



**ICT:
turn propitious clouds
into spring rain—
Smart+Connected
Communities and life**

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Agenda

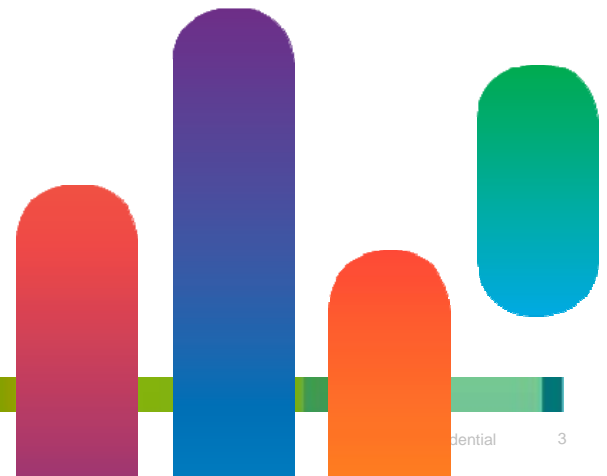
- Trend and challenges of e-services in modern cities
- Cisco Smart+Connected Communities value
- Blueprint of cloud computing services in Smart+Connected Communities
- Methodology and examples

“An Open Network Platform
for Smart Connected
Communities”

Cisco Cloud Solutions

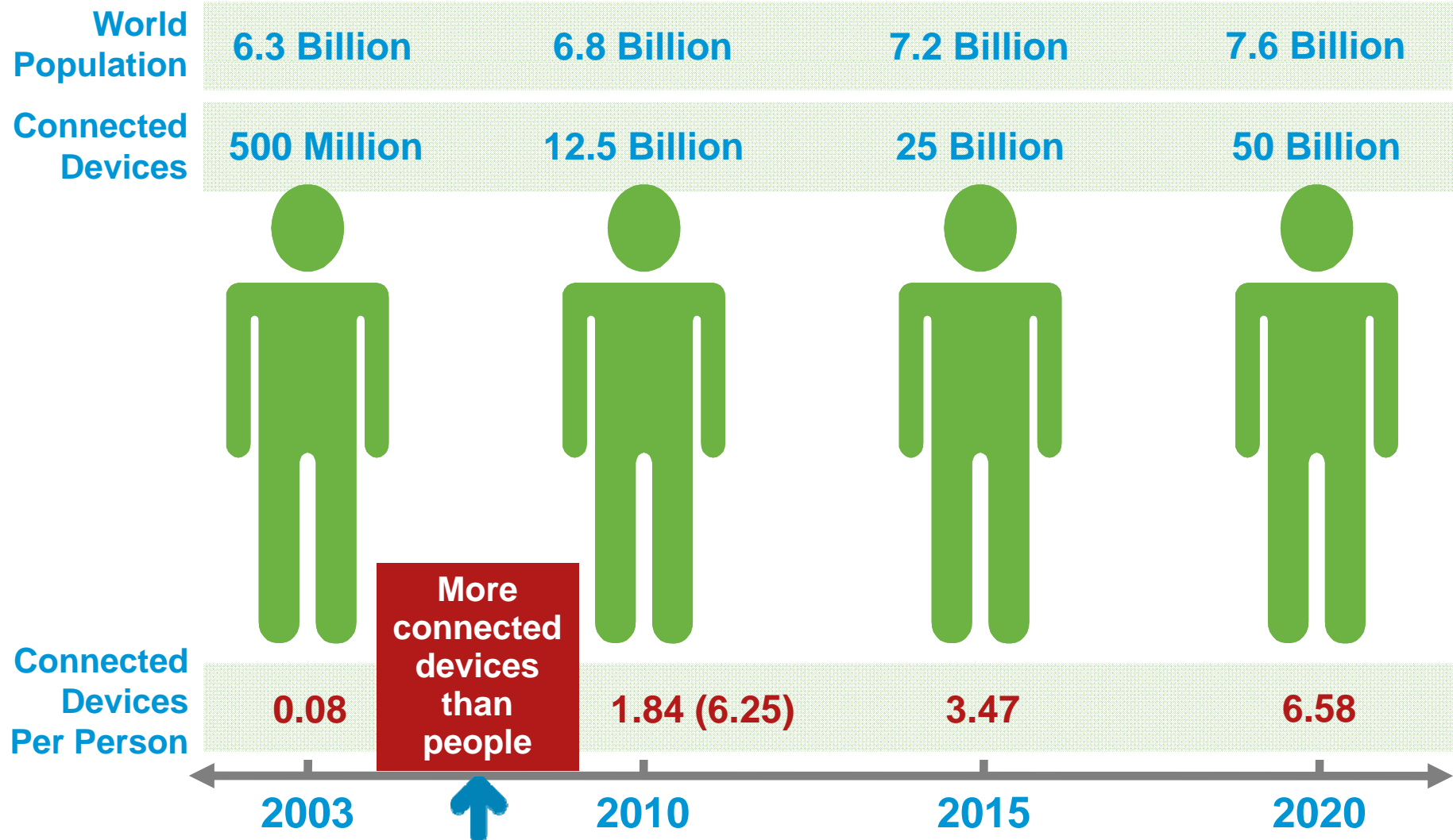


Trend and Challenges of E-services in Modern Cities



ICT is changing the world

Era of the Internet of Things: every item is connected



Source: Cisco IBSG, 2011

Post PC Era is Coming

Transitioning to the Post PC Era

New choices at every layer of the Traditional Stack

PC World

Post-PC World

Applications



Google docs



Client OS



symbian OS

Server Architecture



Azure

CITRIX

Devices



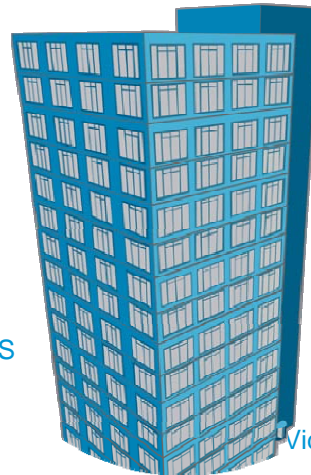
smarter!

– the role of network in a building (integration of ICT and facility)

IP Convergence

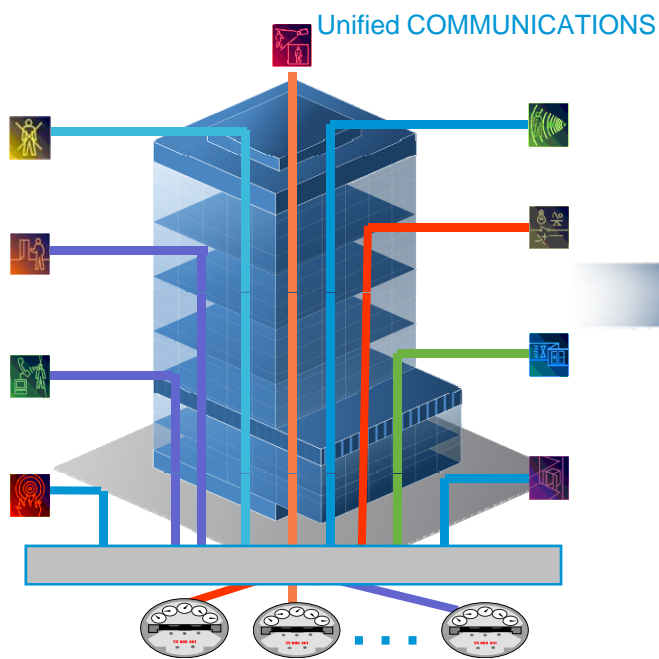
From Proprietary

- Disparate Networks
- Proprietary and Redundant
- Sub-Optimal Information Usage



To an Open & Shared Vision

- Interoperable
- Efficient and Scalable
- Multi-use Systems Information



Multi-control network and system monitoring

Video monitoring

Report to the police/access control

Interactive communication system

Fire safety

Unified COMMUNICATIONS

Lighting

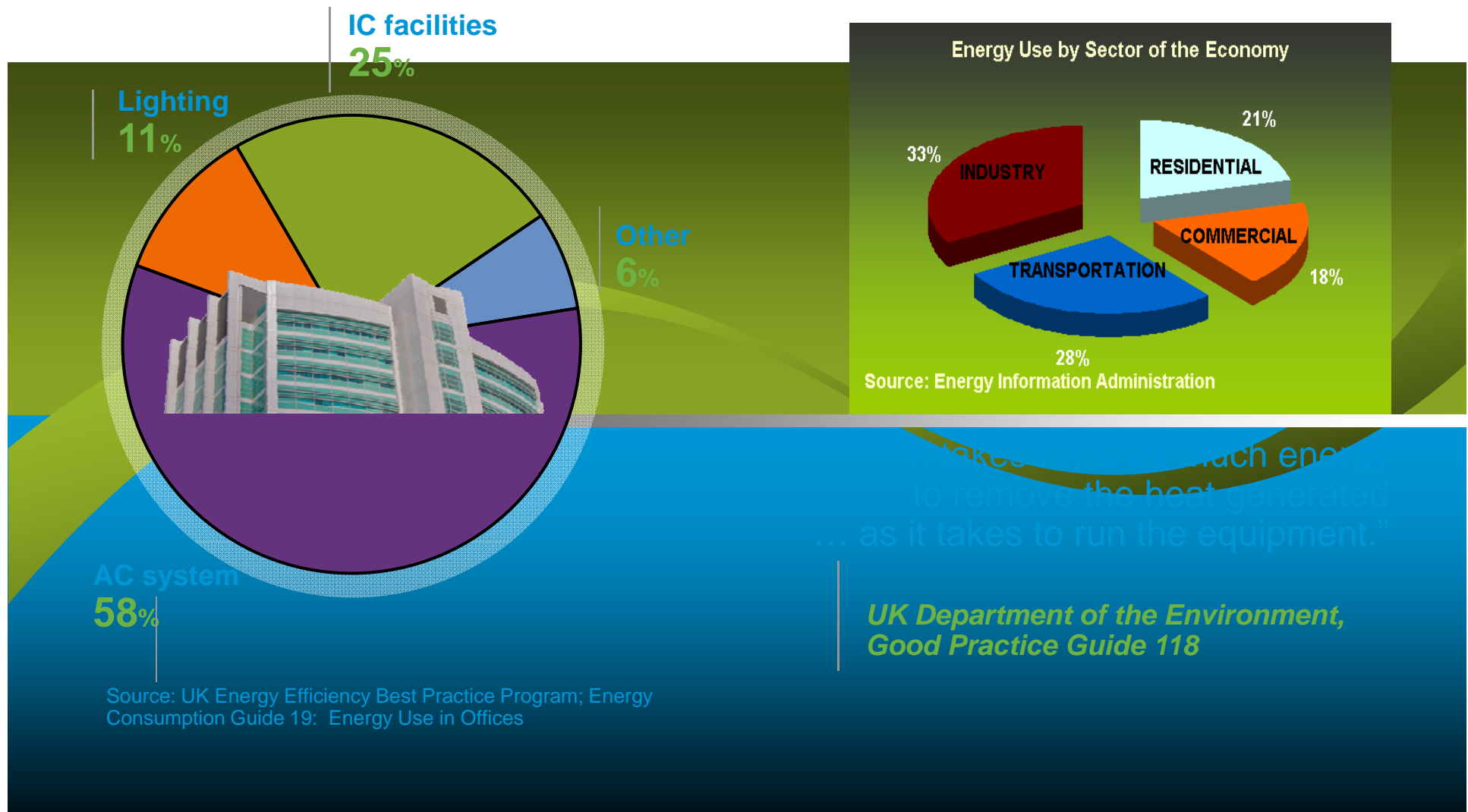
Electricity

AC

Elevator

Single central monitoring and control

Energy distribution in business buildings

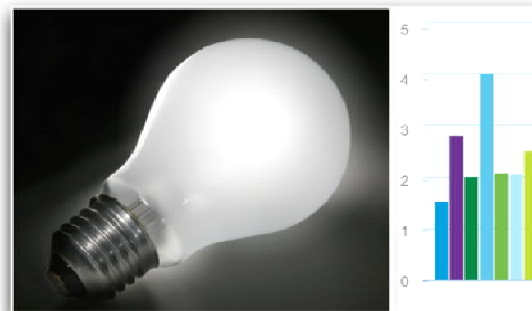
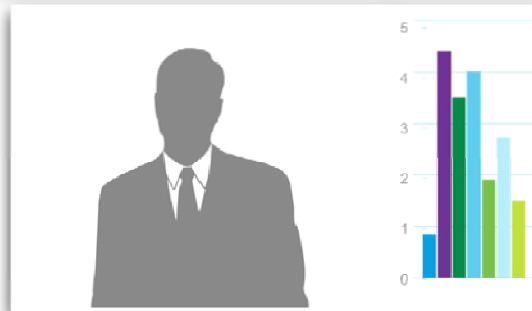
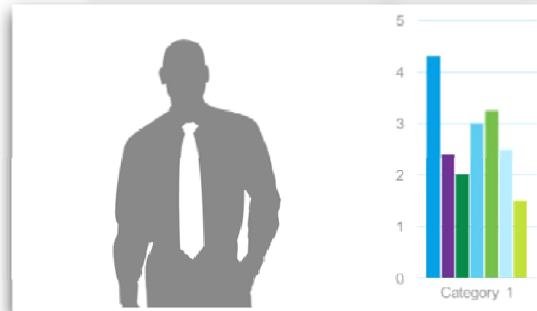


Source: UK Energy Efficiency Best Practice Program; Energy Consumption Guide 19: Energy Use in Offices

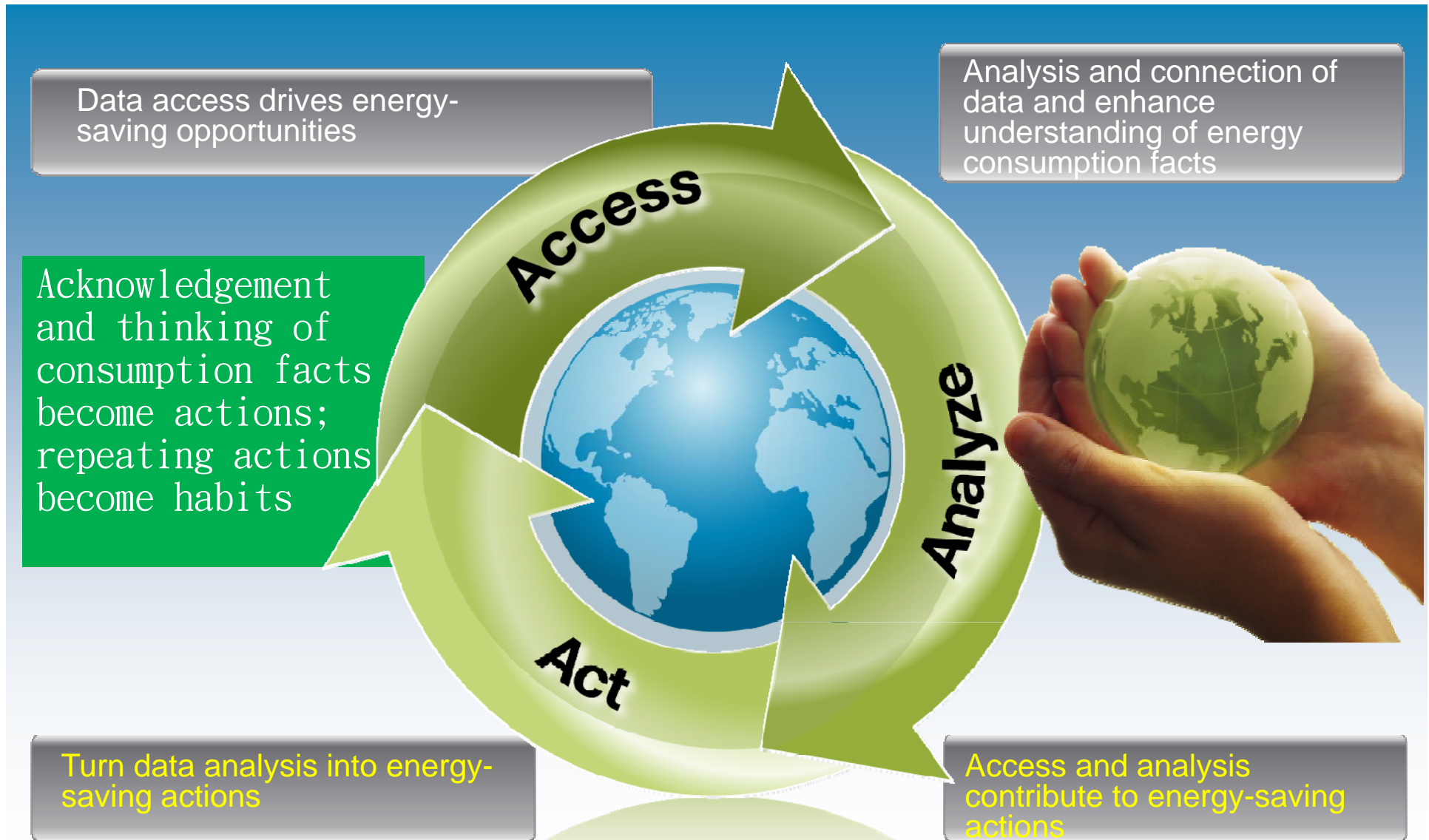
UK Department of the Environment, Good Practice Guide 118

Network is the base of innovative services

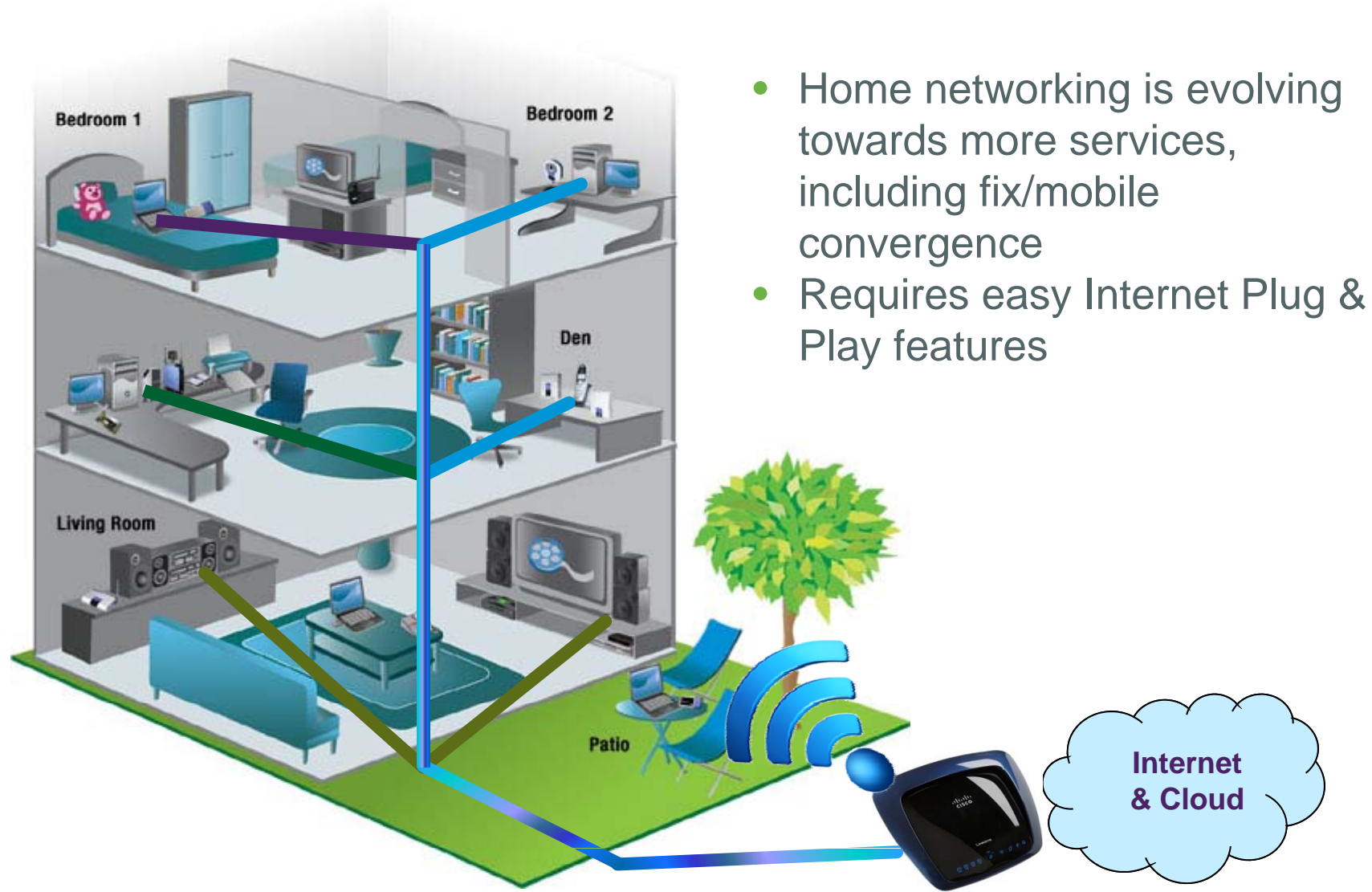
The Network Drivers Innovation

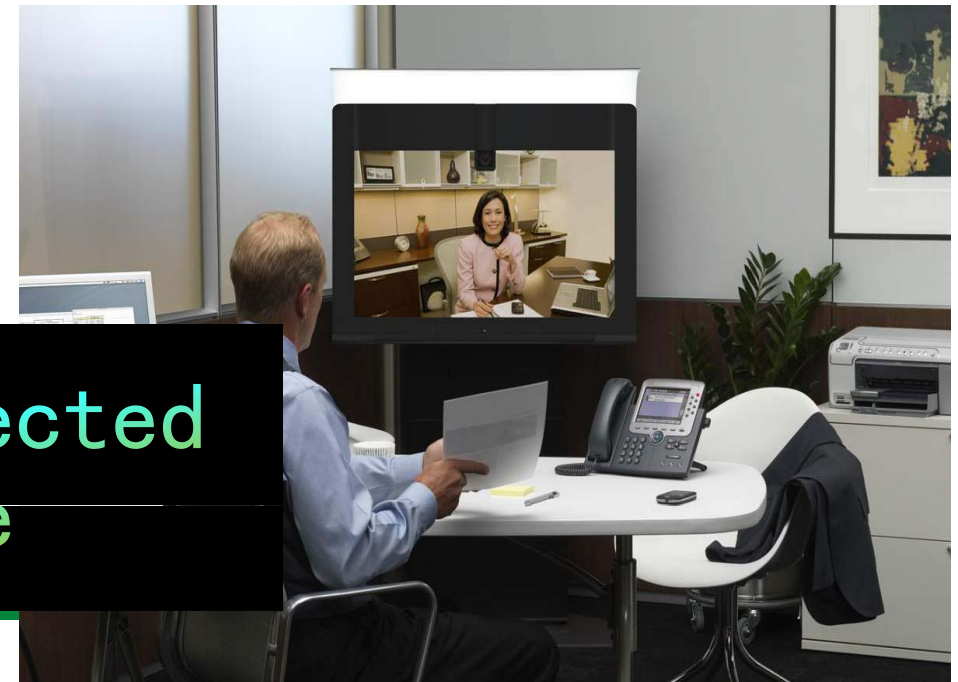


Introducing “data” into IC system is the key of energy-saving – smart network serves as a platform



Network convergence of smart homes





Cisco Smart-Connected
Communities Value

Concept of Cisco Smart+Connected Communities

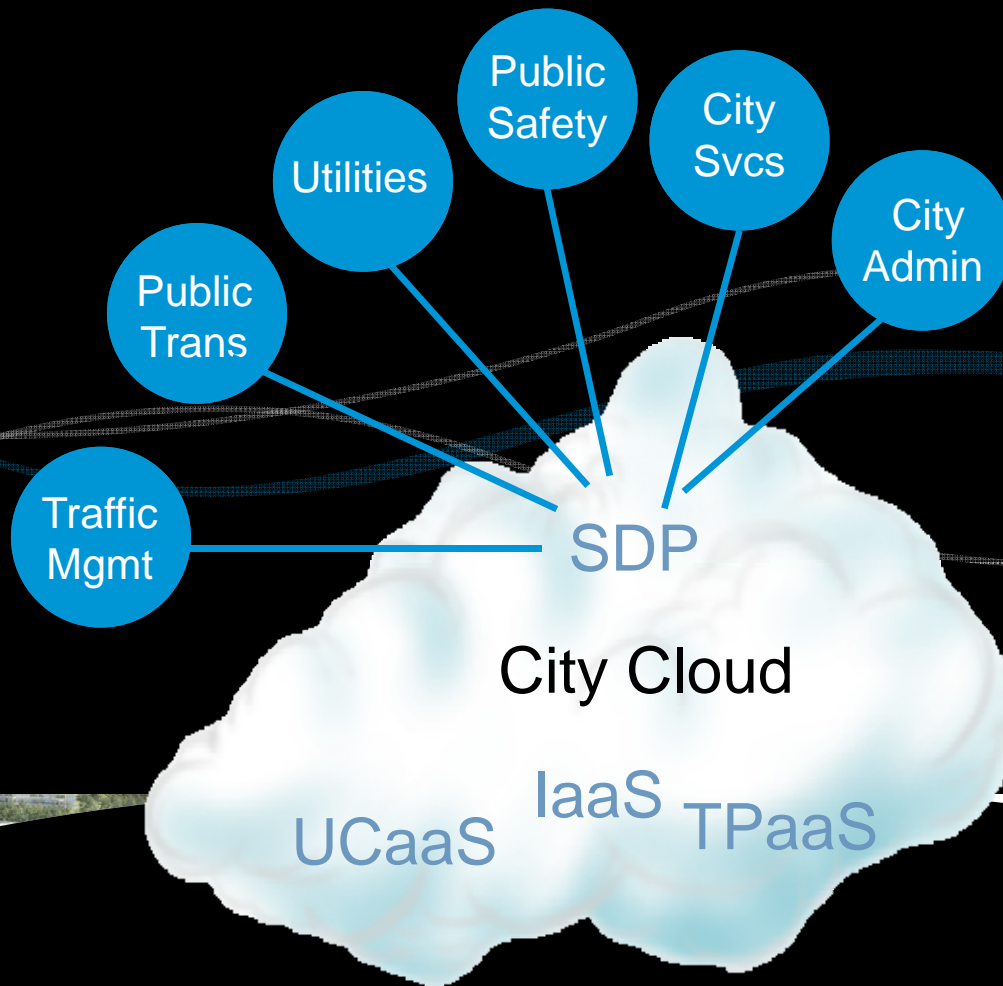




Blueprint of Cloud Computing Services in Smart+Connected Communities



Cloud Computing and Blueprint in Smart+Connected Communities



Why cloud service ?

Introduction of cloud service



CE——ANYTIME, ANYWHERE, WITH ANY DEVICE, ANY USER COULD ACCESS TO ANY INFO WITH ALL



Government

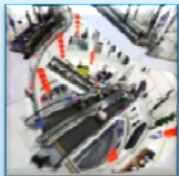


Enterprise



Citizens

User's terminal device



Retail



Education



Government



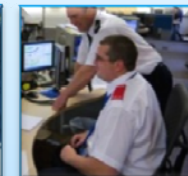
Medical Care



Telecommunication



Public affairs



Security



Tourism



Sports/entertainment



Home



Office



Traffic



Buildings



Emergency

Different cross-field industries share the same world-class mutual platform

It could be expanded anytime to meet city-level distribution

The fee depends on the amount, it could support different creative business models

Base on the open standard of the internet, distribution could be simplified and it helps connection and correlation among services

Borderless network

Collaboration

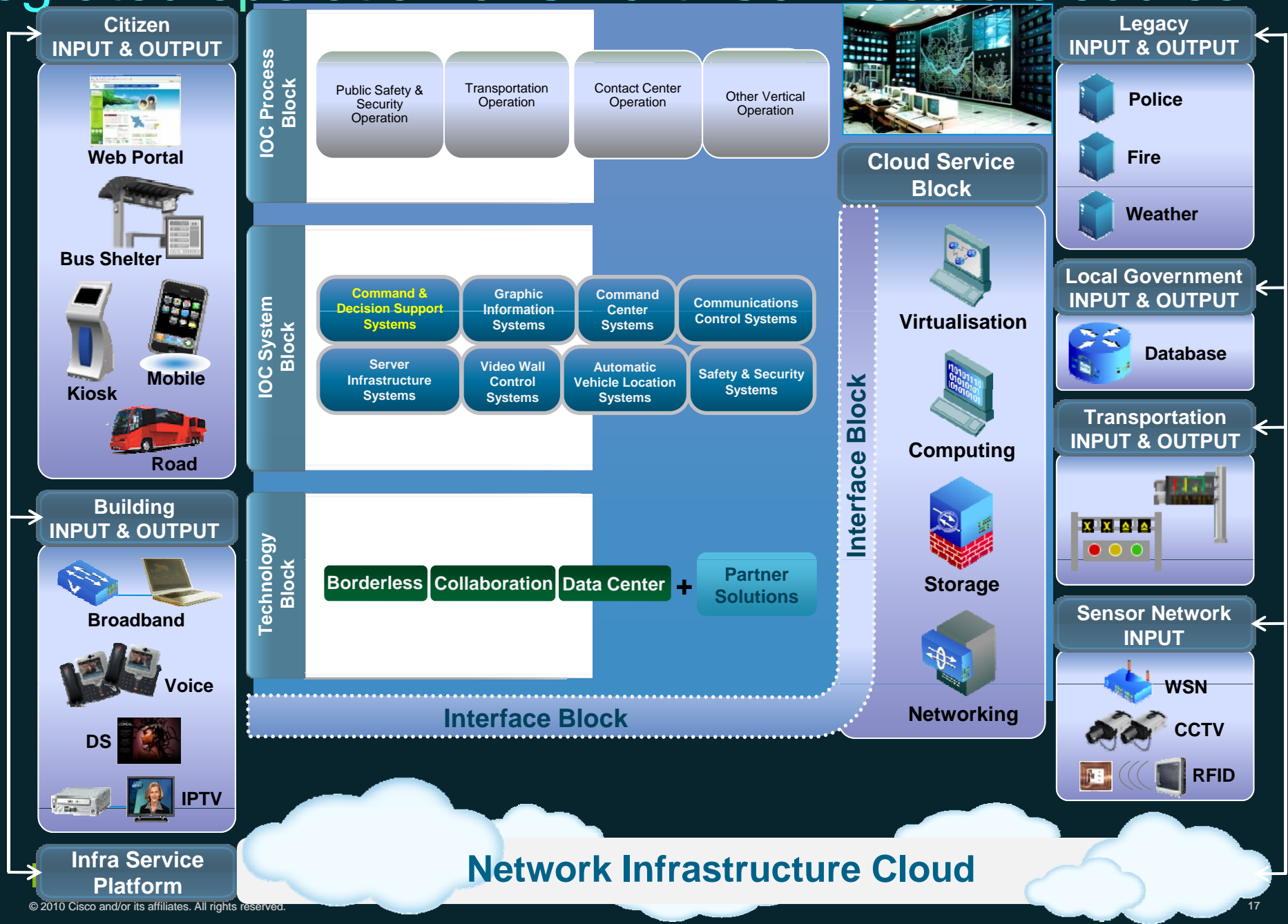
Data center / virtualization

Information platform
Cloud service

Detailed structure of Smart+Connected Communities' cloud service



Integrated operation of Smart+Connected cloud servi



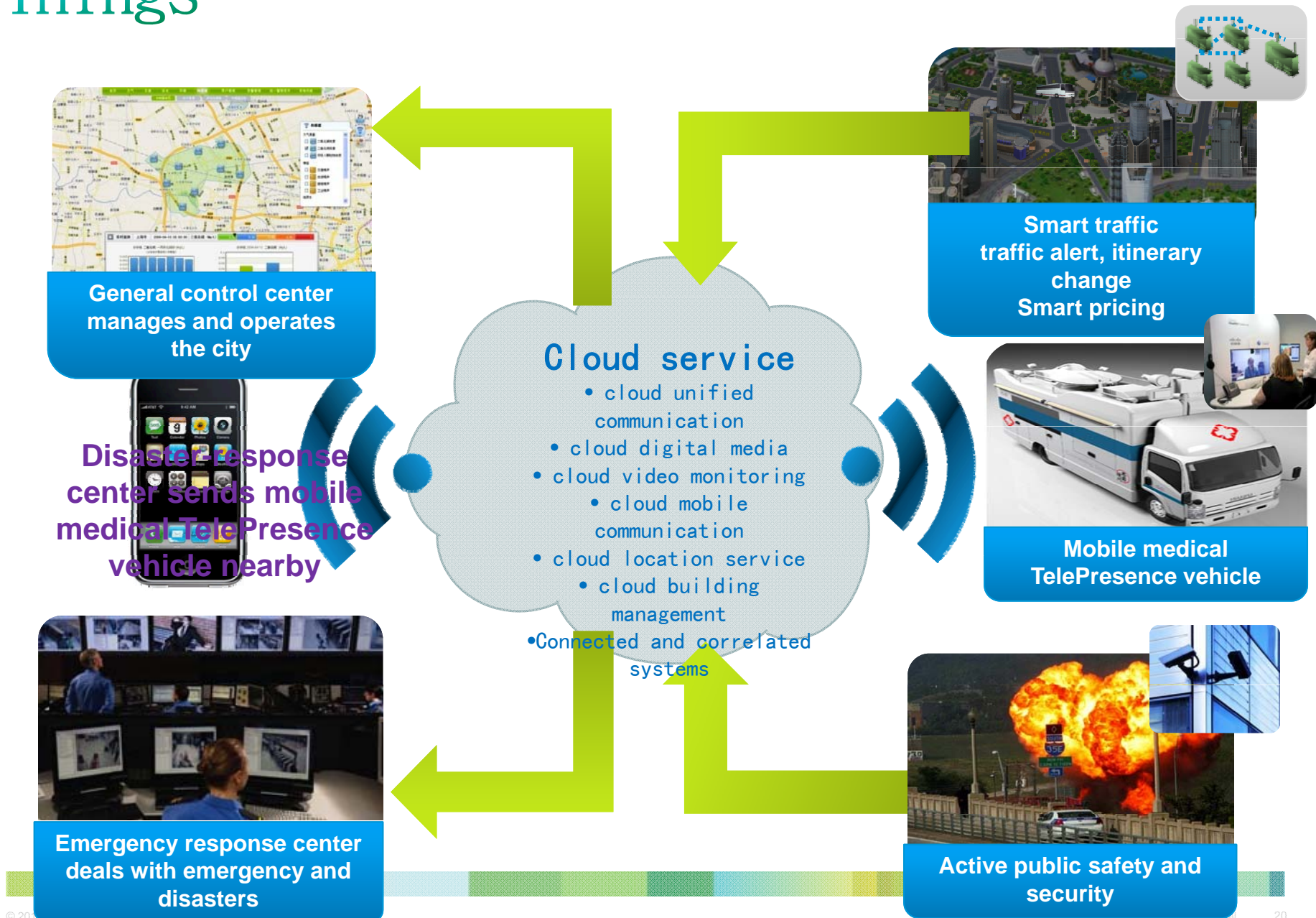
Cisco Service Delivery Platform UI Example





Methodology and Examples

service combined with the Internet of Things



General city control center: example of the combination with the Internet of Things

Plural systems and sensors based on the same network

(Please see urbanecomap.org)

The screenshot displays a city control center interface with an aerial map background. Several data overlays are visible:

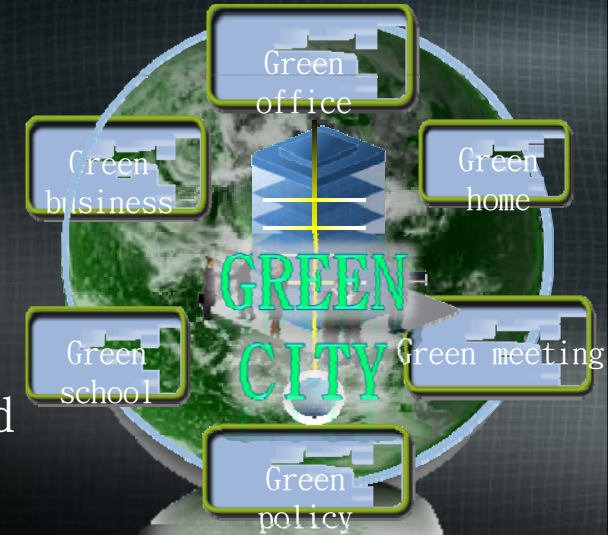
- Map Controls:** Top left shows navigation tools (compass, zoom) and a 'Show labels' checkbox. A yellow box below says 'See this location in bird's eye view.' with a 3D building icon.
- Traffic Monitoring Sensor Details:** A bar chart titled 'Live Data: Car/m' showing traffic volume from 04/24 00:00 to 04/25 00:00. The y-axis ranges from 0 to 0.035.
- Water Quality Sensor Details:** A line chart titled 'Live Data: hndr-scal' showing water quality data from 04/24 00:00 to 04/25 00:00. The y-axis ranges from 1008 to 1024.
- Air Quality Observation Sensor Details:** A line chart showing CO2, dust, and SO2 levels from 04/24 00:00 to 04/25 00:00. The y-axis ranges from 0 to 0.06.
- Manage Views Panel:** On the right, a sidebar contains 'Manage Views', 'Popular Views' (Seattle, JHU Soil Sensors, SFO Parking), 'Filter Sensors by Type' (thermometer, air quality, traffic, parking, water quality), 'Filter Sensors by Search', and 'Saved Views'.

At the bottom, a description for the 'Air Sensor' is visible: 'Description: CitySense multi-parameter Air Sensor'.

Smart-connected communities realized in Incheon Free Economic Zone, Korea

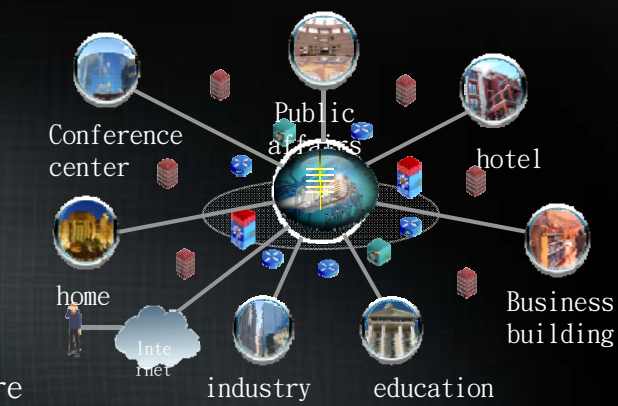


- Integration of building automation, ICT and safety/security
- Establish unified green network of public affairs, education, medication and homes
- Extend smart buildings to smart communities based on green buildings
- It has competitive advantages comparing to the traditional environmental standard



Smart green building

gas electricity Water communi
Necessary infrastructure infrastructure



- A unified basic structure
- Innovative smart+connected services
 - smart+connected citizen service
 - smart+connected traffic
 - smart+connected real estate
 - smart+connected public affairs
 - smart+connected safety and security
- Sustainable business model



High-speed IC



Smart building



Green building



High efficiency energy



Northeast Asia Trade Tower in Incheon Free Economic Zone (New Songdo City, Korea)



Floor area: 200 thousand square meters, certified by LEED. A 65-storey building including offices, retailers and residence

Benefits

1. Strengthen customer experience and enhance productivity
2. Differentiated services

Services expected to charge

- Operation income: **\$13.2 /square meter/year** comes from IC services, security/safety services and smart building services
- Payback period: **32 months**, internal rate of return **29%**

Excellent operation

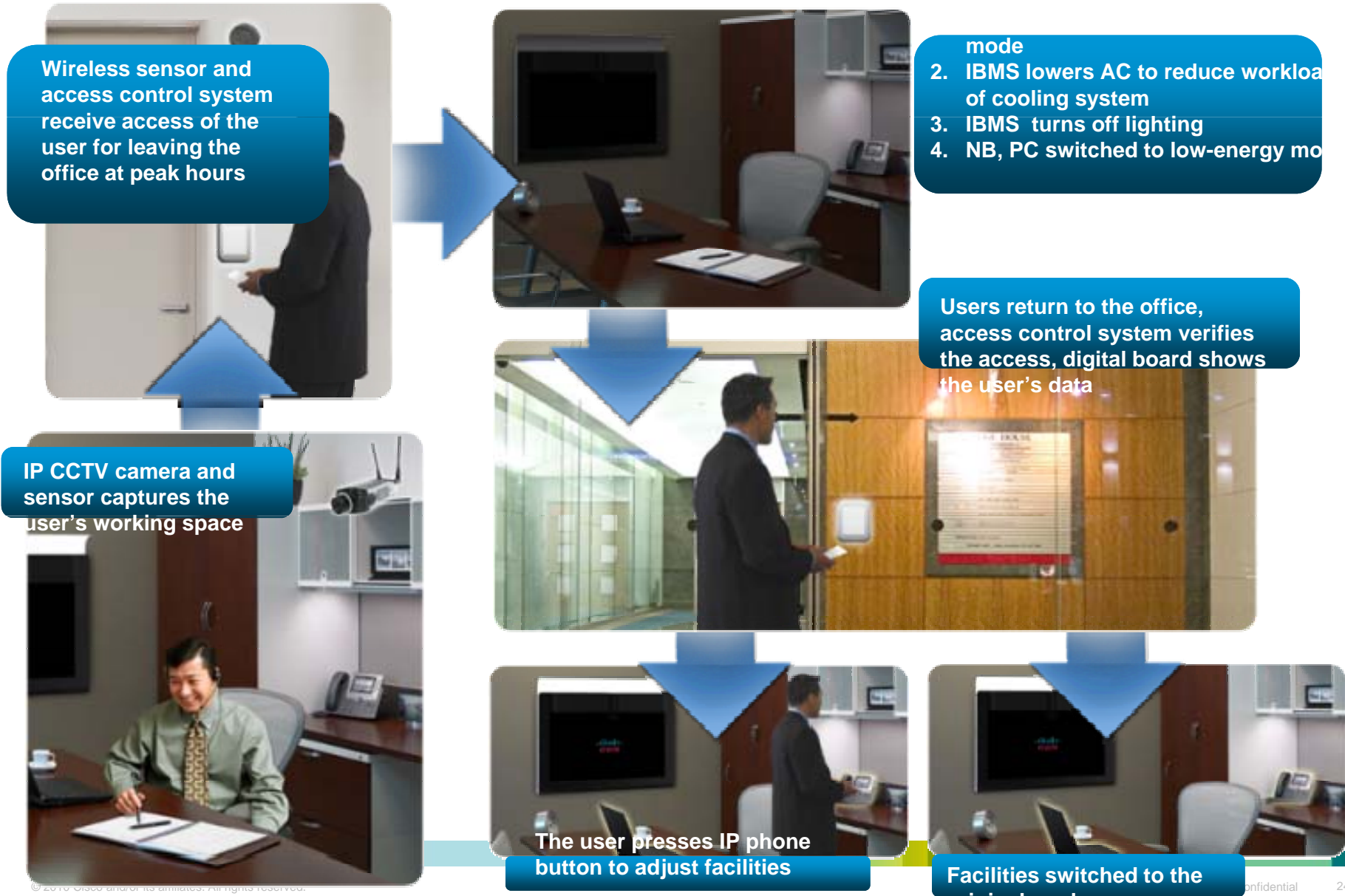
- Benefits of green energy-saving: **\$3.63 /square meter/year**
- Operation saving: **\$2.26 /square meter/year**

Single integrated network

- Single network supports data, voice and video
- **It saves 50 thousand USD**

Office and meeting room

Reduce CO2 emission of buildings Personal Virtual Office or Conference



Public Services - Smart Home Solution



Virtual Education : With Virtual Education, residents can attend classes in real time at the comfort of the home. The resident can participate in class just like a normal day in school from household electrical appliances to maintain low energy consumption



<http://www.smartconnectedcommunities.org>
<http://urbanecomap.org>
<http://www.connectedurbandevelopment.org>
http://www.cisco.com/web/strategy/smart_connected_communities.html
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