

**BROWAN**

# **P-560 Plus 54Mb HiaB High**

## **Performance Hotspot-in-a-Box**

**10 March 2008**

**Version 1.1**



- **Production Overview**
- **Product Features**
- **Applications for Enterprise**
- **Successful Stories**



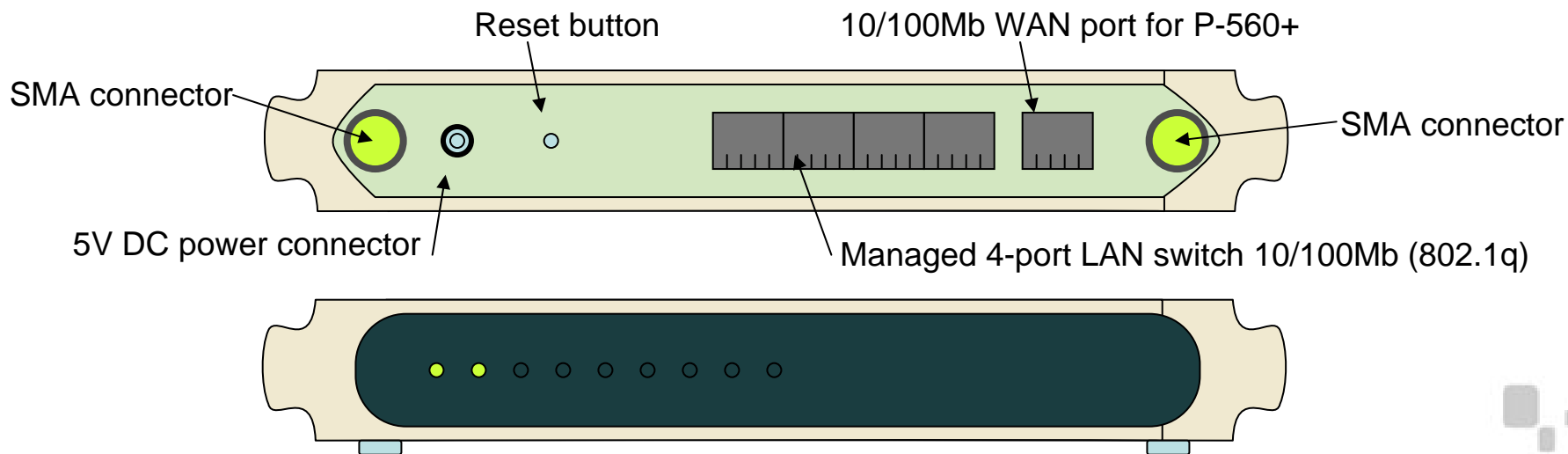
## Production Overview

- An upgrade version of GSI P-560 production:
- High speed AP (54Mb 11g/b)
- Intelligent Access Controller Gateway (AC)
- Scalable for 50 online users
- Atheros Wireless Module
- " Virtual AP" mode to divide wireless **Basic Service Set up to 16**
- High Speed Ethernet Switch
- Four 10/100Mb LAN interface, One 10/100Mb WAN interface
- Multiple AAA methods
  - ✓ **802.1x/WPA, UAM, Smart Client, RADIUS, MAC**
  - ✓ **Built-in User Account Management (up to 500)**



## Hardware Overview

- High performance Intel Xscale CPU
- 2.4 GHz, 802.11b+g, 11-54 Mbps Aethros wireless module
- Four switched 10/100Mb LAN ports
- One 10/100Mb WAN port
- Two adjustable diversity antennas with SMA connector
- Wall mount kit and theft-protection



- Production Overview
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- High Speed Wireless Access
- 2.4GHz 802.11b/g tech, up to 54Mb access speed
- " Virtual AP" tech Multiple BSSID (MBSSID)
  - ✓ Divide different wireless BSS; different BSS use different authenticate method and has different rights to access network resource.
- WDS Support
  - ✓ WDS functionality can connect two AP devices through wireless interface
- Layer2 Isolation
- RTS/CTS
- Adjustable RF output power
- EIRP (MAX 19dbm)
  - ✓ **Antenna Gain(2dbi) + RF card output power(max 17dbm)**



- Multiple authentication methods
  - ✓ UAM, 802.1x/EAP, RADIUS, POP3, MAC/MAC-RADIUS
- Built-in Account (up to 500 built-in accounts)
- AAA proxy server (for simultaneous EAP and UAM)
- Remote user login, logout, session status control via Https/XML
  - ✓ Internal UAM (Based on XSL)
  - ✓ External UAM (HTML or XSL)
- Multiple WISP Roaming
  - ✓ Beyond the RADIUS roaming



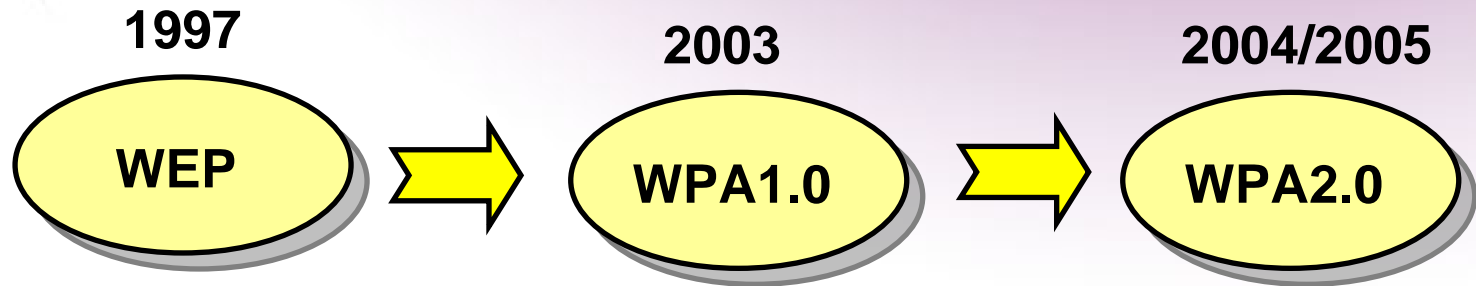
## SW Overview

– WLAN Security Features

- Support WEP
- Support 802.1x/EAP authentication
  - ✓ based on EAP like EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-MD5, EAP-SIM ...
- Support WPA/WPA2, TKIP/AES security algorithm
- Hidden SSID
- Per User bandwidth management
- Wireless QoS for Multiple BSSID
  - ✓ Divide 7 grade (1, 2, 0, 3, 4, 5, 6, 7) , 1 stand for the lowest priority which 7 stand for the highest priority



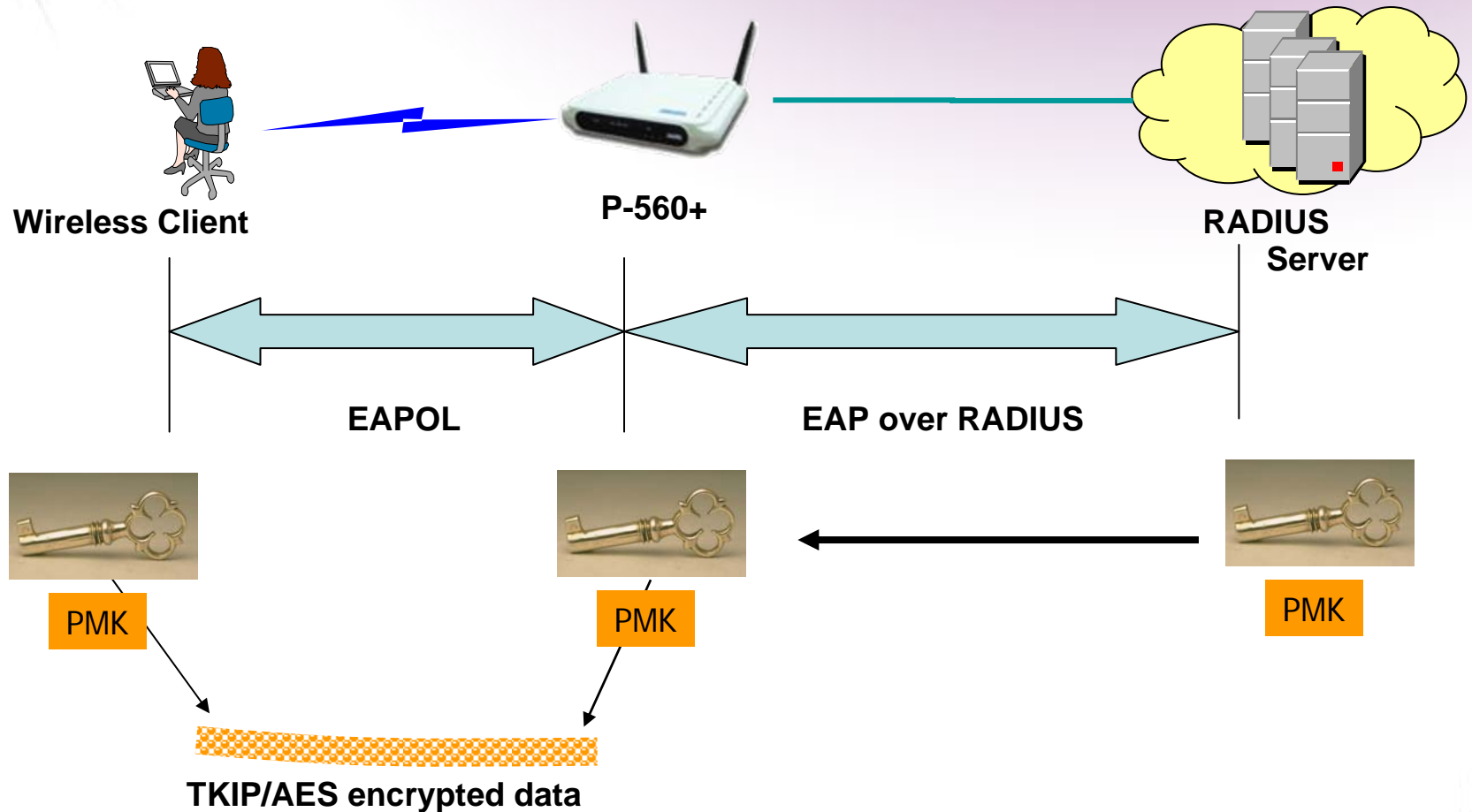
## WEP/ WPA Security



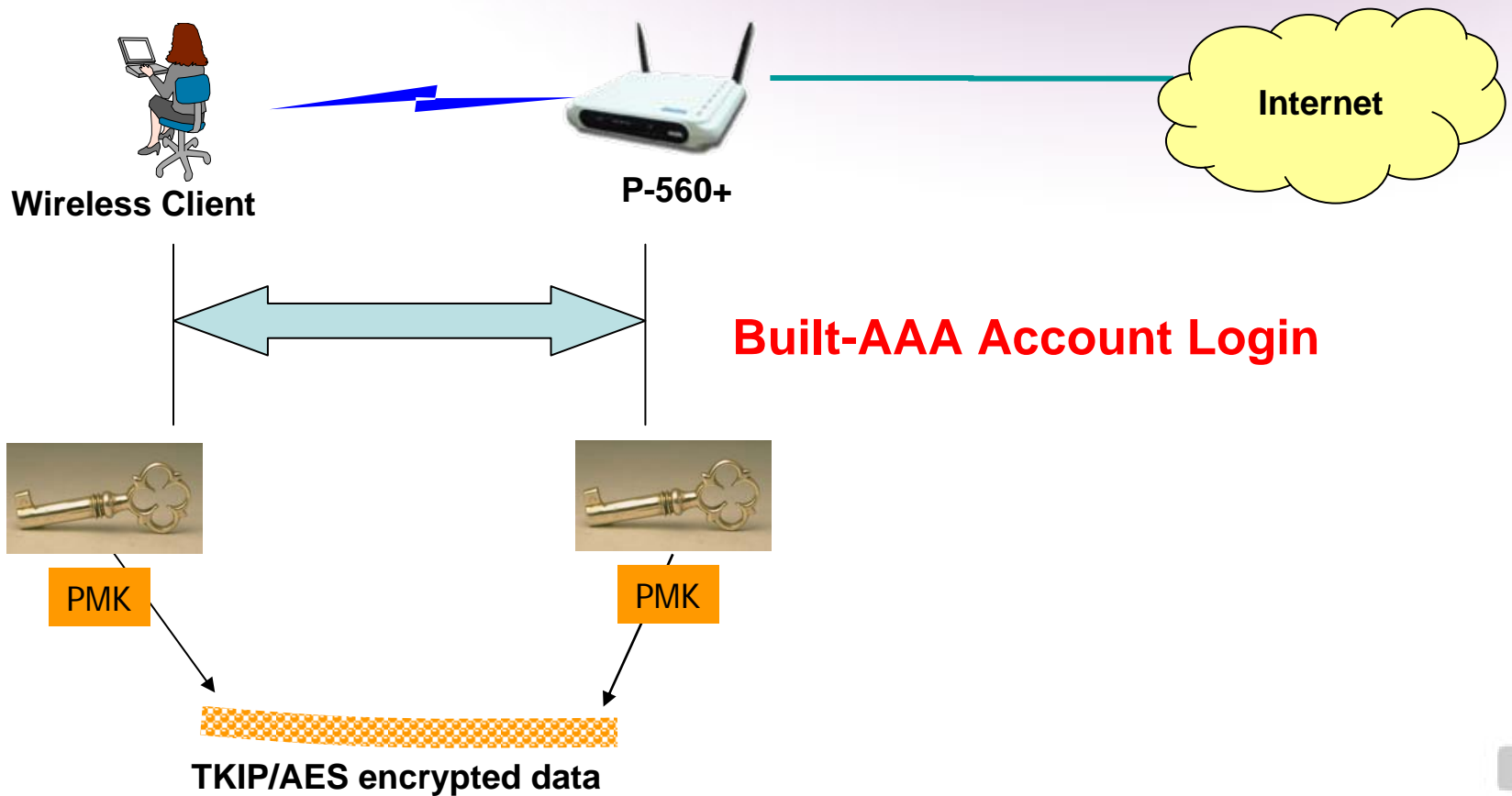
- Wireless Security Algorithm:
- WEP: low security
- WPA: TKIP/AES algorithm, more security for wireless.
- Win XP SP1 has supported WPA



## WPA Process (with 1x login) Security



## WPA Process(PSK without RADIUS Server)



## SW Overview – Network Features

- Firewall
  - ✓ NAT/NAPT, Port forward, Netfilter
- DHCP Server, DHCP Proxy
  - ✓ Support each one interface
- Static Route
- GRE VPN Tunnel (GRE Client )
- PPPoE Client, support ADSL connecting
- VLAN
  - ✓ Use VLAN divide client to different subnet
- Walled Garden (free access website)



## SW Overview – Network Features

- UAT(Universal Address Translation)
  - ✓ Support Appoint Static IP client
- SNMP
  - ✓ SNMPv1,SNMPv2c,SNMPv3
  - ✓ Browan Private MIBs, standard SNMP MIBs
- DNS ,WEB Proxy
- SMTP redirection (e-mail)



## SW Overview - Management Features

- Secure management via https, SSH, SNMP
- SNMP proxy
- Management subnet for remote AP and switch management
- Remote firmware update
- Remote configuration backup and restore

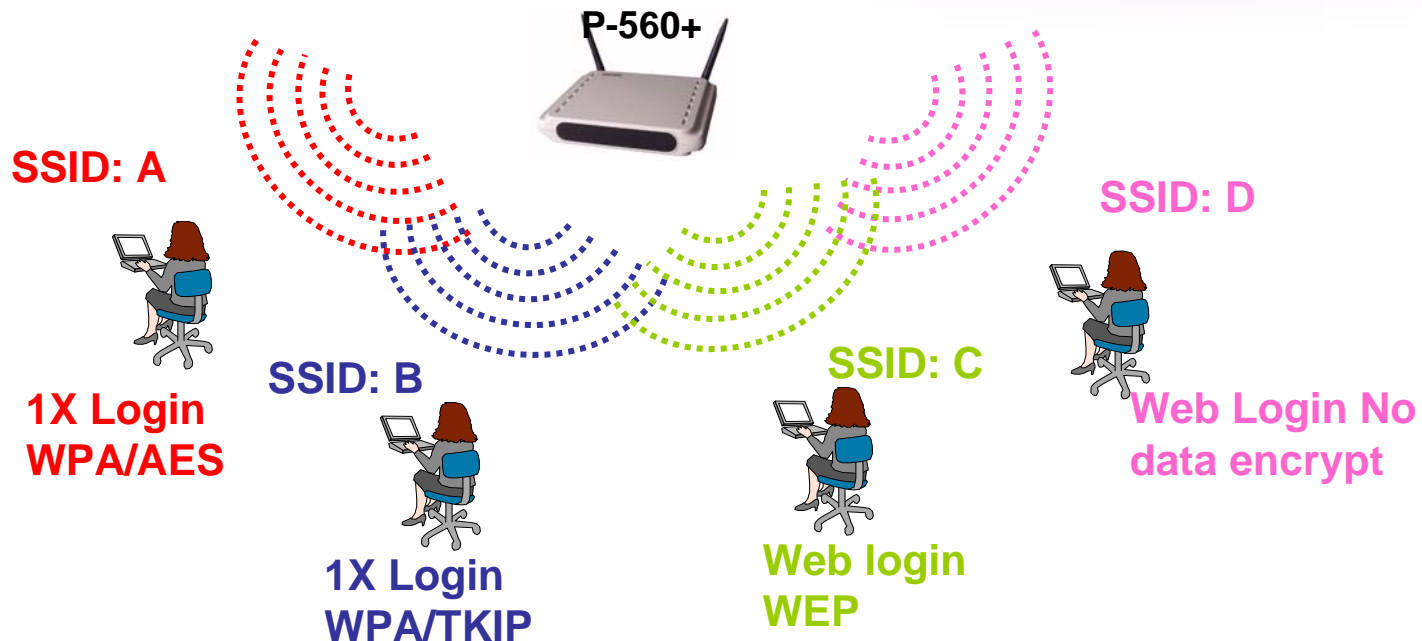


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## Example : Virtual AP Application

P-560+ can apply different security policy to divided different BSS.



## Example : User Authentication (Wired Part Application)

### Wired Network:

- ✓ Free Access
- ✓ Free Access for some subnet and host

### MAC Auth (transparent to user)

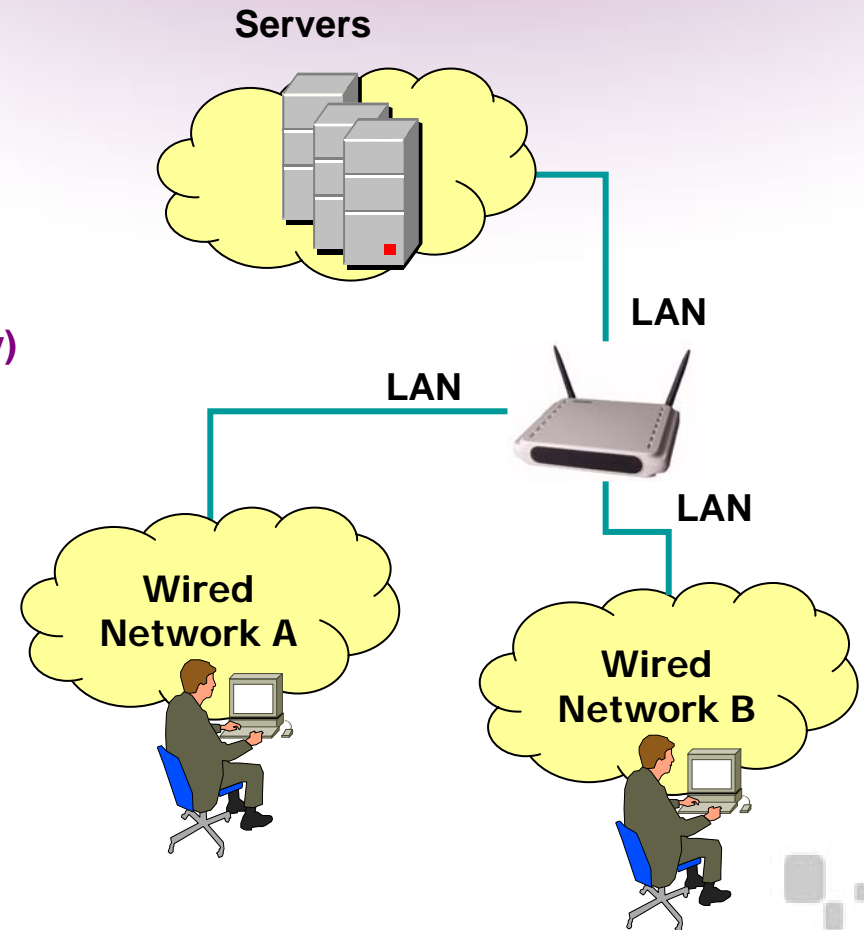
- ✓ MAC-ACL (Built-in MAC Database, 200 Entry)
- ✓ MAC-RADIUS (Server Database)

### WEB Auth

- ✓ User input username and password to web login page
- ✓ RADIUS/POP3
- ✓ P-560+Built-in database

### 1X Auth (optional)

- ✓ EAPTLS/EAPMD5 /EAPPEAP/EAPSIM



## Example : User Authentication (Wireless Part Application)

### Wireless Network:

- ✓ Different Security profile for different wireless basic service set (BSS) through " virtual AP" tech

### Free Access

- ✓ Free Access for some subnets and hosts

### MAC Auth (transparent to user)

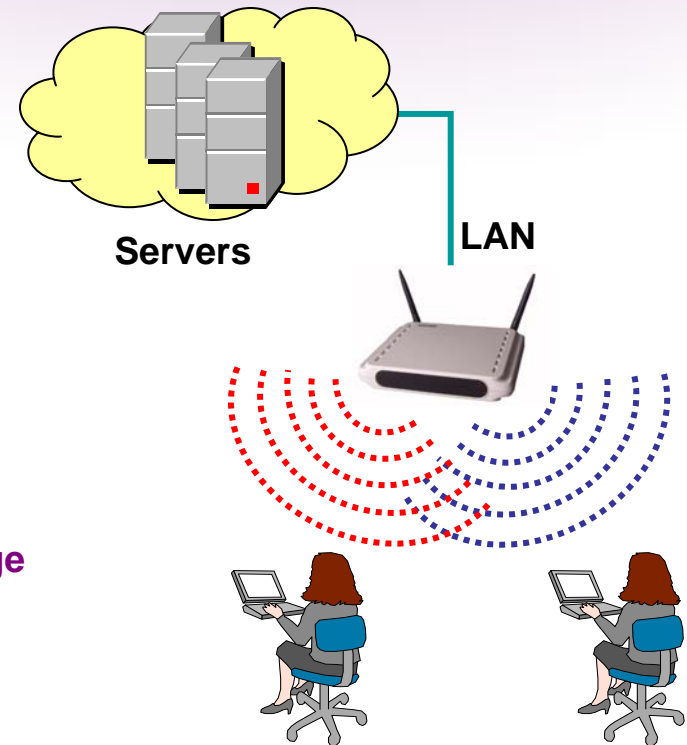
- ✓ MAC-ACL (Built-in MAC Database, 200 Entry)
- ✓ MAC-RADIUS (Server Database)

### Web Auth

- ✓ User input username and password to web login page
- ✓ RADIUS/POP3/LDAP
- ✓ P-560+Built-in database

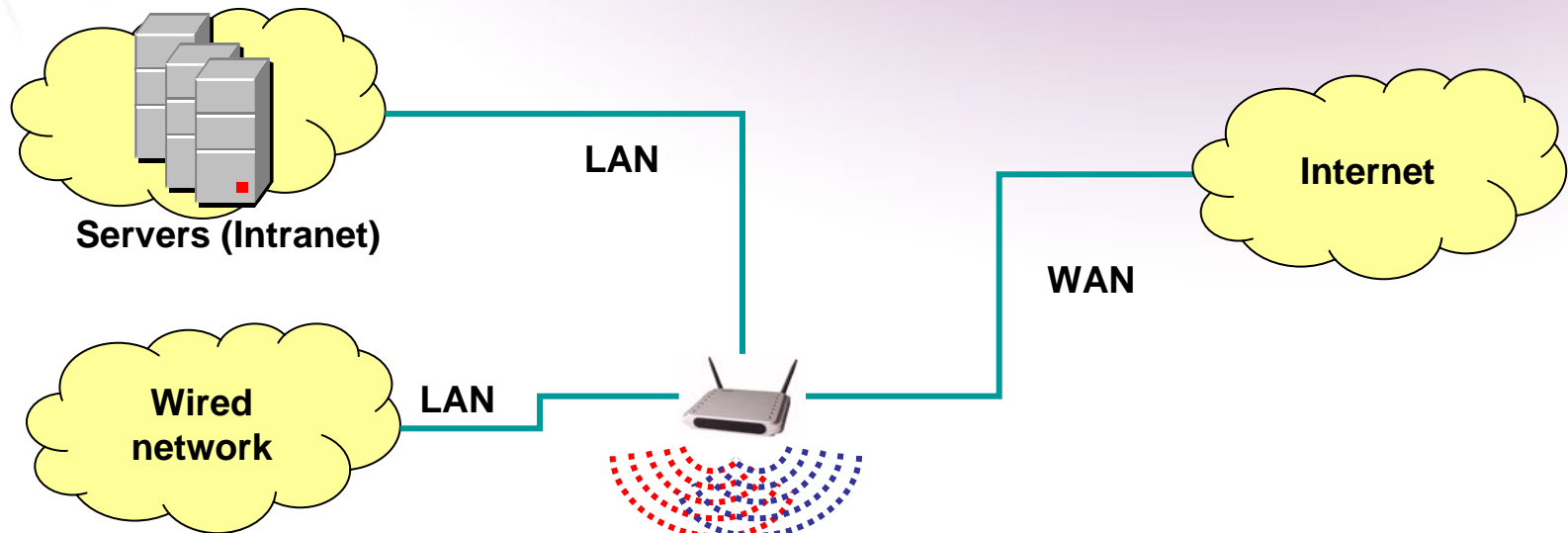
### 1x Auth

- ✓ EAPTLS/EAPMD5 /EAPPEAP



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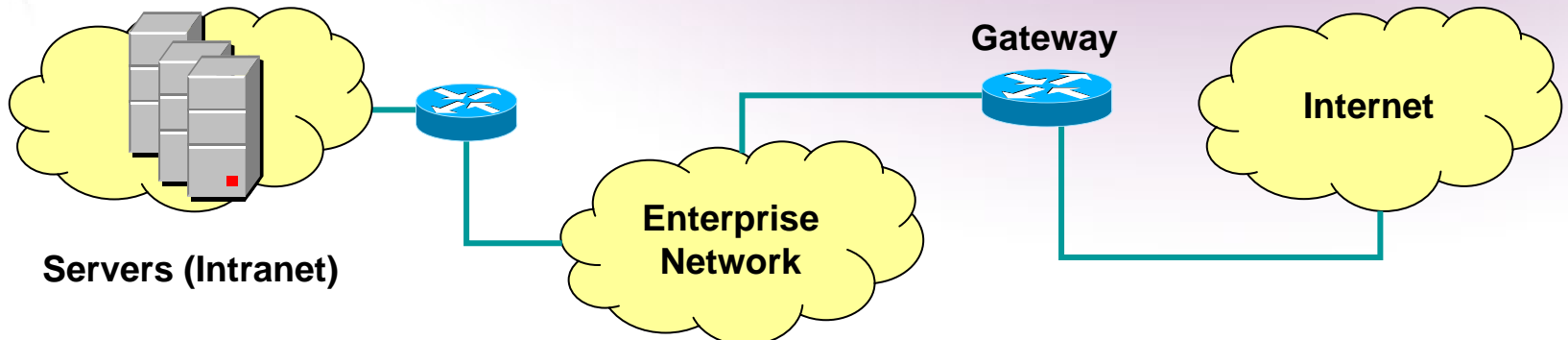
## Example: Enterprise Gateway Application I



**SSID A (802.1X)**  
**192.168.3.0/24**  
**WPA encrypt algorism**  
**Employee access**  
**Have rights to access Intranet and Internet**

**SSID B (UAM)**  
**192.168.4.0/24**  
**WEP encrypt algorism**  
**Guest access**  
**Only can access Internet**

## Example: Enterprise Gateway Application II



Servers (Intranet)

SSID B (UAM)

192.168.4.0/24

WEP encrypt algorism

Guest access

Only can access Internet

SSID A (802.1X)

192.168.3.0/24

WPA encrypt algorism

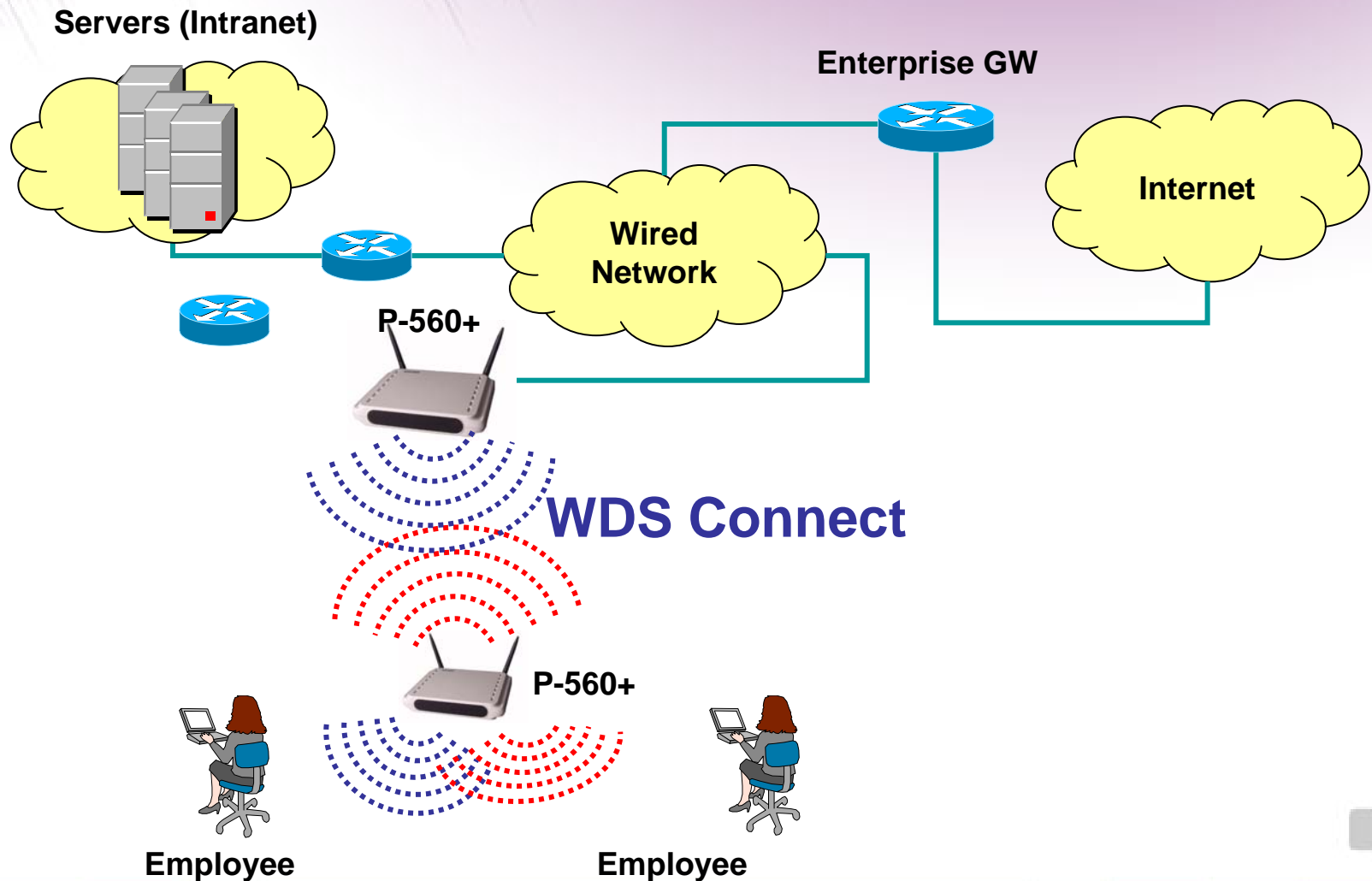
Employee access

Have rights to access

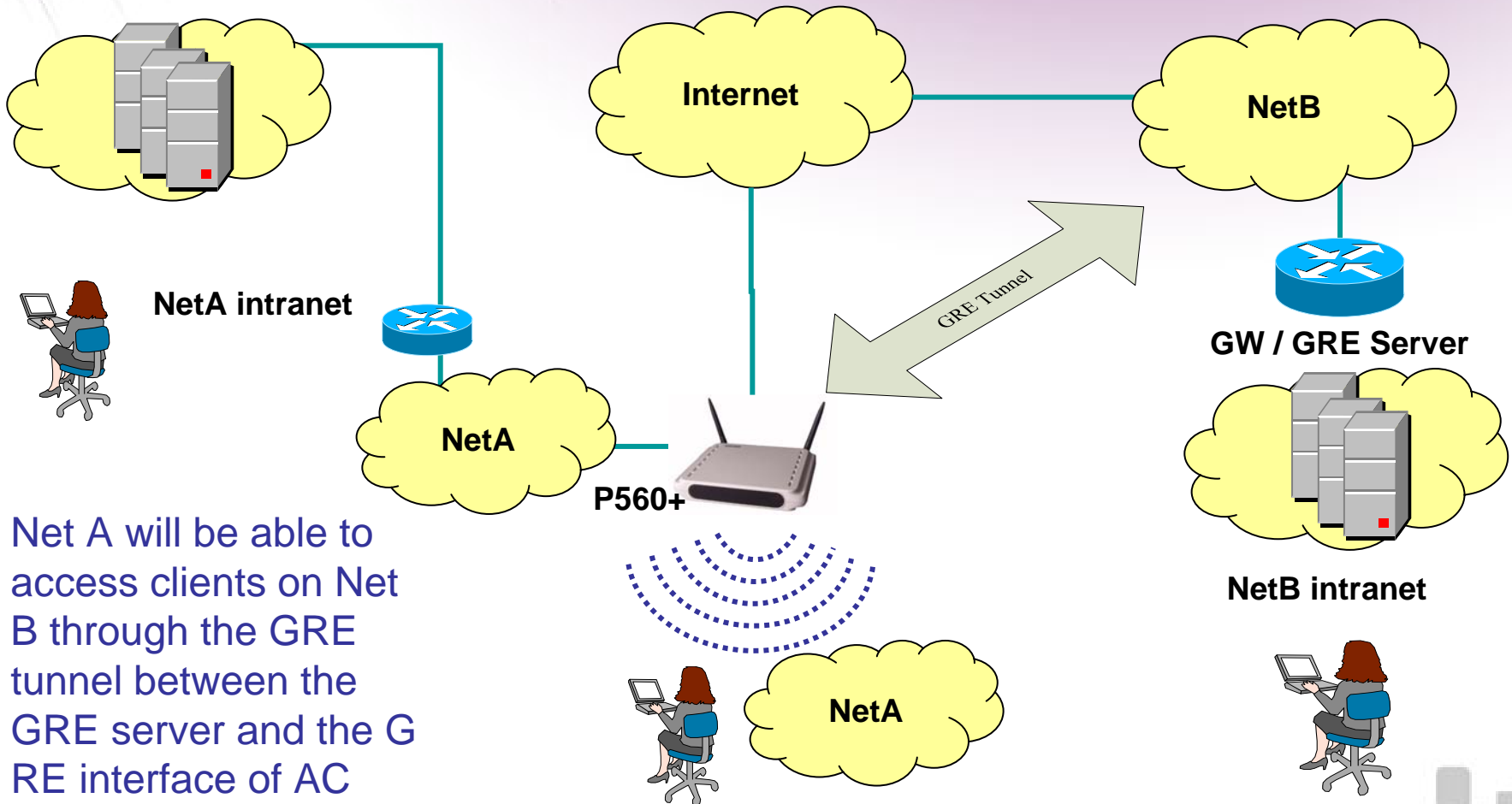
Intranet and Internet



## Example: WDS Application



## Example: GRE VPN Tunnel Application



Net A will be able to access clients on Net B through the GRE tunnel between the GRE server and the GRE interface of AC

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**The End**

