AFCEA NOVA - CLOUD SECURITY WEBINAR

Presenter: Sean Hulbert

Security Centric, Inc. is a provider in:
- Cybersecurity Courseware Development
- Adaptive Learning Environments
- Penetration Testing
- Risk Management
- Threat Intelligence
- Cloud Technology Experts
Topics

- Virtualization Consideration,
- Network Segmentation (physical, virtual and private),
- Guest VM isolation,
- How to Handle Virtual Host Tools for Guest VM,
- Parameter Injection for Guest VMs
- The dos and don’ts for Guest VMs.
### Memory
- 16 TB
- 4096 Mb
- 5 TB
- 1.5 TB
- 12 TB
- 4TB (Per VM)
- 24 TB
- 4096 Mb

### CPU
- 768
- 288
- 768
- 32 Per VM (4096Max)
- 512
- 32 Per VM (4096Max)
- 2048Max

### Storage
- 2048 Disc /1024LUN
- 4TB
- 2TB / 4096 Disc
- 1TB
- 500 TiB in all
- 8TB (Per)
- 2048 Disc /1024LUN

### Network
- 32 (1G) 16 (10G)
- 10 Virtual per VM
- 16 (1/10G) 800 vLAN / 512 vNet
- Special (limit)
- No Limits Imposed
- 300 In all
- No limits
- No Limits

Host/Guest Limitations May Vary

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Physical Segmentation

Network 0 172.22.0.0/22

Network 1 10.22.0.0/22

Management network
Physical Segmentation

Network 0 172.22.0.0/22

Network 1 10.22.0.0/22

Management network

Isolated network
IP Assignment

Network 0 172.22.0.0/22
Network 1 10.22.0.0/22

Management network

Isolated network

Subnet /22 (1024 IP Addresses)
- 172.22.0.1
- 172.22.1.1
- 172.22.2.1
- 172.22.3.1

Subnet /22 (1024 IP Addresses)
- 10.22.0.1 DHCP Range
- 10.22.1.1 Static Range
- 10.22.2.1 Resource Range
- 10.22.3.1 Proxy
VM Tools installed

- Memory Optimization
- Direct Access to GPU
- Network Optimization 1000/10Gb
- OS drivers to inject Parameters
  - Hostname
  - Network Cards
  - IP Address
  - vLAN
  - Private Networks
  - Shares
  - Hot Plugging VDI
VM Tools installed
- Memory Optimization
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- Network Optimization 1000/10Gb
- OS drivers to inject Parameters
  - Hostname
  - Network Cards
  - IP Address
  - vLAN
  - Private Networks
  - Shares
  - Hot Plugging VDI

VM Tools - Drivers

- VM Tools – drivers load in to memory
- Safe to delete VM tools executables
  - After VM is up and running
VM Tools installed
- Memory Optimization
- Direct Access to GPU
- Network Optimization 1000/10Gb
- OS drivers to inject Parameters
  - Hostname
  - Network Cards
  - IP Address
  - vLAN
  - Private Networks
  - Shares
  - Hot Plugging VDI

- VM Tools – drivers load in to memory
- Safe to delete VM tools executables
  - After VM is up and running
- Delete with script
- Mapped drive
- Hot Plug Drive
Private Network Virtual Adapter

Private network is a non routable network

Traffic only between the two systems
Private Network Virtual Adapter

Private network is a non routable network

This is not a vLAN

Private LAN can have any name label

Traffic only between the two systems
Private Network Virtual Adapter

Outside World - Routable Network - Firewall NAT Forwarder - Private Network 0 - Private Net 1
Private Network Virtual Adapter

Outside World

Routable Network

Packet routing

Network 1 10.22.0.0/22

Firewall NAT Forwarder

Private Network 0

Private Net 1

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Private Network Virtual Adapter

Outside World

Network 0 172.22.0.0/22
Network 1 10.22.0.0/22

Routable Network

Firewall NAT Forwarder

Packet routing

Private Network 0

Private Net 1

Network 1 10.22.0.0/22

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Encrypted VM/Containers

Server 1 AES256 Encryption

Certificate A:

Server 2 AES256 Encryption

Certificate B:
Encrypted VM/Containers Part 2

Server 1 AES256 Encryption
Certificate A:

Server 2 AES256 Encryption
Certificate B:
Encrypted VM/Containers Part 3

Server 1 AES256 Encryption

Certificate A:

Certificate B:

Server 2 AES256 Encryption

Certificate A:
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Chapter Officer, San Francisco, CA
V.P. Communications and Membership

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