

Cross-OS Development Platform™ is a C/C++ source-level virtualization technology that provides a robust and industry standard OS interface architecture for flexible real-time application development, while allowing the user to protect the software from being locked to one OS. This negates future porting issues because the software will support multiple operating systems and versions from the beginning. It also eliminates the risk associated with the OS selection process, since the same application can be tested on multiple platforms for comparison and won't be tied to the chosen OS.

### Cross-OS Development Platform – Benefits:

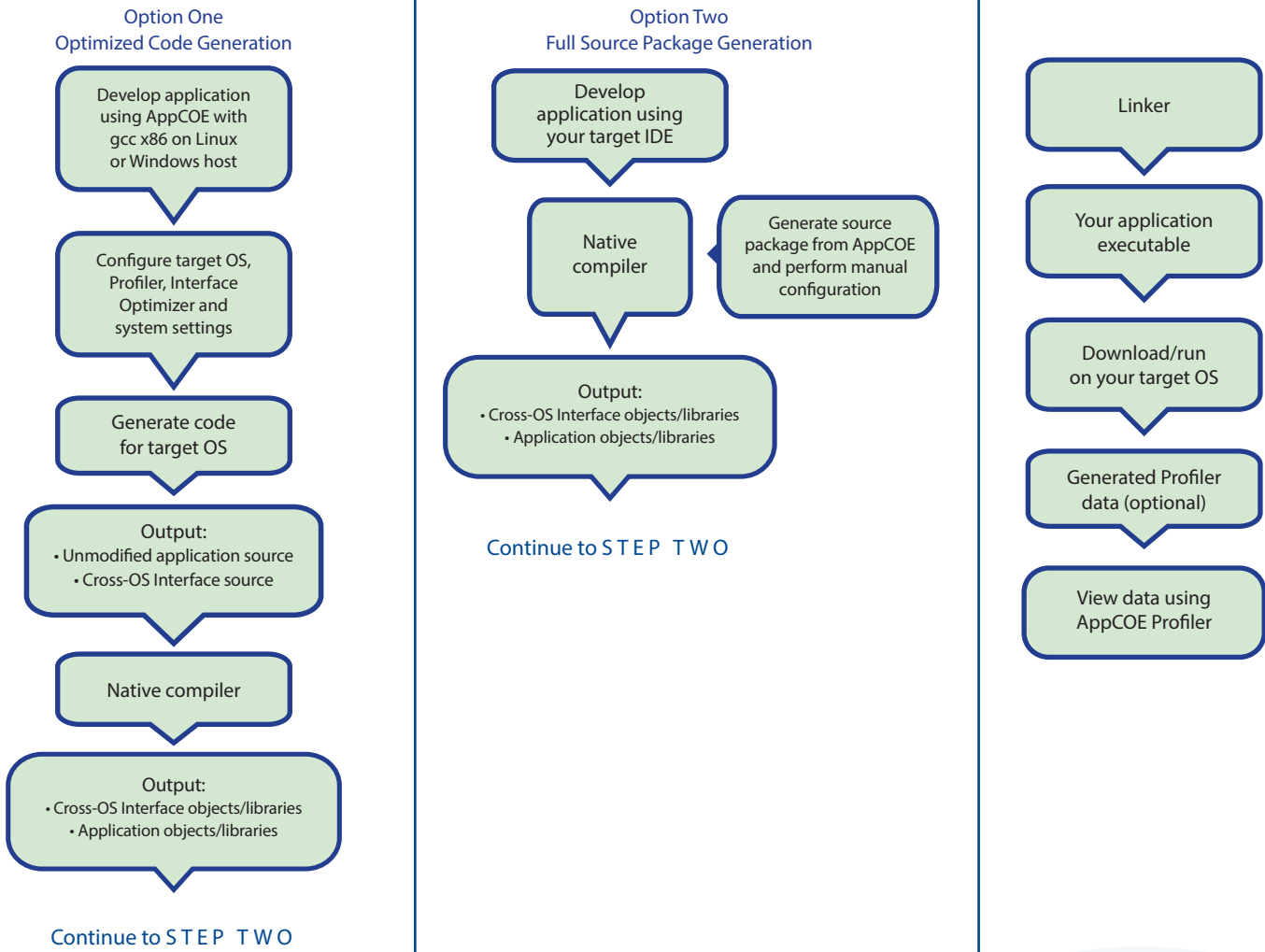
- Cross-OS Development Platform will support your future operating system and hardware requirements while making any change of your OS easy, simple and quick
- Enhances the robustness and performance of your application with advanced real-time features
- Offers support for a wide variety of target and host OS platforms
- Reduces the code maintenance requirements to support multiple operating systems
- Ensures that the fundamental OS resources behave the same across multiple operating systems
- Allows for host based development to avoid waiting for target tools and hardware

### Cross-OS Development Platform Contents:

- > Application Common Operating Environment (AppCOE): An eclipse based IDE for development of C/C++ applications
- > Cross-OS Development Platform Interface(s)
  - OS Abstractor<sup>®</sup> API
  - VxWorks<sup>®</sup> API
  - FreeRTOS™ API
  - μITRON API
  - Windows<sup>®</sup> API
  - Nucleus<sup>®</sup> API
  - pSOS<sup>®</sup> API
  - ThreadX<sup>®</sup> API
  - μC/OS™ API
  - Linux/POSIX API
- > OS Abstractor Target Specific Module for the target OS
- > Library Package Generator
  - Full source code libraries for the Cross-OS Development Platform Interface(s) and OS Abstractor Target Specific Module for your target platform
  - Sample demo applications
  - Project build files for supported tools and IDEs for your target environment
- > Optimized Target Code Generator
  - Generates the Cross-OS Development Platform Interface(s) and OS Abstractor Target Specific Module source code, specifically optimized for your application and target environment
  - Creates project files for your target IDE
  - Includes the system settings you chose in the GUI-based Wizard
- > OS Simulator for your chosen Cross-OS Development Platform Interface(s) for host development/simulation
- > Profiler to view performance data regarding your application and Cross-OS Development Platform Interface(s) for your target

STEP ONE • Choose an option

STEP TWO



**Optimized Code Generation: Option 1**

- Perform your development work on an Eclipse-based Windows or Linux host machine with provided GNU tools for x86
- Generate optimized OS Abstractor Interface(s) code for your target, specific to your application
- Generate project files for your target IDE/tools environment
- Enable target profiling of the OS Abstractor Interface(s) and of the application functions to collect valuable performance data and generate comparative performance reports
- Selectively optimize each OS Abstractor Interface(s) function for performance based on its usage in your application
- Automatically generate initialization & configuration code based on the settings you chose in the GUI-based wizard

**Full Source Package Generation: Option 2**

- Use with your preferred IDE/tools instead of the provided AppCOE Eclipse-based environment
- Provides the Cross-OS Development Platform in a source code library format which contains all the Interface functions for a specific target OS
- Requires manual configuration and initialization instead of using the AppCOE GUI-based wizard

# TECHNICAL HIGHLIGHTS

## Includes a Process Feature:

- Develop your application as a single or across multiple processes utilizing the user shared region provided for your global variables
- Create new processes by compiling the application separately or by launching it from your main application
- Provides software-based process features, even if the underlying target OS does not offer support
- Applications can pre-allocate heap memory during process creation. Can also set maximum limits regarding the amount of heap memory each application can use to prevent applications from using up all of the system memory and impacting other applications

## API Flexibility:

- Use one or more of the Cross-OS Development Platform Interface(s)
- Cross-OS Development Interface(s) can also be used within a single or across multiple applications

## Thread Pooling:

- Applications can pool threads to increase platform robustness and performance by eliminating the overhead associated with actual task creation and task deletion at run-time

## Mission Critical Features:

- Applications have the ability to asynchronously recover from fatal software errors through a soft reset by rolling the stack back to the start of the application

## Highly Scalable:

- The AppCOE GUI-based wizard reads your application to custom generate optimized OS Abstractor Interface code that is specific to your application resulting in increased performance and reduction of memory footprint

## Target Hardware Independence:

- Products support any target hardware supported by your target OS architecture, including 32/64 bit & SMP/UP architectures

## In-House OS Support

- Cross-OS Development Platform can be easily extended to support your in-house OS

## Cross-OS Development Platform Interface API Coverage & Target OS Support

Android®	LynxOS-SE®	QNX Neutrino RTOS®	Unix®
eCOS®	micro-ITRON	RT Linux®	VxWorks®
Linux®	Freescale MQX®	Solaris®	Windows®
LynxOS®	NetBSD®	ThreadX®	FreeRTOS™
LynxOS-178	Nucleus®	µC/OS III™	In-house OS

Please refer to the latest release notes for the API coverage here:

[http://www.mapusoft.com/wp-content/uploads/documents/Release\\_Notes.pdf](http://www.mapusoft.com/wp-content/uploads/documents/Release_Notes.pdf)

## Related Links

- A free evaluation can be downloaded here:  
<http://mapusoft.com/downloads/>
- You can contact MapuSoft to request a license key for evaluation here:  
<http://mapusoft.com/contact>
- User manuals & technical documentation can be found here:  
<http://www.mapusoft.com/techdata/>
- For any technical or sales questions please submit a ticket at the MapuSoft support site here:  
<http://mapusoft.com/support/>