VSI ASM V10.1-4

Release Notes

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Operating System: VSI OpenVMS x86-64 Version 9.2-2 or higher

Kit Name: VSI-X86VMS-X86ASM-V1001-4

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1. What's New in This Release

Important

X86ASM prefixes each compiler message with `%facility-severity-ident` followed by the actual message text. In the previous release, X86ASM (SYS$SYSTEM:LLVM-MC.EXE) incorrectly reported the facility as CXX. This has been fixed: messages now correctly report the facility as LLVMMC.

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 V10.1-4
  LLVM version 10.0.1
  Optimized build.
  Build date: 06-30-2026
  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.