

Michael J. Pedersen

42 Henry St
Oxford, NJ 07863
m.pedersen@icelus.org
(908) 283-0318

Profile

Systems Developer / Administrator with 15 years experience doing administration of Windows, Linux, and UNIX (Solaris, AIX), with a strong focus on writing programs to make processes easier and more efficient for the entire work force.

Relevant Work History

6th Avenue Electronics, Springfield, NJ - Systems Developer / Administrator 2005-2008, 2011

In 2007, 6th Avenue began switching from their current POS system (named Tyler) to SAP. At the end of 2010, SAP was declared unworkable, and I was asked to come back to help them switch back to Tyler.

- Implemented VMWare Virtual Infrastructure 3.
- Created an internal wiki for use by the IT department, including populating with over 30 pages of documentation at time of deployment.
- Rack mounted, installed, and prepared newly arrived servers for use in projects.
- Implemented ticket tracking system for help desk issues.
- Deployed Windows Software Update Server for Microsoft product updates.
- Maintained CommVault backup system and disaster recovery site.
- Developed intranet pages (using AJAX) to allow customer service representatives to find old invoices in same database.
- Wrote several scripts to extract data from Tyler POS system before PostgreSQL database was available.
- Created intranet pages (using AJAX) to assist in the selling of complex systems.
- Updated customer facing web site to reflect changes to NJ sales tax rates.
- Developed workaround to resolve issue in point of sales system causing store wide sales terminal lockups.
- Maintained Active Directory domain, which included complete implementation of group policy structure for users and computers.
- Retrieved bulk information from Tyler point of sale system for audits.
- Frequently wrote one-off scripts for use throughout the company, according to needs.
- Installed Drupal CMS for the IT department to use as a way to document everything that it takes to manage an IT department.
- Maintained Tyler point of sale system on HP-UX, responsible for inventory, sales, purchasing, and accounting for the entire company.
- Configured all servers for newly implemented SAP system.
- Performed field certification of MaxDB system for CommVault, providing reliable and supported backups for SAP databases.
- Exported data from Tyler point of sale system for import into SAP system.
- Frequently wrote scripts to satisfy various company needs using a variety of scripting languages.
- Maintained heterogeneous environment with more than 30 Linux and more than 40 Windows servers.
- Developed numerous data validation scripts to validate and scrub data coming from SAP for import into Tyler system.
- Created automation scripts to easily reconfigure hundreds of terminal definitions within Tyler that could not be done via simple data import.
- Wrote automated installer for the Tyler client program to incorporate the program plus the mandatory pieces that we needed.

- Developed program to copy all sales data from Tyler POS system (which uses only ISAM files) to PostgreSQL database.

Datapipe, Inc., Jersey City, NJ - UNIX Developer 2008-2011

- Wrote tool to gather performance data from 3Par InServ nodes and display it via our client portal.
- Optimized PostgreSQL database on FreeBSD. Multi-million record insert jobs were taking hours to complete, and the optimization brought that time down to 20 minutes.
- Created internal packages for Bacula (internal name: SureRestore) for all supported platforms.
- Evaluated potential replacements for SVN, including git and Mercurial.
- Updated and maintained the existing backup monitoring tool which reported backup failures to our main ticketing system.
- Developed a system called unixops to allow Datapipe technicians to use one time ssh keys for accessing client machines as needed.
- Created new backup monitoring and reporting system called StorageWeb, enabling a new revenue stream for Datapipe.

Diversified Systems, Hackettstown, NJ - Systems Developer / Administrator 2002-2005

- Worked with upper management to completely redesign entire business processes and systems company-wide (accounting, customer service, builder coordination, sales and warehouse management).
- Deployed SNMP and monitored daily resource utilization.
- Designed and authored PHP scripts that provided clean access to unstructured data from previous software system.
- Modified SQL-Ledger accounts receivable report for historical views of accounts receivable. The modified version was capable of showing how accounts receivable looked on a given day.
- Authored new scripts using Perl and PHP.
- Implemented Pluggable Authentication Module support for HylaFAX, which was accepted/integrated into HylaFAX 4.2.0.
- Implemented HylaFAX fax server for incoming and outgoing faxes, allowing electronic receipt of over 200 pages of faxes per day from field technicians.
- Deployed Unattended, an automated Windows imaging system, to standardize computer receiving and configuration.
- Implemented employee remote-access system, using VPN (virtual private network).
- Developed customized interface to new software system using PHP, Apache, and Mozilla. Reverse engineered new system as needed.
- Automated sending faxes to field installers, saving four man hours per day.

Ciber, Inc., Greenwood Village, CO - Member of Technical Staff 1999-2002

- Researched/corrected error in Perl, permitting resolution of time-zone conversion issues, enabling global use of data from medical care providers.
- Created Perl scripts to migrate health care provider data between systems.
- Integrated AIX/Solaris servers into Windows NT network, allowing developers on Windows to access AIX/Solaris files/printers.
- Developed of a set of Solaris packages allowing deployment of new servers within 2 hours of receipt.
- Developed Ghost-like utility overnight, meeting next-morning deadline for usable computer loads.
- Participated in configuration of training room using Red Hat Linux with Kickstart.
- Ran, and later automated, nightly code compilations for patient records program. This effort saved approximately 1000 developer hours per week.
- Instructed junior developers in the inner workings of C++.

Self-Employed, New Jersey - IT Generalist 1995-Current

- Contributed code to MythTV project, allowing users to save recordings using custom cutlists, which allowed for easy removal of commercials.
- Contributed documentation to WebGUI project, showing how to design a custom theme for WebGUI.

- Contributed documentation to libpqxx project, showing how to compile libpqxx using MinGW/MSys on Windows.
- Customized installation of Request Tracker for San Diego firm.
- Created Linux-based network featuring NIS, NFS, DHCP, Linux firewall (using iptables), Samba, SSH and a Subversion server.
- Actively working (as lead maintainer) on TurboGears. This involves migrating our infrastructure, new development, documentation maintenance, bug fixing, and mailing list management.
- Working on new system (named “Icelus Construction Assistant”) to provide complete company management for construction companies, with features including scheduling, service, accounting, and warehouse management. This is being written using TurboGears.

Skills and Experience

Software Design and Configuration Management Tools

	Time Used	Last Used	Proficiency
Git	1 year	2011	Fair
Mercurial	2 years	2011	Good
Subversion (SVN)	2 years	2008	Good

Markup Languages

	Time Used	Last Used	Proficiency
CSS	2 years	2011	Fair
HTML	12 years	2011	Very Good
XML	2 years	2011	Fair

Operating Systems Used / Administered

	Time Used	Last Used	Proficiency
Linux (Debian, RedHat, SuSE)	13 years	2011	Excellent
UNIX (Solaris, AIX, HP-UX)	5 years	2009	Very Good
Windows (7, Vista, 2003, XP, NT, 98, 95)	12 years	2011	Very Good

Programming Skills

	Time Used	Last Used	Proficiency
Object-Oriented Design	8 years	2011	Good
Object-Oriented Programming	8 years	2011	Very Good
Refactoring	4 years	2011	Very Good

Programming Languages

	Time Used	Last Used	Proficiency
C/C++	12 years	2005	Very Good
Java	1 year	2006	Fair
JavaScript	2 years	2011	Fair
Perl	6 years	2010	Very Good
PHP	1 year	2010	Good
Python	3 years	2011	Very Good

Database Skills

	Time Used	Last Used	Proficiency
PostgreSQL Database Administration	1 year	2011	Good
Relational Schema Design	3 years	2010	Good
Structured Query Language (SQL)	10 years	2011	Very Good

Scripting Languages

	Time Used	Last Used	Proficiency
Bash	6 years	2011	Good
Perl	6 years	2010	Good
Python	3 years	2011	Very Good

Database Servers

	Time Used	Last Used	Proficiency
PostgreSQL	5 years	2011	Good
Microsoft SQL Server	3 years	2008	Fair

Applications

	Time Used	Last Used	Proficiency
Ipswitch What's Up	2 years	2008	Good
Nagios	3 years	2010	Good
VMWare	6 years	2008	Very Good
Zenoss	<1 year	2011	Fair

Networking and Security

	Time Used	Last Used	Proficiency
Checkpoint VPN	2 years	2007	Good
Cisco	3 years	2008	Fair
Firewall Design	5 years	2008	Good
TCP/IP	10 years	2011	Very Good

Education

East Stroudsburg University, East Stroudsburg, PA
BS in Computer Science

Graduated 2000

Project Experience

SAP to Tyler Conversion

Period	2011
Company	6th Avenue Electronics
Tools	AutoIt3, CentOS Linux, Python
Platform	Server: CentOS Linux, Client: Windows

6th Avenue Electronics found that SAP was not a workable solution for them. The decision was made to switch back to the Tyler POS system. They would do a new installation, though, so that mistakes made with the old system could be removed, and the system could be more easily maintained. I was tapped to manage many of the technical aspects of the migration, while my immediate managers would handle the business aspects.

Due to the costs associated with SAP, we had just over three months, in total, to complete the transition. We were successful.

- Wrote several one-off scripts to check data that was sent in various Excel spreadsheets. Validate that all entries in column A of File 1 / Sheet 1 are in Column C of File 2/Sheet 1.
- Used AutoIt3 to automate the update of several items that could only be keyed into the client. No import existed at all. This reduced work from several hours down to an hour (including the initial script creation).
- Developed an automated installer that was used to handle installing all components (receipt printer, fonts, initial configuration) on every machine in the company.
- Worked with Tyler Retail Systems to configure the server properly.
- Developed snapshot backup strategy that reduces downtime for Tyler to mere minutes per night.

StorageWeb

Period	2010
Company	Datapipe
Tools	FreeBSD, Python, Apache, PostgreSQL
Platform	FreeBSD, Web Browser

Datapipe manages thousands of servers. Many of these servers are connected to various shared storage systems, including 3Par, Isilon, and backup servers. Datapipe required an ability to do reporting on what data was being stored on these systems for each client, and then report that data back to billing. StorageWeb was written to fill that need.

- Debugged issues with Python, FreeBSD, Apache, and modwsgi. Turned out to require specific compilation options to get these all working correctly.
- Developed web interface that would allow users to drill down and see how the storage was being used (by client, by server, by data center, by storage type).
- Developed multi-threaded backend daemon which connected to the various storage systems and gathered the data about the stored data for reporting.
- Developed backend daemon that pushed aggregate data to the billing system, allowing billing to finally happen for all clients.

PyTyler - Tyler POS to PostgreSQL Migration Tool

Period	2007
Company	6th Avenue Electronics
Tools	Python 2.5, PostgreSQL 8.0, Tyler POS System
Platform	HP-UX, Debian GNU/Linux

Tyler is a point of sale system used by many smaller retail establishments. Tyler stores data in a set of proprietary ISAM-like files. These files do not have a modern access tool available (such as Crystal Reports)

to perform reporting.

The users needed an easy way to report on the data, and this meant a tool was needed to copy the data from the on-disk files into a formal SQL server of some variety. In less than a month, I wrote a tool in Python to read the Tyler data files and load the information into a PostgreSQL database on a nightly basis.

This tool copied the entire database, comprising approximately 36,000,000 records, 140 tables, and 22 gigabytes of disk space. The program worked by reading the structure definition from the configuration files and recreating the structure in PostgreSQL. PyTyler would then read each table, row by row, parse the data in the row, and load it into PostgreSQL server.

This allowed the users to use standard ODBC drivers to access and report on the data.

- Developed a tool to read configuration of ISAM files, and generate SQL “create table” statements mirroring the structure of the file.
- Created a specialized reader class which could read the data stored in the ISAM table.
- Developed small web server application to provide status page for administrators while migration tool runs
- Reduced total run time from 13 hours to 5 hours by converting the entire application into a multi-threaded application.
- Verified that data is being copied into the system correctly.
- Tyler POS system is still in production, so data copy runs every night to bring in updated data from previous day’s activities.

SBN Implementation

Period	2004-2005
Company	Diversified Systems
Tools	SBN, Sybase 11.0, PHP
Platform	Windows 2000, Debian GNU/Linux

SBN, published by IBSOFT (<http://www.ibsoft-us.com/>), is an ERP system for the alarm industry. Diversified Systems is a subcontractor working in the low voltage electrical industry, including alarm systems, stereo systems, central intercom systems, structured wiring, and central vacuum systems. I implemented all aspects of SBN at Diversified Systems.

The provided client interface was unsuited for the intended use. This resulted in much in-house development to augment the SBN client with a web-based interface.

- Configured all aspects of SBN from base installation to full production mode, with active communication with users at each step.
- Implemented over 50 custom screens and reports using PHP on an Apache web server. This included easier access to customer searches, more usable technician schedules, and easier input for large quantities of data.
- Developed automated system for the sending of faxes to field technicians, saving over 5 work hours per day.
- Implemented an automated backup system for the database.
- Administered Sybase instance on day to day basis, resolving issues with full log files, etc.

VMWare Implementation

Period	2005-2007
Company	6th Avenue Electronics
Tools	VMWare Virtual Infrastructure 3, VMWare Virtual Center
Platform	Linux (various distributions), Windows Server 2003

6th Avenue Electronics, like many companies, has a growing need for individual servers for various internal services. They chose to implement VMWare to reduce hardware costs, downtime, and environmental costs.

- Installed and configured iSCSI based SAN disks.
- Installed and configured all aspects of VMWare Virtual Center and VMWare Virtual Infrastructure 3.

- Developed (and tested) virtual machine templates to allow rapid deployment of new virtual servers using various operating systems (Windows XP, Windows 2003, Debian GNU/Linux, RedHat Linux).
- Monitored daily usage of VMWare hosts.

SQL-Ledger Implementation

Period	2005
Company	Diversified Systems
Tools	Perl, Apache
Platform	Apache, Debian GNU/Linux

The SBN accounting system was inadequate for the needs of Diversified Systems. This led to the selection and installation of an external accounting package.

- Authored script to automatically migrate necessary data (customers, bills to be collected, etc.) from SBN to SQL-Ledger.
- Installed and configured SQL-Ledger.

KP-CIS

Period	2002-2003
Company	Ciber, Inc., contracted to IBM
Tools	Perl, Cygwin, GNU Make
Platform	AIX, Windows NT

IBM was under contract to develop a complete clinical information system for Kaiser Permanente clinics. I participated as a member of the environment team, focusing on improving the build processes.

- Resolved issues with corrupted builds occurring weekly, resulting in savings of over 1000 work hours every week.
- Developed and improved approximately 450 compilation scripts and Makefiles on AIX and Windows NT/2000, fixing dependency issues and allowing reliable use of nightly code compilations.
- Evaluated, tested, integrated and deployed new compilation tools.