

PAUL TAFFEL

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Detailed Résumé

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Overview

I have a BSc in Electrical Engineering but have spent most my career in software development. I've participated in the full range of development roles: high-level architecture design, low-level design and coding, project management, creation of internal and end-user documentation, test plans and utilities, and competitive product research and analysis.

I am both tenacious and resourceful, and relish challenging assignments. I am highly detail-oriented, and am passionate about the clear and effective presentation of information. As a communicator I place an extremely high value on ensuring that

everything I convey is factually correct, clearly presented, and targeted to the appropriate audience.

I'm very aware that developers often assign a low priority to documentation tasks; I have strenuously tried to avoid this problem. I also strive to insulate users from unnecessary complexity, both in interface design, and when documenting systems. These attributes make me unusually well placed to describe complex systems, but also to act as an effective intermediary or advocate between users and developers, or between distributed developers.

Product Management

Managed development of several of the most respected HP3000 third-party products while working for Bradmark, Vesoft, and Quest Software. Built Bradmark's DBGeneral database maintenance utility despite entrenched and well-funded competition, increasing installations tenfold while adding significant functionality, and radically improving reliability and performance. Developed Vesoft's MPEX enhanced shell over a

six-year period in which major OS upgrades occurred, installed sites grew to over 10,000, and improved reliability allowed support staff to be reduced 75%.

Managed creation of Vesoft's HP-UX security auditing tool, as well as development of Quest Software's HP3000 products for several years, including their flagship Netbase/SharePlex shadowing product.

Software Development

My development experience covers a broad range – optimizing LaserJet drivers for APPIC, new database restructuring algorithms and innovative user interface for Bradmark, dozens of features added to Vesoft's MPEX enhanced command shell, optimized fileset include/exclude added to Orbit's Backup+, and major contributions to Quest's file-system shadowing, spooler utility, and Vista+ spool file viewer.

Created Quest's Netbase auto-installer, automating a dozen

complex manual steps previously needed when updating.

I built a popular Y2K testing tool and several security-related products, including a PCI compliance tool. My HP3000 file system shadowing technology was acquired by Informatica.

I was responsibility for ongoing development of several significant products. I was personally hired by Vesoft's founder Eugene Volokh, and I remain the only other person entrusted with source code access by Vesoft.

Vendor Relations

Negotiated early pre-release access to HP LaserJet III hardware and software (PCL 5) at HP's Böblingen CTC with APPIC.

Extensive 25-year relationship with HP's Cupertino Computer Systems (CSY/OSD/CSD) HP3000 labs with Bradmark, APPIC, Vesoft, Quest, ORBIT, Informatica, and Stromasys. Obtained pre-release access to OS releases, participated in early PA-RISC architecture testing, Posix compatibility, CI shell features, and

enhanced OS security. Collaborated with development and testing (and primary user) of low-level OS internal call interception (AIF:PE), and abstracted OS internal access (AIF:OS).

Managed Quest's access to HP3000 OS source code. Quest were the only 3rd-party given full OS source access by HP.

Member of invitation-only HP3000 SIGSoftVend group.

Customer Interface

Primary conduit for evaluating and prioritizing user enhancement requests for Bradmark, Vesoft, Quest, and Stromasys.

Identified, prioritized, and implemented fixes for problems generating significant support overhead at Vesoft and Quest.

Extensive participation in local and international user groups (SoCal SCRUG, and ten Interex HPWorld conferences).

Presented papers at several conferences.

Created VAR and end-user training materials.

Business Management

HP3000 Business Manager at Stromasys during development and initial sales of their HP3000 emulator.

I was hired by, and reported directly to, the CEO. I worked with him to define license terms and price-points for the various emulated models, with marketing to create sales collateral,

and with developers to create the entire installation and user guide. I prospected and managed leads, liaised with sales, and managed on-site installation at initial test sites.

The product moved from development to initial production use during my tenure.

Tech Writer Proofreader Illustrator

Created a wide range of document types: engineering specifications, reference manuals, datasheets, pocket guides, training materials, and white papers. My background allows me to tackle a wide range of projects — some requiring extensive research, testing, and creation of appropriate examples.

Some projects required significant reverse-engineering (hardware circuit diagrams at Elbit, a major legacy Fortran application at Intuit). I built a complex network schematic and a disaster recovery plan for CLU. I recently worked on several blockchain-related projects.

Pre- and Post-Sales Support

Although I worked closely with end-users generating enhancement requests or bug reports in all my software developer roles, I worked most closely with support during my second period of employment at Quest Software, when I worked as a developer seconded to the support organization.

My group was consistently rated #1 across all Quest prod-

uct lines, receiving 100% ratings for nine straight months.

During development and introduction of Charon-HPA/3000 at Stromasys I oversaw installation at all initial customer sites, and fielded all support calls.

I've recently held a customer-facing role at Quest, facilitating problem escalation and advocating for customer requests.

INDEPENDENTLY DEVELOPED SOFTWARE

2021, 2025

JUMP/3000 post-2027 Extended Date Product^o

Sophisticated date interception product enabled 10-year extended operation of HP3000s after 2027, the fundamental date limit built in to the OS. Used multiple static and dynamic patching techniques to create a high-performance comprehensive solution.

2017

Word Hyperlinked Index Macro

Adapted existing Word macros to allow creation of hyperlinked index. Macro modifies existing index, and overwrites page numbers with persistent direct links. Used to convert legacy MPEX user guide^o to PDF format.

2011

LOLA Virtual License Environment

Utility allows third party hardware support providers to replace system components without invalidating software licenses tied to the original HP3000 system hardware. Unique functionality unavailable elsewhere.

2010

High-Performance Logon Authentication Project

Contracted to implement an enhanced low-overhead replacement for existing HP3000 third party logon product, with simplified logon syntax (default Account and User names), network-connection authentication, and security management interface. Reverse-engineered and emulated existing one-way password encryption algorithm to prevent password re-use, and replaced system logon prompts.

2009

PCI Compliant Credit Card Number Encryption & Masking Project

Contracted to retro-fit PCI-compliant Credit Card handling onto existing HP3000 system that neither encrypted Credit Card numbers, nor restricted their display. Design used AES-256 Rijndael encryption, PCI-compliant key management, and external KSAM indexes to provide partial-Credit Card number lookup. Rule-based configuration provided ability to control display of full or partial Credit Card numbers as a function of user name and current program. Project was implemented using Procedure Exit technology, requiring no changes to existing programs or database structure.

2008

Virtual Database Consolidation Project

Contracted to create mechanism to shadow database updates made to over 100 identically structured TurboIMAGE databases into six consolidated TurboIMAGE databases, without needing any application program modifications. Used AIF:PE facility to intercept database I/O.

2007

IDent/3000 PCI Compliance Utility^o

IDent was a collection of active and passive components which allowed MPE sites to monitor and control access to restricted data, with secure audit logs. It was used by several large Ecometry sites to achieve compliance with the PCI-DSS standard.

IDent implemented keystroke logging, database password management, dataset and flat file access security and logging, and critical file purge protection. It used advanced Procedure Exit (AIF:PE) techniques to provide a low-overhead solution controlled by rules using a simple, powerful configuration syntax. IDent pioneered the use of several advanced security techniques on the HP3000 platform, including the unique ability to protect log files from tampering by even privileged users.

2002

imaGO Database Call Tracing and Shadowing Utility^o

TurboIMAGE to HP Eloquence tracing / shadowing / bridging migration utility. 'imaGO' was designed to eventually allow HP3000-resident applications to run directly against remote Eloquence databases, without requiring application changes. Project used AIF:PE traps to intercept all TurboIMAGE activity, and adaptive compression technology to minimize network bandwidth. Technology was subsequently acquired by Striva / Informatica.

2001

SecLog/3000 Keystroke Logging Utility

User input logging utility. SecLog/3000 was an unobtrusive, low-overhead input keystroke-logging tool that wrote input from selected users to centralized log files. On-screen prompts and timestamps were included in logged data, simplifying log file analysis. SecLog was marketed by OmniSolutions.

1999

TimeWarp/3000 Y2K Testing Tool^o

Virtual Date & Time Y2K testing utility. TimeWarp was the first HP3000 utility to implement automatic Session/Job DateTime inheritance, with stack-trace context logging to simplify locating source code DateTime references. TimeWarp provided significantly better coverage of intrinsic call and CI variable references than competing products, using a simple and intuitive interface. TimeWarp was marketed by SMGA.

EMPLOYMENT HISTORY

2020-2024	Quest Software , Support Organization. Support administrator. Problem escalation and customer advocacy.	<i>Aliso Viejo, CA</i>
2019	Quest Software , Support Organization. Developer. Recover, research, rebuild all legacy HP3000 products; create comprehensive source escrow archive with build environment, and instructions in preparation for product end-of-life retirement.	<i>Aliso Viejo, CA</i>
2018	California Lutheran University (CLU) . ITS Dept. Consultant technical writer. <ul style="list-style-type: none">• Researched and designed comprehensive Visio network map^o, including zoomable detail views.• Researched and built several complex dynamic form documents.• Mobile app testing.	<i>Thousand Oaks, CA</i>
2018-2025	Medical Office Blog . Writer. Over 200 blog entries for a non-invasive and minimally-invasive cosmetic procedure practitioner ^o .	<i>Los Angeles, CA</i>
2018	Snail Games USA . Consultant technical writer, designer. <ul style="list-style-type: none">• Created draft ICO white paper for blockchain game platform PoC project.• Participated in blockchain design discussions, including financial viability.• Created game platform marketplace specification.• Participated in college game developer community planning.	<i>Culver City, CA</i>
2017	SAAV Games . Consultant technical writer. Created ICO white paper ^o for SAAV Games' Agamé MMO game launch.	<i>Orange County, CA</i>
2017	Carbide 3D . Consultant technical writer. <ul style="list-style-type: none">• User guide for Nomad 883 Pro desktop CNC milling machine^o.• User guide for Carbide Create CAD/CAM software^o.	<i>Torrance, CA</i>
2014-2016	Migration Projects . Consultant.	<i>Los Angeles, CA</i>
2012-2013	Stromasys SA . Business & Project Manager: Charon-HPA/3000 versions 0.1–1.5. De facto Product Manager during beta testing and release of Charon-HPA/3000 Intel x64 PA-RISC emulator for the HP3000 market. Provided 100% complete binary HP3000 emulation, using two Intel cores to emulate each PA-RISC CPU. It achieved performance equivalent to 400 MHz PA-RISC CPUs when run on 3.6 GHz Intel multi-core hardware. I initially reported directly to the CEO, later transitioning to the USA sales organization. <ul style="list-style-type: none">• Creation of all marketing collateral^o, and end-user documentation^o.• Market prospecting and handling commercial contacts; pre and post-sales technical support.• Interfacing with Moscow-based product developers; new release integration testing.• Packaging Freeware Edition into a pre-built VMware Fedora VM environment.• On-site installation of initial test and first customer sites (Sydney, Dublin, and New York).• Conducted VAR and end-user training seminars (Frankfurt, Paris, and Mountain View).	<i>Geneva, Switzerland</i>
2010	Intuit , Payment Solutions Group. Consultant technical writer & developer. <ul style="list-style-type: none">• Created detailed source-level documentation for legacy credit card payment authentication application; reverse-engineered existing Fortran code to allow reimplementing with modern technology.• Created test utility to generate and replay transactions with ranges of variant sub-field values.	<i>Woodland Hills, CA</i>
2004-2008	Quest Software , Support Organization. Senior software engineer. NetBase; HP3000 product line. <ul style="list-style-type: none">• Member of four-person team supporting legacy HP3000 product line, I was solely responsible for product maintenance and development work on NetBase Shadowing, Bridge migration tool, and NBSPool (HP3000 & Unix platforms). The HP3000 support group consistently received #1 customer satisfaction ratings, including 100% perfect ratings for 9 months in 2007.• Extended AIF:PE based process creation intercept technology to handle loader dependent libraries.• Created Monitor utility to monitor NetBase status, and detect system table overflow conditions.• Created NBXTRACT migration-assistance utility.• Redesigned NetBase Export process from single to multiple parallel processes.	<i>Aliso Viejo, CA</i>
2003-2004	Informatica UK , Enterprise Systems R&D Lab (formerly Striva). Senior Software Engineer: PowerExchange for HP3000 Change (aka PowerConnect Detail). Design and implementation of HP3000 component of the Detail change-capture product, built using imaGO technology. Detail used AIF:PE and other techniques to tightly integrate writes to its log files inside the active database transaction, and was the only HP3000 TurboIMAGE call interception product to achieve this level of integration into the MPE/IX transaction manager. The HP3000 product was the first implementation of Detail's simplified host platform architecture.	<i>Uxbridge, UK</i>

1999-2002

Striva acquired rights to use technology in the imaGO product from me when I joined the company.

ORBiT Software, R&D Group. R&D engineer.

Danville, CA

Maintained and enhanced Backup+/XL product during two major product release cycles.

- Maintenance and support of highly advanced online backup utility, developed with proprietary techniques for I/O interception and dirty page tracking. Product used delta-backup functionality, able to only store modified pages within files.
- Re-implemented file selection logic; developed optimized directory access algorithms. Extended MPE store syntax to handle multiple nested indirect files, and to allow indirect files to be used to include or exclude files from being selected.
- Implemented Image database schema generator, driven directly off TurboIMAGE database root file.
- Built Image schema and data extraction utility to convert TurboIMAGE database to XML and XML Schema representations.
- Designed and produced ORBiT's iconic MPE/iX Pocket Guide^o through three editions.

1996-1999

Quest Software, R&D Organization. Senior software engineer; project manager.

Newport Beach, CA

Maintained and enhanced NetBase HP3000 shadowing product (aka SharePlex/iX) during roll out of two major releases.

Quest was the only third-party granted OS source code access by Hewlett-Packard.

- Designed improved NM shell interception technology, avoiding modifications to system libraries. Solution was based on mix of AIF:PE traps, and user library external call interception.
- Created NetBase 10.0 Shell auto-installation utility. Automatically installed/updated/enabled CM & NM shells, removing need to perform multiple manual steps after applying OS updates or patches.
- Redesigned NBPOST process to support multi-threaded posting.
- Converted Vista+ report visualization product to NM using SPLash compiler; implemented magneto-optical jukebox driver.
- Maintained, optimized NFS/iX client and server products.
- Developed NetBase/MPEX integration command files.
- Liaison with HP labs regarding file and database shadowing integration, and Posix integration issues.
- Presented HP World Conference paper on NFS/iX design and implementation^o.

1991-1996

Vesoft. Senior software developer; project manager.

Los Angeles, CA

Responsible for development and maintenance of MPEX, Security/3000 and VEAudit products during HP's addition of Posix functionality. Significant improvements to product stability were achieved, allowing support staff to be reduced from 5 to 1, for products with over 10,000 licenses sold. Many dozens of features added or enhanced. I was personally hired by Eugene Volokh, and am the only other developer given source-level access to Vesoft's HP3000 products.

- Extensive knowledge of MPEX internals; unique experience using and extending its internal command language.
- Maintained compatibility with MPE releases in a period of significant change; support of Posix features, including HFS.
- Designed, implemented AIF:PE based logon access controls, and abbreviated logon facility.
- Designed and managed development of HP-UX access control and auditing product (Security Audit/UX).
- Regular liaison with HP labs during new OS roll-out, and during design and testing of OS enhancements, including shell, security, architected low-level interfaces (AIF:OS, AIF:PE). Significant contributions to HP beta test program.
- Delegate to SIGSoftVend user group, "Masters" developer group.
- Primary contact for triage of end-user enhancement requests.
- Advocate for customer security enhancements; collaborated with large client security staff (e.g. P&G).
- Presented 1995 Southern California Regional user Group (SCRUG) conference paper on POSIX-related changes to MPEX^o. An abridged version was published in Interact journal.
- Authored Southern California Regional User Group (SCRUG) conference paper on HP-UX Security^o.

1989-1991

APPIC. Technical director.

Paris, France

Complete redesign and re-implementation of StarJet^o, an HP3000-based HP LaserJet interface product (versions 4 & 5).

StarJet provided access to all LaserJet features via MPE's environment file mechanism. It used a command interpreter that implemented a simple page description language; allowing environment files to contain both simple ASCII formatting commands and arbitrary PCL escape sequences.

- Developed original PCL page addressing and PCL escape sequence optimization techniques.
- Originated techniques for on-the-fly optimization of downloaded character sets (individual character definitions were extracted, cached, and downloaded out of order, when initially referenced).
- Originated techniques for multiple logical-page formatting, and efficient multi-part form emulation.
- Developed 'local' account Intrinsic intercepts, using account SL and XL intrinsic intercepts.
- Developed AIF:PE based 'global' intrinsic intercepts. StarJet received special assistance from HP labs, and used the newly developed AIF:PE facility prior to official release.

Established contacts with HP printer division ISV program, granted early pre-release access to the LaserJet Series III (the first implementations of RET and PCL 5).

1986-1989	Bradmark Computer Systems. Director of product development: DBGeneral versions 4–6. Solely responsible for all DBGeneral development during period in which product user-base grew rapidly, ultimately growing to 3,500 sites in the face of several well-established competitors. <ul style="list-style-type: none"> • IMAGE to TurboIMAGE database transition, and move from Classic to Spectrum architecture (at HP Cupertino SEMC/TAC). • Performance optimization, product stability, and support-related enhancements. • Significant new functionality, including dataset re-block and global database diagnostics. • Enhanced user interface: implemented context sensitive online help, job-stream generator, integrated automatic logon-account switcher, MPE interface with full UDC (User Defined Command) emulation. 	Houston, TX
1985-1986	SIRIS. HP3000 systems engineer. In-house development; liaised with foreign suppliers of software products marketed by SIRIS.	Paris, France
1984-1985	Louis Dreyfus SA Headquarters, MIS Dept. HP3000 system programmer; assistant system manager. Supervised daily operations of networked HP3000s, evaluated third party software.	Paris, France
1983-1984	Logica PLC, Industry Group. Principal analyst/programmer PDP-11 Pascal and CP/M based dBASE II projects.	London, UK
1981-1982	SEDOC (Société Européenne du Documentation Industrielle). Analyst/programmer; technical writer. <ul style="list-style-type: none"> • Various PL/1 projects on IBM 4331 under VM/CMD; using hierarchical DBMS (Intel System 2000). • Technical Author: Cii Honeywell Bull DPS-7x5 Field Engineer System Description Manual. 	Versailles, France
1980-1981	Elbit Computers Ltd, Advanced Technology Center. Technical writer CPU and block multiplexing I/O controller hardware ^o for ANAT IBM-370 PCM project (aka Nixdorf 8890).	Haifa, Israel
1976, 1977	GEC Hirst Research Center, Engineering Science Division. Intern. Built electrolytic purification cells for Galn alloy used in high current homopolar generator liquid-metal slip-rings.	Wembley, UK
EDUCATION		
1976-1979	Imperial College, London University. BSc (Eng) Honors degree in Electrical Engineering; ACGI.	London, UK
STATUS		
	Dual Nationality: UK and US Citizen.	
LINKS		
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