

G-4200 SMB PAC with built-in AAA

10 Mar. 2008

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Version 1.1

The G-4200 is a cost-effective platform designed for small to medium sized public access venues.

AT-A-GLANCE:

- PNP Gateway
- Built-in AAA System
 - Support up to 500 built-in accounts
 - Support Pre-paid Printer
- Class of Service
- Support up to 100 simultaneous client



HW platform

High-Performance RISC CPU (Intel Xscale)

Four switched 100baseT LAN ports

One 10/100Mb WAN port

One serial console port

Standard 19 inch chassis



General Features



Easy to use:

- ✓ IP Plug and play. (No client-side software installation / reconfiguration)
- ✓ Built-in AAA for easy billing operating.
- ✓ flexible configuration apply to different network environment.
- ✓ One button operation (with mini-printer support)

Additional Value:

- ✓ Customized user login and logout page for extra advertisement benefits.
- ✓ Advertise link for free access (walled garden)
- ✓ Class of Service for VIP and normal guest
- ✓ Session Control
- ✓ Nat Multiple Map (1 to 1 NAT)

Economical:

- ✓ PPPoE client support, user can use xDSL connect to his ISP
- ✓ Built-in AAA for billing operating without any extra AAA server.

Security:

- ✓ Security web (SSL) login and management.
- ✓ MAC bind to user account
- ✓ MAC bind to logon client IP.
- ✓ Layer2 isolation for client under same subnet.
- ✓ 802.1Q VLAN support.



Uplink:

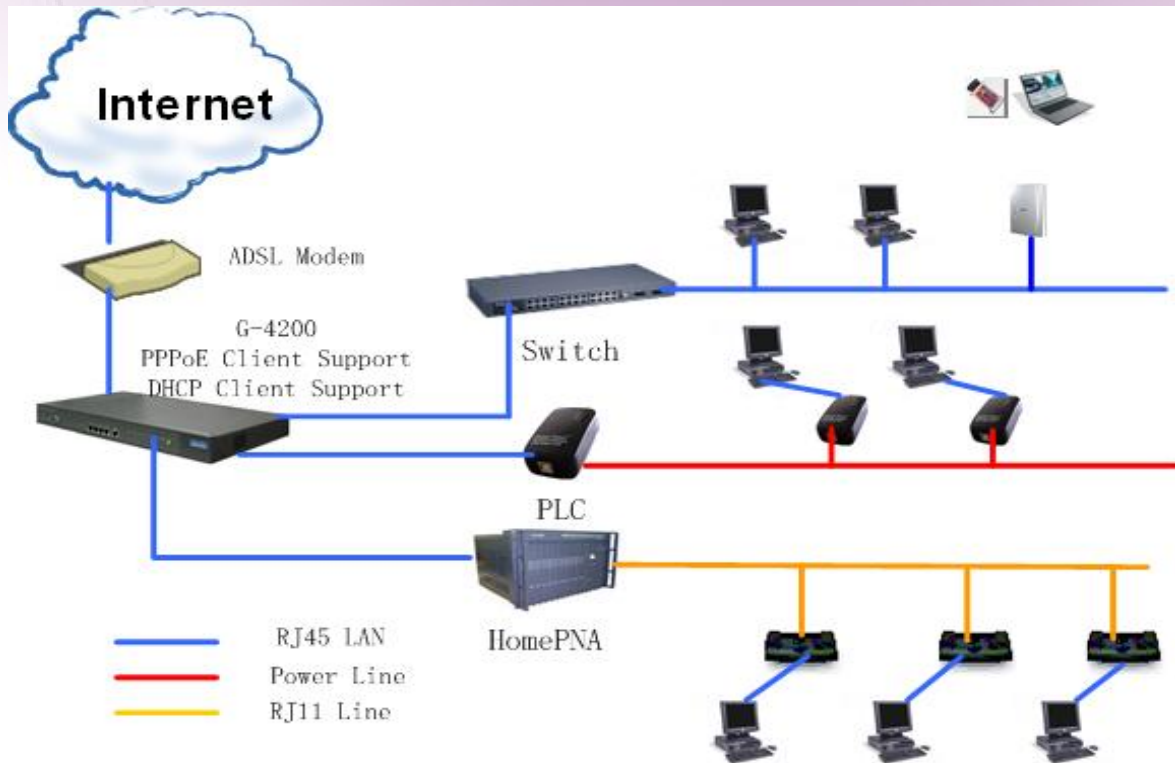
- PPPoE client support
- DHCP Client support
- GRE Client Support

Tunnel:

- GRE Tunnel

Client side:

- PLC Access
- Home PNA Access
- 802.1Q VLAN support



Client access method:

Home PNA access

PLC access

802.1Q VLAN access

Client authentication method:

Web Login (SSL)

802.1X authentication

MAC authentication

DHCP:

DHCP pool LAN port

DHCP pool for VLAN

DHCP Relay

IP PNP:

(Universal Address translation) UAT support

Web Proxy Support



Management:

- Sophisticated WEB Management
- CLI management support
- Telnet/SSH management
- SNMP V1/V2/V3 management support
- GRE tunnel for remote management

Maintenance:

- Configuration backup and restore
- complete syslog system
- Trace system log through web

Upgrade:

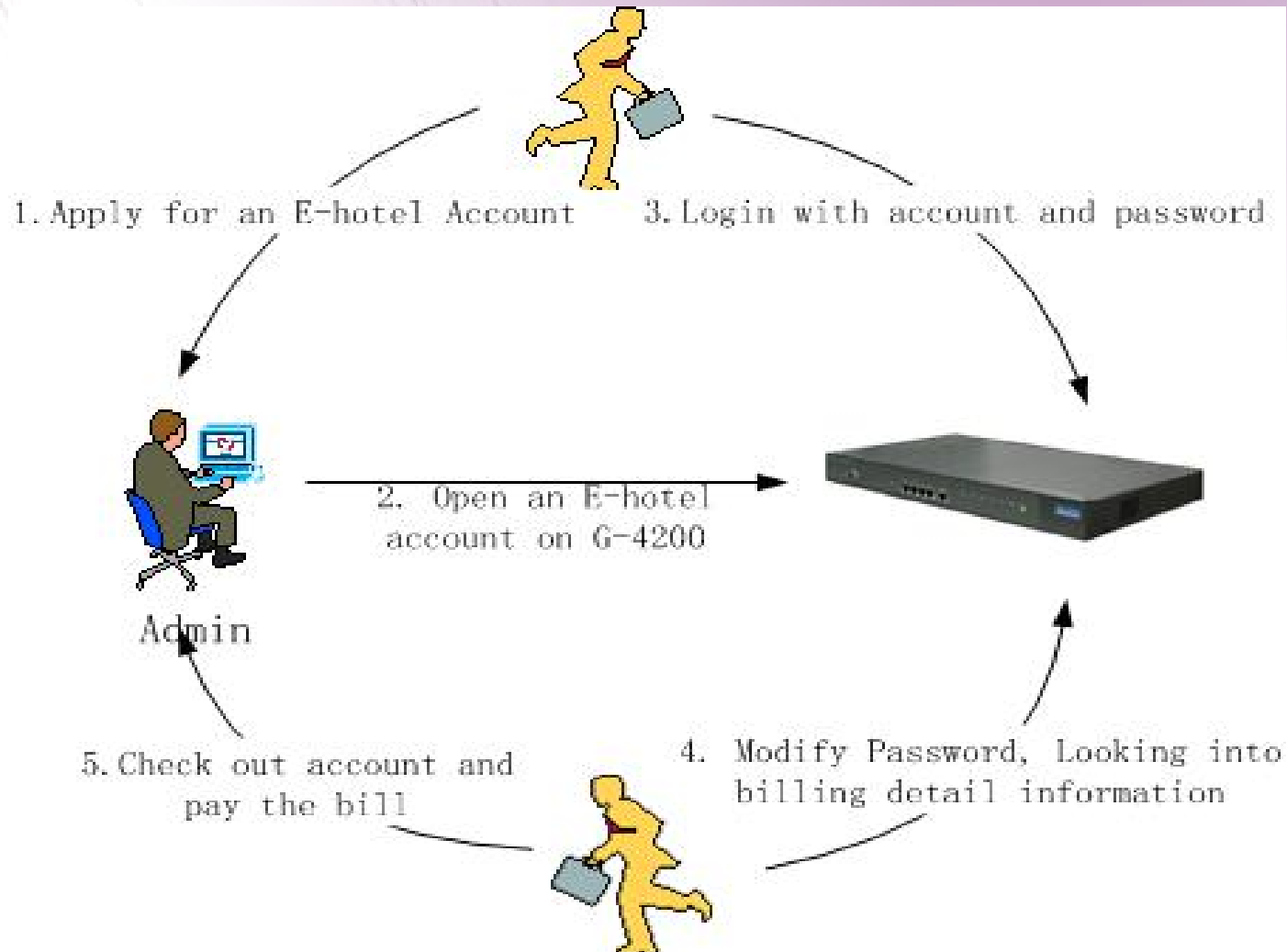
- Remote Web upgrade



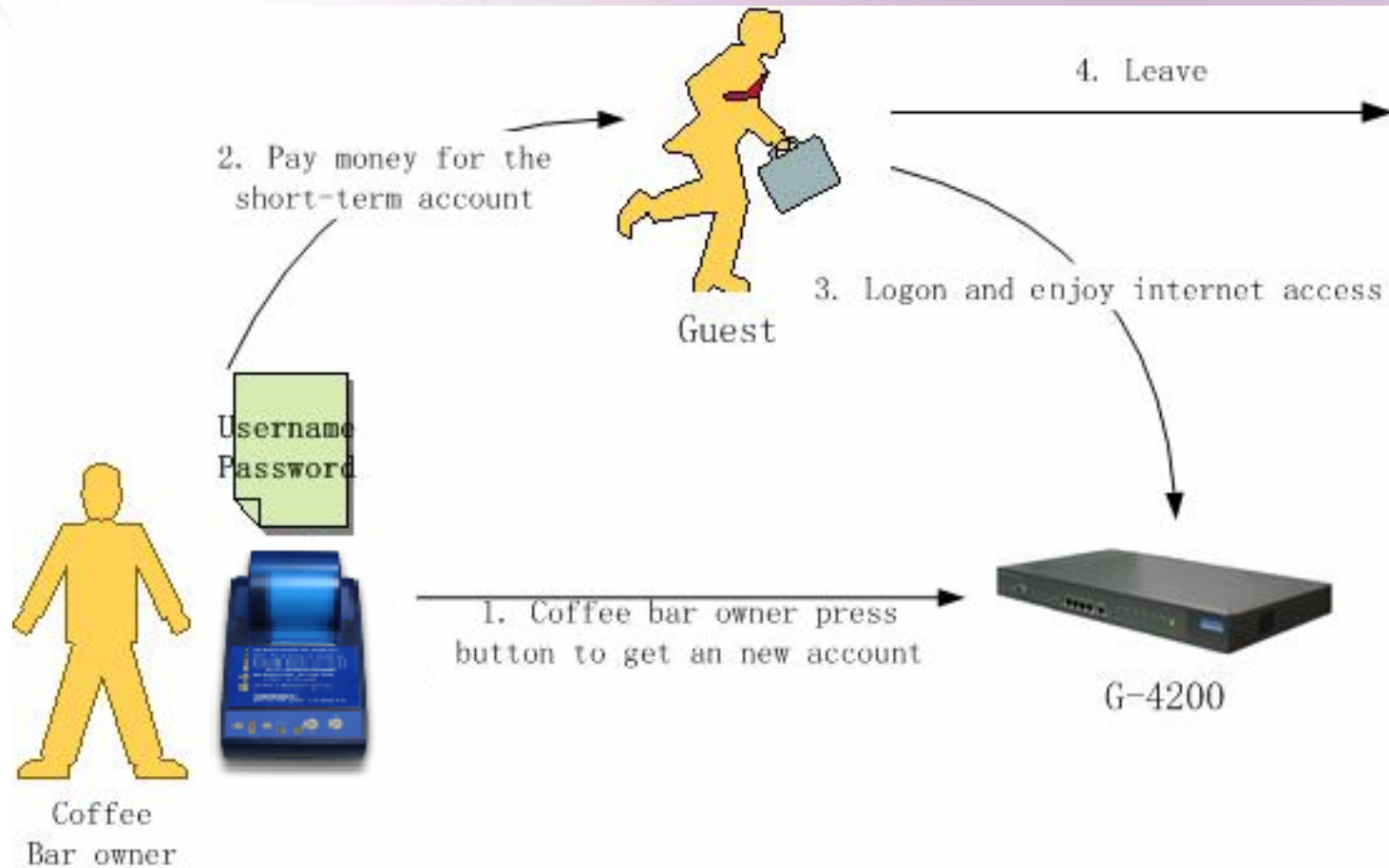
AAA Service

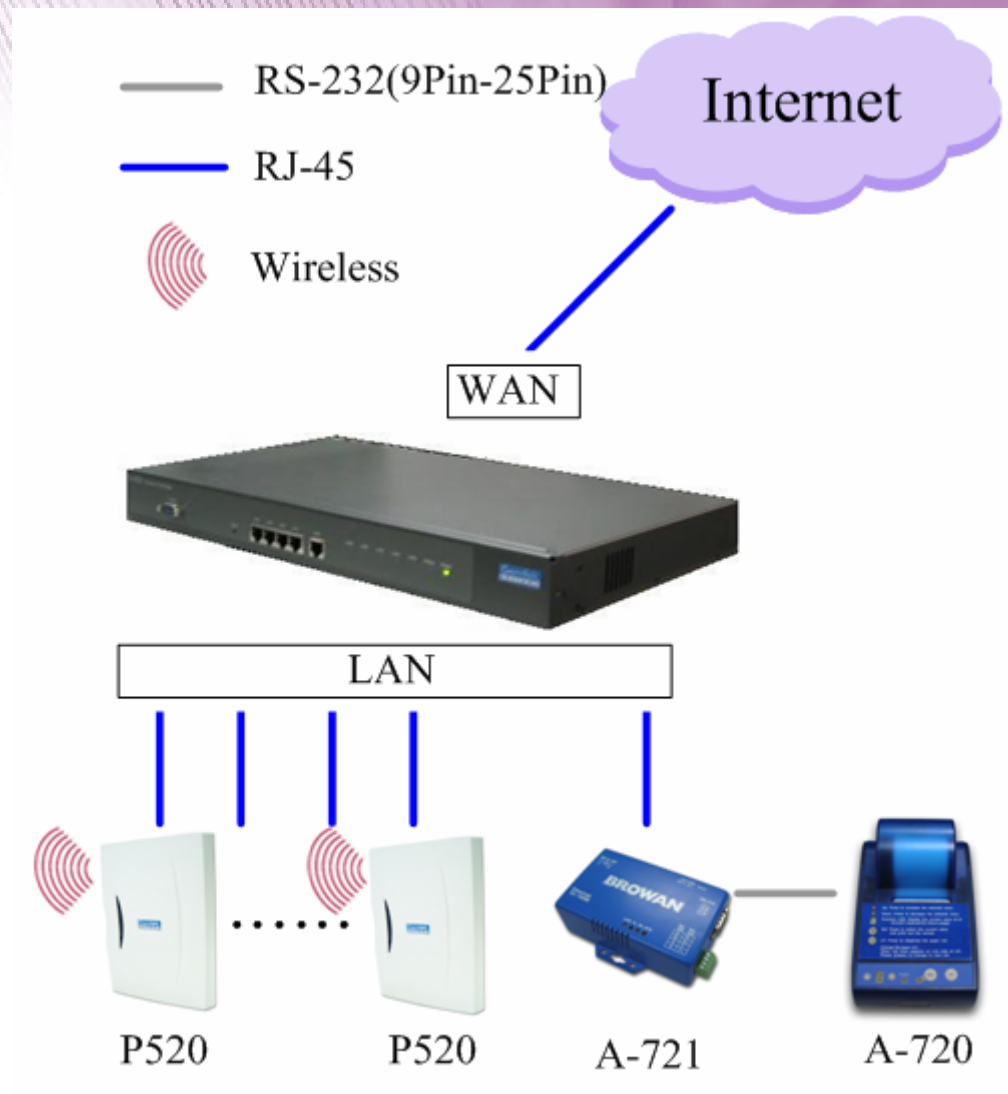


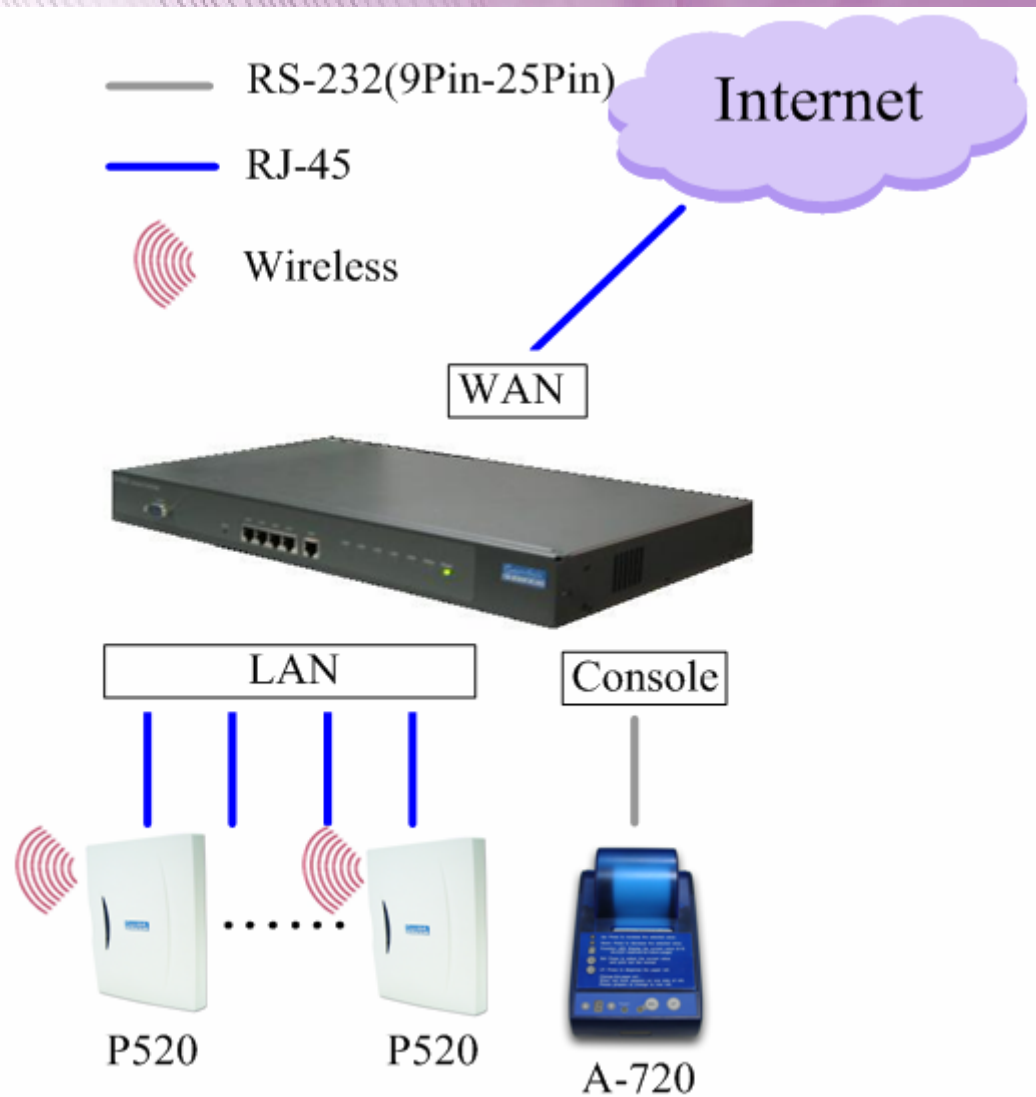
Long-term account post-payment (E-hotel Account)



Short term account pre-payment (one button operation)







0	0.5HR
1	1 HR
2	2 HR
3	3 HR
4	4 HR
5	5 HR

Miscellaneous

6	1 DAY
7	2 DAY
8	3 DAY
9	4 DAY

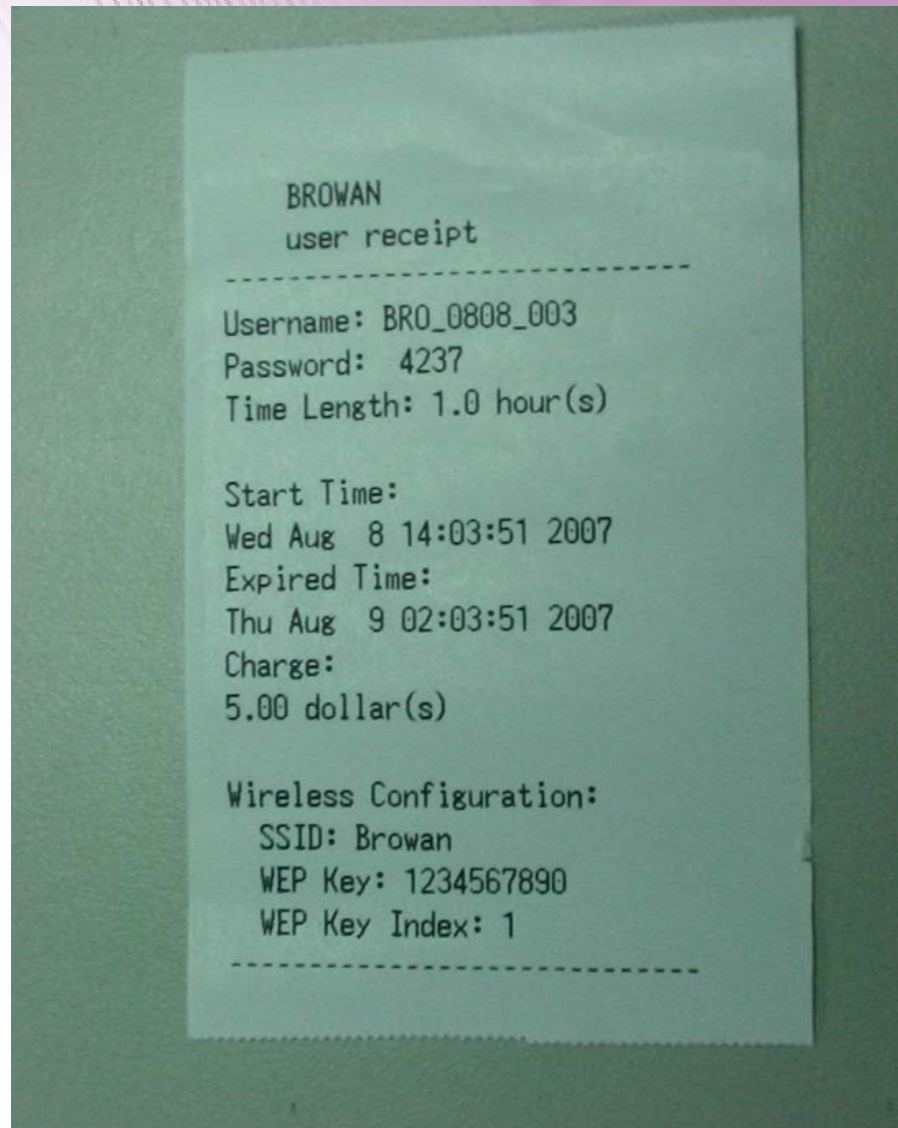
Hours

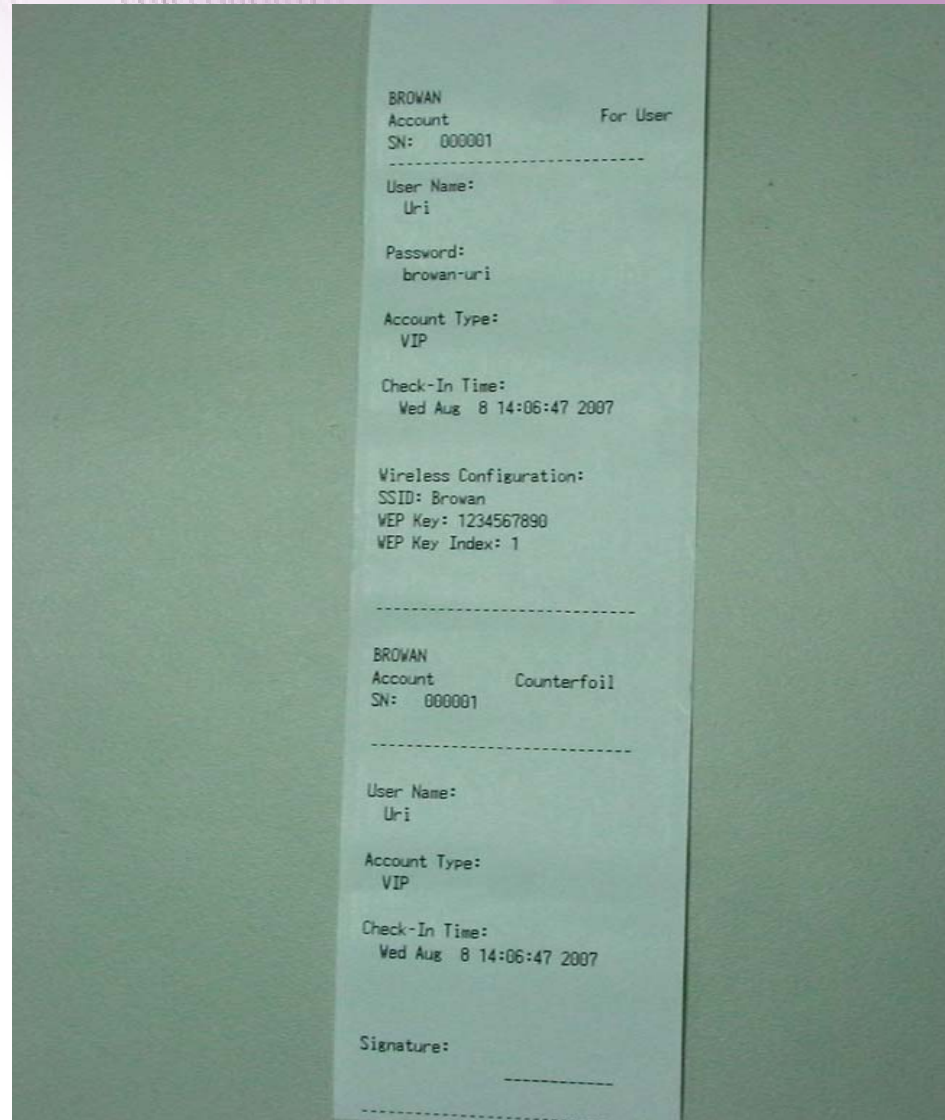
6	6 HR
7	7 HR
8	8 HR
9	9 HR



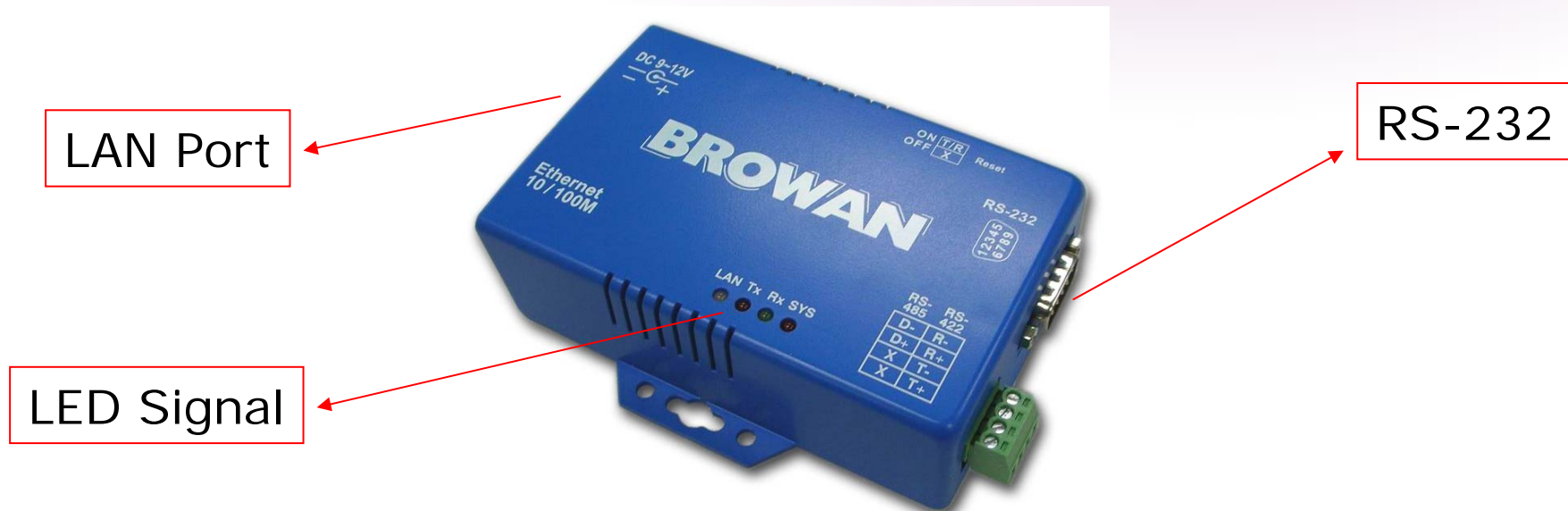
PRINT

FORWARD





Converting the Serial data and signal to Ethernet signal and TCP/IP data.



You can configure or see the information in “built-in AAA”
e-billing 、 pre-paid 、 configuration

G-4200 :

network interface | user interface | system | connection | **built-in AAA**

e-billing | pre-paid | configuration

language | backup and restore | **WEP key and SSID** | title |

WEP key and SSID		
Setting	Value	Action
WEP key	1234567890	edit
WEP key index		edit
SSID	Browan	edit

E-hotel Account

- Different of account class
Each class can define a special download and upload bandwidth
- Multiple Billing Policy
Billing policy by time or by dataflow and define the price of each unit
- Power failure protection
Record the last one (or user defined) minute client billing data
- Accurate billing detail (Each session record)
- Bind Account to User MAC address



ehotel user band class			
Class Level	Max Up-Bandwidth	Max Down-Bandwidth	Action
Class 0	10.00 Mbps	10.00 Mbps	edit
Class 1	50.00 Mbps	50.00 Mbps	edit
Class 2	100.00 Mbps	100.00 Mbps	edit

Different of account class

ehotel bill configuration				
Bill Policy	Data Unit Price(/MB)	Time Unit Price(/Hour)	Charge Unit	Action
BILL BY TIME <input type="button" value="v"/>	<input type="text" value="10.00"/>	<input type="text" value="10.00"/>	<input type="text" value="dollar"/>	<input type="button" value="save"/> <input type="button" value="cancel"/>
BILL BY TIME				
BILL BY DATA				

Multiple billing policy

Bill	
username:	jack
total time:	00:01:30
total download bytes:	113.06 KB
total cost:	1.2 dollar

detailed bill:

no	start time	session time	download bytes	upload bytes	policy	price	charge
01.	Wed Aug 18 09:56:25 2004	00:00:37	74.82 KB	11.99 KB	dataflow	10.00	0.73
02.	Wed Aug 18 09:57:26 2004	00:00:17	11.55 KB	11.39 KB	dataflow	10.00	0.11
03.	Wed Aug 18 09:59:53 2004	00:00:13	13.58 KB	12.72 KB	time	10.00	0.17
04.	Wed Aug 18 10:00:51 2004	00:00:23	13.11 KB	13.36 KB	time	10.00	0.17

Billing detail



G-4200 RADIUS interface

Full RADIUS Account information:

User MAC address

User IP address

User session time

User upload flow

User download flow

WISPr extend RADIUS Attribute support

User upload/download Bandwidth

User upload/download data limit

User absolute session end time

RADIUS Account Backup

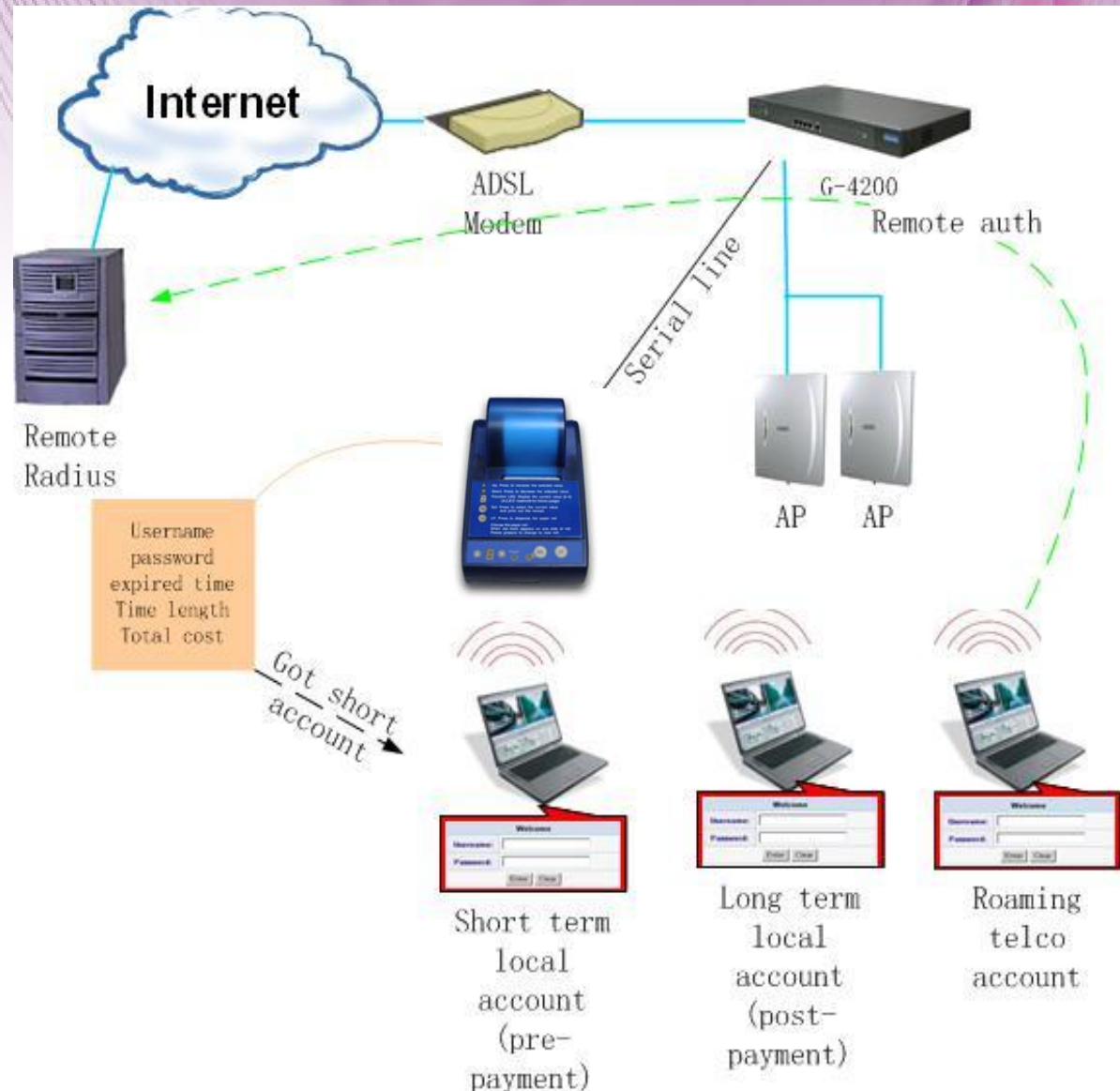
Backup via syslog

Backup to local file



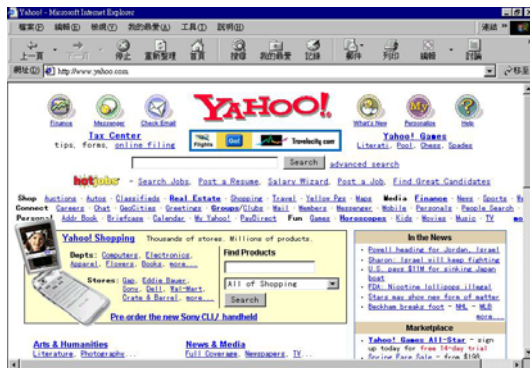
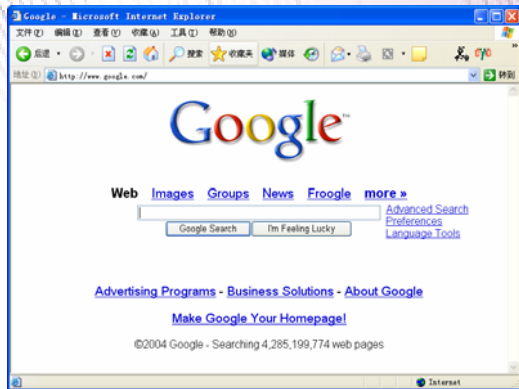
A account authenticate process:

1. Check if "user name" belongs to the data from the accounts in printer.
2. If nothing is found, check if "user name" belongs to the account in G4200's data ("e-billing") accounts.
3. If nothing is found, check the RADIUS server to see if this account exists.



Additional Valuable Services





Walled Garden feature allows clients accessing to specific URL without authentication.

Applied for free links, e.g.:

- ✓ Advertisement site
- ✓ Sponsor site
- ✓ Help site

walled garden

Host	Port	URL for user	String to display	Action
www.google.com	80	http://www.google.com	Google	edit URL edit host delete
www.yahoo.com	80	http://www.yahoo.com	Yahoo	edit URL edit host delete

new URL

new host

G-4200 allow service provider or venue owner showing their own login and logout page. Auto-redirection will redirect user to the advertisements pages once user login success.

Log-in sample

The screenshot shows a login interface with a blue header bar containing the text "Login to The System". On the left, there is a "Gemtek systems" logo. In the center, there is a blue rounded rectangle containing two input fields: "UserName:" and "PassWord:". Below these fields is a "Login" button. At the bottom of the page, there is a footer with the text: "Universal Access (It is provided by MIS)Method to login to the system. If you have any questions please send e-mail wilson.wei@gemtek-systems.com".

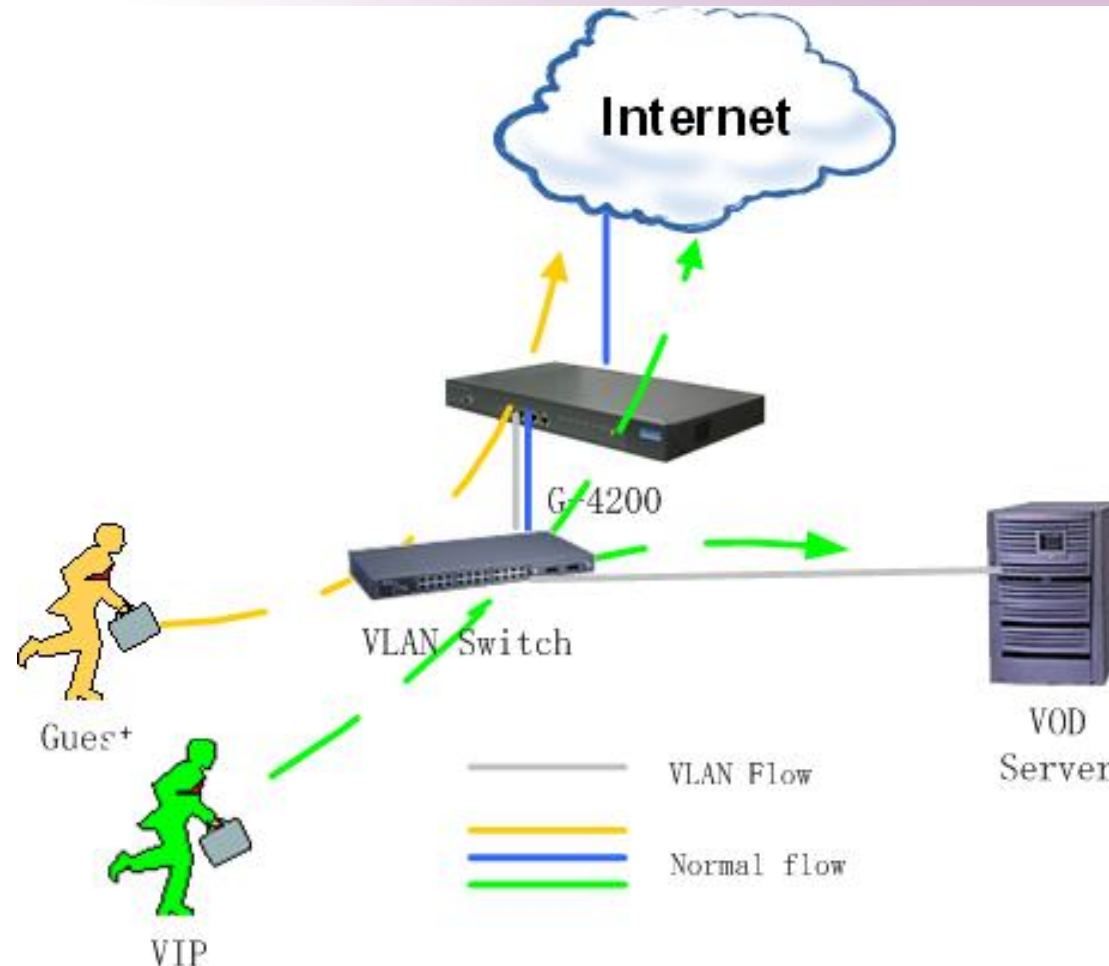
Log-out sample

The screenshot shows a user status page. On the left, there is a blue "Gemtek SYSTEMS" logo. In the center, there is a "User Status" section with a "Logout" button. On the right, there is a table displaying session details for user "test-uam".

User Name	test-uam
User IP	192.168.123.82
User Mac	000D87A4C0E1
Session ID	40E27439C799
Session Time	00:00:03
Idle Time	00:00:02
Upload Bytes	0
Download Bytes	0
Upload Left Bytes	unlimited
Download Left Bytes	unlimited
Left Session Time	19:59:57
Upload Bandwidth	10 Mbps
Download Bandwidth	10 Mbps

BROWAN Class of Service

G-4200 can distinguish VIP from normal guest according to RADIUS response attribute and provide VIP special service for example, VOD service, with VLAN support.

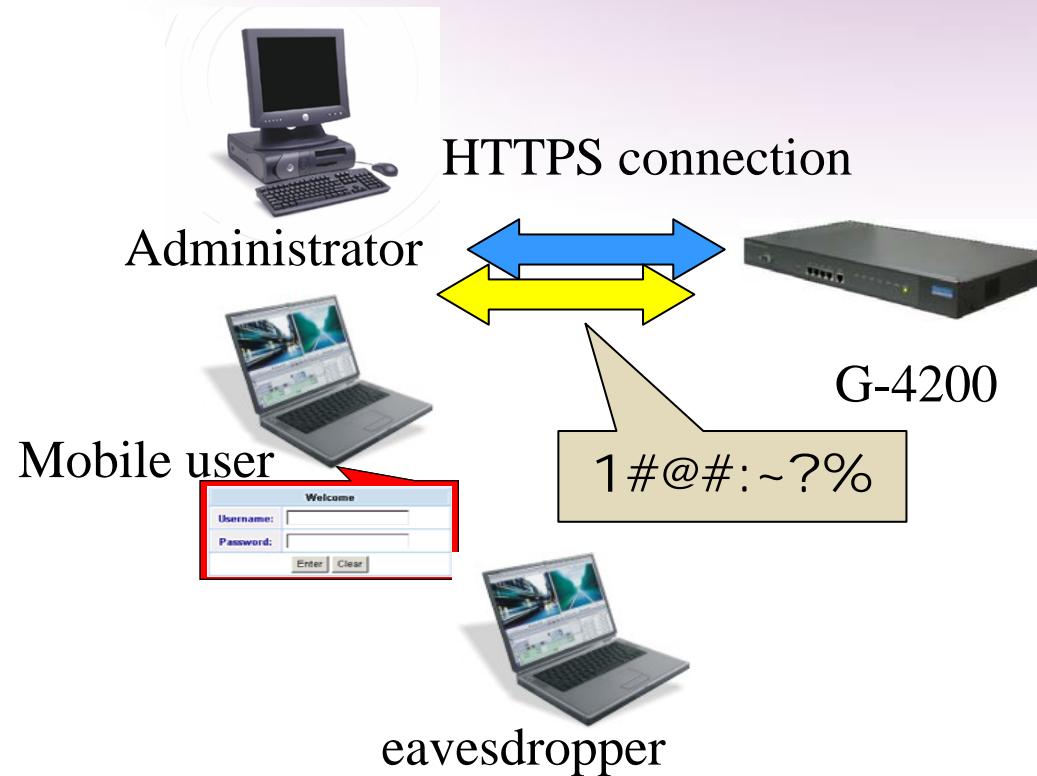


Security



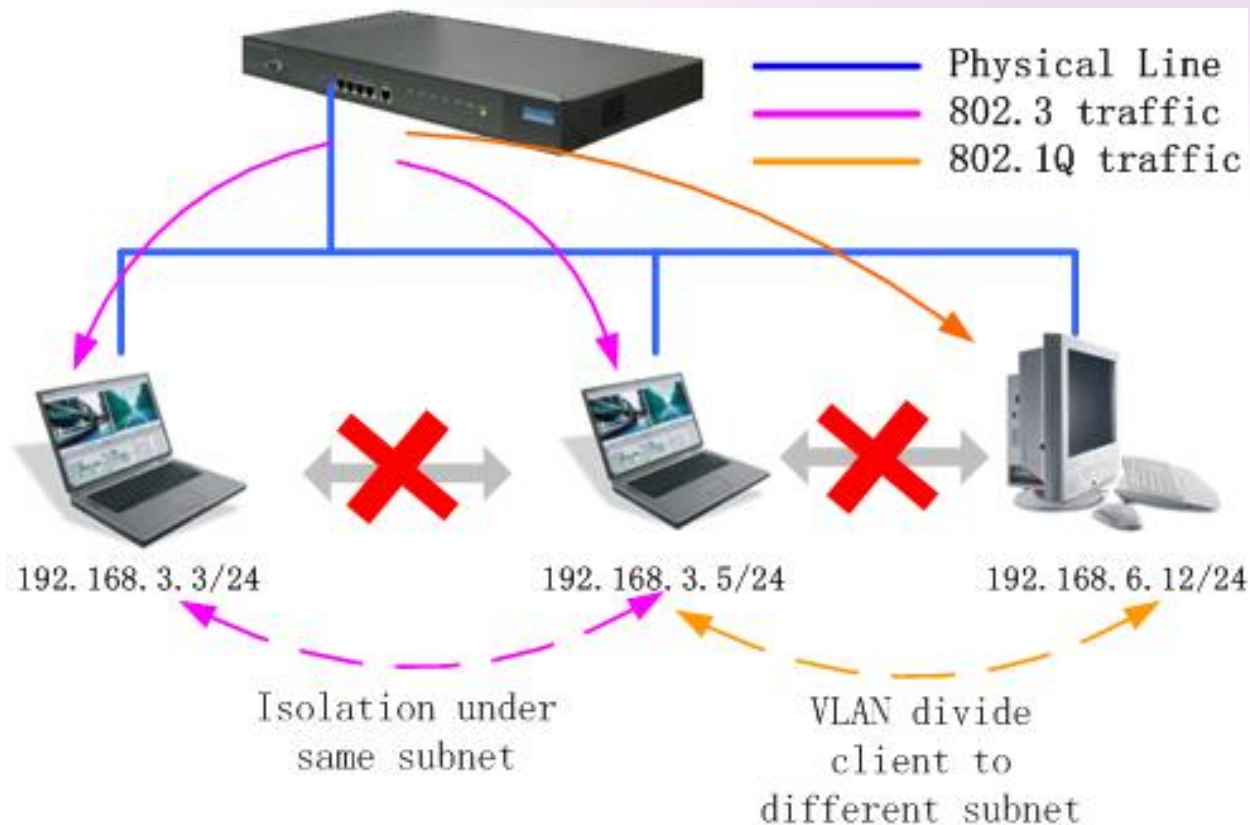
Security on management and user login

HTTPS connection prevent eavesdropper from stealing the user account and password.



G-4200 Isolation prevents clients under G-4200 from communicating to one another.

Use 802.1Q VLAN to divide user into different DHCP pool.
(Up to 4094 VLAN support)



For user account not be stolen, user MAC address can be bind to E-hotel account. As the figure show,

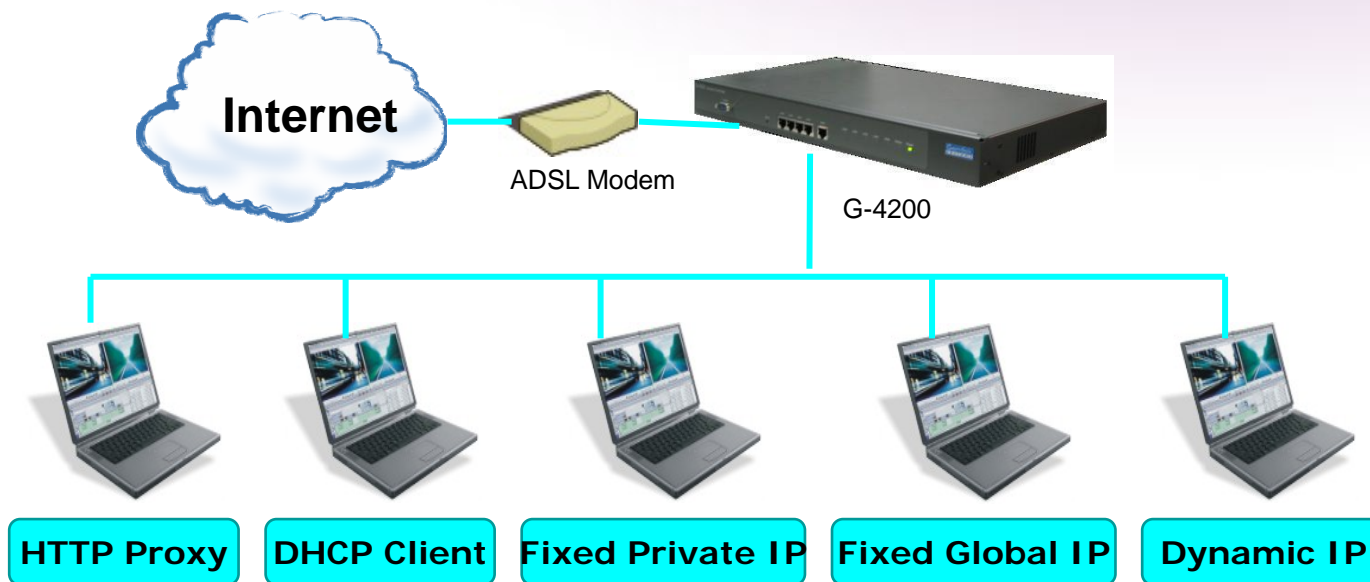
ehotel user control					
name	bandclass	flags	mac check	mac address	action
hugh	CLASS 0	INUSE	disabled		<input type="button" value="edit"/> <input type="button" value="delete"/> <input type="button" value="passwd"/> <input type="button" value="bill"/>
jack	CLASS 0	INUSE	disabled		<input type="button" value="edit"/> <input type="button" value="delete"/> <input type="button" value="passwd"/> <input type="button" value="bill"/>
jnliu	CLASS 0	INUSE	disabled		<input type="button" value="edit"/> <input type="button" value="delete"/> <input type="button" value="passwd"/> <input type="button" value="bill"/>
mactest	CLASS 1	INUSE	enabled	00:0a:eb:1a:04:8a	<input type="button" value="edit"/> <input type="button" value="delete"/> <input type="button" value="passwd"/> <input type="button" value="bill"/>
test	CLASS 0	INUSE	disabled		<input type="button" value="edit"/> <input type="button" value="delete"/> <input type="button" value="passwd"/> <input type="button" value="bill"/>
					<input type="button" value="new"/>

User who uses the account "mactest" but with MAC differ from "00:0a:eb:1a:04:8a" will not be authorized by G-4200.

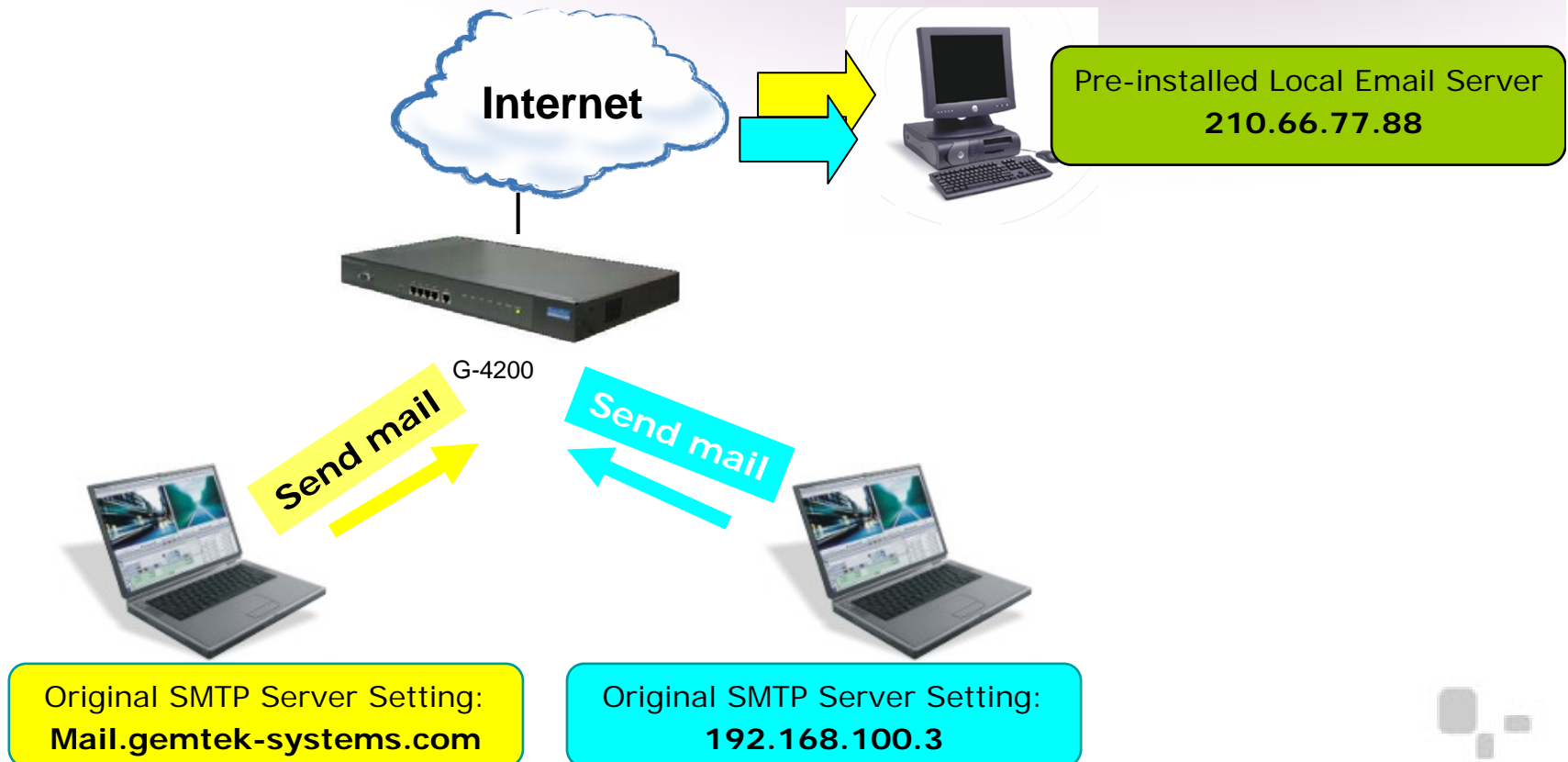
Others features



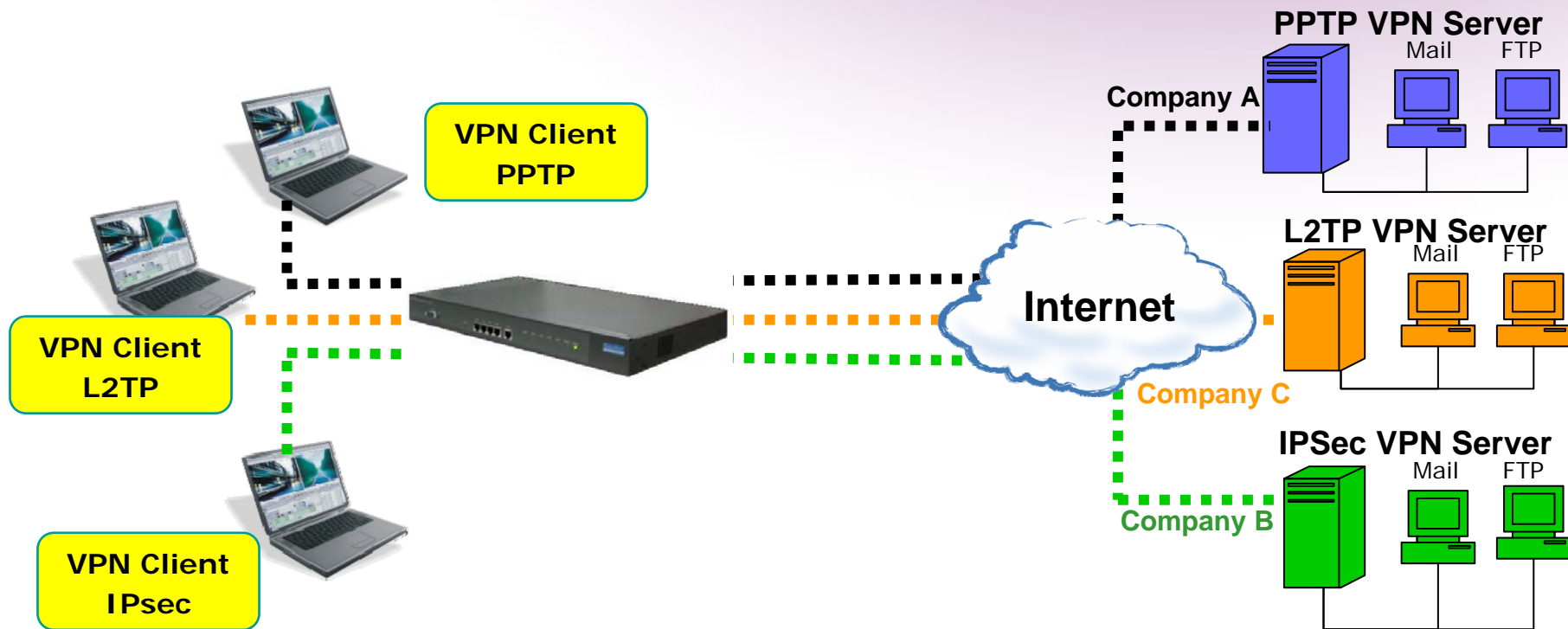
G-4200 provides instant Internet access for mobile clients without any reconfiguration and software installation. Achieve “zero configuration” for laptop users (PNP).



G-4200 can redirect clients' original SMTP packets (Email) to a local E-mail server, help mobile client send E-mail via his local SMTP server. This will speed up Email sending, for the default SMTP server is hard to reach since client is mobile.



VPN Passthrough enables the subscribers to connect to his/her company's VPN server.



IP Plug and Play

Zero Configuration

Outgoing E-mail Redirection

Transparent Web Proxy

DHCP Server

AAA system

Built-in AAA server; support long-term and short-term service accounts

Support roaming service account

Multiple authentication methods:

Web login, 802.1x/EAP,

RADIUS, MAC, Smart Client (e.g. iPass)

WISPr compliant

Security

Layer 2 Isolation

802.1Q VLAN support

VPN Pass through (PPTP IPSec)

SSL Login Page/Administration

Administration Access Control

Firewall for anti hacker attack

MAC binding to IP and account

Management

Secure management via https, SSH, SNMP

Management Subnet for remote management to AP and switch device under G-4200

Remote firmware update

Marketing Service

Customized Login Page

Logout Page

Redirection Advertisement Link

Walled garden with auto-update

Network

PPPoE dial up

VPN Tunnel support (PPTP Client, GRE)

Successful Stories



Grand Victoria Hotel

<http://www.grandvictoria.com.tw/>

Taiwan University of Science and Technology

<http://www.ntust.edu.tw/front/bin/home.phtml>

Taipei University of Technology

<http://www.ntut.edu.tw/english/aboutNTUT.htm>



The End

