The Future of Computer Science: An Interview with Ken Calvert and Jim Griffioen

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Ken Calvert, chair of the University of Kentucky Computer Science Department, and Laboratory for Advanced Networking director Jim Griffioen say the greatest opportunities for computer science over the next several years reside in cloud computing, which brings with it computing power centralization. They note the cloud computing model also aligns well with virtualization and growing mobility in society, creating a need to develop technology that maximizes cloud benefits. The shrinking price of hardware will make software paramount, but this raises issues about information control and security. "We need to maximize the benefits of virtualization without the Big Brother risks," Calvert cautions. Griffioen sees positive development in industry's acknowledgment that software security is not an afterthought, while Calvert says there should be more collaboration between computer science and psychology experts so that systems are securely designed and users are educated on the impact of each data decision they make. Calvert contends that Moore's Law is still relevant, but it now yields advantages in terms of parallelism rather than faster sequential computation. Griffioen says there must be more educational focus on parallelism to accommodate this trend. Calvert concludes that it is educators' job to teach basic computing principles and let students adapt to the rate of technological change.

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