VMS Software

VSI ASM V10.1-3
Release Notes

Publication Date: September 2025

Operating System: VSI OpenVMS x86-64 V9.2-2 or higher

1. What's New in This Release

Important

This release of X86ASM added the feature to prefix each compiler message with: *%facility-severity-ident* followed by the actual message text. Due to an oversight, X86ASM (SYS$SYSTEM:LLVM-MC.EXE) incorrectly reports itself as CXX instead of LLVMMC. The message is still correct and the generated code is still the same as before. It is just a cosmetic mistake. We will correct this in the next release.

This kit includes the LLVM tool named "llvm-mc". This provides a native x86-64 assembler that is highly compatible with the gnu "gas" assembler.

The tool must be activated via an OpenVMS foreign command. Define the foreign command as follows:

```
$ llvmmc :== $sys$system:llvm-mc
```

The compiler version number is:

```
$ llvmmc --version
LLVM (http://llvm.org/):
  VSI version V10.1-3
  LLVM version 10.0.1
  Optimized build.
  Build date: 09-12-2025
  Target: x86_64-OpenVMS
```

A sample command to run the llvm-mc tool is as follows:

```
$ llvmmc -filetype=obj -o=objectfilename.obj sourcefilename.s
```

Here are some useful options for the command:

Option	Description
--help	Displays available options (`help-hidden` for more).
-o *filename*	Saves the output to the *filename* file. See the summary above for more details.
--filetype=[asm,null,obj]	Sets the output file type. Setting this flag to `asm` will make the tool output text assembly. Setting this flag to `obj` will make the tool output an object file. Setting it to `null` causes no output to be created and can be used for timing purposes. The default value is `asm`.
--assemble	Assembles an assembly file (default) and prints the result to assembly. Combined with the other llvm-mc flags, this can be useful in designing and testing instruction parsers as well as transcoding assembly from different dialects (for example, on Intel where you can use `-output-asm-variant=1` to translate from AT&T to Intel assembly syntax). This can also be combined with show-encoding to understand how instructions are encoded.
--disassemble	Parses a series of hex bytes and prints the result out as assembly syntax.

2. Documentation

Documentation for the assembler can be found at https://llvm.org/docs/CommandGuide/llvm-mc.html