Embedded, Customizable Solution Helps Medical Group Grow Their Business

An Illinois-based, non-profit Chicago Healthcare Delivery System, includes four hospitals and has annual revenues of $1.8 billion. They employ over 10,000 people, with approximately 2,100 affiliated physicians, 900 of whom belong to a multi-specialty group practice with over 100 office locations in the greater Chicago area.

Challenge:
Replace Off-the-Shelf Hardware While Maintaining Standardization

The client's goal was to find a solution partner who could provide and support a standardized product that could be used across multiple departments. With a reputation for using advanced technologies to provide best-in-class patient care, most of their existing computer hardware was a typical, off-the-shelf solution from Intel. What they needed was the latest corporate desktop hardware that could be customized with a variety of components for specific labs and hospital stations. This was especially tricky because they also needed to adhere to the standardization necessary in the medical field. The solution also needed to be cost-effective, price-adjustable, and support a five-year warranty, adhering to their lifecycle management requirements.

When Premio connected with the Healthcare System in 2008, their situation was not ideal. Their previous vendor had been bought out and was no longer able to maintain the frequency of on-site support that was needed. In addition to needing a partner to design and install their desktop solutions, the client also needed that partner to anticipate and support weekly product repairs and replacements (to reduce downtime), so that they could focus more on their core medical business.

Approach:
Best-in-Class Embedded Hardware with End-to-End Lifecycle Support

The Healthcare System entrusted their desktop solutions to Premio, who opted to utilize Intel solutions for their first generation install.

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During the course of the relationship, Intel stopped supporting desktop motherboards due to an over-saturation of manufacturers for that product in the industry.

When Intel Stopped Supporting their Motherboards
With the Intel motherboards needed to fit the hardware no longer available, Premio used their strategic partner to design and manufacture their own motherboards to take their place. Having Premio's custom-made products in place increased efficiency for repairs, replacements and weekly on-site maintenance that would have otherwise not been possible using the same hardware.

When Inventory Management is Essential
While it is standard for an OEM manufacturer to barcode a system serial number, the Health System asked Premio to go a step further. The unit, part number, system serial number and even the hard drive were all barcoded so that the process for bringing in computer products was completely streamlined.

When the Life of the Product Needs to be Guaranteed for 5 Years
Meeting the needs of a 5-year lifecycle, with minimal changes, could best be done by switching 1 or 2 critical components with longer lifespans. More specifically, the use of an "embedded" motherboard would meet the needs of the client in almost all standard applications, and coupled with Intel's latest processor would ensure a minimum life of 5 to 7 years in the base design. "Embedded" motherboards use the latest processor and chipset platforms, follow all international industry-sized standards, utilize advanced technology components, and support several legacy needs still used in the medical field.

Turning to the embedded division, Premio designed the client's 3rd Generation platform based on Intel's 4th Generation technology, which provides the necessary power and support required. This base platform can be customized with various off-the-shelf, less critical components to support most departments and their application needs. With Premio managing the design and supply of the embedded motherboard, service is more easily supported, costs can be kept lower without a middle-man supplier, and design changes are kept to a minimum.

Additional Products & Services Provided:
- Product lifecycle management
- End-of-life inventory management
- Product forecast planning based on usage needs
- Service inventory maintained and tracked for each major hospital/medical group at one location
- Consignment inventory delivered to expedite project roll-outs

Results:
Custom Systematic Solution Reduces RMA and Service Turn-Around

Since 2008, the Chicago Healthcare Delivery System has seen steady and continued growth in their business relationships. Premio's embedded design on critical components allows for greater image control and less frequent changes to that image. While a new image is needed for each new generation, quarterly updates to them are client-initiated. This is due primarily to required updates on main applications, but the base system image only requires a change once per year. While the client's product end-of-life need could not be met by previous vendors or off-the-shelf consumer grade products, subsequent generations are now built and maintained for five to seven years (based on critical components). By using embedded components, Premio has kept product changes and replacements to the very minimum in order to guarantee the lifetime of their systems.

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Premio's yearly usage monitoring helps maintain adequate inventory locally to meet order demand. Providing a centralized parts closet that is systematically restocked for each generation cuts down RMA and service turn-around time significantly for the client. Using a base generation design across all departments also keeps costs to a minimum, with the sharing of inventory, but still allowing for enough customization to meet cross-departmental needs.

Having multiple pieces of the systems barcoded allows the client to scan the outside of the box and its contents on the inside, when receiving shipments, so they can be verified and taken to the appropriate locations. Because the part numbers and hard drives are also barcoded, the client can now track a unit in their system back to the PO and even know where each hard drive is at all times.

As a result of this partnership, project deployment time was cut in half by both sharing non-critical components across each generation wherever possible and by Premio's on-demand logistical support.

If you're interested in more projects like this one or would like to hear more about how Premio can solve your needs, please get in touch with us: **Michael.cheng@premioinc.com**