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Architecture of an Enhanced DVB RCS IP core

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SIEMENS

The Architecture of an Enhanced DVB RCS IP core, is a part of a project in ESA (European Space Agency).

This project is named DELOS (DESign and DeveLOpment of a generic DVB-RCS terminal architecture)

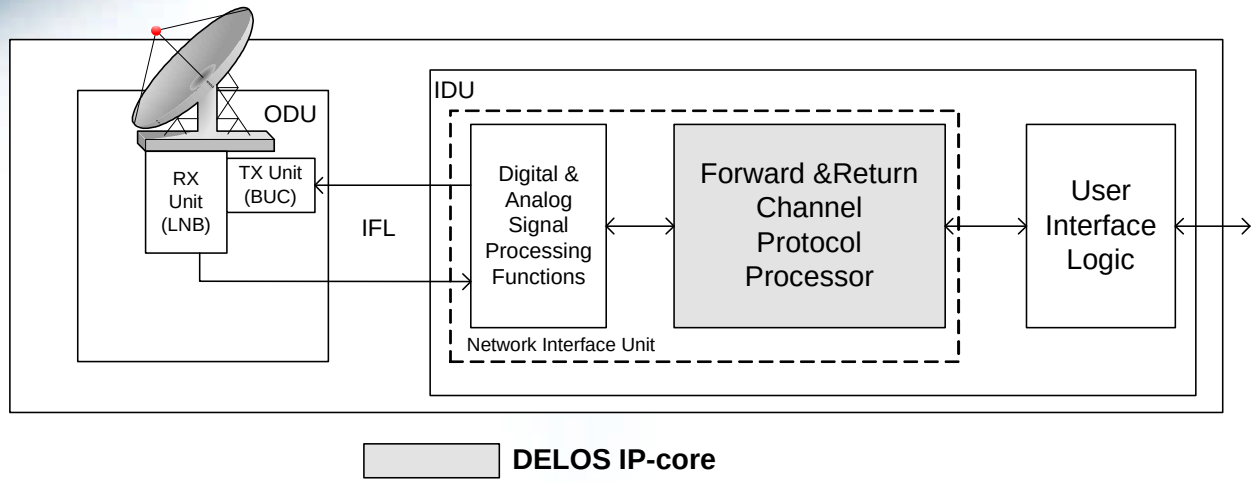
DELOS is developed by:

Siemens Hellas S.A & Keletron Ltd

DELOS primary objective:

Specify, Design and Develop in parametrical form an IP-core to host the protocol processing part of the DVB-RCS terminal functionality

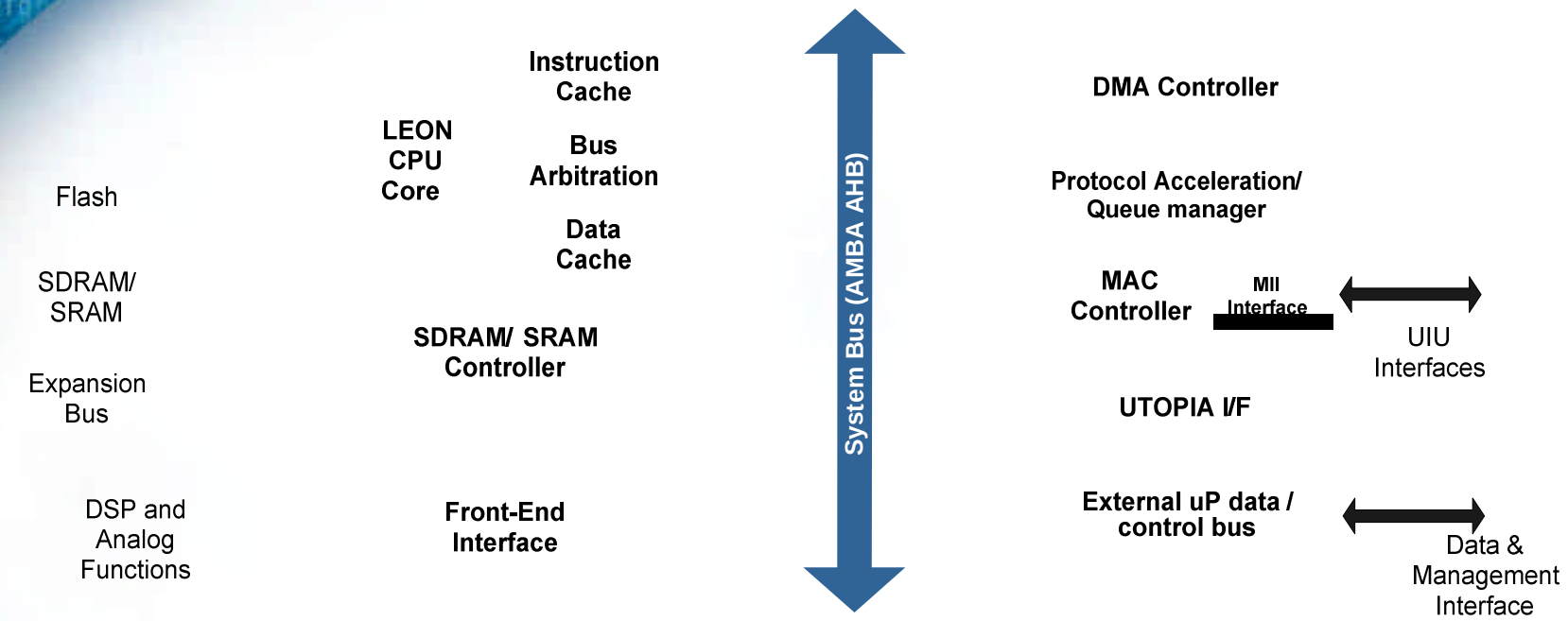
DVB-RCS terminal architecture



Benefits

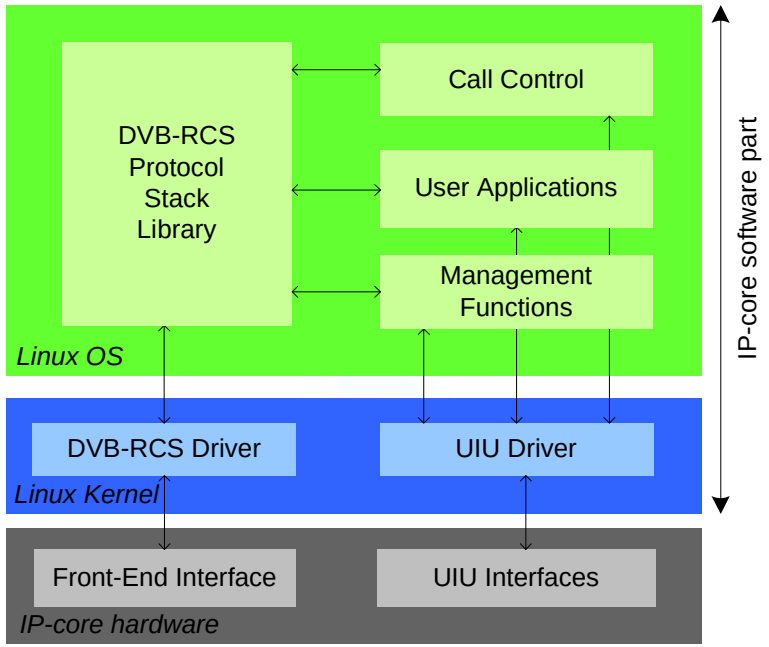
- Technology independent (ASIC, FPGAs)
- Fully re-programmable protocols, configurable H/W functions
- Flexible interfacing with peripheral units
- Flexible interfacing with the S/W of the host

DELOS HW IP core

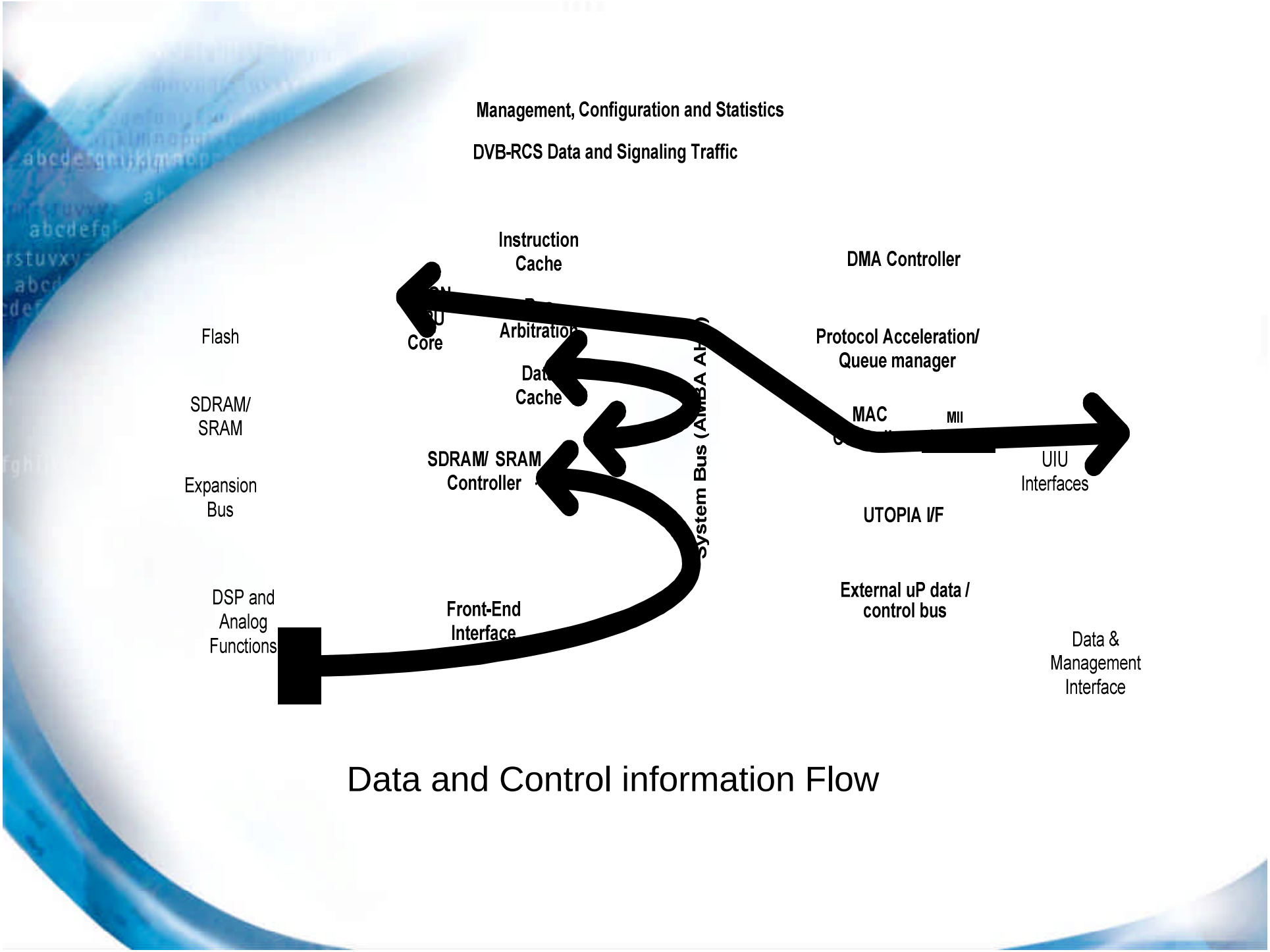


- Embedded system with LEON-2 or LEON-3 CPU
- Protocol acceleration and DMA controller for improved performace
- Integration of standard interfaces

DELOS SW IP core

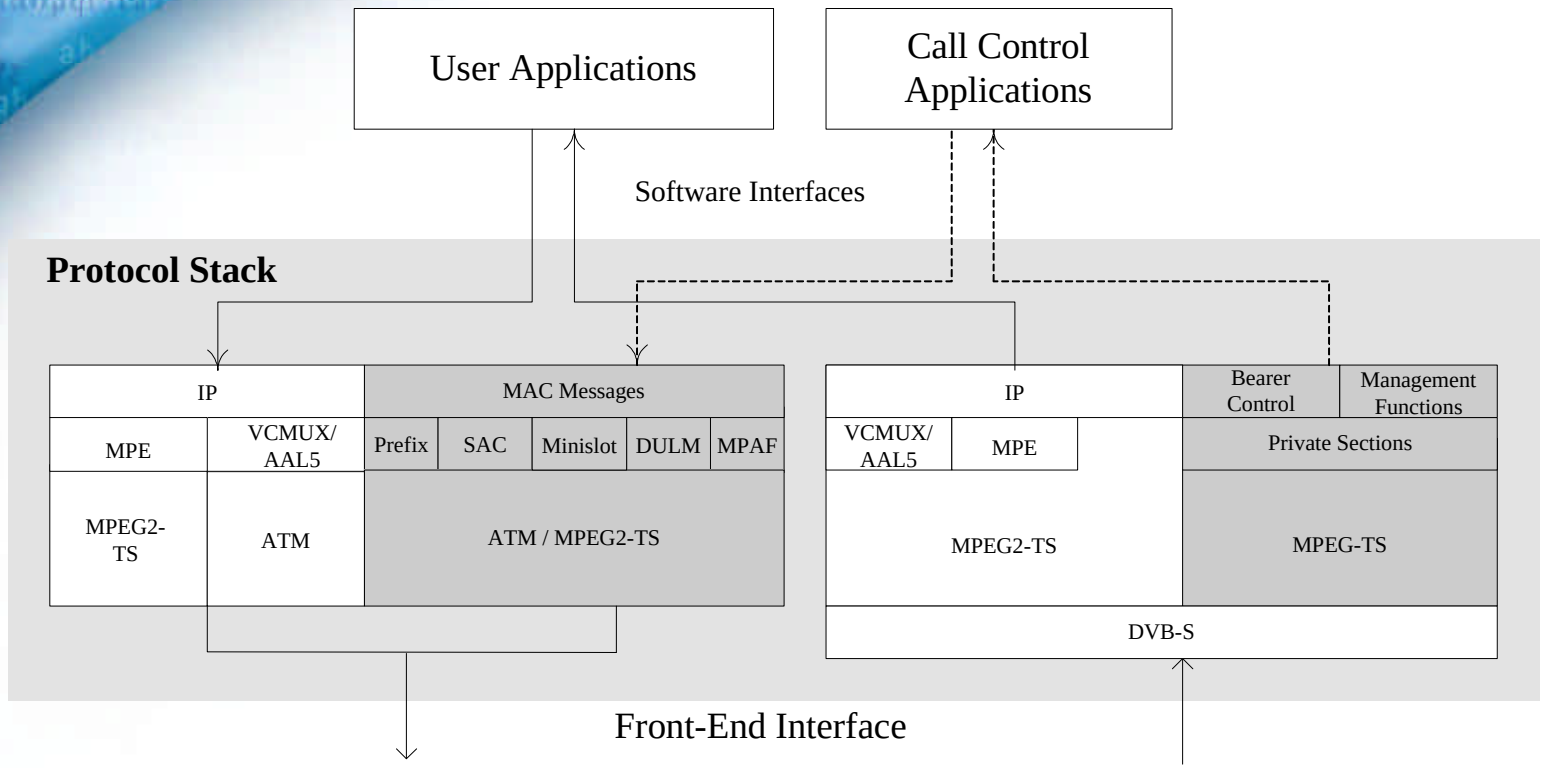


- Linux-based software solution
- Both user and kernel space S/W segments
- Advantage of wealth of existing networking and communications implementations



Data and Control information Flow

DVB RCS protocol stack



- FW and RT link data and control operations
- ATM/MPEG encapsulation
- Satellite Access Control
- Data Unit Labelling Method-DULM

DELOS cost advantages

What cost advantages the DELOS development brings to DVB-RCS terminal manufacturing in comparison to cost today and what the expected impact is to bring prices of terminals down

- Current development adhering to the state of the art
- Low cost design (using high-performance free CPU core)
- Optimised performance (older devices need re-design)