VM Workshop 2019 - Session Abstracts

Title	Synopsis	Presenter
Welcome to VCU But That Is Not All subtitle: The VCU IBM Z Academic Initiative Project Strategy and Direction	Opening Session - Virginia Commonwealth University is the center where business, government, and academia intersect and collaborate for the State of Virginia and beyond. In turn, the Greater Richmond Area benefits greatly from the investment VCU makes in programs, projects, and people, and infrastructure.	John Leonard
Help Wanted: Replacing Retiring Mainframe Skills and Introducing Z to Students / How to divulge IT's best kept secret to students	This session will start with an update of IBM's Academic Initiative program for IBM Z with a focus on recruiting techniques. This will be followed by a review of a presentation that can be shared with high school and college students to make them aware of mainframe career opportunities. The "IT's Best Kept Secret" presentation covers; what is a mainframe, who uses today's mainframe, and what career opportunities will I see if I pursue an education around IBM's Z System	Christy Shroeder & Marc Smith
Accelerate Networking with Shared Memory Communications for Linux on IBM Z	Overview of SMC technology for Linux on Z. Includes technical concepts, current status in Linux distributions, considerations for deployment, interoperability with z/OS and an outlook on upcoming features.	Stefan Raspl
Setting up a DB2 instance using IBM Cloud Private	Will cover how to setup and install DB2 using the IBM Cloud Private interface. I will access the DB2 instance using Linux	Michael Weiner
What's New in Linux on IBM Z	This session provides an overview of recently delivered as well as new features that are currently under development by IBM and the open source community. The presentation will address both IBM Z and LinuxONE specific features, as well as platform-independent developments which are relevant to Linux on Z.	Stefan Raspl
Choose Wisely - Linux on IBM Z Networking Card Options	RoCE Express cards are primarily intended for use with Shared Memory Communications Remote (SMC-R). But with Linux, there is also the possibility of using them as a general purpose Ethernet device. This presentation literally puts OSA and RoCE devices side by side to discuss their properties, features, and use cases on the IBM Z and LinuxONE platforms. Basic knowledge of networking technology recommended.	Stefan Raspl
Welcome To The Jungle - Linux on IBM Z Networking Options	With the wealth of networking options available on IBM Z and LinuxONE, it is easy to get lost in the wilderness. This presentation provides an overview of all networking facilities and options offered by the machines' hardware, NICs, and hypervisors, as well as their respective support by Linux. Basic knowledge of networking technology recommended.	Stefan Raspl
z/VSE technical update	This session provides the latest news since the last VM Workshop. It addresses new hardware support security, crypto and networking enhancements in z/VSE 6.2. I will also talk about service news and announcements.	Ingolf Salm
Hints & Tips - z/VSE Release & Hardware upgrade	This session provides some general hints and tips. I will mainly address the upgrade to z/VSE 6.2 and to new IBM Z processors, such as the z14 ZR1. The tools z/VSE provides will also be covered. Please let me know, what aspects I should cover in addition.	Ingolf Salm
Why and how to containerize your applications in Linux on Z	Step by step containerization for Linux applications. If you know how to use a Linux system, come and get informed what is a Microservice and a container and then we'll go step by step over to containerize an application package. We'll discuss the options to build it and how it can then be used as Microservice.	Wilhelm Mild

z/VM and Virtualization Hands-on Lab - Choose your own Lab	In this three part hands-on lab you choose hands-on lab exercises for one of these options: z/VM SSI Installation and Configuration z/VM non-SSI to SSI Migration z/VM Upgrade In Place from one release to a newer one DPM and KVM (modify a dpm partition, install Ubuntu 18.04 as a KVM host, install virtual machines) Most of these choices will take the full 3 session slots, so it will not be possible to complete multiple labs. Each lab selection comes with a comprehensive lab workbook that provides step by step instructions and will be useful as a reference later. This session is intended for both beginners in z/VM and those who may have familiarity with z/VM but need a refresher	Richard Lewis
Introduction to Docker and Kubernetes on Linux for IBM Z	In this hands-on lab, attendees will gain experience installing the docker engine provided with SLES 15, and then have an opportunity to work with the SUSE provided pre-built SLES15 container application base image, customize that image, and build new images from that base. As images are built there will be an opportunity to explore docker containers running these images. The second part of this hands-on lab will involve installing and configuring Kubernetes using packages built using the SuSE OpenBuild system. Students will setup a Kubernetes Master Node and two Worker Nodes. Once the Kubernetes cluster is configured a simple application container image will be run in the cluster, and then a replicaset of this application image will be run and scaled up and down. Students will gain experience interacting with Kubernets using the kubectl command line interface.	Richard Lewis
Linux for IBM Z Installation Hands-on Workshop	This hands-on lab will provide an opportunity to install Linux for IBM Z into a z/VM virtual machine, do some basic system administration and configure commonly used packages such as Apache. There will also be an opportunity to install the docker engine and create some basic images and run those images in containers. The choices for installation will be RedHat 7.5, SUSE SLES 15, and Ubuntu 18.04 LTS. This is a three part lab to provide enough time to work through the lab workbook.	Richard Lewis
End-to-end Encryption of Data at Rest for Linux on Z and LinuxONE	End-to-end encryption is the method of choice to protect data stored on a disk. It ensures that the owner of the data also owns the encryption keys and thus controls the access to his or her data once it has left the operating system. Dm-crypt is the most popular method for encrypting Linux disks. Using IBM Z CPACF protected keys with dm-crypt the keys to protect dm-crypt volumes can be protected from being stolen and used outside of the system that generated the keys. This extra level of security is a key feature of Pervasive Encryption. This presentation shows how to use dm-crypt with protected keys, discusses different encryption formats, covers some best practices on using dm-crypt and describes key management using the zkey key repository.	Ingo Franzki

Utilizing z/VSE's REST Engine for asynchronous messaging with IBM MQ	This session provides a deep dive into RESTful web services and how it can be used to interface with IBM MQ to achieve asynchronous messaging. The presentation starts with some basics around REST and the HTTP protocol, as well as how to use or provide RESTful web services with z/VSE in general. After the end-of-service of IBM WebShpere MQ Server on z/VSE and the change of the support statement of the MQ Client on z/VSE to 'as-is', the REST interface provided by MQ version 9 can now be used together with the z/VSE REST engine to utilize asynchronous messaging using a supported software stack.	Ingo Franzki
z/VSE Connectors - Best practices and use cases	z/VSE offers a huge set of connectors and tools that allow z/VSE to participate in a distributed application environment. The session gives a technical overview about the z/VSE Connectors and discusses typical use cases. It also discusses various best practices when utilizing the z/VSE Connectors to get the best out of them. This session covers connectors such as Java-based Connector, VSAM Redirector, VSE Script Server, Database Connector, but also connectors based on CICS Web Support, such as CICS Transaction Gateway, SOAP-Support, and RESTful Web Services.	Ingo Franzki
Secure your z/VSE network connections using OpenSSL	This session will show how to exploit z/VSE Security and Crypto features and especially the new OpenSSL support to secure your network connections from and to z/VSE. In todays world it is essential that all the data that is sent over a network is encrypted, i.e. by using SSL/TLS. This session shows how you can achieve this on z/VSE. We will also discuss recent technology news such as Diffie-Hellman key exchange and Elliptic Curve cryptography and how it can be used with z/VSE. In addition, IBM mainframe cryptographic technology, including Crypto Express and CP Assist for Cryptographic Function (CPACF) are discussed and how it is used with OpenSSL.	Ingo Franzki
Good Practices for Performance, Optimization, and Config Management for z/VM and Linux on Z and LinuxONE	This session will be of interest to anyone running Linux under z/VM, both new and experienced alike. Recommendations and good practices covering configuration management will help both the z/VM systems programmer and Linux system administrator on your process of iterative tuning to obtain the best possible optimized environment. Learn what to watch out for, common mistakes, problem determination, configuration considerations, whatás changed, whatás new, and more. Spend time optimizing and enhancing a stable and reliable LoZ cloud instead of being hoisted by your own petards and putting out fires!	Paul Novak
MongoDB at Marriott	Marriott did a POC designed to offload some of the traffic currently being handled by our reservation system. Shopping traffic has increased so dramatically over the past few years that an alternative had to be looked into. This story started at SHARE 2019 in Phoenix and continues here before being presented at SHARE 2019 in Pittsburgh PA	Kurt Acker
Leveraging the Newest Capability in z/VM	The z/VM Platform Update discussed the new enhancements that have shipped since the last VM Workshop and reviewed the value of those items. This session will review hints and tips on implementing those enhancements to get the most value out of them. We'll cover items such as Virtual Switch Priority Queuing, EAV Paging, TCP/IP Elliptic Curve Cryptography (ECC) Cipher Suite Support, and others.	Bill Bitner

VM Workshop 2019 - Session Abstracts

z/VM Platform Update: Ever Onward	z/VM 7.1 is the first release in a new release cadence. This session starts with a high-level tour of the overall continuous delivery strategy and release cadence; and then begins a tour of five value areas and the recent enhancements in each of those areas. You will hear about things such as encrypted paging, greater scalability, and RAS enhancements. This presentation focuses on the business value of z/VM and its enhancements and other planning information. There is a companion presentation called áLeveraging the Newest Capability in z/VMá which goes into implementation details for the enhancements discussed here	Bill Bitner
z/VSE Business, Strategy, News & Pricing	In this session I will cover a brief overview about Business & Strategy and the longer part will be what IBM and our customers are doing around z/VSE 6.2 and Pricing.	Gonzalo Muelas Serrano
A Bit of a Talk with Customers	Join us in this session as Bill Bitner sits down with a few of our customers to hear their stories. Find out how they got into the z/VM space, what surprises they found, and learn how they run their z/VM systems. When we tell our stories and we listen to others tell their stories, we often learn that we're not alone. We're much better together	Bill Bitner
Watch and Learn: Introduction to CMS Pipelines	I'm not a master plumber, but I play one at the VM Workshops. This session has three objectives: show you the power of pipelines, show you the usefulness of pipelines, and have fun. This session is for those new to the pipelines programming framework in z/VM. We'll explain a little background and then start off with working examples. You'll be welcome to play along if you'd like. We'll demonstrate the use with some real world examples	Walter Church
REXX Language Coding Techniques - Part 1	If you're a beginner or intermediate REXX programmer who wants further insight on better REXX programming techniques, this session is for you! In Part 1, we'll review available REXX products and related products (both free and priced), an introduction to functions vs instructions vs procedures, variable visibility, and parsing. Attend Part 2 for more topics.	Tracy Dean
REXX Language Coding Techniques - Part 2	If you're a beginner or intermediate REXX programmer who wants further insight on better REXX programming techniques, this session is for you! In Part 2, we'll review compound variables vs data stack, troubleshooting, and programming styles for REXX.	Tracy Dean
Customer Experiences Managing z/VM, Linux and LinuxONE	Whether implementing cloud or supporting server consolidation projects, customers are implementing mission critical applications on Linux on IBM Z and LinuxONE. In this session, the speaker focuses on real customer problems and associated solutions with managing this new infrastructure. Topics include monitoring messages, monitoring spool space, sending alerts, automatically fixing a problem, coordinating activities with z/OS and other z/VM systems, and backing up and recovering critical data.	Tracy Dean
A Journey with Linux on z/VM	Len Santalucia with Vicom Infinity, and a customer, discuss being one of the early adopters of Linux on z/VM with applications such as the customer's web site, Cognos and Oracle DB. As time progressed, the customer's Linux on z/VM environment has evolved and migrated through many generations of IBM Z systems, Linux, and z/VM. There will be a good discussion on lessons learned from a technical and business perspective.	Len Santalucia

VM Workshop 2019 - Session Abstracts

Z/VSE and Network Performance - Its easier and harder than you think	Jeff Barnard of Barnard Software, Inc. will discuss the various considerations for Network Performance and Tuning with z/VSE in mind. Can you make VTape faster? What about FTP? Will moving to 10Gbe help me? These questions and much more will be discussed.	Jeff Barnard
Using Your Performance Monitor to Watch z/VM and Linux on IBM Z	Sometimes bad things happen to good systems. Your environments run all day, every day, and trouble can creep up if they are not monitored. Systems Programmers and Linux Admins have a lot to do without watching system monitor screens all day. See how to proactively monitor your z/VM and Linux on Z environments with tools available in zVPS.	Rich Smrcina
Cloud Enabling z/VM the Easy Way	Today, more than ever, we are all pressed for time to work on everything we have to get done. Building and managing Linux servers on z/VM is not only a great use of mainframe technology but very time consuming without the right tools to support you and your business. In this session hear about a powerful yet easy to use cloud management product for z/VM that will not only help free up precious time, but also help Linux on z/VM flourish. zPRO from Velocity Software has been developed for system admins and end-users alike to enable them to build and manage Linux on Z servers quickly and easily. You will hear how fast you can install and set up zPRO and how it can be used on any z/VM system, with or without a directory or security manager and how you can "plug it in" to other virtual server management systems with our RESTful APIs.	James Vincent
Migrating Live Linux and zVM systems to new DASD	This session will discuss why a non-disruptive migration of live Linux and z/VM systems is essential in achieving today's 24/7, 100% availability goals. It gives an overview of the FDRPASVM product from Innovation Data Processing, followed by a live demo swapping a live zVM system to a new string of DASD.	Mehdi Fadaifard
What's new in the zPDT Environment	Mainframe emulation is common today and heavily used for application development but what are the limitations and capabilities?Learn about the different packages and options from IBM and how to use them effectively to achieve mainframe quality application development.What are some of the roadbumps that you may experience with zPDT and zDT using zVSE, zVM and zOS? How to avoid the pitfalls? What can it do and what it cannot!	Stan King
Install and Use of the IBM Terminal Server for zLinux	This session will cover how to install, configure and use the IBM terminalserver for Linux on System z.The Terminal Server is part of the s390-tools package and permits normal access to other zLinuxguests running on the same z/VM system, even if they are not connected to a working TCP/IP network.This permits the use of common Linux tools like vi, Emacs, and nano, to be used even in the event of a network failure.Other uses for the terminal server, including centralizing access to large Linux on System zpenguin farms and segregating administrative network traffic from user traffic to enhance security, will be discussed as well.	Dave Jones
Securing RXSOCKET applications with TLS	z/VM 6.4 included support for securing IUCV based sockets with TLS. Sadly 6.4 did not enhance Rexx Sockets to exploit that support. Now that 7.1 has shipped (still) without TLS support in Rexx Sockets, customers are forced to take matters into their own hands. Join Dave and Perry for an overview of z/VM's SSL/TLS support, what was new in 6.4, the changes done to add TLS support to Rexx Sockets and finally, we review a popular Rexx Sockets application that has been secured with TLS.	Perry Ruiter/Dave Jones

GDPS and the GDPS Virtual Appliance	This presentation will cover GDPS and its many aspects that interact with z/VM, Linux, and LinuxOne to provide disaster recovery (DR).This presentation will cover GDPS and its many aspects that interact with z/VM, Linux, and LinuxOne to provide disaster recovery (DR). -GDPS product family overview -GDPS xDR overview -Synergy with z/VM -2-site, 3-site, 4-site, red-site, blue-site by (DR) Suess -GDPS Virtual Appliance overview (AKA, How to bring DR to LinuxOne) -Design Thinking session where you can shape our roadmap to fit your business needs	Steven Cook
MongoDB and Linux on Z	MongoDB has quickly become the most popular modern database for application developers. This session will provide an introduction to MongoDB'→→s unique capabilities, and discuss how IBM Z users can quickly expose mainframe data to new, innovative applications	David Koppe
SSH Client Suite for CMS	In this era of secured communications one of the key lacking pieces from CMS has been the ability to transfer files or run commands on remote systems using TLS mechanisms. CMS does provide FTPS support but tools such as scp, sftp, and ssh are not present. SNA has provided a suite of clients that fills this gap. Anyone familiar with the Putty tools pscp, psftp, and plink will be comfortable in using this set of tools. Support for direct access to SFS is also supported.	Neale Ferguson
Managing and Orchestrating Docker Containers with OpenShift	If you have experimented with Docker or even put some containers into your DevOps environment, it quickly becomes clear that there is a need to simplify the build, deploy, and promote process. OpenShift Origin is the community version of the RedHat OpenShift commercial offerings. Built around a core of Docker container packaging and Kubernetes container cluster management, Origin is augmented by application lifecycle management functionality and DevOps tooling. Origin provides an open source application container platform.	Neale Ferguson
How the Open Mainframe Project makes Modern Mainframes with Open Source	The open source movement has rapidly become the way code is being developed for today's smart and agile businesses. This session will cover how an 'open mainframe'→ is the perfect solution for deploying open source on an enterprise computing platform. Attendees will learn how the open source community has gathered around the mainframe platform and how open source projects such as Zowe and OpenStack Cloud Connector are the starting points for open development. The session will also cover how the mainframe platform is a natural technology for Linux deployments and how the mainframe community operates within the wider construct of the Linux Foundation. Attendees will also learn about OMP's endeavors to promote the next generation of mainframers with its OMP internship program and Women in Tech initiatives.	Len Santalucia

VM Workshop 2019 - Session Abstracts

Are There Free Tools Available For z/VM?	We hear all the time about the open source model and the "free" software available for a Linux system. Are there free tools available for my z/VM system? The answer is "yes" and in this session, the speaker will tell you about some of them and where you can get them. It would be impossible to discuss all the tools available, so if your favorite tool is not covered in the presentation, please come to inform the presenter so that it can be covered in a future presentation. The presentation will attempt to review tools from small to large and with a variety of uses.	Bruce Hayden
Two customers change the playing field with new IBM Z and Linux	The School District of Lee Schools ran a z9 BC with 8GB memory for their most critical application. The application suffered many performance problems. It appeared the future of IBM Z was in peril. With the arrival of a new CIO, a z13s with 1TB of memory, new IBM storage and a new open source application running on Linux on Z were implemented. The goal is to create a world-class school district. Hear how the school district turned around the perception of IBM Z. North Carolina Farm Bureau tested an new policy application on their zBC12 and x86. The performance was comparable. This was not adequate. So listen to the stellar results of the same test on z14 ZR1. This session is presented by the IBM Business Partner.	Marianne Eggett
Real World z/VSE to z/OS Migration Experience from a z/VSE Bigot	Due to a hardware consolidation, we performed a z/VSE to z/OS conversion of a 70 mip VSE shop. While the conversion was successful, there were several major issues that had to be resolved. This session will provide information that will enable a z/VSE person to speak intelligently when management suggests a migration. If you think z/OS is in your future, or if your management thinks it is, then you should attend.	Tony Thigpen
zVPS Version 5 does z/OS and more....	After 30 years of firsts and bests, Velocity Software is looking at where else the mainframe as we know it can be improved. Applications such as MONGODB, SpectrumScale/GPFS, DOCKER now have support. ILMT support allows easier understanding and control over your software costs. The z/OS platform has some complexities that could be easily (for us) improved. With no java, no need for ziips, efficient code, and the ability to utilize all the z/VM tools, zVPS will now absorb SMF records and start providing z/OS performance management functions on the same pane of glass as your z/VM, network, VSE, Linux and distributed platforms.	Barton Robinson
Hyper Secure Services - the new way to protect Linux workloads on IBM Z	The challenge of application isolation and their protection was highly required when Blockchain was developed. Now - this technology evolved and this session shows you which services are available now as Hyper Protect Services in the cloud and on premise and how you can take advantage of them today and in future.	Wilhelm Mild
Modern Training Methods for the z/VSE & z/VM Workforce!	An optimally performing z/VSE & z/VM workforce is key to the ongoing success of your organization. So, why do so many companies still rely on expensive traditional training methods, or worse still, just NOT train! This presentation outlines the many modern z/VSE and z/VM workforce training components, methods and considerations that maximize human capital. Topics include blended learning, assessment, coaching & mentoring, credentialing, cost/ROI, talent retention, and success stories.	Darren Surch

VM Workshop 2019 - Session Abstracts

Implementing Pervasive Encryption in SUSE Linux Enterprise Server	An attendee should have a basic knowledge of pervasive encryption but a short review of pervasive encryption will be presented. The majority of this session will focus on enabling pervasive encryption in SUSE Linux Enterprise Server for data in flight and data at rest.	Don Vosburg
Using RESTful APIs in z/VM Cloud Connector for z/VM automation	The z/VM Cloud Connector is an open source project which provides a set of APIs to operate z/VM including guest, image, network, volume etc. This session will discuss and demonstrate the z/VM Cloud Connector and show how OpenStack uses the RESTful APIs for Infrastructure-as-a-Service automation of IBM z/VM.	Don Vosburg
z/VM Dynamic Memory Management	The flexibility to reassign (add and remove) system resources is critical to customers. Today's workloads are not static. With Dynamic Memory Downgrade on the IBM z14, a system administrator can take real memory offline from a z/VM partition, making it available to other partitions on the CEC. The removal will be dynamic; no reIPL of the z/VM image is required to accomplish a change in the memory configuration. This session with describe these new capabilities, give some guidance on use, and walk through some examples.	Walter Church
Addressing the Mainframe Skills Shortage	Pick up any trade magazine or read any website and youıı→ll find articles about the mainframe skills shortage. There are no shortage of pundits on the subject but not many offer real solutions to prepare their workforce after the Baby Boomer generation is no longer around to support it. Learn from ProTech experts with over thirty years of experience in mainframe skills development about what other organizations are doing to address the shortage and insight into what your company can do to address this looming issue.	Scott R. McFall
Red Hat Update: IBM Z/LinuxOne	This session will provide a brief update on the Red Hat and IBM partnership & pending acquisition (all public info, of course). Technical topics will include: Red Hat's Multi-Architecture Initiative, Updates on Offerings & Development Tools for IBM Z and LinuxOne & new features in RHEL for Z	Mike Watkins
Oracle on IBM Z Performance Tips	This presentation will discuss customer performance experiences which can be utilized to optimize Oracle workloads running Linux on IBM Z and LinuxONE systems. Various hints and tips will be covered based on Dave's experience helping many clients become successful with Oracle on IBM Z and LinuxONE.	David Simpson
Disaster Recovery – Case Studies and Open Discussion	This session will present an overview of the key data points to consider when determining the best disaster recovery plan for your mainframe platform, review some real-life case studies and end with an open discussion on disaster recovery issues and questions.	Kevin Wing
Viewing IBM Z and LinuxONE Through Fresh Eyes	This discussion session will be an interactive panel with some of the newest members of the z/VM and Linux community. They'll share how they came to work on the mainframe, some of the challenges they faced, and what they learned. They'll help answer your questions about bringing new people into the environment.	Bill Bitner
Blockchain Overview for Mainframers	Introducing the technology and helping people better understand the marketplace, the technology's true potential, and it's achilles heel.	Bill Carico

The Ins & Outs of Data Lineage!	Data Lineage is a new and upcoming technology that enables a number of important use cases when data is at the center of the question. How do I find Protected data? Did I find everything I need and how do I know? Where is that data stored? Will they really ask me? Where is this data used in our applications? We will cover a number of areas and use cases related to understanding data, data usage, impacts and where data gets stored from an application perspective. Your need may be related to Regulatory such as Protected data with GDPR, HIPPA, etc. or you want to identify the Data in an application and identify where it is used, how it is used and in the end where it is stored. You don't need prior knowledge. Just come with your curiosity and be ready to hear about a technology that will become more important to you or others in your organization.	Roger Hammer
z/VSE 6.2 installation in z/VM Guest	This session shows the ordering process, download of the z/VSE 6.2 AWS file and installation tools. It provides some information about the preparation of the z/VM guest and installation of the z/VSE base system in form of screen recordings.	Ingolf Salm
Mainframe Analysis Automation that Works!	Analysis Automation is critical to a well run Mainframe shop. Providing 21st Century tools enables Mainframe development to compete well with Distributed systems development. Working with antiquated tools can make a mainframe shop take too much time to identify Impacts of change and make mistakes that cost time and money through rework and missed deadlines. Modernization projects are impossible without the proper tools to understand the overall application and make the best decisions regarding approach and finding the Business Rules in the application. We will provide Use Cases for real world Automated analysis and make the case for companies to provide the tools that level the playing field for Developers / Analysts and enables them to do the professional work in less time with more accuracy.	Roger Hammer