

Multicast VPNの市場と Service Deployment

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NTT Communications

h.noborida@ntt.com

Agenda

Multicast

B to B

1. Multicast
2. MVPN
- 3.
4. P2MP

Multicast

B to B

IP Multicast

Multicast VPN

MPLS P2MP Multicast

1. Multicast

Multicast

- e TV

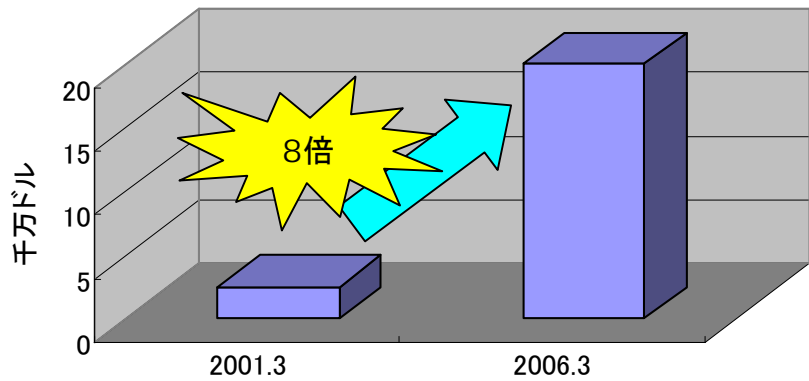
ASIC

Multicast protocol

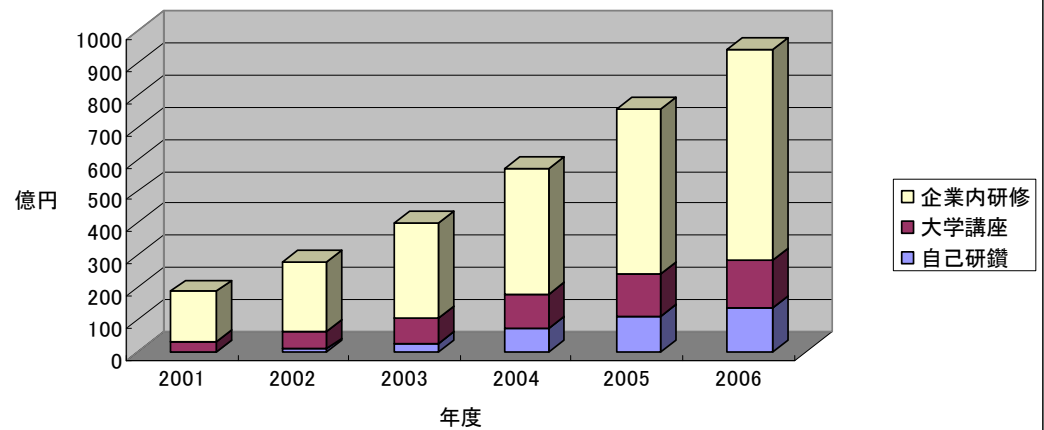
Multicast

1. Multicast

西ヨーロッパ企業内のストリーミングコンテンツ活用予測
(英アナリシス調査2001.4)



日本のeラーニング市場の規模予測
野村総合研究所 2001.3



1. Multicast

L3

NW Multicast enable

Multicast NW

- Open NW VPN

Multicast Group

- Dense

Sparse RP

- Multicast NW

Uni Multi

Unicast

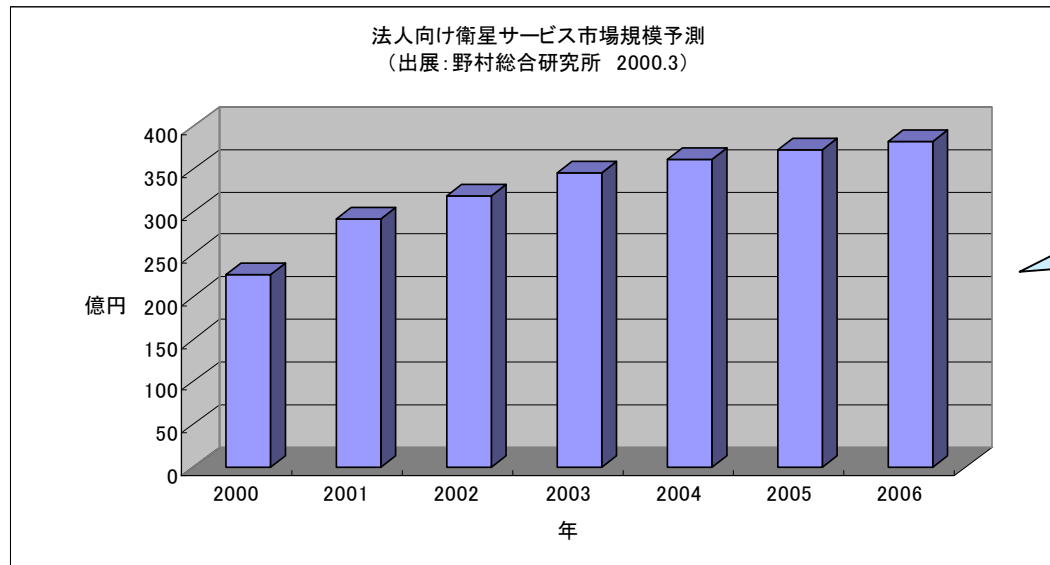
Multicast

L2NW

||

1. Multicast

Multicast



2. MVPN

IP-VPN

IP-VPN Multicast

-
- User Traffic/Routing
-

MVPN Multicast VPN

IP-VPN VRF Multicast

Multicast Domains

- [draft-rosen-vpn-mcast-07.txt](#)

2. MVPN

Multicast domains

MVRF Unicast VRF Multicast

- MVRF

/

Addressing

PE L3

PE-CE

PIM/IGMP

GRE

IP-VPN

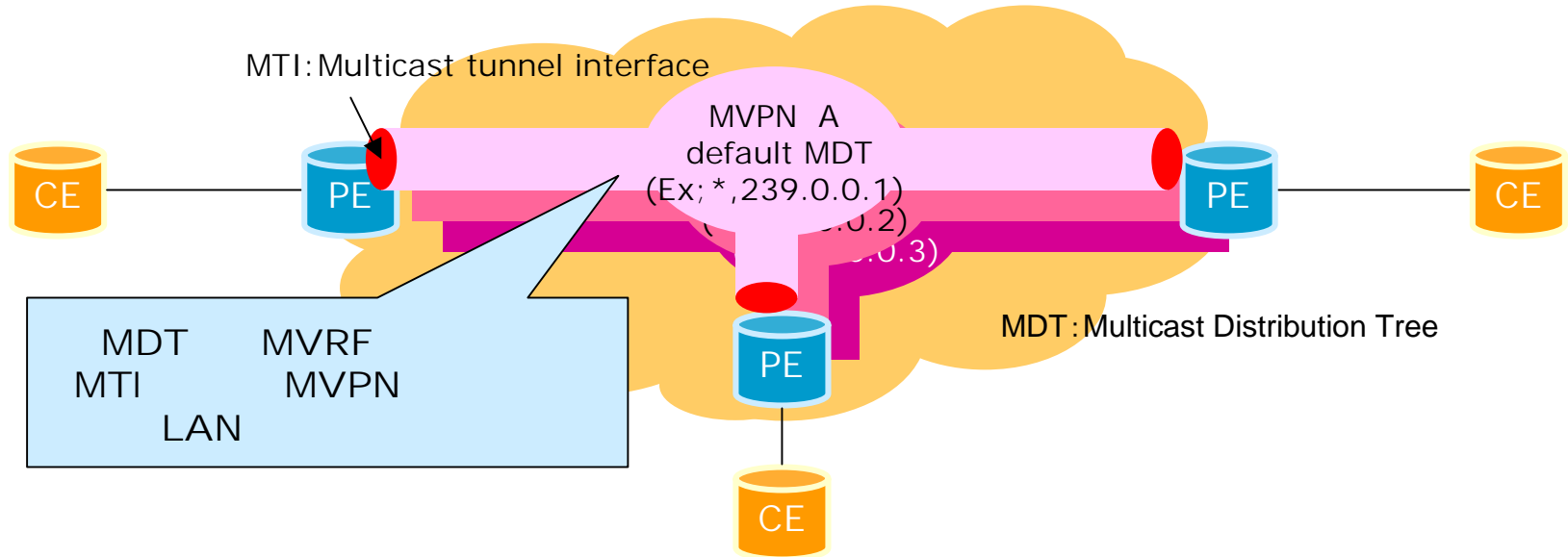
Multicast

- Routing

state

2. MVPN

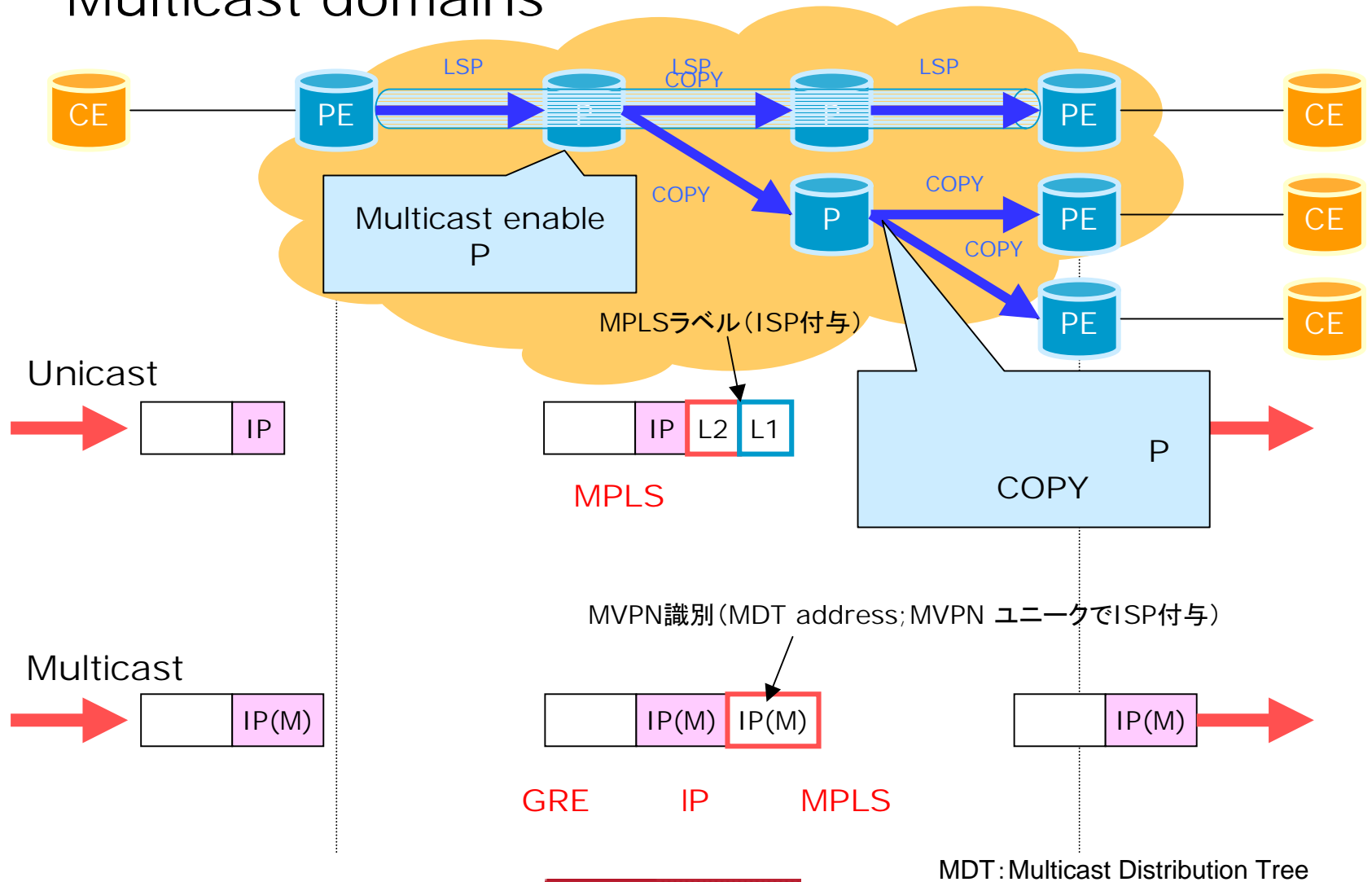
Multicast domains



MVPN
 MVPN
 MDT
 MVPN unique
 MDT
 MTI Multicast tunnel interface
 default MDT MVPN PE LAN Data MDT
 PE
 default MDT Multicast Distribution Tree
 PE default MDT Join
 User Group address ISP
 Multicast GRE

2. MVPN

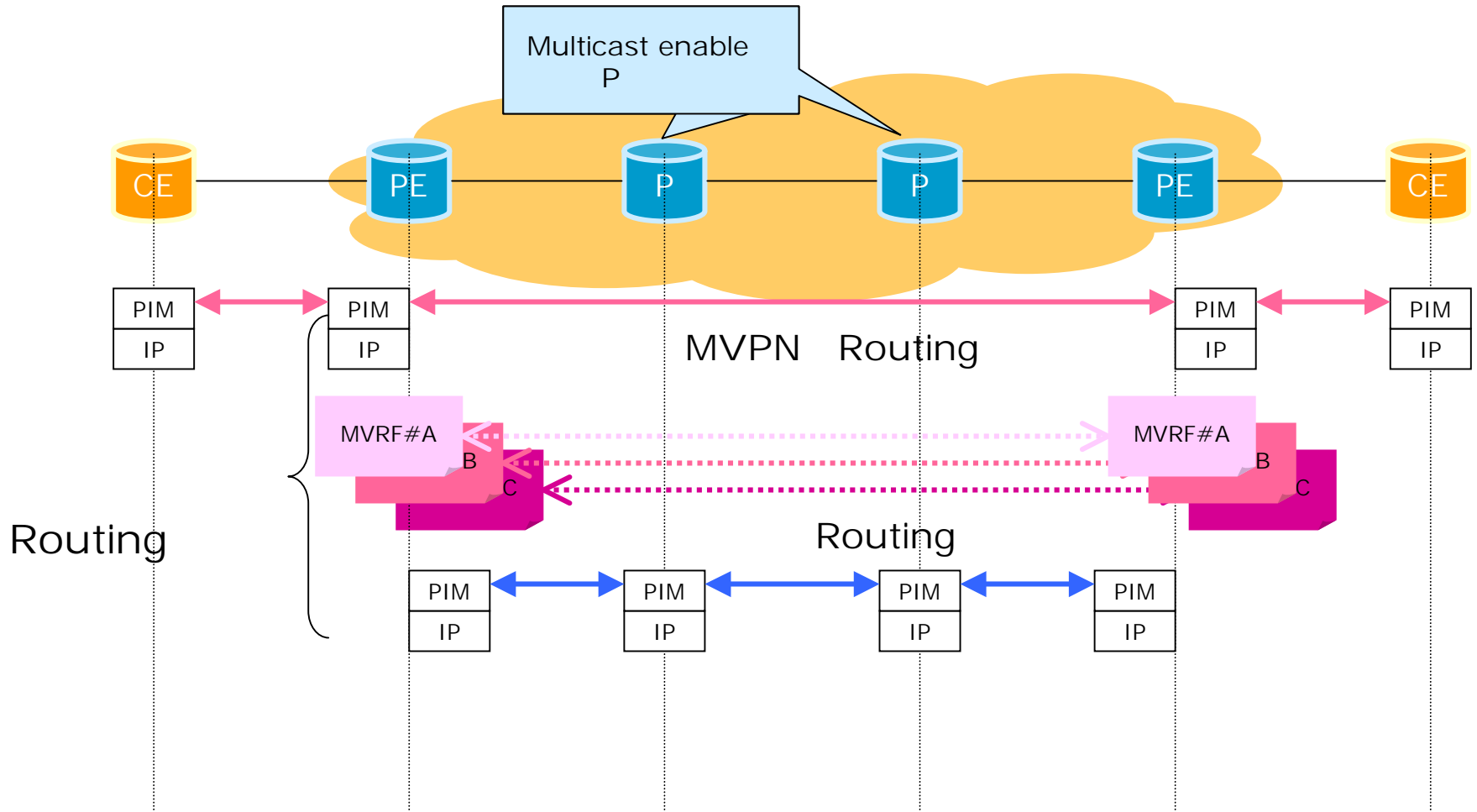
Multicast domains



2. MVPN

Multicast domains

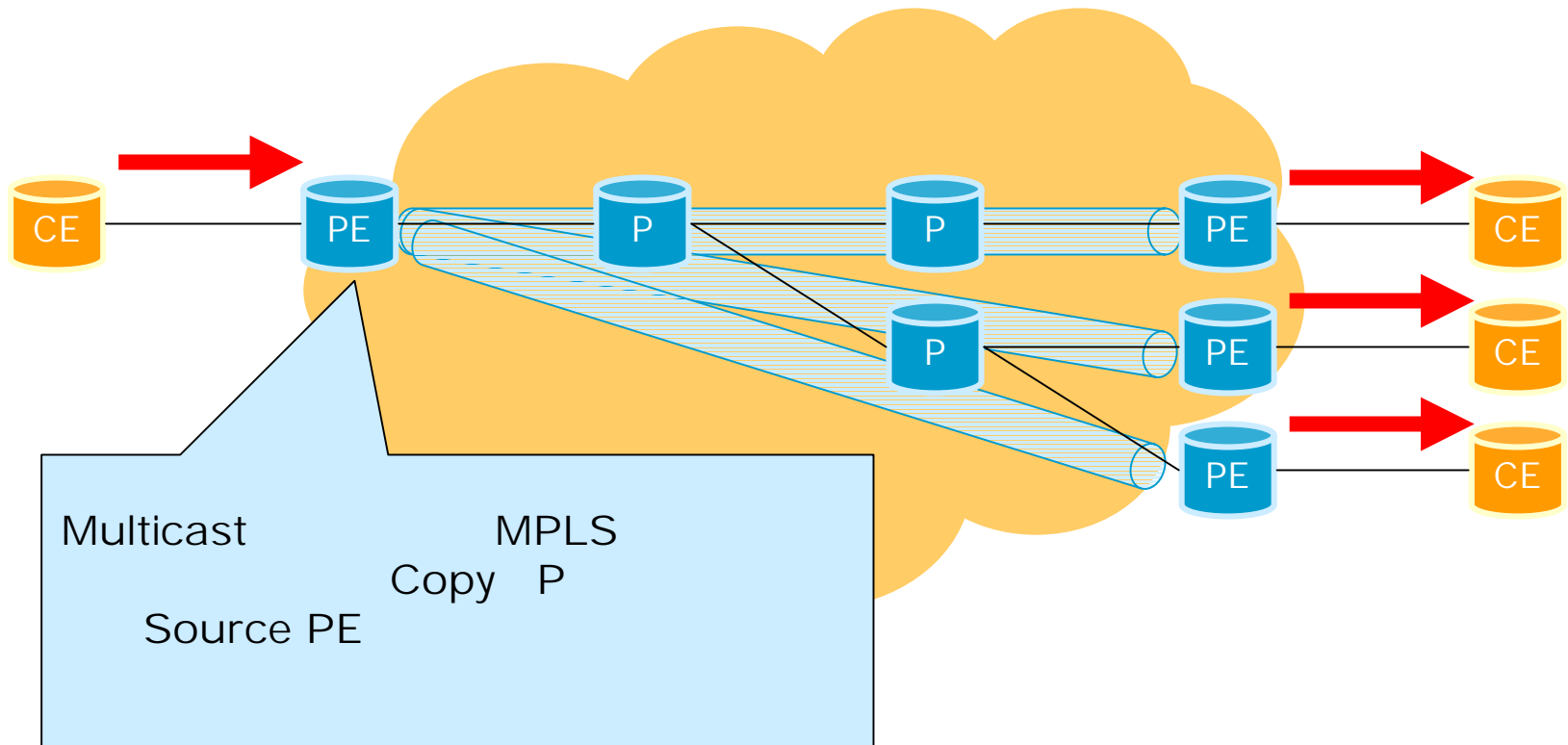
Routing



2. MVPN

Multicast domains

Multicast Domain (MD) Using PIM NBMA Techniques



3.

Multicast domains Multicast

3.

(1)

- STB
- CE

PIM-DM?SM?SSM?IGMP(proxy)?

- SM RP BSR/Auto-RP etc
- CE User LAN

- User VPN / NW

Multicast
Multicast

= () .

3.

(2)

QoS

FRR

HSRP

NAT

- L2

Multicast MAC

(((; ° Д °)))

Multicast

Multicast enable NW

MVPN

Multicast



4. P2MP

P2MP

Multicast Domains

Unicast IP-VPN

MVPN

MPLS

FRR

P2MP

P2MP

NTT-Com

Multicast Domains

Arcstar IP-VPN

Multicast

-

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Multicast Domains

Multicast NW

IP-VPN NW

Unicast

Multicast

NTT Communications
h.noborida@ntt.com