KAISER PERMANENTE®

Upgrade IBM Mainframe Machines to Higher Efficiency Versions

Environmental and Human Health Impact: 108,291 Kwhs saved per year or 20 percent improvement in both BTU/hr and Kwh efficiency which equates to a reduction of 51.46 metric tons of CO_2 for Corona Data Center.
Business Impact: Cumulative operating budget savings of $1.5 million from negotiated deal.

Challenge

Kaiser Permanente (KP) data centers are challenged with an ever increasing demand for data processing capabilities in an environment with finite energy limitations. The production environment for mainframes in the Southern California Corona data center currently hovers at near capacity. To support the efforts related to maximizing energy usage while expanding capabilities, KP evaluated the potential of five new z-196 mainframe machines as a replacement for the z-10 machines currently installed.

Aim/Goal

- Optimize processing capabilities through higher efficiency hardware capabilities.
- Reduce energy usage as well as operating expenses.

Team

Pradeep Kumar – Executive Director, Infrastructure Management Group, Data Center Services
Don Casey – Service Delivery Manager, IMG, Data Center Services
Saleem Khan – Manager, IMG Finance
Enrique Viramontes – Strategic Finance Manager, Treasury
Andy DelGesso, Director, IT Sourcing

Actions Taken

- ✓ KP Engineering, Finance, and Procurement &Supply recognized the need to incorporate energy efficiency into an overall mainframe solution.
- ✓ They worked together with our supplier – IBM - to establish a cost effective proposal that would allow KP to consider upgrading from the current z-10 platform to the more energy efficient z-196 platform.
- ✓ Negotiated the inclusion of the BladeCenter Extension, a function that potentially allows the z-196 to integrate individual servers. Currently, KP purchases significant numbers of individual servers. Theoretically, the BladeCenter Extension function could allow KP to minimize the purchases of individual servers, further improving efficiency and energy usage. KP will continue to evaluate whether this capability can be taken advantage of.
- ✓ The IT business case for purchasing the z-196 platform in 2011 was based on maintaining machines for at least three years, at which time another upgrade would be considered.
- ✓ Installation of all five machines before end of 2011 – optimize benefits of new equipment as soon as possible.

Results

Reduction in KW/Hr and BTUs Over One and Three Year Time Frame

Metric	z10	z196	Diff	Hrs/ Year	One Year Reduction	3 Year reduction	% Reduction
KW/Hr	58.908	46.546	12.36	8,760	108,291.12	324,873.36	21%
BTU/Hr	201,187	158,717	42,470	8,760	372,037,200	1,116,111,600	21.10%

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Reduction of 108,291 Kwhs, equivalent of 51.46 metric tons of CO_2, over one year.

Lessons Learned

- ✓ KP should and will be required to continue to pursue energy saving opportunities with regard to technology purchases, in a similar vein as the z-196 as well as initiatives to expand virtualization.
- ✓ The IT category continues to offer advances in technology that offer efficiency and environmental benefits. KP will need to continue to monitor the market to adopt these opportunities.

Next Steps

- ✓ Continue to work with IT to identify opportunities to maximize use of BladeCenter function and reduce need to procure individual servers.

For More Information Contact: Environmental-Supply-Chain@kp.org