

# Chapter 1. INTRODUCTION

## 1.1. From Graphics Processing to General Purpose Parallel Computing

Driven by the insatiable market demand for realtime, high-definition 3D graphics, the programmable Graphic Processor Unit or GPU has evolved into a highly parallel, multithreaded, manycore processor with tremendous computational horsepower and very high memory bandwidth, as illustrated by [Figure 1](#) and [Figure 2](#).

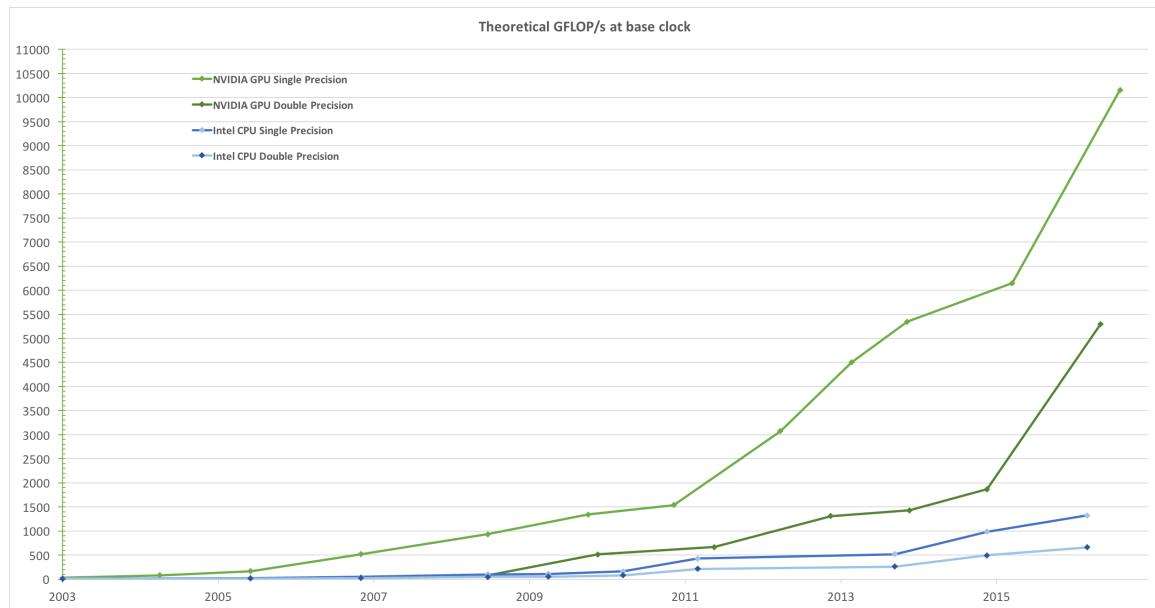


Figure 1 Floating-Point Operations per Second for the CPU and GPU