IPv6 Deployment WG in IPv6 Promotion Council and its Deployment Guideline

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“IPv6 Deployment Guideline” solves barriers for deployment

1. “I can’t see IPv6’s immediate benefits for my network”
   - Proof of Concepts in various field trials
     - To explore possibilities for new solutions and applications
     - To proof cost benefit
   - To provide case studies in which IPv6 is effective
2. “I don’t know how to deploy”
   - Prepare “manuals” for each segment such as enterprise, ISP, home etc.
     - Phases & process, security, etc.
3. “I don’t still believe in IPv6’s stability nor reliability”
   - Interoperability Testing with IPv6 Forum Logo Program
   - Machines should be used in various cases

Framing of Guide line

- Definitions and Distinctions of the each segment
- BCP
- Analyzing and Modeling
  - Solution option, adaptable situation, negative profit
- Targeted NW&System+Application on v4:v6=5:5
  - Typical equipment configuration and service pattern
  - Advantage
- Assignment for v4:v6=5:5
  - Problem to be solved
  - Requirements to other segments (ISP)
- Security Model
  - Policy
  - Implementation
- Tips
  - Practical know-how for transition
    - Addressing, routing
    - Server design
    - Network system administration
    - Security
    - Application
    - v4-v6 translator
    - Multicast

+

2005-version

Coming soon!

Case Study

Cost Estimation

Security Analysis

2004 Guideline

http://www.v6pc.jp/jp/wg/transWG/index.html

Typical Scenario in IPv6 Introduction Period

- There are subtle difference between what IPv4 can do and what IPv6 can do.
- It would be non sense to ask what only IPv6 can do and just wait.

- Possible Scenario
  - Deploy IPv6 as a new system
    - Ex: Building Facility Management System area is moving to IP. There are many reasons to choose IPv6.
  - Deploy IPv6-enable network at the time of network renovation
  - Deploy IPv6 network overlaying IPv4 as a difference protocol to minimize existing network
  - Don't wait for the open IPv6 Internet
    - Closed network/system comes first because it have less constraints.

Security Analysis (part)

アイテム	変化	サブアイテム	脅威
A	グローバルアドレスにより直接の到達性が得られる	A-1	誰もがサーバ(レスポンダ)になり得るためアプリケーションの脆弱性による被害がより顕在化する
		A-2	直接の到達性が得られることからネットワーク内部までDOSを受けうる範囲が広がる
		A-3	P2Pアプリの利用環境が広がるが、通信元アドレス、受信ポートの範囲が広いためDOSを受けやすくなる
		A-4	E2Eの暗号化通信(IPsec等)が簡単になるが、経路上でパケット内を検査することは出来ないため、情報漏えい、ワーム感染を許してしまう危険性がある
B	IPアドレスそのものが持つ情報量が増える	B-1	Eui-64使用時の端末一意性により利用者の活動状況が把握されやすくなる
		B-2	IPアドレス入力時のヒューマンエラーの頻度が高まる

Should IPv6 Address be Fixed or Variable?

- Should IPv6 Address which ISP assigns to a customer be fixed or variable?
  - IPv6 community seems to assume that IPv6 be “fixed”.
  - Terminal Vendor likes “fixed”.
  - ISP prefer “variable” because of the cost.
  - Privacy issue supports “variable”.
  - Name resolution issue. DDNS is enough?
  - How we can compromise?? Needs to discuss...

Any Questions and Comments
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Thank you!