

# Installing the Intel(R) C++ Compiler and Intel(R) Integrated Performance Primitives into KVM\* for Intel(R) Atom(TM) Processor targeted development

This article is intended as a guide to help you use the Intel(R) Software Development Tool Suites 2.0 for Intel(R) Atom(TM) Processor together with a Moblin 2.0 image running inside the KVM\* virtual machine. The Intel(R) Software Development Tool Suites 2.0 for Intel(R) Atom(TM) Processor offer two distinct options for tight integration of Intel's development tools with Moblin\*'s development and testing environment. You can download an existing Moblin\* image from <http://www.moblin.org> for development and testing on this image and install target specific components of the Intel(R) Embedded Software Development Tool Suite into it. Alternatively you can also download and install the Moblin Image Creator 2 from <http://www.moblin.org> and integrate development tool suite components into it's jailroot environment as well as prepare the target image created by Moblin Image Creator to contain the Intel(R) VTune(TM) Performance Analyzer Sampling Collector (SEP) and Intel(R) Application Debugger debug agent (idbserver) for testing and performance tuning (<http://software.intel.com/en-us/articles/moblin-integration-software-development-tool-suite-atom/>).

In this article we will focus on the first option of using the Intel(R) C++ Compiler and the Intel(R) Integrated Performance Primitives (Intel(R) IPP) inside KVM\*. The Moblin 2 image for this KVM\* image based development can be downloaded at Moblin.org (<http://moblin.org/documentation/test-drive-moblin>).

Whether you intend to do most of your development on a live Moblin\* image running inside a KVM\* virtual machine or whether you intend to do your development in a protected jailroot/chroot environment, there are tools components that should be installed on your development host system and should be independent of your Moblin\* based Intel(R) Atom(TM) Processor target.

It is recommended to register for the Intel(R) Embedded Software Development Tool Suite 2.0 for Intel(R) Atom(TM) Processor or Intel(R) Application Software Development Tool Suite 2.0 for Intel(R) Atom(TM) Processor at <http://software.intel.com/en-us/intel-compilers/> and download it at <https://registrationcenter.intel.com>. It is also recommended to install at least the Intel(R) VTune(TM) Performance Analyzer and the Intel(R) Debugger following the steps outlined in the product installation guide Install\_All.htm. This will take care of installing the host components to take advantage of the Intel(R) Software Development Tool Suites' performance analysis, tuning and debug capabilities.

To install the Intel(R) C++ Compiler and the Intel(R) Integrated Performance Primitives as well as the idbserver debug agent on an existing live Moblin\* image you can follow the steps below:

1. Open a shell on the Moblin\* image, enable root access and change to the /etc/etc/yum/repos.d directory. There create a repository file with the following contents:

```
[inteltools]

name=inteltools

baseurl=http://downloads.moblinzone.com/development-tool-suite-2

enabled=1

gpgcheck=0
```

Attached to this article is a template repository file inteltools.repo included in Intel\_Repo\_File.tgz

If your network setup requires the use of a proxy server you may want to add a line with the following contents:

```
proxy=http://myProxyIP:myProxyPort/
```

where myProxyIP and myProxyPort reflect the actual proxy configuration in your network environment.

2. Still at the Moblin\* Linux\* prompt enter the following command:

```
> yum groupinstall "Compiler" "IPP" "Server agent for Application
Debugger"
```

and follow the installation messages.

This will install the Intel(R) C++ Compiler, the Intel(R) Integrated Performance Primitives (Intel(R) IPP) and the Intel(R) Application Debugger idbserver debug agent on the Moblin\* image to be used there locally.

3. To additionally install the Intel(R) VTune(TM) Analyzer Sampling Collector (SEP) you would download it directly from [http://downloads.moblinzone.com/development-tool-suite-2/rpm/vtune91\\_target.tar.gz](http://downloads.moblinzone.com/development-tool-suite-2/rpm/vtune91_target.tar.gz) and unpack it and install it in the Moblin\* environment. Please be advised that using SEP is only supported on real Intel(R) Atom(TM) Processor based hardware and not on OS images running under KVM\*.

4. To use the Intel(R) Application Debugger to connect to idbserver running inside KVM\* and attach to processes running on Moblin\* there you will need to redirect TCP/IP port 2000 to point at KVM\*:

```
> qemu-kvm my_moblin_image.raw -redir tcp:2000::2000
```