



*What will the software industry look like in 3, 5, even 10 years from now?*

Over the years software has evolved to meet the opportunities and markets that were presented by new computing devices and technologies. The consumer-based packaged and "shrink-wrapped" software market arose to meet the needs created by the advent of the personal computer. Software-as-a service applications became available as the internet matured. Smartphone and pad computer apps are a direct result of the available of the new mobile devices. The software industry is quickly adapting to the new mobile computing environment, and I firmly believe this trend will continue, becoming the dominant model in the future. In the near-term I believe that we will see a steady decline in packaged software and a rapid rise in "app-stores" for almost all application areas. The CD will likely go the way of the 3 ½ inch floppy disk. Software publishers will be morph into online providers, and applications will become smaller and more specialized. In addition, I see the overall number of application providers growing exponentially as pad computers take more market share. I also see a rise in cloud-based applications, especially business and productivity applications, where access to the software and related data and files will be delivered on-demand, for use on any device in any location that supports web access. The cloud will provide the computing power and storage now provided by PCs and laptops and end user devices will only need to wirelessly interface to the server in the cloud. Licensing will change from a device-based model to a user-based model, where organizations will purchase blocks of authorized or concurrent users and user or subscription compliance will be monitored and controlled by the app provider in real time.

*And what customer demands and business trends will drive changes in software products, how they're developed, and the industry that provides them?*

Mobility and access to data wherever the user happens to be located will be the key drivers. In the future I believe computing will be dominated by the next generation of pad computers that will be used for virtually all computing functions, from communications to games to workplace productivity. That evolution will require near real-time wireless access to data and files. Whether used in conjunction with public or private clouds, end users will employ their pads as universal access devices. Software companies will need to develop and provide products that can operate in that environment and communicate with the new devices, which I believe will be as ubiquitous as laptops are today. Moreover, their software will need to support multiple CPU and chip designs as well as multiple operating systems. Technology from companies like ARM and NVidia will be commonplace in the pad devices, and will likely sit alongside chips from Intel or AMD. Users will have a choice of systems running on operating systems from Google, Microsoft and Apple, along with yet-to-be identified entrants. End user licensing practices will change from counting copies to counting users, either in the aggregate or as concurrent users. In addition, new partnerships will develop between and among software publishers and telecommunications companies to insure that the software is compatible with any telecom standards or bandwidth limitations or restriction. Software may become lighter with specific functions accessed as needed. Storage limitations will also come into play, as the pads will not utilize hard drives and local storage will be far less than what is available on a laptop. Effective use of remote storage will become a requirement. Mobility requirements and a new computer form factor will invariably reshape the business as we know it today.

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