Operating Systems
Spring Semester 2020

Greg Witt
greg.witt625@gmail.com

A Crisis in DOD's Trusted Foundry Program?

The Production of 7nm Chips are being stalled due to the recent decision from a leading technology foundry GlobalFoundarie's decision to put the production of 7nm in a state of hold, most companies (foundries) have the ability to retrieve capacity of 14nm and lower but that is the national threshold for most manufacturers. This process from Globalfoundries was reported to be refrained due to questionable return and high research and development costs. This raises DoD concerns because of the potential for unclassified foreign chips in Military weapons and fabs which require higher tolerances.

Other foreign competitors should be aware of this as Samsung and TSMC have been reported to ramp up in order to produce chips in the range of 7nm, while domestic companies such as Intel are focussed on producing sizes of 10nm. Although the Companies listed prior are not in line for government contracts they stand by their production methods ensuring they are producing secure and affordable products for their users. This is still not reliable due to the distance most of these companies are to the US territory, the US defense company and the nation should have a resourceful foundry with these capabilities on US soil. There isn't a serious crisis at the moment but careful consideration should be taken as there are plenty of times when we have read headlines that private and industries are no longer much safer from private attackers. Kristen Baldwin couldn't be more accurate when quoted saying "Advanced microelectronics technology is essential for current next-generation defense capabilities." the shift in market trends could be a big reason for the absence of larger foundries continuing R&D for the market demands on mil-aero chips. Since the 1980s the market has shifted to Personal Computers and there is strong data to indicate that there will not be an additional rise in consumption for these

large foundries above 9-10% next year. Causing foundries to shift focus to larger higher paying venues could be the downfall of our defense system as this decision is affecting the ability for our foundries to produce the in demand 7nm tolerances for its military fab weapons chips