and NAv6, USM

Prepared by

National Advanced IPv6 Centre (NAv6)

Vision of ECHONET

"To control home appliances directly and able to connect to home electronics devices through a gateway that will enable industry participants to develop a variety of systems having different communication speeds and levels of technological sophistication while maintaining optimum cost performance."

o Features include:
  o Use of Electric Wires and Wireless Technology as Transmission Media
  o Implementation of a Multi-vendor Environment
  o Plug & Play Functionality
  o Open System Architecture
  o Connections to Systems Outside the Home

NAv6 & ECHONET

- o The National Advanced IPv6 Centre (NAv6) is a premier centre in the area of Next Generation Internet
  - o Areas of research:
    - o Real-time Multimeda Communication
    - o Network Monitoring
    - o Satellite and Wireless Communication
    - o Network Security
    - o Mobile Technologies
- o NAv6 can contribute its expertise required for ECHONET project
  - o Expertise and Capacity Building
  - o Security
  - o Standardization

3

IPv6 & ECHONET

- o The need for a large pool of IP addresses to connect/control ECHONET appliances
  - o The obvious solution: IPv6
    - o Benefits of IPv6
      - o Larger IP address space
      - o Better security
      - o Consideration to real time
   - o Plug and play
      - o Better optimization

4

IPv6 & ECHONET

o Recommendation:

    o A good knowledge and understanding of IPv6 is crucial for anyone under the ECHONET projects

    o The need for good structured courses in IPv6 that are being endorsed by the de facto body in IPv6; IPv6 Global Forum

        o Two certification courses provided by NAv6 (endorsed by IPv6 Global Forum)

            o Certified IPv6 Network Engineer (CNE6) – Level 1 & Level 2

            o Certified IPv6 Network Programming (CNP6)
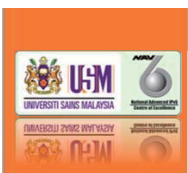
Mobile Platform & ECHONET

o With mobile platform:

    o To be able to monitor and control appliances through a network-connected mobile devices at home, office, and even through the Internet

    o Two popular platforms:

    o Recommended platform:

        o Google Android

            o Open-sourse – allowing manufacturer to make changes to fit the devices they are making

Mobile Platform Structured Courses

o Recommendation:

    o Engineers working on ECHONET project to be trained in Android application development

Network Security

o As the technology mature and the interest on the Internet increases, network security has become a major concern to companies throughout the world

o Embedded device

    o Need to implement methods or protocol for secure data transfer

    o Security methods should be implemented to defeat attempts of unauthorized access of secure data from the device

Network Security Structured Courses

o Recommendation:

> o Crucial for ECHONET's personnel to be trained in network security that included mobile platform devices
>
> > o E.g. Certified IPv6 Security Engineer (CSE6)

Standardization

o For ECHONET, standardization is needed to ensure that incentives for efficient power usage may be provided by the utility itself or a third party service provider

o Recommendation for standardization:

> o Separate realization from standards description
>
> o Unified language for tariff information
>
> o Training and certification should be standardization for proper qualification

Thank You

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