



Asia-Pacific  
Economic Cooperation

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**2006/HRDWG/SYM/015**

Agenda Item: 14

## **ICT in Education Intel**

Purpose: Information

Submitted by: Vietnam



**APEC Symposium on Open Source  
and Open Course for E-Learning  
Ha Noi, Viet Nam  
4 - 6 December 2006**



# E-learning Solutions and infrastructure

Hanoi OSS Conference on e-learning  
Dec. 6, 2006

## Agenda

eEducation Transformation Overview

Software solutions

- Overview
- MS eLearning solution stacks
- Linux eLearning solution stacks
- Moodle
- CenterSis

Solution Planning

- Typical Deployment
- Unwire Universities

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## Challenges in Education

<b>Cost</b>	Limited Budgets
<b>Localization</b>	Language, culture, education system
<b>Infrastructure</b>	Limitations in emerging economies
<b>Content Availability</b>	Lack of standard framework for content creation and delivery
<b>Ecosystem</b>	SW, support and services ecosystem
<b>Standard Solution</b>	Availability of an integrated, validated and flexible solution which can be easily customized to meet local needs

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## Industry Issues

Broadband networking access

Security, privacy and liability concerns

Limited tools and technology that truly enhance teaching and learning

Make relevant of the vast amount of media and content out there

Budget and cost pressures – “more with less”

Multi-system / applications developed by different people over time

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# Introducing ISKE



# Integrated Solution for Education

## Education Solution Stack

### Multimedia Content from ISVs

#### Moodle

- Course Management
- Load and Play Multimedia Content
- Web Portals & Publishing
- Knowledge sharing, Archiving
- Online testing, Distance Learning
- Quiz, Questionnaire, usage data collection

#### CentreSIS

- Student Information Systems – tests, grades, other records

#### Network Mgmt

- Configuration, Patches, Updates, Upgrades, Anti Virus

#### Nalanda

- Library management

#### OC-Education™

(Linux only)

- Access control (blocking applications, key board, mouse, internet access)
- Screen control, conferencing, Provisioning, Restoring default system image, data protection, remote SW install

#### Productivity Applications

Browser, Office, Email, Chat, Conferencing, Calendaring

Image, Video, Audio) Play & View, Create Multimedia Content

#### Multimedia

Mozilla or IE, Open Office or MS Office, Gaim, Evolution, Gnomemeet

RealPlayer, Macromedia GIMP, XCDROAST

#### Middleware

Seamless Authentication (user login from any PC); Print and Mail Server, Web Server, Database

#### Components

Open LDAP, CUPS, Apache, MySQL, PostgreSQL, PHP

#### OS

Microsoft Windows, or Linux Distribution (Red Hat, Novell, Red Flag, Mandriva...)

#### Device Drivers

USB (Camera, Microscope, ePen etc), Firewire (Camcoder), Rich Audio & Graphics, Wireless

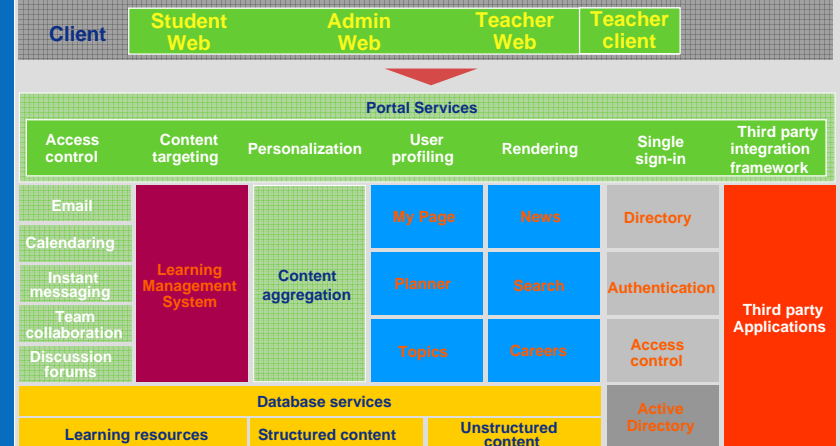
#### Hardware Platforms

Server, D/T, & Mobile

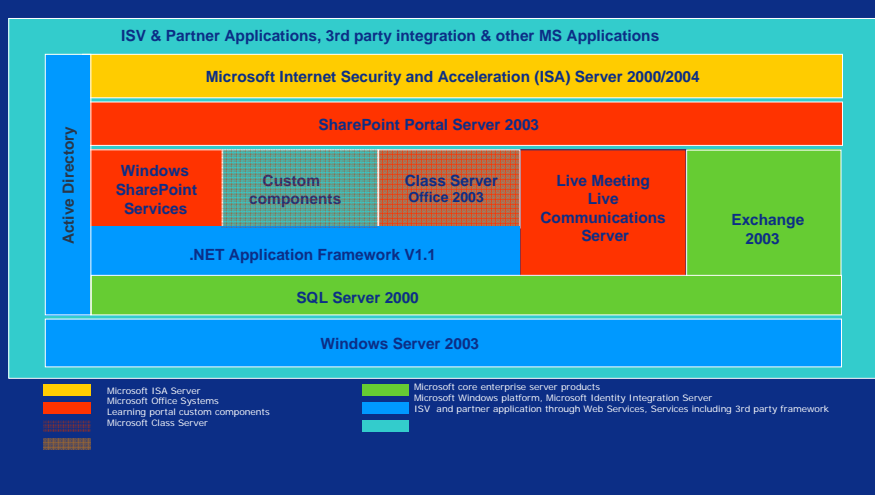
Platforms

## Education Services

## e-Education Software architecture



# Microsoft - eLearning Solution



# MS Solutions for Higher Education

Two broad classification of solutions:

1. E-Learning solutions
2. Administrative solutions

E-learning objectives:

- Connect faculty, students and resources through portal services
- Create a robust learning environment with Microsoft desktop solutions
- Discover mobile solutions that support innovative learning strategies

E-learning solutions:

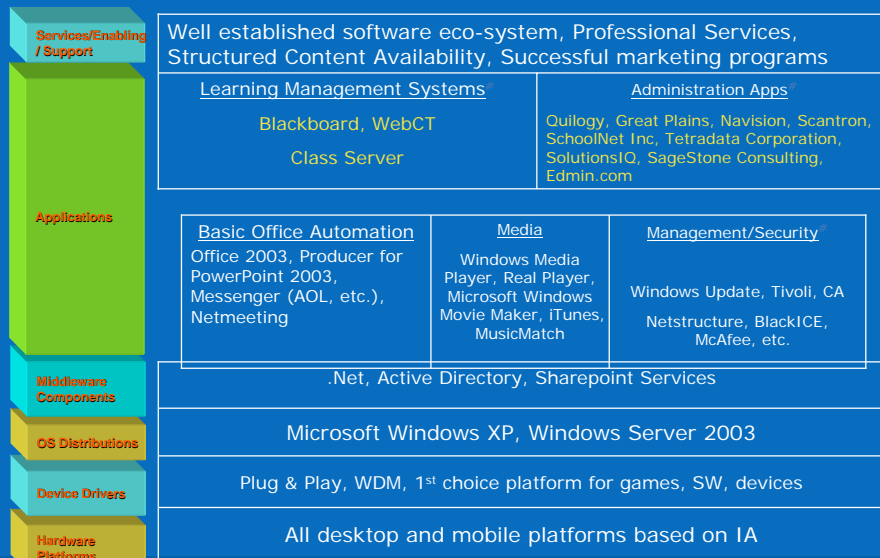
Client Components	Server Components
Office 2003, Producer for PowerPoint 2003, Windows Media Player 9.0, Microsoft Windows Movie Maker, Windows Sharepoint Services, Instant Messaging	Windows Server 2003, Windows Sharepoint Services, Microsoft Class Server, Office Sharepoint Portal Server 2003, Microsoft SQL Server 2000, Microsoft Exchange Server 2003, Microsoft Biztalk

Administrative solutions (offered via eco-system partners):

Client Components	Server Components
Ouilogy, Great Plains, Navision, Scantron, SchoolNet Inc, Tetradata Corporation, SolutionsIQ, SageStone Consulting, Edmin.com	



# Microsoft Education Stack



# Intel® Integrated Solution Kit for Education



## Features and Benefits

Objective: Accelerate adoption of OSS based solution in education market

Intel is working collaboratively with the industry, the Open Source development community and ecosystem partners to develop cost effective solutions for the global education

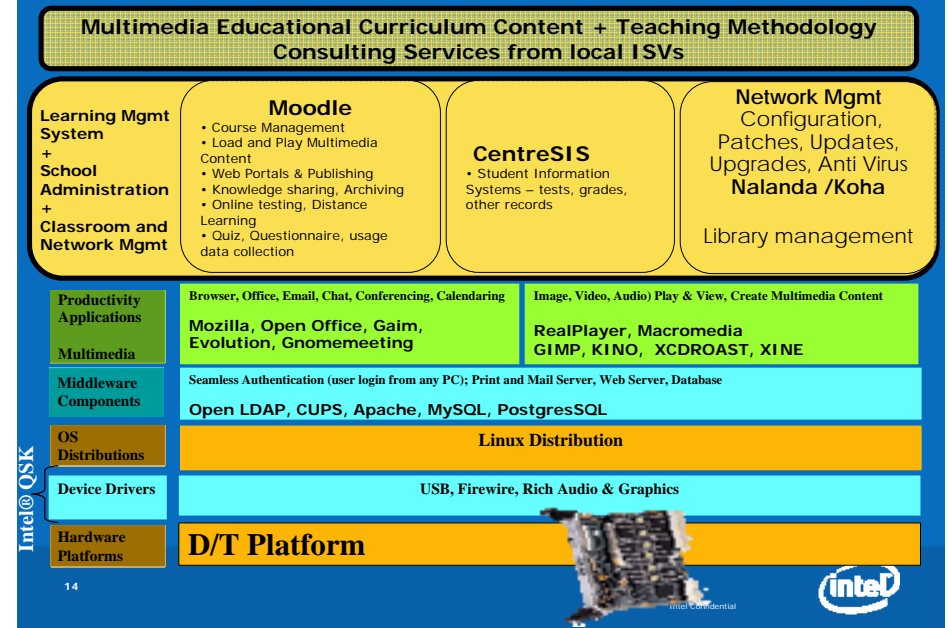
The Solution Kit for Education is a software and hardware solution stack customized for education that puts well designed tools in the hands of teachers, students and school administrators

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## Education Solution Stack



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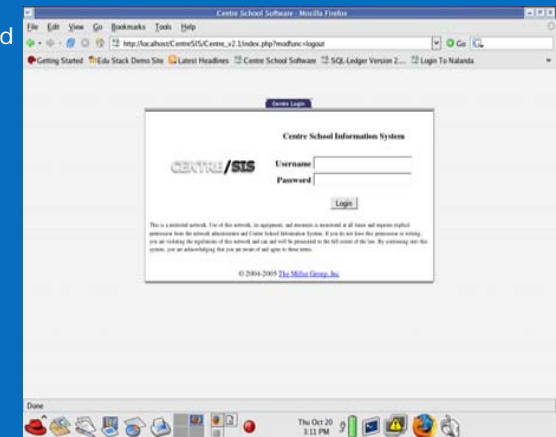
## CentreSIS

Components Overview..

School administration and management

Used for managing the student's data/information, attendance, report cards

Web – based interface



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# Moodle

Components Overview..

Learning/Course Management System

Teachers can create online quality courses

Students can attend the courses, assignments, quiz, workshop and can learn at their own pace

Students' growth can be tracked any time



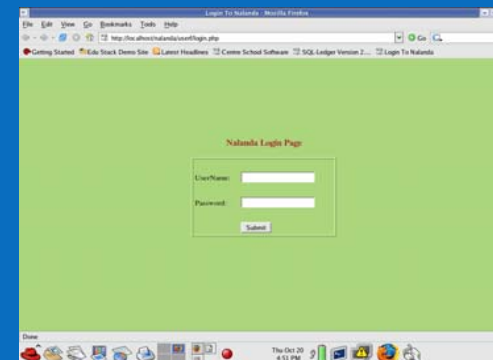
# Nalanda

Components Overview..

Online library management system

Features

- Maintains books inventory
- Issuing and returning books
- Adding users
- Statistics
- Search



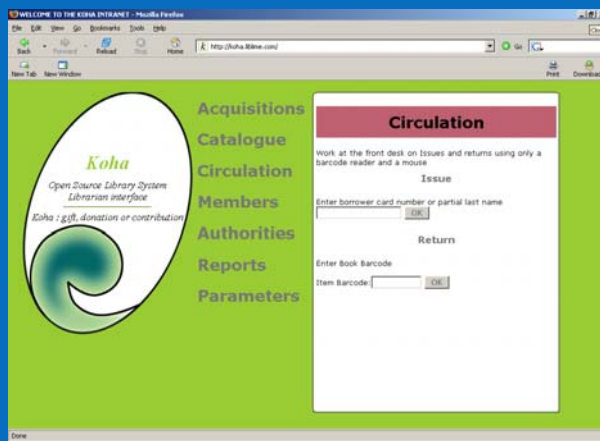
# Koha

Components Overview..

Online library management system

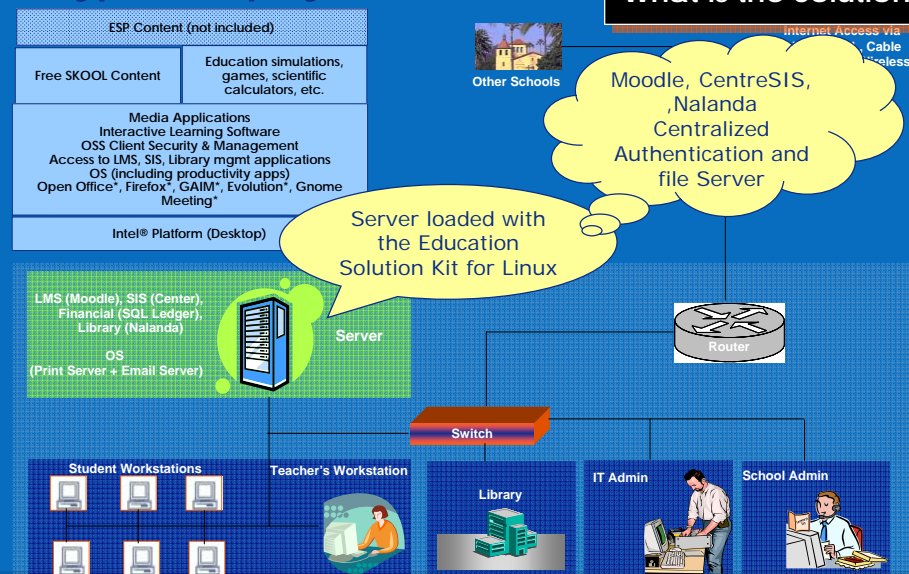
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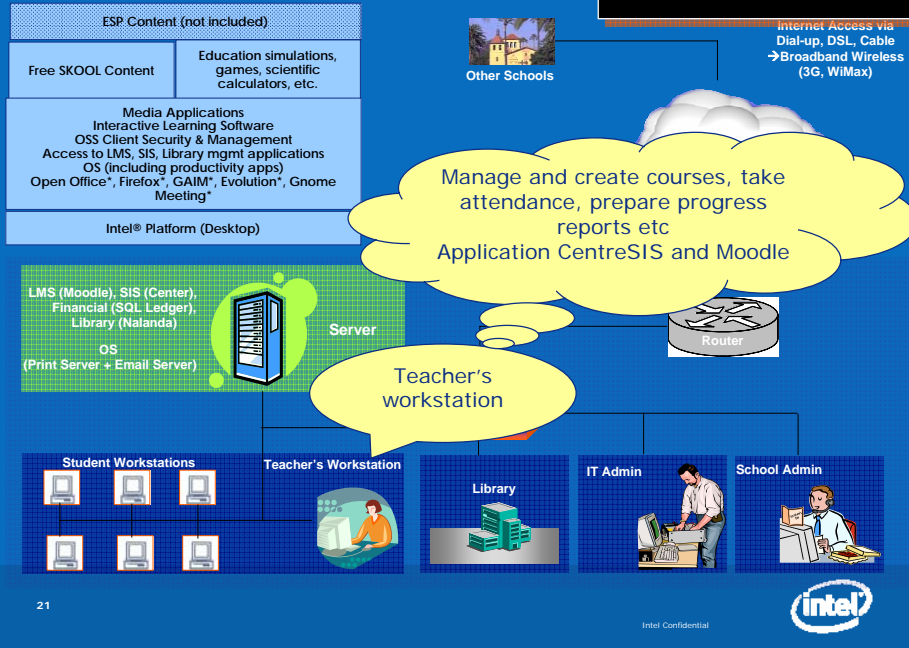
# Typical Deployment

What is the Solution



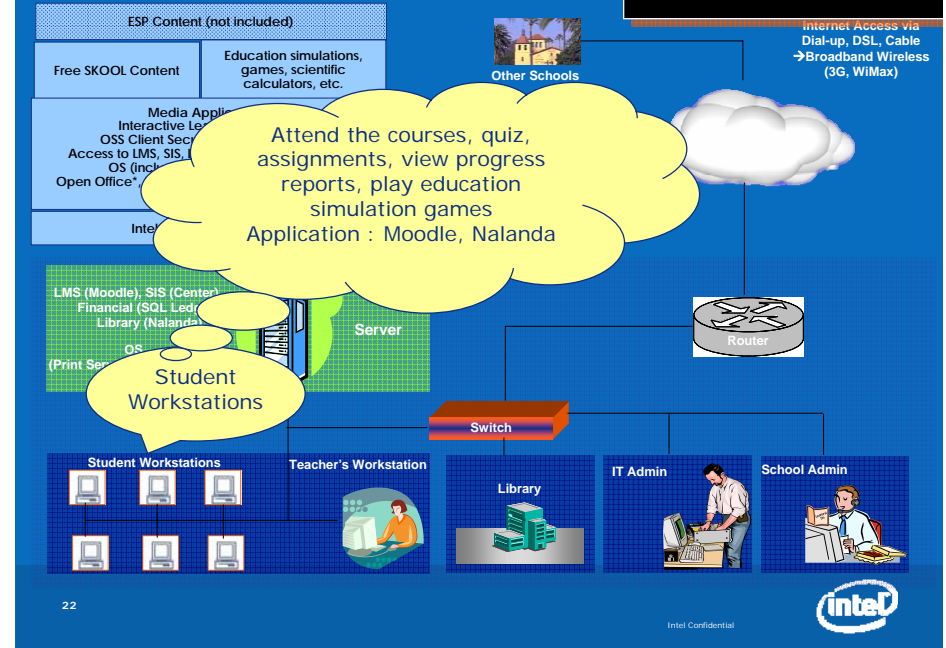
## Typical Deployment

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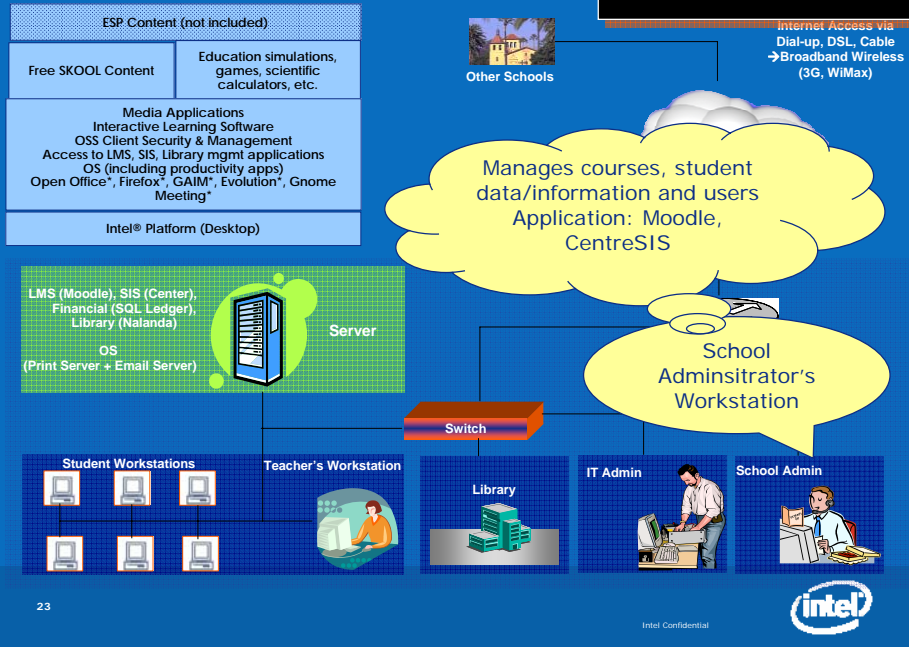
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## What is the Solution



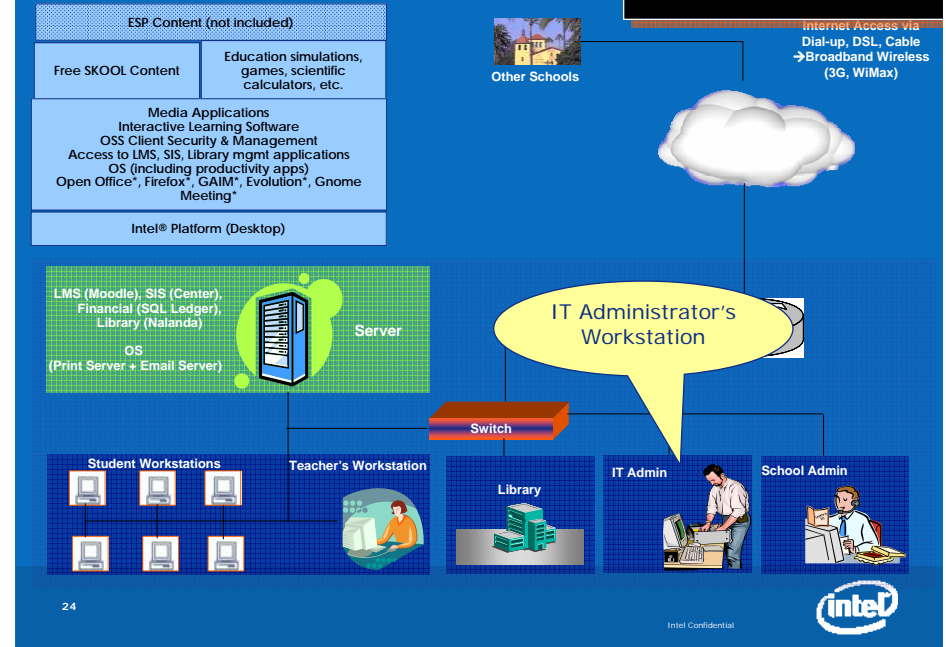
## Typical Deployment

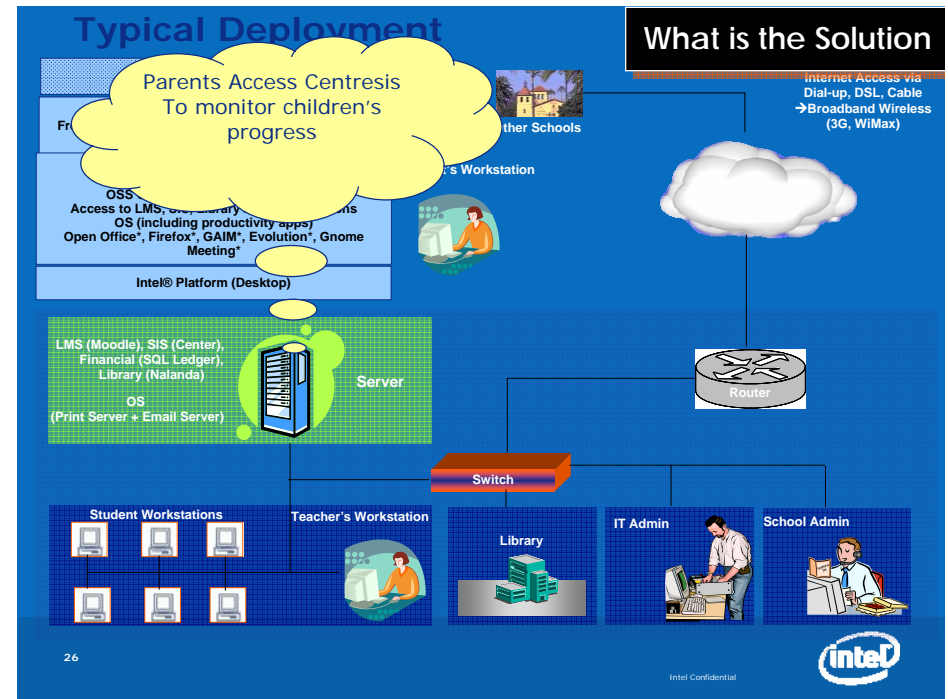
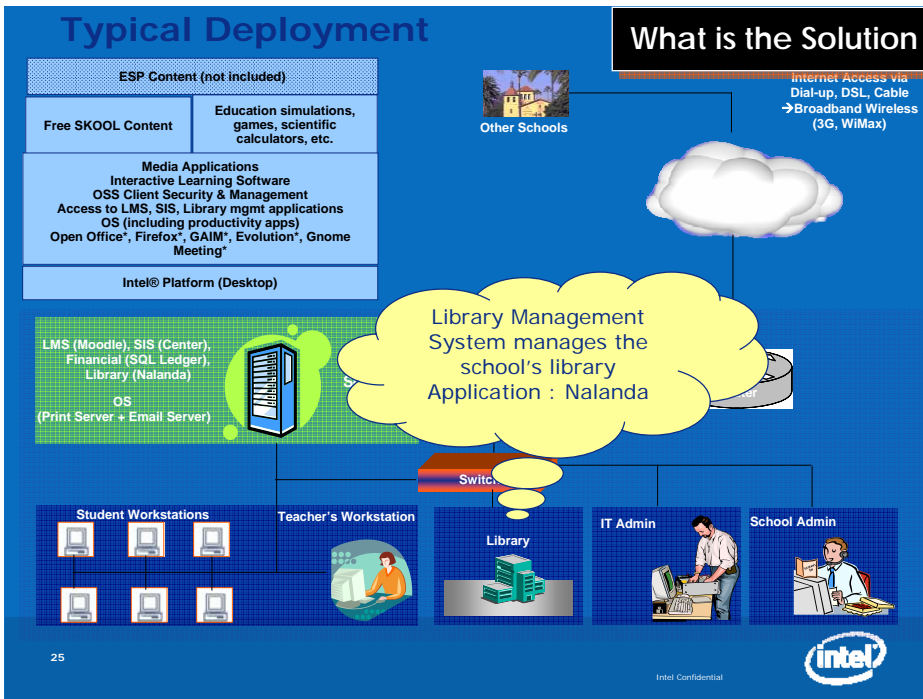
## What is the Solution



## Typical Deployment

## What is the Solution





## Solution Kit for Education

## Solution Benefits

### Benefits: Government, Software Vendors

- Government
  - Allows governments to curtail costs and create local talent pool
    - ✓ By using the OSS based solutions and getting it customized by local companies helps develop the local economy
    - ✓ Creates a self-sustained ecosystem for services and support
- ISV – Educational Curriculum Vendors, Technical Support vendors
  - Possibility for access to greater Intel Channel for selling solution, services for customization, technical support, training
  - Match making and co-marketing opportunities with Intel Channel Partners

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## What is Intel doing in contents for e-learning?

<http://www.skool.ie>

<http://www.skoolthai.net>

<http://skool.meb.gov.tr/>

<http://www.skool.vn> ?

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## SKOOL Content

Components Overview..

The solution kit bundles all the content from Intel's SKOOL portal

Rich multimedia interactive course content



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## SKOOL Content

SKOOL Content.

Classified into various levels and subjects:

- Math
- Biology
- Chemistry

Accessible through Browser



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Live Demo of  
**Skool.net**

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Thank You

