

**NYP** Nanyang  
Polytechnic

School of  
**Information  
Technology**

a case study on  
cloud computing infusion



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cloud futures 2012 workshop  
7-8 may 2012

# Agenda

about NYP

curriculum

cloud infusion

students' success

project development

going forward

q&a



# About Nanyang Polytechnic

A background image showing a group of diverse students and staff members. Some are looking at documents, while others are engaged in conversation. The image has a semi-transparent, grid-like overlay.

Established in April 1992 in Singapore

**NYP** Nanyang  
Polytechnic

To be a premier Polytechnic of Global Distinction

15,000 students and 1,300 staff members

Awarded the Innovation Excellence Award in 2009

Awarded the Singapore Quality Award in 2011

# Landmark Collaboration between NYP and Microsoft

Train Students in Cloud  
Computing through  
Curriculum Infusion

Access to  
Latest Cloud  
Services

Engage in R&D  
for Enterprise  
Solutions for  
Industry

Professional  
Certifications  
in Azure

Internship  
Opportunities

# Cloud Innovation Centre

**NYP** Nanyang  
Polytechnic **Microsoft®**

## NYP students take to the 'clouds'

By **MAXIE AW YEONG**

SOME 4,000 Nanyang Polytechnic (NYP) students are set to be drilled in the technical know-how of cloud computing, thanks to a three-year tie-up with software giant Microsoft.

Under the agreement, an NYP-Microsoft Cloud Innovation Centre will be set up within the NYP campus.

It is touted as the first facility in an institute of higher learning that will train students specifically in the use of Microsoft's cloud computing technology.

Cloud computing sidesteps the need for physical hardware and software installation by using the Internet to deliver services. It is widely seen as the hottest trend in the technology sector in the last few years.

Students from NYP's School of Information Technology will learn to use and develop cloud software under the tie-up.

In addition, selected students will graduate with cloud-related IT professional certifications through the Microsoft IT Academy programme.

The setting up of this centre is the latest in a string of partnerships with Microsoft, NYP's principal and chief executive officer Chan Lee Mun said at a media briefing this week.

NYP and Microsoft have previously collaborated on projects such as developing applications for the latter's Windows Phone 7 platform.

"We do believe that this three-year partnership that we are entering into can help Singapore have a more 'cloud-ready' workforce to

strengthen this knowledge-based economy," said Microsoft's chief operating officer Kevin Turner.

NYP students will also be given local and overseas exposure through internship opportunities or participation in R&D initiatives, Microsoft Singapore's managing director Jessica Tan added.

Besides training students, the new facility will also support the research and development of new, commercial cloud computing services and applications, the parties said.



**Launch of NYP-Microsoft Cloud Innovation Centre with Mr Kevin Turner (COO, Microsoft Corp.), Mr Ronnie Tay, CEO, iDA and Mr Chan Lee Mun, NYP's Principal and CEO.**

# Curriculum



# NYP IT Diplomas

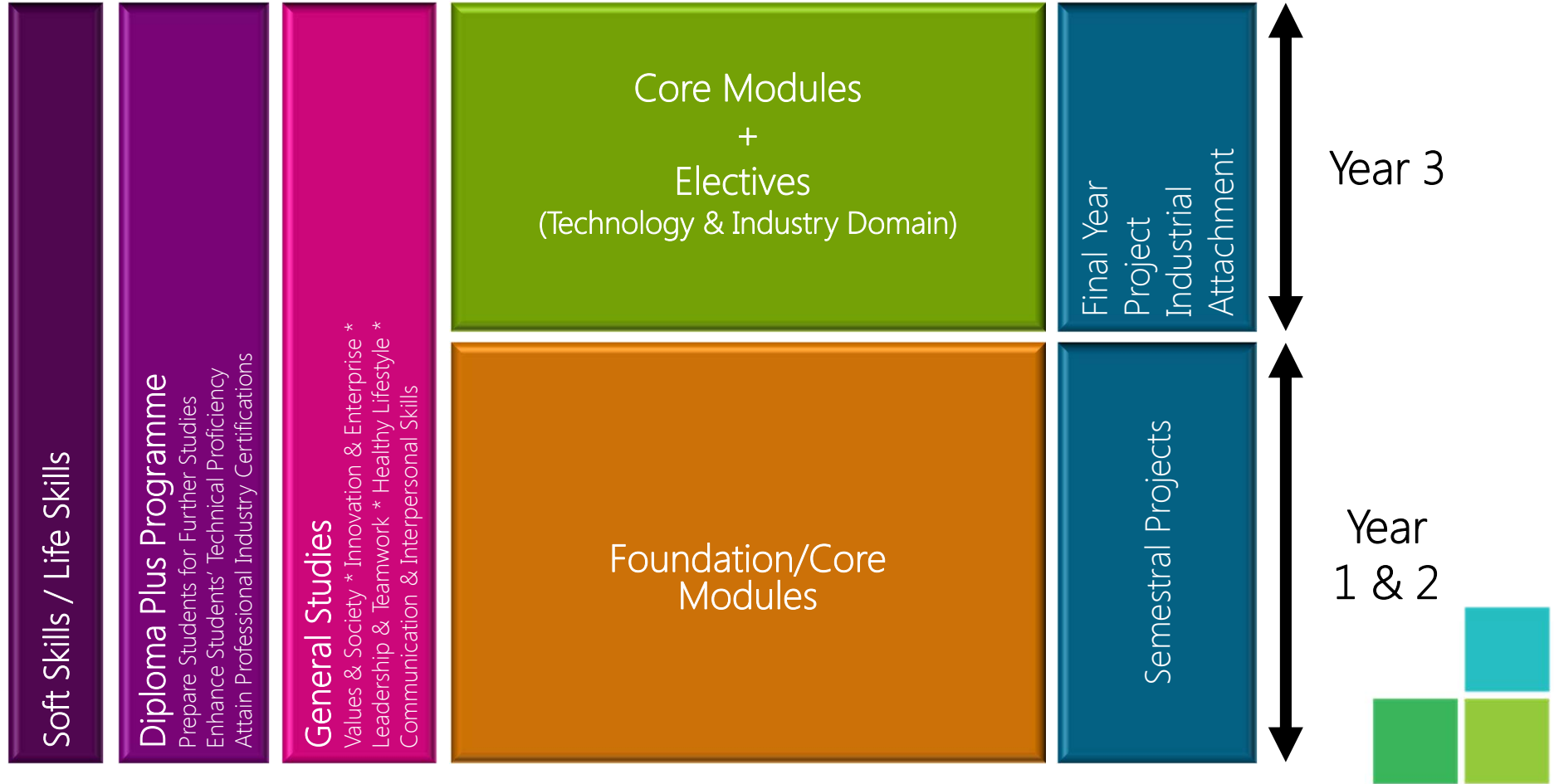


Established in 1993  
Staff Strength of 142

Enrolment ~ 2,200  
Annual Intake ~ 730



# Course Structure



# Cloud Infusion

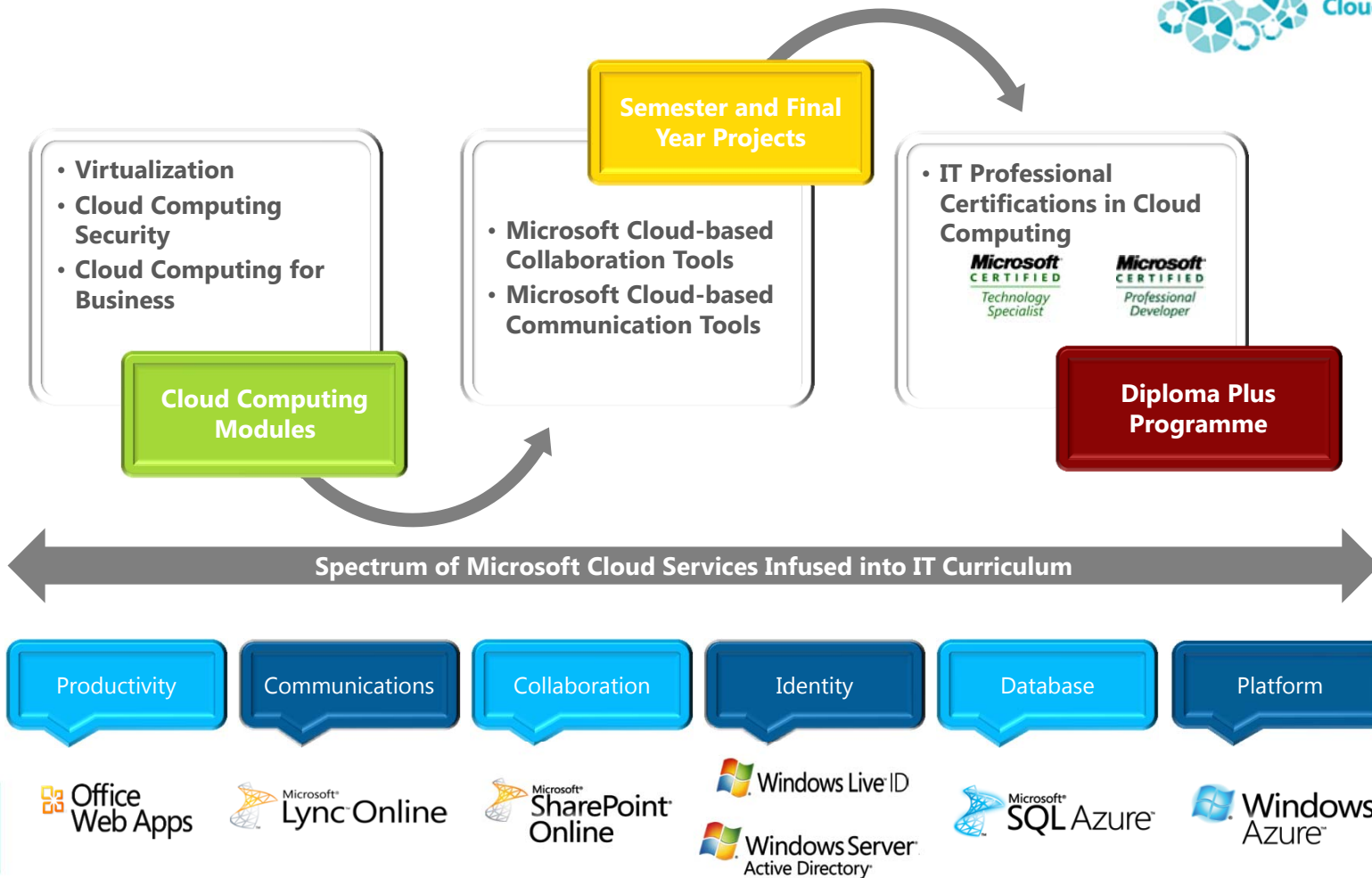
# Cloud4Classroom Kit

- Developed with Microsoft
- Exclusive use under NYP-Microsoft Cloud Innovation Centre MOU
- Complete suite of Lectures and Hands-On Labs (HOLs)

Topic	Lecture Materials	Hands-On Lab Materials
Introduction to Cloud Computing	√	×
Overview of Windows Azure	√	×
Understanding of Windows Azure Components	√	√
Windows Azure Tool Set	√	√
Windows Azure Roles and Configuration	√	√
Windows Azure Storage	√	√
Windows Azure Native Code	√	√
Building ASP.NET Application with Windows Azure	√	√
Debugging Windows Azure Applications	√	√
Windows Azure and PHP	√	√
Identity and Access Control	√	√
Introduction to SQL Azure	√	√
SQL Azure Reporting	√	×
Introduction to Windows Azure AppFabric	√	√



# Cloud Infusion Framework



# Project Development

Digital Media

Next Gen Network

Business Process  
Management



Visualisation



Info Security

Mobile Computing



Cloud Computing

Innovation

Enterprise Solutions

# Industry Partners





# R&D in Cloud Computing

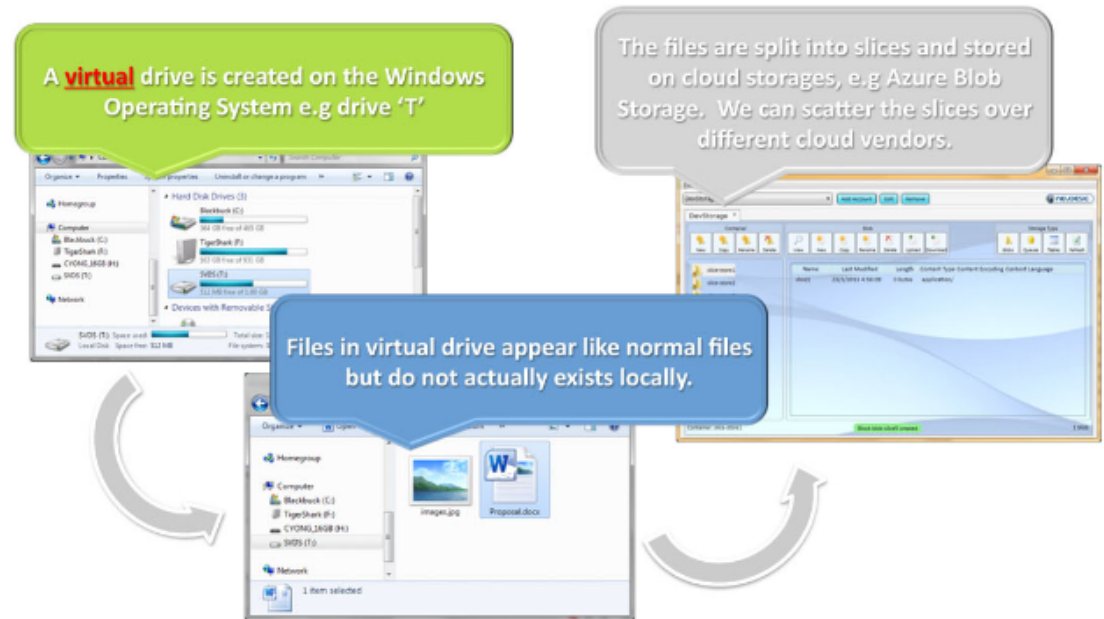
## Virtualized Cloud Storage



Virtual File System

Files are transformed and split into multiple slices using Information Dispersal Algorithm (IDA)

The resulting slices are then “diffused” into the cloud network for **Security** and **Availability**.



R&D project funded by MOE Innovation Grant

# Innovations in Cloud Computing

## GIS in the Cloud



## Industry Learning Progress Log

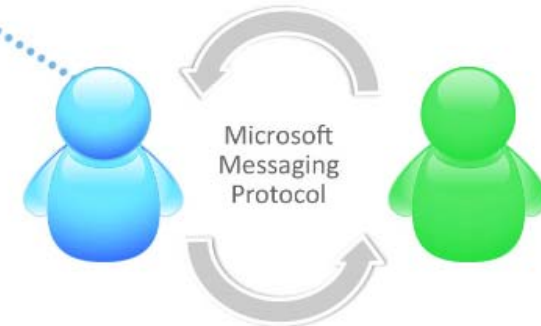


## SharePoint Online



## Cloud Innovations

## Remote Control using IM



# Innovations in Cloud Computing

## Windows Phone 7 Apps



Available at  
**Windows Phone Marketplace**

**Students' Success**



National Champions for Imagine Cup 2012 – Software Design Invitational

**NYP** Nanyang Polytechnic

**Microsoft**





First-Ever Microsoft Office 2010  
"Make-It-Great" Ambassador

**NYP** Nanyang  
Polytechnic

**Microsoft®**

**Going Forward**

# Going Forward

## Top Quality Cloud-based Education at No Extra Cost

- Valuable Azure expertise and updates will be provided to the School's faculty members through Microsoft.
- Allowing NYP to stay abreast of current developments in the cloud environment.

## Cultivating Students through Expert Azure Advice

- Students will have a chance to work on various semester projects involving Cloud and technology areas
- Their 3-year program will culminate with a final year real-life industry project.

## Meeting Singapore's IT Manpower Growth and Needs

- NYP will be able to leverage Microsoft's partners in industry projects, exposing students to state-of-the art development in the Azure environment.
- Enabling the students to be cloud-ready upon graduation.





# Thank You

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Q & A