

ECE571: Advanced Microprocessor Design – Homework 8
Spring 2018

Due: Thursday 5 April 2018, 3:30pm

Create a document that contains the answers to the questions below. A .pdf or .txt file is preferred but I can accept MS Office or Libreoffice format if necessary.

1. Read the website article:

The Intel Skylake Mobile and Desktop Launch, with Architecture Analysis by Ian Cutress (note that there are 8 pages to this article).

<http://anandtech.com/show/9582/intel-skylake-mobile-desktop-launch-architecture-analysis/>

2. Answer the following questions:

- (a) List two new changes in the skylake processor that reduce the power usage of the chip.
- (b) Why did they move the FIVR (integrated voltage regulator) back off chip again?
- (c) What is the purpose of the Intel Speed Shift technology?

3. Also find and read the article:

Intel Atom C2000 Processor Family: Power-Efficient Datacenter Processing by Burren et al. from the 2015 IEEE Micro Hot-Chips issue.

This is available through IEEE explore. You can download it for free via the UMaine Library, go to their IEEE page:

<https://library.umaine.edu/indexesdb/dbdetails.asp?field=Name&search=IEEE+Xplore>
and login with your UMaine account, then search by title to find it.

4. Answer the following questions:

- (a) Why does the Avoton not support USB3?
- (b) Name two architectural improvements found in the Silvermont architecture.
- (c) Which of the four workload types is Rangely not competitive with Xeon?

5. **Submitting your work.**

- Create the document containing the answers to the questions asked.
- Please make sure your name appears in the document.
- e-mail the file to me by the homework deadline.