"The Optical Broadband Utilization Study Team" : Outline of Interim Report

Ⅰ Features and new possibilities of optical broadband

1. Nationwide broadband deployment (by the end of FY 2010)

Broadband service will be made available in all the households before the end of FY 2010 (March 2011).

2. Optical broadband features and technologies supporting it

The optical broadband has realized higher speed Internet access at lower cost regardless of the distance.

➢ Backbone network : The transmission speed has increased up to 1.6Tbps by adopting optical amplifiers and Wavelength Division Multiplexing (WDM).

➢ Subscriber network : Introducing GE-PON with Ethernet technology has enabled provision of the broadband service capable of 1Gbps in both direction. Such service can be provided at relatively low price by sharing a single optical fiber among up to 32 users.

3. Future challenges

➢ Optical broadband service is available in about 90% of the total households (still not available in about 6 million households).

➢ Optical broadband service is not fully utilized (service subscription rate is about 1/3).

➡ "The Optical Broadband Utilization Study Team" aims at suggesting methods to utilize optical broadband for;
・reducing administrative costs and improving quality of administration, and
・ improving convenience of daily life of local residents in areas such as healthcare and education.

Ⅱ Optimization of local governments' ICT systems by using the Broadband Open Model

> "The Optical Broadband Utilization Study Team" has suggested introducing the "Broadband Open Model" (shared use of cloud computing applications via optical broadband network) in order to optimize ICT systems of local governments (by reference to shared use of ICT system among regional banks).

> Such optimization process is achieved through competition among information system companies and selection by local governments.

1. Two issues to be further studied (FY2010 budget)

(1) Online feasibility study for reform of local administration

The Ministry of Internal Affairs and Communications will start feasibility study of shared use of existing ICT systems of local governments and grasp the current data items and data processing functions by using ready-made software (11 information system companies and 400 local governments will join the study).

(2) Test demonstration of the Broadband Open Model

The Ministry of Internal Affairs and Communications will test security level and transmission speed of optical broadband network between computer terminals of local government officials and data centers which are located outside of local government buildings.

2. Expected effect

(1) Estimation of administrative cost reduction

If the Broadband Open Model is adopted, the administrative cost will be reduced to $1/3-1/2$.
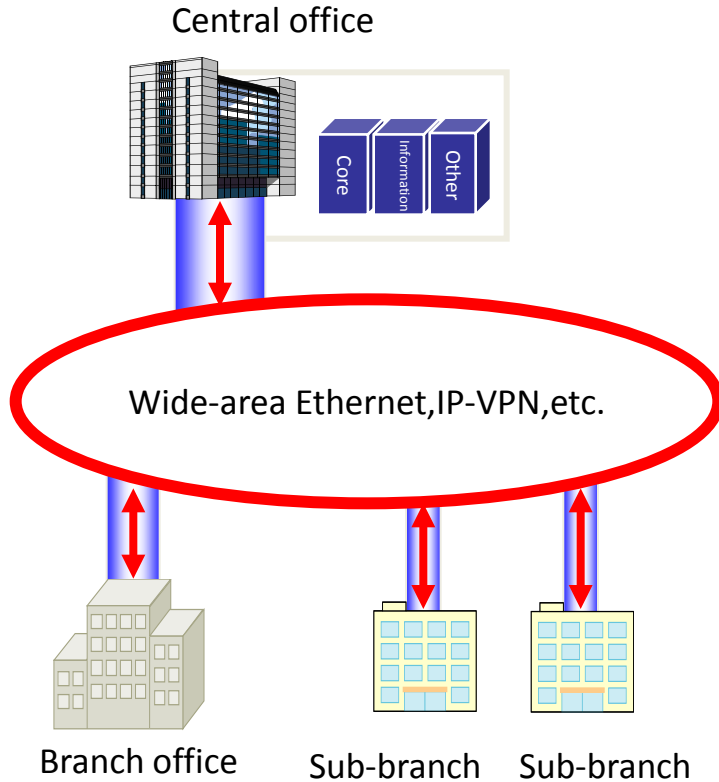
(2) Realization of Open Government

The broadband open model will contribute for more transparent operation of administration.

※ The Ministry of Internal Affairs and Communications will also start the test demonstrations in other 3 areas (education, job training for challenged people and medical statistics) in order to develop ICT systems for solving problems in local communities.

Broadband Open Model

Current ICT systems of local governments

Central office
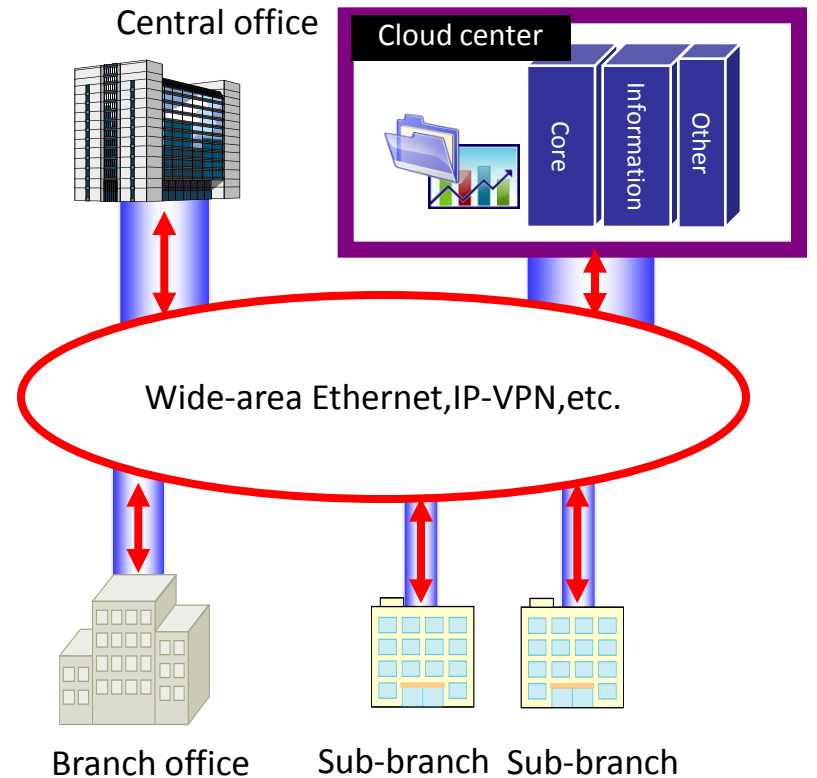
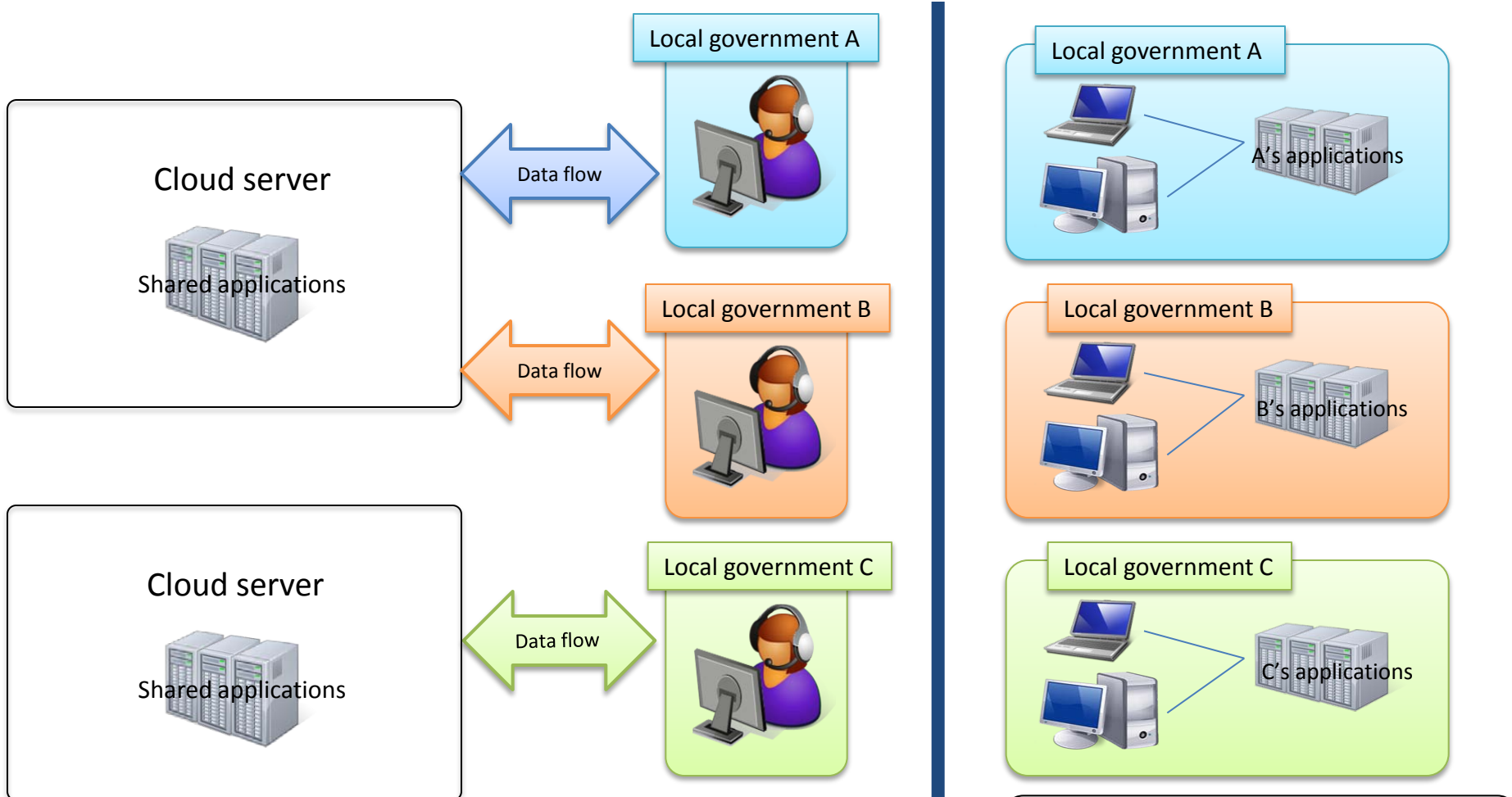Core | Information | Other

Wide-area Ethernet,IP-VPN,etc.

Branch office | Sub-branch | Sub-branch

Broadband Open Model

Central office

Cloud center

Core | Information | Other

Wide-area Ethernet,IP-VPN,etc.

Branch office | Sub-branch | Sub-branch

Image of adopting the Broadband Open Model for local administration

（After ）

Cloud server

Shared applications

Data flow ↔ Local government A

Data flow ↔ Local government B

Cloud server

Shared applications

Data flow ↔ Local government C

(Common cost→shared by local governments)
・System construction cost
・System repair cost
・Maintenance cost for server and database
・Maintenance labor cost

(Each local government burden)
・Communication fee
・Software fee

（Before ）

Local government A

A's applications

Local government B

B's applications

Local government C

C's applications

(Each local government burden)
・System construction cost
・System repair cost
・Maintenance cost for server and database
・Maintenance labor cost

Comparison of cost in each model of ICT system operation (annual estimation)

	A	B	C
Applications development (Million Yen)	217	140	15
Hardware development (including operating cost) (Million Yen）	260	155	135
Total (Million Yen）	477	295	150
Index	3	2	1

A: Legacy model

B: Client-server model (ready-made software + customization)

C: Broadband Open Model (ready-made software)