For a better design, reduced risk, and easier upgrades.
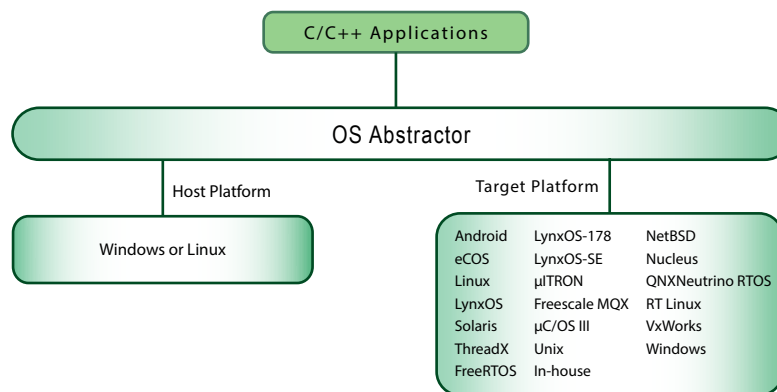
Embedded Software Development

Developing embedded software is complicated. Software projects tend to have critical elements contributing to their success or failure. Issues with budgets, available manpower, software tools, project schedules, hardware choices, and application requirements are a few of the many elements involved in software projects.

 One of the most important decisions to be made for each project is choosing the operating system (OS) or RTOS. The operating system is a core component of the application design and its capabilities must adequately fit the requirements of the project. There are many commercial embedded operating systems and selecting one can be difficult and risky. Choosing the wrong OS/RTOS can be a major problem that can impact the project for many years and in some cases for decades.

MapuSoft's OS Abstractor simplifies the OS/RTOS selection process because the OS under consideration can be compared to other operating systems up-front, rather than late in the project when it has become too late to change without incurring a significant cost. If your project includes OS Abstractor, then the time and cost to change to a new OS is significantly reduced. The below graphic includes a listing of Target Platforms supported by OS Abstractor.

MapuSoft's OS Abstraction Layer

OS ABSTRACTOR is a commercial-grade OS Abstraction Layer (OSAL) designed without a layered implementation in order to provide better performance at lower cost when compared to an in-house OS Abstraction solution. Including OS Abstractor in your architecture creates a clear separation between the application code and the underlying OS

WHY OS ABSTARCTOR?

• By using OS Abstractor you gain a solid architecture for application development and eliminate the risk associated with the OS choice.
• By acting as a safety zone between your code and the application, the abstraction technology creates a seamless separator from the application code to the operating system, minimizing any application switching or upgrading costs with the operating system.
• OS Abstractor alleviates key issues surrounding your OS choice, including the support of new hardware.
• If you need to move to another OS or potentially change hardware vendors during the life of your project, OS Abstractor should be a key component of your software design.

OS ABSTRACTOR target specific module performance features:

Not your typical wrapper:
• Provides most of the OS features by itself and does not depend on the OS.

Quick support for a new OS:
• MapuSoft can easily add support to a new commercial or in-house OS, typically in two weeks.

Process support to any OS:
• Add software based process and shared memory functionality to an OS, even if they do not have those features.

Advanced process memory allocation scheme:
• Applications can allocate required system heap memory during process creation to ensure that they will always have the required system memory.

Thread pooling:
• Applications can pool threads to increase platform robustness & performance by eliminating the overhead associated with actual task creation & deletion at run-time.

Mission Critical Features:
• Applications have the ability to recover from software fatal errors through a soft reset by rolling the stack back to the start of the application.

API Flexibility:
• Use one or more of the Cross-OS Development Platform Interface(s).

Advantages to developing applications with OS ABSTRACTOR:

• It protects your software investment.

• Provides advanced development features and capable of adding functionality to an existing OS.

• Adds API flexibility to run applications written for different OS API's on one or many OS's.

• Generates interface code that is specific to your application during code generation.

• It is easily extended to support a new commercial OS or your in-house OS/in-house abstraction.

• Comes with a Profiler for API and application profiling.

• OS Abstractor provides an excellent choice for your software project and offers several benefits for your software application.

Related Links

• List of OS Abstractor API's ,on supported OS platforms:
  http://www.mapusoft.com//wp-content/uploads/documents/Release_Notes-OS-Abstractor-APIs.pdf

• Please refer to this link for latest release notes about the API coverage provided by the MapuSoft Interfaces:
  http://www.mapusoft.com/wp-content/uploads/documents/Release_Notes.pdf

• A free evaluation can be downloaded here:
  http://mapusoft.com/downloads/

• For user manual & technical documentation visit this link:
  http://www.mapusoft.com/techdata/

• For any technical or sales questions please submit a ticket at the MapuSoft support site at this link:
  http://mapusoft.com/support/

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