DELTAV® VIRTUALIZATION

Virtualization is a way to "encapsulate" a computer, including its operating system and applications, so that it can be easily run on a Host Computer. For example, an existing laptop or desktop PC can be converted into a virtual PC that can be copied and run on another host computer. This virtual PC, or virtual machine (VM), is just a file that contains everything needed to boot and run your applications, except the hardware. To run a virtual machine a virtualization software layer is needed that provides the mapping between the virtual machine and your host machine hardware, including network connections, USB ports, and other peripheral devices.

Virtualization provides the flexibility to easily add and remove workstations, which is especially important in development or training systems where you may frequently need to set-up and tear down systems. Virtualization also makes it easy to support multiple systems, on multiple software releases, with the same virtualization hardware.

Project:

Virtualization of Existing and New DeltaV® Systems East Coast – USA

At a large pharmaceutical/biotech facility, Building 1 was an existing production facility, running DeltaV® v11. The Virtualization/Upgrade project included the decommissioning of the existing DeltaV® servers in Building 1 and the migration of the system to virtualized DeltaV® servers running ProPlus, Batch Executive, Continuous Historian, Batch Historian and Terminal Services applications, as well as the migration of software to DeltaV® v13.

In parallel with this project, Building 2 installed a new DeltaV® system, which was brought online subsequent to completion of the virtualization project in Building 1.

Building 2 was designed from the outset as a virtualized system. No existing network services were in place, and new DeltaV® and PCS networks were designed and installed. Most of the IO was configured using CHARMS® for stickbuilt skids and Ethernet IO to communicate with other PLC-based skids, VFD's, and other equipment.

HORIZON CONTROLS GROUP

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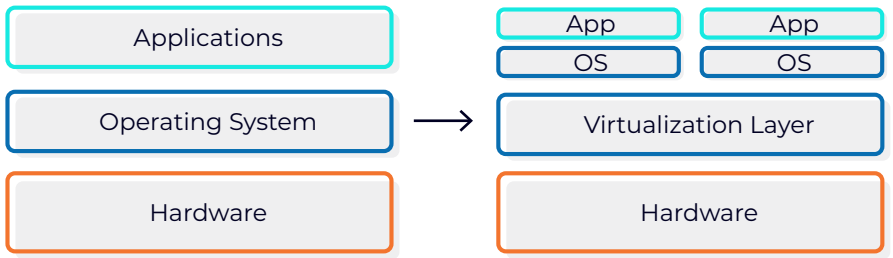
… THE BLADES SERVING EACH BUILDING WERE CONFIGURED SO THAT IF ONE OF THE BUILDING’S SERVERS WENT DOWN, THE BLADE RUNNING THE OTHER BUILDING CAME ONLINE TO ALLOW CONTINUED OPERATION OF BOTH FACILITIES.”

The physical network infrastructure between the two buildings was upgraded so that the virtualized system of each building could be configured for redundancy between the buildings. That is, the BLADEs serving each building were configured so that if one of the building’s servers went down, the blade running the other building came online to allow continued operation of both facilities.

The installation and failover tests for all failure modes were successful.



Traditional Architecture **Virtual Architecture**

info@horizon-controls.com

USA:
1777 Sentry Parkway West, Veva Bldg 11,
Suite 200, Blue Bell, PA 19422

+1 484 344 5183

Ireland:
N.S.C. Campus, Suite 309 – Block 1,
Loughmahon Technology Park
Mahon, Cork, T12 H7AA

+353 21 2307090