STM32MP1 - Welcome

Welcome session

Revision 1.1

Hello, and welcome to this STM32MP1 training session.

Introduction

System

Memory

Security & Safety

Analog

Peripherals

Watchdogs & Timers

Ecosystem

Next steps

This session is organized to provide you with the most important information to ensure that you can develop your application as easily as possible. You will find a technical description of all the STM32MP1 modules including peripherals and development tools organized into specific sections: system, memory, security, analog, peripherals, watchdog and timers and ecosystem.
You can browse each section separately and learn about each module in the order of your choice and at your convenience.
This session also allows you to search directly for a keyword and you will have a direct access to the sections covering this information.
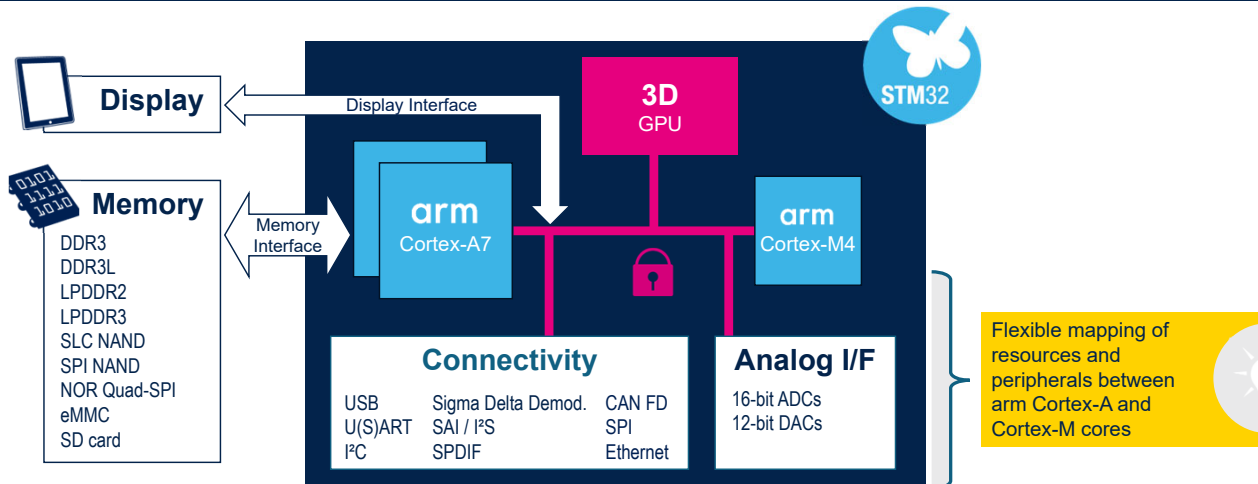
STM32MP1 MPU series

New microprocessor series with enhanced performance thanks to its multicore architecture and graphical processor

Now, let's take a closer look at the STM32MP1 new series of microprocessors, extending the STM32 success story to wider worlds.

Advanced & Flexible Architecture with 3D GPU

The STM32MP1 series supports multiple and flexible applications, achieving the best performance and power figures at any time with Dual Cortex®-A7 cores, a Cortex®-M4 core and a Graphical processor Unit in it's full feature configuration.
The Cortex-A7 core provides access to open-source operating systems (Linux/Android) while the Cortex-M4 core leverages the STM32 MCU ecosystem.

The STM32MP1 comes with many benefits including a rich development ecosystem:
- Mainlined open-source Linux distribution with Android support available via partners
- STM32Cube firmware and embedded software libraries for Cortex-M4 core
- An optional 3D graphics processing unit (GPU) provides for advanced HMI development

- Rich set of digital and analog peripherals
- Extended connectivity
- Advanced security features
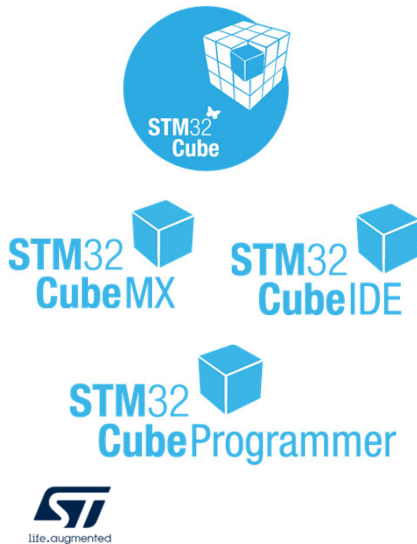- Support of a wide range of external Flash memories

STM32MP1: A General Purpose MPU
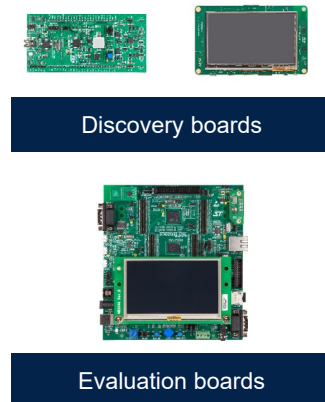Suitable for all Developer Types and Multiple Applications
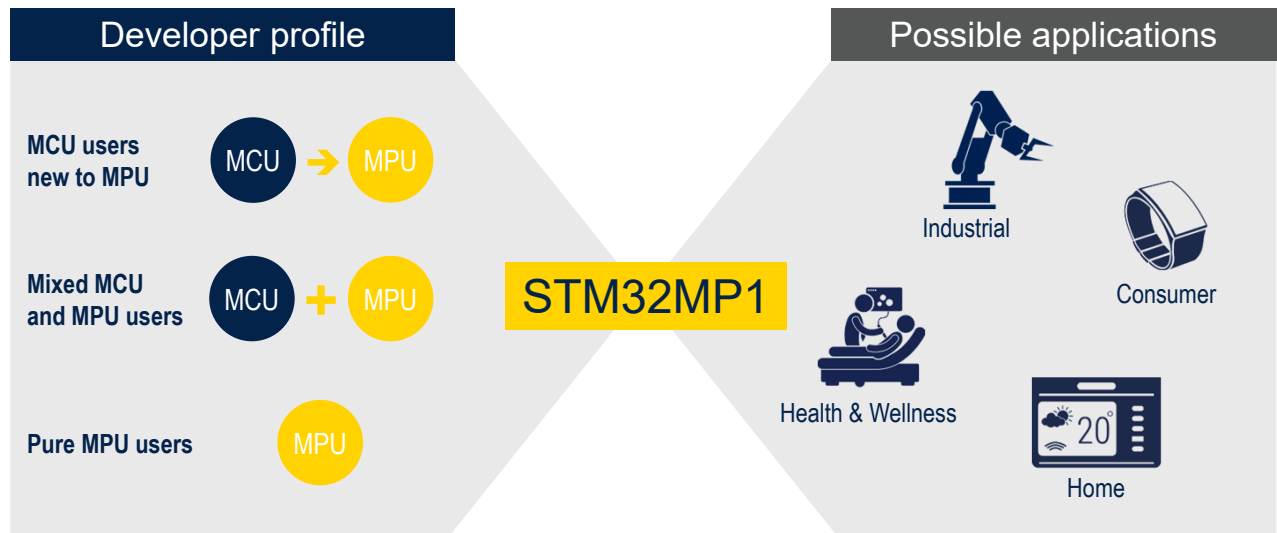
As Industrial, Consumer, Smart Home, Health and Wellness systems are growing more connected, certain embedded designs are now required to manage high processing loads and complex applications with rich Human Machine Interfaces (HMI). Thanks to its rich set of features, open-source software stacks and efficient real-time Operating systems, the STM32MP1 can support a wide range of such performance demanding applications.

Supported by the STM32 Ecosystem
All the Tools for Successful MPU Development

Software	Hardware	Customer support

Software

STM32 Cube
STM32 CubeMX
STM32 CubeIDE
STM32 CubeProgrammer

Hardware

Discovery boards
Evaluation boards

Customer support

FAE - Worldwide Customer Support
community.st.com
Partner Program

6

STM32MP1 microprocessors benefit from the proven software, tools and technical support of the STM32 family ecosystem.
On the software side, the release of OpenSTLinux Distribution, a mainlined open-source Linux distribution is a key element of the solution. OpenSTLinux Distribution is reviewed and accepted by the Linux community and is pre-integrated with OP-TEE secure OS. It contains all the essential building blocks for running software on the application-processor cores.

Regarding the development tools, STM32Cube toolset, including GCC-based IDEs, STM32CubeProgrammer and STM32CubeMX, helps accelerate the application development cycle

Finally, boards such as evaluation boards and discovery kits complete the development suite available to designers.
All these leverages a solid scalable software and hardware

foundation to simplify and shorten the development time of industry-leading power-constrained applications.

Benefit from Field-Proven RTOS Tools

Full re-use of STM32 MCU Cube firmware on Arm Cortex-M

STM32 Cube

Several APIs to access peripherals

Collection of Middleware components for Cortex-M

Hundreds of Examples

Production-ready Quality

Business-friendly license terms

It leverages a solid scalable software and hardware foundation to simplify and shorten the development time of industry-leading power-constrained applications. Developers are able to seamlessly reuse and migrate IPs from project to project. It future proofs their current and future investments. Indeed, STM32 MPUs are included in ST's rolling 10-year longevity commitment.

Thank you

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