# Data Center, Virtualization, and Cloud Experience for Daniel Giacomelli

Starting with Computer Sciences Corporation (CSC) while working for Dupont at their Christiana Data Center (CDC) during 1999, I was responsible for multiple physical servers in a three tiered architecture (Web+App+SQL DB) including the Security (Firewall\Routing Rules, VPN, AD Profiles) website hosting and back-end connection to SAP within the Datacenter. This included Production, Test, and Development physical environments.

While at Canon, I was the lead to architect and implement a Hybrid Cloud VMware solution using ESXi for our Demo environment and startup clients. Hybrid hosting with Demo environment chassis and startup clients in our 3rd floor Data Center at 100 West Elm Street, Conshohocken; and many of our production clients migrated and hosted with partner Sun Gard.

* Our environment was two cabinet 4 chassis using HP Linux Servers for VMware ESX vSphere upgrading from v2.1.3, 2.5.5, and 3.0.3, to ESXi 3.5 in 2009 and migrating to Microsoft HyperV for our EMC+Microsoft Partner Showcase.
* The Demo environment hosted: SharePoint Demo Platforms (WSS, SPS 2003, MOSS 2007, Beta 2010); Client SharePoint POCs; Documentum Demos and POCs; DocumentumAX (with Kofax); and eCopy integration.

Canon Technology Solutions was also the primary consultancy hired to assist moving the Aramark Data Center to the Aramark Building in 2008 (which is now Jefferson Tower) 1101 Market Street. I was a team lead for the weekend move, which was completed within 48 hours starting Friday night and QA Tested successfully with minimal issues ready for Business at the 11:PM Sunday night deadline. Successfully moved over 1000 physical pieces of equipment, within racks with cabling in cabinets and raceways.

As CIO for FirstLab and Genomind, the local Data Center within Chalfont that posed a serious risk to production operations (home-made UPS, no Generator, 1st floor of building against outside wall, single Provider Internet Connection). A Primary goal in 2011 was to upgrade, scale, secure, and stabilize our production environment. We decided to migrate to a hybrid Virtual environment and move the Datacenter to a larger ‘hardened’ facility in Virginia Beach, NC which we owned. First step was to Virtualize as many Physical servers as we could (P2V) to VMware ESXi 4.1 which required procurement of new production chassis in Virginia. We also moved some services to the cloud (i.e. Email to O365, GoToMeeting, Marketing, etc.). Obtained Microsoft Gold Status and migrated our development and testing environments to VMware 5.0. Upgraded Visual Studio Team System to Ultimate 2010 and finally 2011/2012 and using .NET 4.5. Databases were upgraded to SQL Enterprise, with better hardware, redundancy, kept physical, and used back-up restores with log-shipping for the physical move.

For the City of Philadelphia, Department of Public Health, being the infrastructure Architect, we used many Cloud based partners for various services: eClinicalWorks (eCW) EHR, SaaS hosted; Radiology and Mammography migration and integration project with Jefferson using Paas and SaaS solutions from Picom365, Epic, and PowerScribe; Dental PaaS and SaaS solutions using Apteryx and XVWeb; Hybrid SaaS solutions for Population Health data with SQL Server (SSIS, SSAS, SSRS), and i2i PopIQ. Was one of the first teams to migrate from Exchange to O365 for City (beta testers) with federated AD; migrated SharePoint 2010/2013/2016 to 365; first to use\integrate with Microsoft Teams. Local Data center at 1101 Market sill hosted eCW Database copy using nightly Log Shipping integrated with PopIQ and other City Data Sources. Databases were physical with virtual VMware servers for SSIS/AS/RS and PopIQ servers. Local Lab LIS (Orchard + Harvest) integrated with eCW over VPN using Integration Engine (Rhapsody), all of which were physical servers.

For Talkiatry, responsible for all technology and projects from Cloud Services to End-Point devices; offices to homes. We inherited a mix of on-prem and Google-Cloud based infrastructure that was proven would not scale for what the business needed. We migrated to M365\Azure for a 100% Cloud based infrastructure setting up scalable foundation growing from 21 to over 100 employees within 6 months, with plans to double in another 6 months. The setup, migration, and ongoing management and operations were all done internally, hands-on, with no outside help. This included migrating Domains, DNS, Email, File Sharing and Collaboration Tools to a mix of Microsoft and partner solutions which leveraged Azure AD, IAM, SAML\SSO, VDI, MDM, Endpoint, Exchange (with Secure Email), Defender, OneDrive, SharePoint, and Secure Email. Integration of Azure resources with AWS for DevOps, eClinicalWorks (EHR), Zendesk, Atlassian\JIRA, and SQL Server. Implemented strategic directive to “keep it simple” enabling 100% telework\telepsychiatry using 100% cloud infrastructure. Endpoint connectivity secured to\from SaaS, IaaS, PaaS solutions for all Sec\IT\Dev\TechOps.

(*Sanitized Architecture samples available upon request*)