EMERTXE TRAINING PROJECT DOCUMENTATION FRAMEWORK
REQUIREMENTS & DESIGN DOCUMENT

Module – ELARM

Kernel Optimization

Footprint and Boot time reduction

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Contents

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1 Abstract

In multi-tasking Embedded systems, having an optimized Kernel is one of the key requirements. With clear understanding of source code organization and various turning methodologies Linux Kernel size can be optimized. In the similar way understanding U-Boot, optimization of boot time can also achieved.

The goal of this project is to gain exposure in terms of Kernel optimization by creating a customized Kernel for an ARM based target.

2 Requirements

Optimize the kernel to smallest possible size

- Make sure the system is boot-able

- Optimize the boot loader just capable of booting the kernel

  - Remove unnecessary drivers where ever possible

- Make sure the Root File System has bare minimum functions and configurations

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3 Artifacts

References

- https://www.toradex.com/blog/embedded-linux-boot-time-optimization

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