NAUM GUREVICH
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SUMMARY Extensive experience in architecture, designing, and implementing software for technical applications, network protocols, distributed system, operating systems, real-time embedded systems, and device drivers.

LANGUAGES C, C++, JAVA, STL, C#.
OS Linux, UNIX, NET-OS, MS WINDOWS
TECHNOLOGIES Linux networking, STL, TCP/IP, UDP/IP, IEEE 1284 parallel protocol, SCSI 3 protocol, Object Oriented Design.
HARDWARE Microprocessors, SUN, HP, VAX, PC.

WORK HISTORY

2007 – April - 2014 **EMC** Hopkinton, MA
Principal Software Engineer

Participated in development of the VPLEX and Invista storage virtualization system. Projects included:

- Implement system for comprehensive testing of newly implemented SCSI "Compare and Write", "Write Same 16", and External Copy" commands. This system was written in **C++** and provided interface for the automated test environment for VPLEX.
- Designed and Developed embedded Client/Server software
- Modify VPLEX plug in for Virtual Storage Integrator (VSI) for VMware to accommodate changes in the VPLEX interface. This module has been written in **C#.**
- Creating system for moving virtual machines from one host to another over long distance without risks of data corruptions on the global VPLEX system. In order to achieve this goal write operation on the one site of HYPER-V cluster must be suspended until write to the BE array was acknowledged. This system was implemented using **C#** on Windows platform. Interface with VPLEX has been implemented using **RESTfull** interface.
- Improving system for synchronizations Fibro Channel login/logout states between distributed nodes in redundant fabric for Invista virtualization system. This particular task require modification of the state machine for Invista and smart FC switch to insure termination of unsuccessful login request with rejection of login sent to the host. For this project code has been written in **C** on Windows platform for Invista and on Linux platform for FC switch.
- Redesigning of FC login system to avoid stack overflow. Before this fix Invista used recursive calls to process login sequence. On the system with several hundred hosts, when all hosts start login into FC fabric, Invista was getting hundreds of login requests and had to wait for replay from BE arrays before login requests could be completed. This resulted in hundreds of recursive calls that eventually crashed system because of stack overflow. This fix changed login state machine from using recursive call to using queue based system.

2006 – 2007 **BAE Systems** Burlington, MA
Consulting Software Engineer (Project Contract)

Participated in development of the next generation of Radar systems. Responsibility included:

- Architectural design and implementation of multi-threaded system for the **data acquisition from multiple sources using IP based protocol**. System was implemented using **Java, C++** and STL.

- Architectural design of software system to convert GMTI radar to the STAP operation for the dual bean airborne system.

2005 – 2006 **MIT Lincoln Laboratory** Lexington, MA
Consulting Software Engineer (Project Contract)

Participated in development of **the next generation of Advanced Satellite Communication System (AEHF).** Responsibilities included designing **and implementation** beam control system utilizing **TCP/IP based protocol** using client/server methodology over TCP/IP sockets utilizing BSD system calls. Control engine was written **using** C++. Graphical user interface was developed using Java.

2004 – 2005 **U.S Naval Research Laboratory** Washington, DC
Consulting Software Engineer (Project Contract)

Was responsible for developing and implementing network Simulator as part of the DARPA's *Defense Against Cyber Attacks in Mobile Ad Hoc Network Systems* (**DCA**-MANETS) project.

Simulator was implemented using 96 blade computers and 12 servers connected to each other using several 1G ports.

Specific tasks included:

- Developing and Implementing algorithms to simulate propagation loss of data over wireless network; This include modification of **the NIC drivers** and implementing packet routing scheme using raw PF_PAKET;
- Modification of the **Linux** IP stack to achieve desired performance and functionality. This project includes modification of the **TUNE/TAP driver** provided by the open-source.

All user level applications were developed using **C++** for Linux utilizing IP Sockets. **Kernel models were developed in C.**

STL library has been used for data storage/retrieval.

2002 – 2004 **GSI Lumonics** Wilmington, MA
Consulting Software Engineer (Project Contract)

Was responsible for technical design and implementation of the system that provides remote access to GSI Lumonics's equipment. Remote access is provided by communication protocols based upon TCP/IP standards. System based on SUN Workstations running **UNIX**. Specific tasks included:

- Developing server processes to provide peer-to-peer connection over Internet. Connection is provided by protocols specific to the manufacturing of semiconductors based upon TCP/IP protocol.
- Developing libraries for parsing and sending data over Internet. All libraries have **interfaces to C and C++. Synchronization** between different processes has been achieved using **mutex locks, UNIX pipes** and **TCP/IP messages.**
- Developing client application programs to control equipment using serial ports.
- Developing system for storage production data based upon STL containers.
- Developed **Java** based **GUI system** to display status of the equipment.

Those systems were successfully installed in the fully automated FAB at IBM and SAMSUNG.

2000 – 2001 **NETSilicon,** Waltham, MA
Principal Software Engineer

NetSilicon is a provider of Ethernet/Internet microprocessing solutions that combines hardware, software, and support to speed embedded systems development.

Was responsible for enhancing real-time operating system for NetArm processor, including designing of new drivers.

Accomplishments:

- Designed and implemented drivers to support **RS-232 and SPI serial protocols** for real-time embedded systems using **C**. In order to avoid the loss of data, drivers were designed using **Interrupt Service Routines (ISR)**, **semaphores**, and other techniques also used in the development of **hard real-time systems**. Those drivers have become a part of NetSilicon operating system.

1984 – 2000 **KOKUSAI SEMICONDUCTOR EQUIPMENT CORPORATION** Billerica, MA
Principal Software Engineer

Was Responsible for technical design, and implementation of automated systems for controlling Diffusion Furnaces using Object Oriented Technology utilizing multiple **UNIX** workstations using client-server technology over LAN, using several **TCP/IP and RS-232 based protocols**.

Major accomplishments:

- Developed special **drivers** based upon RS-232 standard (connection over serial port) to support communication standards specific to the semiconductor industry.
- Developed communication links between the equipment and Factory Automated System using **C** and **C++** on **UNIX** platform. This required full **implementation of several SEMI communication standards**. Those standards were based upon **TCP/IP or RS-232 links**. The final product provided an effective and reliable method of communication with a wide variety of different devices and supervisory systems.
- Designed and implemented a **menu driven user interface**, utilizing **client-server** technology; those modules were written in ***JAVA.***
- Was a principal developer for KSEC informational system. The system provides users with standardized access to data collected from heterogeneous equipment. Each system has several "thin" clients for displaying data collected from equipment. System has two data access servers. One server is responsible for collecting data from different equipments and converting information into "universal" format. The second server process requests from "thin" clients.
- As a Software Consultant, played a major role during **all stages of the software life cycle**. Resulting product opened a new market for the KSEC Diffusion Process Furnaces. Responsibilities included:

    - Assisted marketing department in analyzing customers' requirements;
    - Modified the software product based on new requirements;
    - Supported selected customers during the installation and initial use of the system in production;
    - Provided training to the customer support group;
    - Analyzed results of the product performance at customer's site and making changes to the product requirements.

Played a major role in resolving customers' problems. A list of companies included: Motorola, National Semiconductors, IBM, Taiwan Semiconductors, and Siemens.

EDUCATION **MS in Computer Science and Electrical Engineering**
Leningrad Electrotechnical Institute