn enables the product to earn a higher rating for this criterion, when compared with its peers in the market.

**Criterion 2: Leverage of Leading Edge Technologies**

The success of any product is directly related to the underlying technology powering its framework. Evidently, it is crucial for companies to leverage contemporary technologies in order to offer users best in class performance. Hence, evaluating the core technology adopted by the company is extremely important in assessing the performance of a given product.

Its service oriented architecture provides a flexible and adaptable middleware that can be easily empowered with additional services and thus tailored for a specific deployment scenarios based on application requirement. The core components of the service oriented architecture include a configurable service container and an advanced Application Programming Interface (API). The service container is mainly responsible for hosting pluggable services such as identifying, scheduling and harmonizing the workloads across the workstations in corporate networks. The solution fragments the services into three broad cases namely fabric, foundation and execution services. The fabric services communicate with the node through a Platform Abstraction Layer (PAL) during which it executes the dynamic resource provisioning. Foundation services empower the solution to support specified set of specialized tasks. On the other hand, execution services directly govern the execution of applications on the cloud. The intuitive API enhances the compatibility and scalability of the system to a wider range of enterprise environments by supporting complex batch processing, Message Passing Interface (MPI) and dataflow modules.

In this view, the underlying technology powering the Aneka solution scores a higher rating than its competitors with respect to this particular criterion.

**Criterion 3: Value Added Features/Benefits**

In addition to its core functionality, the market adoption of a product is also largely dependent on the value added features offered by it to its users. Typically, a product satisfying a broader gamut of industry requirements gains stronger acceptance in the market.

The Aneka solution mainly aims to serve as a flexible platform that supports multiple programming models. This enables the platform to seamlessly integrate with diverse service-oriented enterprise grids and applications. The core design is built on the .NET framework which offers the solution wider reach to more number of communities providing services, thereby augmenting its value proposition. It further extends seamless compatibility with Linux environments by leveraging a unique module termed Mono. Besides, the Aneka solution also combines an innovative accounting mechanism which aids in enhancing the usability of the solution. Additionally, the solution also integrates a software development kit (SDK) that supports thread, task and MapReduce programming models and empowers the solution to support in the development of run-time environments and applications. It is also equipped to extend seamless compliance to private clouds such as Xen or VMWare and extends its offerings on

public clouds such as Amazon and GoGrid on-demand and making it dynamically scalable and billed on pay-per-use model.

Backed by these unique capabilities, the value added benefits offered by the Aneka solution clearly outweigh the benefits typically offered by other competing cloud management platforms. This is evidently merited in the corresponding ratings for this criterion.

#### **Criterion 4: Increased Customer Value**

The value offered by a product to its consumers is a key factor determining its acceptance and utility in the market. Hence, while assessing a product, it becomes imperative to evaluate the value proposition offered by it to its users.

The Aneka solution promises rich potential in this regard. It caters to a host of diverse application domains which include the auto finance, life sciences and other commercial internet services applications. That apart, Manjrasoft is also currently engaged in deploying the solution in the education industry by extending the benefits of cloud architecture to the teaching staff and graduate students belonging to Universities. The intrinsic ability of the cloud management platform to assume cross vertical significance across multiple industries clearly highlights the value it stands to offer to its consumers. Backed by an affordable pricing model, the solution promises to offer users high returns from a financial standpoint. In addition, the solution also caters to the needs of verticals such as entertainment and media, manufacturing and engineering, healthcare, energy. Data mining, financial modeling, investment risk analysis are few key activities that derive value from the Aneka solution.

As testified above, the solution possesses immense potential in terms of customer value enhancement. As a result, it scores significantly higher than its competitors with regard to this particular criterion.

#### **Criterion 5: Customer Acquisition/Penetration Potential**

Customer acquisition/ penetration potential is a key metric for assessing the future prospects of a product released in a market. With a strong drive in the industry to optimize application development and computational efficiency, it is important to evaluate the penetration potential held by a product in the current market.

With the growing popularity of cloud computing in corporate ecosystems, it has become increasingly important for developers to design efficient solutions that ably overcome the limitations of conventional cloud solutions. The unique ability of the Aneka solution to accommodate a .NET framework while concurrently addressing the limitations of the traditional solutions enables the solution to serve as a next-generation cloud framework across multiple industrial domains. Besides, the inherent potential of the Aneka solution to deliver high performance and throughput by efficiently harnessing the infrastructural and network resources is expected to trigger a lot interest amidst the emerging stream of startups and other new entrants in the corporate environment.



## About Manjrasoft Pty Ltd

Headquartered in Melbourne, Australia Manjrasoft is a startup firm engaged in the development of cloud management platforms. The company is a spin-off from the Cloud Computing and Distributed Systems (CLOUDS) Laboratory at Australia-based University of Melbourne. The company has leveraged its expertise in the cloud domain to address the issue of workload distribution and application development in enterprise environments. Based in Melbourne, the company has its sales and distribution offices across both China and India. Additionally, the company is also supported by strong collaborative ties with startup firms across India and U.S.

## About Best Practices

Frost & Sullivan Best Practices Awards recognize companies in a variety of regional and global markets for demonstrating outstanding achievement and superior performance in areas such as leadership, technological innovation, customer service, and strategic product development. Industry analysts compare market participants and measure performance through in-depth interviews, analysis, and extensive secondary research in order to identify best practices in the industry. [awards.frost.com](http://awards.frost.com)

## About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best-practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages over 45 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 40 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.