



Additional Definitions for the OpenMP API Specification

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1 OpenMP Context Definitions

2 This chapter describes additional values for OpenMP contexts that compliant implementations must
3 support, as stated in Section “OpenMP Context” of the OpenMP specification. The following
4 definitions are required since OpenMP 5.1.

5 1.1 Additional *kind-name* Values

6 Table 1.1 describes the *kind-name* values that can be used in the **kind** trait of the OpenMP context
7 in addition to the **host** and **nohost** values.

TABLE 1.1: Additional *kind-name* values

<i>kind-name</i>	Description
cpu	A parallel device optimized for general computation
gpu	A massively parallel throughput device
fpga	A reconfigurable computational device

8 1.2 Supported *vendor-name* Values

9 Table 1.2 describes the *vendor-name* values that can be used in the **vendor** trait in the OpenMP
10 context and their correspondence to the represented organization.

TABLE 1.2: Additional *vendor-name* values

id	<i>vendor-name</i>	Organization
0	unknown	Any other than those listed below
1	amd	Advanced Micro Devices, Inc.
2	arm	Arm Limited

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id	vendor-name	Organization
3	bsc	Barcelona Supercomputing Center
4	fujitsu	Fujitsu Limited
5	gnu	GNU Project
6	hpe or cray	Hewlett Packard Enterprise
7	ibm	IBM Corporation
8	intel	Intel Corporation
9	llvm	LLVM Foundation
10	nec	NEC Corporation
11	nvidia	NVIDIA Corporation
12	ti	Texas Instruments

2 OpenMP Interoperability Definitions

2.1 Foreign Runtime Environment Values

This chapter accompanies the “OpenMP Foreign Runtime Identifiers” section of the OpenMP specification. The following definition exist since OpenMP 5.1, except for “hsa” that was added for OpenMP 6.0.

Table 2.1 and Table 2.2 describe the *foreign-runtime-id* values that can be used in the `interop` directive.

TABLE 2.1: Interop foreign runtime ids, names to be used as string literals for same, and their associated concrete data types for `targetsync` and `device_context` properties

<i>foreign-runtime-ids</i>		data types	
id	name	<code>targetsync</code>	<code>device_context</code>
1	cuda	<code>cudaStream_t</code>	N/A
2	cuda_driver	<code>CUstream</code>	<code>CUcontext</code>
3	opencl	<code>cl_queue</code>	<code>cl_context</code>
4	sycl	<code>cl::sycl::queue</code>	<code>cl::sycl::context</code>
5	hip	<code>hipStream_t</code>	<code>hipCtx_t</code>
6	level_zero	<code>ze_command_queue_handle_t</code>	<code>ze_context_handle_t</code>
7	hsa	<code>hsa_queue_t *</code>	N/A

TABLE 2.2: Interop foreign runtime ids, names to be used as string literals for same, and their associated concrete data types for device and platform properties

<i>foreign-runtime-ids</i>		data types	
id	name	<code>device</code>	<code>platform</code>
1	cuda	<code>int</code>	N/A
2	cuda_driver	<code>CUdevice</code>	N/A

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foreign-runtime-ids			data types
id	name	device	platform
3	opencl	<code>cl_device</code>	<code>cl_platform</code>
4	sycl	<code>cl::sycl::device</code>	<code>cl::sycl::platform</code>
5	hip	<code>hipDevice_t</code>	N/A
6	level_zero	<code>ze_device_handle_t</code>	<code>ze_driver_handle_t</code>
7	hsa	<code>hsa_agent_t *</code>	N/A
