16.317: Microprocessor Systems Design I

Spring 2012

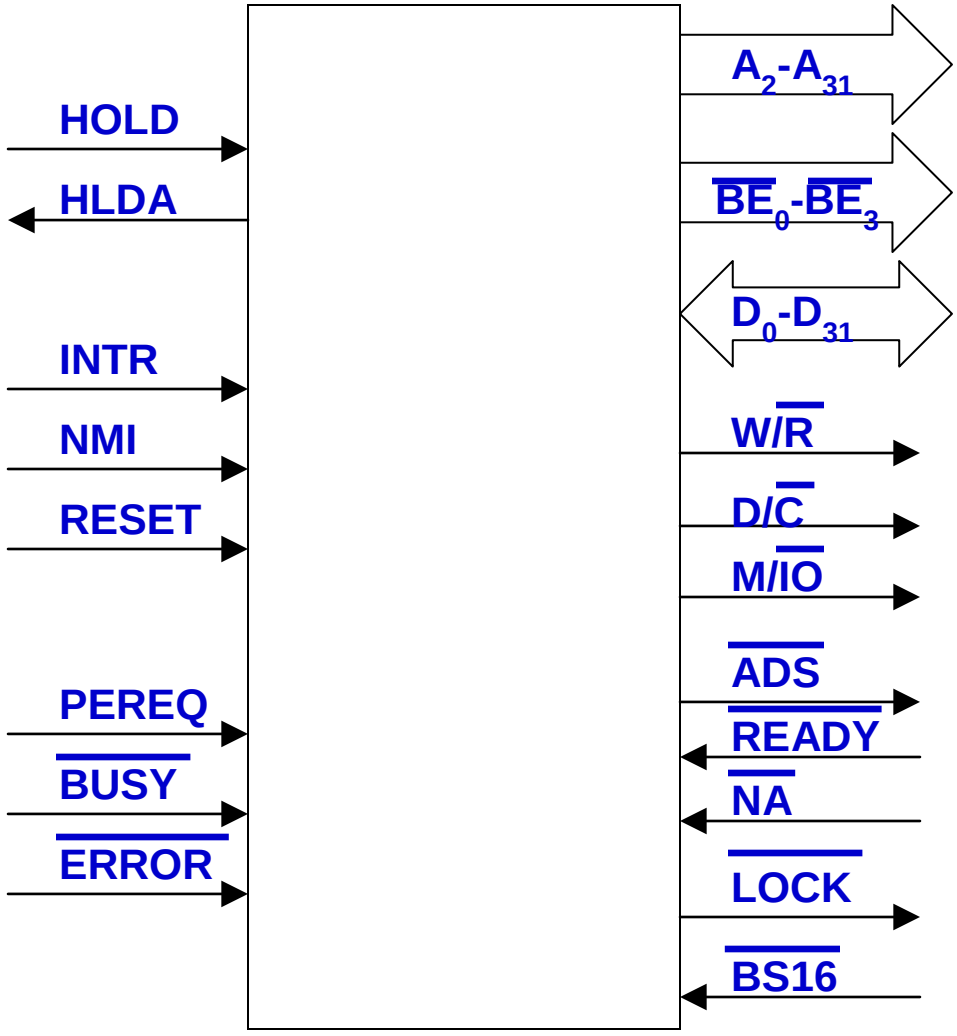
Lecture 24: Key Questions
March 28, 2012

1. When considering a microprocessor interface:

- What type(s) of signals should a processor take as input?

- What type(s) of signals should a processor send as output?

2. Describe the general purpose of each pin or set of pins shown below. (Note: we will discuss each signal in more detail on other pages of this handout.) What do the bars over the names of some signals indicate?



3. Describe the basic address and data buses. What information is "missing" from one of these buses? How and where is that information encoded?

4. **Example:** Show the byte enable line values if
   - Accessing a single byte at address 00000H
   - Accessing a single byte at address 17803H
   - Accessing a word starting at 10002H
   - Accessing a word starting at 21029H
   - Accessing a double-word starting at 16314H

5. Describe the roles of the cycle definition signals. What types of transactions can be encoded by these signals?

6. Describe the roles of the cycle control signals.