Internal Authentication -

On-Demand Authentication User Database

On-Demand Authentication is designed to provide guest user account provisioning with time or traffic volume constraints, making it ideal for Wi-Fi deployments at hotels, enterprises or other venues that offer hotspot Wi-Fi. This authentication option uses a built-in database for authentication, which is the On-Demand database, saving network administrators time and effort on setting up external databases.

Many powerful functionalities and features have been developed around On-Demand Authentication to provide comprehensive guest Wi-Fi services, and they are also developed on the basis of providing network administrators choice and freedom in customization. For one example, On-Demand Authentication can integrate with various third-party payment and SMS gateway services, and network administrators can choose their preferred service provider supported by the controller. For another example, Wi-Fi account information can be printed out using Edgecore’s ticket printer or regular printers (web printout), and the printout content can be customized to meet businesses’ needs.

- On-Demand Billing Plans
- On-Demand Authentication
- Web Printout
- POS Tickets and Terminal Server
- Payment Gateway
- SMS Gateway
- Email Verification
- Account Roaming Out
- On-Demand Accounts Creation and List

On-Demand Billing Plans

Usage-time: Users can access internet as long as account is valid with remaining quota (usable time). Users need to activate the purchased account within a given time period by logging in. This is ideal for short term usage such as in coffee shops, airport terminals etc. Quota is deducted only while in use, however the countdown to Expiration Time is continuous regardless of logging in or out. Account expires when Expiration has been used up or quota depleted as expiration time is enabled,
  - Activation is the time period for which the user must execute a first login. Failure to do so in the time period set in Account Activation will result in account expiration.
  - Expiration is the valid time period for using. After this time period, even with remaining quota the account will still expire.
**Quota** is the total period of time (xx days yy hrs zz mins), during which On-Demand users are allowed to access the network. The total maximum quota is “364Days 23hrs 59mins 59secs” even after redeeming.

- **Unit Price** is the unit price of this plan.
- **Group** will be the applied Group to users created from this plan.
- **Reference** field allows administrator to input additional information.

**Volume**: Users can access internet as long as account is valid with remaining quota (traffic volume). Account expires when **Valid Period** is used up or quota is depleted. This is ideal for small quantity applications such as sending/receiving mail, transferring a file etc. Count down of Valid Period is continuous regardless of logging in or out.

- **Activation** is the time period for which the user must execute a first login. Failure to do so in the time period set in Account Activation will result in account expiration.
- **Expiration** is the valid time period for using. After this time period, the account expires even with quota remaining.
- **Quota** is the total Mbytes (1~1000000), during which On-Demand users are allowed to access the network.
- **Number of devices** is to define the number of allowed simultaneous logged in devices per account. (0: unlimited)
- **Unit Price** is the unit price of this plan.
- **Group** will be the applied Group to users created from this plan.
- **Reference** field allows administrator to input additional information.

**Hotel Cut-off-time** is the clock time (normally check-out time) at which the On-demand account is cut off (made expired) by the system on the following day or many days later.

- **Cut-off Time**: On the account creation UI of this plan, operator can enter a Unit value which is the number of days to Cut-off-time according to customer stay time. For example: Unit = 2 days, Cut-off Time = 13:00 then account will expire on 13:00 two days later.
- **Grace Period** is an additional, short period of time after the account is cut off that allows user to continue to use the On-Demand account to access the Internet without paying additional fee.
- **Number of Devices** is to define the number of allowed simultaneous logged in devices per account.
- **Unit Price** is a daily price of this billing plan. This is mainly used in hotel venues to provide internet service according to guests’ stay time.
- **Group** will be the applied Group to users created from this plan.
- **Reference** field allows administrator to input additional information.
**Duration Time with Elapsed Time:** Account is activated upon account creation. Count down begins immediately after account is created and is continuous regardless of logging in or out. Account expires once the **Elapsed Time** is reached. This is ideal for providing internet service immediately after account creation throughout a specific period of time.

- **Begin Time** is the time that the account will be activated for use. It is set to account creation time.
- **Elapsed Time** is the time interval for which the account is valid for internet access (xx hrs yy mins).
- **Number of Devices** is to define the number of allowed simultaneous logged in devices per account.
- **Price** is the unit price of this plan.
- **Group** will be the applied Group to users created from this plan.
- **Reference** field allows administrator to input additional information.

**Duration Time with Cut-off Time:** It is the clock time at which the On-Demand account is cut off (made expired) by the system on that day. For example if a shopping mall is set to close at 23:00; operators selling On-Demand tickets can use this plan to create ticket set to be Cut-off on 23:00. If an account of this kind is created after the Cut-off Time, the account will automatically expire.

- **Begin Time** is the time that the account will be activated for use. It is set to account creation time.
- **Cut-off Time** is the clock time when the account will expire.
- **Number of Devices** is to define the number of allowed simultaneous logged in devices per account.
- **Price** is the unit price of this plan.
- **Group** will be the applied Group to users created from this plan.
- **Reference** field allows administrator to input additional information.

**Duration Time with Begin-and-End Time:** The **Begin Time** and **End Time** of the account are defined explicitly. Count down begins immediately after account activation and expires when the **End Time** has been reached. This is ideal for providing internet service throughout a specific period of time. For example during exhibition events or large conventions such as Computex where each registered participant will get an internet account valid from 8:00 AM Jun 1 to 5:00 PM Jun 5 created in batch like coupons.

- **Begin Time** is the time that the account will be activated for use, defined explicitly by the operator.
- **End Time** is the time that the account will expire defined explicitly by the operator.
Number of Devices is to define the number of allowed simultaneous logged in devices per account.

Price is the unit price of this plan.

Group will be the applied Group to users created from this plan.

Reference field allows administrator to input additional information.

**On-Demand Authentication**

**User Postfix:** The User Postfix is used for the system to identify which authentication option will be used for the specific user account when multiple options are concurrently in use.

**Currency:** the currency of the unit prices of Billing Plans

**Expired Account Cache:** the day to eliminate the On-Demand accounts from database since which have been expired already.

**Out-of-quota Account Cache:** the day to eliminate the On-Demand accounts from database since which have been out of quota already.

**Web Printout**

When printers, except POS printer, are deployed for account generation, there is a set of Wi-Fi service information for customizing the On-Demand tickets, including Background Image, WLAN SSID Name, Wireless Key, Receipt header and Receipt footer. Simply click the “Preview” button to check the layout and then press “Printout” button for laptop printout setting.

**POS Tickets and Terminal Server**

When Terminal Servers are deployed for account generation, remember to configure the IP and Port in Terminal Server configuration.

**Payment Gateway**

The WLAN controller supports different types of payment gateway options depending on the account types possessed by the operator, including Authorize.net, PayPal, SecurePay, WorldPay, and PeleCard. The most commonly used PayPal is used as an illustration example below.

Before setting up “PayPal”, it is required that the hotspot owners have a valid PayPal “Business Account”. After opening a PayPal Business Account, the hotspot owners should find the “Identity Token” of this PayPal account to continue “PayPal Payment Page Configuration”.

Fill in the necessary merchant account credentials in the Payment Page Configuration. Please be careful that if your controller’s WAN IP is under a NAT, you will need to configure IP forwarding information in the **Instant Payment Notification (IPN)** field in
order for the paying end user to receive transaction outcome.

Select the enabled billing plans that are allowed for end users to self-purchase through the payment gateway.

The service disclaimer can be customized by configuring Web Page Customization. Subsequently after the configuration of your external payment gateway, the login page will be shown with a hyperlink which guides the end user step by step to purchase an account with a valid credit card.

In order for users to get account info via SMS after buying a new account online, and
eliminate the risk of forgetting his/her username and password at the next time of login, administrators may choose to integrate SMS gateway with the payment gateway.

Upon successful set up, the **Number of SMS Quota** field will be available.

Account buyers enter a cellphone number after paying a fee for the account online. The account buyers can then re-send the SMS no more than the configured number.

To preview your External Payment Portal, click “Configure” for **Web Page Customization** at the bottom of the page. Just like all customizable web pages in the system, this page also supports customization with templates, uploading html, or using an external page. An example of what will be displayed when External Payment Gateway is used with SMS Gateway is shown below:
With a set of Clickatell account Username/Password, the SMS Gateway can be configured to send SMS messages upon On-Demand account creation. The SMS service can be used for free access, paid access with payment gateway integration, or both. Define an API ID and activate the desired billing plans. Multiple Billing Plans may be activated if needed. To prevent the SMS Gateway from being flooded by SMS queries for account generation, an Account Registration Control option is available. In addition, the administrator has an option of allowing or disallowing users to register for new accounts prior to account expiration. To block valid accounts from requesting new accounts, set option to “Enabled”.

Clickatell
Selection: Disabled, Clickatell or SMS API. Choose the preferred service and option.
Version: Old (Prior to November 2016) version is the Clickatell API in REST protocol in JSON format for API ID, User Name, Password. New version is only required API Key in HTTPS protocol for integration
Send SMS for – Account Registration: to allow Wi-Fi users to self-register and receive a Wi-Fi account via SMS.
Send SMS for – Account purchases via Payment Gateway: to enable the SMS feature for Wi-Fi users who purchased an On-Demand account via an online Payment Gateway. They will be given an option to send the purchased account to their mobile device using SMS.

Send SMS for – Both: to enable the above two options

API URL: The link for sending an SMS request to the Clickatell API server. Default is http://api.clickatell.com/http/sendmsg

Registration before Accounts Expired: Allow will allow the same mobile number to request a 2nd On-Demand account even though the 1st account hasn’t expired or been used yet. Block will restrict users to sending a 2nd On-Demand account only after their 1st account has expired.

Billing Plans: Created and “Active” Billing Plans are displayed and used for creating On-Demand account via SMS. Noted that at least 1 Billing Plan must be selected.

Account Registration Control: Disable, Black List, White List. Disable to not restrict or allow only specified mobile numbers. Black List will deny specific mobile numbers from registering. White List will only allow specific mobile numbers to register.

Web Page Customization: Customize the Service Disclaimer and Billing Plan Selection Page using the Default, Customize with Template, Upload Your Own and Use External Page options.

SMS API

Selection: Disabled, Clickatell or SMS API. Choose the preferred service and option.

Send SMS for – Account Registration: to allow Wi-Fi users to self-register and receive a Wi-Fi account via SMS.

Send SMS for – Account purchases via Payment Gateway: to enable the SMS feature for Wi-Fi users who purchased an On-Demand account via an online Payment Gateway. They will be given an option to send the purchased account to their mobile device using SMS.

Send SMS for – Both: to enable the above two options

API URL: The link for sending an SMS request to an API server.

Registration before Accounts Expired: Allow will allow the same mobile number to request a 2nd On-Demand account even though the 1st account hasn’t expired or been used yet. Block will restrict users to sending a 2nd On-Demand account only after their 1st account has expired.

Parameter: API parameters and values for sending an SMS request.

Response Format: JSON or HTML. Selected choice will depend on the type of response provided by the SMS service. The Response Format will be used by the WLAN controller to determine whether the SMS text message has been sent successfully.

Key of JSON Array: Key Path of the value from the SMS request’s response in JSON format. Example: ['data'][0]['status']

Return Value of Successful Request: The text of the successful response is entered here.

Send Test Message: A mobile number is entered and a “test” SMS message is sent. On-Demand accounts will not be created when sending the SMS message. Noted that the “Test” button can be used to troubleshoot your SMS request and view the response
message sent from your SMS provider.

**Message Content:** Customize the SMS Text Message received by Wi-Fi users in the Message Editor box. Four parameters regarding the created On-Demand account can be entered; the username, username without the postfix, password, and the quota description.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>$username</td>
<td>Username of the created On-Demand account.</td>
</tr>
<tr>
<td>$username_without_postfix</td>
<td>Same as $username, but without the postfix.</td>
</tr>
<tr>
<td>$password</td>
<td>Password of the created On-Demand account.</td>
</tr>
<tr>
<td>$quota</td>
<td>Quota description for the created On-Demand account.</td>
</tr>
</tbody>
</table>

**Billing Plans:** Created and “Active” Billing Plans are displayed and used for creating On-Demand account via SMS. Noted that at least 1 Billing Plan must be selected.

**Account Registration Control:** Disable, Black List, White List. Disable to not restrict or allow only specified mobile numbers. Black List will deny specific mobile numbers from registering. White List will only allow specific mobile numbers to register.

**Web Page Customization:** Customize the Service Disclaimer and Billing Plan Selection Page using the Default, Customize with Template, Upload Your Own and Use External Page options.

**SMS API Log:** a helpful log during the integration on the page of Main › Status › Logs and Reports › SMS API Log

Taking the SMS Global as example, the WLAN controller is able to follow the SMS API indication from SMSGlobal website (HTTP API) [https://www.smsglobal.com/http-api/?_ga=2.178049571.763118347.1504837619-1430890374.1504837619](https://www.smsglobal.com/http-api/?_ga=2.178049571.763118347.1504837619-1430890374.1504837619).

Registration before Accounts Expired: Allow

<table>
<thead>
<tr>
<th>No.</th>
<th>Parameter</th>
<th>Parameter Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>to</td>
<td></td>
<td>Phone Number</td>
</tr>
<tr>
<td></td>
<td>text</td>
<td></td>
<td>SMS Content</td>
</tr>
<tr>
<td>1</td>
<td>Action</td>
<td>sendsms</td>
<td>Action to be taken. [Default: sendsms]</td>
</tr>
<tr>
<td>2</td>
<td>User</td>
<td>G**********</td>
<td>Your SMSGlobal username</td>
</tr>
<tr>
<td>3</td>
<td>Password</td>
<td>eZ**********</td>
<td>Your SMSGlobal password</td>
</tr>
<tr>
<td></td>
<td>from</td>
<td>Edgecore</td>
<td>MSIDSN or Sender ID that the message will appear from. Eg: 61409317436 (Do not use + before the country code)</td>
</tr>
</tbody>
</table>

Response Format: HTML (due to we integrate with HTTP API)

Return Value of Successful Request: OK: 0

Send Test Message: this help verify the integration with current configuration
With the SMS Gateway enabled, the Billing Plan selection page will appear as such

![Billing Plan Selection](image)

**Email Verification**

For email verification option, clients are able to access additional quota of On-Demand accounts by activating the link sent to clients’ mail box. What’s more, administrators could check the Logs and Reports to realize what the client status and related information for further marketing purposes.

![Email Verification Diagram](image)

**Selection**: to enable or disable the feature

**Choose Billing Plan for Redeeming Account via Email** (only Usage Time Selectable): to choose the configured billing plans, while only Usage type billing plan support this feature

- **Activation**: to select which billing plan allowed email verification feature
- **Quota**: to view the current summary of each billing plan
**Redeem Quota:** the usage time that can be additionally used when redeeming

**Price:** to view the current price of each billing plan

**Remark:** a custom field for identity of each walled garden entry

**SMTP Server Settings:** to assign SMTP server for sending the mail for redeem clients. This SMTP is shared with Guest Email Verification. Please refer to “session 17.5.1 SMTP Setting”. Taking Gmail as SMTP server, the configurations are

- SMTP server address: smtp.gmail.com
- SMTP port: 465
- Encryption: SSL
- Authentication: Login: Account Name: admin’s Gmail email address
- Authentication: Login: Password: admin’s Gmail email’s password
- Sender Email Address: admin’s Gmail email address

**Sender Name:** The Sender Name displays in the client mail box.

**Activation Email Subject:** customizable email subject displays in the client mail box

**Activation Email Content:** customizable email content displays in the client mail box (max. 2000 characters)

**Activation Link:** the name with hyperlink to redeem the account in the client email content

**Web Page Customization:** different customized types are selectable, but now only support Edgecore Default and Customize with Template

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**Account Roaming Out**

The built-in user account databases both Local and On-Demand of the WLAN controller may be used for other WLAN controllers as their external RADIUS authentication database. This application offers the ability to refer to a single central WLAN controller for account credential lookup during the authentication process, and is ideal for enterprises or businesses with multiple branch offices.
Main Office Configuration

To use Local user database as the RADIUS database of another controller, configured at the page "Main Menu > Users > Internal Authentication > Local"

To use On-Demand user database as the RADIUS database of another controller, configuration at the page “Main Menu > Users > Internal Authentication > On-Demand”

After enabling the Account Roaming Out feature for Local or On-Demand database, administrators are able to click the button of RADIUS Client Device Settings to specify the WLAN controller IP Address/Subnet Mask which is allowed to behave as a RADIUS
client and authenticate against this WLAN controller’s built-in databases.

Note: Please make sure that the user database postfixes are configured without conflicting with one another over the two Controllers.

Branch Office Gateway Configuration
It is recommended to select “Leave Unmodified” for Username Format
Leave Unmodified: WLAN controller will directly transfer what client types in Username
Complete: both the username and postfix will be transferred to the RADIUS server for authentication.
Only ID: only the username will be transferred to the external RADIUS server for authentication

The Main Office Gateway acts as Primary RADIUS Server. The related configuration follows the network environment of main office gateway.
Administrators should confirm the postfix of RADIUS authentication method on the Authentication Servers page.

**Note:** Make sure that the Local/On-demand postfix at main gateway is not duplicated in any postfix on the remote gateway.

<table>
<thead>
<tr>
<th>Main Office Gateway</th>
<th>Remote Office Gateway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local @Edgecore.com</td>
<td>Local local</td>
</tr>
<tr>
<td>Ondemand od</td>
<td>Ondemand ondemand</td>
</tr>
<tr>
<td>RADIUS radius</td>
<td>RADIUS .</td>
</tr>
<tr>
<td>NTDomain ntdomain</td>
<td>NTDomain ntdomain</td>
</tr>
<tr>
<td>LDAP ldap</td>
<td>LDAP ldap</td>
</tr>
<tr>
<td>POP3 pop3</td>
<td>POP3 pop3</td>
</tr>
</tbody>
</table>

**Note:** If both the Local and On-Demand databases are configured as roaming out server, please set the Postfix in the remote controller as “.” (dot).
## Authentication Option - Server 2

**Server No. 2**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Server 2</td>
</tr>
<tr>
<td>User Postfix</td>
<td></td>
</tr>
<tr>
<td>Remark</td>
<td></td>
</tr>
<tr>
<td>Blacklist</td>
<td>None</td>
</tr>
<tr>
<td>Authentication</td>
<td>RADIUS</td>
</tr>
</tbody>
</table>
On-Demand Accounts Creation and List

Account Creation
After enabling the selected Billing Plans, On-Demand Accounts generation can be done on **On-Demand Account Creation**. On-Demand accounts can be created individually or in batches. For potential hotspot operators who may wish to pre-generate guest accounts for sale, On-Demand feature has a batch create functionality which allows the administrator or operator with access authority to On-Demand page, to create multiple accounts for an enabled billing plan in batch, and send them to POS printer for generating physical ticket printout for sale.

<table>
<thead>
<tr>
<th>Plan</th>
<th>Account Type</th>
<th>Quota</th>
<th>Price</th>
<th>Group</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Usage-time</td>
<td>1 min(s) of connection time quota with suspension</td>
<td>11</td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>2</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>3</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>4</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>5</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>6</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>7</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>8</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>9</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
<tr>
<td>0</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td>Create Single</td>
</tr>
</tbody>
</table>

**Account Creation – System Created**: to use system randomly generated Usernames and Passwords
- Password: the generated passwords can be short (4 characters) or long (8 characters).

**Account Creation – Manual Created**: to generate Usernames and Passwords by manually typing
- Username: the Prefix and Postfix will be kept constant while the Serial Number for the accounts will have single increments.
- Password: the generated password can be Randomly, Same as username, or Admin Assign
The generated accounts may be downloaded for safe keeping, or sent to printer for batch printout.

Account List

The On-Demand Accounts List houses all the existing On-Demand accounts. Each account’s status, quota, etc. will be displayed for reference. On-Demand account import, export, deletion and Admin Redeem are also performed on this page.

The status of On-Demand accounts are defined as valid, out of quota and expired.

Valid = On-Demand account in active or quota remaining
Total = Valid + Out-of-Quota + Expired

Besides, the valid and total numbers of On-Demand accounts are informed in the end of this list.