ECE571: Advanced Microprocessor Design – Homework 8
Spring 2017

Due: Thursday 6 April 2017, 11:00am

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 Burres 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.