Ubiquitous Open Platform Forum (UOPF)

-----Toward Easy-to-use Non-PC broadband

February 21th, 2005
Satoshi Ishiyama
NTT Communications
Purpose of UOPF

UOPF shall collectively propose New Broadband Service Infrastructure from the users’ perspective. Which is;
Reliable cross connection with “user-friendly, easy to use and secure” between any ISP and Manufacturers.
We thereby contribute to creating New Market.

Established on Feb.10th. 2004

Adviser Mr. Hori, CEO Dream Incubator Inc. Dr. Murai, Representative WIDE
Observer Ministry of Internal Affairs and Communications
Foundation members
## UOPF Member Companies (Alphabetical Order)

1. ACCA Networks Co.,Ltd.
2. ACCESS CO., LTD.
3. AOS Technologies, Inc.
4. BICOM Corporation
5. BIP SYSTEMS CORPORATION
6. BUFFALO INC.
7. Bussan Microelectronics Corp.
8. Central Security Patrols Co., Ltd.
9. CHITA MEDIAS NETWORK INC
11. corega K.K.
12. Eizo Nanao Corporation
13. 4D Networks, Inc.
14. Fractalist inc.
15. FUJITSU ACCESS LIMITED
16. FUJITSU LIMITED
17. FUJITSU LSI SOLUTION LIMITED
18. Hitachi, Ltd.
19. Hitachi Hybrid Network Co., Ltd.
20. INDEX Corporation
21. Internet Initiative Japan Inc.
22. ITOCHU TECHNO-SCIENCE Corporation.
23. JAPAN TELECOM CO., LTD.
24. Jasomi Networks
25. KDDI CORPORATION
26. KING TSUSHIN KOGYO Co., LTD.
27. Matsushita Electric Works, Ltd.
28. Mitsubishi Electric Corporation
29. NEC Corporation
30. NEC Micro Systems, Ltd.
31. NIFTY Corporation
32. NTT Communications Corporation
33. NTT DATA SANYO SYSTEM CORPORATION
34. NTT Software Corporation
35. Oki Electric Industry Co., Ltd.
36. Panasonic Network Services Inc.
37. PIONEER CORPORATION
38. POWEREDCOM, Inc.
39. Qubitstar Systems Inc.
40. Ricoh Co., Ltd.
41. SANYO Electric Co., Ltd.
42. SEIKO EPSON CORPORATION
43. Sharp Corporation
44. Softfront
45. Sony Communication Network Corporation
46. Sony Corporation
47. TOKYO ELECTRIC POWER COMPANY
48. TOSHIBA CORPORATION
49. TOYO Corporation
50. TOYOTA InfoTechnology Center Co., Ltd.
51. VeriServe Corporation
52. VeriSign Japan K.K.
53. Wind River Systems, Inc.
54. YAMAHA CORPORATION
55. Yamatake Corporation
Application Examples

“User-friendly, easy and Secure”

UOPF
Ubiquitous Open Plat Form

Contents Providers
Service Providers

From where you are to your home when everybody is out

Home Security camera operation
Recording setting of PVR

With your TV
Mail
Browsing
Movie

Internet

With your family at home

Videophone

Internet with
Easy setup
Easy connectivity

PC
Digital TV

Cellular Phone
Refrigerator
Air Conditioner
Microwave oven
PVR

Sprot
Concert
Web
Mail

Application Examples

Contents Providers
Service Providers

From where you are to your home when everybody is out

Home Security camera operation
Recording setting of PVR

With your TV
Mail
Browsing
Movie

Internet

With your family at home

Videophone

Internet with
Easy setup
Easy connectivity

PC
Digital TV

Cellular Phone
Refrigerator
Air Conditioner
Microwave oven
PVR

Sprot
Concert
Web
Mail

Application Examples

Contents Providers
Service Providers

From where you are to your home when everybody is out

Home Security camera operation
Recording setting of PVR

With your TV
Mail
Browsing
Movie

Internet

With your family at home

Videophone

Internet with
Easy setup
Easy connectivity

PC
Digital TV

Cellular Phone
Refrigerator
Air Conditioner
Microwave oven
PVR

Sprot
Concert
Web
Mail
Objective

- Establishment of Ubiquitous Open Platform (Open and common infrastructure)
- Investigation of Framework for improving users convenience with application and content providers.

Organization

- UOPF General Meeting
- UOPF Administration Office
- UOPF Steering Committee (13 Companies)

- WG1: Easy Set Up
  - SWG1: Core framework

- WG2: Secure Real Time Connection (M2M) & Application
  - SWG1: Core framework
  - SWG2: Dear-to-Dear Visual Communication
  - SWG3: Remote Control

- WG3: Network Connection Support
  - SWG1: Core framework

- WG4: Contents Distribution (Pay and Public contents Distribution)
  - SWG1: Core framework
  - SWG2: Free & Public Contents Distribution
  - SWG3: Free & Private Contents Distribution

Proprietary
UOPF Working Groups

WG1 Easy-to-set up, Easy-to-operate for Everyone.
   Avoid barriers to get wired to the Internet and Provide easy interfaces as a part of CE.
   Requirement Specification is available for the members now.

WG2 Secure, Simple and Low Cost M2M real-time connections.
   Smooth, Clear and Live Visual Communications with Digital TV.
   CE Remote control from outside directly.
   8 Specification drafts are under clearing now.

WG3 User support guidelines.
   Terminology and ‘Display of Network Connection Information’
   2 Guideline drafts are under clearing now.

WG4 Contents Distribution.
   Enable users to collect various contents using CEs via broadband “Simple, Secure and Easy" ways.
   - definition of contents distribution models
   - technology evaluation and verification
   - collaboration with related industry groups
The Internet

Contents Access

Remote Access/Control

Real-time Communication

M2M = Machine-to-Machine,

Interoperability for M2M communication

WG2 Scope

Contents Access

Remote Access/Control

Real-time Communication

M2M communications

Interoperability for M2M communication

WG2 Scope

M2M = Machine-to-Machine,

Interoperability for M2M communication
| WG2 SWG1 | Core framework of M2M communication specs  
| Chair: T.Yamasaki@NTT Com |
| WG2 SWG2 | Dear-to-Dear Visual Communication w/DTV  
| Chair: T.Yamasaki@NTT Com |
| WG2 SWG3 | Remote Control, Remote Access to CEs at home  
| Chair: S.Matsuzaw@Toshiba |
Requirements for M2M communication

• Security
  – ID Authentication (Who is calling me up? No more spoofing, spamming)
  – Access Control per ID (Only you can ring me...)
  – Privacy of ID presence (not to be a target of attacks)
  – Privacy of communications (Encryption)
  – Real-time Firewall/NAT Traversal (no “always open to any”)

• Simplicity
  – Auto Configuration
  – No additional configuration for security functions

• Low cost
  – For ISP, no more middle boxes, no more additional operation
  – For CE, no more CPU power and memory space
Technical Barriers to Be Solved
- How to pass through NAT/Firewall of IPv4?
- IPv6 will be ideal network but limited coverage.

Core Technology
= SIP + IPsec/TLS
Combination of IPv4 & IPv6

Digital TV
IPv6
IPv6/ v4 Dual
IPv6 Internet
Gateway
3G
Legacy Services
like Web, Mail
PC, other VC Terminal
IPv6 Tunneling
IPv4 Internet
IPv4
Tunneling Server
IPv4 Internet
<table>
<thead>
<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG -</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specifications & Guideline**

- **△WG3 Guideline (Public)**
- **Clearing Term (3 months)**
- **△WG2 Spec. (Private)**
- **△WG1 Spec. (Private)**
- **△WG4 Spec.**

**Contribution**

IPv6 Activities
Positioning of UOPF

Networked Digital Television

ECHONET

DLNA UPnP

OSGi Alliance

UOPF

ARI B

3GPP

Contents Holder

Echonet

Non IP

IP

DRM, Contents Protection

Windows Media Player

real

E-CAS

AACs

CORAL

Contents Holder