
[Service Selection Functional
IPv6 High Speed Access Network]
Proposal

NTT Network Service Research Center

Target

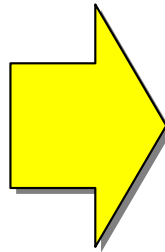
Title:

Service Selection Functional IPv6 High Speed Access Network

Target:

Considering an age of full IPv6 deployment and a corresponding new access network technology as a substitute for PPPoE

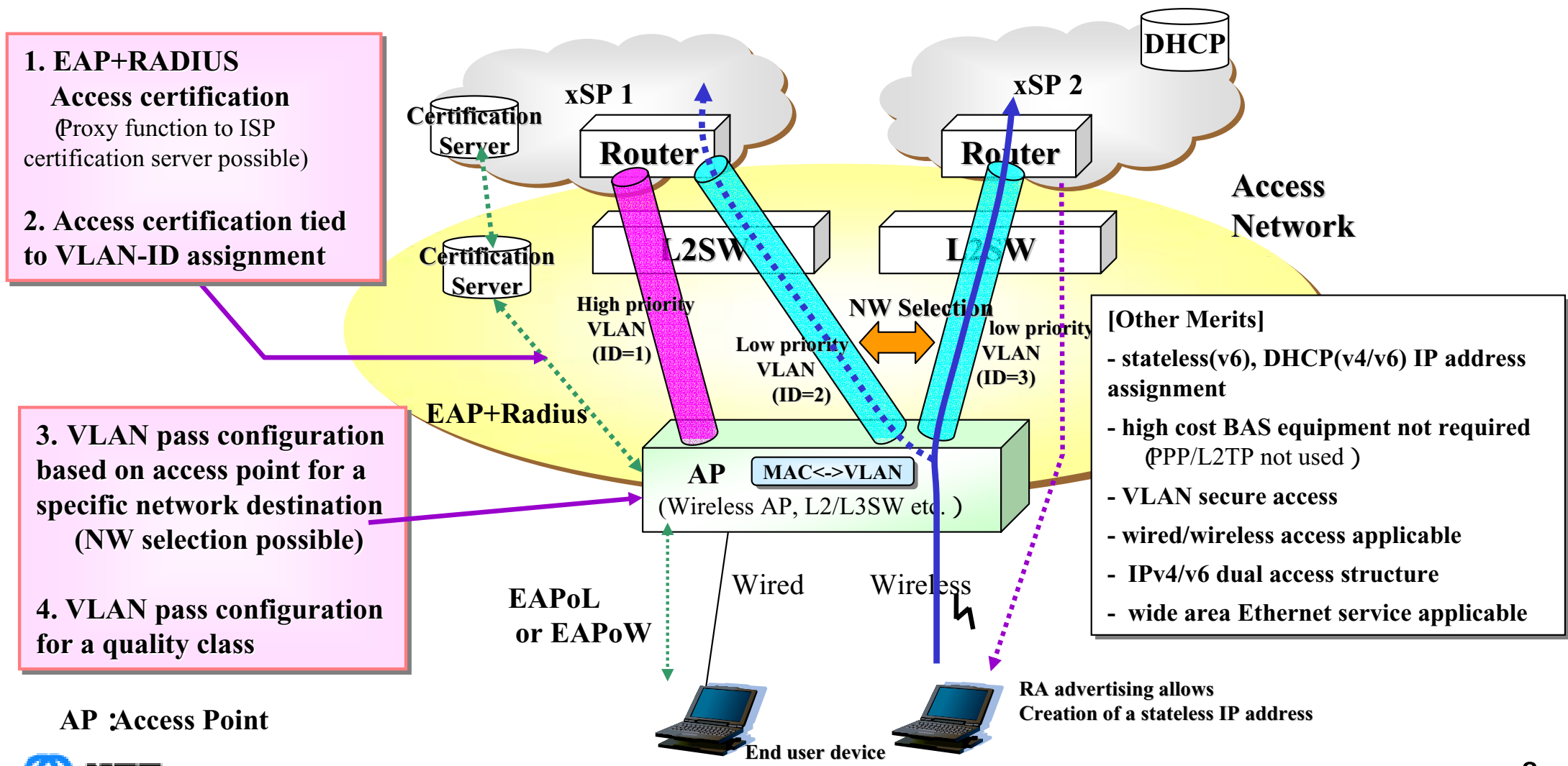
- Current Access Network (PPPoE)
- **ISP selection handled through high cost BAS equipment**
- **connection delays restrict mobility**
- **HotSpot etc. requires both L2 and PPP 2 level certification**



- New Access Network Proposal
- Without using PPPoE, EAP certification and VLAN technology combine to allow high speed low cost, IPv4/v6 dual environment compatibility
- access pass configuration possible at the individual service provider and quality (CoS) level

Features of the Proposed Access Network

Access certification provides an opportunity to consider the quality class of the destination and access network and assign a VLAN-ID. As the addition of specialized IPv6 functions is not necessary, dual stack is, this access network allows for a smooth development of IPv6.



1. EAP+RADIUS

Access certification

(Proxy function to ISP certification server possible)

2. Access certification tied to VLAN-ID assignment

3. VLAN pass configuration based on access point for a specific network destination (NW selection possible)

4. VLAN pass configuration for a quality class

- [Other Merits]**
- stateless(v6), DHCP(v4/v6) IP address assignment
 - high cost BAS equipment not required (PPP/L2TP not used)
 - VLAN secure access
 - wired/wireless access applicable
 - IPv4/v6 dual access structure
 - wide area Ethernet service applicable

AP :Access Point

RA advertising allows
Creation of a stateless IP address

Access Certification Connection Selectivity Functions - Details

The functions of PPPoE are realized in the following manner.

- Access certification based VLAN-ID assignment

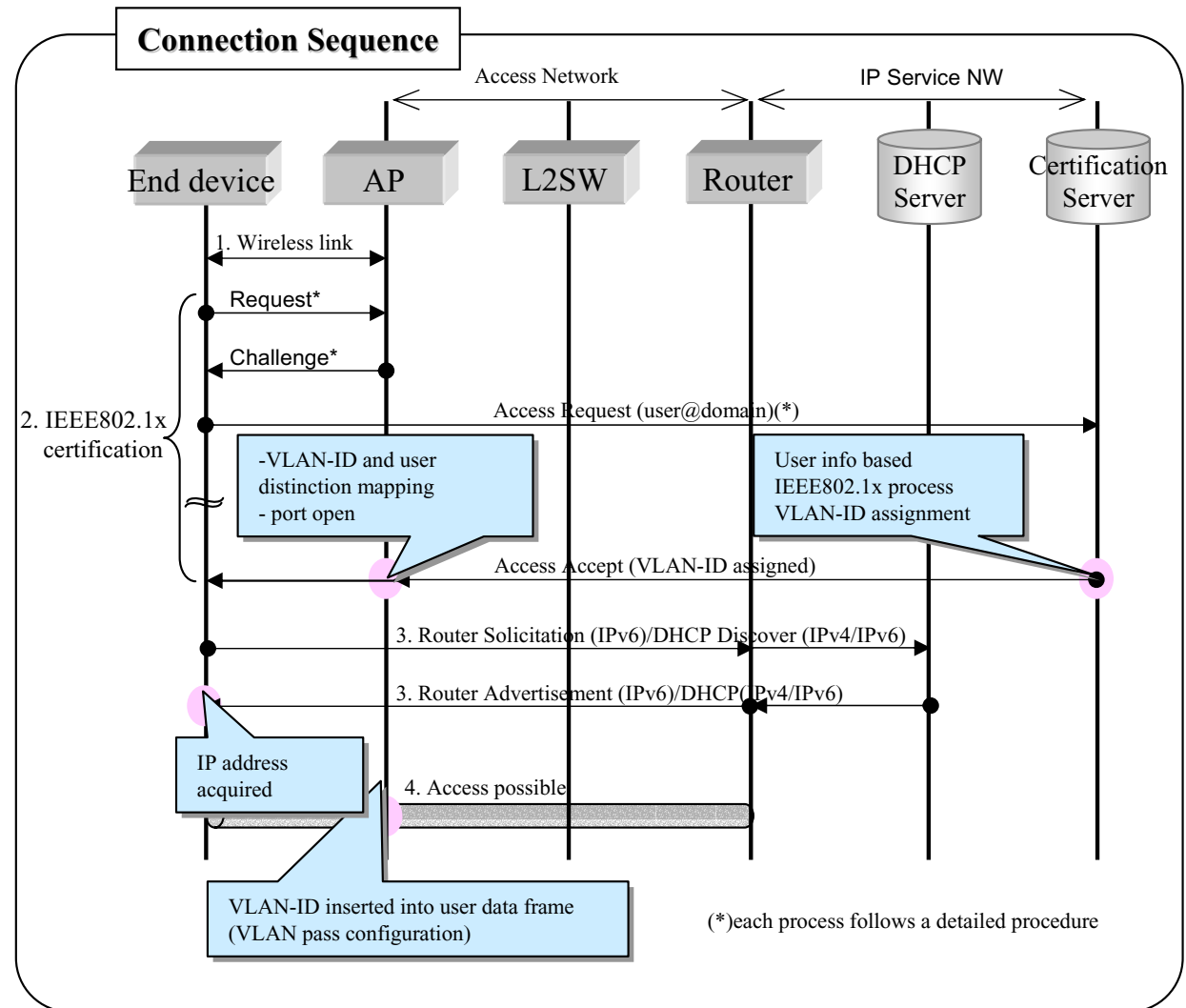
1. Wireless link established
 2. IEEE802.1x certification
 - destination included in EAP/Radius attribute ("user@domain" "domain"portion), based on this info AAA assigns VLAN-ID
- *EAP/Radius (coexists with IEEE802.1x, PANA)
 *ISP certification proxy also possible
 *access certification and VLAN assignment occur simultaneously, reduces connection time

IP address assignment

3. Router Advertisement (stateless) (IPv6), and DHCP (IPv4/IPv6) provide IP address

- destination selection

4. xSP and CoS level VLAN pass configuration, desired service connection



Service Application Example

Providing a wide area ethernet service and public xSP connectivity service with the use of a service selection structured access network, IPv6 service application area expansion is visualized.

