



Suppliers of Software & Systems Integration:

- ◆ Salem Automation , Inc. Winston-Salem, NC

Software Utilized:

- ◆ CHARON VAX XM, XM Plus, XK PLUS, XL PLUS on Microsoft Windows

VAX Hardware Replaced:

- ◆ VAX 4000-300, 4000-105A, 6000-650, 4000-600A, 7000-620, 6000-620, 6000-420 and 6000-440.

New HP Server Hardware:

- ◆ HP ProLiant DL385 Servers with AMD Opteron processors, 15,000 RPM SCSI Hard Drives in RAID Mirrored Configuration.

Installation completed:

- ◆ April 2007



Maricopa Community College District

CHARON VAX Conversion a Success

The Maricopa County Community College District, which serves over 200,000 students annually at ten separately accredited two-year colleges, recently replaced all of their aging VAX computer systems, ranging from VAX 4000 servers to large VAX 6000 and 7000 mainframe class systems, with cost effective CHARON-VAX software emulation running on



new, HP ProLiant Servers. The VAX 10 to 15 year old disk drives and other system components were failing regularly, parts were becoming hard to find and skilled VAX service technicians were scarce. Based on these realities it was clear that reducing risks and improving performance was a critical need, "The last thing a college wants is students lined up out the door waiting to register for classes because the student admin computer system is down" stated **Assistant Director, Strategic Information Technology— Jason Pociask** . The move to CHARON VAX has also allowed the college and district IT departments to focus their attention on transitioning to Oracle/Peoplesoft applications. The Peoplesoft migration strategy requires a nightly migration where several hundred gigabytes of data from the legacy VAX platforms are moved over the network to a central database server. The CHARON VAX upgrade enabled two key disk I/O performance improvements the move from 10 MB to 100 MB network adapters and the use of current, high speed Serial-Attached-SCSI (SAS) drive technology in the HP servers. These performance improvements make the extraction and transmission of the legacy data run several hundred percent faster, allowing operations staff to complete their work in less shifts and shortening processing windows for everyone. Batch jobs and backups run anywhere from 200 to 400% faster and online users see a more responsive system because there is less contention for resources during the day. Tuning or re-organizing of large indexed files now completes in a quarter of the time, making that step easier to schedule and further improving system performance. "The increased I/O rates alone provide huge improvements in system response, not even to mention all the other positives" stated one IT staff member . Also, the many new possible techniques for backing up data from disk to disk make it possible to implement a highly resilient, faster backup strategy.



Since the performance level of CHARON-VAX can be upgraded in place without any hardware changes, the Maricopa Colleges were able to size each college installation based on their best estimate of the resources needed, but with the assurance that as peak registration loads were encountered, the systems could be easily upgraded in place to provide the required throughput.

The various colleges run configurations ranging from 30 to 80 VUPS and from 128 to 512 MB of emulated memory, depending on how many students they have enrolled. The cost effective HP hardware used with CHARON provides a very industry standard solution that is easy to configure and support. And as the legacy systems are gradually phased out, the use of CHARON to support long term archival of the legacy data will now take only a few rack spaces and minimal power, compared to the much larger computer room space, power, and cooling footprint that the VAX hardware required.

Maricopa Colleges Project Outcome

Another benefit was the availability of massive new low-cost disk capacity, by setting up many new virtual disk "container files". In one new approach, frozen snapshot copies of all the colleges' data files are transmitted to the District's central CHARON system where they can be viewed using the online legacy application programs. That same data is also converted into Peoplesoft Campus Solutions. Having a complete "frozen pipeline" of matching legacy and converted data is critical for determining that the data is converting correctly. Before CHARON it was harder to find enough hardware resources to support this phase of the project. Below are a few comments from Maricopa staff:

- ◆ "Focus jobs are taking 2 minutes instead of 40."
- ◆ "Reboot takes 10 minutes instead of 40 minutes."
- ◆ "I wanted to take a moment to let you know about the efforts of Greg Snider of Salem Automation installing the Maricopa CHARON VAX migration. Trust me, I have rarely (only once) seen such organization, knowledge transfer techniques and technical talent in a consulting partner. "

Previous VAX 4105A System



New CHARON VAX

HP DL385 ProLiant Server



Salem Automation
VAX & ALPHA Systems Emulation

Company Profile:

Incorporated in 1992. Offices in Winston-Salem NC, Boston, MA, Phoenix, AZ, Charlotte, NC , & Humacao, Puerto Rico

Company Mission:

To provide high quality automation solutions and cost-effective services to manufacturing organizations via Win-Win business relationships.

Staff:

Engineers with varying backgrounds including Computer Science, Electrical Engineering, Consulting, Chemical Engineering, Instrument Engineering and . Most staff members have over 20 years experience. Staff experience is extensive in the areas of distributed, computer based process automation systems. Industry experience in Defense, Pharmaceutical, Textile, Fibers, Food, Chemical (Batch and Continuous), Metals and Utilities.

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