SDS

Our webinar will begin shortly

SDS

Quality Mainframe Software since 1982

info@sdsusa.com | (800) 443-6183 | www.sdsusa.com

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z/OS Security Webinar

Security Solutions for the Mainframe

plus an Extended Trial Offer

Presenters

Colin van der Ross

Sr. Systems Engineer

SDS

2 SDS solutions that can help secure your mainframe

Lori Kettles

Sales Manager

SDS

SDS introduction and extended offer details

About Us

Quality Mainframe Software since 1982

- Expert development & technical support teams based in Minneapolis, MN.
- 25+ products for z/OS, z/VM, z/VSE, and distributed platforms.
- Hundreds of organizations worldwide rely on SDS solutions.
- Focus on mainframe security and compliance.
- Cost savings and legacy tool replacements: DO MORE WITH LESS!
- Long-standing global partnerships complement SDS software.
- Recognized for providing highest quality technical support.

CYBERSECURITY 500 WORLD'S HOTTEST SECURITY COMPANIES

IBM Registered Business Partner

database TREND-SETTING PRODUCTS 2020

Extended Trial Offer

Shelter-in-place Plan

- ► Everyone works from home
- ► Hackers have increased their activity
- ► Maintaining security during this time is very important

Our Offer

- ► Unlimited number of LPARs
- ► Limited to first 50 customers
- ► Accept offer by May 15, 2020
- ► Free to use until October 31, 2020
  - Guaranteed price after trial period
  - Cancel at no charge during trial

Gaps in your Security?

SDS can help secure your mainframe

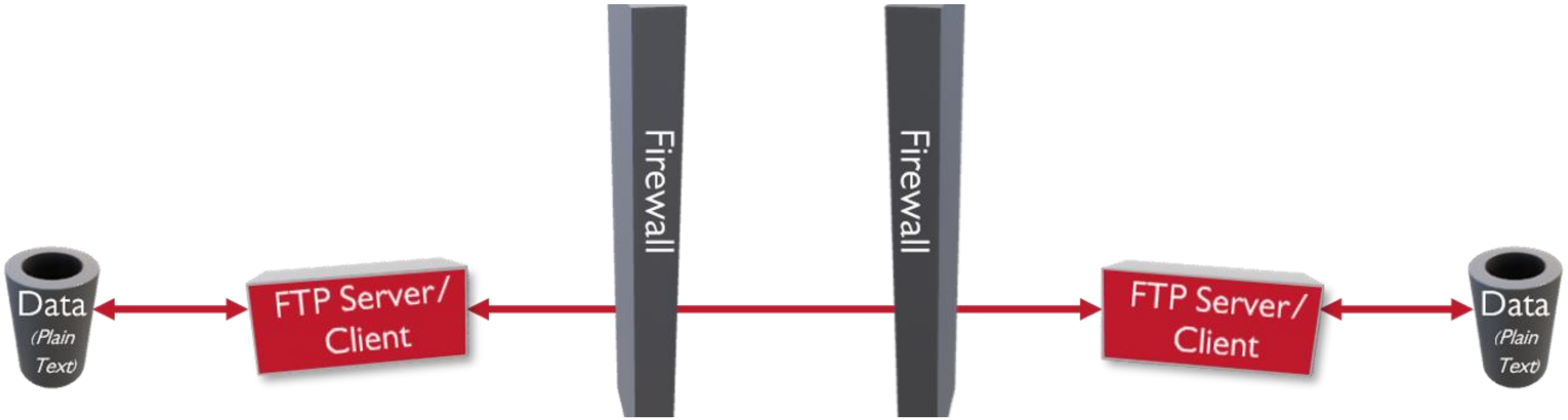
- ▶ Automate DISA STIG compliance monitoring
- ▶ Secure data at rest on z/OS and distributed platforms
- ▶ Secure 3270 terminal emulator
- ▶ Secure mainframe FTP without JCL changes
- ▶ Deliver mainframe security events to any SIEM in real time

Securing FTP on z/OS

Agenda

- ▶ Why is FTP so Vulnerable?
- ▶ Demo of a packet trace on FTP transfer
- ▶ Different options to Secure FTP
- ▶ Demo of Migrating FTP-to-SFTP without JCL changes

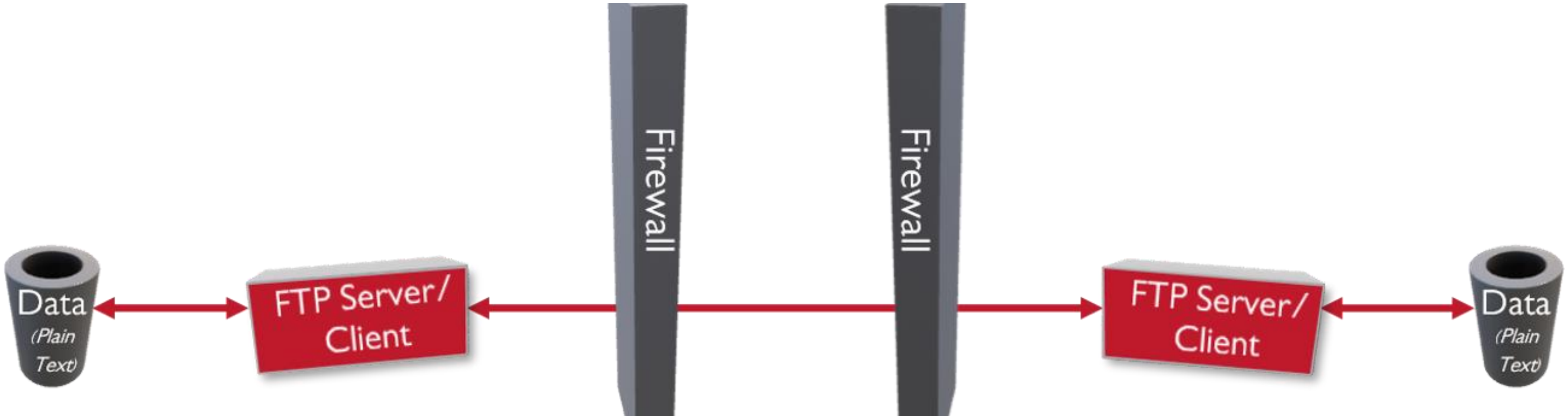
Why is FTP so Vulnerable?



👍 Ubiquitous

- ✓ Readily available on most platforms
- ✓ Client side is always ready to go
- ✓ Server requires some configuration

Why is FTP so Vulnerable?



👍 Common Knowledge

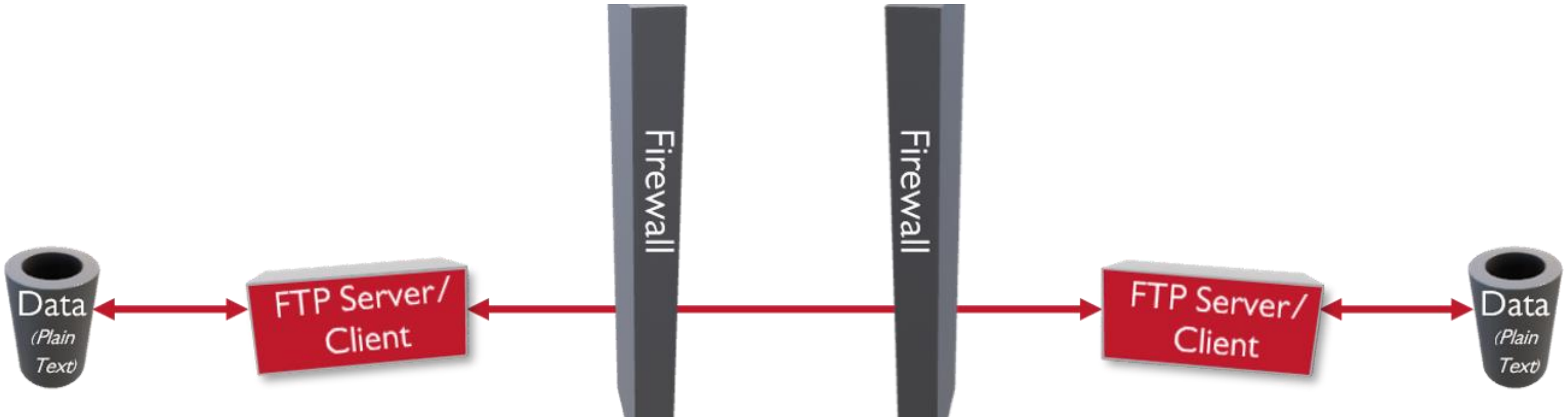
✓Been around for long time and easy to use

✓Command syntax is simple

✓Everyone has had some interaction with FTP

✓Included in OS

Why is FTP so Vulnerable?



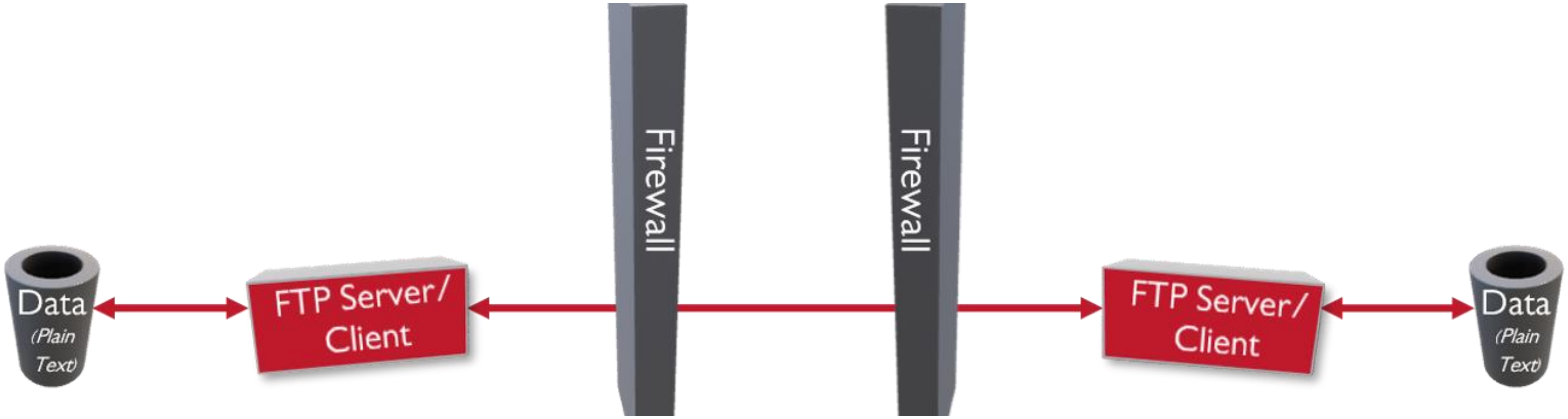
👎 Very Little Security

- ✕ FTP is a CLEAR text protocol
- ✕ User ID, passwords, data can be seen with right tools

👎 Not Firewall Friendly

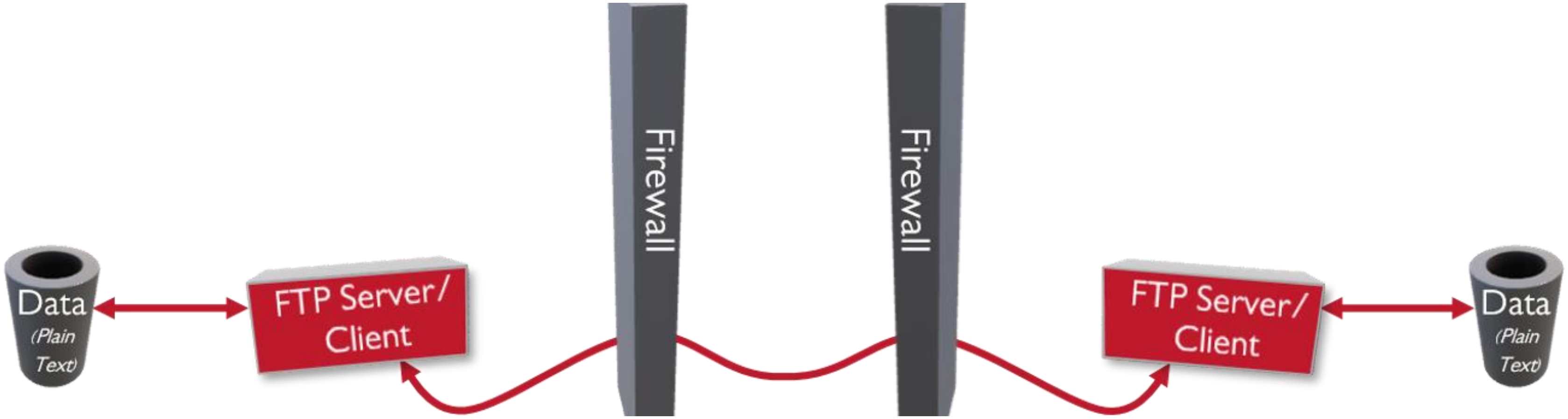
- ✕ Strange protocol designed around having 2 connections
  - One for Commands
  - One for data transfers

Why is FTP so Vulnerable?



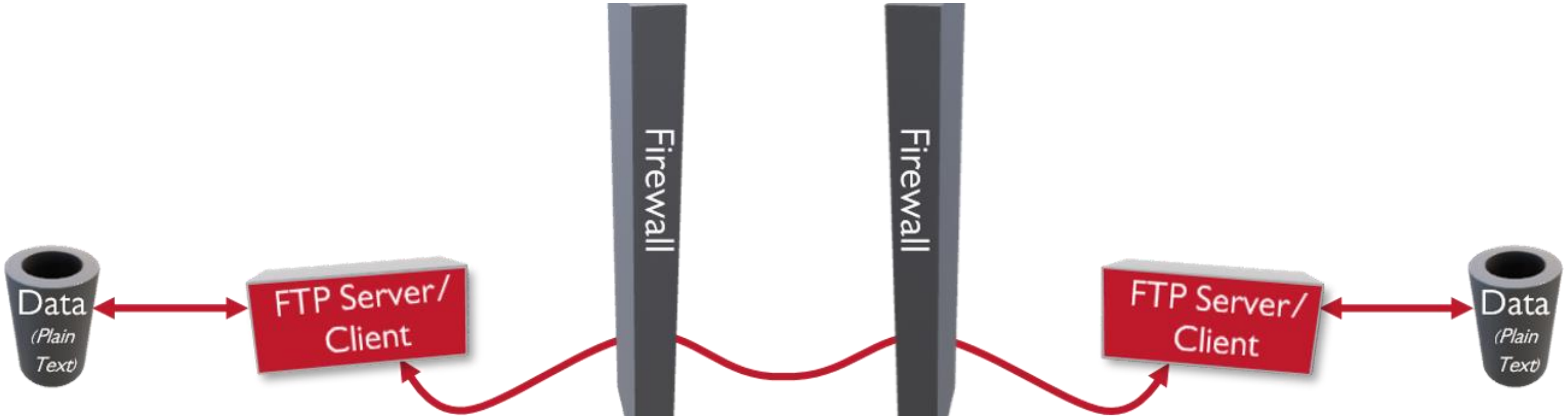
- No Native Compression
  - × No concessions for improved network performance
  - × Mode z extension but not always available
- Lacks Integrity Validation
  - × FTP does not provide any application level checksum to verify integrity of the data

FTPS – FTP over SSL



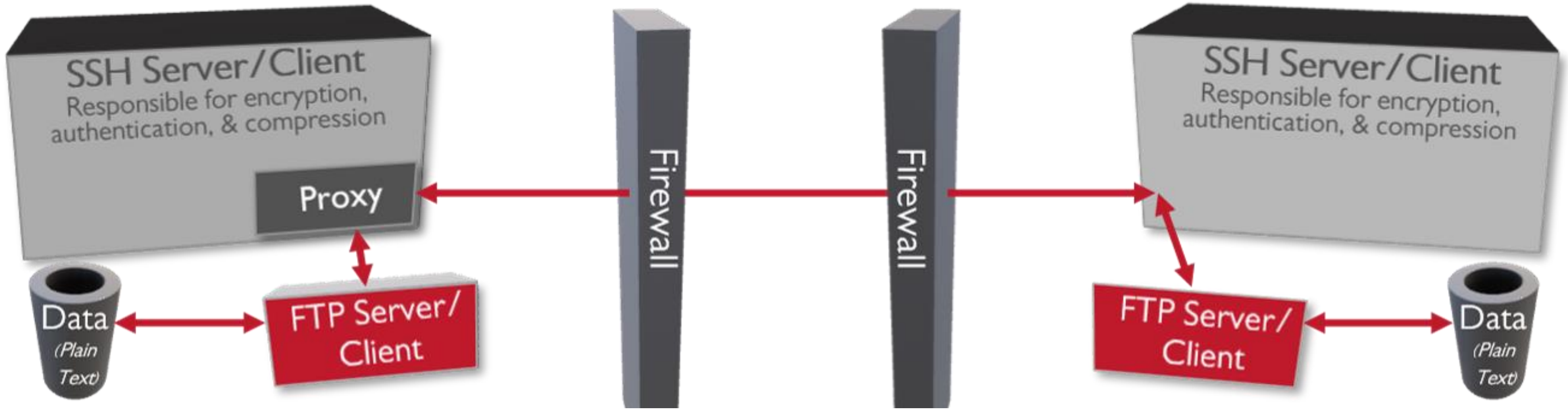
- 👍 Similar to FTP
  - ✓ Command Syntax & Protocol is the same as FTP
  - ✓ MVS Dataset support/JES Support
  - ✓ X.509 certificate support and Kerberos
  - ✓ RACF Keyrings

FTPS – FTP over SSL



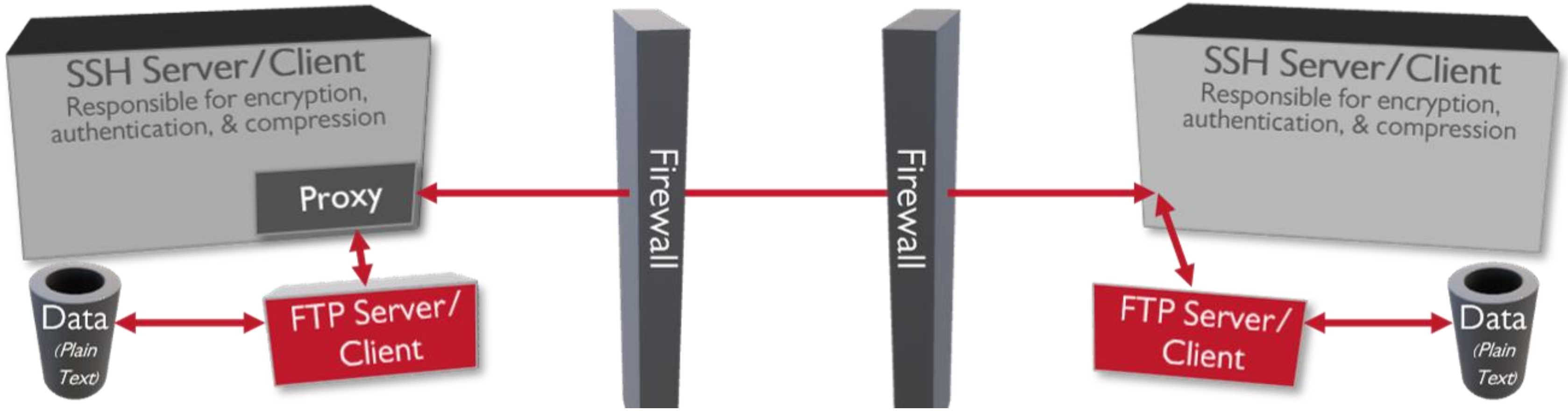
- 👎 Not Firewall Friendly
  - × Command connection is encrypted
  - × Firewall cannot “sniff” it anymore
- 👎 Cannot assume it is available on the other end

FTP over SSH Tunnel



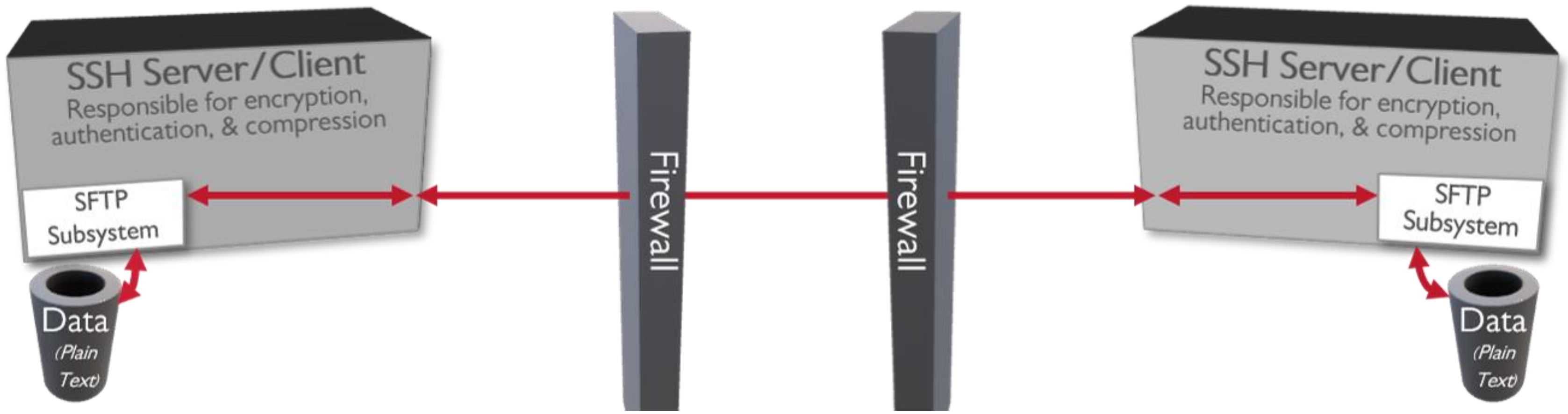
- 👍 Same FTP Familiarity
- 👍 Firewall Friendly
  - ✓ Only requires a single connection – Port 22
- 👍 Compression of Data
- 👍 Good Data Checksums

FTP over SSH Tunnel



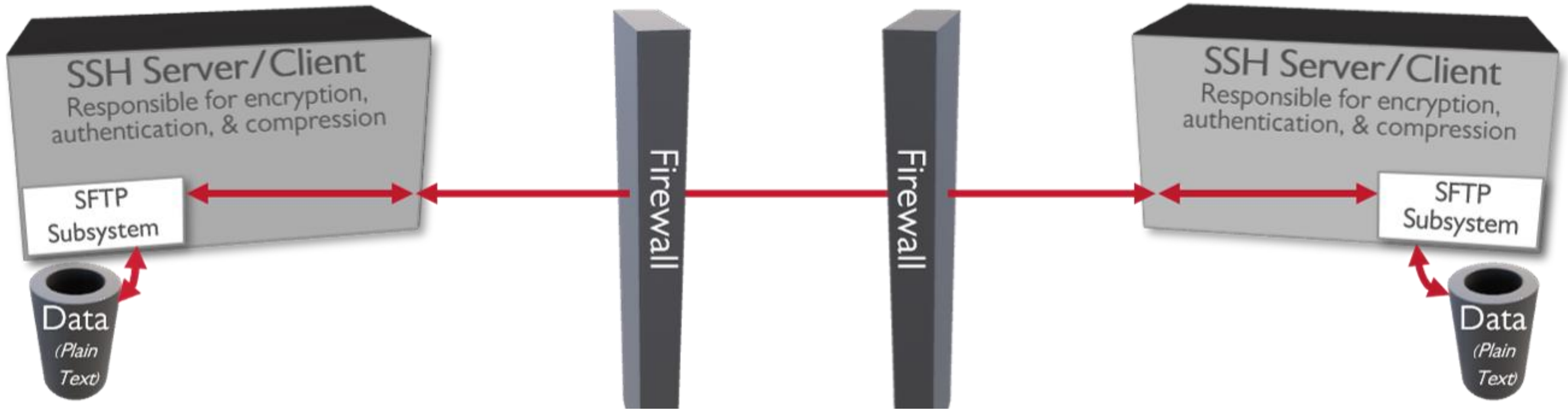
- 👎 More needs to be Choreographed
- 👎 Requires SSH and FTP on both ends

SFTP – Secure FTP


SSH Server/Client
Responsible for encryption, authentication, & compression
SFTP Subsystem
Data (Plain Text)
Firewall
Firewall
SSH Server/Client
Responsible for encryption, authentication, & compression
SFTP Subsystem
Data (Plain Text)

- 👍 Satisfies the SFTP Requirement
- 👍 Point-to-Point Encryption
- 👍 Compression & Integrity built in

SFTP – Secure FTP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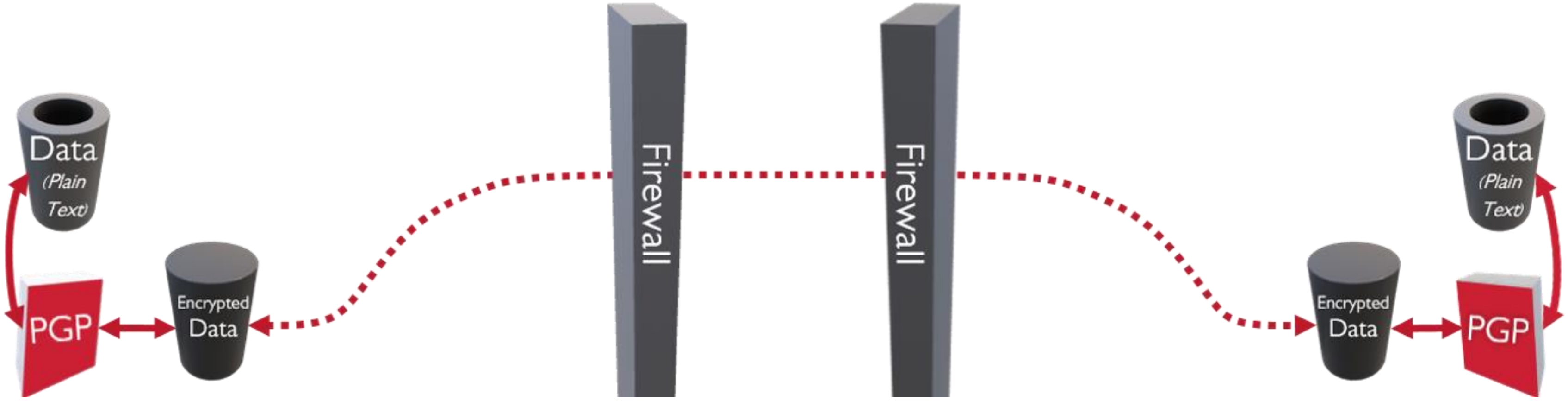
Data
(Plain Text)
Firewall
Firewall
SSH Server/Client
Responsible for encryption, authentication, & compression
SFTP Subsystem
Data
(Plain Text)

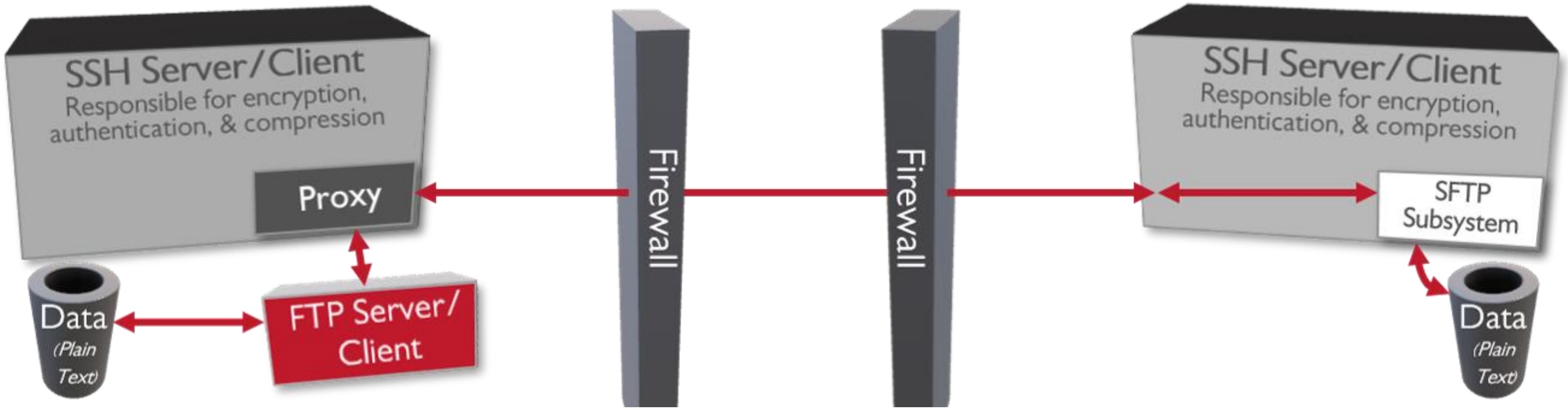
- 👎 May not be part of your Operating System
- 👎 May not be familiar to users
- 👎 Only protects the data in transit

PGP – Pretty Good Privacy



- 👍 Secures data at rest
- 👍 Full control of sensitive data
- 👍 Compression & Integrity built in
- 👍 Not just for transfers
- 👎 Requires Staging

FTP-to-SFTP Conversion



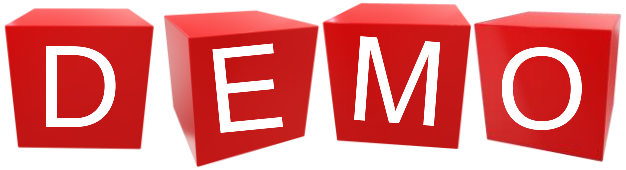
- 👍 Satisfies the SFTP Requirement
- 👍 Can still use the FTP Client on the z/OS side
- 👎 Not a perfect match

Securing FTP on z/OS

Product Demonstration

▶ Tasks completed prior to Demo

- VFTP and SSH Tectia installed
- Uploaded the remote servers’ Public Key
- Configured the Tectia Proxy to convert FTP to SFTP
- Configured VFTP to job ZFTPJOB to the Proxy



Securing FTP on z/OS

Summary

- Many options to consider
- Not a “one size” fits all situation
- Could be one solution or a combination of solutions discussed here today
- What is the end goal?

Gain Real-Time Visibility into Z

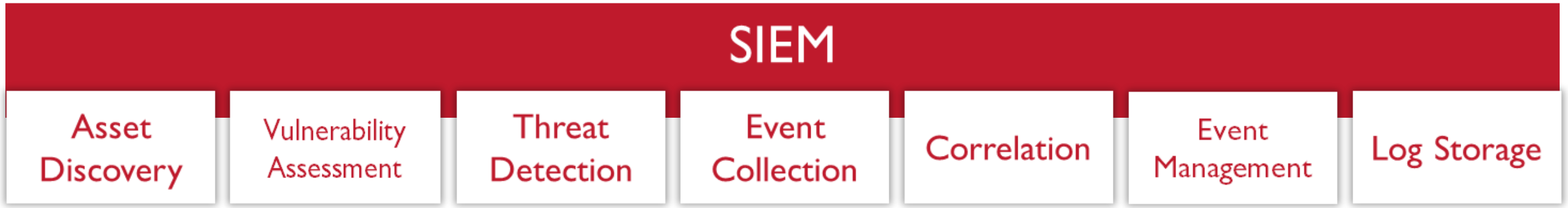
Agenda

- ► Short overview on “What is a SIEM?”
- ► Demo of sending SMF events in real time to QRadar/Splunk
- ► Demo of VSA Granular SMF Filtering
- ► Suggested SMF events to monitor

What is SIEM?

Security Information & Event Management

- Security Management provides a holistic view of an organization’s information technology security
- SIEM combines SIM (Security Information Management) and SEM (Security Event Management) functions into ONE Security Management System



SIEM

Asset Discovery | Vulnerability Assessment | Threat Detection | Event Collection | Correlation | Event Management | Log Storage

What is SIEM?

Security Information & Event Management System

Security Event Management (SEM)	Security Information Management (SIM)
Provides: ▶ Event Management ▶ Real-Time Threat Analysis ▶ Incident Detection & Response ▶ Basic Ticketing Capabilities ▶ Security Operations	Provides: ▶ Centralized Log Collections ▶ Long-term Log Collection ▶ Log Search and Reporting

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What is SIEM?

Security Requirement

- ▶ SIEM is the core of a defense-in-depth strategy
- ▶ Attackers leave behind a trace – Logs
- ▶ Security Events provide insight into:
  - When the event occurred
  - Why it happened
  - What happened

What is SIEM?

Why integrate z/OS into SIEM?

- ▶ Compliance Requirement
  - PCI, SOX, HIPAA, GLBA, etc.
- ▶ Mainframe contains sensitive data
  - Large corporations have 70% of data on mainframes
- ▶ z/OS is not invulnerable
- ▶ Your organization likely has a SIEM
  - Why not use it for your mainframe?

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VitalSigns SIEM Agent for z/OS

SMF Types Monitored by VSA

Record Type 14 (0E)	INPUT or RDBACK Data Set Activity
Record Type 15 (0F)	OUTPUT, UPDAT, INOUT, or OUTIN Data Set
Record Type 17 (11)	Scratch (delete) of Data Sets
Record Type 18 (12)	Rename of Data Sets
Record Type 30 (1E)	JOB/STEP TERMINATION (BATCH, TSO, STARTED TASK)

SMF Types Monitored by VSA

Record Type 32 (20)	INPUT or RDBACK Data Set Activity
Record Type 42 (2A)	System Managed Storage (SMS) PDS/E activity
Subtype 20	STOW Initialization (delete all members)
Subtype 21	Delete member
Subtype 24	Add or Replace member
Subtype 25	Rename member

VitalSigns SIEM Agent for z/OS

SMF Types Monitored by VSA	
Record Type 62 (3E)	VSAM OPEN
Record Type 80 (50)	RACF Security (Events 1-89; Data Types 1-438)
Record Type 81 (51)	RACF Initialization and SETOPTS
Record Type 83 (53)	RACF Security Audit Reports

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VitalSigns SIEM Agent for z/OS

SMF Types Monitored by VSA	
Record Type 90 (5A)	Changes to APF Authorized Library Lists (z/OS 2.2)
Record Type 92 (5C) Subtypes 1, 2, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17	Open/MVS File System activity
Record Type 102 (66)	DB2 Database Audit (Classes 1-11; Admin actions)
Record Type 109 (6D)	SyslogD

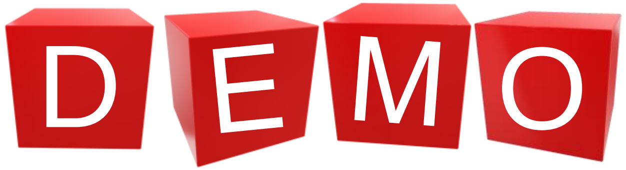
VitalSigns SIEM Agent for z/OS

SMF Types Monitored by VSA	
Record Type 119 (76)	TCP/IP, Telnet, FTP, FTP Client, UDP Close, TN3270
• TCPTerm (2), FTPClient (3), StackSS (8), UPDCLOSE (A), TNSvrTerm (15) • TSOCTerm (17), FTPServer (46), FTPLogonf (48)	

VitalSigns SIEM Agent for z/OS

Product Demonstration

- SMF Events sent to QRadar/Splunk
- VSA Granular Filtering



SMF Type 80

- ▶ SMF Events to monitor
  - Gathered directly from SDS customers

Gain Real-Time Visibility into Z

Summary

- ▶ Many SMF/WTORS events to monitor
- ▶ Separation of Duties
  - Discuss what events are most important to your organization
- ▶ Don’t open the “flood gates”
  - Having a product that allows you to choose which events to send to the SIEM is important

Summary

- ▶ Real-time SMF monitoring is key
- ▶ Compliance requirement
- ▶ Does your company have a SIEM?
  - If so, why not include z/OS as part of your SIEM strategy?

Questions?

Would you like additional information?

info@sdsusa.com

763-571-9000

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www.sdsusa.com

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