



ASEAN Workshop on Internet Governance and  
Developing a Framework for  
Network Information Center

**KHNIC Project:  
Framework, Features and  
Implementation Challenges**

**27 September 2010  
Phnom Penh, Cambodia**

The slide features a blue background with a faint world map and a globe. On the left is the ASEAN logo, and on the right is the KHNIC logo. The text is centered and includes the workshop title, project title, and date/location. A small copyright notice '© TemplateWise.com' is visible in the bottom right corner.

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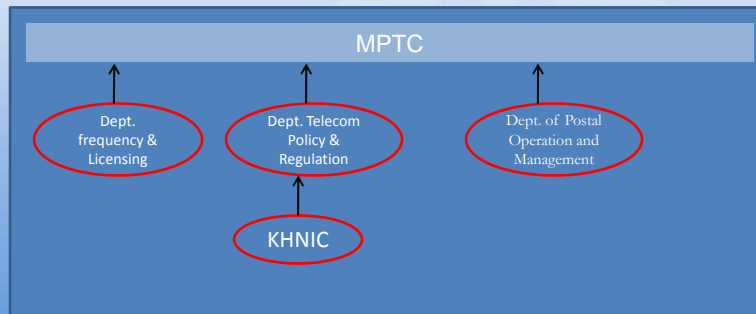
The slide has a blue decorative wave on the left side. The content is a bulleted list with numbered sub-items.

## KHNIC Project Overview

- Problem to be addressed
  - Internet Governance (currently provide only DNS services)
  - Strategy and Planning on the management of Internet Government
  - Decentralize by ISP on their implementation of IP Address and AS Number
  - The implementation of Internet resources is not bind with the local policy established by government body
- Propose solution
  - Form a center of network information managed by the Ministry of Posts and Telecommunications (MPTC) with the proposed name to be Cambodia Network Information Center (KHNIC)
  - The functions and responsible of KHNIC:
    - Administering the registration of .KH domain name (Registry) in a logical and coherent framework including second level domain name under .KH and third level domain names under generic second level domain name
    - Planning, managing and allocating Internet address (IP) and ASN at national level
    - Coordinate on planning, managing the PKI (Public Key Infrastructure)
    - To provide a central point for Internet access service provider, regulatory to discuss issues related to the coordination and administration of Internet infrastructure and services in Cambodia

## KHNIC Project Framework & Features

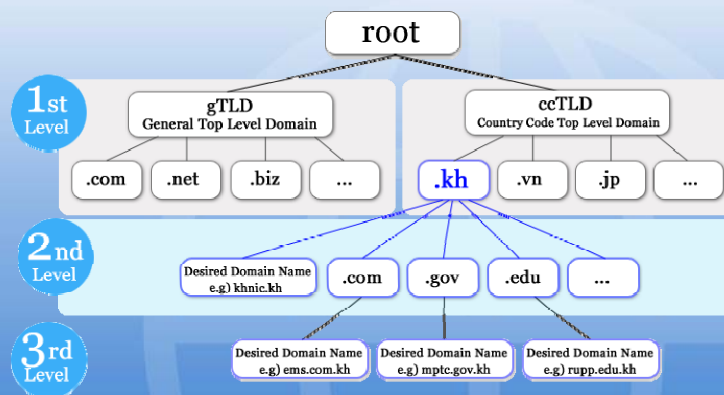
- KHNIC Organizations Structure



## 1. Domain Name Management

- As the registry, KHNIC will operate and control
  - third-level domain names under the second-levels of .com, .org, .mil, .net, .edu, .gov, .per
  - second-level domain names under the top-level domain of .KH
- KHNIC will formulate and implement policies for .KH domain name space
- KHNIC will appoint registrar to register and maintain certain .KH domain names
- KHNIC will publicize and increase awareness of using Domain Name

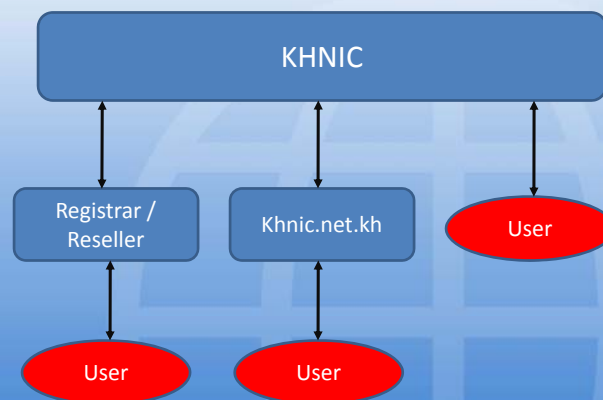
### a .KH Domain Name structure



## b. Guide line and procedure to register .KH domain

- Domain name must contain a string of minimum 3 character and contain maximum of 63 characters without .KH suffix
- Letter “a” to “Z” not case sensitive
- number 0, 1, 2, 3, 4, 5, 6, 7, 8, and/or 9
- Hyphen (-) character is the only non-alphanumeric character allowed in a domain name. Not at the beginning or ending of domain name
- Domain Names are allocated on a “first-come-first-served” basis
  - Domain name should resemble to the company name or identical to company name
  - Administrator will assign the domain name to company that registered at the Ministry of Commerce event that domain name has been assigned to other registrant
  - Not in the reserved name
  - Provide all the require document (e.g. business license, certificate of trade name...)

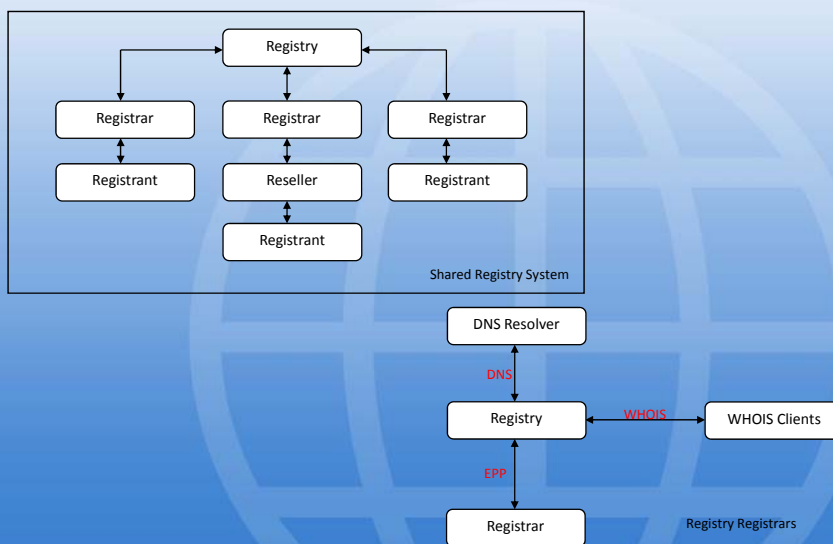
## b. Guide line and procedure to register .KH domain (Cont’)



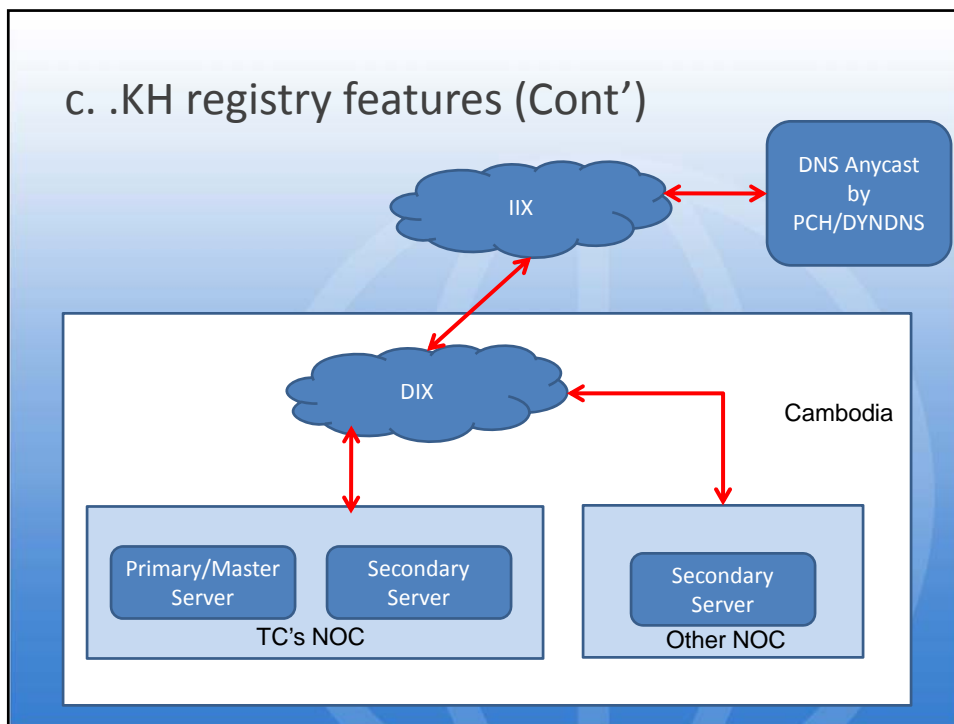
### c. .KH registry features

- Within this project, we also implement a new registry system to improve the management and extend DNS services on top of the current system
- The registry system will consist of the following features:
  - Using open source platform (Linux, Java and PostgreSQL)
  - Full featured Registry-Registrar components, Shared registry system
  - Multiple Admin with different access levels
  - Zone generator
  - Multiple level security
  - Extensible Provisioning Protocol (EPP) API
  - Customizable WHOIS
    - Public access to all WHOIS information can be controlled by the registrant
  - Domain transfer
    - Registrant controlled registrar transfers
  - Renewals
    - Automatic invoicing
    - Multi-year renewals, Bulk renewals
  - Restriction on what names can registered
    - Offensive names
    - Generic names
      - Names of places, famous personalities
  - IDN Support
  - Full auditing and History
  - Pro-Active blocking of hosts or domains used in Cyber Crime


### c. .KH registry features (Cont')



### c. .KH registry features (Cont')



### c. .KH registry features (Cont')

 **KHNIC**  
Cambodia Network Information Center
SIGN IN

Sign In

**Sign In Details**      **Terms and Conditions of Registry Access**


Client ID  Registrars who use this interface to cause the registration or renewal of a domain agree (as a condition of access) to abide by applicable cTLD policy.

Password  **News**

Token

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Domain Quick Check




stop spam. read books.

Domain Name

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## c. .KH registry features (Cont')


root : root : 119.15.89.10

[HOME](#) | [DOMAINS](#) | [HOSTS](#) | [CONTACTS](#) | [CLIENTS](#) | [ZONES](#) | [REPORTS](#) | [MAINTENANCE](#) | [CONFIGURATION](#) | [ACCOUNT](#) | [SIGN OUT](#)

Domain Search Results

NAME	EXPIRY	STATUS	LOCKS
angkor.net.kh	July 22, 2011	Active	
asdcv.com.kh	August 20, 2011	Inactive	
asdcv.net.kh	August 20, 2011	Excluded	
borin1.gov.kh	July 16, 2011	Suspended	
borin1.net.kh	July 16, 2011	Active	
garth12345.net.kh	July 22, 2011	Excluded	
khnic.gov.kh	July 11, 2011	Active	
mptc.com.kh	July 22, 2011	Active	
phnompenh.com.kh	August 13, 2011	Active	
youcan.gov.kh	July 22, 2011	Suspended	

1 to 10 of 10

BACK | NEXT

**SEARCH DOMAINS**

Search Domains

Register Domain

Import Domains

Transfer Request

Recent Transfer Activity

**EXPORT**

Save CSV

---

Bulk Delete

Bulk Pending Delete

Bulk Transfer

Bulk Renew

Bulk Restore

Bulk Status Update

Bulk Name Server Update

Bulk Contacts Update


Bulk Expiry Date Update

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Bulk Email

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## c. .KH registry features (Cont')


root : root : 119.15.89.10

[HOME](#) | [DOMAINS](#) | [HOSTS](#) | [CONTACTS](#) | [CLIENTS](#) | [ZONES](#) | [REPORTS](#) | [MAINTENANCE](#) | [CONFIGURATION](#) | [ACCOUNT](#) | [SIGN OUT](#)

Zone Search Results

NAME
kh
com.kh
gov.kh
net.kh
org.kh

1 to 5 of 5

**SEARCH DOMAINS**

All Zones

Create Zone

**ADMINISTRATIVE ACTIONS**

Build Zone Files

Update Pricing

Clone Pricing

Run Automation

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## c. .KH registry features (Cont')

The screenshot displays the KHNIC (Cambodia Network Information Center) website. The top navigation bar includes links for Home, About KHNIC, Policies & Agreement, WHOIS, and FAQ. The main content area features a search box for domain names with the prompt "Enter A Domain Name To Look Up:". Below the search box is a CAPTCHA image with the text "any nua rvide" and a "Look Up" button. To the right of the search box is a "Check Availability" button. The left sidebar contains "APNIC News" with several links and logos for iana and APNIC.

## d. .KH Domain Name Policy

- A long with new DNS framework and its addition services, we also come out with policy and agreement to be bind with registrar and registrant who will access to our registry system.
  - .Kh domain name registration policies, procedures and guidelines (DPPG)
    - Domain name format, Categories and eligibility
    - WHOIS Database
    - Application for registration of domain name
    - Reject ion of Application or registration
    - Expiry and renewal of domain name
    - Domain transfer (Change registrant, change registrar)
  - .KH Domain Name Registration Agreement
    - Agreement + DPPG = terms and conditions which govern the registration of a domain name between KHNIC and the applicant (Registrar, Registrant)
  - .KH Domain Name privacy & WHOIS policy
    - Collection of information about registrar and registrant for the purpose of storage and maintenance in the WHOIS Database
    - The information held by KHNIC and for the benefit of Cambodia and global Internet community

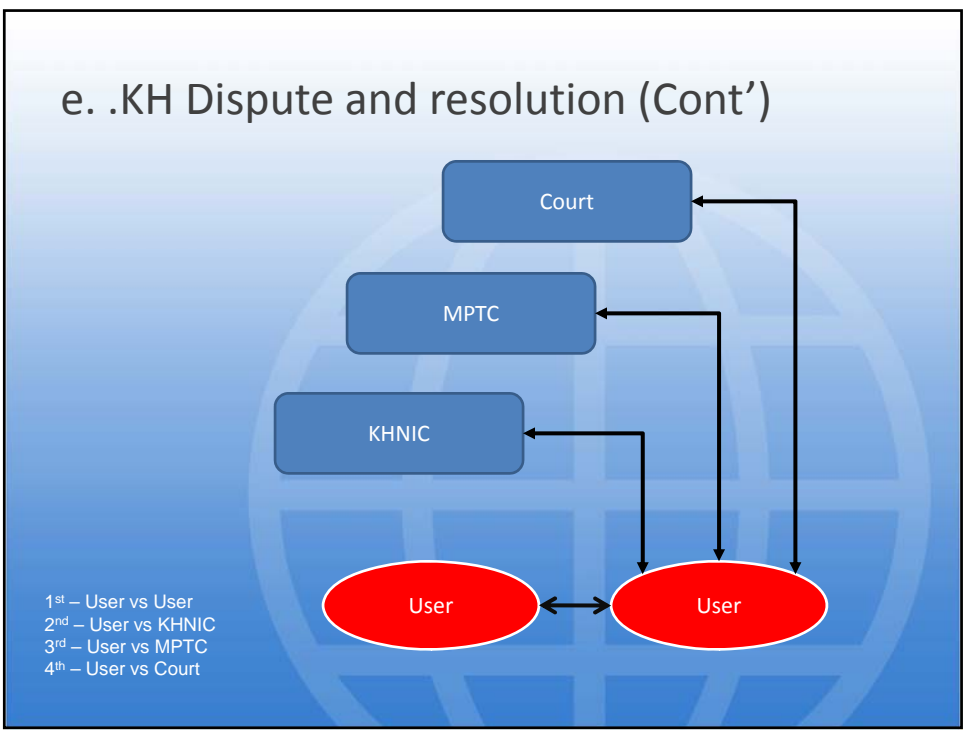
## e. .KH Dispute and resolution

- **Applicable Disputes**
  - Domain name is identical or confusingly similar to a name, trademark or service mark in which the complainant has rights
  - Registrant has no rights or legitimate interests in the respect of the domain name
  - Domain has been registered or is being used in the bad faith
- **Evidence of using domain name in bad faith**
  - Transferring, renting the domain name to the complainant who is the owner of the name, trademark, service mark similar or confusingly similar to that domain name; or to a competitor of that complainant, for private interests valuable consideration in excess of documented out-of-pocket costs directly related to the domain name; or
  - Preventing the owner of the name, trademark, service mark from reflecting the mark in a corresponding domain name; or
  - Damaging the Complainant's reputation, disrupting the Complainant's normal business or creating confusion with the Complainant's name or mark so as to mislead the public; or
  - Other circumstances which may prove bad faith.

## e. .KH Dispute and resolution (Cont')

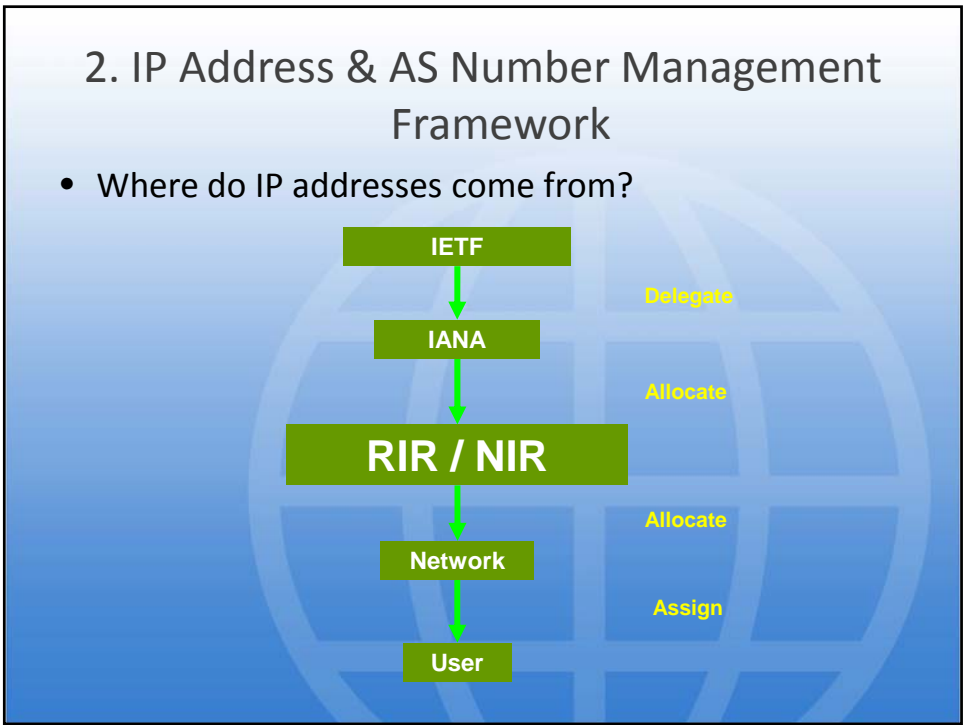
- **Evidence of the rights to and legitimate interests in the domain name**
  - Respondent has used the domain name or has clear evidence of using the domain name or corresponding name in connection with a bona fide offering of goods or services; or
  - Respondent has been commonly known by the domain name, even if Respondent has acquired no trademark or service mark rights;
  - Respondent is making a legitimate noncommercial or fair use of the domain name, without intent of or commercial gain to misleadingly divert consumers or to tarnish the name, trademark or service mark at issue.
  - Other circumstances which may prove legitimate rights.
- **Methods of domain name dispute resolutions**
  - Mediation
  - Arbitration
  - Taking legal proceedings at court.

### e. .KH Dispute and resolution (Cont')



## 2. IP Address & AS Number Management Framework

- Where do IP addresses come from?



## 2. IP Address & AS Number Management Framework (Cont')

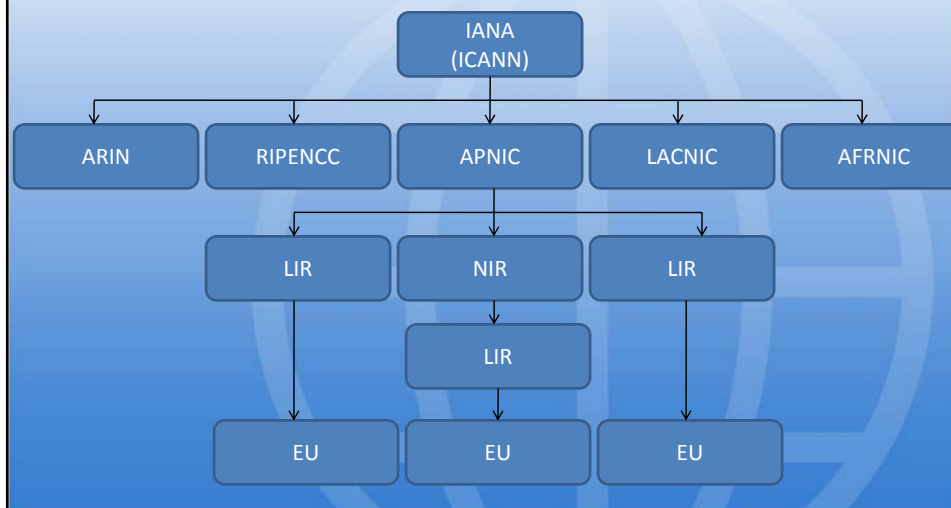
- Internet Registry (IR)
  - An organization which allocates or assigns, and registers Internet resources including IP addresses and related resources
- Regional Internet Registry (RIR)
  - An organization with regional responsibility for management of Internet resources
  - Responsibilities include allocation/registration services, coordination and policy development
  - *Must be neutral and consensus-based*

## 2. IP Address & AS Number Management Framework (Cont')

- Internet Registries
  - Local Internet Registry (LIR)
    - Otherwise known as an APNIC Member
    - Normally operates as an ISP, and *assigns* address space to its customers
  - National Internet Registry (NIR)
    - IR which operates on a national basis and primarily *allocates* resources to its members
    - *Must be neutral and consensus-based*

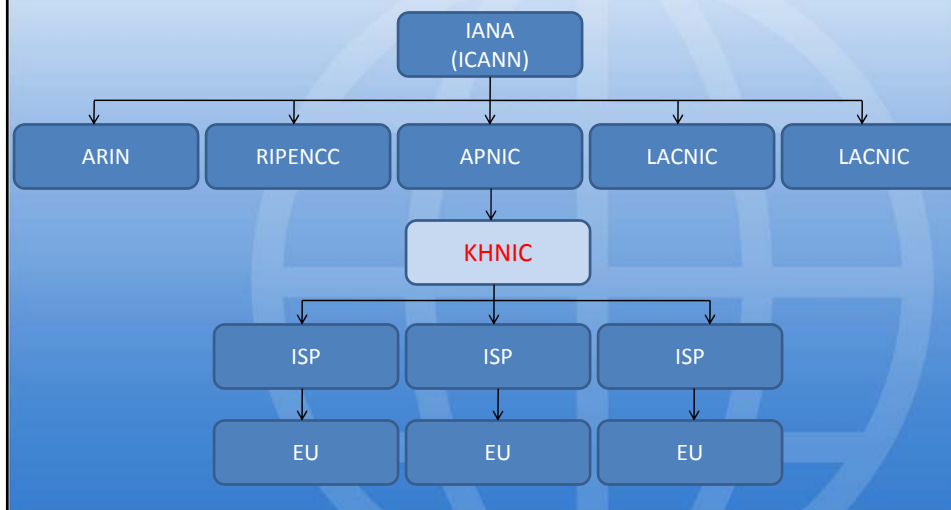
## a. IP Address Management

- Internet Registry Hierarchy



## a. IP Address Management (Cont')

- KHNIC will be the NIR (National Internet Registry)



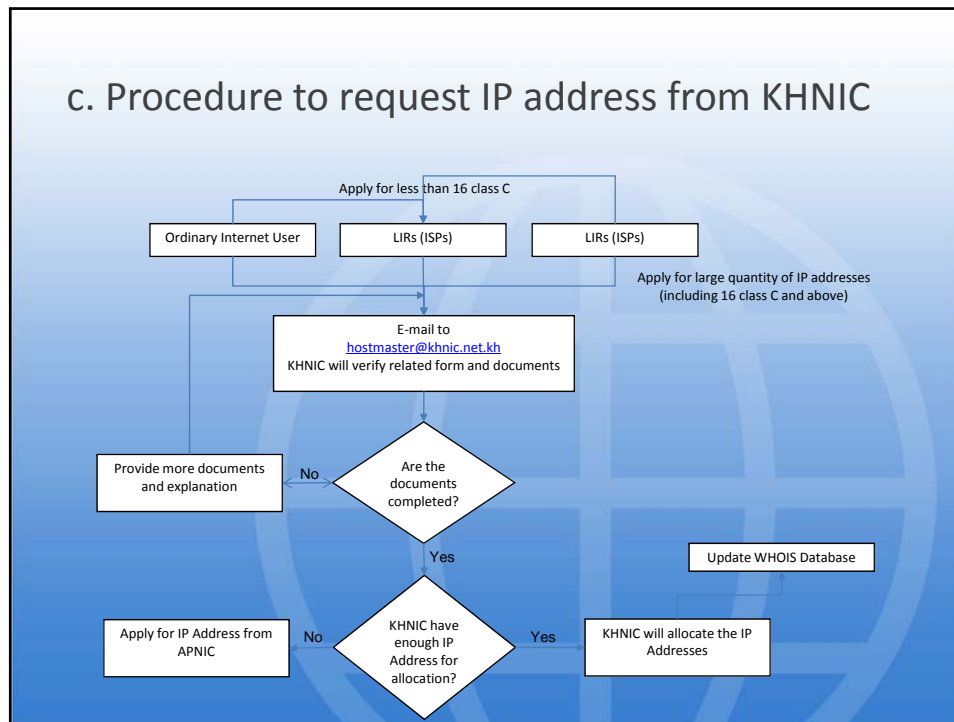
## b. IP Address Policy

- **Conditions of IP address request**
  - Must be a KHNIC member if you would like to request IP addresses.
  - Request documents to be submitted to KHNIC: KHNIC member IP request form, network topology diagram, list of equipment and network plan by E-mail
- **Conditions of subsequent IP address request**
  - 80% of last allocation IP address has been used.
  - Submit IP request form. Document of network and infrastructure fields, show how 80% IP address have been used.
- All ISPs that want to be a LIR of KHNIC (KHNIC member) should send project proposals and a copy of the valid ISP license to KHNIC for qualification
- LIRs are allowed to submit comments and suggestions to KHNIC on the application and administration of IP addresses
- LIRs are required to observe related rules and regulations by KHNIC

## b. IP Address Policy (Cont')

- LIRs are required to register related information of the certificated IP addresses in WHOIS database and update regularly to ensure the information is up-to-date.
- The certified IP addresses assigned by KHNIC should be employed up to 80% in six months, otherwise KHNIC can withdraw the right of the LIRs to deputize IP address assignments, and take back the issued IP addresses if necessary.
- LIRs are prohibited to apply to both APNIC and KHNIC for IP addresses at the same time. Once found out to having applied to both parties, the LIRs will be revoked on the right to deputize IP address assignments by KHNIC.

### c. Procedure to request IP address from KHNIC



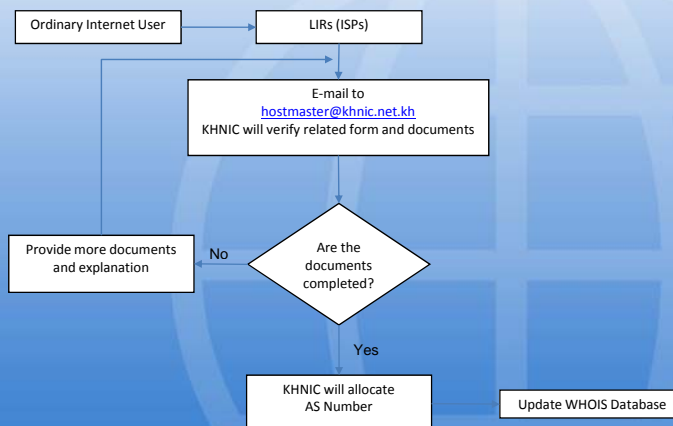
### d. About AS Number

- Autonomous System (AS) is collection of network with the same routing policy, usually under single ownership, trust and administrative control.
- If your network use EGP (Exterior Gateway Protocol), BGP (Border Gateway Protocol) or IDR (OSI Inter-Domain Routing protocol) routing protocols, you can request an AS Number.
- If your network is a large network or will be a large network and multi-home to different providers, you need an AS Number.
- If your network is a small network and only one upstream, you can use static routing or other routing protocols. You don't need an AS Number.

## e. AS Number Policy

- You must be a KHNIC member if you would like to request AS Number.
- Multi-homed network to different providers.
- Fill in AS number request form conscientiously.
- The AS number must be used in 3 months.
- KHNIC has the right to ask the applicant return the AS number if they have not used that AS number in 3 months since they received the AS number.

## f. Procedure to request AS number from KHNIC



Thank You!

