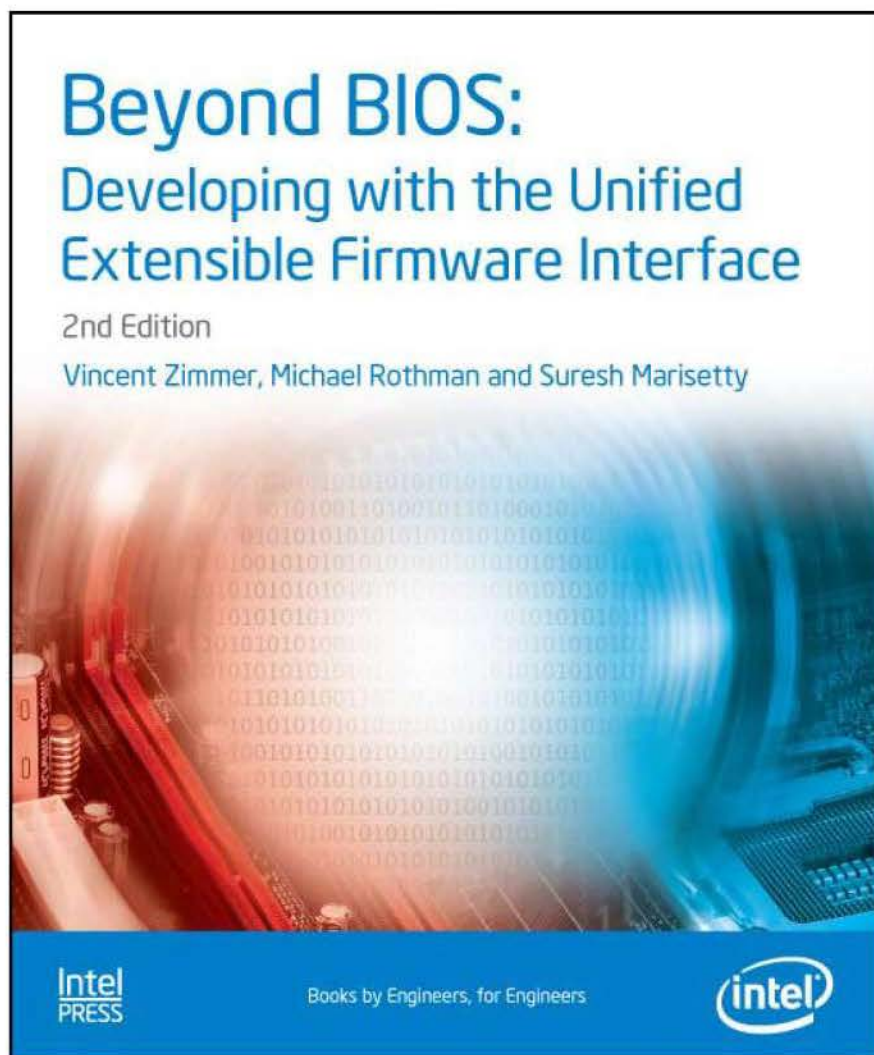


Exhibit 9

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Beyond BIOS

Developing with the Unified Extensible
Firmware Interface

Second Edition

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Intel

PRESS

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Foreword to the First Edition

Beyond BIOS. Those two words began to circulate through the elite firmware architects and developers in the industry standard computing circle around 1998, when Intel, Microsoft, HP and a number of other companies began to lay out the plan for bringing up the first Intel® Itanium® systems. The plan was originally called IBI, the Intel Boot Initiative. Mainstream PCs had been using BIOS ever since the beginning of the IBM PC. Its drawbacks and limitations were magnified in the “big iron” machines based on the Itanium processors. For example, BIOS depends on many of the PC-AT hardware such as the 8254 timer and 8259 interrupt controller, which were not designed to scale to larger servers like the HP Integrity Superdome[†] servers. Worse, BIOS assumes a 1MB execution memory limit and has very limited memory space to execute the Option ROMs on the add-in cards. BIOS’ 16-bit nature stifles the platform advancement for Itanium systems that are 64-bit based.

There have been non-BIOS solutions in the more proprietary vertical integrated systems design, such as Open Firmware used by IBM Power[†], SUN SPARC[†], and Apple PowerPC[†]; ARCS[†] by DEC Alpha, and PDC/IODC[†] by HP PA-RISC. Open Firmware is Forth-based, it is difficult to find the talent, and its specifications have not kept up with the evolution of the technology. ARCS lacks the driver model to support add-in cards. With BIOS hitting the wall and no clear alternative that can be brought into the industry standard arena, Intel spearheaded the IBI, which at this stage is named Extensible Firmware Interface (EFI), to reflect objective of the effort. EFI brought the modern computer software architectural concepts into firmware. EFI enables firmware development in high-level languages like C, provides proper

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