

Portability quality attribute for SW Application

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1 Definition

The capability of software application to be transferred from one environment to another.

2 Tactics

The techniques for achieving portable software are -

1. Identify system dependencies
2. Isolate system dependencies
3. Handle those dependencies separately
4. Keep system independent codes in one package
5. Use container platforms - like docker, Kubernetes

3 Use case

How to improve Portability when one application requires to run in multiple operating system?

Below items can help to achieve the goal -

1. Identify all OS specific implementations. Example - system calls, read files from specific locations, etc.
2. If that application was initially written for Ubuntu system, then SW developers need to add one module, which can identify the operating system. Then depending on the operating system, it can change system calls or consult different files for different OS.
3. Package all files and create an installer. Reduce dependencies on system calls.
4. Compile the application using cross-compilers.
5. If possible, use Java as a language to develop the application. So, application can run in those platforms, where JVM can run. Similarly - use scripting languages. That also reduce dependencies on operating system.
6. Use container platforms.