Integrating next generation multimedia services to existing telephones

APRICOT 2004
Tim Youm
Nortel Networks

Integrating next generation multimedia services to existing telephones
Introduction

- In today’s voice network, there are still many traditional voice system which are not capable of delivering multimedia services. At the same time, there are constantly new multimedia features are being developed through different platforms/technology hence this session is focusing on how these new type of multimedia services (Video, presence, IM, app sharing, conferencing etc) can be fully integrated into existing telephones ensuring that end user can maintain existing telephone number/address and have additional multimedia capabilities.
Problems:
Too many numbers/addresses for communication devices

Goal: Single user name/ Single Phone no

Integrating next generation multimedia services to existing telephones
Converged Desktop Solution: Multimedia Services - Taking existing Telephone Services to a New Level!

Telephony Device

Multimedia Device

Extensive Voice Services
Reliability

Multimedia Capability
Flexibility
Mobility

• Video
• IM/Presence
• Collaboration
• Mobility

Complementary services using familiar user interfaces

Integrating next generation multimedia services to existing telephones
Benefits of Converged Desktop Solution

- End users can keep using their existing telephone
- No fear of lost services (if it's not broke, don't fix it!)
- Less stringent enterprise data network requirements (don't have to make the data network QoS enabled for Converged Desktop)
- Allows TDM Centrex or key system operators to offer new, multimedia services
- Allows for existing enterprises to multi-media enable their end users
Converged Desktop Solution Goal

Call from CDS User
1. Call from Blended User
2. Alert Phone and (voiceless) MM Client
3. MM Client screen pop, with 10 sec delay
4. Collab / IM / etc. call-back established to user

Call to CDS User
1. Call from Regular MM Client User
2. MM App Server determines that terminator is Voiceless Blender – sends call to PSTN
3. Alert Phone and (voiceless) MM Client
4. MM Client screen pop, with 10 sec delay
5. Collab / IM / etc. call-back established to user

Integrating next generation multimedia services to existing telephones
**Converged Desktop Solution**

**SIMRING**
- MM App server Receives a CD Call through a Trunk
  - End Office SimRings MCP Number & TDM Line

**IN / SIP Convergence**
- End Office uses IN Trigger as a stimulus, messages MM App Server (via SG), MM App Server uses Personal Agent Routing for call’s multi-media enhancement and directs the End Office to ring TDM Line

**SIP Dialog**
- SIP Convergence with Class 5 SS
  - Optimized for Pure SIP Environment
  - No IN-triggers

---

Integrating next generation multimedia services to existing telephones
1: Converged Desktop Solution: SimRing

DN=02 8870 5545, 642 5545, 5545
Has Simultaneous Ring feature to call to virtual no “55545” to MM app server via SIP-T trunk / PRI E1

Stateless session
Call Control and call initiative from MM client is not possible
= Partial integration with existing Voice system

Integrating next generation multimedia services to existing telephones
Call Flow: call from CD to CD (SimRing)

1. Dial

2. Call Routed via PSTN network

3. Ring the phone

4. SimRing sends call to MCS 5200

5. INVITE

6. Personal Agent Services Executed

7. INVITE

8. 100 Trying

9. 100 Trying

10. MESSAGE ("You just called X.")

11. MESSAGE ("You just called X.")

12. 200 OK ("I'm MM Capable")

13. 200 OK ("I'm MM Capable")

14. Screen Pop

15. Screen Pop

16. Answer the Phone

17. PRI Release

18. CANCEL

Integrating next generation multimedia services to existing telephones
Integrating next generation multimedia services to existing telephones

2: Converged Desktop Solution: IN

DN=02 8870 5545, 642 5545, 5545
Has Simultaneous Ring feature to call to virtual no “55545” to MM app server via SIP-T trunk / PRI E1 as well as initiate IN trigger to MM App server via SG

State full session
But require SG to convert from CS1R/AIN to SIP
= Full MM integration with existing voice system

Integrating next generation multimedia services to existing telephones
Integrating next generation multimedia services to existing telephones
3: Converged Desktop Solution: SIP Message

DN=02 8870 5545, 642 5545, 5545
Has Simultaneous Ring feature to start the SIP dialog session to virtual no “55545” to MM app server via SIP trunk

State full session = Full MM integration with existing voice system
## Converged Desktop

### Common Multimedia Feature Definitions

<table>
<thead>
<tr>
<th>Feature Definition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TDM Voice Feature Preservation</strong></td>
<td>All system telephony features work the same after Converged Desktop is added</td>
</tr>
<tr>
<td><strong>Presence</strong></td>
<td>Reports if you are Online, Inactive, On the Phone, Away…to other users</td>
</tr>
<tr>
<td><strong>Personal Agent</strong></td>
<td>Call Manager (screening, routing), Directories, User Settings, Web Client</td>
</tr>
<tr>
<td><strong>Call Logging</strong></td>
<td>Inbox and Outbox records for all calls - accessible from PC Client</td>
</tr>
<tr>
<td><strong>Picture Calling Line ID</strong></td>
<td>A photo of the Calling Party is presented in the Call Control “Screen Pop”</td>
</tr>
<tr>
<td><strong>Instant Messaging</strong></td>
<td>IM between any two users. Multiple simultaneous sessions are supported</td>
</tr>
<tr>
<td><strong>File Transfer</strong></td>
<td>Send any file on your PC directly to another user</td>
</tr>
<tr>
<td><strong>White Boarding</strong></td>
<td>Collaborate simultaneously with another user using this drawing/text tool</td>
</tr>
<tr>
<td><strong>Web Page Push</strong></td>
<td>Send a Web Page directly to another user – their browser will auto-launch</td>
</tr>
<tr>
<td><strong>Clip Board Transfer</strong></td>
<td>Send the contents of your Clip Board directly to another user</td>
</tr>
<tr>
<td><strong>Click To Call</strong></td>
<td>Click on Directory Entry, Call Log, Outlook Message to place a call</td>
</tr>
<tr>
<td><strong>Point to Point Video</strong></td>
<td>Point to point video - automatically launches and ends with voice call</td>
</tr>
</tbody>
</table>

Integrating next generation multimedia services to existing telephones
# Integrating next generation multimedia services to existing telephones

## Converged Desktop

### Feature Support per implementation

<table>
<thead>
<tr>
<th>Feature</th>
<th>PRI / SIP- T SimRing Calls</th>
<th>IN(CS1R)/SIP Messaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice Feature Preservation</td>
<td>Full</td>
<td>Full</td>
</tr>
<tr>
<td>Presence</td>
<td>Partial</td>
<td>(manual and auto-presence)</td>
</tr>
<tr>
<td>Follow me Find me</td>
<td>Partial</td>
<td>Full</td>
</tr>
<tr>
<td>Call Logging</td>
<td>Partial</td>
<td>(incoming &amp; outgoing calls)</td>
</tr>
<tr>
<td>Picture Calling Line ID</td>
<td>Full</td>
<td>Full</td>
</tr>
<tr>
<td>Instant Messaging</td>
<td>Full</td>
<td>Full</td>
</tr>
<tr>
<td>File Transfer</td>
<td>Full</td>
<td>Full</td>
</tr>
<tr>
<td>White Boarding</td>
<td>Full</td>
<td>Full</td>
</tr>
<tr>
<td>Web Page Push</td>
<td>Full</td>
<td>Full</td>
</tr>
<tr>
<td>Clip Board Transfer</td>
<td>Full</td>
<td>Full</td>
</tr>
<tr>
<td>Click To Call</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Video</td>
<td>Partial</td>
<td>Full</td>
</tr>
<tr>
<td>Call Control (Call Hold, Call forward etc)</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Integrating next generation multimedia services to existing telephones
Other potential areas

Integrating next generation multimedia services to existing telephones
Summary
Converged Desktop Solution allows to

Telephony Device

- Extensive Voice Services
- Reliability

Multimedia Device

- Video
- IM/Presence
- Collaboration
- Mobility

- Reference: draft-ietf-sipping-3pcc-02.txt

Integrating next generation multimedia services to existing telephones