

abi_ptx

The tracking issue for this feature is: [#38788](#)

When emitting PTX code, all vanilla Rust functions (`fn`) get translated to "device" functions. These functions are *not* callable from the host via the CUDA API so a crate with only device functions is not too useful!

OTOH, "global" functions *can* be called by the host; you can think of them as the real public API of your crate. To produce a global function use the `"ptx-kernel"` ABI.

```
#![feature(abi_ptx)]
#![no_std]

pub unsafe extern "ptx-kernel" fn global_function() {
    device_function();
}

pub fn device_function() {
    // ..
}
```

```
$ xargo rustc --target nvptx64-nvidia-cuda --release -- --emit=asm

$ cat $(find -name '*.s')
//
// Generated by LLVM NVPTX Back-End
//

.version 3.2
.target sm_20
.address_size 64

        // .globl      _ZN6kernel15global_function17h46111ebe6516b382E

.visible .entry _ZN6kernel15global_function17h46111ebe6516b382E()
{

        ret;

}

        // .globl      _ZN6kernel15device_function17hd6a0e4993bbf3f78E
.visible .func _ZN6kernel15device_function17hd6a0e4993bbf3f78E()
{

        ret;

}
```