

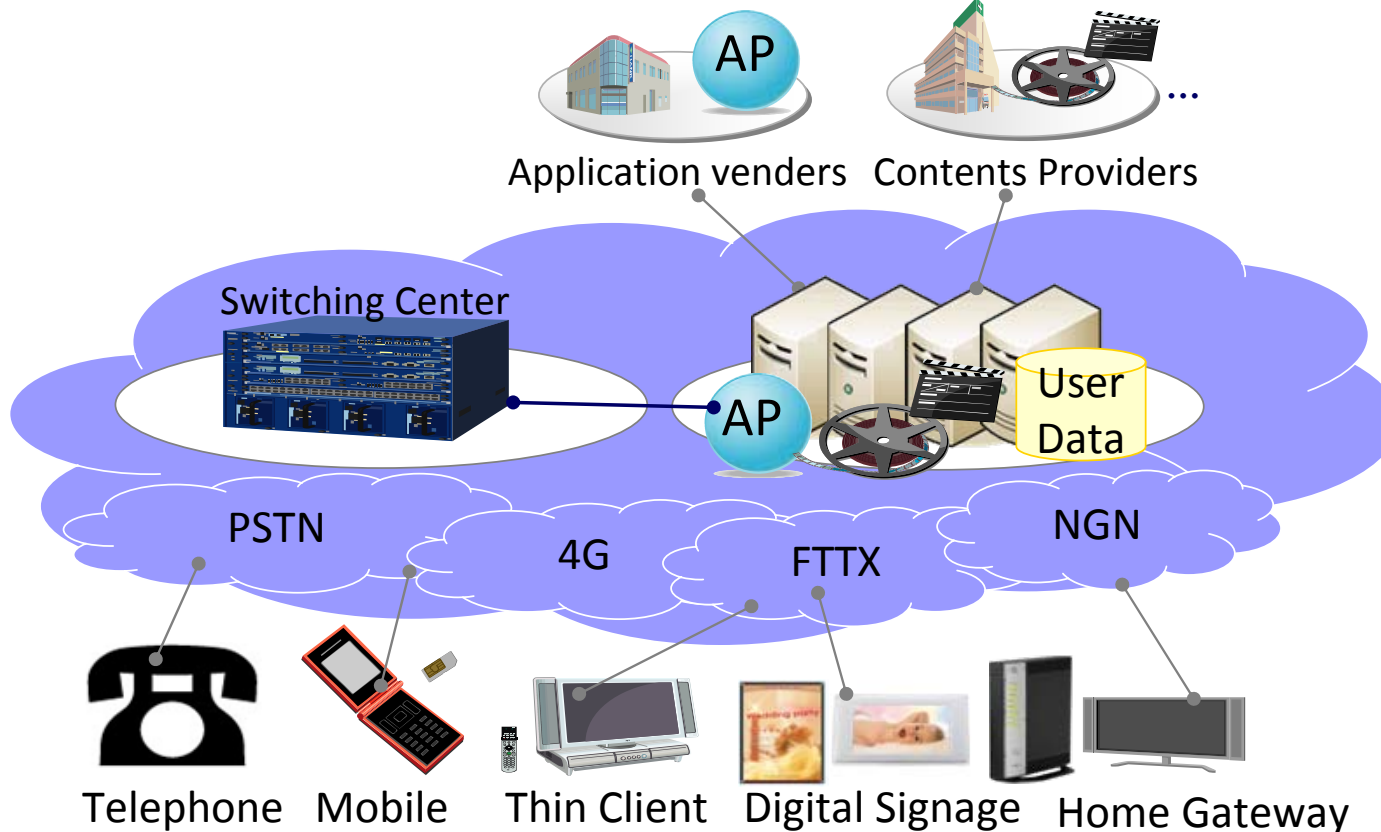
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# The Introduction of Cloud oriented ICT Service Business of Carrier

(IT and NW Evolution and Future Vision of Carrier Business)

# Cloud oriented ICT service business of carrier

- Carrier becomes a core player of cloud computing, various services are provided by through carrier's platform.
- User can use any services, anywhere, anytime.



➔ Collaboration of Service

➔ Green ECO for society

➔ Reliability of cloud

➔ Ubiquitous

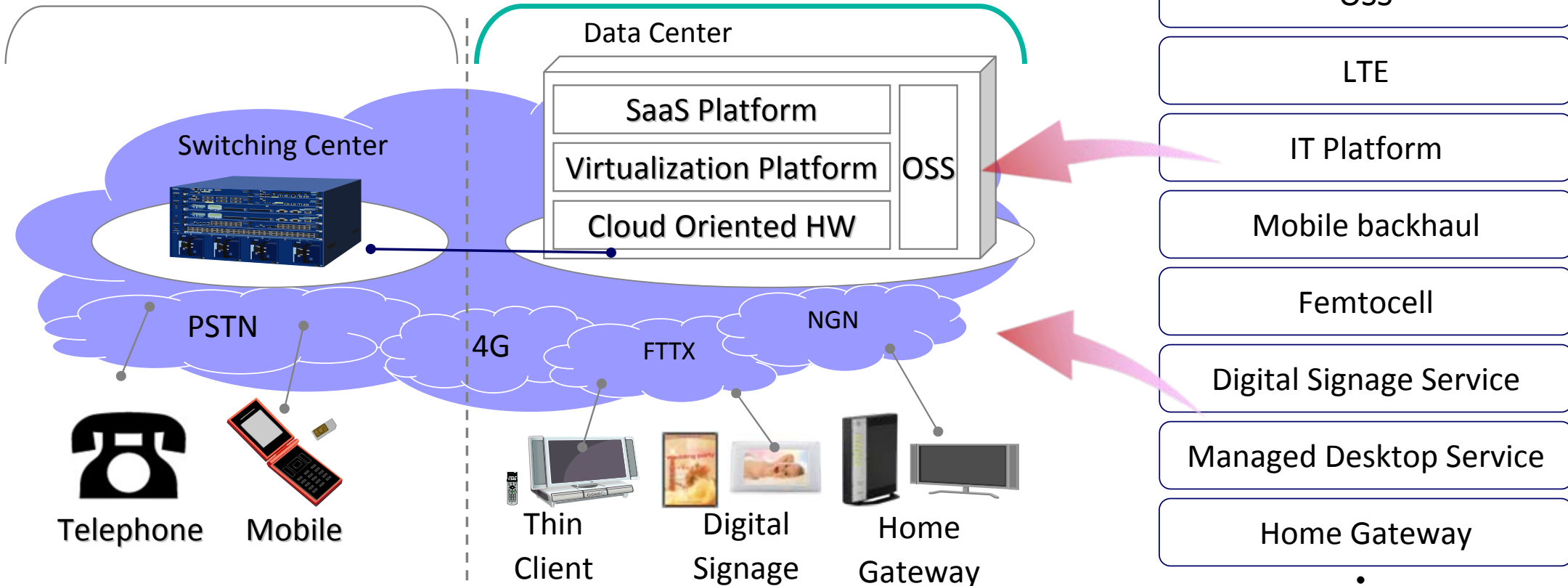
➔ Trust for service

# NEC for carriers

NEC is a best supplier to realize “Cloud oriented ICT service business of carrier” .

## Carrier's Legacy Business

## ICT Service Business



# NEC

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# Managed Desktop Service of Carrier

# Managed Desktop Service as Carriers Service for Enterprises

Managed Desktop Service is Virtual PC providing and maintenance service for enterprises.

## Carrier to provide as service as below



Virtualized PC



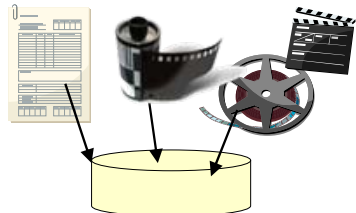
Maintenance



Network



Help Desk



Data Storing / Back up



Thin Client

service



Monthly Fee



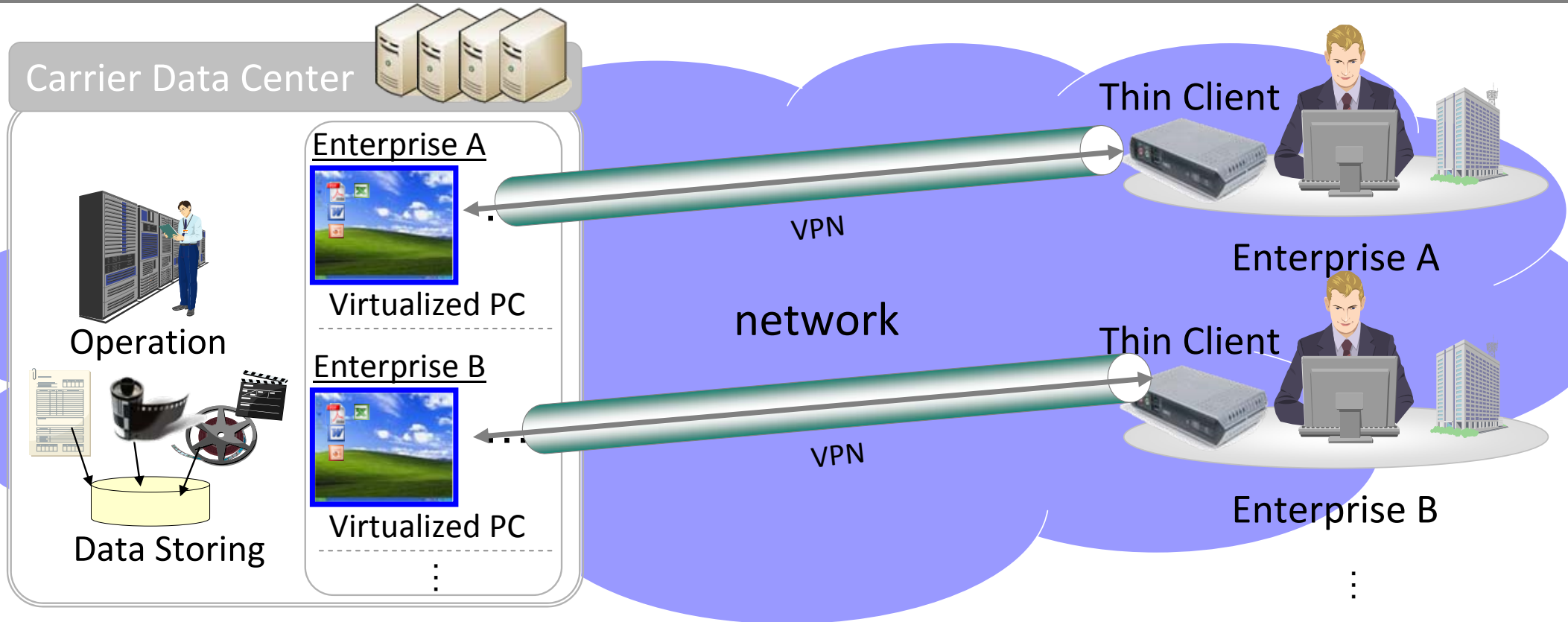
## Enterprise to utilize ...



Enterprises utilize the PC environment with more comfortable way

# Overview of Managed Desktop Service

Users of enterprise connect own virtualized PC which are hosted on datacenter through carriers network.

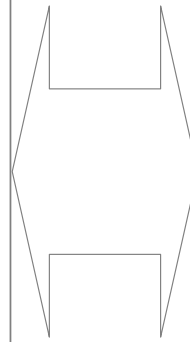


# The benefits of Managed Desktop Service for enterprise

Managed Desktop Service breaks the overhead of usage of IT for enterprise.

## Overhead of IT

- IT management
- Initial Cost / Replace Cost
- Data and Business opportunity lost
- Security



## Benefit for enterprises

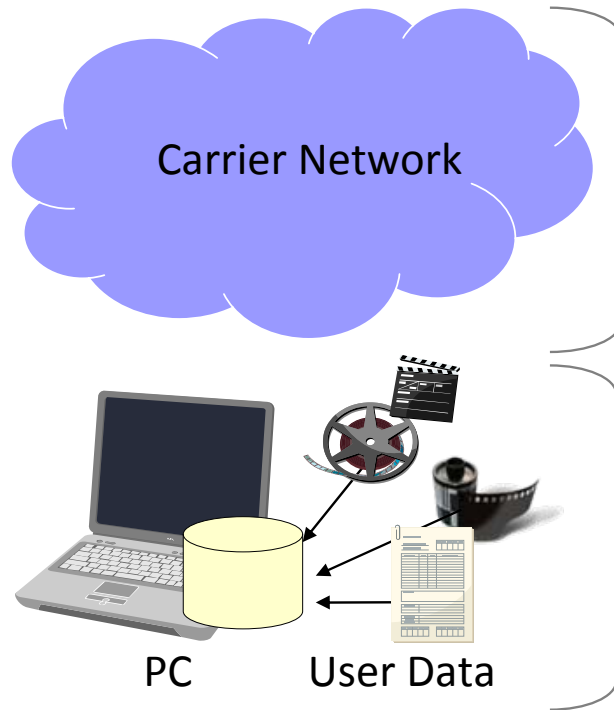
- No need for maintenance
- No initial and replace cost
- Business continuity
- Security enhancement
- ⋮

*MDS will bring the value of IT without overhead*

# The Merit of Managed Desktop Service for Carriers

Carrier will obtain the new revenue which is highly continuous the same as telephone service through consolidating the huge market of PC.

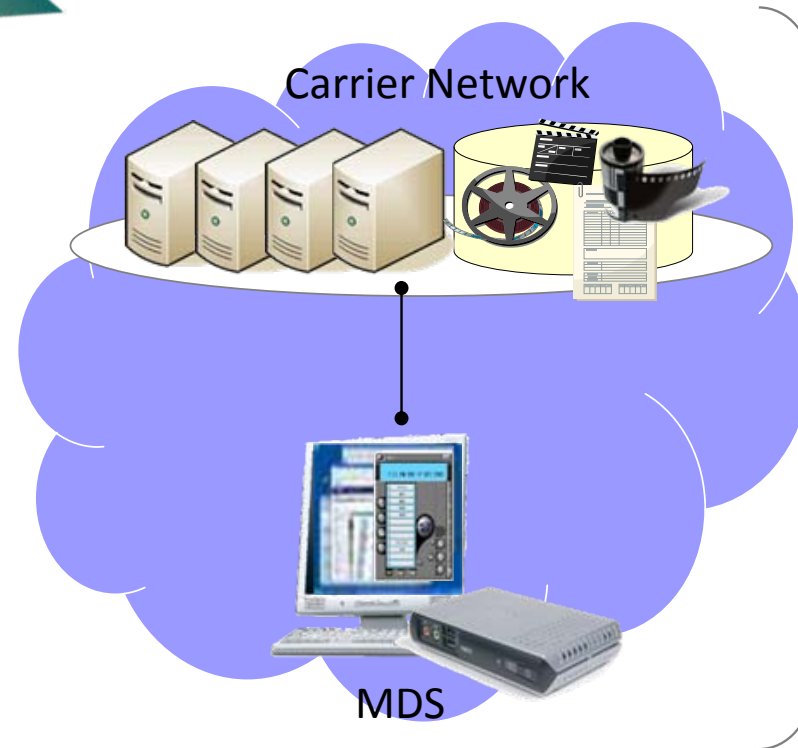
The world of business PC



Market for Carriers

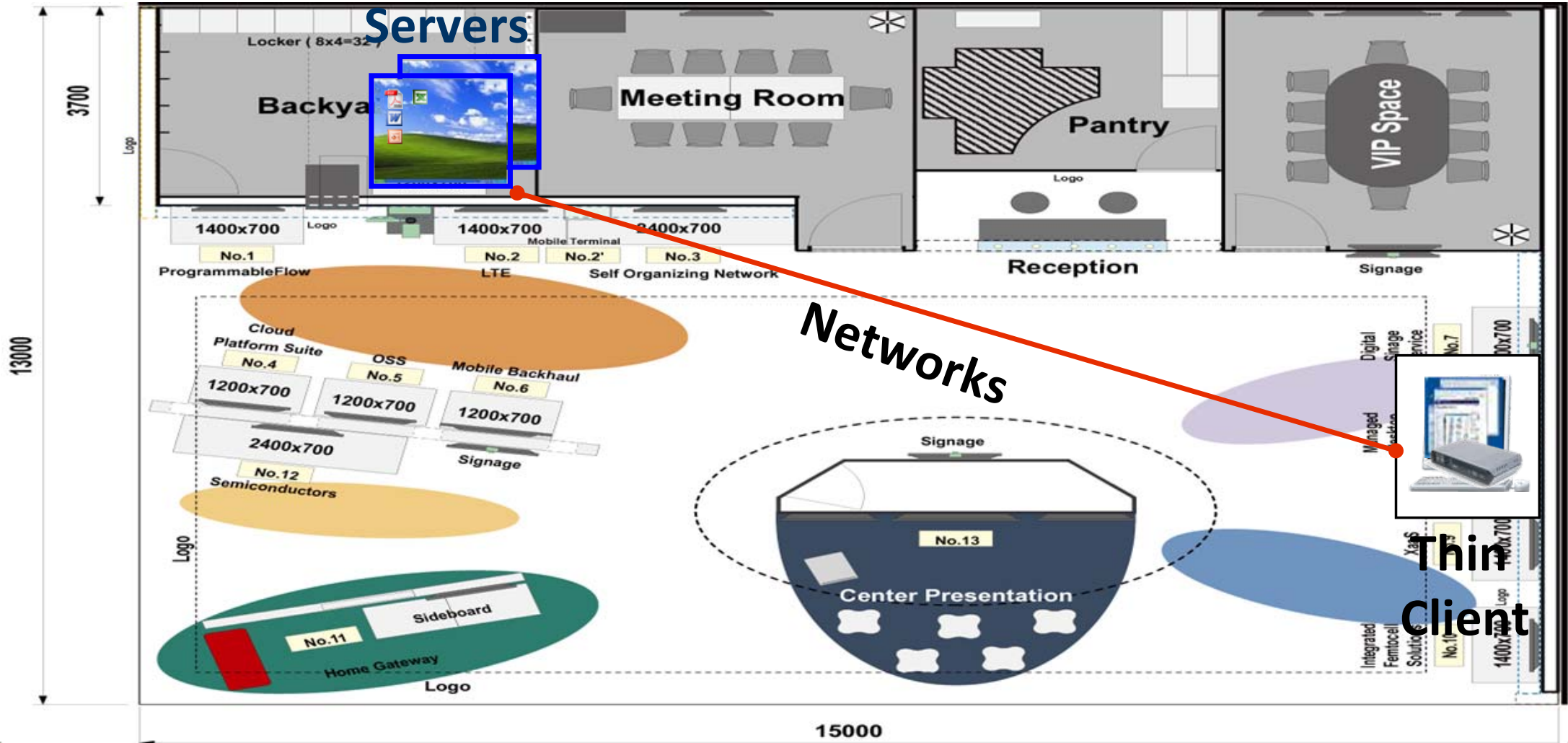
Market for PC venders

The world of MDS of carrier



Massive Market for Carrier

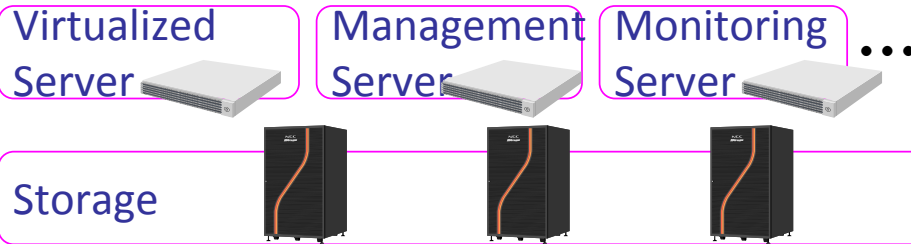
# The demonstration of Manage Desktop Service



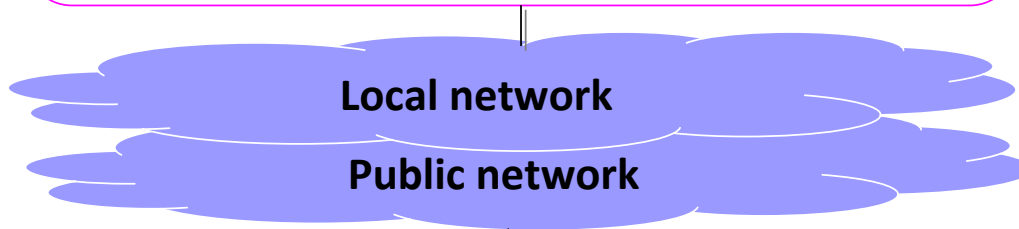
# The competence of NEC's for Managed Desktop Service

Due to own technology and experience, it is possible for NEC to realize Managed Desktop Service as total solution

Data Center



Network



Device



- Flexible support for client OS
- Management for large scale system
- Scalability of storage

- Multiple Network Support

- Secure authentication (802.1x)
- Multimedia support
- USB peripheral support

# The Competence of Carrier's Managed Desktop Service

Through providing carrier grade service for decades,  
carrier has obtained "trust" of society.

Competence of  
Carrier Service

## Managed Desktop Service of Carriers

Reliability



Reliability of HW / SW, Unique Redundancy ...

Scalability



Large scale management / Multi tenant management  
Provisioning ...

Usability



Mobility / Compatible with Telephone /  
Multi Media ...

⋮

⋮

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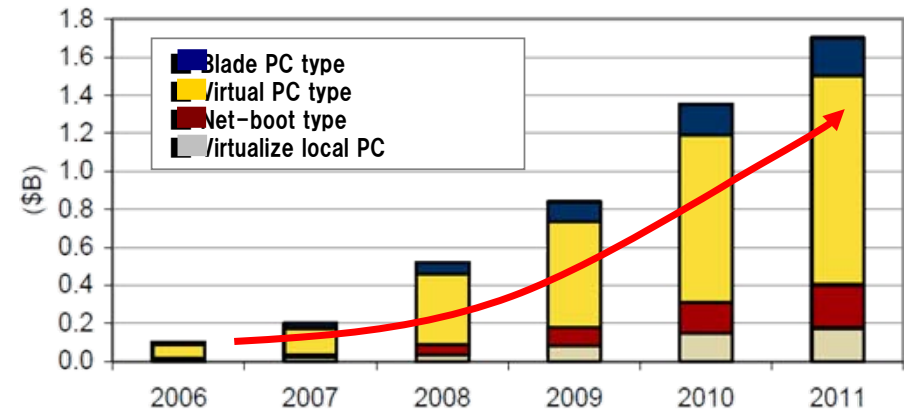
# Appendix

# Market Information Expansion of **Desktop Outsourcing & Virtual Desktop**

50% of enterprise of more than 10 thousand employee has already outsourced its PC partially or fully.

Virtual desktop popularization growth 300 thousand user in 2008 to 50 million users in 2013.

In “client virtualization middle-ware market”, it is prospected that virtual PC type will rapidly grow \$100 million 2006 to \$1.1 billion 2011.



# Technical Features

## **Multi Tenancy on Multi Data Center**

- Able to deploy multi-tenant VPCs on a single physical server, which can provide high efficiency and reasonable service fee.
- Efficient manage complex multi-tenant platform across multi-data-center with simple & integrated management UI.

## **Self Service UI for Tenant Administrator**

- Delegate part of service management tasks to Tenant admin with providing easy-to-use Tenant Admin UI.

## **On-Demand Provisioning**

- Enable to provide the desktop cloud service quickly on-demand.

## **High Scalability & Flexibility**

- Enable to expand the capacity of platform depending on the expansion of the service demand.

## **Integrate with External Systems**

- Provide interfaces to integrate with existing management systems.

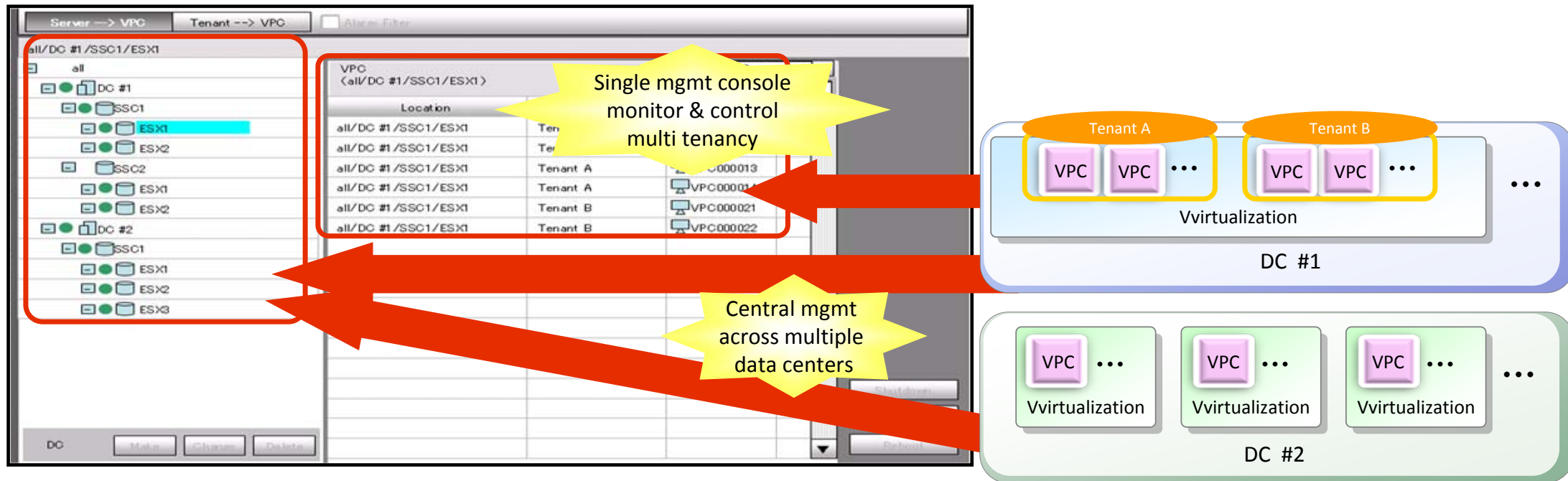
# Multi Tenancy on Multi Data Center

## Multi Tenancy

- Able to deploy multi-tenant VPCs on a single physical server, which can provide **high efficiency** and reasonable service fee.

## Multi Data Center

- Efficient manage complex platform across multi-data-center with **simple & integrated management UI**.



# Self Service UI for Tenant Administrator

Delegate part of service management tasks to Tenant admin with providing easy-to-use **Tenant Admin UI**.

User- VPC assignment

Status	VPC Name	IP Address	Template	Unit	User
Normal	VPC2001	192.168.000.001	A-01	Products Division	Amelia Parks
Normal	VPC2002	192.168.000.002	A-01	Products Division	Liam King
Normal	VPC2003	192.168.000.003	A-01	Products Division	Ethan Parks
Normal	VPC2004	192.168.000.004	A-01	Products Division	Noah Smith
Warning	VPC2005	192.168.000.005	A-01	Products Division	Sophia Franklin
Normal	VPC2006	192.168.000.006	A-01	Products Division	Gavin Johnson

Buttons: All Select, VPC Make..., VPC Change..., VPC Delete..., User Assignment, Unit Assignment, User Assignment.

Deploy Patches

Status	VPC	Last Update
Deployed	VPC000001	2009/10/11
Deployed	VPC000002	2009/10/11
Execution	VPC000003	2009/10/20
Deployed	VPC000004	2009/10/11
Undeployed	VPC000005	2009/10/11

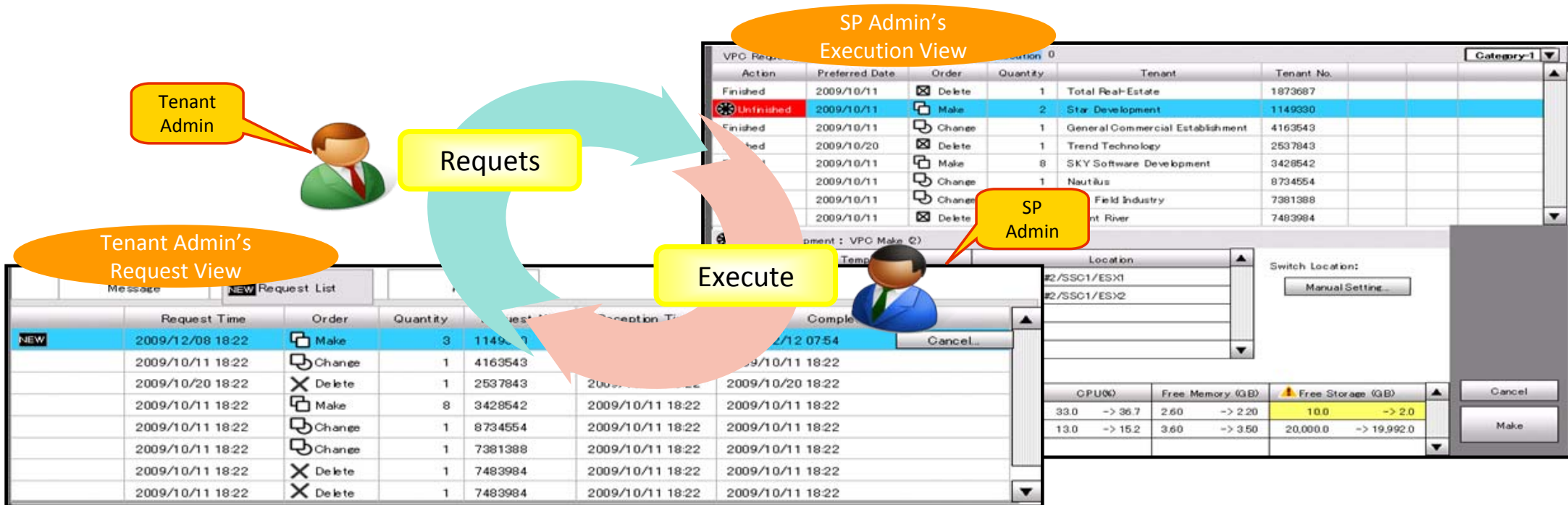
  

Status	VPC	Patch	Level	Reboot	Release Date
Deployed	VPC000003	KB000001	Note		2009/10/11
Deployed	VPC000003	KB000002	Note		2009/10/11
Deployed	VPC000003	KB000003	Recommend	Need	2009/10/20
Deployed	VPC000003	KB000004	Note		2009/10/11
Execution	VPC000003	KB000005	Note	Need	2009/10/11
Deployed	VPC000003	KB000006	Recommend		2009/10/11
Deployed	VPC000003	KB000007	Note	Need	2009/10/11
Deployed	VPC000003	KB000008	Note	Need	2009/10/11

# On-Demand Provisioning

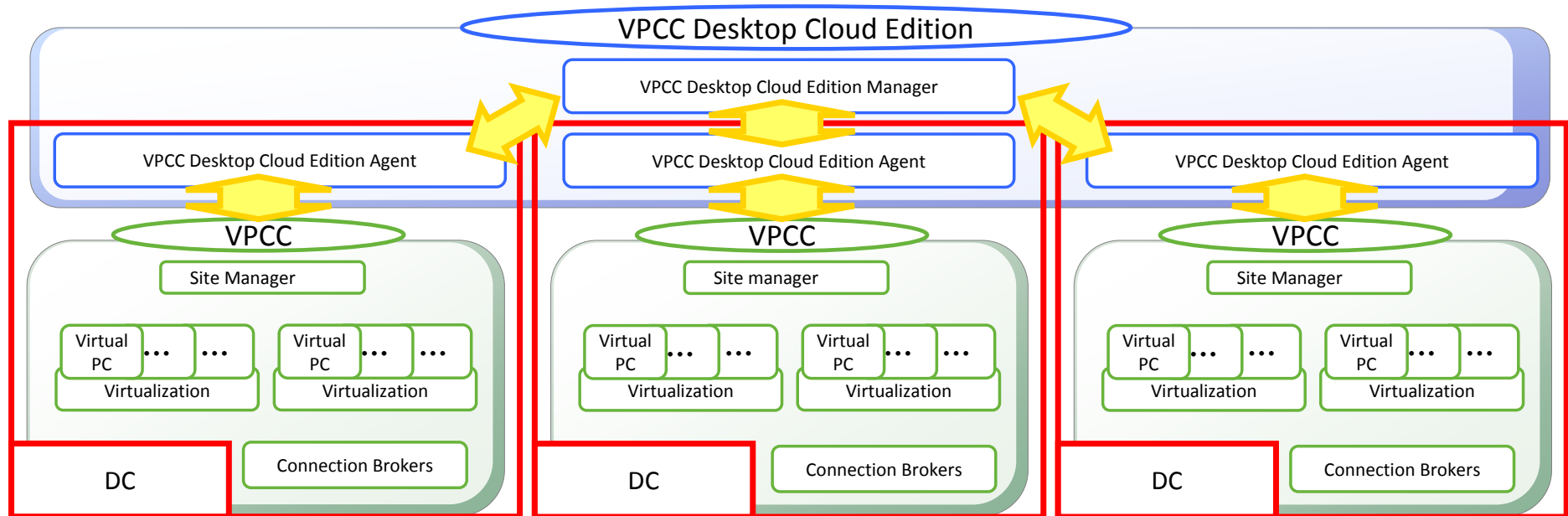
**Receive demands** such as VPC add /change/delete from Tenant Admin using request submitting function on tenant admin view.

**Execute these request tasks** by easy-to-use operation on Service Provider View.



# High Scalability & Flexibility

- Enable to **expand the capacity** of platform depending on the expansion of the service demand.
- Monitoring Agent detect additional resources automatically and collect information to enable **dynamic scale-up** of platform.



# Integrate with External Systems

- Provide **Web-API** for most of functions of Tenant Admin View and Service Provider Admin View to control from external systems.
- Enable to **integrate with other external systems** such as BSS, OSS.

