

Build on
Dialogic

Pioneering Mobile Video Applications

Andrey Petrenko
BDM Russia&CIS
Andrey.Petrenko@dialogic.com

Mobile Video: What's next?

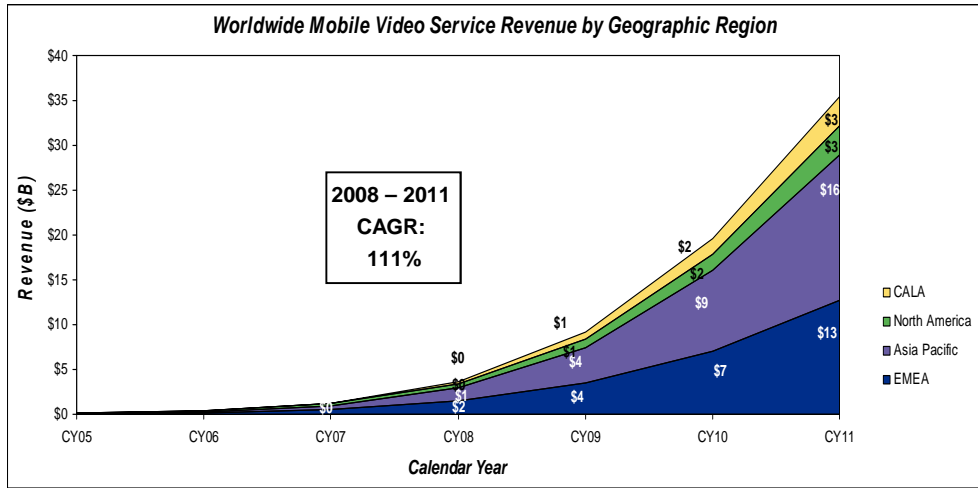
- Why Video?
- Why Now?
 - ... so far so good
 - References & Products
- Why Dialogic?



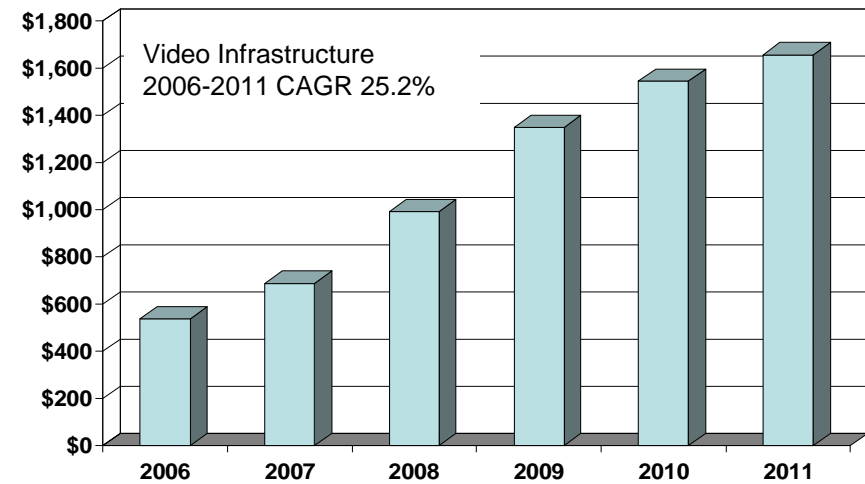
Why Video?



Why Now?



Source: Infonetics 2Q08



Source: Worldwide Telecommunications Equipment 2007–2011 Forecast Update, IDC#209314, November 2007

Other Mobile Video Services:

Mobile Gaming, SMS, MMS

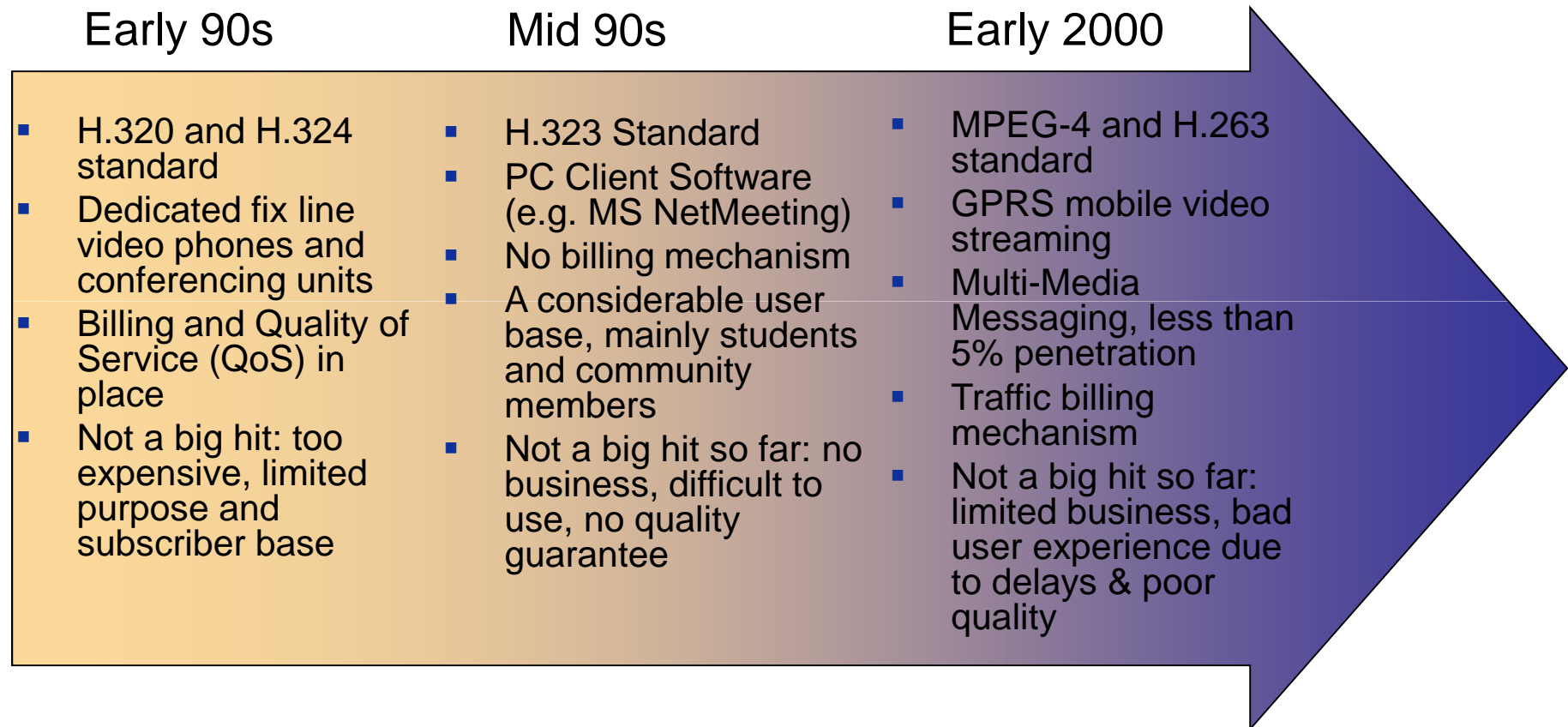
- Ads to Mobile Games reach 21 Billion by 2012
- Ads to SMS/MMS reach 191 Billion by 2013 (5% of WW Messaging Traffic)

Source: ABIresearch, 2008
Mobile TV Services
Mobile Marketing and Advertising



So far, so good ...

Video : No big hits so far...



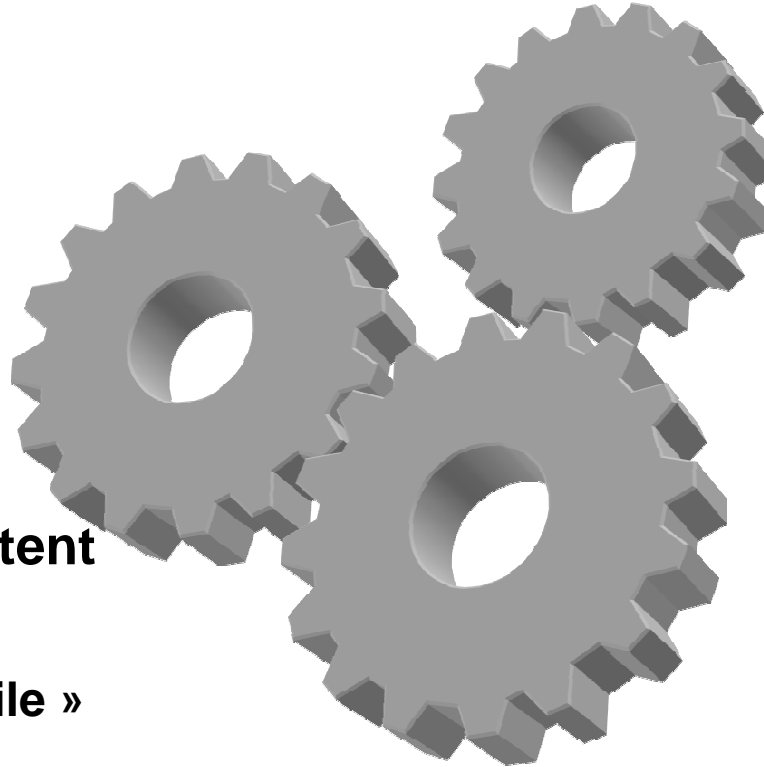
Mobile Video Enablers

Convergence

- Voice <-> Video
- Mobile <-> Fixed
- Circuit <-> IP

Applications, Content Business Models

- End-to-end « mobile » video productions
- Paid vs. Unpaid model
- Approaching of film, music and advertisement industry with operators



Network

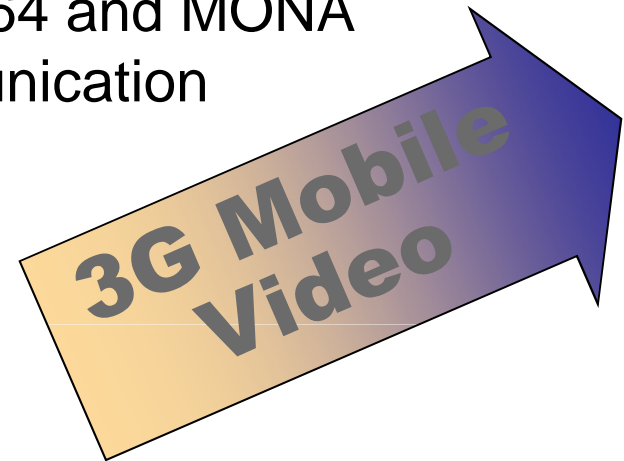
- Increased BW
- 3G, 4G, WiMax
- Better codecs
- Better QoS
- Various delivery methods: H.324m, streaming

Handsets

- Video enabled
- Display size, resolution
- Battery life

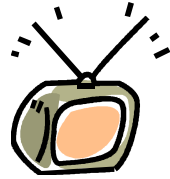
Why 3G Mobile Video can make a difference

- Technical
 - Billing in place
 - Improved 3G-324M: new codec H.264 and MONA
 - QoS in place -- true two-way communication
 - Products are ready !
- Mobile Entertainment
 - New rising industry
 - Much better content/service offering
 - Specialized labels and production companies
- Positive User Experience is key!
 - Know how to make the video call
 - Fully interactive with DTMF or ASR with NO delay
 - Improving quality and stable connections



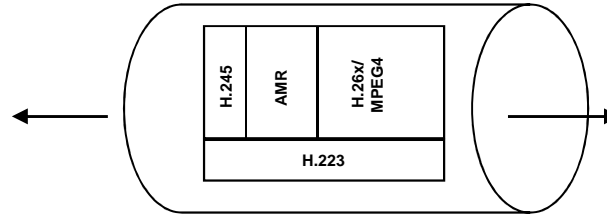
Why 3G-324M?

3G-324M
Phone



Like a TV:

- Fixed terminal
- No DRM issues
- Industry std interop
- Consistent UI (WW)
- Predictable experience



Guaranteed bandwidth
Real-time interactive response
(cut-thru)



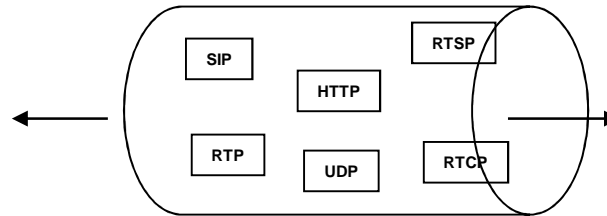
Mobile Switch

Apple
iPhone



Like a PC:

- Client S/W
- DRM issues
- Complex s/w client interop
- Inconsistent UI
- Unpredictable experience



Best effort
Unpredictable interactive response
(long delay)



Mobile Switch

3G-324M is well suited for interactive video applications deployed in a variety of networks

Customer experience is key

- Customers ... are opportunity, not barrier !
 - Offer best possible video quality

- Ease of Use
 - Technical
 - User Interface, Interactive & animated video portals
 - Interoperability of video codecs, media formats and delivery methods
 - Content
 - Adaptation to mobile environment like trains, waiting areas
 - Business / Billing Models
 - Easy understandable pricing models
 - Paid vs. Unpaid (advertisement)

Sample Value Added Applications

Person-to-Person	<ul style="list-style-type: none">▪ Voice calling▪ Personal SMS▪ Push-to-talk	<ul style="list-style-type: none">▪ Voice SMS▪ Mobile IM▪ MMS	<ul style="list-style-type: none">▪ Video SMS▪ Video calling▪ Video sharing
Community	<ul style="list-style-type: none">▪ Friends finder▪ Picture sharing	<ul style="list-style-type: none">▪ Voice chat▪ Blogging	<ul style="list-style-type: none">▪ Video blogging▪ Group buddy lists▪ 1:N video share
Personalization	<ul style="list-style-type: none">▪ Skins▪ Wallpapers	<ul style="list-style-type: none">▪ Ring tones▪ Ringback tones	
Information	<ul style="list-style-type: none">▪ Mobile search▪ Directory services	<ul style="list-style-type: none">▪ Location, directions, news, sports, traffic, weather▪ Mobile surveillance, mobile tour guides	
Entertainment	<ul style="list-style-type: none">▪ Music▪ Videos	<ul style="list-style-type: none">▪ Mobile TV▪ Handset games	<ul style="list-style-type: none">▪ Multi-player games▪ Mobile interactive video games
m-Commerce	<ul style="list-style-type: none">▪ Premium rate #s▪ Content billing	<ul style="list-style-type: none">▪ Mobile banking▪ Mobile payments	<ul style="list-style-type: none">▪ Mobile coupons▪ M-wallet
Business	<ul style="list-style-type: none">▪ 3G video call center▪ Mobile e-learning		

More Application Examples – 100's possible

Business

Order inquiry
Emergency notification
Package tracking
Driving directions
Wake-up
Flight tracking
Voice access to email
Customer relationship management
Prescription refilling
Audio newsmagazines
Voice dialing
Real-estate information
Directory assistance applications.
Catalog applications
Electronic auction
Scheduling pickups



Enterprise

Auto-Attendant / Receptionist
Voice Dialing
Address Change
Password Reset
Change Login
Trouble Ticket Management
Time and Attendance Service

Health Care / Pharmaceutical

Prescription Refill
Schedule & Confirm Appointment
Inbound Clinical Trial Survey
Laboratory Results
Physician Surveys



Retail

Mail Catalog
Order Status
Account Status
Tech Support Entitlement
Store Locator
Phone Shopping
Inventory & Pricing
Customer Satisfaction Survey
Notification

Financial Services

Telephone Banking
Mortgage Qualification
Stock Portfolio Management
Bill Collections
Credit Card Payment
Voice Authentication

Video

Catalog sales
Video mail
Real-estate service
Electronic auction
Mobile TV
Scheduling pickups
Flight Status
Video Call Center
Movie ticket sales
Video Dating
Video Chat
Security Surveillance
On-site repair service
Do-it-yourself repair
Avatar Video
Video gaming
Karaoke





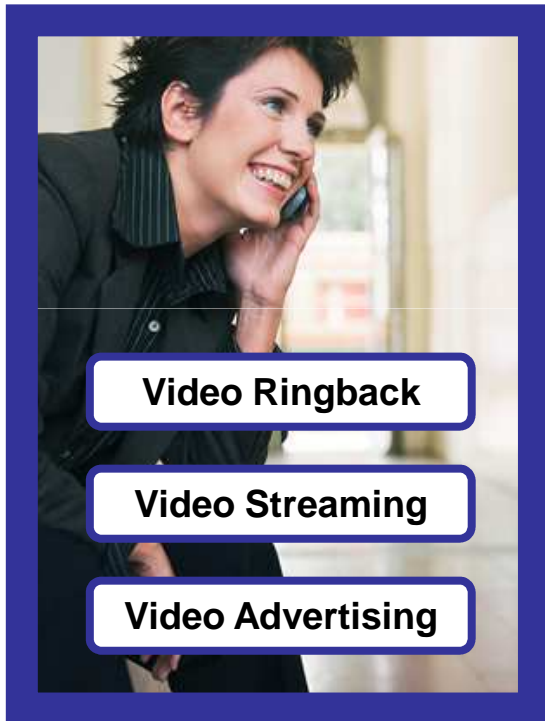
Dialogic[®] Products and Example Deployments

Dialogic® Video Products

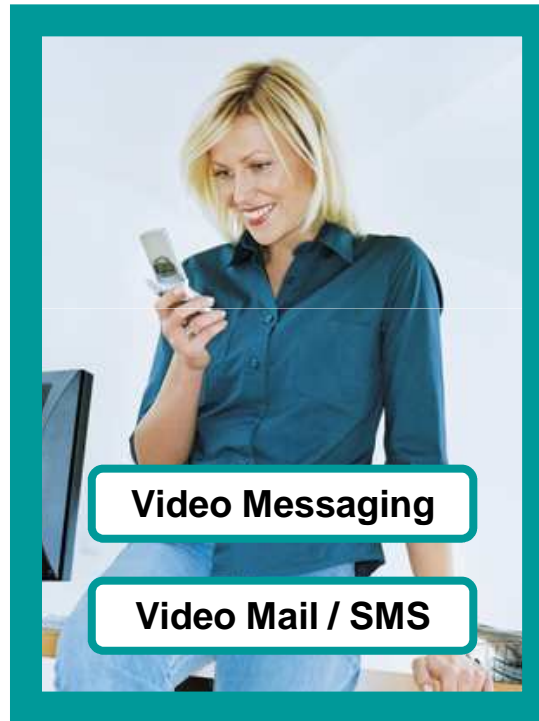
Dialogic® Product(s)	Development Level	Video Functions	Supported Video Codecs	Highlights
Dialogic® HMP Software /Multimedia Kit for PCIe (MMP) and Dialogic® HMP Thin Blades	Component - level	<ul style="list-style-type: none"> ▪Multimedia Server ▪3G-324M Gateway w/ video transcoding 	<ul style="list-style-type: none"> ▪H.263 ▪MPEG4 ▪H.264* (2009) 	<ul style="list-style-type: none"> ▪MPEG4←→H.263 ▪Video Conferencing
Dialogic® NaturalAccess™ VideoAccess Toolkit and Dialogic® CG Series Media boards	Component - level	<ul style="list-style-type: none"> ▪Multimedia Server ▪3G-324M Gateway 	<ul style="list-style-type: none"> ▪H.263 ▪MPEG4 ▪H.264 	<ul style="list-style-type: none"> ▪Works with SVT to provide transcoding
Dialogic® IP Media Server	Appliance Level	<ul style="list-style-type: none"> ▪IP Media Server ▪MRF (MRFC+MRFP) 	<ul style="list-style-type: none"> ▪H.263 ▪H.264 	<ul style="list-style-type: none"> ▪IMS-based platform ▪VxML, MSCML, NETANN, MRCP
Dialogic® Software Video Transcoder (SVT)	Platform	<ul style="list-style-type: none"> ▪Network Video Transcoding platform 	<ul style="list-style-type: none"> ▪H.263 ▪MPEG4 	<ul style="list-style-type: none"> ▪Text and Image overlay ▪MPEG4←→H.263
Dialogic® Vision™ VX Integrated Media Platform	Platform	<ul style="list-style-type: none"> ▪3G-324M Gateway + Multimedia Server 	<ul style="list-style-type: none"> ▪H.263 ▪MPEG4* ▪H.264* 	<ul style="list-style-type: none"> ▪CCxML and VxML
Dialogic® Vision™ CX Video Gateway	Platform	<ul style="list-style-type: none"> ▪3G-324M Gateway 	<ul style="list-style-type: none"> ▪H.263 ▪MPEG4* ▪H.264* 	<ul style="list-style-type: none"> ▪CCxML

* Planned for future release(s)

Mobile VAS Applications



Entertainment



Messaging



Network Services

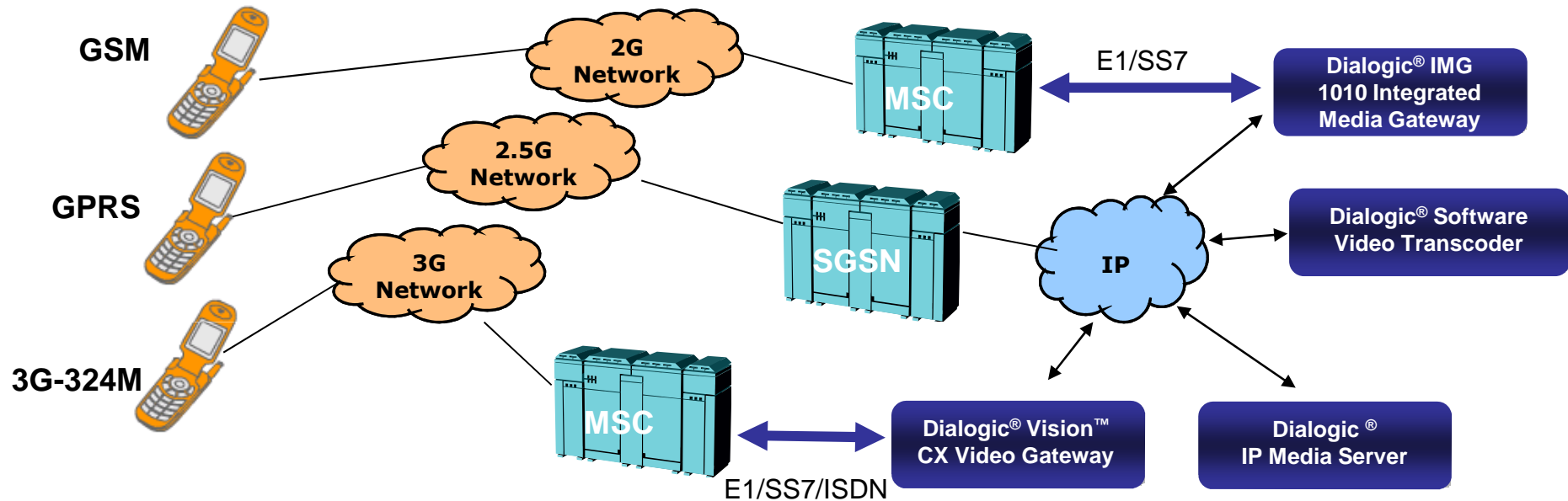
Dialogic and Its Subsidiaries - Reference History

- 2001 First delivery of 3G-324M Video Gateway to NTT DoCoMo
- 2002 FOMA M-Stage V-live Video Streaming with Fujitsu Video Conferencing Solution with NTT Comware
- 2003 Orange 3G Video Messaging trial
- 2004 First Dialogic® Product Announcement for video
- 2005 First commercial Video Mail deployment
- 2007 First 3GH.324m video interface on ATCA board
- 2008 Various video enabling products on SDK/board/HMP and appliance level



Video Messaging

Converged 2/2.5/3G Video Messaging Example*



- Play back voice and video to 3G phone
- Play back to 2.5G phone with MMS message, local player
 - Still pictures with audio, codec and format conversion
- Play back of voice only to 2G phone with SMS notification

* - Please refer to 'USE CASE(S)' portion of the Legal Notice on the last slide.

Example VideoSMS

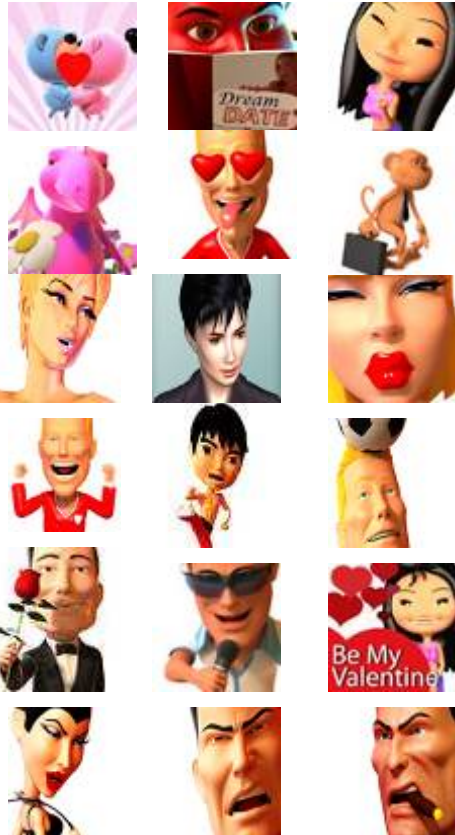


- Any Handset, Every Network
- Fast Deployment, Limited Investment
- Premium \$ vs. Traditional SMS
- Minimal Customer Education

VideoSMS – User Scenario



VideoSMS – Sample Avatars



Love & Romance

Humor

Virtual Babes

Sports

Special Occasions

And more...



Real-World Deployment Video Avatar

The Service

- “Video Avatar” service, launched in December 2007, that allows users to send and receive video messages featuring either live video or a chosen avatar

About SMART Communications

- Philippines’ leading mobile operator
 - More than 30 million subscribers
 - Most advanced SMS-based services

Products Used

- Turnkey solution featuring Dialogic® Vision™ VX Integrated Media Server
- Delivered in partnership with mobile and digital applications’ provider EGG, one of the top five content service providers in the Philippines



Real-World Deployment

Voice SMS solution deployed worldwide

The Service

- KV.SMS advanced voice SMS solution deployed at more than a dozen mobile operators worldwide and continuing to leverage NMS platform for multiple applications

About Kirusa

- World's leading vendor of voice SMS and a leading developer of value added mobile services that provide the freedom of multimodality

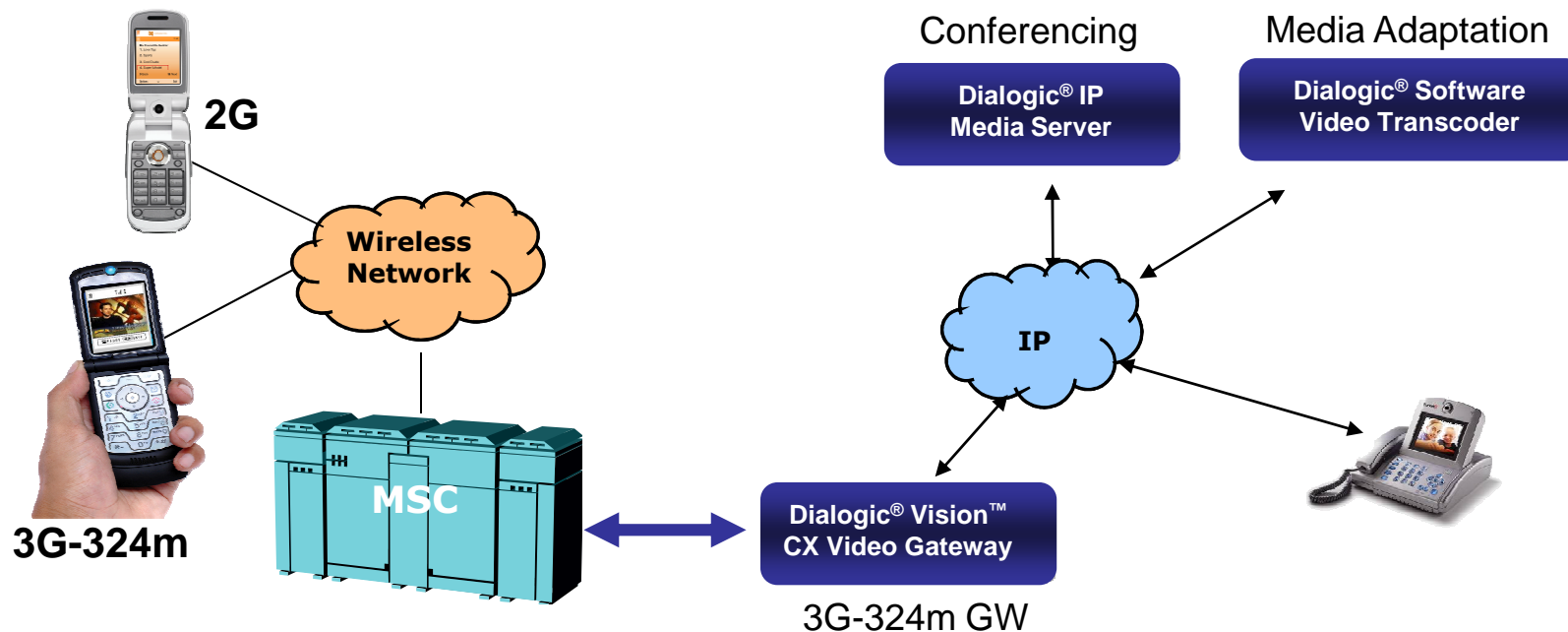
Products Used

- Dialogic® Vision™ VX Integrated Media Platform
 - Integration of VoiceXML, media and signaling processing
 - VoiceXML provided the fastest time to market
 - Video supports provides easy delivery of new value added services



Video Conferencing

Converged 3G / 2G / IP Video Conferencing Example*

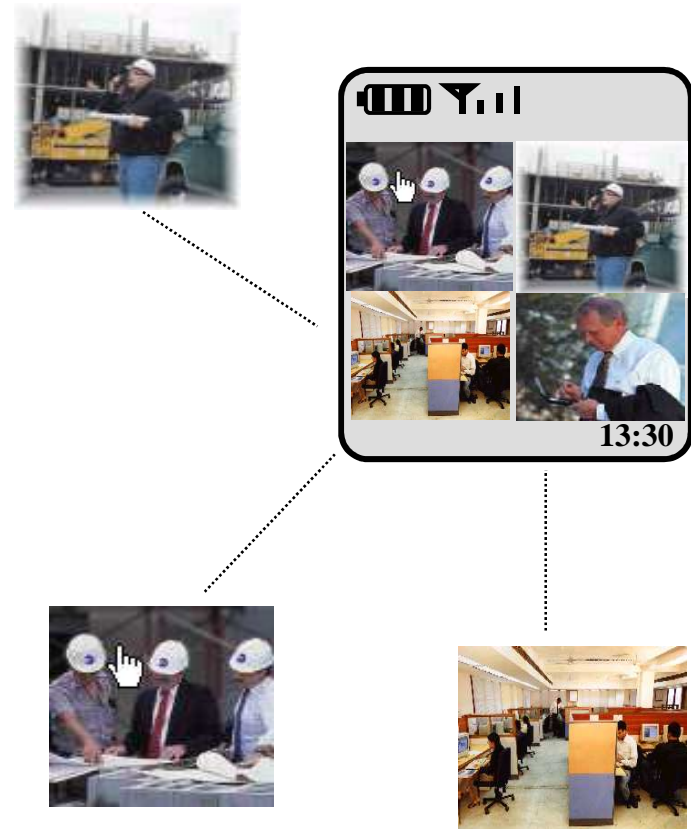


- Conferencing application on Media Server (MSXML)
- Media audio/video codec adaptation for network variations (2G, 3G Video)
- 3G-324m to IP Gateway from TDP/ISDN/SS7 to RTP/IP

* - Please refer to 'USE CASE(S)' portion of the Legal Notice on the last slide.

Multi-location Video Conferencing

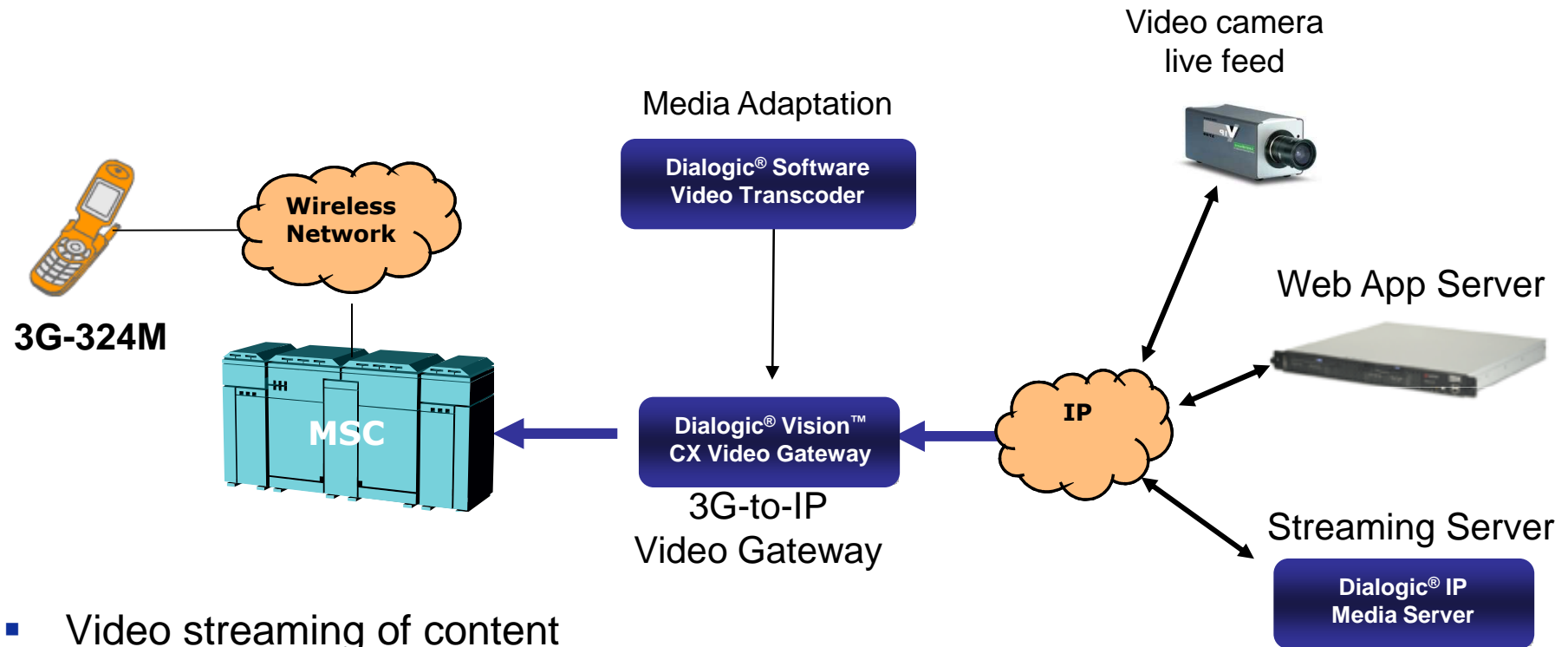
- System operates mixed IP and 3G Mobile environment
- Construction sites, workers, supervisors and home-office
- Provide capability for last minute updates or urgent reporting





Video Streaming

2.5/3G Wireless Video Streaming Example*



- Video streaming of content
 - Live feeds (web, home, IP-TV) and video clips
- Complete system with Gateway, Media Adaptation and Streaming Server
- Media Adaptation for simultaneous use of several media types

* - Please refer to 'USE CASE(S)' portion of the Legal Notice on the last slide.

Real-World Deployment

Mobile TV: Globe Telecom

The Service

- Mobile TV on 3G, enabling users to watch their favorite live or made-for-mobile TV programs when and where they want
- Subscribers have six channels to choose from with live feeds of CNN, three local broadcast television channels, sporting events and made-for-mobile looped videos of news, cartoons and entertainment content

About Globe Telecom

- One of the leading providers of digital wireless communications services in the Philippines

Products Used

- Dialogic® Vision™ VX Integrated Media Platform



Real-World Deployment

Interactive Video Game: Comsys

The Service

- **Within 6 months, Comsys went from concept to trial of mobile interactive version of the Picco Bello lottery game for cable operator RTL in Luxembourg**



About Comsys

- **Platform vendor and managed service provider in The Netherlands, with service centers in The Netherlands, Germany, UK, Switzerland, South Africa**

Products Used

- **Dialogic® NaturalAccess™ Video Access Toolkit with 3G-324M video capability**
- **Dialogic® CG 6565C CompactPCI Media Board solution under SPARC Solaris**

Why Dialogic?

Advanced Image Processing

Mobile Value Added Services

P2P Applications

Video Analytics

Mash Ups

Dialogic
Making Innovation Thrive™

Open Source

Video telephony

Web 2.0

Next-Gen Contact Centers

Interactive Gaming

Social Networking

Mobile Entertainment

“VIDEO IS THE NEW VOICE”™



Why Dialogic?

Dialogic® H.264 Video Codec

- Targeting industry leading performance and quality
- Adding advanced algorithms
- Areas of special differentiation for Dialogic
 - Advanced Motion Estimation
 - Rate Control Techniques
- Supports
 - Three screens
 - Mobile Streaming, Desktop Conferencing and IPTV
- Intelligent Transcoding
 - Transcoding among H.264, MPEG-2 variants, H.263 variants
 - Including Trans-Rating and Trans-Sizing

Subjective Comparison



Subjective Comparison



Stefan, CIF 30fps

Challenging Conditions

Rate Control Comparison



QCIF 10fps

Dialogic®

Making Innovation Thrive™

Dialogic, Dialogic Pro, Brooktrout, Diva, Cantata, SnowShore, Eicon, Eicon Networks, NMS Communications, NMS (stylized), Eiconcard, SIPcontrol, Diva ISDN, TruFax, Exnet, EXS, SwitchKit, N20, Making Innovation Thrive, Connecting to Growth, Video is the New Voice, Fusion, Vision, PacketMedia, NaturalAccess, NaturalCallControl, NaturalConference, NaturalFax and Shiva, among others as well as related logos, are either registered trademarks or trademarks of Dialogic Corporation or its subsidiaries ("Dialogic"). The names of actual companies and products mentioned herein are the trademarks of their respective owners. Dialogic encourages all users of its products to procure all necessary intellectual property licenses required to implement their concepts or applications, which licenses may vary from country to country. Dialogic may make changes to specifications, product descriptions, and plans at any time, without notice.

USE CASE(S)

Any use case(s) shown and/or described herein represent one or more examples of the various ways, scenarios or environments in which Dialogic products can be used. Such use case(s) are non-limiting and do not represent recommendations of Dialogic as to whether or how to use Dialogic products.

05/09