# Geoffrey J. Cullen
### Virtualization Systems Engineer • Developer • Instructor
### More than 40,000 hours of experience with Virtual Machine
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## Education

New Jersey Institute of Technology,   Masters of Science in Computer Science
Montclair State University,   Bachelor of Arts,   Mathematics/Physics

## Industrial Experience

**Cullen Programming** (Present)  --  Provide technical services and develop programming products:
- zVM Server installation, maintenance and performance management.
- Provide metrics tracking of CP and zLinux Guest operational performance and trends.
- zVM monitoring, automation management and extender products for zVM operations.
- Custom REXX,  SQL, and BASH Shell language programming for systems automation.
- Secure TCP/IP, Tunneling, VPN and Firewall configurations.
- Linux Server installation, KVM/QEMU and VirtualBox virtualization.
- CMS/PIPES, JAVA Pipelines, and multi-threaded REXX applications.
- Custom programming on IBM and Intel platforms.
- Basic Assembly Language (BAL) code translation and COBOL conversions.
- CICS operations and control policy Automation using vehicles such as OPS/MVS and REXX.

**Bluehill Data Processing**  (Present)
- Provide custom programming services to collect resource consumption statistical data.
- Provide automated zVM operations and performance monitoring software.

**Innovation Data Processing**  (5/2012 to 8/2020)
- Provide zVM systems programming services to install and maintain zVM5.4 thru zVM7.2.
- Authored REXX programming for PerfKit and Programmable Operator to implement focal point management and stateful automation of service machines, networking and guests.
- Install, configure and maintain multiple releases of both SLES and RHEL zLinux images.
- Maintain several zVM Production, "Golden" and Quality Assurance images.
- Install GPFS/SPECTRUM suites under RedHat Enterprise zLinux.
- Install Hitachi HDS zLinux appliances under VMWARE.
- Representative to IBM's VM Council and the MVMUA organization.

**Verisk-Analytics (ISO)**  (9/2009 to 5/2010)
Provide architectural, automation management and high availability technical services for zVM  environments running hundreds of zLinux guest images.
- Upgrade zVM and implement Automation Management for VM and Guests.
- Provide recommendations to effect high performance and reliability of zLinux operation.
- Configure HiperSockets, Virtual and Guest LANs, improving network performance.
- Exploit HyperPAV, memory locking and SRM adjustments to improve performance.

- Lower guest virtual storage requirements via shared NSS and DCSS mapping.
- Reduced operator function through Message Event and Time-of-Day focal point automation.
- Consolidated security function, command logging and archiving facilities.
- Provided skill transfer to systems programmers through lecture. and demonstration.

**Search EDP Consulting Services**  (6/2008 to 12/2008)

Provided technical services to maintain client's zVM operating environment and support their zOS guest development platforms during zOS conversion.

**IBM Global Technology Services**  (5/2007 to 9/2007)

Provided technical services to stabilize client's zVM operating environment and zLinux guests.
- Configure HiperSockets, Virtual Switches and Guest LANs,  improving network performance.
- Reduce operator function through Message Event and Time-of-Day focal point automation.
- Provide skill transfer to systems programmers through lecture and demonstration.
- Improve the operating performance and reliability of zLINUX servers.

**Rosebud Management Systems** (8/2004 to 2/2012)

Rosebud developed a facility that allows IBM z/OS mainframe customers to port their applications, JCL, and schedule seamlessly to a Windows distributed environment.   My services included:
- Translated 370/390 Basic Assembly Language programs and macros to COBOL programming.
- Custom COBOL programming for mainframe to distributed desktop conversions.
- Upgrade and maintain Linux operating environment, kernel and RPM component packages.
- Maintain secure Apache HTTP, multiple DNS zones, Mail, Secure Shell and FTP servers.

**Pershing Technology Group** (5/2001 to 4/2002)
- Develop and maintain automated operator processes for brokerage clearing house systems using CA-OPS/MVS/CICS in a Sysplex OS/390 environment using REXX and BAL.
- Designed a focal pointed automation architecture that performs operator scheduling management of entire CICS suite of hundreds of regions over multiple sysplexes.
- Designed automated recovery of processes for surviving LPARs in the event of loss.
- Consultant on prototype design that would migrate NT and Unix server farms to VM/Linux.

**Mainframe Service Providers**  (10/99 to 05/2001)
- Provided VM, VSE, z/OS, LINUX, AIX and TCP/IP technical services for clients that have acquired IBM processors.  Establish customized automated environment for customers.

- Develop and support proprietary products using JAVA and REXX that provide automated computer operations, performance measurement, message capture and scrolling.
- Provided remote VM system maintenance, product deployment and problem remediation.

**New York Life Insurance** (8/1997 to 10/1999)
- Developed scanning tools using JAVA, REXX and PIPES for analysis of date coding.
- Built relational database using DB2/SQL to house inventory, program code relationships and automate the tracking of Y2K objects.
- Analyzed current systems written in BAL, COBOL, CLIST and REXX for date sensitivity.

**Chemical Banking Corporation (J.P.Morgan Chase)** (8/1989 to 10/1995).
- Analyzed and advised on large technology projects that advanced competitive position.
- Increased VM performance and developed MVS Guest and LPAR testing platforms.
- Developed automation processes to support Remote Command Center Operations and the monitoring of enterprise-wide applications on a 24x365 basis.
- Designed and programmed enhancements to automation packages in BAL & REXX.
- Programming and implementation of Target System Control Facility (TCSF) and development of a highly multi-threaded dispatching system used for the simultaneous manipulation of several local and remote processor complexes for automated IPL and Shutdown sequencing.
- Developed MVS, TSO, NetView and REXX language based automation processes to facilitate the rapid execution of disaster/recovery exercises.
- Designed and programmed enhancements to automation packages in Basic Assembly Language. All major automation programming systems employed OPS/MVS and NetView on the MVS images, and CA-VM Operator on VM images as its base and focal point of control.

**Elastimold Division of Thomas and Betts Corporation** (1/1984 to 8/1998)
- Developed and maintained an automated production operating platform.
- Responsible for the management of all CICS production and testing environments.
- Designed SNA based corporate LAN Server backbone with VM acting as control point
- Performed programming problem determination tasks and increased batch performance.
- Authored facility to provide management with a real-time view of computer resource use.
- Programmed exits for VM, VSE, VTAM, RSCS, CICS, DIRMAINT and POWER in BAL.

(Further prior engagement information available upon request)

## Other Involvements

Served as Technical Judge with the FIRST Robotic Competitions (2013 - 2020)

Software engineering mentor to Hackettstown High School FIRST Robotics Team (2016 - 2021)

Warren County Community College (WCCC) Technology Advisory Board (2009 - 2018)

County College of Morris (CCM) Technology Advisory Committee (2012 - 2022)

Commissioner on the Independence Township Land Use Board (2014 - Present)

Serve on IBM's VM Council which directs improvements to the zVM product suite (2017 - Present)

# Environmentals

**Software Skills:**   z/VM (VM370 thru zVMv7.2 early release,  VM Programmable Operator (PROP),
PerfKit,  DIRMAINT, RSCS
z/OS,  CA-OPS
z/VSE
TCP/IP,  Target System Control Facility, System Manager, Virtual LAN
z/LINUX (both RHEL and SUSE),  KVM,  Hercules,  SQL

**Language Skills:**   REXX (all platforms),  COBOL
Basic Assembly Language (BAL) 370  thru Z Architectures, x86 64-bit architecture
JAVA,  JDBC ,  C/C++
Bash Unix Shell Scripting,  Regular Expressions
AWK,  SED,  GREP,  PIPES

# Academic Teaching Experience

I have instructed more than 250 college credit hours in the Computer Science curriculum.

**County College of Morris** (9/2012 - Present)
      Adjunct-II Professor of Computer Science.
          "Assembly Language Programming"
          "Fundamentals of Computer Architecture"
          Remote Classroom instruction using WebEx

**Sussex County Community College** (9/2003 - 5/2017)
      Senior Adjunct Professor of Computer Science.
          "Data Structures"
          "Computer Architecture and Assembly Language"
          "Operating Systems Theory"
          "Linux Operating Systems"
          "Computer Science I and II"
          "Advanced C++ Programming"
      Completed the Teaching in Higher Education Certificate *(Level I and Level II)* at the SCCC Center for
Teaching and Professional Excellence.

**Centenary University** (1/2004 to 12/2006)
      Adjunct Professor of Computer Science.
          "Introduction to Computers and Information Literacy"

**Warren County Community College** (1/2006 - 5/2009)

Senior Adjunct Professor of Computer Science.

"Data Communications"

"Unix Operating Systems"

"C++ Programming"