

## **Case Study:**

### **More Power for a Flight Simulator**

#### ***Situation***

CAE Inc., the world's leading provider of civil aviation flight simulators, faced a product development snag in 2002. Modern flight simulators employ extensive computer graphics and CAE had implemented a new strategy to replace expensive custom made graphic circuitry with more cost effective commercial graphic circuitry. The first such product line was doing so well that a second product line was being developed. A key feature of the second product line was higher performance graphic circuitry requiring correspondingly greater amounts of electric power. Manufacturers of power supplies could not deliver anything with enough power to satisfy the need.

#### ***Assignment***

I was brought in by a manufacturer developing a new chassis for the second simulator product line. I agreed to design and develop a way to use two supplies together for the single motherboard in the chassis to provide the needed power.

#### ***Actions***

- ✓ Devised a power subsystem to be placed between two power supplies, the graphic circuitry and the computer motherboard.
- ✓ Created a three dimensional computer model providing the chassis manufacturer with key geometric details to successfully position the power subsystem and removable power supplies with respect to one another.
- ✓ Enhanced the power subsystem to provide a number of additional features requested by CAE including monitoring the graphic circuitry and giving visual and audible alarms as needed.
- ✓ Managed outsourcing services used to manufacture the power subsystem.

#### ***Results***

CAE successfully shipped the second line of simulators and noted in their 2003 annual report that this second line of simulators ("Tropos") has enabled them to increase market share by simultaneously improving performance and lowering costs. Following successful deployment of the second line of flight simulators, CAE developed a third line ("Medallion") using still higher performance graphic circuitry. I was brought in again in spring 2003 and produced an enhanced version of the power subsystem. This work has enabled CAE to ship systems taking advantage of the highest performance graphic circuitry available and maintain their market lead and billion dollar revenues.