

Get to Know Mediatek's middleware 'MRE'

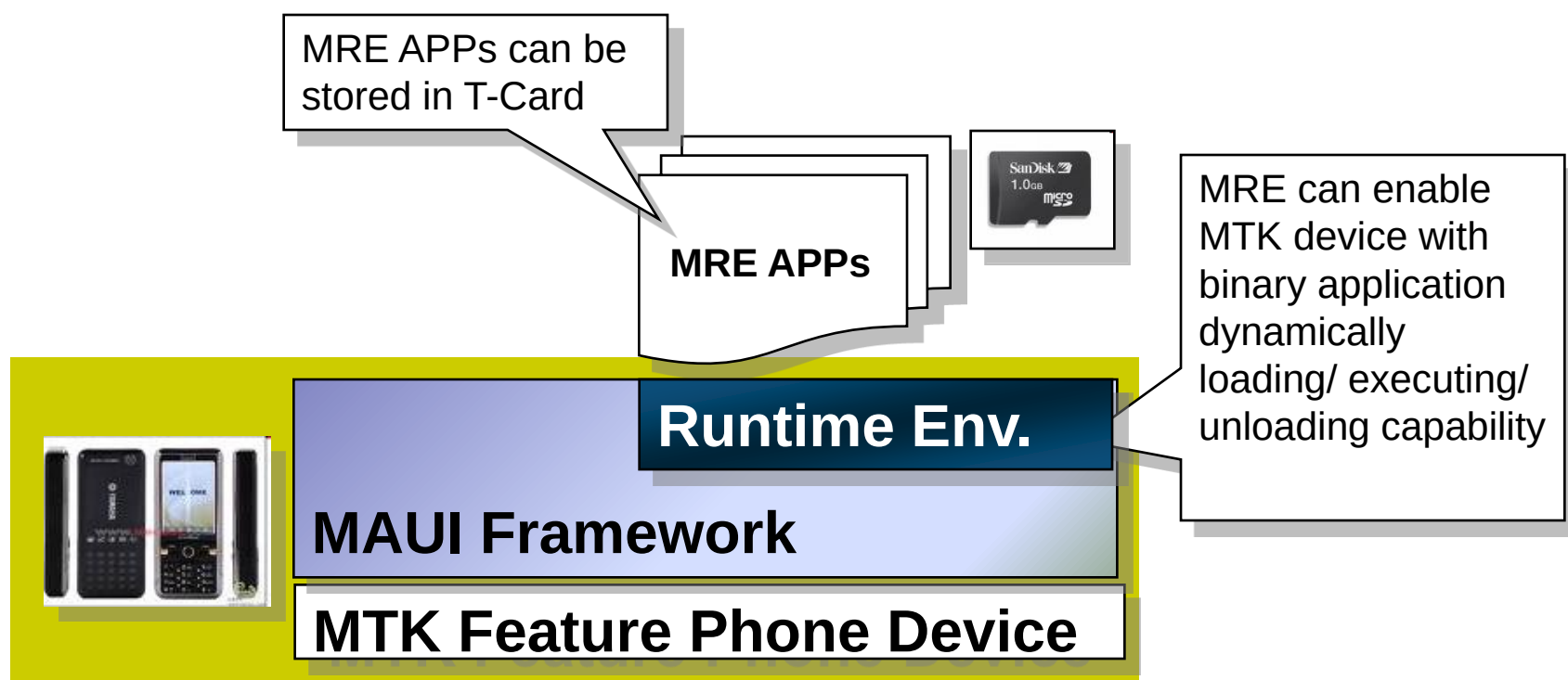
16th June 2011



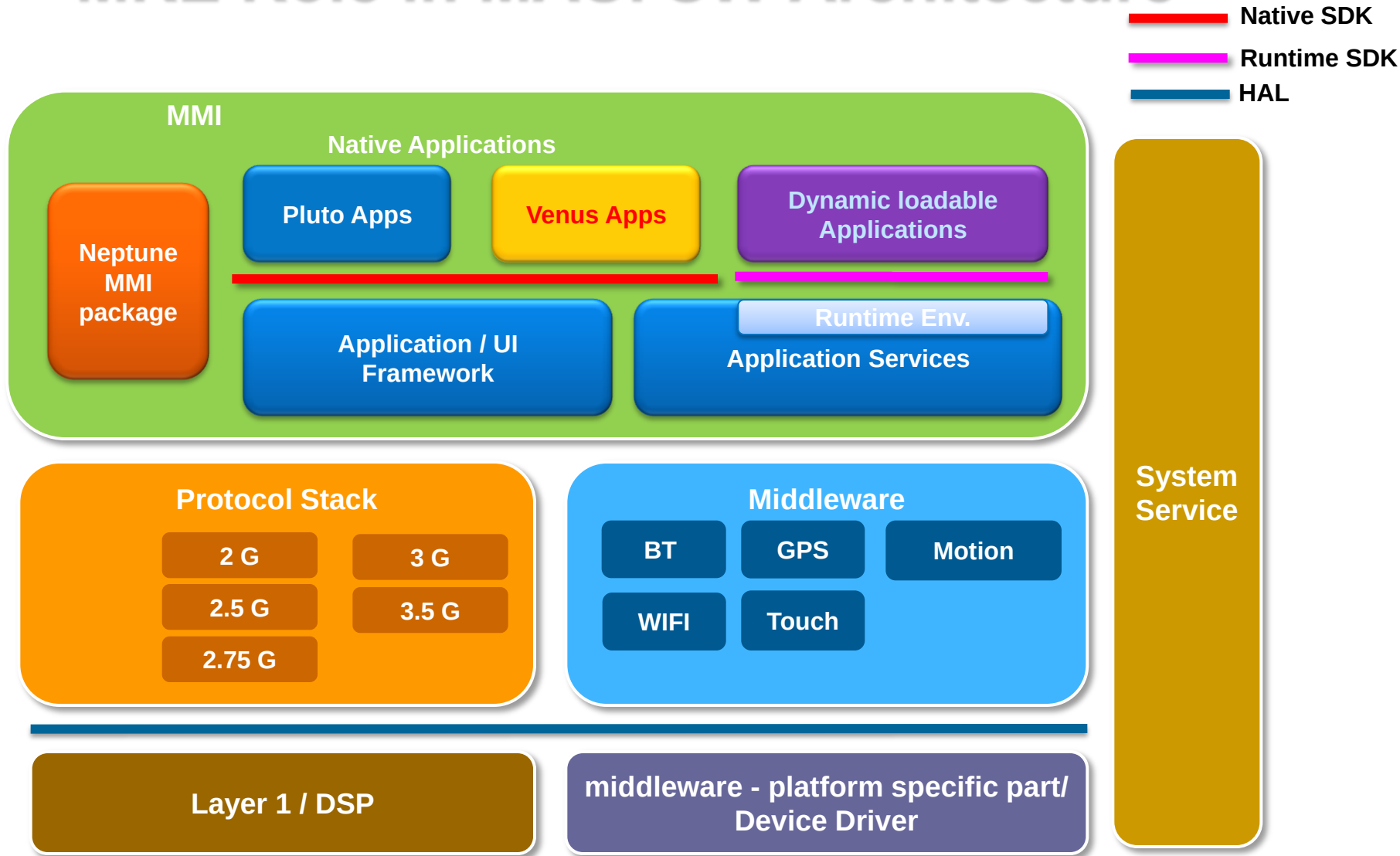
MEDIATEK

The Door to New **Blue Ocean**...

Mediatek's Middleware: MRE (**MAUI Runtime Environment**)



MRE Role in MAUI SW Architecture



MRE 1.0 SDK APIs

Base Services

- Memory
- System
- File system
- Timer
- ...

100+

Framework & GUI

- Char set
- Resource
- Status bar
- Graph(GDI)

90+

Telephony & Messaging

- Call manager
- SMS
- MMS
- Cell
- ...

20+

Networking

- Socket
- HTTP

20+

Multimedia & Devices

- Audio
- Video
- Camera
- Sensor
- GPS

80+

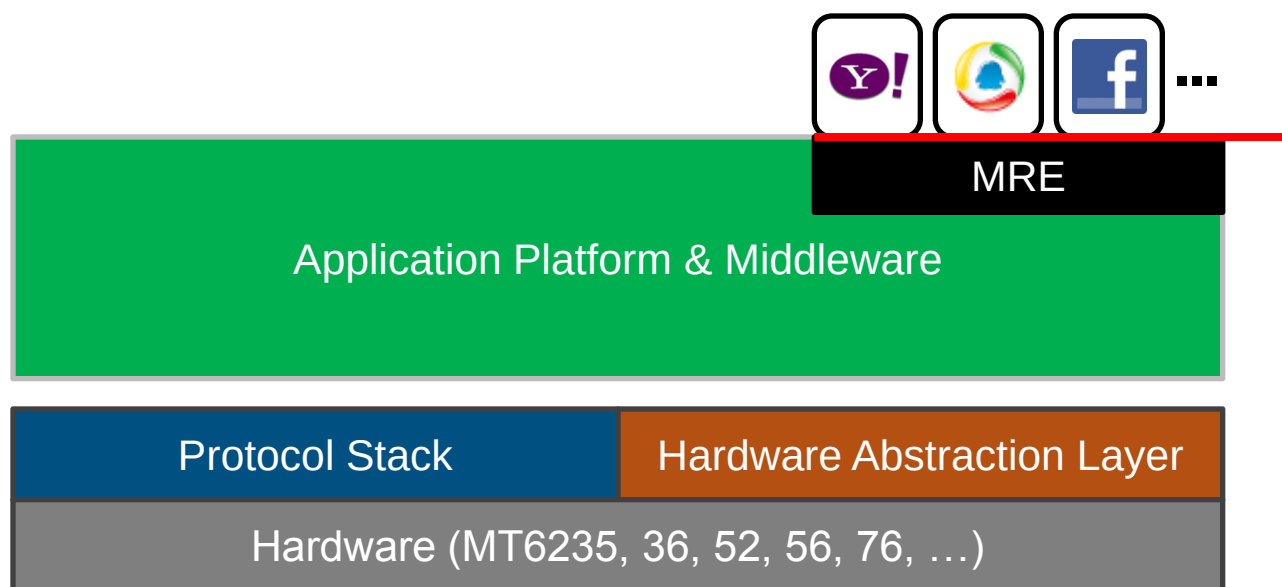
Application utilities

- XML parser
- Contacts
- ...

10+

MRE 1.0 SDK APIs

- For applications that can be installed after native software is built
 - MediaTek's free MRE applications (ex. Calculator, Converter, Zakart Caculator, Health, Stop Watch)
 - MediaTek co-work with famous mobile internet applications (e.g. Yahoo! Applications, QQ, Facebook, ...)
 - Customers' or 3rd Parties' MRE applications
- MRE source codes will be released to customers and 3rd parties **who has the MAUI licenses**
 - They may add service functions to MRE for their own businesses
 - MRE already provides common service APIs



Why **MRE** Rather Than Java?

Internal Use

MRE



Solution	MCP 128+32	MCP 256+64
Cost Diff= Royalty + MCP	FREE License	1~2 USD
ROM size	<140KB	1.7 MB
RAM needed for Engine	hundreds KB~	400KB
RAM needed for Apps		1MB
Runtime code	Native machine code	Bytecode

*** MRE V1.0 ROM/RAM Summary

	MRE lib increase	
Configuration	ROM Size	RAM Size
Full Set	140 K	19 K
Normal Set	128.8 K	12 K
SLIM Set	83.85 K	9.5 K

MRE Competitiveness Summary

1. Cost Efficiency:

-Less Memory Required: even MCP 32+32 or 64+32 affordable to run

2. Higher Performance:

-Light and optimize to perform on Mediatek's platform

3. More Flexibility:

-Many possibilities and development room for customers to create the differentiations, which can enhance the attractiveness/ **stickiness**

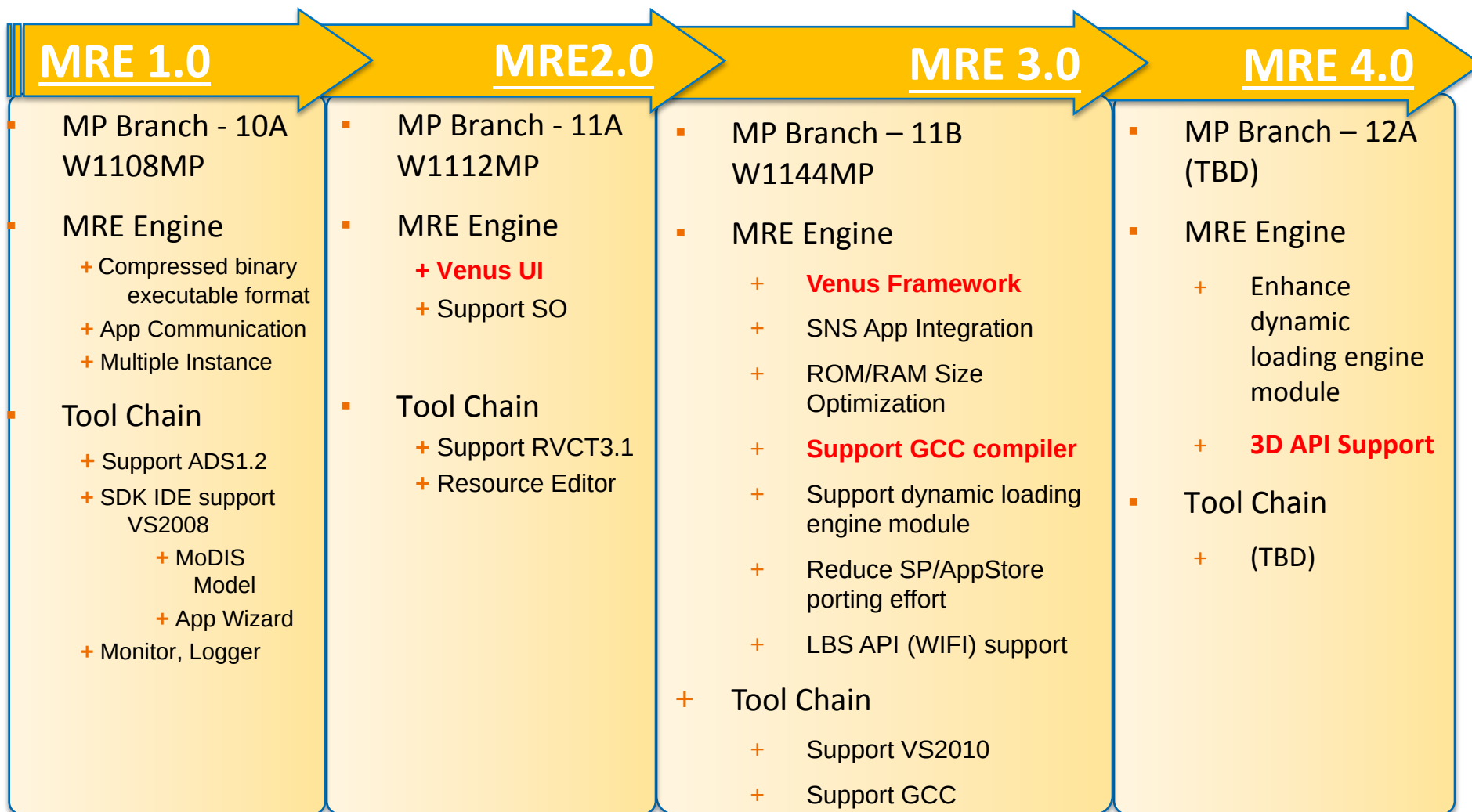
4. More Penetration Space to monetize:

-MRE is able to penetrate to low/mid **feature phone** segmentations which Java hard to reach, which is a new Ocean Blue market to grasp
-Downloadable:

5. More Biz Opportunities:

-The emerging markets for VAS/Content demand on **feature phone** environment have a tremendous space to grow. This is like a Virgin Land for us to cultivate and to benefit

MediaTek's MRE Roadmap



MRE 2.0 Salient Features

- Added UI Components
- Share Object Concept
- Secure HTTP (HTTPS) APIs
- Status bar APIs
- Fully backward compatible with MRE1.0
- MRE1.0 App can run on phone with MRE2.0 engine.

MRE SW/HW Requirement

	Support Branch	HW REQ	SW REQ	MRE App RAM
MRE 1.0	10A W1108MP	Support 6252 and above chipset	PLUTOMMI	SLIM: (600K~800K) NORMAL: (1.5M) FULL: (3M)
MRE 2.0	11A W1112MP	Support 6236 and above chipset	PLUTOMMI VENUSMMI	SLIM: (600K~800K) NORMAL: (1.5M) FULL: (3M)

Reference Chipset speed:

MT6252/53(ARM7/104MHz)

MT6235(ARM9/208MHz)

MT6236(ARM9/312MHz)

MT6276(ARM11/650MHz)

How to choose tool chain?

Choose MRE1.0 if

- Compiler
 - ADS1.2
- Need to support customer on 10A branch

Choose MRE2.0 if

- Compiler
 - ADS1.2
 - RVCT3.1
- Need to support customer on 11A branch
- Use MRE2.0 new feature
 - Venus UI engine
 - Share Object
 - HTTPS APIs
 - Status Bar APIs

Thank You



MEDIA/TEK