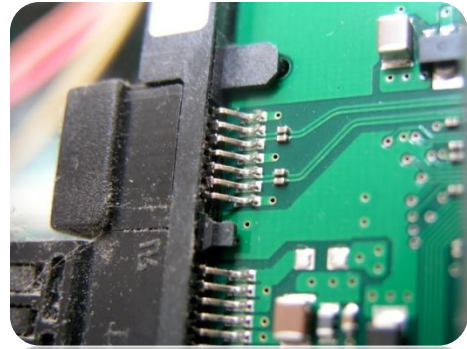


## Case Study:

## Hardware Quality Assurance

*Ensuring quality, consistency, and compatibility for hardware using multi-sourced flash memory devices.*



### Situation

The world's leading computer hardware company was designing consumer level digital imaging devices. Several research and development test engineering services were needed to enhance the development team's abilities to ensure that hardware and software design requirements were fulfilled. The digital imaging lab was tasked with creating industry leading consumer products to gain market share. They had chosen to utilize various sources for flash memory and were concerned about overall device compatibility and performance. Previous attempts to deliver quality within these areas had suffered.

To reach their goals, the company partnered with VMC to create a comprehensive team of experts across several test engineering disciplines. VMC was selected to design and execute testing because of the track record of success on other projects the lab designed.

### Solution

The customer needed to ensure that the digital imaging products under development would be compatible with various types, capacities, and brands of flash memory cards. Additionally, device performance metrics needed to be measured with respect to flash memory cards to ensure the best possible user experience. VMC developed a comprehensive suite of tests that focused on flash memory compatibility and performance.

The project scope included VMC authoring the overall flash memory test strategy, development of all test plans and associated test suites. Additionally, VMC provided experienced personnel to interface with flash memory manufacturers and perform the necessary testing. Team members from VMC provided expertise in the areas of project management and test design, as well as providing hardware technicians to the project.

With a dedicated team to accomplish the project objectives, the test plan was successfully executed, resulting in generating a matrix of flash memory card types, capacities, and manufacturers. Various suites of compatibility and performance tests were conducted to measure file system performance and device compatibility. Any failures were analyzed to identify point of failure (device or flash memory card). Lastly, reports were generated and presented to the client for current and future design considerations.

Industry research was combined with device engineering specifications for inclusion into the test plan. The solution was implemented to yield the data that the client needed to ensure the proper level of quality and flash memory compatibility. Standard test design methodologies were used and

implemented. Test plans were updated quarterly to incorporate all current flash memory device manufacturers, capacities and types. Approximately four resources were focused on flash memory compatibility and performance testing. In total, VMC built a team of 22 to perform all aspects of the support lab.

## **Success**

The client was able to identify and correct numerous hardware and firmware design issues as a result of VMC's test lab before going to market. Additionally, support costs were reduced within the areas of flash memory card issues. Lastly, device performance was optimized for specific flash memory card capacities and file system types which lead to favorable market reviews and potentially increased sales. This five year project enabled the client to confidently release each new product and version to establish a dominant hold on the consumer digital imaging marketplace.

## **About VMC**

VMC, a subsidiary of Volt Information Sciences, Inc., is a technology consulting company that provides flexible and scalable development and integration, quality assurance, IT outsourcing and customer care solutions to businesses, providing a competitive advantage through the effective application of people, process and technology. Using an integrated PMO methodology and world-class talent and resources, VMC delivers targeted solutions for the unique business needs of our customers.

By tailoring solutions to address specific challenges, VMC becomes a true partner for helping businesses reach high performance goals. Our value is in our blend of proven experience, skilled expertise and defined thought leadership. VMC is positioned to help through both consulting and outsourcing that delivers results. Learn more by visiting our web site at [www.vmc.com](http://www.vmc.com).