Unibap SCOS

UNIBAP SPACE SOLUTIONS

Unibap SCOS is Unibap's Linux-based operating system. Together with our function toolbox, and a wide application suite, it facilitate simple and reliable execution of Edge Computing, Autonomous Operations, and Cloud Computing in space
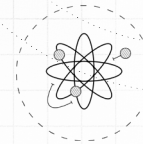
ROBUST

Unibap SCOS is designed to bridge the gap between space-grade and Earth-based software. The architecture of the OS shields your applications from the unique challenges of space, and makes them run safe, efficient, and isolated from other spacecraft system.
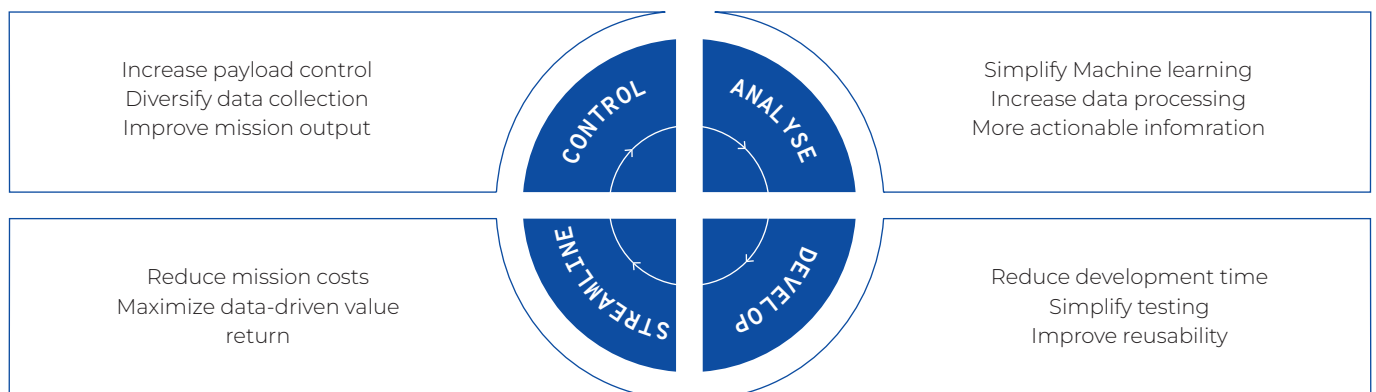
OPEN PLATFORM

Leveraging its Linux roots, Unibap SCOS opens up rapid software creation for all users, regardless of space experience. It enables versatile sensor data processing and spacecraft communication and is compatible with both Ubuntu and AWS's compute and machine learning services..

SPACE RESILIENT

Designed to comprehend and counter the harsh space environment, Unibap SCOS safeguards your operations with its advanced SafetyChip and SafetyBoot features, letting you enjoy excelent data protection and reliable functioning, even amidst the intense radiation of space.

Increase payload control
Diversify data collection
Improve mission output

CONTROL ANALYSE STREAMLINE DEVELOP

Simplify Machine learning
Increase data processing
More actionable infomration

Reduce mission costs
Maximize data-driven value return

Reduce development time
Simplify testing
Improve reusability

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Unibap SCOS
Technical specifications

Unibap SCOS 23.12

OS	Ubuntu Server 20.04	
Linux kernel	5.15.32-051532-generic	Linux kernel custom patched to fit iX10.
Linux firmware	1.220.2~iX10	Firmware for Linux kernel drivers, custom patched to fit iX10.
Unibap core components	1.3.0	Unibap driver library for the FPGA.
Protobuf	3.20	Serializing library for gRPC.
Opencv	4.5.4-2	Computer vision library, compiled with flags optimized for iX10.
ROCm	4.5.2	Software stack for GPU, custom patched to fit iX10
Tensorflow	2.7.0	ML & AI library, custom patched to fit iX10. Installed via pip.
Tensorflow lite	2.7.0-2	ML & AI library, compiled with flags optimized for iX10
Torch	1.11.0+cpu	ML & AI library, custom patched to fit iX10. Installed via pip.
Torchvision	0.12.0+cpu	ML & AI library. Installed via pip.
Openvino	2021.4.752	ML & AI library, compiled with flags optimized for iX10.
SCOS monitor	1.1.3	Unibap SCOS Monitoring And Reporting service, Unibap's tele metry library.
SCOS tools	1.2.0	Includes Unibap SCOS related tools: unibap_ctrl_client. Installed via pip.

Unibap SCOS 24.12

OS	Ubuntu Server 22.04	
Linux kernel	6.6.21-060621-generic	Linux kernel custom patched to fit iX10.
Linux firmware	1.220.2~iX10	Firmware for Linux kernel drivers, custom patched to fit iX10.
Unibap core components	1.3.0	Unibap driver library for the FPGA.
Protobuf	4.25.4	Serializing library for gRPC.
Opencv	4.5.4-2	Computer vision library, compiled with flags optimized for iX10.
ROCm	6.0.2.60002	Software stack for GPU, custom patched to fit iX10
Tensorflow ROCm	2.14.0	ML & AI library, custom patched to fit iX10. Installed via pip.
Tensorflow lite	2.7.0-2	ML & AI library, compiled with flags optimized for iX10.
Torch	2.3.0+ROCm 6.0	ML & AI library, custom patched to fit iX10. Installed via pip.
Torchvision	0.18.0+ROCm 6.0	ML & AI library. Installed via pip.
Openvino	2022.3.1-9227	ML & AI library, compiled with flags optimized for iX10.
HailoRT	4.19.0	Support for Hailo-8 NPU
SCOS monitor	1.4.0	Unibap SCOS Monitoring And Reporting service, Unibap's tele metry library.
SCOS tools	1.2.0	Includes Unibap SCOS related tools: unibap_ctrl_client. Installed via pip.