Computer systems

Technology, Computer

The purpose of this document is to submit to the company a number of different computer systems that has been investigated, based on the directive from head office, to source a computer system capable of handling our new High-Resolution graphics software. We shall begin by submitting the standard specifications of the models selected and we have included the information relevant i. e. the architecture, speeds and costs of the systems.

After comparisons and advantages and disadvantages have been put forward we shall complete this submission with our recommendations for the system that we believe has the best suitability for the purpose for which it is intended. With the advent of new technologies for assisting in the rendering of the high-resolution graphics that the company requires, we have no option but to invest in high-end development systems in order to sustain our credibility within the Graphics Market.

This is the dual processor W2100z Sun Java Workstation, it is among the first to have the new AMD Opteron processor. The system delivers superb performance in visual/graphics solutions; it has a high input/output and has the capability of deploying 16GB data sets over multiple operating systems. The W2100z has a single architecture, and supports 32-bit and 64bit applications with no loss in performance, thus allowing the company to maintain its x86 infrastructure while allowing for a smooth migration to 64-bit operating systems and applications as soon as they become market ready.

The HP J6750 workstation is a RISC (Reduced Instruction set Computer), has dual PA-8700 750Mhz, or dual PA-8700+ 875Mhz processors, providing

incredible performance for handling very large design files, reducing the compute time required. The Dual 875Mhz 8700+ processors gives more compute and visualization power behind EDA (Electronic Design Architecture) and CAE (Computer Aided Engineering) applications, and provides higher application performance.

For the integer benchmark, the PA-8700 is almost twice as powerful as IBM's 450 MHz Power3-II (316), and considerably faster than Sun's 750MHz UltraSPARC-III (396) even well ahead of the 900MHz UltraSPARC-III (466). Fujitsu-Siemens' 563MHz Sparc64 processor came in at 395, and the 600MHz Sparc64 chip it uses in midrange machines is rated at 420. he Sun System Utilizes the exceptional performance of the AMD Opteron Processor, and easy migration to 64-Bit operating systems.

The PC3200 Memory running at 12. 8GB per second offers improved speed and computational power, exactly what we require to run the high specification graphics that we produce. The NVIDIA FX3000 Accelerator will enhance our rendering procedures, cutting current rendering times by a third. The only disadvantage I can see is the fact that of the three models we have looked at this is the highest priced. HP J6750

The HP J6750 is a RSIC (Reduced Instruction set Computer), and although primarily it is designed for use in a UNIX environment, and it's relatively low processor speed of just 875Mhz, I believe that it would be possible for us to adapt it to a Microsoft or Linux based Operating system, in order to permit us to carry on using our current rendering software. IBM's Microelectronics Division manufactures the PA-8700s under an OEM agreement. It has 1. 5Mb

of data cache and 0. 75Mb of instruction cache on chip, a 50 per cent increase in cache sizes compared to the PA-8600.

The graphics accelerator would also need replacing with an NVIDIA card as the standard card is not acceptable to our requirements. HP XW8200 The XW8200 is an excellent all-round machine specification, it comes with a wide range of Intel Xeon Processor (see Appendix C) from 2. 8 to 3. 6 GHz with 1 MB L2 cache, and for our requirements of high-resolution graphics, the Video Accelerator card is exceptional value for money with high speed rendering and high resolution display area, will perform all the functions that we demand.

The system also features Intel Extended Memory 64, which greatly increases the addressable memory area. The PCI-Express (x16) gives 4 times more bandwidth than the AGP x8, which again would give exceptional processing power for our rendering. (See Appendix E) for more details about PCI-Express. Conclusion of Recommendations It is of our opinion that we should invest in the HP XW8200 as it offers us the best in affordability and productivity, what we save on the hardware we can invest in more elaborate software to take full advantage of the functionality and power that the HP XW8200 provides.