



Tdoc SA (00)0689

TSG-SA#10 meeting

December 11 – December 14, 2000, Bangkok

TITLE : MSEQ Presentation

SOURCE : ALCATEL

Document for : information

Agenda ITEM : 8

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Alcatel multimedia file proposal



Multimedia



Sequential

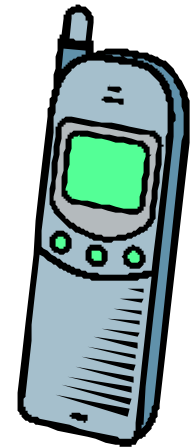


Events



Quantification

See us at www...





- 1. Market analysis**
- 2. MSEQ format**
- 3. Application examples**
- 4. New internet business around MSEQ**
- 5. MSEQ normalisation**

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1. Market analysis



Mobile Phones world : Features roadmap estimation



Windowing

Media synchronisation

Internet players
JPEG & MPEG

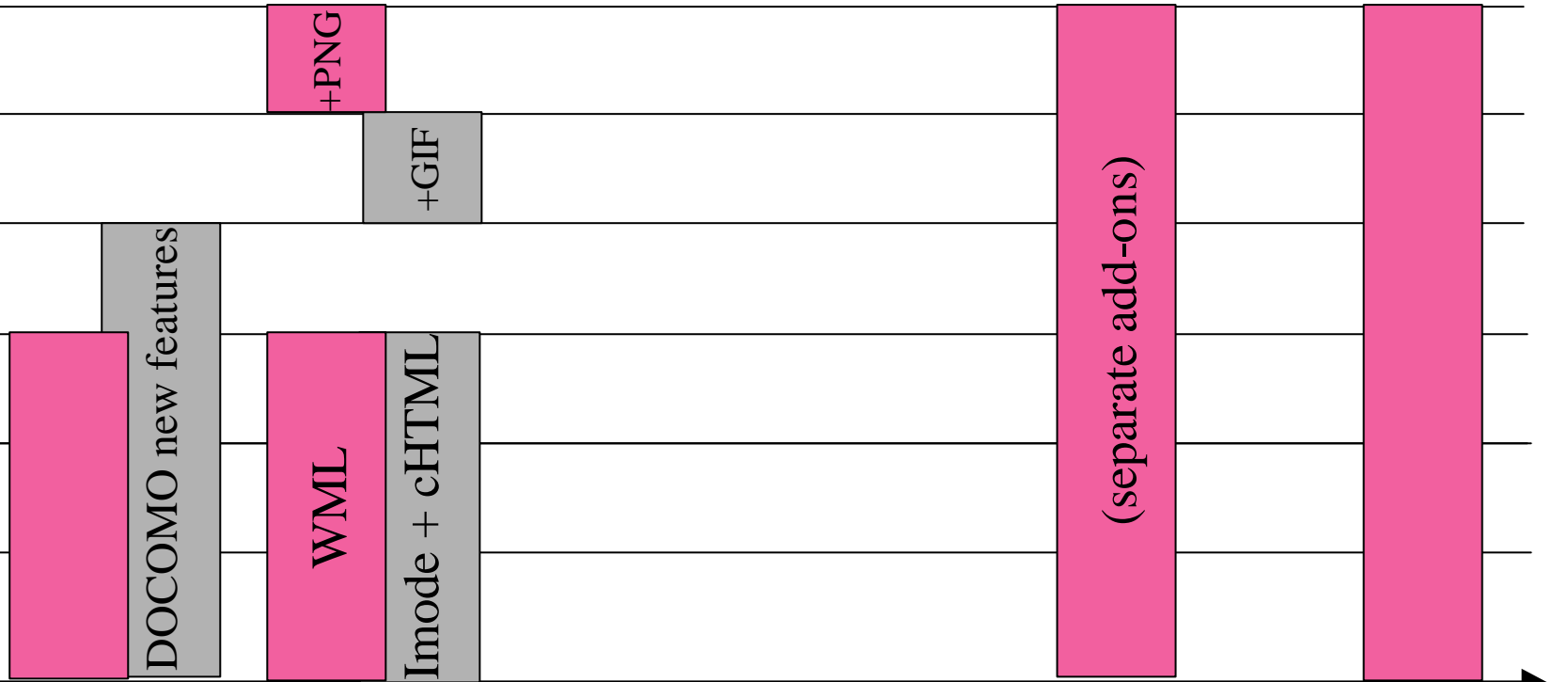
Large Pictures
Static & animated

16-Polyphonic
FM sounds

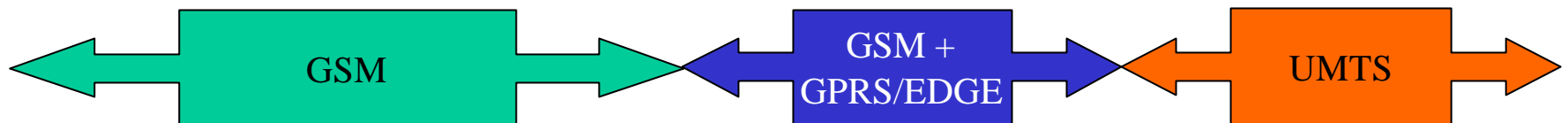
Icons
Static & animated

Formatted text

Simple Text
Mono. melody



EMS WAPonly WAP+? Internet players HTML



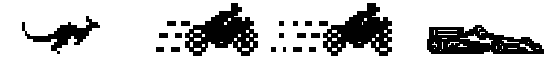


- ✍ **Maintain EMS capabilities**
- ✍ **Extended sound & melodies features**
 - † 16-polyphonic, 32-multitimbral, compatible General Midi
 - † MIDI player, sampled sounds player (for some products) like mp3
- ✍ **Extended pictures & animated pictures (not MPEG)**
 - † B&W, greyscale or colour pictures, larger pictures
 - † adaptive to all platforms
- ✍ **Advertisement capabilities**
 - † formats merging
- ✍ **Progressive evolution to 3G capabilities**
 - † support WAP & Imode transport
 - † featuring extra capabilities for new products
- ✍ **Internet communities around Mobile format particularities**
 - † single format for all mobile multimedia contents



EMS

- † EMS is the actual standard (from ETSI) for text+icons+melody messaging
- † Most EMS extension proposals are not compatible



WAP & IMODE

- † supports existing formats in light implementations (new formats)
- † “at least” PNG for colour pictures (GIF for Imode)
- † No multimedia federating format



HTML

- † light formats (cHTML, WML) for implementations in mobile environments
- † supports best & historical existing formats (i.e. JPG+GIF+PNG for Static pictures, AVI+RM+MPEG... for animated pictures, ...)

Mobile phones actual standardisation

- † model is to integrate existing Internet formats (eg. PC fitted) in mobile environment




Internet players

- † Each format is adapted to supported media (JPEG, MPEG, AVI, RM, mp3...)
- † Can not be played simultaneously (no real-time synchronisation)
- † Are not adapted to actual mobile requirements :
 - ✎ Requires MIPS ✎ increases power consumption ✎ reduces autonomy
 - ✎ Must adapt to different display sizes (excepting in Japan)
 - ✎ Needs large memory sizes ✎ Flash memories sourcing problems
 - ✎ Must be ported to different real-time OS (not same synchronisation)
 - ✎ Must be split & synchronised to fit multiprocessors capacities(also according to multiprocessors power management)



✎ Provides compact format for basic multimedia :

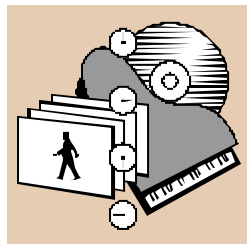
† all EMS features

- ✎ MSEQ commands for EMS replacement, bit-to-bit drivers compatible
- ✎ Monophonic monotimbral melody (Imelody), predefined sounds
- ✎ Static & animated icons, predefined icons 
- ✎ Formatted text

† Adds basic multimedia extensions to EMS commands (native formats)



- ✎ 16-Polyphonic GM-multitimbral track, MIDI *Sequentially* Compressed (MISC)
- ✎ 16-greyscale Static & animated large pictures, with predefinition
- ✎ Colour text, multi-language text (ASCII or Unicode USC2)



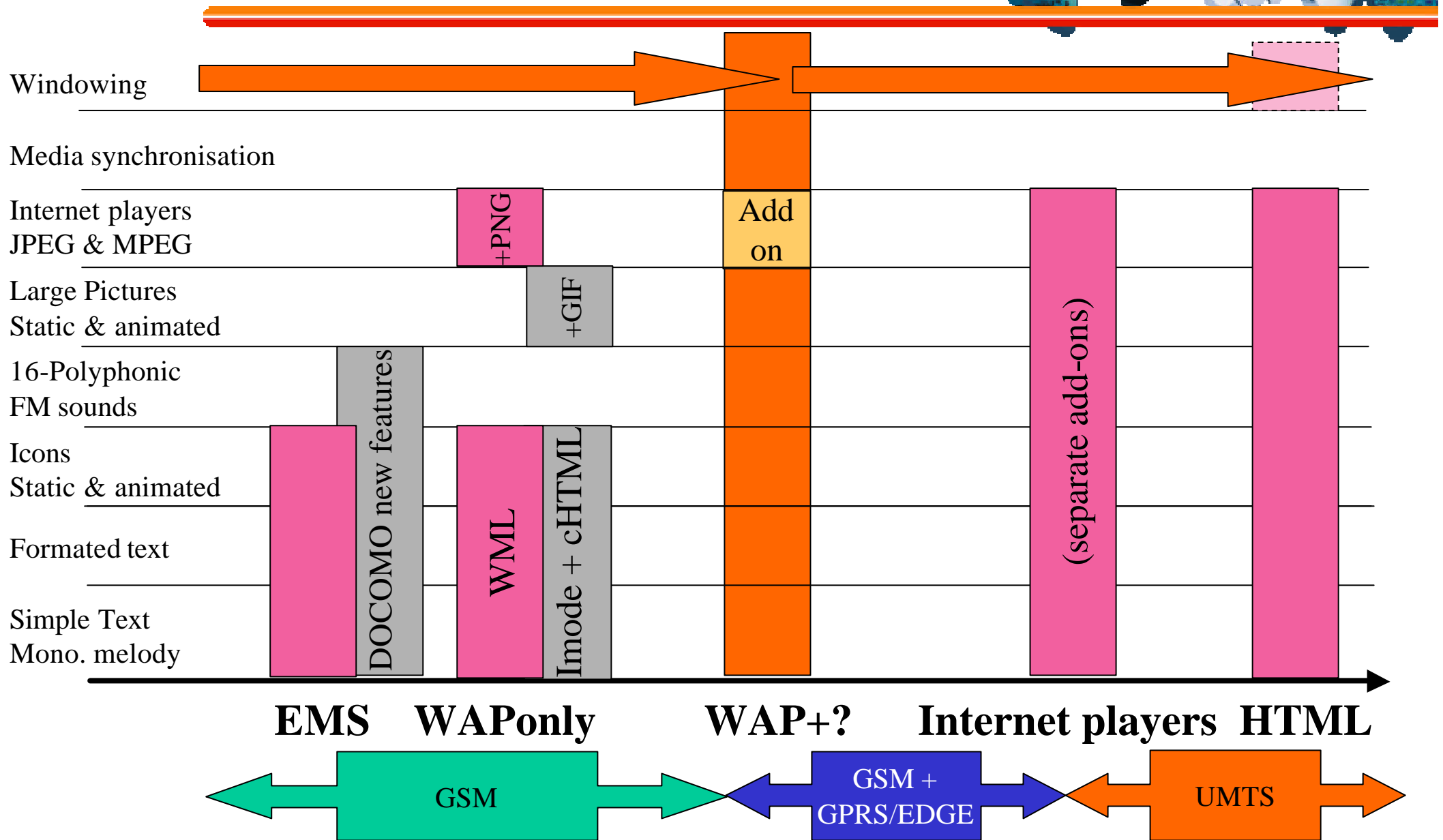
- ✎ Sampled sounds using AMR coding is recommended



- ✍ **Allows insertion of any external media format :**
 - † PNG, JPEG for highly-compressed large pictures
 - † MPEG for film, mp3...
- ✍ Adds macro-**synchronisation** & media relative time bases
- ✍ Relative-**Windowing** for multi-platform compatibility
- ✍ Allows **multi-platforms** addressing
- ✍ Particularly adapted to **multi-processors** platforms ($\mu\text{P}+\text{DSP}+\dots$)
- ✍ **Streaming** adaptive (3 modes)
 - † multiprocessors oriented (multitracks, no streaming)
 - † streaming oriented (one multi-purpose track)
 - † packets mode (multiprocessors & streaming combined)
- ✍ **Easy-to-implement** format : only 25 MSEQ commands
- ✍ Transport **independent** (EMS, WAP, GPRS/EDGE, UMTS...)
 - † could be presented in a HTML/WML page



Mobile Phones world : MSEQ roadmap



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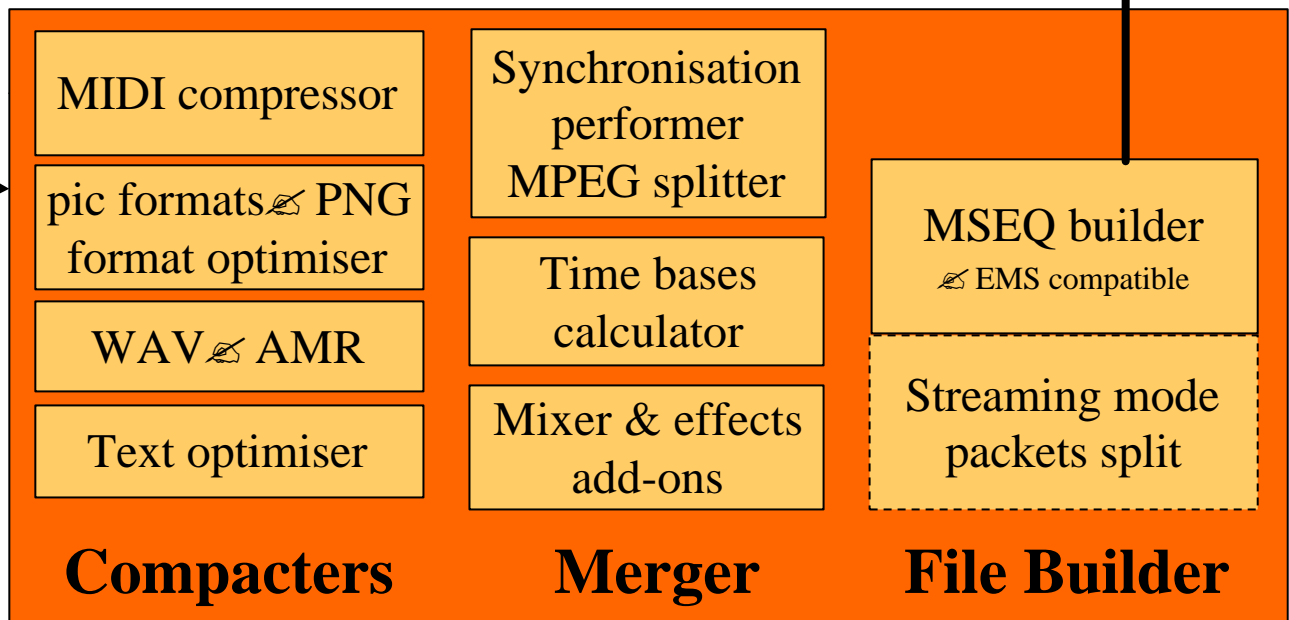
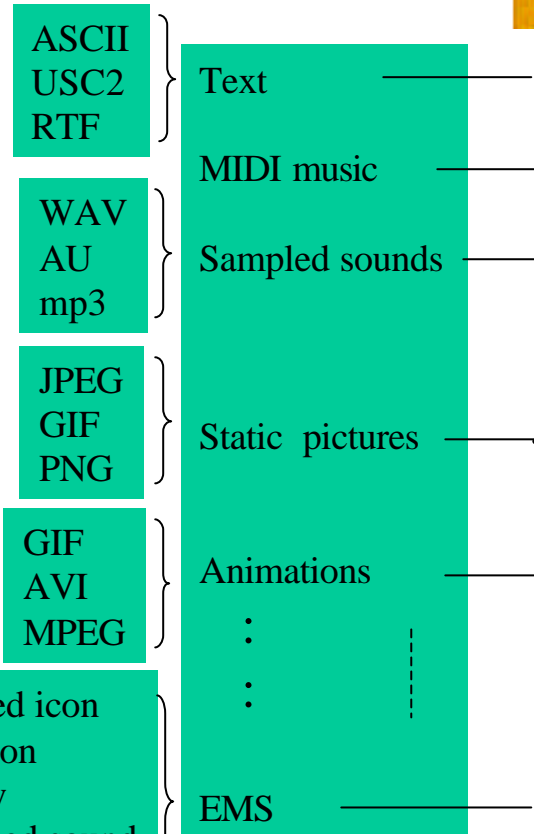
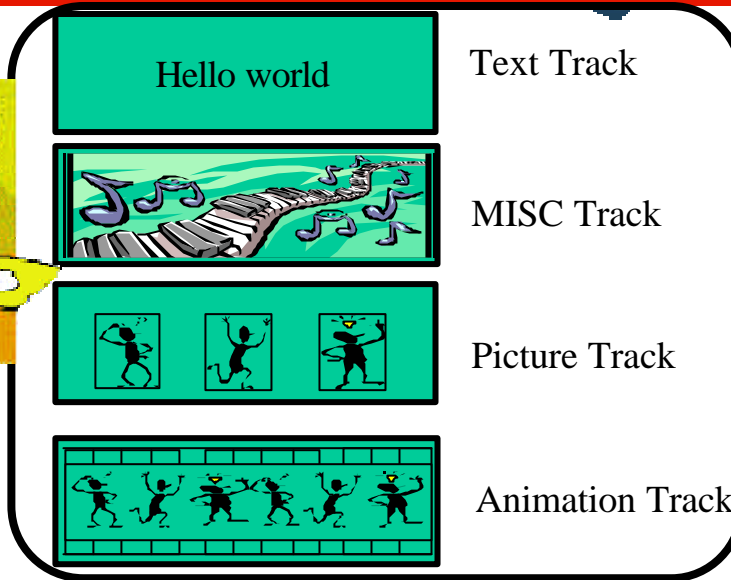
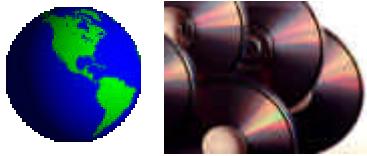
2. MSEQ format

MSEQ Tools

PC media arranger or automatic server converter



Multimedia data
(Internet, PC, MP)

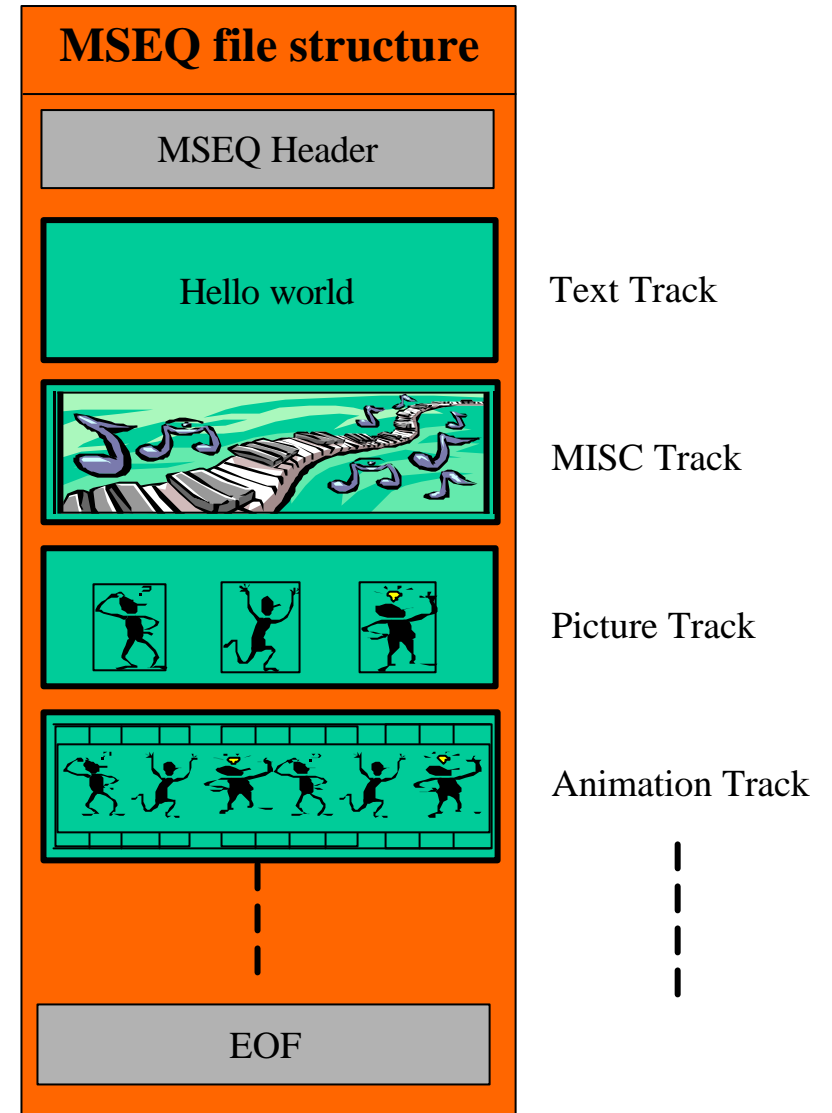


MSEQ structure (1/3)

basic storage mode



- ✎ 1 MSEQ track = 1 media
- ✎ Adapted to multiprocessors platforms
- ✎ If a track is not playable, ignore it

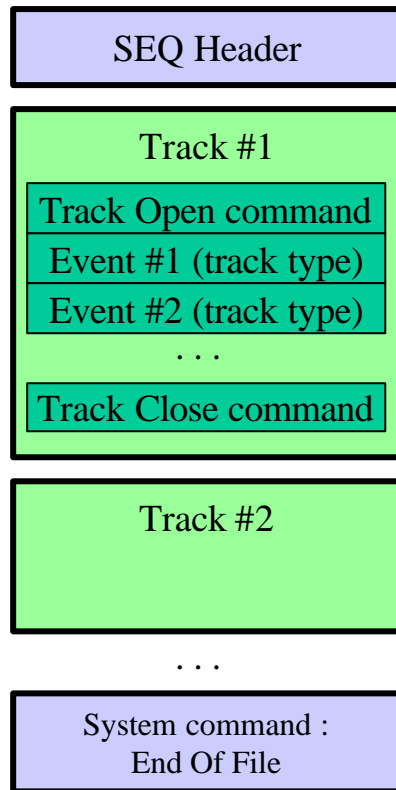


MSEQ structure (2/3)

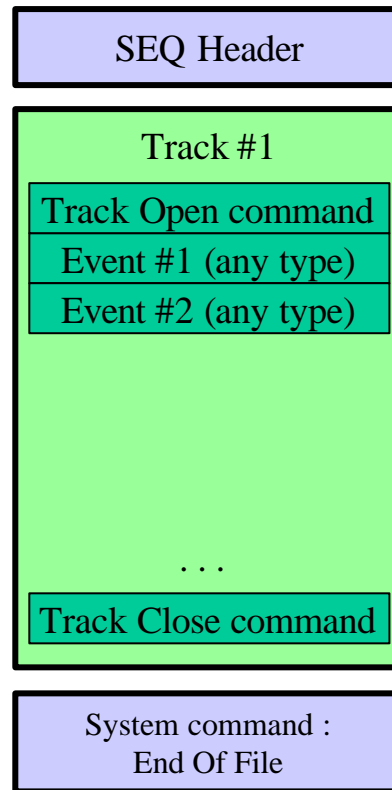
packed streaming mode



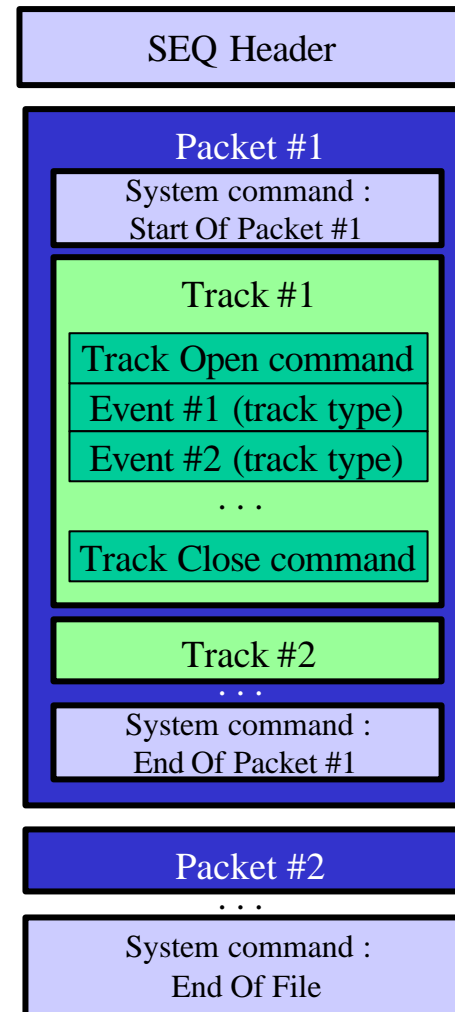
Multiprocessors mode
(Format 0, default)
used for storage



Streaming mode
(Format 1)
continuous streaming



Packet mode
(Format 2)
used for packed streaming



← Synchro. points determines packet splits

- ✂ Easy to translate between F0 and F2
- ✂ If transport loses packet : halts in synchronisation

MSEQ structure (3/3) streaming capabilities

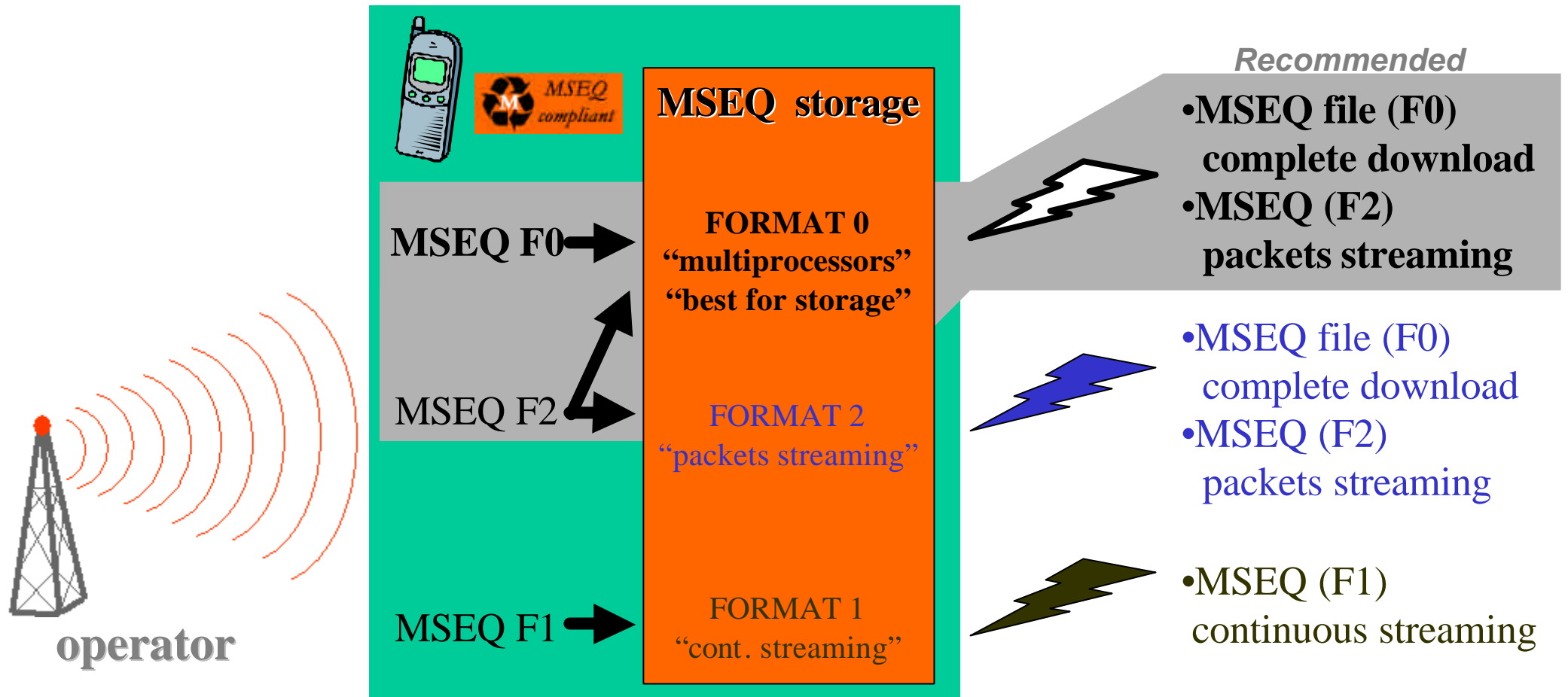


✎ MSEQ files can be easily translated

† from F0 to F2 (packet transmission)

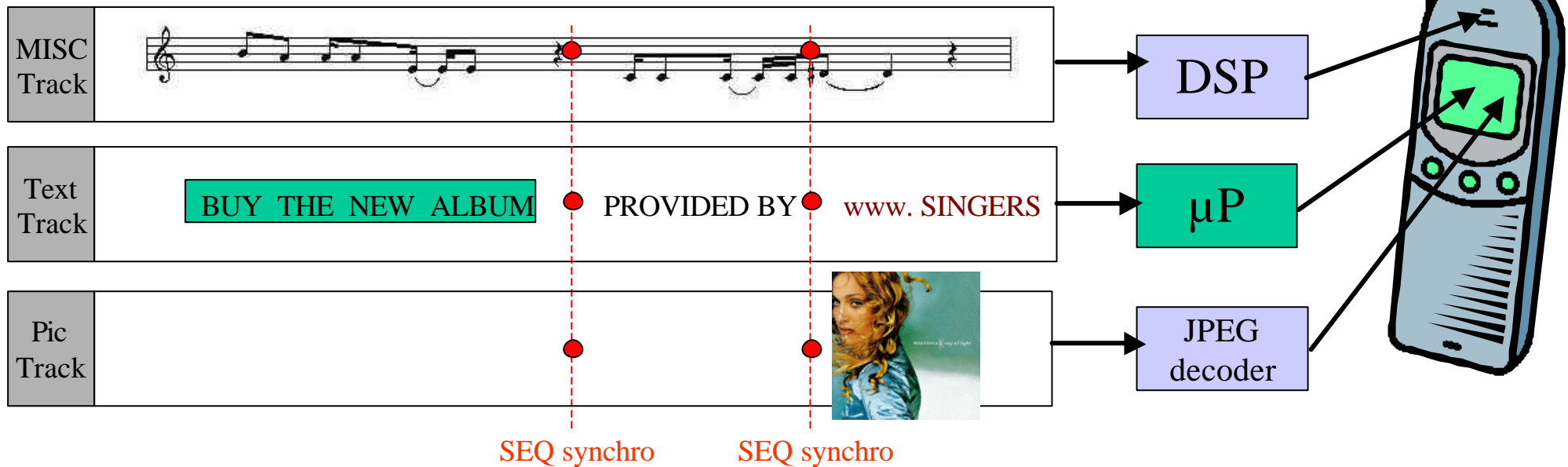
† from F2 to F0 (packet reception)

MSEQ sending mode





Advertising example



- Each track is played sequentially, in parallel with other tracks
- Each track plays a different type of data (media) with possible different processor and hardware parts (free implementation, depending on products)
- All tracks are synchronised by the SEQ synchro command
- Synchronisation auto inserted before or after any macro-event (reduced file size)



Text

- † adaptive commands with optimised punctuation coding (SP, CR, LF,

RTF -5 to -15%

MIDI music

- † MISC format based on only 4 commands, MIDI-GM2 compatible

MIDI-45 to -75%

- † predictive and not event-based

- † Karaoke files .KAR (ASCII) & .ST3 (USC2) automatic conversion (MISC+text track)

Static pictures & animated pictures

EMS -Nx100%

- † firstly defined and then simply displayed by number identification : no EMS re-definition, easy to combine & export, lower necessary bandwidth, faster (cache functionality)

- † video zones definition (relative windowing)

SMIL/HTML -15%

Sampled sounds

- † AMR format inclusion

Mobile phones optimised

Exhaustive Loops definition

- † synchro points coherence

- † time effects (RTB can be different at second play for some tracks)

?100%



✍ Are free of implementation :

- † Text display management
 - † Priority track (others tracks are synchronised to it)
 - † Screen size
 - † MIDI FM sounds (according to GM 16 instrument families)
 - † Predefined sounds (according to EMS specification)
 - † Reproduction speed (can be variable)
 - † Track types (e.g.. Media players) implemented
- ✍ Minimum of implementation (level 1) has to be defined in work task
- † Alcatel provides a level 1 proposal

Receiver-Independent (2/2)

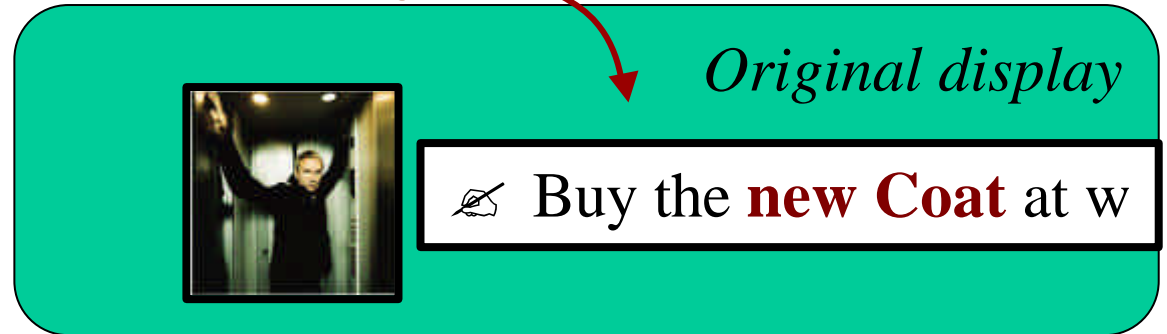
Ex. : relative windowing



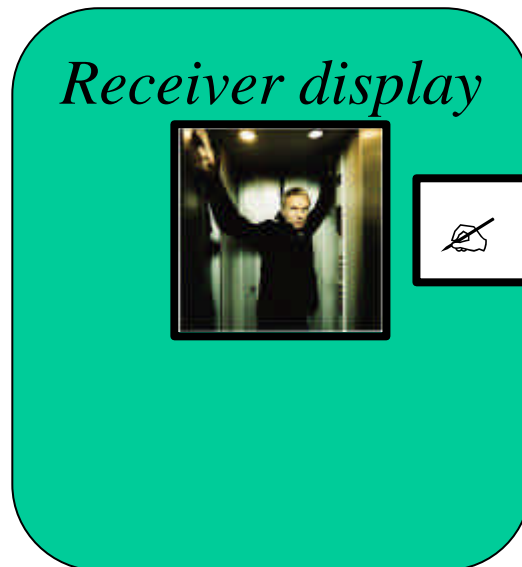
Scrolling text

Original display

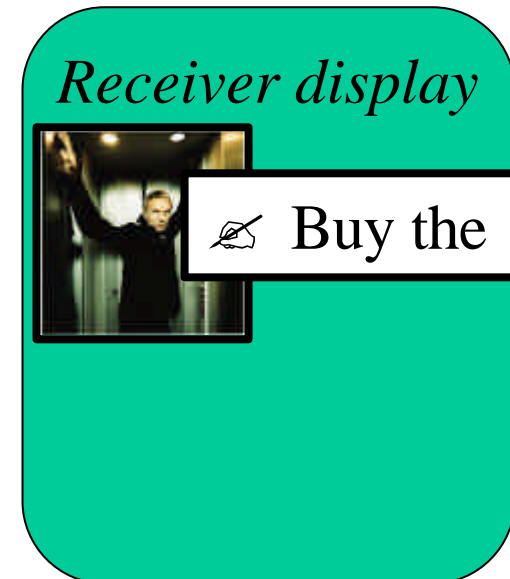
- HTML is content-priority
- O/S are windowing priority
- MSEQ is content / presentation compromise, with priority definition



HTML (wordtext based)



O/S (windows based)



MSEQ (display arrangement)

MSEQ import / export : EMS compatibility

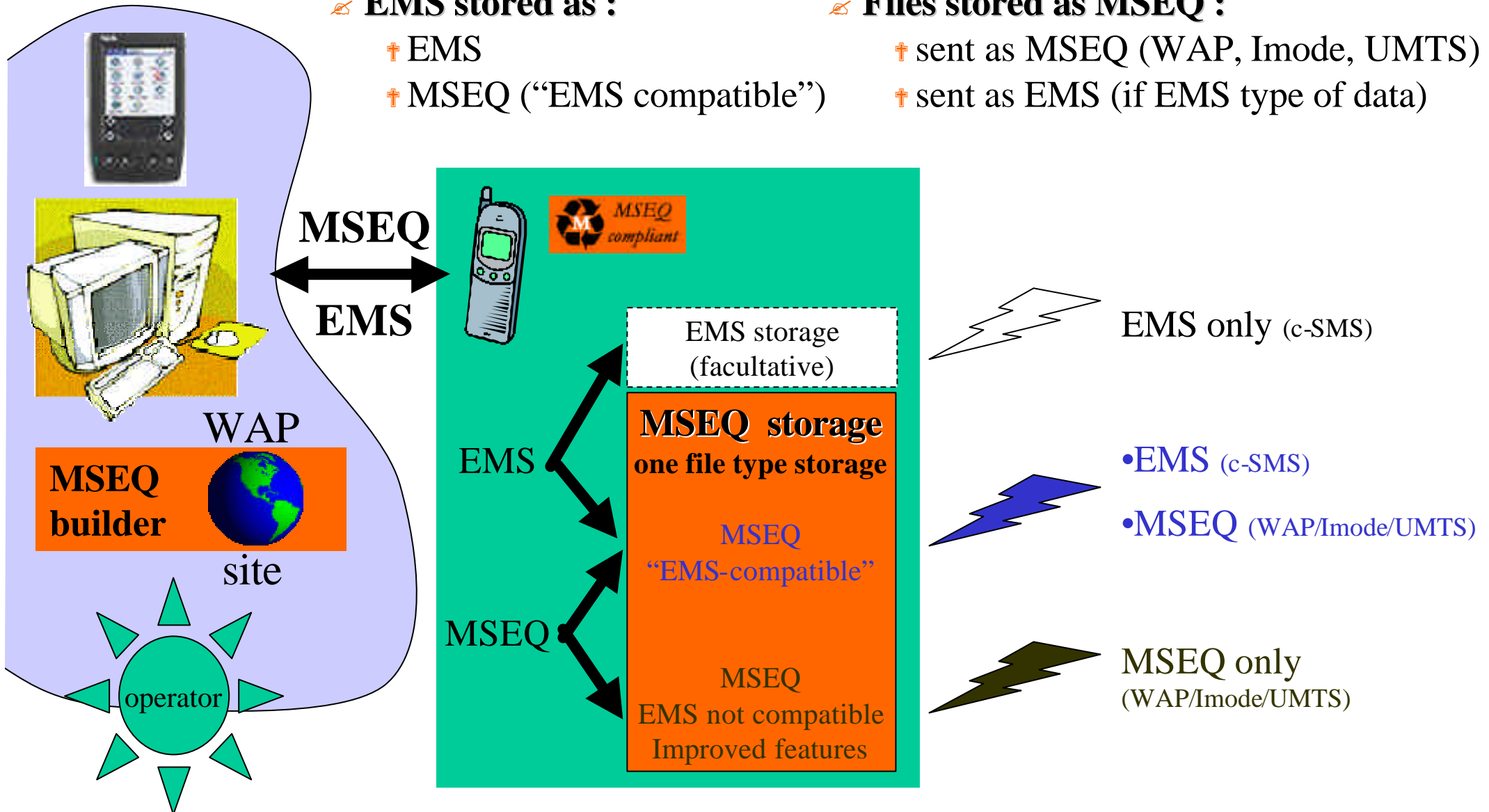


EMS stored as :

- † EMS
- † MSEQ (“EMS compatible”)

Files stored as MSEQ :

- † sent as MSEQ (WAP, Imode, UMTS)
- † sent as EMS (if EMS type of data)



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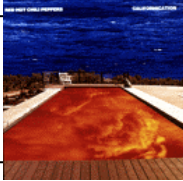
3. Application examples

Application examples (1/5)

Adaptative players



Advertising example : one MSEQ file, multi-products, multi-generations

MISC Track		
Text Track	• BUY THE NEW RED HOT	provided by www.SINGERS
Pic Track	•	

SEQ relative Windowing + Text formatting

Original display



Provided by
www.SINGERS

High-end display



Provided by
www.SINGERS



**MISC
text**

Low-cost display



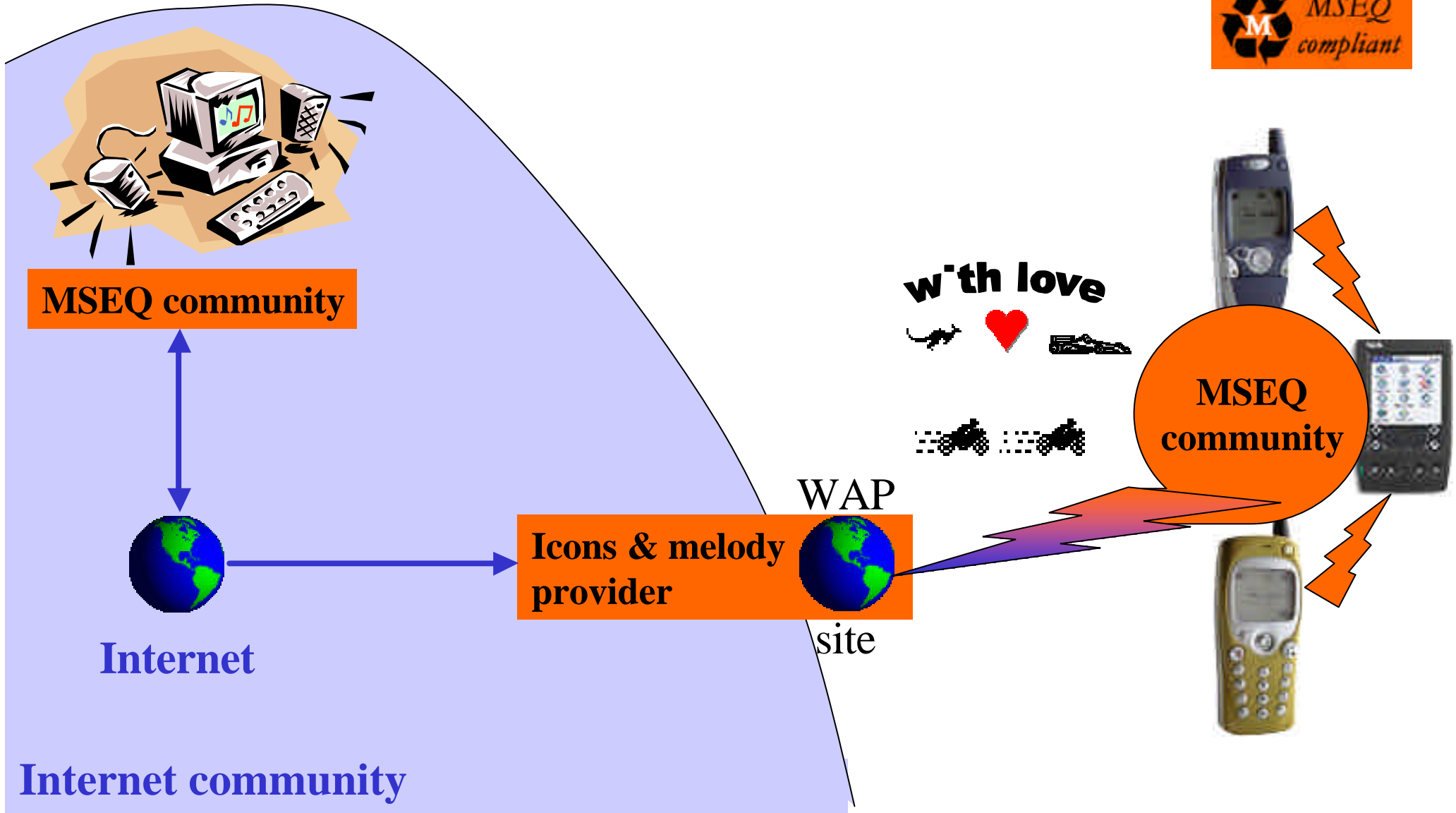
Provided by
www.SINGERS



**MISC
Text
Static Pics**

Application examples (2/5)

Icons & melody download



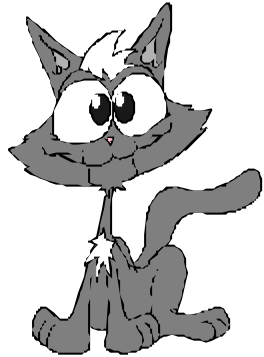
Application examples (3/5)

Identity presentation





Lost in the city.
Where can I find some
dinner close to me ???



Just press the
GPS-help key !



Internet GPS help

Please find the nearest :

Japanese restaurant _

Answer (within 200 m) :

Sumi's world



fresh fishes
nice sushi's
nenus 90F, 115 F, 160 F

best japanese restaurant in Paris
3, pergola avenue, Paris 4

press  for map display

Application examples (5/5)

Subtitling ("DVD-like")



US Text	● NO, SCARLETT, THIS IS IMPOSSIBLE. NOT YOU !
FR Text	● NON, SCARLETT, C'EST IMPOSSIBLE, PAS TOI !
MPEG track	●

~~✍~~ Just One Track
have to be replaced
or activated
(*auto-synchro*)

SEQ relative Windowing + Text formatting



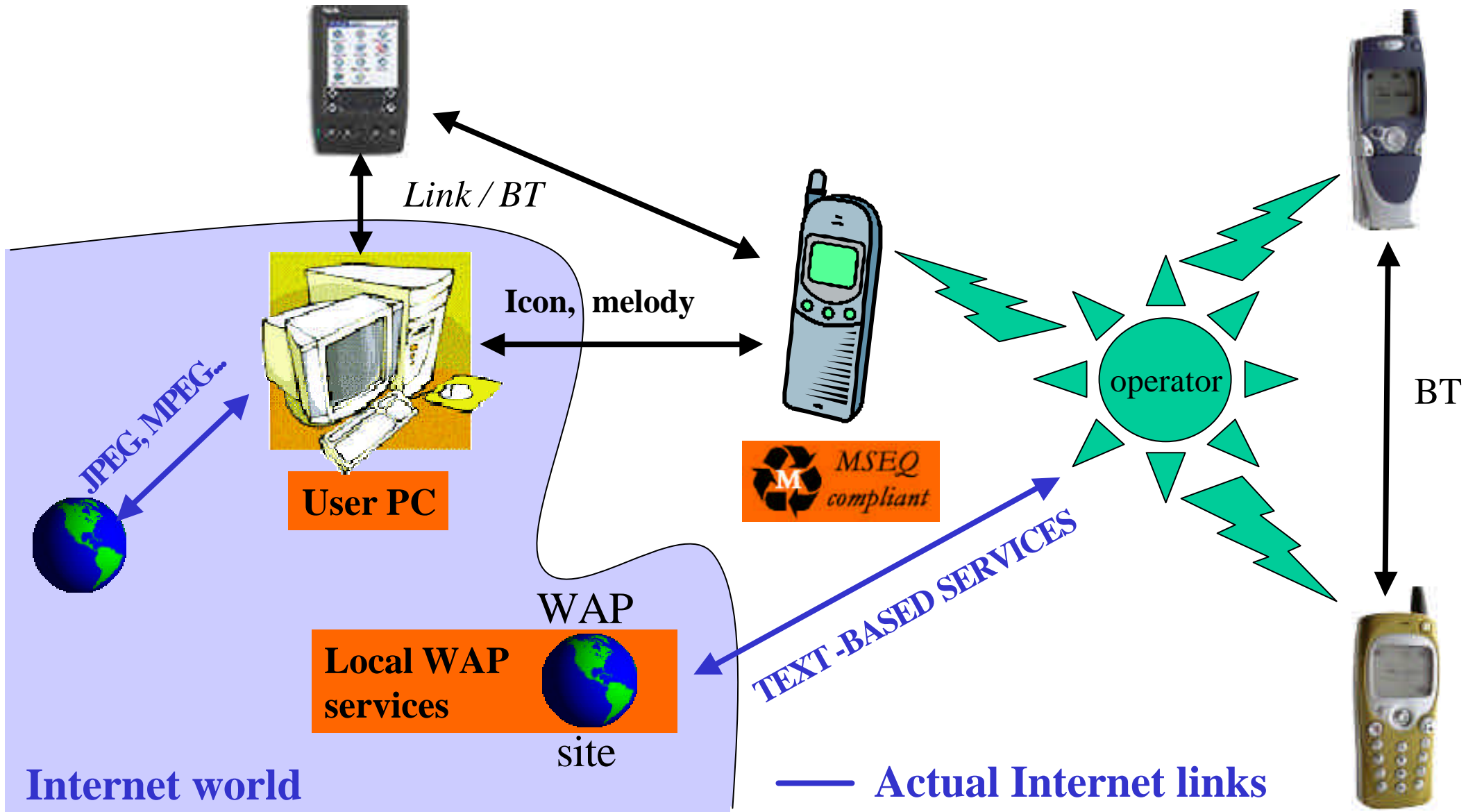
} *this zone is superimposed or not MPEG coded ~~≠~~ optimised file size*

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4. New Internet business around MSEQ

Multimedia import/export (1)

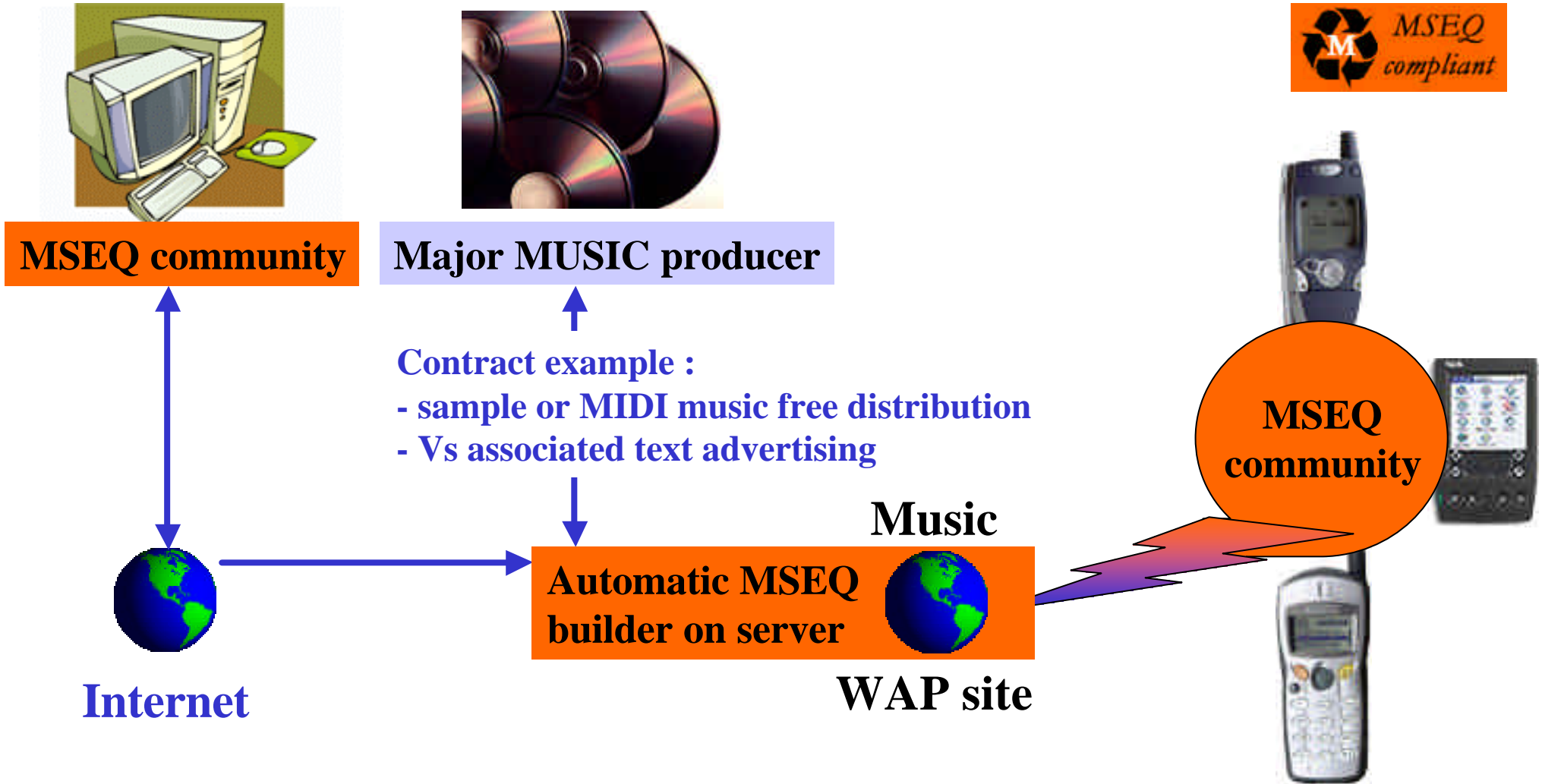
Actual available exchanges



Multimedia import/export (2) MSEQ end-to-end solution



Possible Internet business models around MSEQ



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5. MSEQ normalisation



MSEQ in stages implementation



	MIDI		Sampled sounds				Text		Static pictures			Animated pictures				W	ST		
	Original MIDI	MISC	WAV	AU	mp3	AMR	Simple text	Formatted text	EMS pictures	GIF (static only)	JPG	PNG	EMS animated	AVI	GIF	MPEG2	MPEG4	Windowing	Streaming
16-polyphonic and multi-timbral melody MIDI player (HTML-like sounds)		✗																	
Karaoke		✗					✗												
mp3 player					✗														
text + orchestral music in EMS		✗					✗												
Greeting cards		✗					✗	✗	✗				✗						
Calling presentation		✗				✗	✗	✗					✗					✗	
Advertisement		✗					✗	✗			✗	✗						✗	
Side show							✗				✗							✗	✗
Voice comments on any media					✗														
HTML-like		✗					✗	✗			✗			✗		✗		✗	

STEP 1 : cards / light advertising		✗					✗		✗				✗						
STEP 2 : full colour & sounds advertisement		✗				✗	✗	✗			✗	✗						✗	
STEP 3a : full multimedia (HTML-like)		✗					✗	✗	✗		✗		✗		✗	✗		✗	✗
STEP 3b : advanced features		✗			✗	✗	✗	✗	✗		✗	✗	✗		✗	✗		✗	✗
STEP 3c /4 : MSEQ played inside HTML		✗					✗	✗			✗	✗			✗			✗	✗



Alcatel multimedia file proposal



Multimedia



Sequential



Events



See us at www...

Quantification

