

ADVANCES IN MEMORY TECHNOLOGIES AND MEMORY DRIVEN COMPUTING

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1. INTRODUCTION

It is inhabitable to live our life without internet, and it is basically formed through interlinked systems, through which these intelligent devices talk with each other adapting certain communication protocols. The intelligent devices play vital role in our life and moreover they are desired to be interconnected remotely at desired instance of time. Further with increase in the density of interconnectivity, Internet of Things (IoT) is the one-point solution

to monitor and manage these gadgets. This leads to an enormous growth of digital data which directs to the enhancement of the computation capability. One way to counter this is to go for distribution computing i.e. distributing the jobs among various nodes present in bulk clusters. As its well-known Moore's law have already reached its scalable limit as reported by literature and research undertaken in the field of academia as well as industry. This factor makes the latter technique of bulk clusters results in higher energy consumption. In order to develop these computing architecture system-on-chip (SoC) technique is widely used where processor and peripherals are all fabricated on a single chip [1-2]. The above technique has lowered the cost as well as power consumption of the chips. But the crux of the matter is, in order to deal with enormous amount of data, it is essential develop efficient memory technology which supposed to be non-volatile, less power hunger, high density and most importantly good retention as endurance capability. In order to enhance the computation capabilities techniques are used to match the computation within the memory architecture. In this chapter a brief review of development of state-of-memory technologies is performed