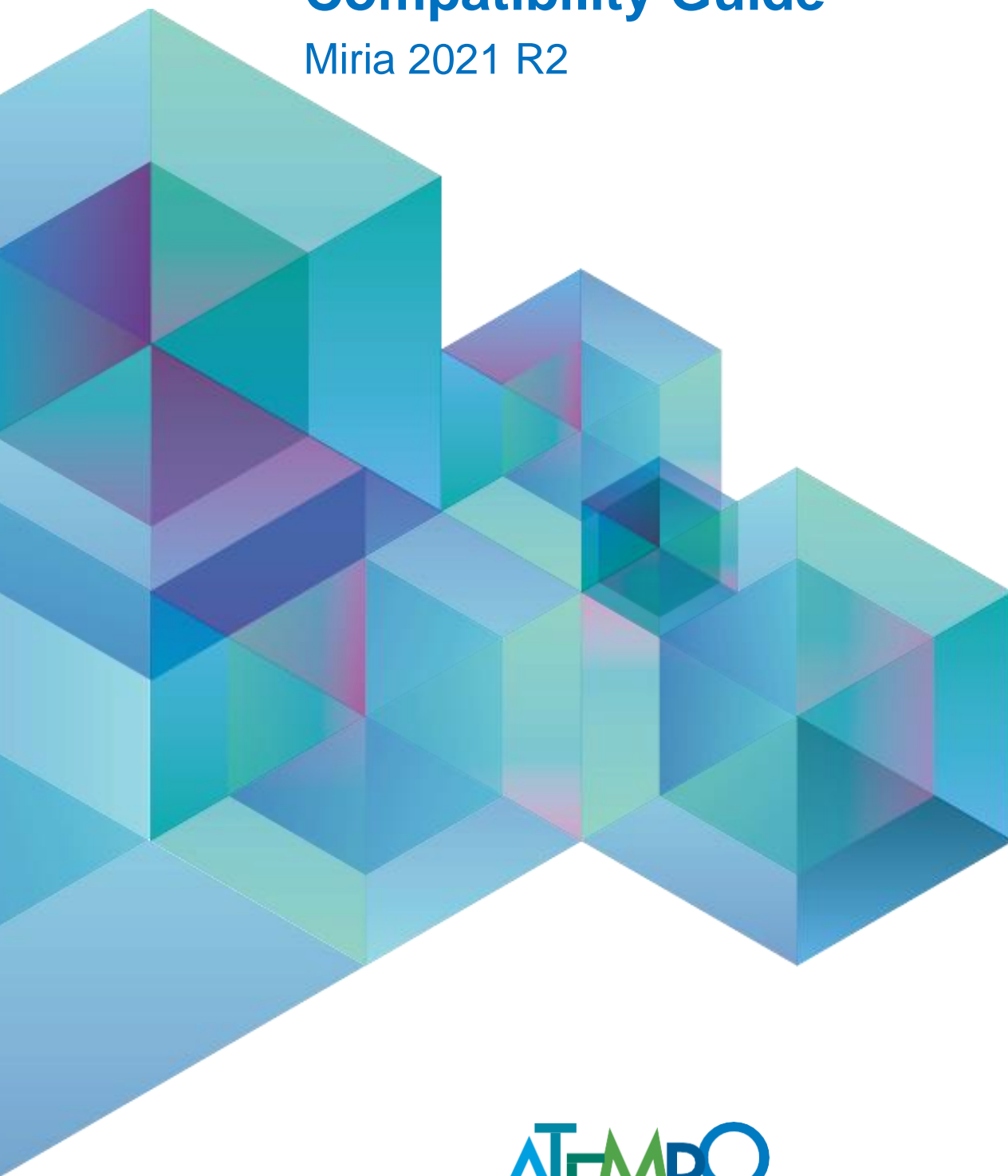


Compatibility Guide

Miria 2021 R2



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N°1 EUROPEAN SOFTWARE VENDOR FOR DATA PROTECTION

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General Information

Presentation:

- New information in this document is shown in **blue**.
- End of Life components are shown in **red**. They are still supported in the current version but no longer in the next one.

Miria – Server

Operating System	Version	Architecture
Linux ¹	Red Hat 7	x86-64
	Red Hat 8	
	CentOS 7	
	CentOS 8	
	Debian 9	
	Debian 10	
	Debian 11	
Microsoft Windows	Server 2012 R2	x86-64
	Server 2016	
	Server 2019	

¹ Please note that the Administration Console is not available on Unix or Linux. If you install Miria Server on Unix or Linux, plan to have a separate Windows or OS X machine to run the Administration Console.

Miria – Agent / Data Mover

Operating System	Version	Architecture
Linux	Red Hat 7	x86-64 & ARM64
	Red Hat 8	
	CentOS 7	
	CentOS 8	
	EulerOS v2.0	
	Debian 9	x86-64
	Debian 10	
	Debian 11	x86-64 & ARM64
	Ubuntu 16.04 LTS	x86-64
	Ubuntu 18.04 LTS	
Ubuntu 20.04 LTS		
macOS	macOS Mojave (10.14)	x86-64 & ARM64 ¹
	macOS Catalina (10.15)	
	macOS Big Sur (11)	
	macOS Monterey (12)	
Microsoft Windows²	Server 2012 R2	x86-64
	Server 2016	
	Server 2019	

¹ Needs Rosetta 2 Emulation

² Cluster Install Miria HSM Filter Driver. Can be installed on a Windows cluster (Active/Passive). This installation is performed by Atempo Professional Services.

Miria – Administration Console

Operating System	Version	Architecture
Microsoft Windows	Server 2012 R2	x86-64
	Server 2016	
	Server 2019	
	Windows 8	
	Windows 10	

Miria – Web Connector

Operating System	Version	Architecture
Linux	Red Hat 8	
	CentOS 8	
	Debian 10	
	Debian 11	
	Ubuntu 18.04 LTS	
	Ubuntu 20.04 LTS	
macOS¹	macOS Catalina (10.15)	x86-64 & ARM64 ²
	macOS Big Sur (11)	
	macOS Monterey (12)	
Microsoft Windows	Server 2016	x86-64
	Server 2019	
	Windows 8	
	Windows 10	

¹ If Miria Server is accessible only in HTTPS, WebConnector is not compatible with Safari client-side, because a Safari limitation.

² Needs Rosetta 2 Emulation

Miria – Storage Devices

Vendor	Product	Primary Storage	Secondary Storage	Snapstor Storage	FastScan & Snapshot Connector
(Any)	NAS offering CIFS / NFS access ¹	X	X		
Avid	Unity MediaNetwork / Nexis ²	X	X		
	Unity/ISIS/NEXIS	X	X		
DDN	GridScaler	X	X	X	X
	ExaScaler	X	X		X
	IntelliFlash	X	X		
DELL EMC	Celerra / VNX	X	X		
	Centera ³		X		
	Data Domain ⁴		X		
	PowerScale/Isilon	X	X	X	X
Exanet	ExaStore Clustered NAS	X	X		
Facilis⁵	TerraBlock server series	X	X		
FAST LTA	Silent Cube Storage	X	X		
Harmonic	MediaGrid ⁶	X	X		
Hitachi	HNAS	X	X		
Huawei	OceanStor Series	X	X	X	X

¹ The choice between CIFS and NFS is dependent upon the OS used by Miria Agent to access the NAS. CIFS if Miria Agent is running on Windows, NFS if running on macOS or Linux/Unix.

² Avid Nexis compability guide is applied here. The gateway can be a Windows or a macOS – no Linux no Unix. If using this storage with a tape library, only AMM can be used.

Please also refer to the section describing Avid Interplay compatible storage.

³ EMC Centera is only supported when the compliance mode is not enabled. No macOS support for the EMC Centera (no API).

⁴ Data Domain De-duplication Storage Systems are only supported as storage targets with NFS/CIFS.

⁵ Validated with Miria using version 5.0.3.5 running native Facilitis file system and AVIDFS emulation.

⁶ Only Miria Agent local mount points.

	OceanProtect X Series	X	X		
Incom / HIT	HIT NAS Archive Appliance Series 1035 / 2105 / 3350 /		X		
NetApp	FAS Series ¹	X	X		
Nutanix	Nutanix for Files	X	X		X
Panasas²	ActiveStor™	X	X		
Panzura	Panzura Cloud Storage	X	X		
Permabit	Permabit Enterprise Archive	X	X		
	Permabit Cloud Storage	X	X		
Qumulo		X	X	X	X
Sony	Optical Disc Archive (ODA) ³		X		
VAST	VAST Universal Storage ⁴	X	X		

¹ Validation made with ONTAP version 6, 7, 8.0, 8.1, 8.2, and 9. No support for Windows 2012. Gateway needs to be Windows (Fpolicy API limitation). Please note integration is leveraging Fpolicy 7mode. Cluster mode is not supported. Please contact us for more details.

Please note a NetApp filer can only have one Fpolicy registered application. If antivirus is already using Fpolicy, then stubbing will be not possible.

Fpolicy Clusters are not supported – NetApp Metro Clusters are not supported.

CIFS only volume supported – CIFS/NFS volumes supported – NFS only volume not supported.

² Validated with Miria using ActiveStor version 4.1.2. Certified using: CIFS connection from Windows, NFS connection from Linux/Unix/macOS. Now supporting DirectFlow on Linux.

³ Please note that ODA is supported from both a Windows or Linux Miria controlled platform.

⁴ Not available for NFSv4

Miria – FastScan Compatibilities

Vendor	Product	Minimum version
DDN	GridScaler	4.x
	ExaScaler	5.1
DELL EMC	PowerScale/Isilon	OneFS 7.2
GPFS		4.x
Huawei	OceanStor	
Lustre		2.12.3
Nutanix	Nutanix for Files	3.5
Qumulo		2.8.5

Miria – Object Storage Devices

Vendor	Product	Primary Storage	Secondary Storage	Accelerate	Multipart	Lifecycle	Versioning
(Any)	Object Storages offering S3 / Microsoft Azure Blob Stock / SWIFT access	X	X		X		X
Alibaba Cloud	Object Storage Service	X	X		X		X
Amazon¹	AWS S3 Storage	X	X	X	X	X	X
Caringo	SWARM / CAS ²		X			X	X
Cloudian	HyperStore Object Storage	X	X		X		X
DataDirect Networks	Web Object Scaler (WOS): REST Interface		X		X		
	Web Object Scaler (WOS): WOS API		X				
Econocom	Econocloud S3	X	X		X		X
EMC	Elastic Cloud Storage (ECS)	X	X				
Google	Google Cloud Storage	X	X		X	X	X
HDS³	HCP Object Storage & Cloud Storage	X	X				
Huawei	FusionStorage ⁴	X	X		X		X
	OceanStor 100D	X	X		X		X

¹ Please note that we support the Amazon S3 API but we offer no direct support for Glacier's specific API, we use the S3 lifecycle feature to manage data movement to/from Glacier.

² Certified with CASTOR/SWARM 6.5 SDK and fully qualified using the "@IP"/"static locator" syntax. Not validated using the "proxy locator" syntax.

³ Certified with HCP version 6.

⁴ Only S3 protocol is supported.

	OceanStor Pacific	X	X		X		X
IBM	Object Cloud Object Storage	X	X		X		X
Microsoft	Azure Blob Storage	X	X		X	X	X
NetApp	StorageGrid ¹	X	X				
Quantum	ActiveScale	X	X				
Scaleway	Object Storage	X	X		X		X
Scality	RING sproxyd		X				
	RING CDMI		X				
	S3	X	X		X		
Wasabi	Object Storage	X	X		X	X	

¹ Only S3 protocol is supported.

Miria – Supported File Systems

Operating System	Version
Microsoft Windows ¹	NTFS, ReFS
macOS ²	HFS+, APFS
Linux	Ext2, Ext3, Ext4
	XFS

Miria – Shared or Distributed File Systems

Solution	Primary Storage	Secondary Storage	SnapStor Storage
Apple Xsan	X	X	
Ardis Tech DDP ³	X	X	
Avid NEXIS MediaNetwork and ISIS	X	X	
Harmonic Mediagrid ⁴	X	X	
IBM Spectrum Scale (GPFS)	X	X	X
Lustre ⁵	X	X	
Quantum StorNext ⁶	X	X	
Tiger Technology metaSan / metaLan ⁷	X	X	

¹ DFS is not supported.

² AFP is not supported.

³ Supporting DDP from an Miria platform running macOS X and above, Linux Red hat (starting from Kernel 2.6.18_128). No support for Windows.

⁴ Supporting Mediagrid from an Miria platform running Windows, macOS and Linux.

⁵ From Lustre versions 2.12.3 to 2.12.6

⁶ macOS, Windows and Linux only.

⁷ Supporting Metadata controller on Windows and macOS and MetaSan/Lan Agents on Linux, macOS and Windows.

Media Manager (AMM)

The Media Manager needs to be installed in environments where the target archiving is tape.

It is the platform that enables Miria to access tape libraries and tape devices.

Atempo Media Manager can be installed on the same machine as the Miria agent or on a different machine. It is an option of the Miria agent setup.

Operating System	Version	Architecture
Linux	Red Hat 7	x86-64
	Red Hat 8	
	CentOS 7	
	CentOS 8	
	Debian 9	
	Debian 10	
	Ubuntu 16.04 LTS	
	Ubuntu 18.04 LTS	
	Ubuntu 20.04 LTS	
	EulerOS V2.0	
macOS	macOS Mojave (10.14)	x86-64 & ARM64 ¹
	macOS Catalina (10.15)	
	macOS Big Sur (11)	
	macOS Monterey (12)	
Microsoft Windows²	Server 2012 R2	x86-64
	Server 2016	
	Server 2019	

¹ Needs Rosetta 2 emulation

² Cluster Install Miria HSM Filter Driver. Can be installed on a Windows cluster (Active/Passive). This installation is performed by Atempo Professional Services.

Supported Libraries

The following libraries are supported by the Media Manager.

BDT:

- MultiStak
- Flexstor
- Flexstor II

DELL:

- Dell ML6000
- Dell 160T
- Dell TL2000/TL4000

FUJITSU:

- Fujitsu-Siemens FibreCAT TX24
- Fujitsu-Siemens FibreCAT TX48
- Eternus LT 20/40/60 S2 Series
- Eternus LT260

HP:

- HP StorageWorks 1x8 G2
- HP MSL 2024 / 4048 / 6000 / 8096
- HP 1/8 Thinstor
- HP MSL6480
- HP MSL3040

HUALU:

- DA-BH7010
- DA-BH8010

IBM:

- IBM TS3100 / TS3200 / TS3310
- IBM TS2900 / TS3500 / TS3576
- IBM TS4500
- IBM 3584

NEC:

- NEC LL009F
- NEC T40A
- NEC T16A

ORACLE STORAGE TEK

- STK SL500

- STK L700 , Sun StorEdge L700
- STK L180 , Sun L180
- STK L20
- STK L40
- STK L80
- SUN STK SL3000
- StorageTek C4
- StorageTek SL24 / SL48 / SL150
- StorEdge L400
- All library using ACSLS (SL8500,...)

OVERLAND:

- NEO Series 2000 / 4000 / 8000 Arcvault Series
- NEOxl 60 and 80

QUALSTAR:

- Qualstar Q Series
- Qualstar XLS Series
- Qualstar TLS Series
- Qualstar RLS Series

QUANTUM:

- Adic Scalar i500
- Adic Scalar i2000
- Adic Scalar 24
- Adic Scalar 10k
- Adic Scalar 100
- Adic Scalar 1000
- Quantum Scalar i3/i6
- Quantum Scalar 50
- Quantum Scalar i40 / i80
- Quantum Scalar i500
- Quantum Scalar i2000, i6000
- Quantum SuperLoader3
- Quantum PX500 Series
- Quantum PX720
- ATL M1500, M4 DATA MagFile, M4 DATA MagStack 2-4, M4 DATA MagStack 5-10

SPECTRA LOGIC:

- Spectra Logic T Series
- T24 to T-Finity
(T50, T120, T200, T380, T680, T950,...)
- Spectra Stack

SONY:

- PetaSite series using FC SCSI connection
(PSC API not yet supported)

TANDBERG/EXABYTE:

- Tandberg T-40+¹
- Exabyte Magnum 448, Tandberg StorageLibrary T48
- Exabyte Magnum 224, Tandberg StorageLibrary T24
- Exabyte Magnum 1x7 2U
- Exabyte Magnum20

¹ No automatic detection of the library. A manual procedure is required. Please contact Atempo Professional Services for more information.

Supported Drives

Technology	Model	WORM and Encrypted Drive
HP	HP LTO3, LTO4, LTO5, LTO6, LTO7, LTO8, LTO8M, LTO9	No
HUALU	Hardware mode: DA-BH7010, DA-BH8010 Software: AuroraGDAS version 3.1.14	Yes
IBM	IBM LTO3, LTO4, LTO5, LTO6, LTO7, LTO8, LTO8M IBM TS1130, IBM TS1140, IBM TS1150, IBM TS1155, IBM TS1160	No
Oracle StorageTek	T10KA, T10KB, T10KC, T10KD T9840, T9940	No
Sony ODA	Minimum supported versions are: Drive ODA FC: ODS-D77F Firmware level 1688 ODA Driver: 4.0.2 Gen 1 & 2 & 3, SAN Support only supported on Linux	Yes (depending on media)

Supported Tape Formats

Tape Format	TAR (PAX)	LTFS ¹
Available using AMM	Yes	Yes LTO5, LTO6, LTO7, LTO8, LTO8-M, LTO9
Available in Tape Library	Yes with AMM	Yes with AMM
Metadata automatically Stored on Tape	Yes	No ²
Tape Duplication	Yes	No
Tape Verify	Yes LTO5, LTO6, LTO7, LTO8, LTO8-M, LTO9	Yes LTO5, LTO6, LTO7, LTO8, LTO8-M, LTO9

Library & Drive Limitations

Drives

The type of drives supported are the ones listed as supported by Miria in the above section.

¹ LTFS format is compliant with LTFS Format Version 2.0.0 standard

² The LTFS standard does not normalize the storing of metadata on tape.

Libraries

AMM only supports libraries that offer barcode management capabilities.

When barcode management is available, AMM supports the following library types:

- SCSI
- iSCSI
- Fiber Channel
- SAS (Linux and Windows only)
- RoCE

Devices

- **No VTL support with Miria/AMM**
- Only tape libraries and tape drives in a library are supported (no standalone drives)
- **Only tape libraries equipped with mailbox are supported** (no autoloader)
- Only libraries with the serialization mechanism (drive serial numbers are reported by the library) are supported
- Only devices with serial numbers are supported
- Device names must not contain spaces as characters
- Barcodes on cartridges are mandatory, must be reported by the library **and must be unique in the Miria configuration**
- Cleaning of tape drives is not supported (cleaning must be managed by the library)
- Only one type of tape drive per library is supported
- Drive and library arm multipath are supported

Other limitations

- Tape drives and tape libraries connected through NDMP are not supported
- Drive sharing with other applications is not supported
- Library sharing with other applications is not supported, but library splitting is supported

Other Media Manager Supported:

- Sun StorageTek ACSLS 7.3, 8.x
- Sun StorageTek LibAttach 1.4.2

ACSLs Support

- The ACSLS server can be on any operating system (check Oracle compatibility guide)

- Only one library can be declared on the ACSLS server and Media Manager only supports the standard port for ACSLS clients

Miria – Transcoding for Video Asset Preview

The transcoding for video asset preview feature creates a low-resolution version of an asset that can be viewed in a video player without retrieving the entire asset.

The license for this option is complimentary. It can be obtained free of charge by completing a request form upon configuring the Video proxy transcoding format in Miria Administration Console.

The transcoding option is only available with **Miria File Storage One to One located on the Miria Server**. All video formats/codecs supported by FFmpeg can be transcoded, however if you intend to perform Partial File Retrieval, some restrictions apply, see the Partial File Retrieval section for details.

The Preview Player is only available on Windows and macOS interfaces, not available on java UI.

Partial retrieval can be performed directly from the Miria Preview Player on Windows interfaces only, not available for macOS or java UI.

Operating System	Version	Possible Preview File Format	Preview Player Available	Launch PFR from Preview Player
Linux	See Agent compatibility	MPEG-1/QuickTime H.264 ¹ /QuickTime	Yes	Yes
macOS		MPEG-1/QuickTime H.264 ¹ /QuickTime	Yes	Yes
Microsoft Windows		MPEG-1/QuickTime H.264 ¹ /QuickTime	Yes	Yes

Miria – Partial File Retrieval (PFR)

The Partial File Retrieval (PFR) feature for the MXF and QuickTime (QT) formats is available via the Rich Media option that must be added to the Miria configuration.

PFR is only available in Agent Mode archiving, not in Client Mode.

¹ Provided that H.264 Cisco library has been installed on the agent. See Miria Administration guide for details.

The Rich Media Option also delivers automatic metadata import for media industry file formats such as MXF, DPX, etc. See the Metadata Import section for details.

Containers Supported by the PFR Option

QuickTime (QT)

No restriction concerning the essence supported.

MXF

Miria supports the wrappers, standards and essences listed below. Please note that in order to confirm that we are fully compatible with your flavor of MXF files, please send links to samples file to be tested to: ada_info@atempo.com

- MXF wrappers: OP1a.
- Video standards: PAL, NTSC (drop/non drop frame).

and the following essences: MPEG-2 (including XDCAM, Long GOP), DV 25/50, DVCAM, DVCPRO, DNxHD, IMX 30/50, AVC-Intra, XAVC, JPEG 2000, Uncompressed, BWF, AES, IMX 30, 50, 50, Mpeg2, Mpeg2HD, Mpeg4, DV, DVCPRO 25/50, DVCPROHD, AVC-I, H.264, Jpeg2K, DNxHD, uncompressed, Tiff, Dpx, Bwf, Wave, Aiff, Aes2, Aes8, VBI, D-Cinema(DCI) support, DCP creation.

Concerning the support of “clip/frame wrapping” mode (video audio interleaved) by our Partial File Retrieve feature, here is the perimeter supported:

- In entry: MXF clip/frame wrapping is supported
- In output: MXF OP1a frame wrapped

Concerning Avid’s MXF formats:

- Partial File Retrieve is fully supported in an Interplay configuration equipped with an Interplay Archive Server.

Miria – Metadata import

The Automatic Metadata Import feature delivers Automatic Metadata Import for media industry file formats (MXF, DPX...) or graphic file formats (AVI, JPG, MPEG, JPG2000...) depending on the option reference. It is available in the Rich Media Option. An additional license is required for this feature.

From the following graphical file formats (file must be named with the exact file extension listed below):

ARW AVI AVS BMP CALS CIN CMYK CMYKA CRW CUR CUT DCM DCR DCX DIB DJVU DNG
DPX EMF EPDF EPT EXR FAX FITS FPX GIF GRAY HALD HRZ SHTML ICO INFO INLINE JBIG JNG
JP2 JPC JPEG MAT MIFF MONO MOV MNG M2V MPEG MPC MPR MRW MSL MTV MVG
MXF NEF ORF OTB P7 PALM PAM PBM PCD PCDS PCL PCX PDB PEF PFA PFB PFM PGM
PICON PICT PIX PNG PNG8 PNG24 PNG32 PNM PPM PS PSD PTIF PWP RAD RAF RGB
RGBA RLA RLE SCT SFW SGI SHTML SUN SVG TGA TIFF TIM TTF TXT UIL UYVY VICAR VIFF
WBMP WMF WPG X XBM XCF XPM XWD X3F YCbCr YCbCrA YUV

Many types of metadata can be collected in images generated by graphics software or in digital photos, including EXIF, IPTC and XMP metadata standard. If you want to know if a specific type of metadata can be collected, please send an email to ada_info@atempo.com with a sample file containing metadata and in the email body the list of metadata to look for.

Miria – Application Integration & APIs

This section lists the plugins and integration maintained by Atempo.

Application Plugin

Application	Version
Avid Interplay / MediaCentral Production	Avid Interplay Production versions 2.7 to 2017.2 Avid MediaCentral Production version 2018.6 to 2019.6 Using Production Archive Engine (DET v2.x API)
Primestream FORK Production Suite	Integration with Miria is delivered by Primestream as an option to FORK. ¹

API Platform

API Type	Platform
C++ API	Please refer to Miria Server platform list
Web Services	Web services are provided by Miria Server. Please refer to Miria Server platform list.
REST API	REST API are provided by Miria Server. Please refer to Miria Server platform list.

¹ Please contact Primestream for more information on the option and service required to integrate with FORK.

Miria – Language Availability

Interface	Languages
Web Interface (Administration & End-user)	English, French, Simplified Chinese
Administration Console	English, French, Japanese, Korean, Simplified Chinese
CLIs	English, French

Network & Protocols

- LDAP implementation supported: Microsoft Active Directory, OpenLDAP, 389 Project, FreeIPA
- Supporting NFS v2.x, v3.x and v4.x
- Operating Systems of Miria Data Movers
 - **CIFS** access: Supporting **only Windows-based** Miria DataMovers/Agents
 - **NFS** access: Supporting **only Linux-based or macOS-based** Miria DataMovers/Agents
- No support for:
 - IPv6 host names are currently not supported
 - Parallel NFS (pNFS)
 - Apple File Protocol (AFP) is not supported
 - No CIFS support on Linux/Unix or macOS Agents
 - No NFS support on Windows Agents

Miria – Specific Limitations

This section is listing limitations related to IT environment and infrastructure not listed in above sections of this document:

- **Disk Storage**
 - Extraction / unplugging of a removable disk is not supported by Miria
- **Virtual Tape Library/VTLs**
 - Are not supported by Miria/AMM