

# Patrick L. Chandler

## Senior Cyber Network Operations (CNO) Developer

3927 Angel Trumpet

San Antonio, TX 78259

Home: 210-499-4380

Cell: 210-367-6901

[plchandler74@gmail.com](mailto:plchandler74@gmail.com)

### **PROFESSIONAL HIGHLIGHTS:**

- 14 years' experience conducting Developmental Test and Evaluation (DT&E) of current and new Cyberspace Operations (CO) Capabilities.
- 1 year experience conducting Contractor Testing of new CO Capability.
- 2 years' experience conducting Functional Evaluation (FE) of current CO Capability.
- 14 years' experience working with Cisco routers and switches.
- 16 years' experience working with various operating systems and programming languages.
- 4 ½ years' experience developing Information Security tools for the Air Force.
- 12 years Telecommunications experience
- An expert in network administration

### **EDUCATION**

- B.S. Computer Science, University of Texas at San Antonio, San Antonio, TX (1999)

### **CLEARANCE:**

- SSBI: Active, 2013 (most recent update)

### **PROFESSIONAL EXPERIENCE SUMMARY:**

Mr. Chandler is currently creating and maintaining a software repository system for several closed developer networks. Mr. Chandler is working with a custom automation framework for downloading and merging updates to the software repositories. Mr. Chandler is learning and working with Ansible to automate the setup of specific portions of the software repository system to be used to update the software repository system and to reconstitute the system in case of a non-recoverable hardware failure occurs.

Mr. Chandler has performed FE for DISAs ACCM program. ACCM is a plugin to the McAfee ePolicy Orchestrator system that is used through the government that supports the government's Cyber Scorecard initiative for computer security and integrity. Mr. Chandler created an ad-hoc client/server framework for automating the testing of the ACCM Linux plugin against the various supported Linux Operating Systems (OS).

Mr. Chandler has performed test planning, execution, reporting, and test range design for 15 years as a Test Engineer, Range Engineer, and Cyber Research Engineer. Mr. Chandler's testing has been focused on AFI 99-103 Developmental Test and Evaluation (DT&E) and Contractor Testing of state-of-the-art Cyberspace Operations (CO) Systems. Mr. Chandler has participated in the planning of AFI 99-103 Operational Test and Evaluation (OT&E) events. As part of a Combined Test Force, Mr. Chandler has evaluated and overseen Contractor sub-system testing, and OT&E test plans. In addition, Mr. Chandler has written and executed numerous DT&E and Contractor test plans and reports providing the government with recommendations for systems' acceptance. Mr. Chandler has been the Test Director for several key DT&E and Contractor tests of state-of-the-art IO systems. Mr. Chandler's DT&E and Contractor test experience includes the following:

- Software and hardware testing
- The use of commercial and free-ware based instrumentation such as Agilent Internet Advisors, Agilent Distributed Network Analyzers, Finisar Surveyors, Ethereal/Wireshark, and TCPDump (all Network Protocol analyzers)
- Designing, configuring and maintaining Cisco based networks
- The configuration and management of both military and commercial test networks
- Configuring and maintaining a government ATM telecommunications backbone
- Configuring and maintaining a Promina 800 series Telecommunications multiplexer
- ISDN Q.931 Messaging
- Writing programs to perform test data analysis
- Reviewing technical requirements and creating measurable test criteria and event test cases.
- Extensive knowledge of IP protocols including TCP, UDP, ICMP and how they apply to the security of networks.
- Use and configuration of firewalls and Intrusion Detection Systems (IDSs).

- Working with Commercial and Government Encryption Systems such as KG-194's, KIV-19's, and 1910 STU modems
- Test 101 and Acq 101 Certified
- Completed Oracle 115 and 215 training
- Completed VMWare training in both vSphere 4 and 5 product lines to include ESXi server configuration
- ISTQB Certified Tester (Advanced Level – Test Manager, Test Analyst)
- Co-developed a test engineer course to train new test engineers in the process of DT&E testing
- Helped to setup, maintain, and utilize a NetApp Storage Area Network (SAN) that was used to hold test data during test execution as well as maintain OS virtual machine (VM) images that were used to create ad-hoc test network configurations

Mr. Chandler has over a year and a half experience working in an Infosec Lab where he has researched and verified several exploits and developed several tools for use by the Air Force. Mr. Chandler has used several development tools to aid in his task including UNIX/LINUX gcc compilers and Visual C++ for Windows platform. His knowledge of several networking protocols including TCP/IP, UDP/IP, ICMP, SMTP, SNMP, and HTTP has aided him in the research and development of many vulnerability tools. Mr. Chandler's knowledge of computer network configuration has helped him in maintaining the Infosec Lab as a network administrator.

TELECOMMUNICATIONS RELATED EXPERIENCE	DURATION	PROFICIENCY
Cisco Routers/Catalyst Switch Ops/Maint	14 Years	Expert
Bay Routers Configuration and Operations	6 Years	Expert
Ascend Max RAS	5 Years	Professional
Promina 800 Series Multiplexer Ops/Maint	3 Years	Proficient
T1 Circuit Troubleshooting	7 Years	Proficient
ATM Network Design and Operation	3 Years	Proficient
OPERATING SYSTEMS	DURATION	PROFICIENCY
Solaris Operating System	7 Years	Professional
HPUX Operating System	1 Year	Proficient
AIX Operating System	2 Years	Professional
Windows 95 Operating System	8 Years	Professional
Dos	7 Years	Expert
Windows 3.1	6 Years	Professional
Windows NT 4.0	7 Years	Professional
Windows 2000	6 Years	Professional
Windows XP	11 Years	Professional
Windows Vista	5 Years	Professional
Windows 7	5 Years	Professional
Windows 8	3 Years	Professional
Windows 10	2 Years	Professional
Windows Server (2003 – 2008)	8 Years	Professional
Linux	16 Years	Professional
Cisco IOS v 11.2+	14 Year	Expert
LANGUAGES	DURATION	PROFICIENCY
C++ Programming Language	6 Years	Expert
C Programming Language	8 Years	Professional
Java Programming Language	7 Years	Professional
Pascal Programming Language	1 Year	Experienced
Fortran Programming Language	1 Year	Professional
Perl Programming Language	12 Years	Professional
Python Programming Language	3Years	Proficient
Icon/Idol Programming Languages	2 Years	Expert
Sed/Awk Scripting Languages	1 Year	Experienced
Lisp Programming Language	1 Year	Experienced
Sparc Assembly Programming Language	1 Year	Experienced

Hyper Text Markup Language	5 Years	Experienced
Hibernate	1 Year	Professional
JSP	1 Year	Professional
<b>OTHER</b>	<b>DURATION</b>	<b>PROFICIENCY</b>
Oracle Discoverer	1 Year	Proficient
Oracle Administration	4 Years	Professional

**SPECIFIC SKILLS:**

**Networking:** TCP/IP, UDP/IP, DNS, SNMP, SMTP, NetBIOS, SMB, HTTP, RIP, OSPF, BGP, and ISDN Q931 Messaging

**Computer Security:** Firewalls, Routers, Intrusion Detection Systems, Hacker Methods / Signatures, Virus reverse-engineering and analysis and prevention

**System Administration:** Scripting/Programming languages (Bash/Sh, Python, Sed), Ansible, Openstack, Docker, VMWare ESIX, Virtualbox, Vagrant, Linux OS (Ubuntu, Debian, Fedora, CentOS, RHEL), Windows OS (XP, 7, 8, 8.1, 10, Server 2003, Server 2012, Server 2016).

**Testing:** ISTQB Certified – Foundation Level, Advanced – Test Manager, Advanced – Test Analyst, Developmental Test and Evaluation test techniques, and Contractor test techniques.

**SPECIFIC EXPERIENCE:****MANTECH, Senior CNO Developer (Sep 2017 - Present)****Duties/Responsibilities:**

Mr. Chandler is responsible for developing and maintaining a software repository system for the 90<sup>th</sup> Cyberspace Operations Squadron (90 COS). Mr. Chandler helps to maintain a set of servers that are used to periodically download updates to software repositories that are used by developers on several closed networks. He also helps to maintain the scripts that are necessary to download the updates to the software repositories as well as merging the updates to the software repositories on the closed networks. Mr. Chandler also is responsible for maintaining all current software licenses for the 90 COS.

**Skills Utilized:** Mr. Chandler utilizes his knowledge of Bash scripting language as well as other tools such as Ansible to automate the maintenance and upkeep of the software repositories. His extensive knowledge of Linux administration and Windows administration is used to maintain the software repositories.

**ISHPI, Technical Developer Lead (Aug 2015 – Sep 2017)****Duties/Responsibilities:**

Mr. Chandler is responsible for the development and maintenance of DISAs ACCM software. ACCM is a plugin that integrates with (currently) McAfee's ePolicy Orchestrator system to provide end system software installation and patch tracking. This work includes implementing requirements from DISA into the ACCM software. Mr. Chandler is also responsible for providing Tier III trouble ticket support. Mr. Chandler provides technical direction for a 6 person development team with regards to ACCM development and maintenance.

**Skills Utilized:** Mr. Chandler has knowledge of C, C++, Java, Hibernate, and JSP and he has knowledge of Unix, Linux, and Windows operating systems as a programmer and an administrator. He has experience working with C compilers for Unix/Linux including gcc, g++, and cc. He also has extensive knowledge and experience using Visual Studio/Visual C++ for the Microsoft Windows platform for development. Mr. Chandler has knowledge of presentation skills that have been used to both prepare and deliver demonstrations for multiple sized groups of people. Mr. Chandler has knowledge of setting up Microsoft Windows Servers. He has extensive knowledge with the use of the Windows Registry for configuration and security purposes.

**SRI International, Cyber Research Engineer (Jun 2014 – Aug 2015)****Duties/Responsibilities:**

Mr. Chandler is responsible for the test plan, test report development, and test range design for Contractor Testing of state-of-the-art Cyberspace Operations (CO) Systems. This work includes analyzing both Government requirements and CO System documents to produce Test Objectives and Test Conditions to be used as input into Government decisions for System acceptance. He is also responsible for developing Cyberspace environments to be used during testing events. As an experienced system/network administrator, Mr. Chandler is responsible for helping to maintain an internal administrative/office network. This includes troubleshooting and maintaining network connections to all office/administrative computers and setting up new computers and network connections. He is also responsible for

helping to maintain a test bed network. This includes maintaining current network topology information and network reconfigurations for different tests.

**Skills Utilized:** Mr. Chandler has knowledge of C, C++, Perl, and Java and he has knowledge of Unix, Linux, and Windows operating systems as a programmer and an administrator. He has experience working with C compilers for Unix/Linux including gcc, g++, and cc. He also has extensive knowledge and experience using Visual Studio/Visual C++ for the Microsoft Windows platform for development. Mr. Chandler has knowledge of presentation skills that have been used to both prepare and deliver demonstrations for multiple sized groups of people. He is very knowledgeable with performing research and analysis of computer security vulnerabilities. Mr. Chandler has extensive knowledge with Cisco router configuration including but not limited to sub-netting several networks and setting up ACL's for said networks. Mr. Chandler also has experience setting up Microsoft Exchange servers for both testing and internal use. He has experience finding unique string values from various hacker exploits and viruses to be used by the Air Force's IDS systems. He has experience working with several firewalls and filtering technologies used to attack against to find ways to infiltrate network devices hidden behind such firewall/filtering software. Mr. Chandler has knowledge of setting up Microsoft Windows Servers. He has extensive knowledge with the use of the Windows Registry for configuration and security purposes.

#### **TASC, Test Engineer (Sep 2000 – Jun 2014)**

##### **Duties/Responsibilities:**

Mr. Chandler is responsible for the test plan, test report development, and test range design for Developmental Test and Evaluation (DT&E) of state-of-the-art Cyberspace Operations (CO) Systems. This work includes analyzing both Government requirements and CO System documents to produce Measures of Effectiveness and Measures of Performance to be used as input into Government decisions for System acceptance. He is also responsible for developing Cyberspace environments to be used during testing events. As a previous system/network administrator, Mr. Chandler is responsible for helping to maintain an internal administrative/office network. This includes troubleshooting and maintaining network connections to all office/administrative computers and setting up new computers and network connections. He is also responsible for helping to maintain a test bed network. This includes maintaining current network topology information, network reconfigurations for different tests, and maintaining over 20 routers that make up the test bed network.

**Skills Utilized:** Mr. Chandler has knowledge of C, C++, Perl, and Java and he has knowledge of Unix, Linux, and Windows operating systems as a programmer and an administrator. He has experience working with C compilers for Unix/Linux including gcc, g++, and cc. He also has extensive knowledge and experience using Visual Studio/Visual C++ for the Microsoft Windows platform for development. Mr. Chandler has knowledge of presentation skills that have been used to both prepare and deliver demonstrations for multiple sized groups of people. He is very knowledgeable with performing research and analysis of computer security vulnerabilities. Mr. Chandler helped train junior/inexperienced members of the team, thus expanding the team's support to the customer. Mr. Chandler has extensive knowledge with Cisco router configuration including but not limited to sub-netting several networks and setting up ACL's for said networks. Mr. Chandler also has experience setting up Microsoft Exchange servers for both testing and internal use. He has experience finding unique string values from various hacker exploits and viruses to be used by the Air Force's IDS systems. He has experience working with several firewalls and filtering technologies used to attack against to find ways to infiltrate network devices hidden behind such firewall/filtering software. Mr. Chandler has knowledge of setting up Microsoft WindowsNT 4.0 Servers to serve as DNS servers. He has extensive knowledge with the use of the Windows Registry for configuration and security purposes.

#### **Computer Science Corporation, Associate Member of the Technical Staff (Jan 1999 to Aug 2000)**

##### **Duties/Responsibilities:**

Mr. Chandler is responsible for verifying vulnerabilities in operating systems and applications. He works extensively with Windows NT, Unix, and Linux. His knowledge of several networking protocols has aided in the research and development of vulnerability tools. Mr. Chandler has extensive knowledge and skill in programming using C, C++, and Java. He developed several detection tools for the Air Force including a FrontPage Extension detector tool, BO2K detector tool, and detection tools for several Distributed Denial of Service programs. Mr. Chandler was also responsible for maintaining an inventory of the software used by the Infosec team. He was responsible for performing network administration duties for the Infosec testing lab. This included the use of several administration tools to include nmap, netcat, nbtstat, nestat, traceroute, as well as the maintenance necessary to ensure network integrity through consistent policing/repair/creation of a high variety of lines and cables. His duties included the installation of several OS's (WindowsNT/2000 Server and Workstation, Windows98, and Red Hat Linux versions 5.0 thru 6.2), configuration of the target computers for network connectivity using TCP/IP as the transport protocol, configuration of a Cisco 3600 series router to route for various separate sub-nets, the use of custom cabling, and the installation &

use of packet sniffers. In addition, Mr. Chandler is responsible for the installation, testing, and experimentation of various anti-virus software including Norton and McAfee Desktop/Groupware Anti-Virus scanners.