



Smart Education Solution





Part



1

Smart Education Overview

Traditional teaching: fixed site, fixed time, centralized teaching.

With the development of the Internet, to achieve fair education, anytime, anywhere, and effective teaching management and detection of learning results.

Smart Education Solution is the perfect solution to the requirement!

Traditional Education Challenges



**Time
Constrains**



Anytime



**Location
Constrains**



Anywhere



**Tedious
Teaching**



**Interactive
Class**



**Same Age
Same
Education**



**Personalized
Education**



**Unbalanced
Education
Resource**



**Education
Resource
Sharing**

Smart Education Trends



IOT

- Smart Phone
- Media PAD
- IP Camera
- E-whiteboard

Smart Education



Cloud Computing

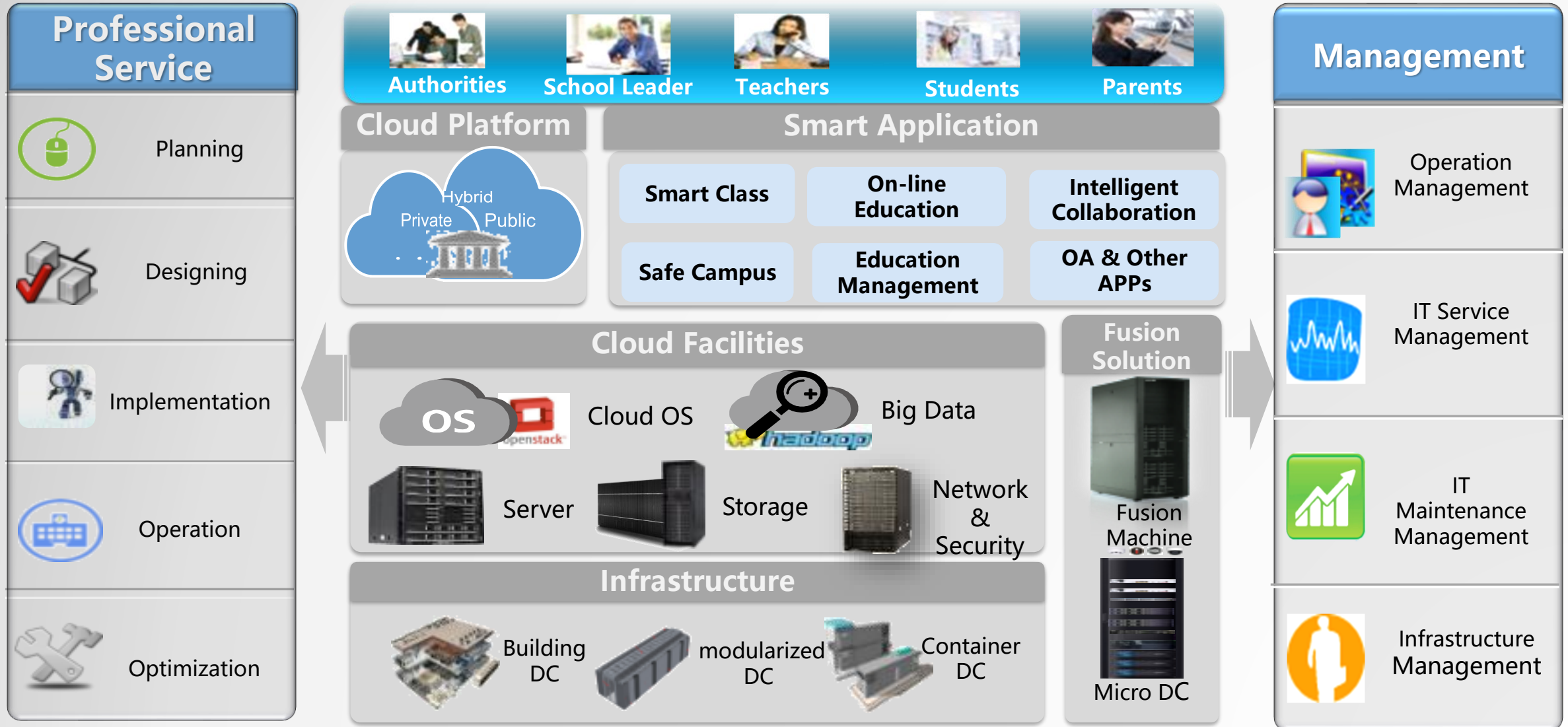
- Easy construction of System
- Centralization of resource
- Plenty of Application



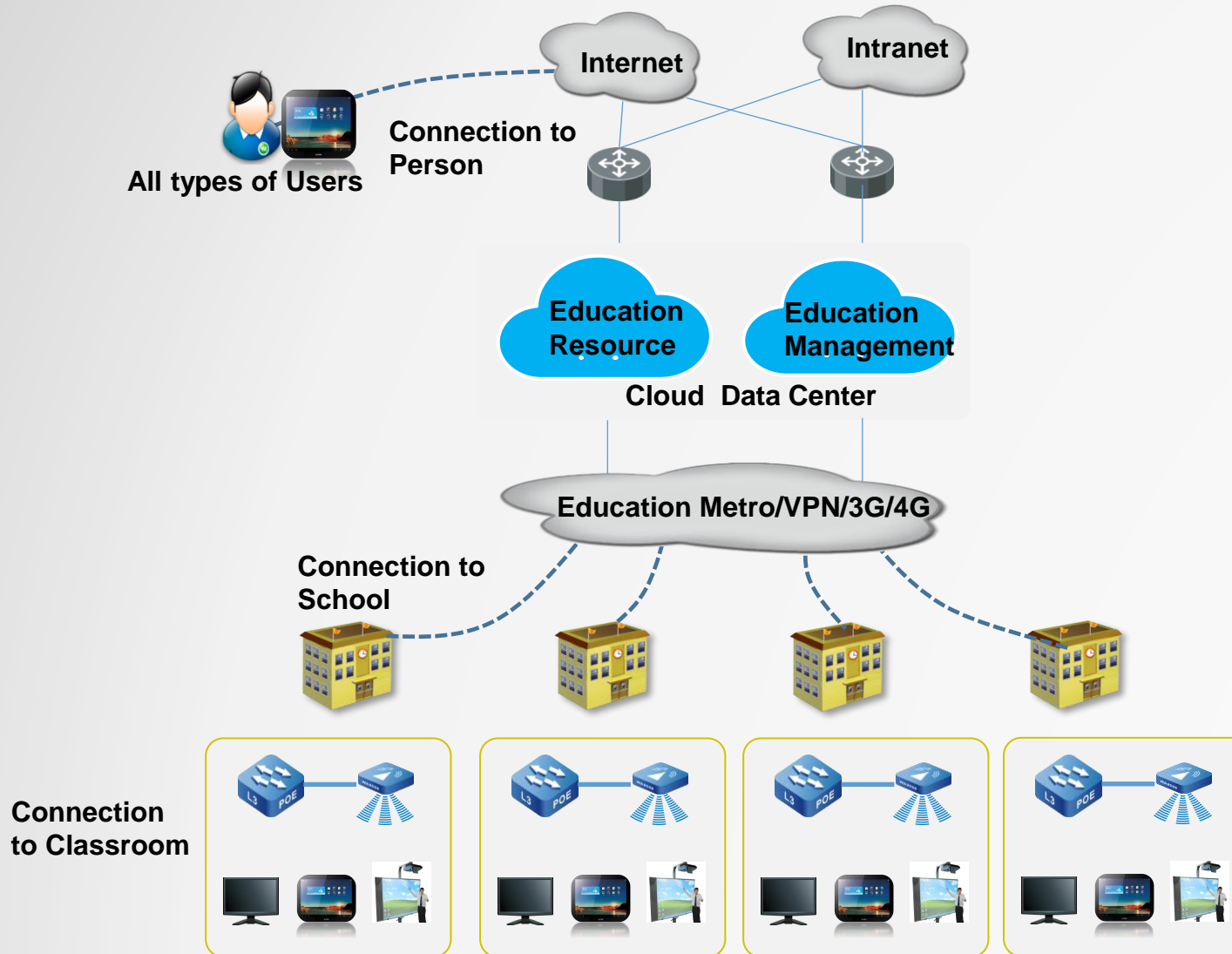
Big Data

- Report statistics
- Data Analysis
- Decision Support

Smart Education Solution Overview



Smart Education in China



Two Platform

- **Resource Sharing Platform**
Application and system for resource sharing such as E-library, Cloud disk,
- **Teaching Management Platform**
School Information management, students information management, teachers information management,

Three Connections

- **Connection to school**
Links and Gateway
- **Connection to classroom**
E-Schoolbag e-whiteboard...
- **Connection to Person**
Website, Database, Personal Space

Objectives of Smart Education

Education Management

provide student status, teacher files, educational administration, decision analysis and other unified management capacity for the education authority and school



Education Resource

Provide a unified resource sharing platform to address the issues of scattered resources, the lack of resource for the education authorities and schools



Convergence

Cloud Disk

Build up resource storage and sharing platform; enable file transfer among education authority, school, teacher and student



On-line Learning

By means of remote education and Recording solution, Promote quality Education resource sharing and achieve the equity of education



Sharing

Cloud Desk

Provide a safe office environment for education Bureau, the school office staff and create a green learning environment for students through the DC centralized data management



Interactive Class

create a strong interactive teaching environment for teachers and students; conduct classroom management and resource downloads, testing, examinations, etc. with mobile terminals



Collaboration

Values of Smart Education

Effective Supervision

- Student, teacher information management
- Query the teachers' teaching
- School management, class management
- Educational resource management, sharing
- School publicity, display

Deep Communication

- Assignment and notice
- Record scores and attendance
- Upload material
- Teaching achievement arrangement
- On-line study and enhancement
- Class management
- Interaction among student, parent and teacher

Easy management

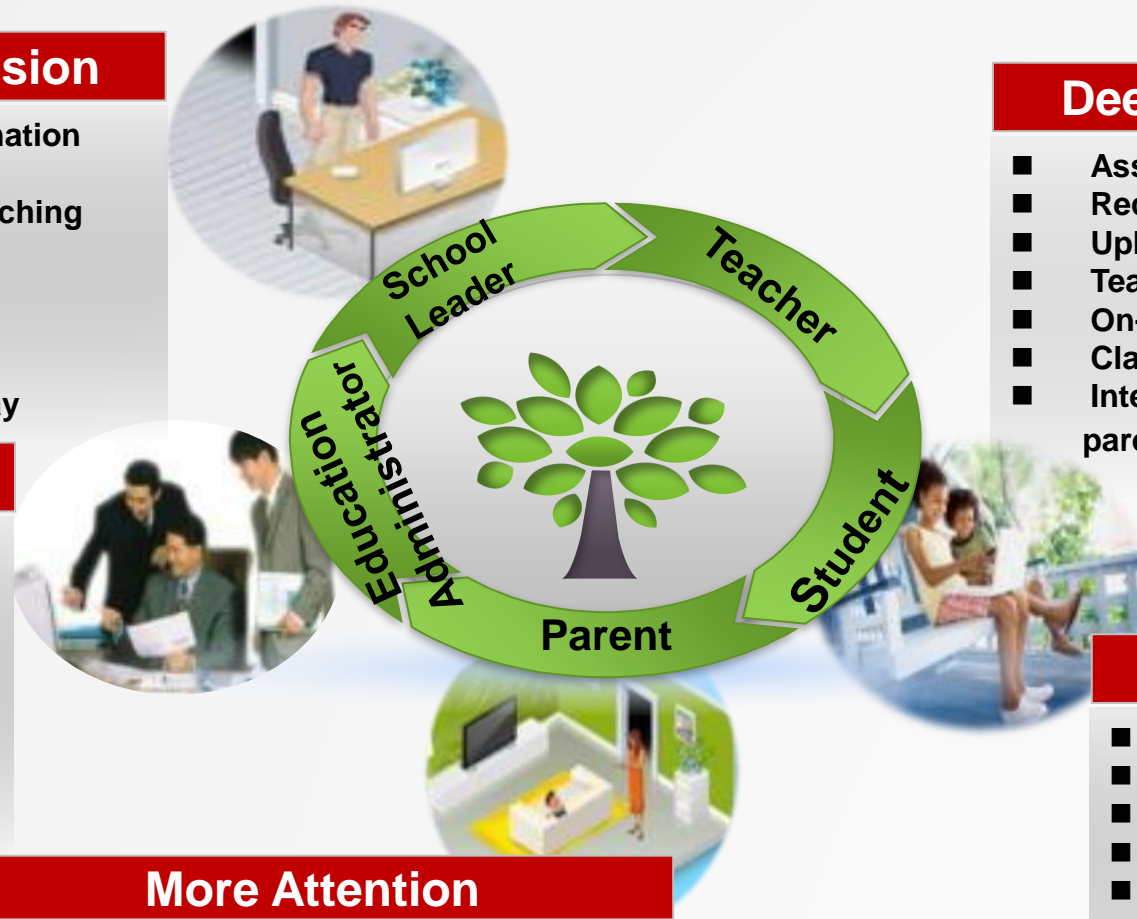
- Query of Student, teacher information file
- Unified School Management
- Teaching report statistics, data analysis
- Policy enforcement
- Supervise and standardize school

More Attention

- Query the assignment, attendance
- Download the study materials,
- Interaction among student, parent and teacher

Active Participation

- Archive education information
- Query assignment, notice, scores
- Download the study materials
- Personal Display
- Interaction among student, parent and teacher





Part

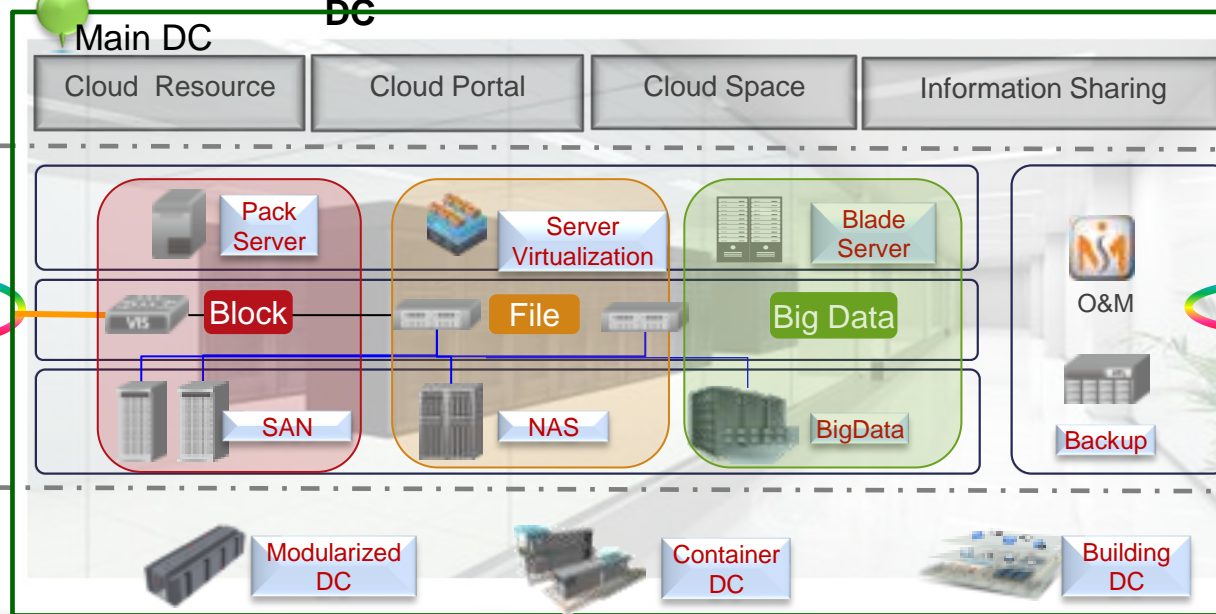
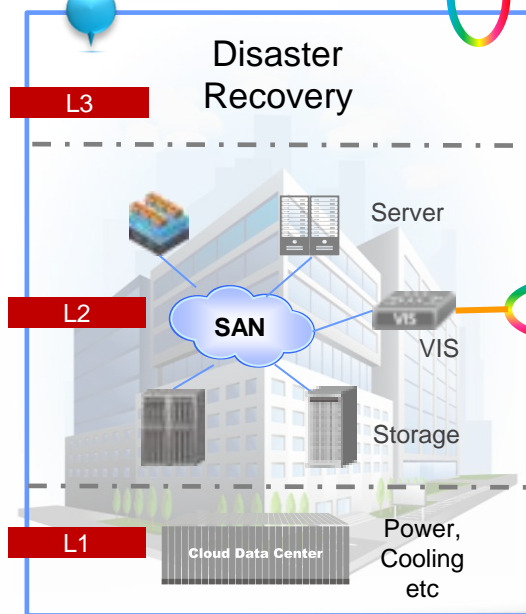
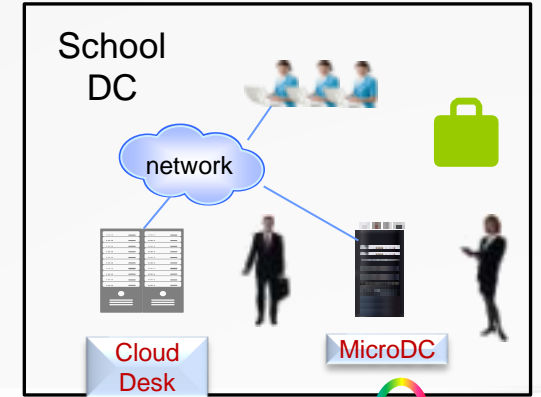
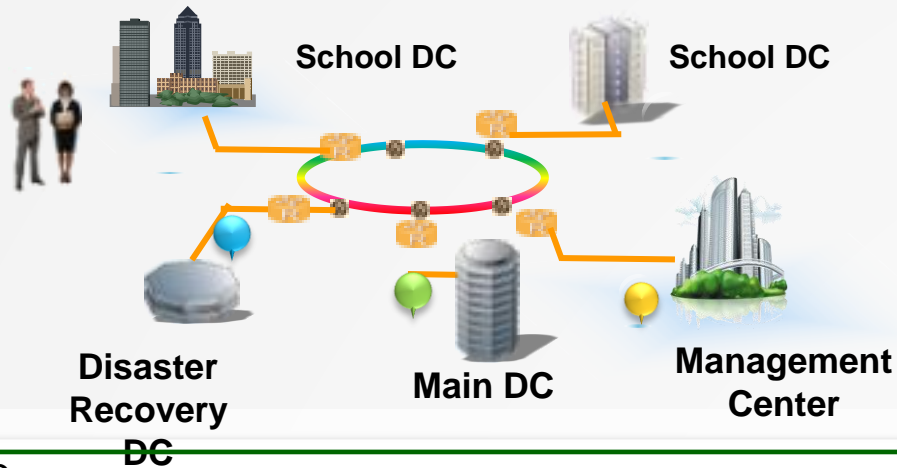
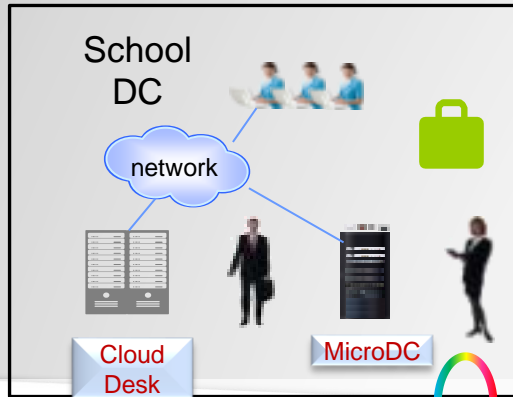
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Smart Education Solutions

Cloud data center, cloud desktop system, fixed and wireless transmission, video conference system, recording and broadcasting system, campus all-in-one card, campus security system, etc.

effectively integrate these technologies through software platform to achieve smart education

Cloud Data Center Solution



Cloud Desk Solution



Thin Client

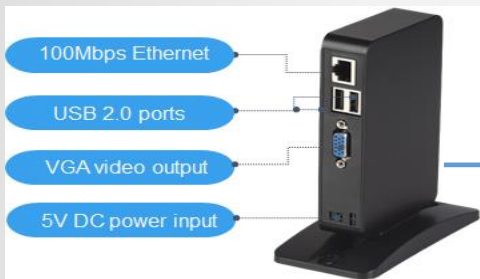
Thin Client is the input / output device of the cloud desktop system. Because of the lack of computing and storage components, Cloud Desk's system configuration, application software and data storage are done on the remote host to achieve a high degree of centralized management, Safe, more reliable, to meet the customer to improve CAPEX / OPEX needs.

Feature

All - In - One mode , Administrative Simplification

More Security features

Easy to use, desktop roaming and low downtime



Front Panel

VGA



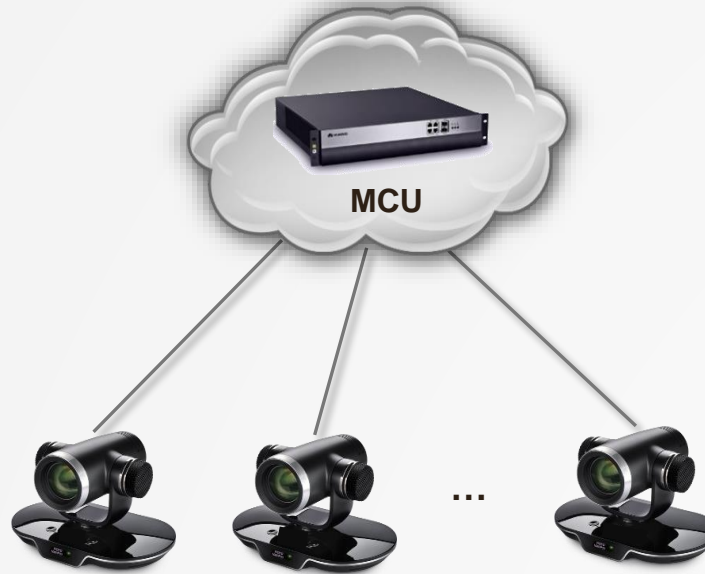
Rear Panel

Smart Collaboration 1/2-Video Conference

MCU



- 1080p 60 Universal Transcoding, Flexible Ports
- 20% of packet loss tolerated
- Embedded GK&Web, Independent networking
- Multiple encryption, Multi-level Hot Spare, H.264 SVC
- Supporting 12 terminals (1080p60)



Terminal



- 3-in-1 design, 1-cable-to-connect
- Simplified deployment, 5-minute-to-join
- 50% of bandwidth saved, 20% of packet loss tolerated
- Intelligent voice dialing, easy to use
- Mini-MCU embedded, supporting 4 video terminals

■ Highlight

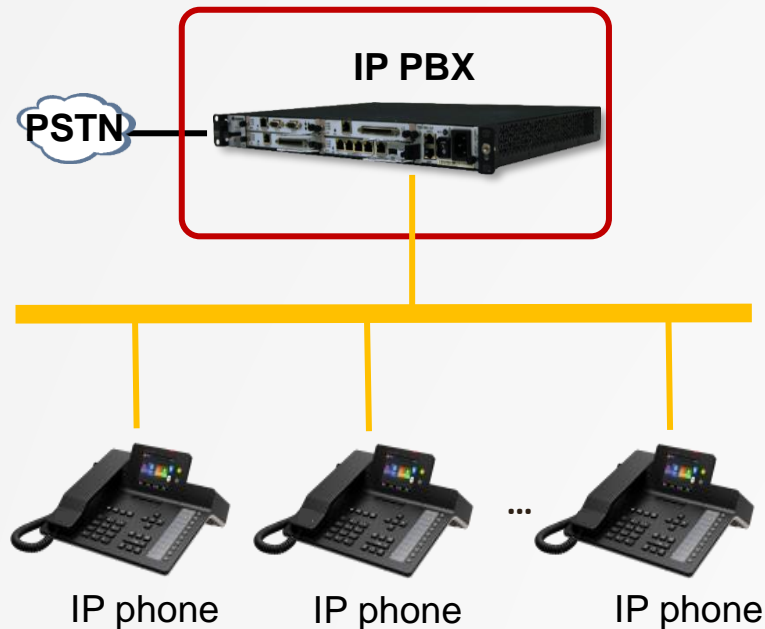
- With embedded GK and Web, one MCU can complete all functions, including conference registration, scheduling, management, and control
 - Easy to deploy, less investment, and highly cost-effective
 - Easy to maintain
 - Lower TCO with reduced bandwidth

Smart Collaboration 2/2-Video Conference

IPPBX



- A maximum of 100 enterprise users
- Built-in high-fidelity audio conferencing, built-in voice mailbox
- Quick deployment and easy maintenance
- Supporting 100 SIP users



■ Highlight

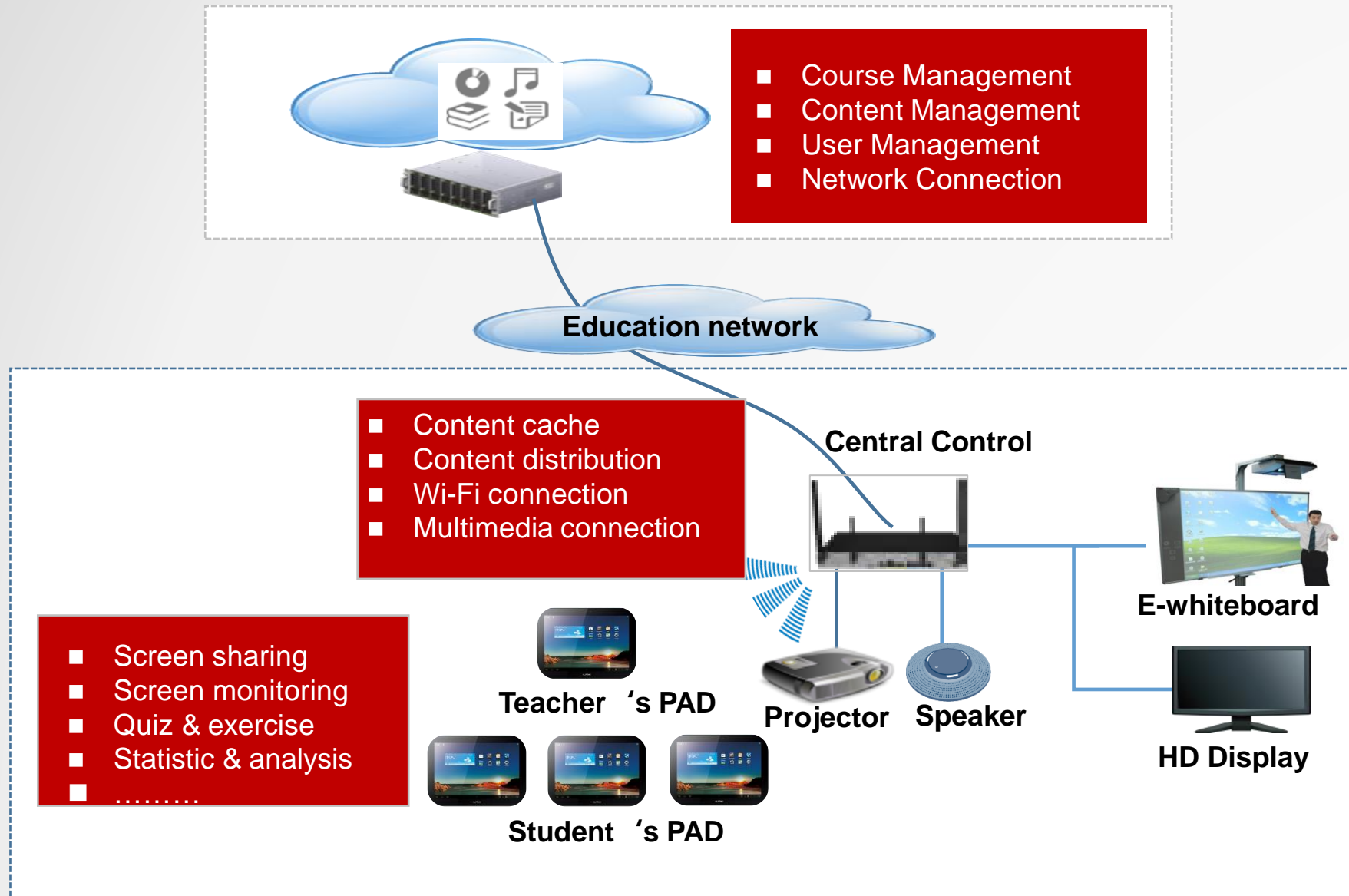
- All IP for easier deployment and access
- Highly integrated IP PBX for diverse telephony services and resources
 - Easy to maintain, easy to scale
- Built-in web management system, reducing the OPEX

IP Phone

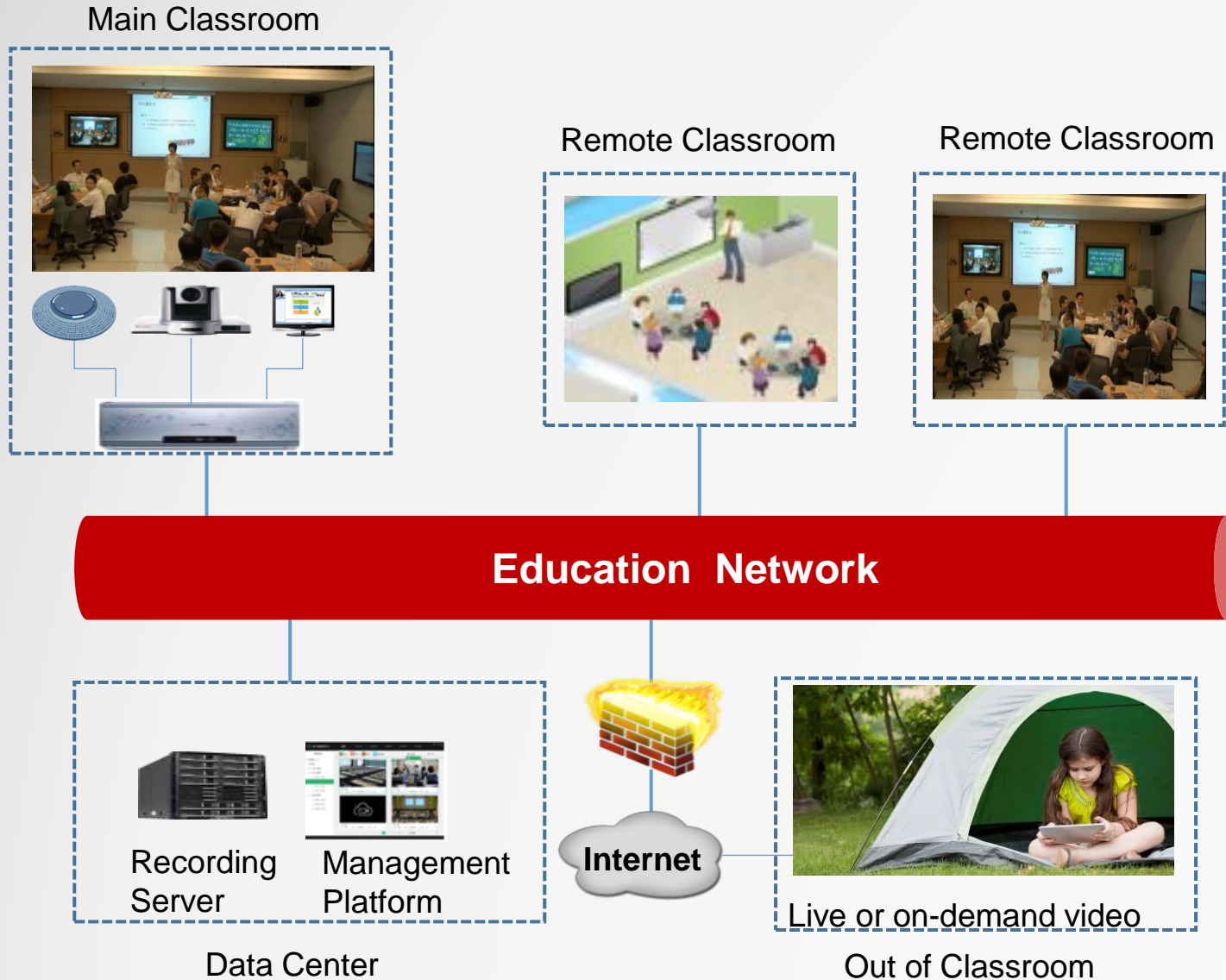


- 2.83-inch color LCD screen
- AAC-LD full-band voice codec
- 2 GE ports supporting for PoE

Smart Classroom 1/3- Multimedia Classroom



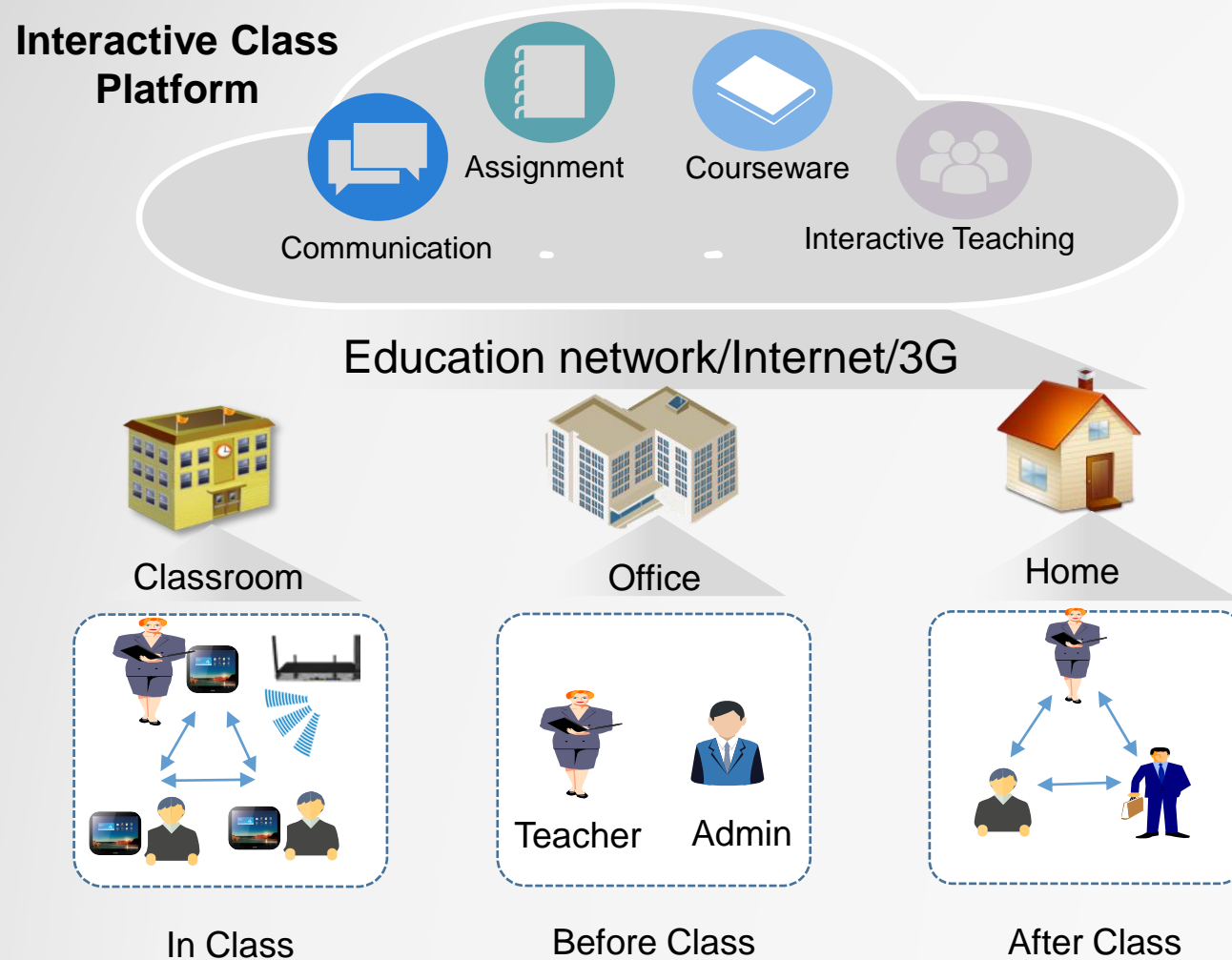
Smart Classroom 2/3-Remote Education & Recording



Key Features

- Good User experience:
- High definition and low bandwidth,
- echo suppression
- Rich Media:
- Video, audio, document, face to face experience
- Integration of meeting and recording
- Intelligent Positioning:
- Flexible Scheduling:

Smart Classroom 3/3 e-Schoolbag



Before Class

- students preview the courseware
- Teacher prepare the courseware and share to students

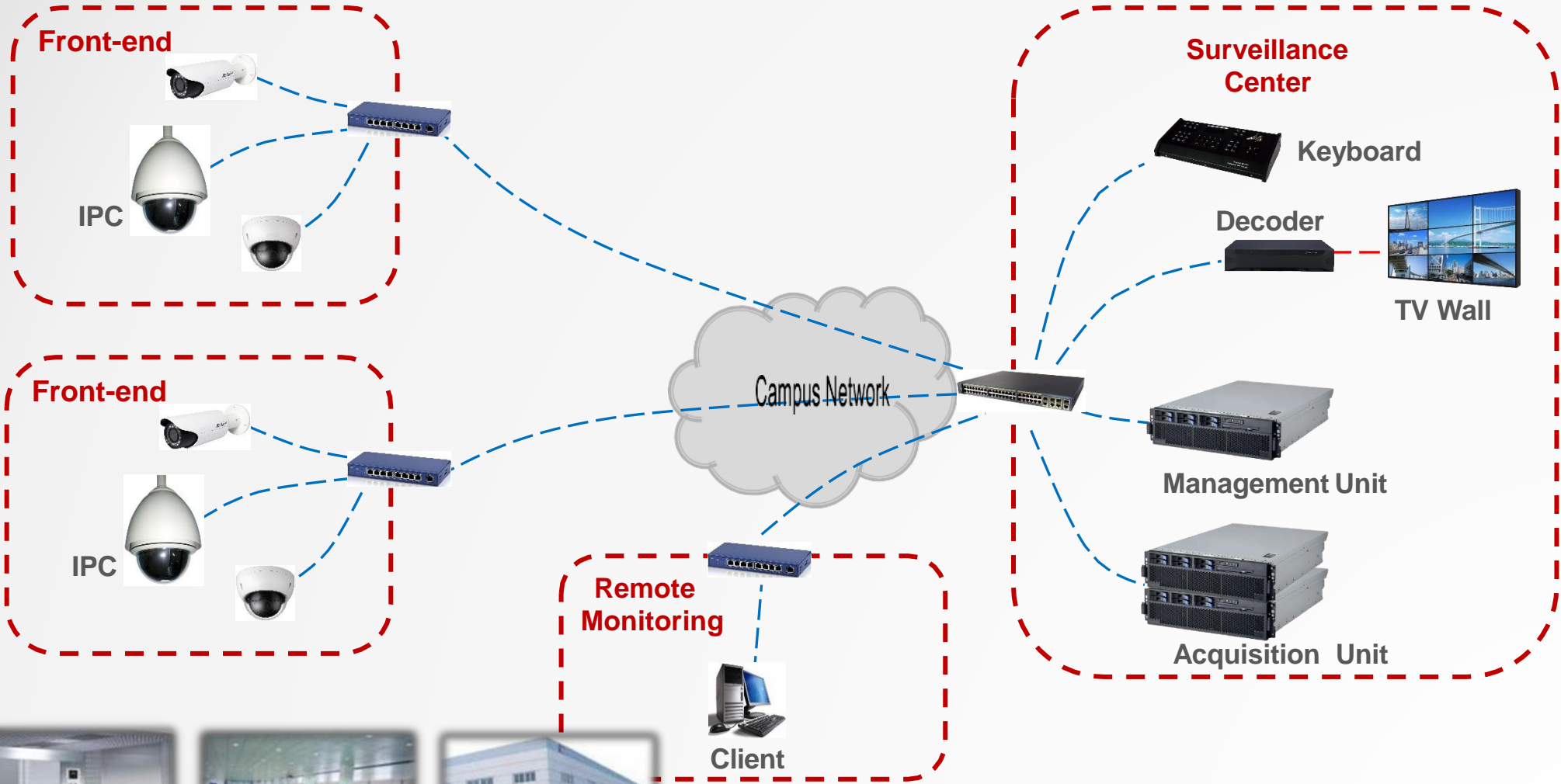
In Class

- Teacher interact with the students
- Resource sharing
- Self-learning and class management
- Intelligent test
- Record teaching process ;generate Learning and attendance report

After Class

- Teacher arrange assignment and student finished for teacher to review
- Learning materials searching
- Interaction between home and school

Safe Campus 1/2



Safe Campus 2/2

Intelligent Recognition

- Fast image recognition, image feature information extraction, and image quality diagnosis
- Face detection and recognition (In the recommended scenario, accurate rate $\geq 95\%$, false alarm rate $\leq 5\%$)



Counting



Tracking

Intelligent Storage

- Intelligent storage with ROI enhanced code
- Long time video data fading from the storage to save storage space 30%;



Gathering



Boundary

Intelligent Searching

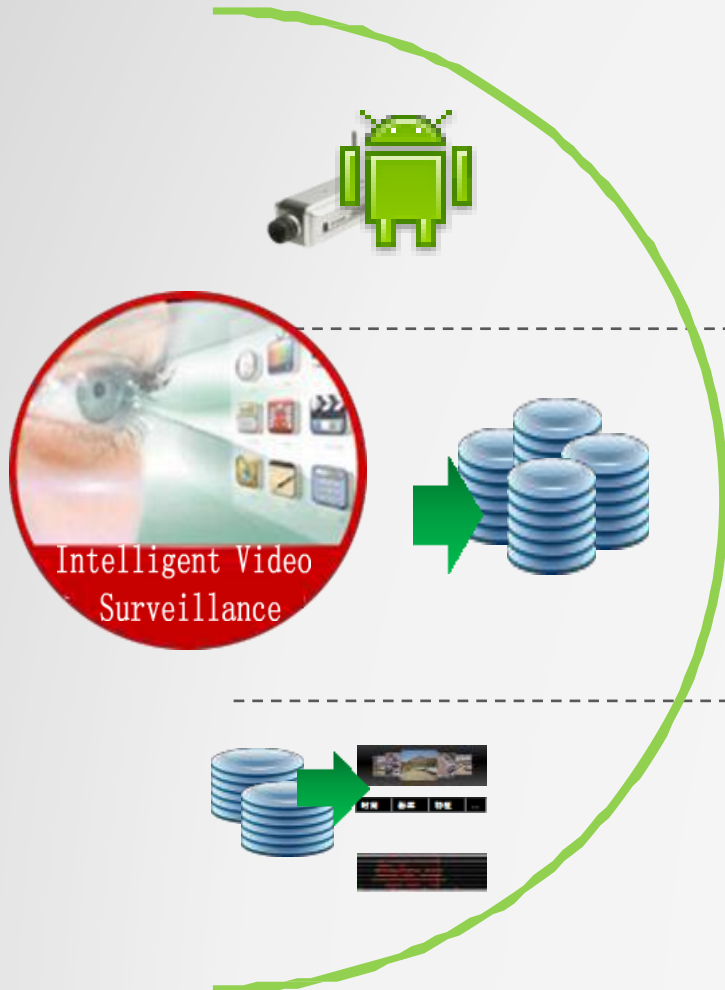
- Video extracting according to time, events, features, etc;
- Associate the multiple key information in database, and search by the multiple associations;



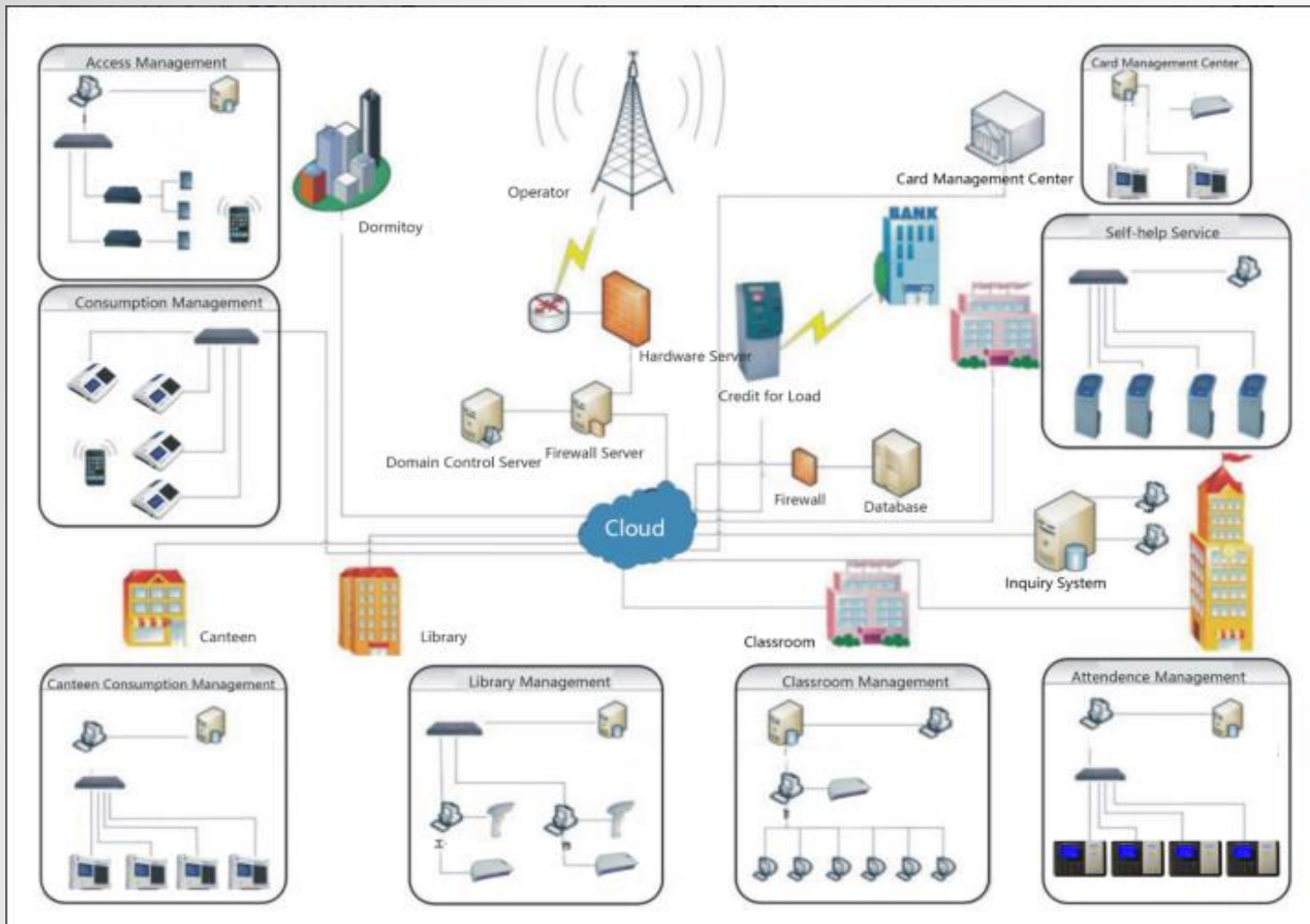
Intrusion



Losing



One Card Solution



Identification

- Access control and attendance
- Laboratory and multimedia equipment management and book borrowing
- Dorm management
- Exam supervision
- Registration , graduation procedures

Payment

- Purchase and payment
- Food consumption
- School van payment
- Allowance, self-service for water and electricity
- Bank transfer

Resource Control

- Water control in dorm
- Centralized electricity management, real-time energy monitoring

Information Integration

- Unified information portal system
- Unified identity authentication system,
- Unified data exchange and sharing center, the elimination of information island

Smart Education Software Platform



Authority



School
Leader



Teacher



Student



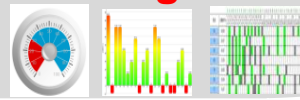
Parent

Software Platform

Resource
Sharing



Education
Management



School in Town



Rural school



Home



Anybody Anywhere Anytime Anydevice

Resource Sharing

- Interactive Class
- On-line learning
- Remote education & recording
- E-library
- ...

Information Management

- Office Application
- Work Flow
- Teacher Management
- Student Management
- HR Management
- School Management
- Statistics and Report
- Decision Support
-



Part

3

Success Cases

S&G Smart Education Solution already got same case in campuses

Moscow State University



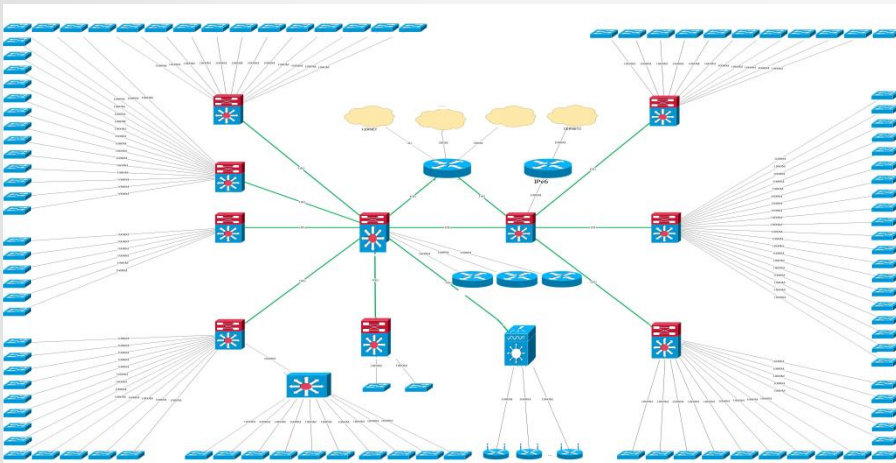
Brief introduction:

Russia's largest scale, the oldest comprehensive universities.
23 departments, 15 teaching and academic centers, 11 scientific research institutes.

26 thousands students and 10,000 visiting students.

The total area of 320 hectares

Moscow state university School network



IPv4 IPv6 upgrade project:

Upgrade all schools network infrastructure, Build a faster, more stable IPv6 network infrastructure, achieve IPv4 and IPv6 dual stack Gigabit Campus Network

Regardless of any place in the school, can access the Internet

Offer up to 100 thousands Internet access services

Dedicated Internet provides up to 20M / S data communication services

Laid 20 85 series of Huawei core switch, the laying of 30 km

Russia's next-generation Internet Demonstration School

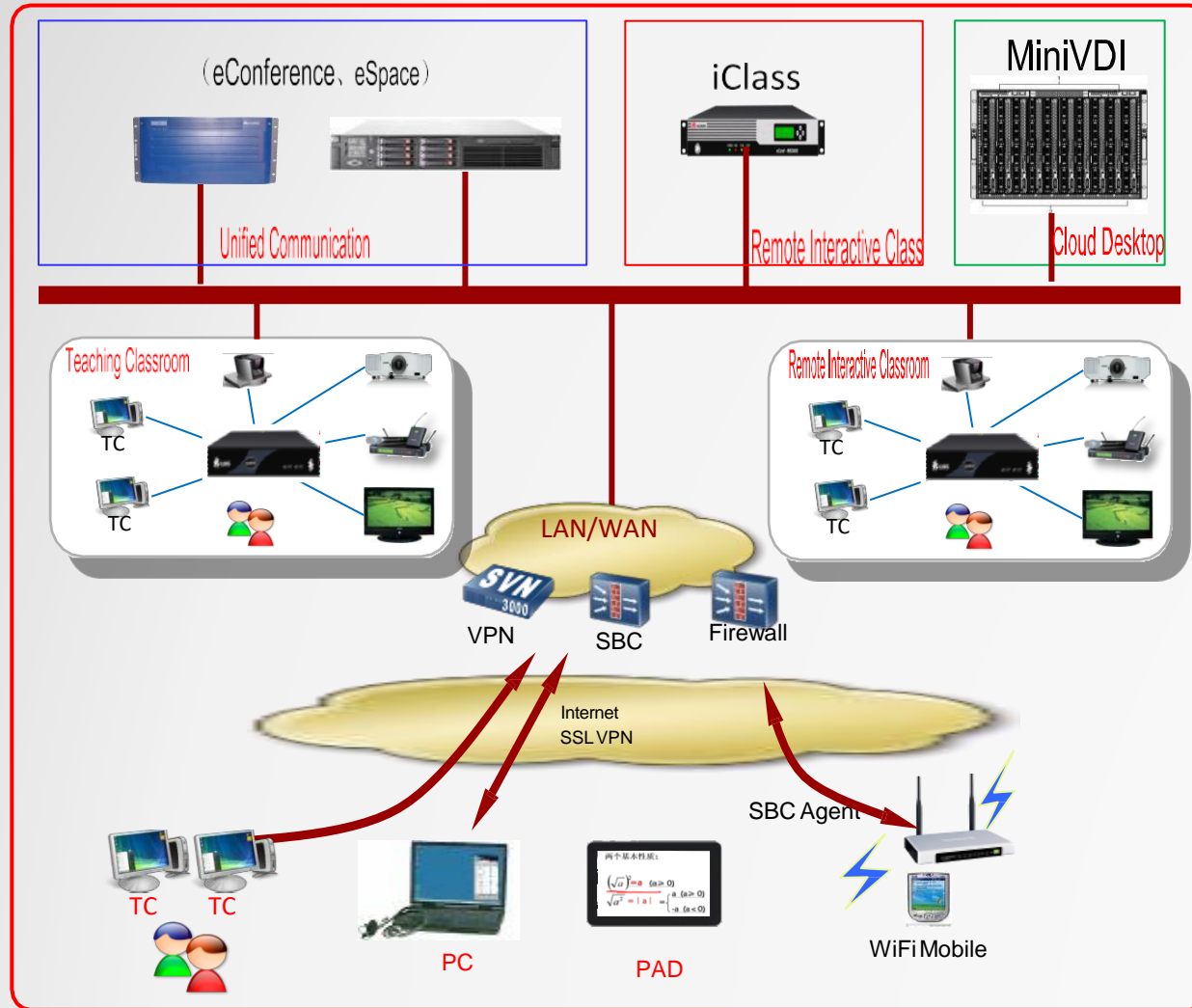
MoE of Ethiopia

Supply ICT Infrastructure for 12 public universities on behalf of Ministry of Education of Ethiopia

- This project is to supply and implementation of ICT Infrastructure for 12 public universities and supply and implementation of private educational cloud solutions for all public universities
- This project is to implement container data center and provide unique cloud solution for these 12 university and ministry of education to ensure resources sharing and data integration.
- All devices are made in China.
- This project is an experimental unit. The goal is to popularize to all high educational school for both university and high school.



Case-Cloud in East China Normal University



Requirements

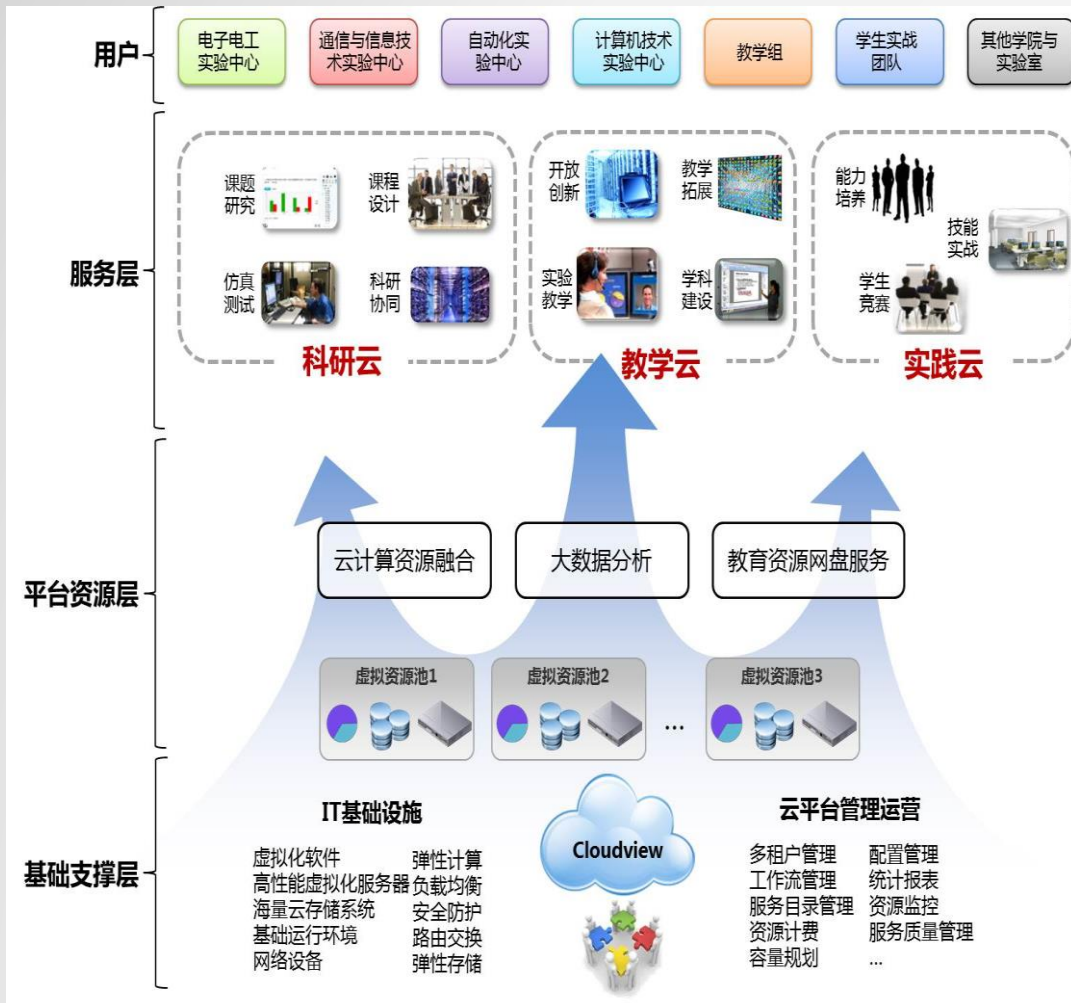
- Traditional blackboard lags behind the application needs from Information age.
- Low internal communication efficiency because of shortage of necessary communication tools
- Hard to maintain the old PC in the classroom.

- Overall solution containing the platform layer (UC, remote interactive teaching, Desktop Cloud) and terminal layer (multi-media classrooms, PAD terminal, TC)

Customer Value

- Students join the remote course teaching in the classroom.
- Students could have a real-time and interactive online-class by the multi-media ways.
- UCC effectively improves the internal communication.
- Cloud desktop greatly decrease the maintenance cost.

Hebei University of Engineering



Project Background

Hebei University of Engineering have a good information basis, the use of computers has been deep into all scientific research, teaching, school management and so on after the investment and development for many years of information. However, the integration of teaching and scientific research model also faces several serious challenges: low resource usage rate, low resource reuse rate, low rate of resources output.

Scope

In order to provide a unified and flexible and efficient fusion research campus cloud platform. Need to not only to provide cloud computing service support to College of electronic & electrical center, Communication and information technology center, Automation and computer technology experiment center, but also to provide cloud computing assisted instruction, aims to build a cloud platform of "cloud research", "teaching cloud" and "Cloud practice", and provide convenience for the teachers and students in the college office, teaching and research work.

Platform Construction

Teaching cloud: Based on cloud classroom, teaching platform of big data and cloud computing technology to build a flexible teaching platform, which can provide courses related to the discussion, Q&A, the development teaching activity according to the characteristics of basic disciplines.

Research Cloud: basing high performance technology to establish scientific data sharing and collaborative research platform, realizing knowledge sharing and research innovative under the network environment, the teachers and students can perform project management, resource data sharing, exchanges and cooperation.

Practice Cloud: to build a training environment for students, serve students from theory to practice, enhance practical ability and competition & operation of the project.



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