OPTICA™

Mainframe Storage and Connectivity Solutions

Mainframe Virtual Tape

The Optimal Solution for z/VM & z/VSE Users

VM Workshop 2020

June 17, 2020

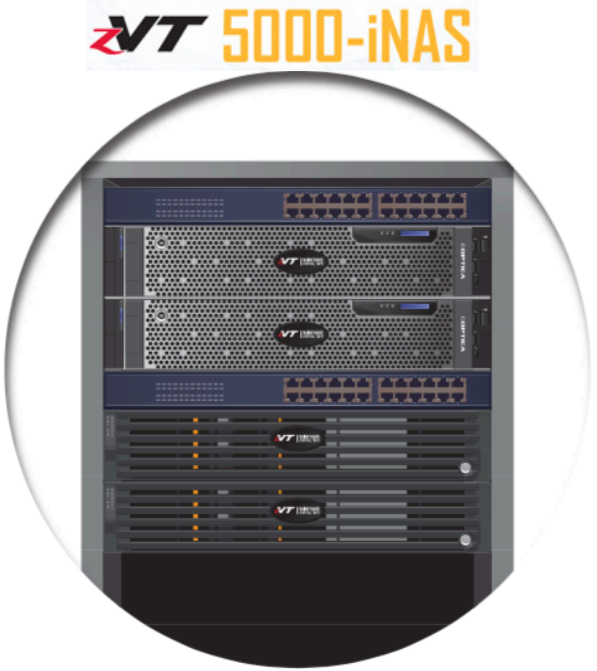
IBM Registered Business Partner

Agenda

- Who is Optica?
- zVT Family Overview
  - Broadest range of options in the industry
  - Model comparisons
- Flexible Replication Options
- Investment in z/VM & z/VSE
  - Integration with z/VSE tape management systems
  - Supporting utilities
- GUI Overview
- Questions

Optica Background

- **More than 50 years of datacenter experience**
- **Strategic IBM Z partner and exclusive provider of IBM Z channel conversion solutions since 2002**
- **Thousands of datacenter deployments worldwide**
  - Keen understanding of mainframe customer requirements and expectations
  - High customer satisfaction
- **Deep commitment to the mainframe**
  - World-class knowledge of mainframe protocols
  - Extensive experience in tape emulation, tape operations and support
  - Significant investment Mainframe lab and resources
- **Optica zVT family**
  - Announced January 2015
  - 2nd Generation announced May 2018



Modular, Scalable and Fully Featured

zVT Family of Mainframe Virtual Tape Products

zVT 5000-iNAS

Modular, Scalable and Fully Featured

- HA architecture - no single-point of failure designs
- Modular and scalable design building blocks
  - Starts at 24/TB Useable / 120TB Effective to Multi-PB capacity
  - Licensed for 256 Virtual Tape Drives (VTDs) per VTN
  - 1000-8000 MB/s throughput (1000 per VTN)
- Deduplication and compression (standard)
- WAN optimized replication, encryption and WORM optional
- Powerful data resiliency technology

zVT 5000-FLEX

Virtual Tape Engine with FLEXible Storage Platform Support

- Industry exclusive support for your strategic NFS, FC and Cloud storage
- Compatible with the existing features of your storage
- Support for multiple replication options for the enterprise
- FLEX license support for 16, 64 or 256 VTDs
- HA/Multi-node VTN support for NFS environments

zVT 3000i

Affordable, Internal Storage

- Three capacity options: 8TB, 16TB and 24TB useable RAID 6 internal
- Effective Capacity: 32TB, 64TB and 96TB with HW compression*
- Licensed for 16 VTDs
- Support for multiple replication options; compression and **encryption at rest**
- Serves smaller z/OS, z/VM and z/VSE requirements well

zVT Virtual Tape Node (VTN) Overview

Mainframe Connectivity
- (2) FICON per VTN

Virtual Tape Drive License Support
- 16, 64 or 256 VTDs

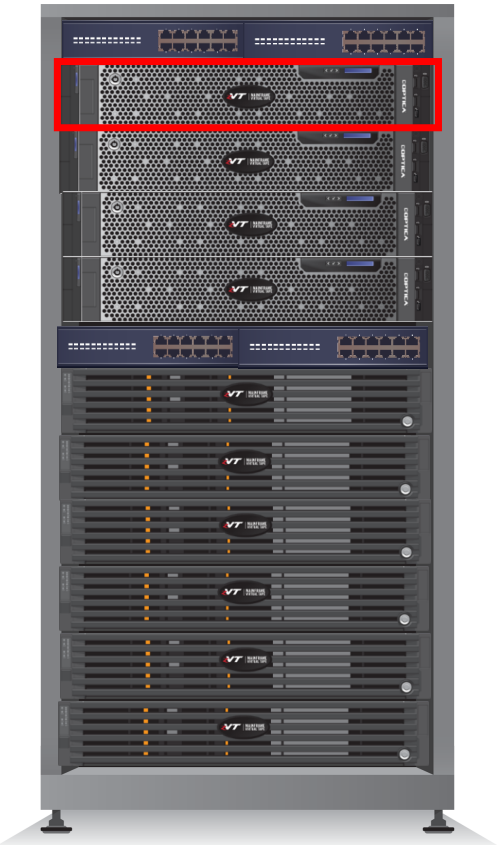
Operating Systems Support
- z/OS, z/VSE & z/VM

Storage Connectivity
- zVT-5000-iNAS: 10GbE NFS standard
- zVT-5000-FLEX: 10GbE, 1GbE or 8Gbps FC
- zVT-3000i: RAID-6 Internal/Local Storage

Mainframe Tape Drive Emulations
- IBM 3490 & 3590

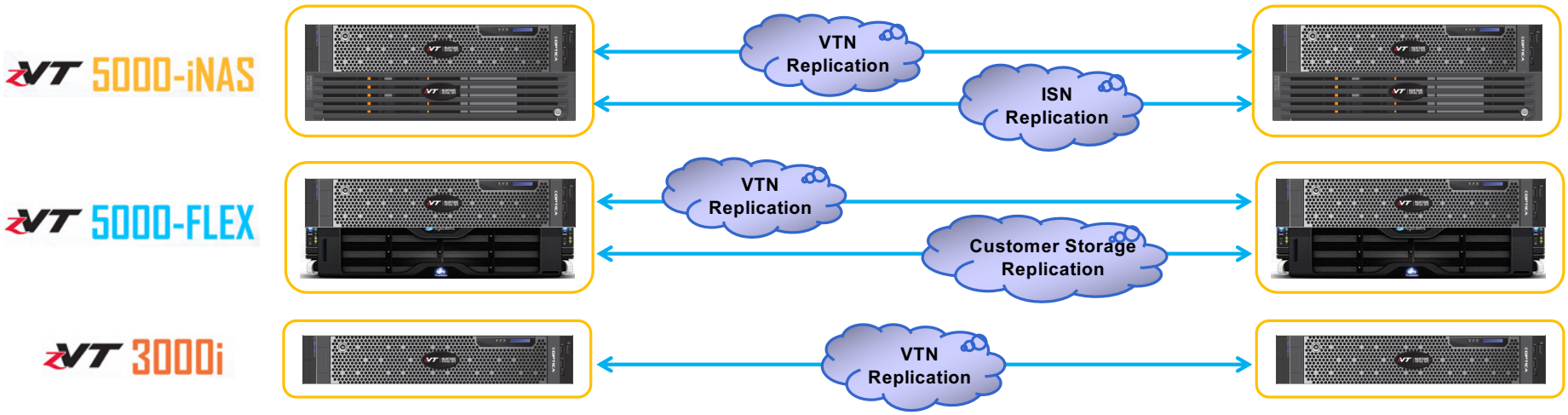
Features
- User management – **GUI, CLI & JCL**
- Support for up to 32 virtual tape libraries per zVT node
- Support for 1,000,000+ virtual volumes
- Hardware compression standard
- 1,000 MB/s throughput per VTN*
- Multi-level data integrity checking
- VTN to VTN replication and monitoring with Cloud support
- zVT Hostless Migration Engine
- ***Non-proprietary AWS file format (it's <u>your</u> data!)***

Complete testing and integration:
- IBM, CA, IDP/FDR, CSI, BVS, DTS and more



*Note: *Performance will vary based on a variety of factors*

Replication – Flexible Options



VTN Replication (available in all models)

VTN to VTN or VTN to Cloud Gateway or VTN to any NFS Mount
- **1 or 2 destinations from source VTN**

Asynchronous and Synchronous Options
- **Asynchronous:**
  - **Background task by VOLSER**
  - **Scheduled replication background task by library. Replicates all changed VOLSERs within the library since prior replication task**
- **Synchronous:**
  - **Job held until replication completes**

ISN Replication (5000-iNAS only)

ISN to ISN only
- **1 ISN to 1 ISN -or- 1 ISN to many ISN's**

Asynchronous
- **Scheduled replication background task by file system**
- **WAN-Optimized: Replicates only changed de-duplicated data in File System**

zVT Optica's Commitment to z/VM and z/VSE Customers

Mainframe Lab - Test and Development

- Large investment in mainframe lab
- Development, Support and Interop/Regression Testing
- Partnerships with all leading tape/storage management software providers to ensure interoperability with zVT
  - IBM
  - SVA
  - CSI
  - CA
  - IDP/FDR

Full Support for z/VSE Environments with zVT

Tape Management

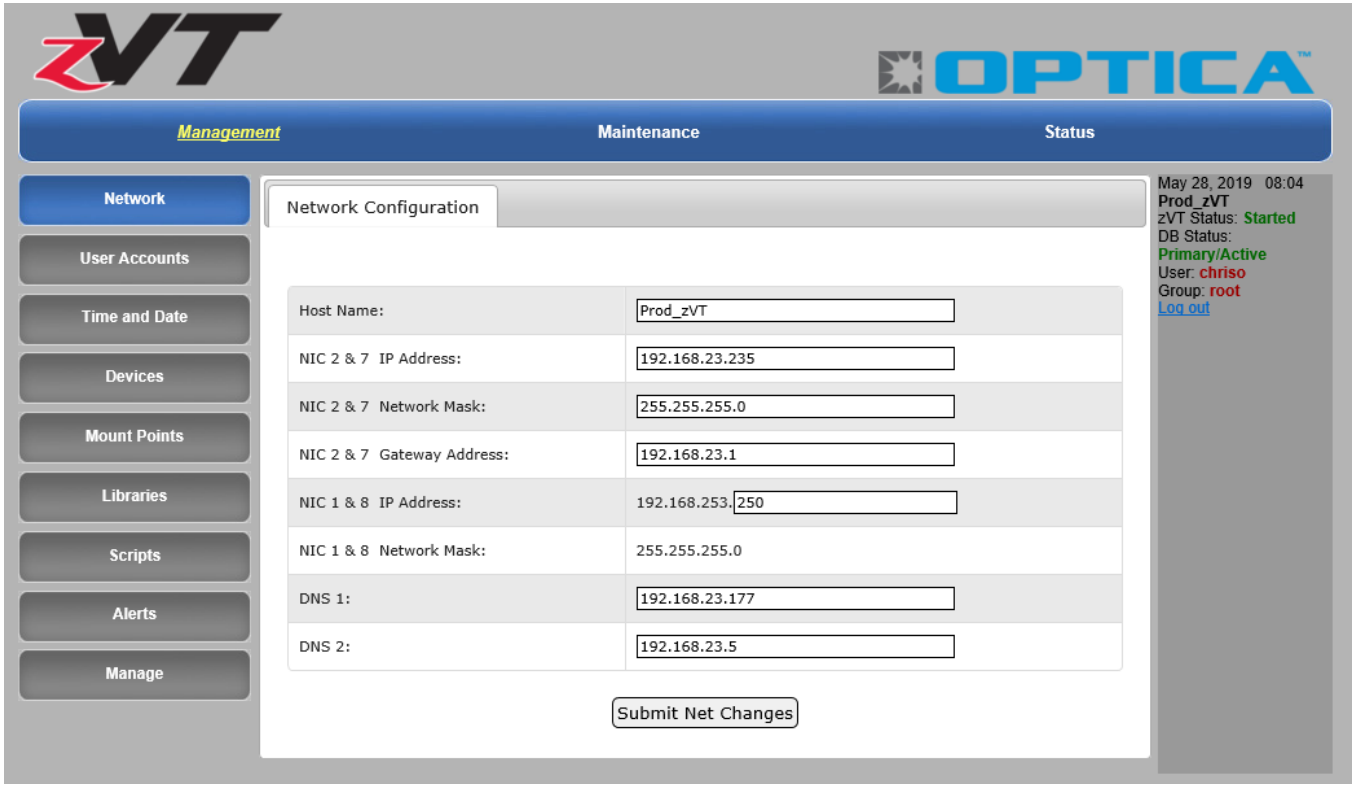
- CSI BIM-EPIC
- SVA BVS
- CA-Dynam/T
- CA-EPIC

Full Set of Utilities

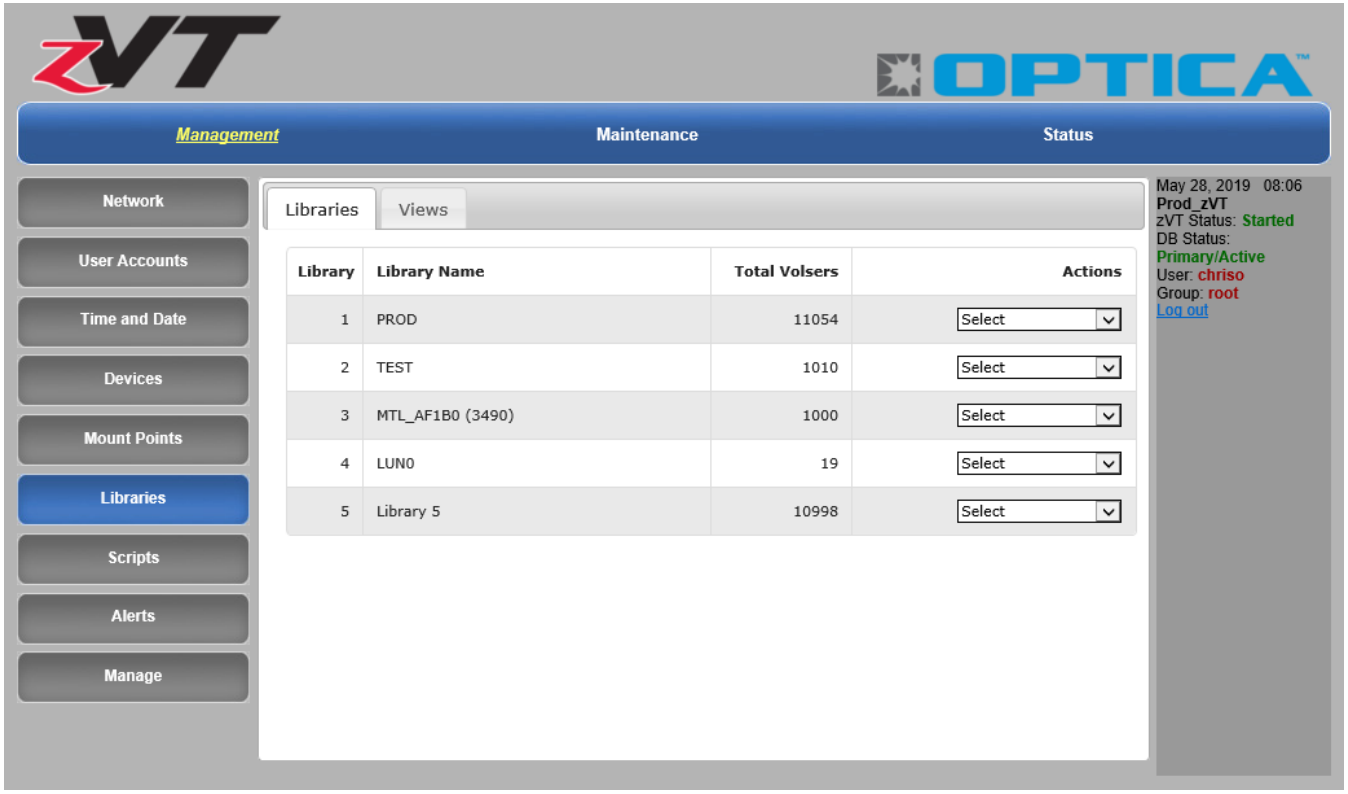
- Allowing use of JCLs for management
- Customized set for each tape manager
- Generic zVT Utilities:
  - ZVTMOUNT — Common Mount utility.
  - ZVTMAINT — Maintenance utility to find, scratch ,retain tapes.
  - ZVTCMDUtility to read / write zVT command tape.
- Specific TMS Utilities:
  - Scratch processing for CA Epic and Dynam/T (ZVTESYNC & ZVTDSYNC)
  - Dynam/T exit
  - Console monitor for mount related messages

** Source code is provided for all utilities.

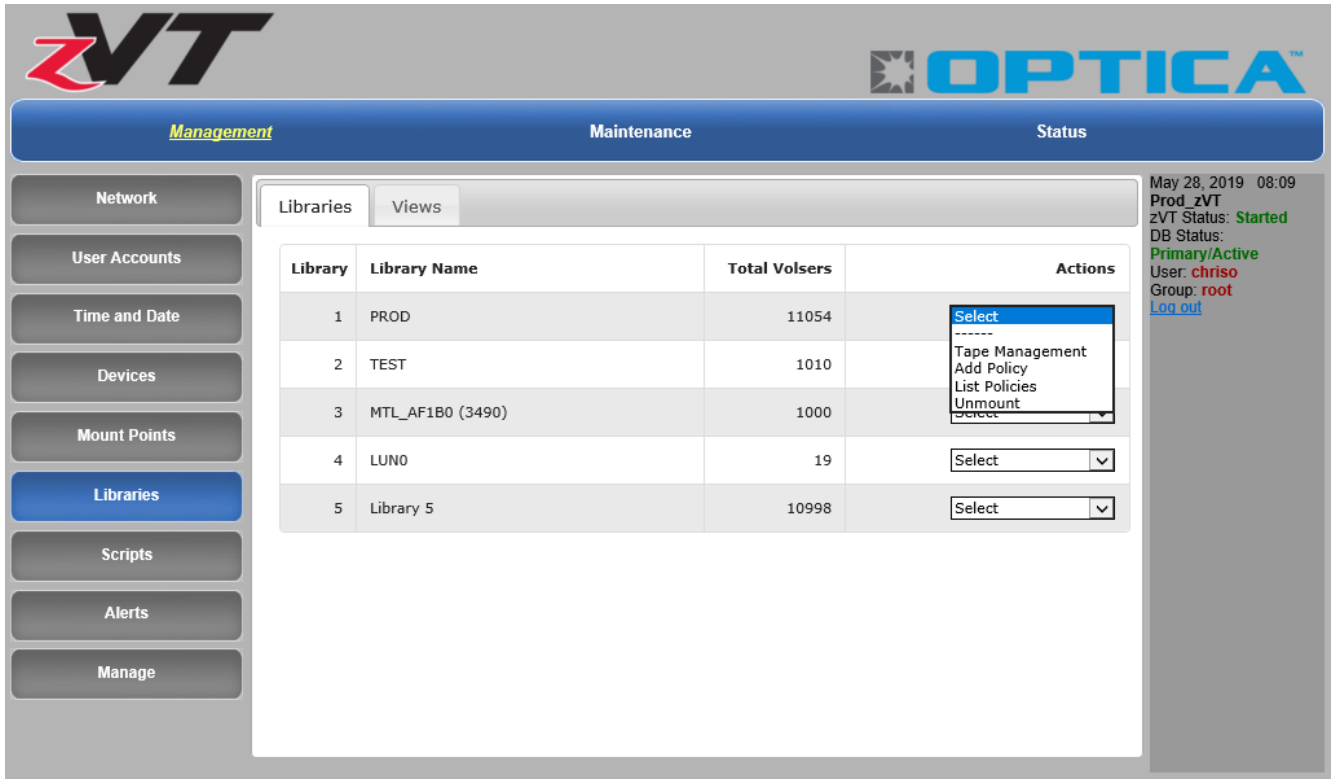
zVT GUI – Landing screen



zVT GUI – Libraries



zVT GUI – Library Action Menu



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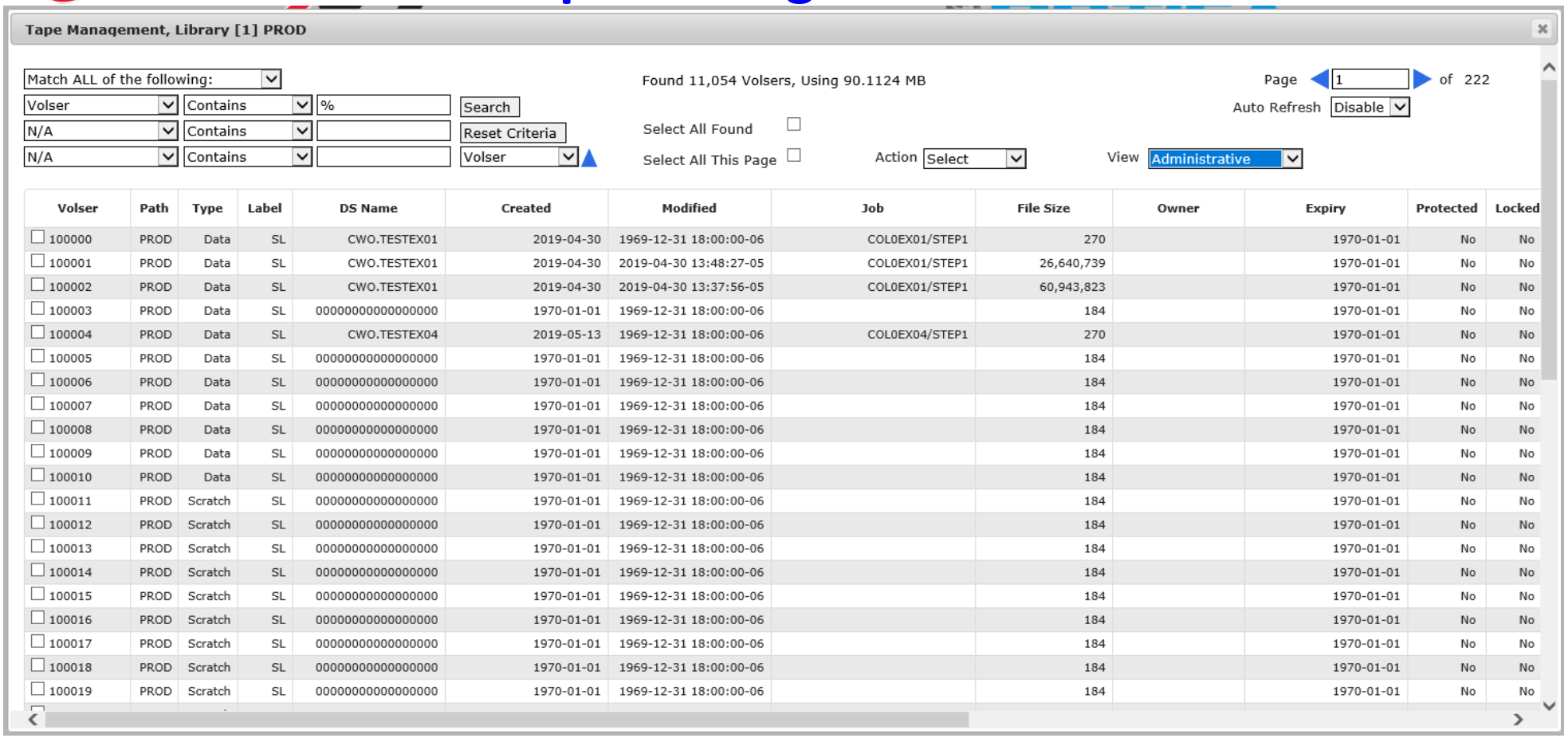
zVT GUI – Tape Management



Volser	Path	Type	Label	DS Name	Created	Modified	Job	File Size	Owner	Expiry	Protected	Locked
100000	PROD	Data	SL	CWO.TESTEX01	2019-04-30	1969-12-31 18:00:00-06	COL0EX01/STEP1	270		1970-01-01	No	No
100001	PROD	Data	SL	CWO.TESTEX01	2019-04-30	2019-04-30 13:48:27-05	COL0EX01/STEP1	26,640,739		1970-01-01	No	No
100002	PROD	Data	SL	CWO.TESTEX01	2019-04-30	2019-04-30 13:37:56-05	COL0EX01/STEP1	60,943,823		1970-01-01	No	No
100003	PROD	Data	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100004	PROD	Data	SL	CWO.TESTEX04	2019-05-13	1969-12-31 18:00:00-06	COL0EX04/STEP1	270		1970-01-01	No	No
100005	PROD	Data	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100006	PROD	Data	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100007	PROD	Data	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100008	PROD	Data	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
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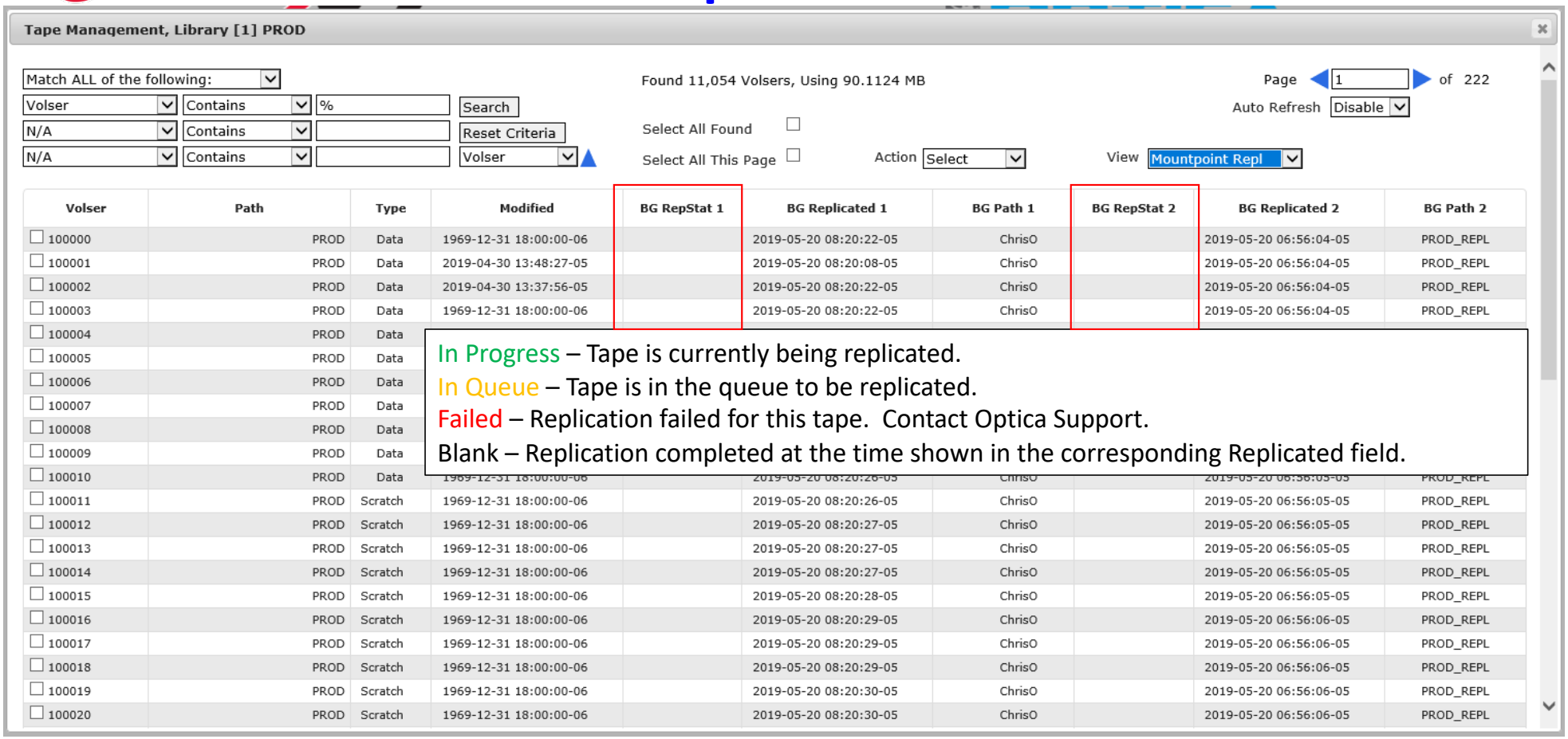
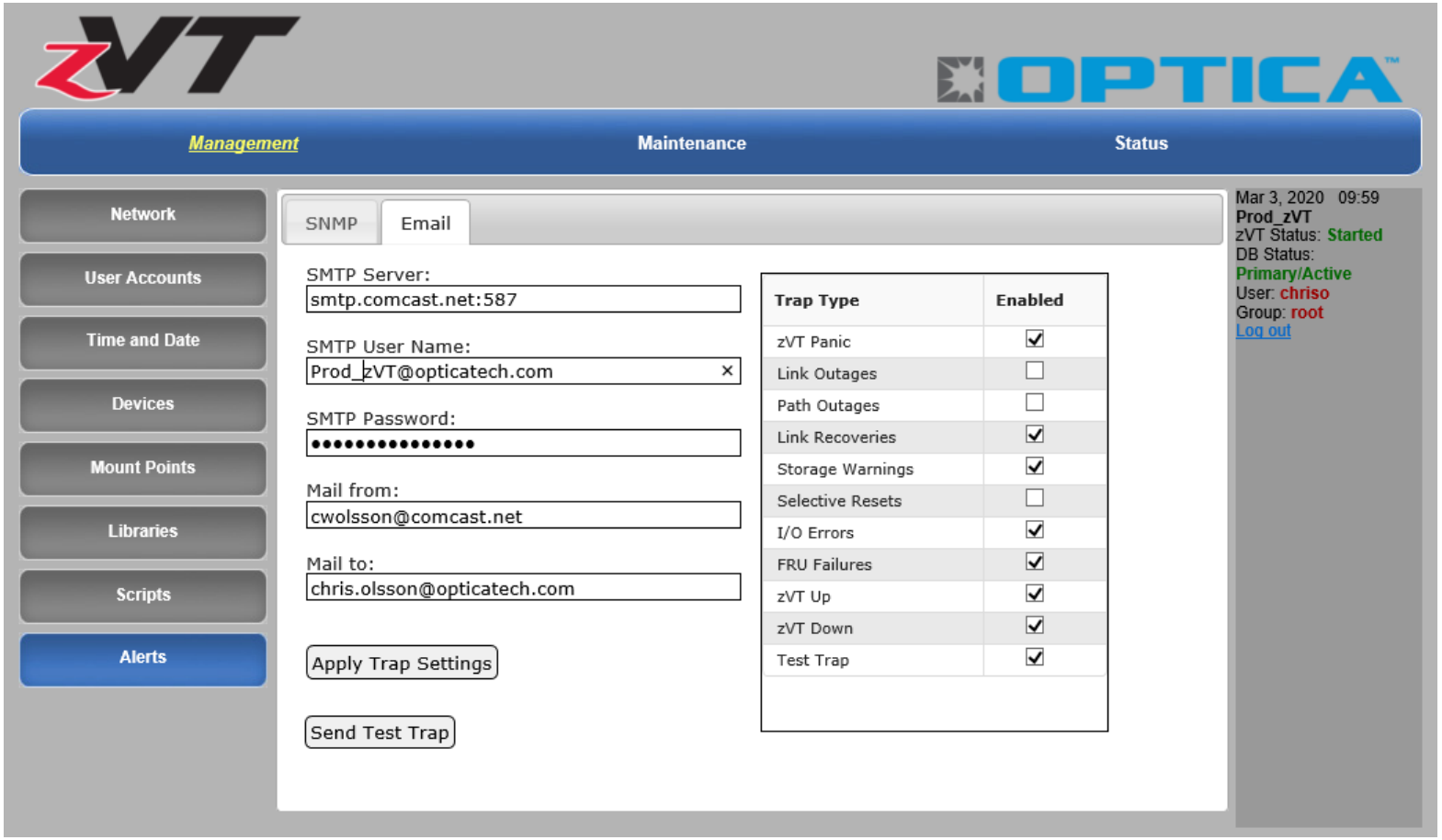
100012	PROD	Scratch	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100013	PROD	Scratch	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100014	PROD	Scratch	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100015	PROD	Scratch	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100016	PROD	Scratch	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100017	PROD	Scratch	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100018	PROD	Scratch	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No
100019	PROD	Scratch	SL	00000000000000000	1970-01-01	1969-12-31 18:00:00-06		184		1970-01-01	No	No

zVT GUI – VTN Replication Status screen



Volser	Path	Type	Modified	BG RepStat 1	BG Replicated 1	BG Path 1	BG RepStat 2	BG Replicated 2	BG Path 2
100000	PROD	Data	1969-12-31 18:00:00-06		2019-05-20 08:20:22-05	ChrisO		2019-05-20 06:56:04-05	PROD_REPL
100001	PROD	Data	2019-04-30 13:48:27-05		2019-05-20 08:20:08-05	ChrisO		2019-05-20 06:56:04-05	PROD_REPL
100002	PROD	Data	2019-04-30 13:37:56-05		2019-05-20 08:20:22-05	ChrisO		2019-05-20 06:56:04-05	PROD_REPL
100003	PROD	Data	1969-12-31 18:00:00-06		2019-05-20 08:20:22-05	ChrisO		2019-05-20 06:56:04-05	PROD_REPL
100004	PROD	Data							
100005	PROD	Data							
100006	PROD	Data							
100007	PROD	Data							
100008	PROD	Data							
100009	PROD	Data							
100010	PROD	Data							
100011	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:26-05	ChrisO		2019-05-20 06:56:05-05	PROD_REPL
100012	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:27-05	ChrisO		2019-05-20 06:56:05-05	PROD_REPL
100013	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:27-05	ChrisO		2019-05-20 06:56:05-05	PROD_REPL
100014	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:27-05	ChrisO		2019-05-20 06:56:05-05	PROD_REPL
100015	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:28-05	ChrisO		2019-05-20 06:56:05-05	PROD_REPL
100016	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:29-05	ChrisO		2019-05-20 06:56:06-05	PROD_REPL
100017	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:29-05	ChrisO		2019-05-20 06:56:06-05	PROD_REPL
100018	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:29-05	ChrisO		2019-05-20 06:56:06-05	PROD_REPL
100019	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:30-05	ChrisO		2019-05-20 06:56:06-05	PROD_REPL
100020	PROD	Scratch	1969-12-31 18:00:00-06		2019-05-20 08:20:30-05	ChrisO		2019-05-20 06:56:06-05	PROD_REPL

zVT GUI – Configuring Alerts



zVT Questions?

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http://www.opticatech.com/products/zvt