Peter F. Zoll

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I prefer a position where I can work **75%** of the time as a coder and **75%** of the time in quantity assurance and performance analysis.

Hardware: Windows and LINUX desktops, netbooks, Smartphones, MeeGo tablets; IBM Mainframes

Languages: Visual C++/C#, Visual Basic (6 and .net), COBOL, 370 Assembler, FoxPro, Java, MASM

Environments: prefer Windows 10, but all Windows since 3.0, Windows Server, Windows/CE, Palm/OS, MeeGo; z/OS (also known as OS/390 and MVS); JCL and internals, IMS/DC, CICS, TSO/ISPF

Databases: SQL Server, DB2, Oracle, Informix, Access, MySQL, SQLite, IMS/DB, PostgreSQL, MongoDB

Software: Compuware Performance products, Crystal Reports, Visual Test, Help Authoring Tools, Excel, Word, Access, Powerpoint, Project, Selenium

Experience: 49 years and counting as a programmer; 12 as Chief Information Officer, 21 years as a Database Administrator; 19 years as a team leader / manager. At the recent Intel Developers' Forum in San Francisco I produced 11,407 lines of cleanly compiled and tested dot net code in 23 hours. Without coffee or drugs. Screenshots of the Windows forms produced can be seen at http://www.imagsts.com\Gazelle.html.

Expertise: Tuning and debugging of database applications; Data Compression and Encryption; Data Modeling using Rational Rose; Supervising applications and systems programming teams; Non-linear optimization and advanced statistics; Salvaging nearly hopeless projects

Current technical interests: Parallel programming to optimize multi-core system performance using solid-state drives and clouds; advanced statistical treatment of seismic events; aggressive use of threads in critical path scheduling systems; TCP/IP discovery of smart devices; managing and analyzing hubbed xyz location sensors embedded in smart garments (the SAITO Windows 10 application).

Applications: Accounts Payable; Accounts Receivable; Payroll; Sales Order; General Ledger; Personnel; Attonomics; MRP; Bill of Materials; Data Dictionary; Shop Floor Control; Purchasing; Insurance Claims; Inventory Control; Master Scheduling; Loan Pricing; Customer Relationship Management; Data Set Optimizer; Bank Officer Planning; Policy Control; Supply Chain Management; Exanomics; Individual Educations Plans; Educational Achievement Tracking; Scheduling. Recently a large application to track Ebola and similar epidemics and predict economic consequences. See http://www.silverwolfwushu.com/VHFT01.html.
Some aspects of the SAITO application can be seen in the Presentations section at www.silverwolfwushu.com
Co-author of an invited paper in the journal **Science of Tsunami Hazards** (v 36 #4 12/2017).

Education: University of Chicago BA – Business 1973

Professional: APICS certification

15 papers dealing with data structures and storage, encryption, and programmer measurement.
Member for 20 years, IEEE Committee on Software Engineering

Referee, National Computer Conferences
Head of Section - Quantitative Methods - International Tsunami Symposium
Speaker at LinuxCon 2012, Intel Elements 2011
Invited speaker SugarCon 2011: Citizen Rights Management
Invited Speaker – Linux Collaboration Summit 2015 – Ebola Epidemiology

Chronological: INDEPENDENT CONSULTANT FOR MORE THAN 30 YEARS

07/2014 to present – CIO I-MAG STS Orinda, California

I designed and wrote the bulk of two major projects: VHFT handled Ebola epidemiology and SAITO supports real-time medical telemetry for people with disabilities such as autism as they learn the Chinese martial art of tai chi chuan. The SAITO application is 350 Windows forms with 150,000 lines of code (VB.net) running on Windows 10 using SQL Server. Some of our old C++ statistics routines are being modernized to integrate.

04/2013 to 07/2014 Autodesk San Francisco, California - Autodesk acquired Revelpoint. Half of my time was spent doing detailed testing of the calculation, import and export processes and assessing performance on different clouds and half was spent adding almost fifty C# reports and removing a previously entwined framework. We were a C# ASP.net application using SQL Server but sending and receiving Oracle and DB2 from competitors and accounting systems.

Typically, importing a 3,000 activity schedule took five minutes and consumed the bulk of available memory and CPU. My rewrite of import and import features precise use of parallel threads that reduced both RAM and CPU by one third and allowed importing of 100,000 activities in 20 seconds.

06/2012 to 04/2013 Revelpoint Walnut Creek, California - the project was the first cloud-based scheduling application. I coded in C# with SQL Server; wrote over 100 reports including a complete Defense Contract Management Agency Best Practices suite, wrote over 250 Help pages using Dr. Explain, did intensive quality assurance and application performance analysis and designed and wrote all the vertical planning portions of the software. A key marketing requirement was to be able to import schedule data from alien databases like Project or Primavera in real-time, calculate and then export back from our data structures to SAP or SalesForce.

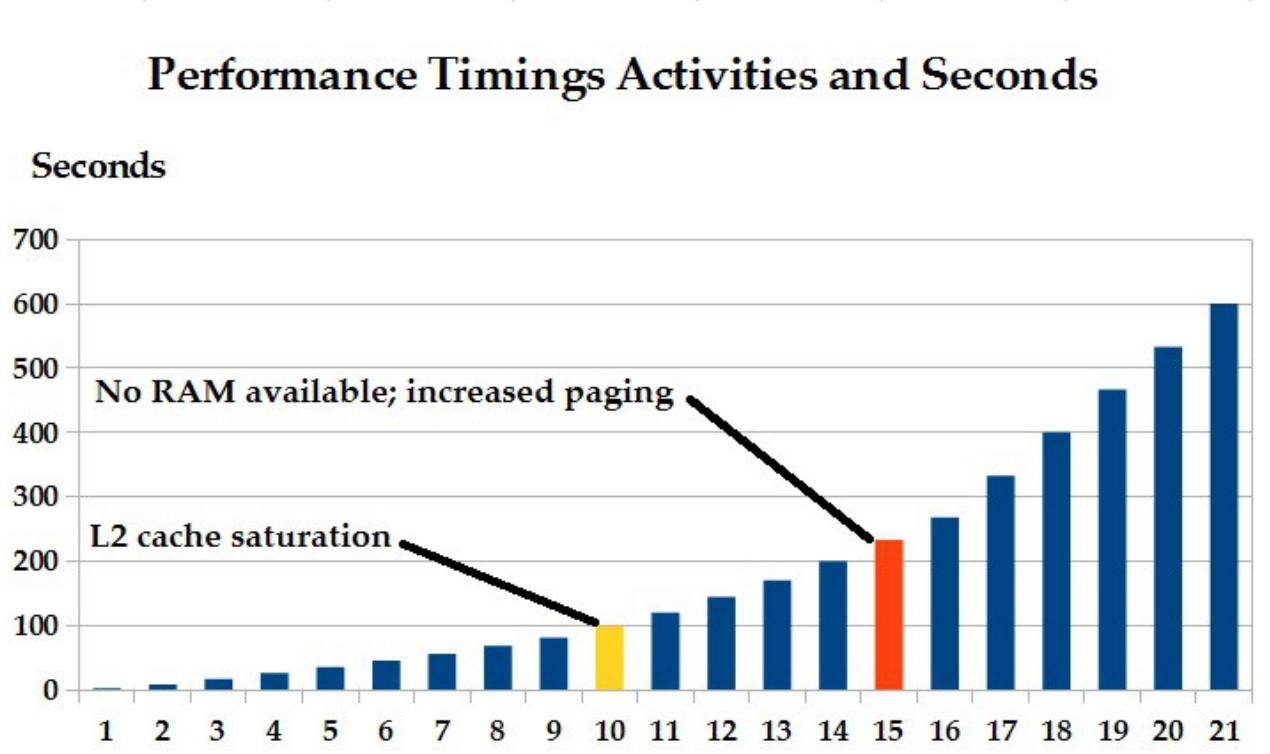
10/02 to 06/2012 CIO I-MAG STS Corporation Menlo Park, California

Our DEEDS ABIDE suite is composed of 30 major applications totaling over 7,000 Windows forms and Active Server pages. Typically, applications made use of clouds (Azure), SQL Server, the instrumentation API, and biometric validation to provide attonomic data collection, and to support highly complex exanomic modeling.

Portions of this suite were been featured twice in Intel publications; won Microsoft's Windows 2003 Server contest, and were second runner-up in the 2009 Business Intelligence contest. The platforms range from handhelds for mobile social workers and police through tablets for doctors to desktops to county and state-level servers as well as clusters and now clouds. There are also specialized applications for epidemiological analysis, embedding Individual Education Plans, economic impact of geological disasters and first responder support. All application development were converted from VB6 to VB.net with the computationally intense areas such as Navier-Stokes equations and eta statistics remaining in C++. Widespread use of text to speech, multiple human languages and Sarbanes-Oxley and HIPAA-compliance. www.imagsts.com\Chronology.html has hundreds of webpages from various projects.

Some recent performance analysis (and improvements) that I did

In any critical path scheduling application like Primavera there are certain processes that are executed very frequently and have to be both accurate and quick. Among these is exporting a schedule and all its associated data. Schedules are often compared based on how many activities they contain and how many relationships those activities have among themselves.



As can be seen on the chart export does not scale in a linear fashion. Even if it did, it is much too slow. This would be lethal in a demonstration or in the unlikely event a customer did a technical evaluation.

The hardware problems caused by inadequate cache and memory made it clear that the least expensive cloud hardware was not suitable.

The high number of physical I/Os per database call was troubling. Some complex SQL JOINs were replaced by in-memory lookup tables. More significantly, activities and other tables were using GUIDs as the primary keys. These were removed in favor of organic keys. Multi-threading was added. Some reports were written to insure that accuracy was not sacrificed - these actually highlighted some errors in the original export code. Using Selenium my testing was expanded to include multiple exports running simultaneously. All the trial results were saved in a database and organized so the next person concerned with speed has a baseline.

To keep everyone aware of the issues the processes all recorded performance statistics to the performance database, and a BIRT dashboard was created with key performance indicators showing, among other things, speed and volumes of export, imports and calculations.

The bottom line: despite making more code changes than I liked, 100,000 activity schedules (about what it takes to replenish an aircraft carrier), which were 25 times larger than the previous working maximum, could be done in one-tenth the time. A proof that despite having to go over the internet to a server the cloud could easily out-perform state of the art very expensive workstations.