

SPEECH BY MR LIM HNG KIANG MINISTER FOR TRADE AND INDUSTRY AT THE OFFICIAL LAUNCH OF NATIONAL GRID PHASE TWO AND OFFICIAL OPENING FOR GRIDASIA 2005 ON TUESDAY 3 MAY AT 0910 HOURS AT BIOPOLIS, THE MATRIX

Distinguished Guests

Ladies and Gentlemen

I am pleased to join you today for the inaugural GridAsia conference and to launch Phase Two of our National Grid initiative.

What is Grid Computing?

2 What is grid computing? In simple terms, it is about sharing computing resources, be it software, data storage, or processing time, among a group of participating users. This allows users to tap on a wider pool of distributed resources either for collaboration or to solve problems.

3 The concept of grid computing first arose out of a necessity for research and academic communities to collaborate. By linking geographically-distributed resources, vast amounts of information and computational resources can be shared efficiently.

4 Grid computing has enjoyed an increase in popularity worldwide, as organisations begin to recognize its value in optimizing computing and data resources, accelerating computation and improving collaboration. Its applications are wide ranging. For example, in the automotive industry, manufacturers use grid computing to accelerate product development and time to market, by optimising the use of available computing resources for numeric-intensive work such as design analysis and simulation.

National Grid Pilot Platform

5 Singapore recognised the growing trend in grid computing a few years ago, and moved to position ourselves as a significant player in this field. It began with A*STAR's launch of the National Grid initiative in 2002. The National Grid Steering Committee was set up and various agencies including the Defence Science & Technology Agency (DSTA), Infocomm Development Authority (IDA), Economic Development Board (EDB), National University of Singapore (NUS) and Nanyang Technological University (NTU) were brought in as key stakeholders.

6 The pilot phase of the National Grid was subsequently launched in November 2003. The vision was to create a network of

connected computing resources which can be shared by users in a secure, reliable and efficient manner for education, research, commercial and other purposes. This would form the basis of a strategic technology platform that would transform the way we work, and ultimately improve the economic and technological competitiveness of Singapore.

7 We have made significant progress in the 2-year pilot phase. The number of computing resources connected to the grid has increased from over 250 in 2002 to over 500 today. We expect this number to reach 1,000 within the next year. 15 applications, largely for research purposes, have been enabled to run on the grid. For example, Temasek Laboratories make use of a grid application to tap on 3 geographically dispersed computer clusters to help it study flow physics around the wings of an aircraft during supersonic flight, to help improve aircraft design.

8 Over this period, we have also built up a base of active virtual grid communities in life sciences, physical sciences, digital media and manufacturing.

Launch of National Grid Phase Two – From Lab to Industry

9 I am very pleased today to announce the launch of Phase Two of the National Grid.

10 Phase Two will see a further expansion of our existing grid infrastructure. We will build on our base of capabilities, through A*STAR's support of R&D in core grid technologies and the grid-enabling of applications. Some 26 research proposals are currently undergoing local and international peer review as part of the evaluation process. IDA will also facilitate industry R&D through various partnership initiatives and consortium projects.

11 Most significantly, we intend to expand the use of grid computing beyond the research community, into the industry under Phase Two. The National Grid Office will actively engage the private sector to encourage the innovative use of grid technology. We will start by targeting sectors where grid computing offers the most potential, beginning with the digital media and manufacturing sectors.

Digital Media

12 In the digital media industry, we have seen a rising need for heavy computing to support the growing global computer animation industry. Computer animation that we see in computer games and in animation movies like “The Incredibles”, require highly compute-intensive processing and specialised hardware and software to create. Such equipment normally comes with a high price-tag that small and medium enterprises (SMEs) in the industry cannot afford. Grid computing thus offers such companies a way to tap on computing facilities and resources in a cost-effective manner.

13 The Media Development Authority (MDA) and the National Grid Office have already embarked on a joint scheme to help local digital media SMEs build content creation capabilities, and make use of grid computing. Under IDA’s digital exchange initiative¹, an initial prototype for a virtual remote rendering² facility has been developed, which will further contribute towards efforts to engage the industry.

¹ IDA’s Digital Exchange initiative aims to position Singapore as the global distribution hub and trading centre for the processing, management and distribution of digital assets, ranging from digital cinema, online games to animation.

² Rendering is the process of generating images from representations of a given object.

Manufacturing

14 In manufacturing, a few collaboration projects involving the industry have also been initiated.

15 For instance, the National Grid Office, A*STAR's Institute of High Performance Computing (IHPC), and i-Math (a private company) are conducting a proof-of-concept on a simulation software.

16 IDA, NUS, Sun Microsystems and SES Systems are also partnering in a collaborative programme to develop grid-based engineering tools that will facilitate timely sharing of information and knowledge among construction and manufacturing companies.

MNC Collaboration

17 Phase Two will also exploit the benefits of grid computing to generate growth opportunities in the ICT sector. Various government agencies have been working with multinational companies like HP, IBM, Oracle and Sun Microsystems, to promote the use and development of local grid computing capabilities. For instance, HP and IDA are collaborating on the "Adaptive Enterprise @ Singapore" programme, in which HP Labs

will help to co-develop a suite of solutions to facilitate the use of grid computing by animators.

18 Looking ahead, the National Grid will be an important technology driver contributing to Singapore's technological edge and economic competitiveness. However, to realise the grid's full economic potential and benefit, its adoption and application by the industry will be key. This will require close collaboration with the private sector, to address security and inter-operability issues, while encouraging a mindset of collaboration and sharing of resources. There will of course be challenges, but I am confident that with strong support from our agencies, institutions and industry partners, we will succeed in our National Grid effort.

Official Opening of Grid Asia 2005

19 Today marks the opening of the inaugural GridAsia 2005 conference. This is the first time that such an event is organised in the region, and it will showcase grid-enabled projects such as the Integrated Manufacturing System, the Science and Engineering Grid and the Life Sciences Database Repository. GridAsia aims to be a major annual event in the region bringing together researchers and practitioners in grid computing and related

applications, from both public and private sectors. Indeed, GridAsia will be a key forum to advance grid computing in the region and to promote efforts that will help bring grid technologies “from lab to industry”.

20 It is my pleasure now to declare GridAsia 2005 officially opened. I wish all participants a fruitful conference.

Thank you.