ITU-T Kaleidoscope Conference Innovations in NGN

Exploring Adaptable Access in Next Generation Networks

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ITU-T Y.2012 NGN Functional Requirements and ITU-T Y.2002 NGN Overview

do not address the requirement to fairly select among multiple wireless access technologies when more than a single access technology is available.

Standardized Wireless Access Technologies

ITU-T

- IMT-2000
- IMT-Advanced (includes 802.16)

IEEE

- 802.11 a / b / g / n
- 802.16
- 802.20
- 802.22

Heterogeneous Standardization Activities

- End-to-End Reconfigurability (E^2R) project

- Service Discovery Protocols

- IEEE 802.21

- IETF 802.11 negotiation

- 3GPP TS 23.002 Network Architecture

Adaptability

The means to create and maintain interoperation between autonomous heterogeneous systems at all OSI layers.
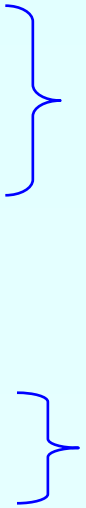
Adaptability includes three processes:

- Identification
- Negotiation
- Selection

Creating Adaptability

OSI layers

Negotiation means:

7

6 ⎫

5 ⎬ Service discovery protocols

4 TCP/UDP

3 IP

2 ⎫

1 ⎬ Etiquettes
(Network discovery protocols)

The properties of an etiquette include

- Negotiation services without operational functionality.
- Single tree, unambiguous, logical structure.
- Deletions are not allowed.
- An etiquette receiver ignores what it does not understand.
- Mechanism available to prioritize each branch.
- Supports proprietary functionality.
- Etiquette revision level.

The testing of an etiquette is different from a protocol.

The Benefits of Adaptability - 1

- Supports the rapid introduction of new technology.

- Supports proprietary, national and regional functions and features within public standards.

- Supports negotiation of modes, features and options.

- Selects compatible modes between different multi-mode systems while increasing system capacity.

The Benefits of Adaptability - 2

- Maintains interoperation between multiple implementations or revisions of standards.

- Moves intellectual property issues to the market.

- Identifies the specific reason(s) when interoperation fails.

- Avoids interfering communications.

Thank you

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