

## Singapore As Infocomm Resource Marketplace For The World

**Opening Speech By RADM(NS) Ronnie Tay, Chief Executive Officer, Infocomm Development Authority Of Singapore At GridAsia 2008 and 24th Open Grid Forum Meeting, The Matrix@Biopolis, 15 September 2008, 8.30am**

Mr Noel Hon, Chairman of the National Grid Advisory Council,  
Dr Craig Lee, President of Open Grid Forum,  
Mr Tan Tong Hai, President of Singapore Grid Forum,  
Ladies and gentlemen,  
Good Morning.

1. I am pleased to be here, at the opening of GridAsia 2008, as well as the 24th Open Grid Forum or OGF that is being held together with GridAsia 2008 for the very first time. I am sure that, over the next five days, there will be an exciting exchange of views and knowledge among the users, researchers, developers and vendors from both OGF and GridAsia, on the latest developments in Grid technology.

2. The development of Grid technology has opened up many opportunities for organisations and companies from around the world to harness its potential for innovative uses. In Singapore, we at the Infocomm Development Authority of Singapore have been working closely with the research community and industry partners to tap on Grid technology. I'd like to take this opportunity to share with you some of these developments and how we intend to develop an Infocomm Resource Marketplace here in Singapore by 2015.

### Setting the Foundation for Grid Computing

3. Recognising the potential of Grid technology, IDA initiated efforts in Grid Computing back in 2003 with the launch of the National Grid Pilot Platform. The R&D community was among its pilot users, who tapped on the 250 CPUs available for computationally-intensive applications in engineering and life sciences. The pilot platform has steadily grown to more than 1,000 CPUs today. Users of the Grid have also spread beyond the R&D community, to include digital animation companies, among many others. With the growing recognition of Grid technology, there is a need to enhance local competencies in Grid technology. Hence, IDA, together with industry has been looking at the training of students and professionals. For instance, tertiary students are now offered courses in Grid Computing at Institutes of Higher Learning or IHLs. To date, the talent pool is growing, with some 400 tertiary students having undergone the programme.

4. As the scale and scope of Grid Computing activities increase, we are moving towards creating a vibrant and sustainable Infocomm Resource Marketplace here by 2015. We envision that in this marketplace, infocomm resources can be shared, bought or sold easily; with a steady stream of suppliers and buyers of Grid Computing services. The marketplace will also spur service providers to introduce innovative services at competitive rates.

### Moving Forward: A Three-Pronged Approach

5. In Singapore, we are planning for the Next Generation National Broadband Network or Next Gen NBN, and this will be instrumental in enabling Grid Computing. This network, when ready in 2015, will enable ultra-high broadband speeds of up to 1Gbps and more, and thus support a vibrant Infocomm Resource Marketplace. To catalyse such a marketplace, IDA has adopted a three-pronged approach.

#### First Prong - Enhancing the National Grid Infrastructure

6. The first prong is to enhance the National Grid infrastructure. This is to better provide enterprises and organisations with easy access to commercial Grid Computing services. In June this year, after a Call-For-Collaboration, IDA appointed three grid consortia, led by Singapore Computer Systems, PTC System and NewMedia Express respectively, to provide compute, software and storage services on a pay-per-use basis. These National Grid Service Providers or GSPs will collectively offer more than 2,500 cores and 30 terabytes of storage capacity for a start. This will cater to organisations such as those in the financial service and digital media sectors who need high-performance computing in their business operations.

7. The GSPs are expected to offer commercial services as early as November 2008. These include business tools such as enterprise resource planning, supply chain management and customer relationship management modules. Businesses, especially the Small and Medium Enterprises, can therefore use such commercial grid services to enjoy cost-savings, better utilisation of IT resources and increased competitiveness. By 2011, we expect more than 80 Software-as-a-Service or SaaS providers who will offer more of such applications on a pay-per-use basis. To get a glimpse of such offerings, do visit the exhibition booths outside later for an extensive showcase of some of these tools.

8. IDA will work with the industry to facilitate more independent software vendors in adopting a SaaS business model. Just last week, AKSAAS, a local start-up, launched Singapore's first SaaS Incubation Centre to drive innovation in Software-as-a-Service. Such an Incubation Centres will help to promote and accelerate the adoption of SaaS. I would like to encourage those of you who are interested in setting up similar SaaS Incubation Centres or porting your software to SaaS, to approach Singapore's National Grid Office.

### **Second Prong - Stengthening Professional Competencies**

9. A second area of focus in Singapore's Grid development is that of strengthening professional competencies. IDA, through partnerships with IHLs and companies, will develop training and mentorship programmes to ensure our ICT professionals will be adept in Grid technologies. An example is the Cirrus Cloud Computing Test Bed initiative, where together with industry partners like Yahoo, HP and Intel, we will work towards developing greater competencies among Grid Computing specialists. Sixty local talent from IHLs and industry will be selected to receive in-depth training in Cloud Computing.

### **Third Prong - Building Trust and Global Collaboration**

10. The third prong in Singapore's Grid development effort is building trust and collaboration among the international community. Global collaboration is important in view of the scale and scope of Grid computing activities. For instance, as part of the Cloud Computing Test Bed initiative with HP-Intel-Yahoo, we expect to facilitate some 45 collaborative research projects such as Internet-scale data intensive computing, distributed computing, new software development methods, systems software, search, and other aspects related to computing on a large-scale. Today, IDA is launching an online Expression of Interest exercise for those keen to participate in the test bed. If any of you has a project proposal, I strongly encourage you to participate in the EOI.

11. On the regional front, the Singapore Grid Forum will partner its Grid Forum affiliates from other countries to develop regional R&D and business tie-ups within the next year. Singapore is also leading APEC economies to collaborate on Grid projects of common interest. Under the APEC TEL Grid Collaboration, one of the projects explores the use of Access Grid for distance-learning. Six such sessions have been completed this year. They demonstrate the power of Grid technology through the use of high-quality video conferencing that allow real-time interaction between the presenter and attendees from various locations. Another project, on Sensor Grids, looks at how weather patterns can be more accurately tracked. Grid Computing is proving to be the ideal platform and enabler for scientists around the world to collate and share climate data.

12. To facilitate greater cross-border collaboration in Grid, trust is essential among potential partners. One of the ways to demonstrate trust in such an arena is for an entity to hold a certificate from a globally recognised Certificate Authority or CA. I am happy to share that Netrust, appointed in 2006 by the National Grid Office as a CA for the National Grid Pilot Platform, has been recently given such international accreditation. It has earned the International Grid Trust Federation Classic Authentication Profile Compliant CA, that is issued by the Asia Pacific Grid Policy Management Authority. This is the first time that a commercial CA from Asia has been accredited for use by the international Grid community. A Netrust certificate will lower barriers to cross-border collaboration, as users from research organisations can be recognised easily and globally.

### **Conclusion: Singapore As An Infocomm Resource Marketplace**

13. Singapore has ready and available resources to support Grid Computing activities and can be a marketplace where infocomm resources can be shared, bought or sold easily. The establishment of the National Grid Office in January 2003 marked a deliberate effort on the part of Singapore to focus on the

adoption of Grid Computing. With the Grid Service Provider CFC in June 2008, Singapore took a strategic step in catalysing industry development and usage by end-users and SMEs. I hope that those embarking on more Internet-scale research and development will consider tapping on the available resources such as the hardware and manpower in Singapore. IDA is always keen to explore collaborative platforms with industry in order to advance Grid Computing.

14. GridAsia and the Open Grid Forum are excellent platforms for us to collectively consider how best to advance this field. I hope that over the next few days, you will have fruitful discussions on how we can drive innovation in this area together.

15. On this note, it is my pleasure to now declare GridAsia 2008 and the 24th Open Grid Forum officially open.

16. Thank you.