SONY Optical Disc Archive Drive Unit
UNITEX USB LTO Tape Drive
Data Copy Performance Measurement Results

July, 2023

UNITEX Corporation

System Configuration of Performance Measurement

Measured data copy performance from SONY Optical Disk Archive Drive Unit to UNITEX USB LTO Tape Drive with using the below system and software

- UNITEX: "UNITEX ArchiveLT" "UNITEX FASTapeLT"
- SONY: "SONY ODA Filer"
- Reference： "OS standard commands"

USB　　　　　　　　　　　　　　　　　**USB**

・SONY ODS-D380U
・SONY ODS-D280U

・Lenovo ThinkPad P51
　OS: Windows 10 Pro
・Apple MacBook Pro
　OS: macOS 13

・UNITEX LT90H USB
（USB connection LTO9 Drive）

※ Performance measurement data pattern: Simulating 50GB video file and 2MB DPX file

Measurement Results
ODS D380U → LT90H

MULTIANGLE STORAGE

・ **Windows 10 Pro**

※Verify Process：A function to confirm the complete comparison with the original data after copying

Data	Software	Copy Process		Verify Process	
		Processing Time	Transfer Speed	Processing Time	Transfer Speed
50GB x 1 file	UNITEX ArchiveLT	3m21s	267 MB/s	3m33s	252 MB/s
	UNITEX FASTapeLT	3m31s	254 MB/s	3m29s	257 MB/s
	SONY ODA Filer	4m03s	221 MB/s	ー	ー
	OS standard copy commands (Reference)	3m26s	261 MB/s	ー	ー
2MB x 25000 files	UNITEX ArchiveLT	3m31s	248 MB/s	3m26s	255 MB/s
	UNITEX FASTapeLT	3m52s	226 MB/s	3m55s	223 MB/s
	SONY ODA Filer	21m13s	41 MB/s	ー	ー
	OS standard robocopy commands (Reference)	81m07s	11 MB/s	ー	ー

・ **macOS 13**

Data	Software	Copy Process		Verify Process	
		Processing Time	Transfer Speed	Processing Time	Transfer Speed
50GB x 1 file	UNITEX FASTapeLT	3m35s	250 MB/s	4m25s	203 MB/s
	SONY ODA Filer	3m22s	266 MB/s	ー	ー
	OS standard cp commands(Reference)	4m51s	184 MB/s	ー	ー
2MB x 25000 files	UNITEX FASTapeLT	3m40s	238 MB/s	4m53s	179 MB/s
	SONY ODA Filer	8m12s	107 MB/s	ー	ー
	OS standard cp commands(Reference)	8m21s	105 MB/s	ー	ー

Note: UNITEX Corporation in Japan has conducted this testing.

Measurement Results
ODS D280U → LT90H

※Verify Process：A function to confirm the complete comparison with the original data after copying

・ Windows 10 Pro

Data	Software	Copy Process		Verify Process	
		Processing Time	Transfer Speed	Processing Time	Transfer Speed
50GB x 1 file	UNITEX ArchiveLT	3m27s	259 MB/s	3m34s	251 MB/s
	UNITEX FASTapeLT	3m27s	259 MB/s	3m26s	261 MB/s
	SONY ODA Filer	4m05s	219 MB/s	—	—
	OS standard copy commands(Reference)	3m32s	253 MB/s	—	—
2MB x 25000 files	UNITEX ArchiveLT	4m31s	193 MB/s	4m05s	214 MB/s
	UNITEX FASTapeLT	6m11s	141 MB/s	4m16s	205 MB/s
	SONY ODA Filer	31m21s	28 MB/s	—	—
	OS standard robocopy commands (Reference)	61m07s	14 MB/s	—	—

・ macOS 13

Data	Software	Copy Process		Verify Process	
		Processing Time	Transfer Speed	Processing Time	Transfer Speed
50GB x 1 file	UNITEX FASTapeLT	4m05s	219 MB/s	5m14s	171 MB/s
	SONY ODA Filer	4m20s	206 MB/s	—	—
	OS standard cp commands(Reference)	5m06s	175 MB/s	—	—
2MB x 25000 files	UNITEX FASTapeLT	4m43s	185 MB/s	3m35s	191 MB/s
	SONY ODA Filer	8m18s	105 MB/s	—	—
	OS standard cp commands(Reference)	8m16s	106 MB/s	—	—

Note: UNITEX Corporation in Japan has conducted this testing.

・ Windows 10 Pro

Data	Software	Copying Time	Transfer Speed
50GB x 1 file	SONY ODA Filer（Enable MD5 checksum）	11m09s	80 MB/s
2MB x 500 files（※）	SONY ODA Filer（Enable MD5 checksum）	155m11s	0.1 MB/s (112 KB/s)

・ macOS 13

Data	Software	Copying Time	Transfer Speed
50GB x 1 file	SONY ODA Filer（Enable MD5 checksum）	14m35s	61 MB/s
2MB x 500 files（※）	SONY ODA Filer（Enable MD5 checksum）	163m8s	0.1 MB/s (107 KB/s)

（※）Measured in 2MB x 500 files because of taking too much time to copy

- Data copying from SONY Optical Disk Archive Drive Unit to UNITEX USB LTO Tape Drive was confirmed to operate correctly with all of the following software: "UNITEX ArchiveLT", "UNITEX FASTapeLT", and "SONY ODA Filer".

- In 50GB x 1 file copy, high-speed transfer was possible with any of software
  Windows : 219～267MB/s, macOS : 206～266MB/s

- In 2MB×25,000 file copy,
  - Using UNITEX Software
    - With ODS-D380U, Windows : 248MB/s, macOS : 203MB/s
    - With ODS-D280U, Windows : 193MB/s, macOS : 185MB/s
  - Using SONY ODA Filer
    - With ODS-D380U, Windows : 41MB/s, macOS : 107MB/s
    - With ODS-D280U, Windows : 28MB/s, macOS : 105MB/s

- In Verify Process of copy data (50 GB),
  - Using UNITEX Software,   Windows : 261MB/s, macOS : 203MB/s
  - Using SONY ODA Filer (MD5 checksum), Windows : 80MB/s, macOS : 61MB/s

- Based on the measurement results, high-speed data copying from SONY Optical Disk Archive Drive Unit to UNITEX USB LTO Tape Drive is possible using UNITEX ArchiveLT and UNITEX FASTapeLT Software. In addition, high speed and reliable data copying is possible in combination with the verification function of the UNITEX Software.

※The results are reference values measured in our test environment. Actual operations need to be planned based on data patterns that include user data in a customer's environment.

Note: UNITEX Corporation in Japan has conducted this testing.

Big Data × **Secure** × **SDGs**

Solutions by UNITEX