

DIVA Core

Avid Connectivity User's Guide

Release 8.1

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Preface

DIVA Core 8.1 supports Oracle Linux 7 x86_64 and later for all core components. Linux-based Datahubs have some limitations associated with them. Therefore, Windows-based Datahubs must be used for the following:

- Avid Connectivity Support
- Tape Reading Utility

Audience

This document is intended for System Administrators and users.

Documentation Accessibility

For information about Telestream's commitment to accessibility, visit the Telestream Support Portal located at <https://www.telestream.net/telestream-support/diva/support.htm>.

Access to Telestream Support

Telestream customers that have purchased support have access to electronic support through the Telestream Support Portal located at <https://www.telestream.net/telestream-support/diva/support.htm>.

Related Documents

For more information, see the Telestream DIVA Core documentation set for this release located at <https://www.telestream.net/telestream-support/diva/support.htm>.

Document Updates

The following table identifies updates made to this document.

Date	Update
June 2020	Minor formatting updates. Updated AMC compatibility tables.
February 2021	Rebranded document to Telestream Updated copyright notices

Date	Update
July 2021	<p>Replaced Configuration Utility with DIVA Command</p> <p>Removed redundant terminology</p> <p>Updated information for DIVA Core 8.1 release including renaming various components as follows:</p> <ul style="list-style-type: none"> • <i>Actor</i> is now named Datahub • <i>Proxy Actor</i> is now named Proxyhub • <i>Production System</i> is now named Network • <i>Source/Destination</i> is now named Server

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
blue text	Blue text indicates a link to an outside source, or to another chapter, section, or glossary term in this book.

Overview

This chapter describes an overview of the Avid Connectivity and includes the following information:

- [Avid Connectivity Overview](#)
- [AMC \(AM Communicator\) Overview](#)
- [TMC \(TM Communicator\) Overview](#)

Avid Connectivity Overview

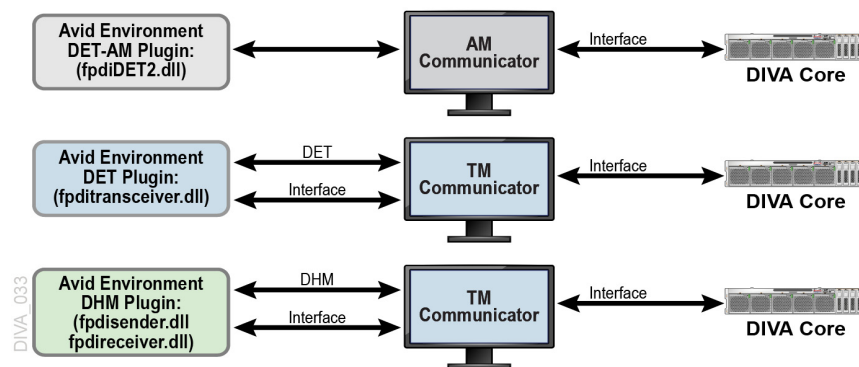
The purpose of Avid Connectivity with the DIVA Core Suite is transferring archival data to and from DIVA Core in specific video formats, specifically GXF (*General Exchange Format*) and MXF (*Material Exchange Format*), and to enable archiving and retrieving single clips, or a sequence of clips. The Avid Media Services manages all requests submitted by the Avid GUI (*Interplay Access or Media Composer*). See [Appendix A](#) for information on Avid and DIVA Core compatibility support.

The AMC (*Archive Manager Communicator*) and TMC (*Transfer Manager Communicator*) related components are not installed with the main DIVA Core installation, and is a separate installation process. You can install two different packages as follows:

- 1.0 for Legacy Workflows
- 2.0 for AVID Direct ISIS (*an Avid Storage System*) connectivity

Additional installation is also required for certain plugins for both AMC and TMC. This document describes the installation, configuration, and operation of all Avid components.

The following figure represents the overall workflows for Avid Connectivity in each instance:



AvidForDIVA Core and DIVA Core Release Compatibility

Avid Interplay is compatible with the following DIVA Core releases:

- AvidForDIVA Core release 1.x is compatible with DIVA Core releases 6.5.3 and later (*this has not been fully tested with later releases*).
- AvidForDIVA Core release 2.x (*for direct ISIS*) is compatible with DIVA Core releases 7.2.1 and later.

See [Appendix A](#) for additional information on Avid Interplay and AvidForDIVA Core release compatibility.

AMC (AM Communicator) Overview

The AMC (*AM Communicator*) enables interaction between the Avid Archive Manager solution and DIVA Core. AMC receives *Push*, *Pull*, and *Remove* requests from the Archive Manager and translates them into DIVA Core API calls.

Legacy AM Communicator

AMC transfers data from DIVA Core to the DMS (*Distributed Media Service*) Archive/Restore Service and vice-versa.

AM Communicator is based on the following:

- AMC is currently only implemented in Windows Environments.
- DIVA Core 7.1 and later does not support complex object processing with Avid AMC. However, Avid AMC customers may decide to employ complex object processing for Servers other than Avid AMC.
- Supports the following types of requests initiated by the Avid Archive Manager:
 - Archive (*Push*)
 - Restore and Partial File Restore (*Pull*)
 - Delete (*Remove*)
- Processes multiple requests simultaneously. You configure simultaneous request in the `amc.conf` file.
- Supports Unicode file, clip, and sequence names.
- Media received from the Avid DMS Archive is stored as an object. AMC operates in three different modes:
 - Metadata and media files pertaining to a received clip, or sequence, are stored individually (*single file per object*).
 - Metadata and media files pertaining to a received clip, or sequence, are stored as one or more objects containing multiple files (*multiple files per object*).
 - A special mode migrates objects from single file per object mode to multiple files per object mode.
- You define the Destination Server tape group or disk array for Archive requests using the partition parameter value in the archive profile. This value enables archiving media to different tape groups and disk arrays without requiring you to reconfigure and restart AMC.

- You can setup a configuration where the partition parameter value from the archive profile is used as the **Server Name** and the Destination Server tape group or disk array is specified in AMC configuration file.

The following figure demonstrates the standard workflow for AMC Push request (*archive*) processing. See [Chapter 4](#) for details on Legacy AMC Workflows.



Direct ISIS Connectivity AM Communicator

Using Direct ISIS Connectivity, data is directly read from, and written to, the ISIS server by the Datahub using an *AVID_DIRECT Server Type*. AVID_DIRECT is built on top of the CIFS protocol, and has similar access mechanisms. Therefore Direct ISIS only works with *AVID_DIRECT Server Types*.

Note: Linux-based Datahubs do not support UNC paths for CIFS Source Servers and Destination Servers.

You must install and configure the ISIS Client on each Datahub that reads to, and writes from, the ISIS server; otherwise, the Datahub cannot access the ISIS Server. The configuration must match the AP (*Archive Provider*) configuration, and the AVID_DIRECT Server must be configured with proper authentication for the ISIS server.

All Restore requests from Avid are converted into Partial File Restores. Therefore, AMC never submits full Restore requests to the Manager, because Datahub requires the complete ISIS path for files. If full restore is required, Avid sends a Partial File Restore request with [Begin, End] to accommodate the full path requirement.

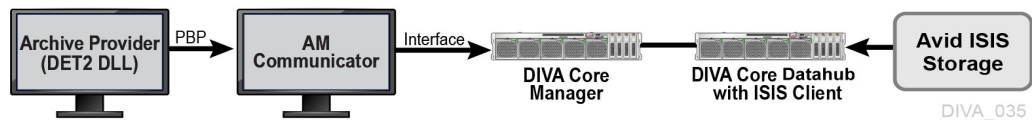
Metadata files (.AAF) are archived as part of the object (*like in Legacy Mode*) if the **Allow Metadata Archive** value is set to Yes. You configure this value in the Archive Manager under **Interplay Administrator, Site Settings**, and then **Asset Tracking/Archive Settings**.

You can increase throughput using dedicated network adapter cards. Telestream recommends Intel Pro for 1 Gbps, and Myricom for 10 Gbps, for the ISIS server interface on the Datahub computers. You can increase overall throughput by increasing the number of Datahubs, and is limited only by the ISIS server bandwidth. The number of simultaneous requests you can submit by Avid are greatly increased (*this value is configurable in amc.conf; the default setting is 100*) because AMC and fpdiDET2 are only processing commands.

- Data flows through a single path using Avid Direct Mode compared to the multiple paths used by a legacy configuration so there are no data bottlenecks.
- The Datahub reads and writes data to the ISIS server through the ISIS Client rather than the legacy's fpdiDET2 (*AP - Archive Provider*).
- All features of the legacy workflows are retained except the data path.
- One Direct ISIS AMC can handle up to 10 Legacy AMC jobs.
- One AMC, and one Backup AMC, are enough per site.
- You can install AMC on any computer, and AMC does not need to be on an Datahub or archive provider computer (*for example, a Manager computer*).

- ISIS Clients installed on all Datahubs interfacing with ISIS should have separate network adapter cards to obtain the best throughput.
- All objects archived using Legacy AMC are compatible with both the new AMC, and fpdIDET2.

The following figure demonstrates the standard workflow for AM Communicator Push request (*Archive*) processing using Direct ISIS Connectivity. See [Chapter 5](#) for detailed information about Direct ISIS connectivity and configuration.



TMC (TM Communicator) Overview

The purpose of the TMC (*TM Communicator*) to DIVA Core interface is to enable archiving of media from the Avid Unity system to DIVA Core, and restoring archived media from DIVA Core to Avid Unity through the Avid Transfer Manager (*renamed to Avid Transfer Engine in Interplay environments*).

TM Communicator is partially or fully supported with Interplay release 3.3 through release 3.8. See [Appendix A](#) for compatibility information.

TM Communicator is based on the following:

- You initiate DHM (*Data Handling Module*) and DET (*Dynamically Extensible Transfer*) Archive requests from the editing station using Avid Media Manager, Media Composer, or other Avid editing application **Send to Playback** and **Send to Workgroup** commands, or corresponding TMC Automatic API calls.
- You initiate DHM and DET Restore requests using the Control GUI **Restore** command, or the corresponding DIVA Core API call.
- Media received from Avid Unity is stored as objects. In the DHM workflow, each of these objects contains a single GXF or MXF file, depending on the configuration. In the DET workflow, each object contains all media files pertaining to the received clip, or sequence, along with corresponding Metadata files.
- The DET workflow in TM Communicator supports archiving and restoring of both individual clips and sequences.
- The DHM workflow in TM Communicator supports restoring and archiving media wrapped in GXF and MXF.

TM Communicator can handle GXF and MXF clips that contain DV, DV-25, DV-50, D10 (30, 40, and 50 Mbps essences), and PAL and NTSC standards.

- Interplay variants of TM Communicator support archiving and restoring DNxHD, and DV-100 content through DHM. These HD formats can be wrapped only in MXF. *The Avid Interplay environment with Transfer Engine 1.2.4 and later is required.*
- TM Communicator supports clips with 24-bit and 16-bit audio tracks. There is also an option to perform 24-bit to 16-bit audio conversion during DHM archive and restore. TMC for Interplay 2.2 and later supports up to 16 audio tracks, while variants for earlier releases support up to 8 audio tracks.
- TM Communicator preserves an original clip time code during all archive and restore operations.

- The default format is specified in the configuration as either GXF or MXF and is used when there is no file extension specified. During DHM restore, any file without a GXF or MXF extension is considered to be in the configured default format.
- TM Communicator is implemented only for Windows because Avid Technology provides only Windows based implementations of their TM Client software and TM Auto API library.
- TMC does not support Unicode file, clip, and sequence names because Avid does not support Unicode for Transfer Manager, Interplay Transfer Engine, TM Client, and TM Auto API. TMC terminates the request if it finds any Unicode characters in the file, clip, or sequence names.
- Interplay variants of TM Communicator also support restoring of MXF wrapped XDCAM content using DHM - XDCAM HD422 50 Mbps, and XDCAM SD IMX 50. The Avid Interplay environment with Transfer Engine 1.6 and later is required. Archiving of these formats is not supported because they are not supported by Avid (*itself*).
- TM Communicator supports restoring MXF content with stereo BWF (*Broadcast WAV Audio*). Avid does not support ingest of stereo audio directly; each stereo track is converted into 2 mono audio tracks. No conversion of audio data is performed during this process. Audio data from each sample is read for left channel data and right channel data before being assigned to appropriate mono track data. For example, stereo track 1 = mono track 1, stereo track 2 = mono track 3, 4 and so on.
- TM Communicator supports DHM archiving of sequences with some clips having only video, or only audio. In other words, it supports holes in video tracks and audio tracks of Avid sequences. This is applicable to both MXF and GXF wrapped files; except for HD formats which are only supported with MXF. The only restriction that you must have all clips of a sequence with the same video and audio formats. Multiple resolutions in the same sequence are not supported.

This feature is supported for all of the following video and audio formats supported by TMC for DHM archive:

- Video formats (*both PAL & NTSC*): DV, DV-25, DV-50, D10 30 Mbps, D10 40 Mbps, D10 50 Mbps, and HD formats DV-100, DNxHD, XDCAM HD422 and SD(*IMX*), and AVCIntra 100 Mbps.
- Audio formats (*both 16 and 24 bits*): PCM & AES3.
- Interplay variants of TM Communicator support archiving and restoring of MXF wrapped AVCIntra content. The Avid Interplay environment with Transfer Engine 2.2 and later is required.

The figure below demonstrates the TM Communicator Archive Workflow.



The figure below demonstrates the TM Communicator DHM Restore Workflow.



The figure below demonstrates the TM Communicator DET Archive Workflow.



The figure below demonstrates the TM Communicator DET Restore Workflow.



Installing Avid Connectivity

Installation of Avid Connectivity is straightforward. You install Avid Connectivity using the installation wizard as follows:

1. You double-click the provided installation executable file to begin the Avid Connectivity installation program.
2. The *Choose Components* screen is displayed first. You must confirm that *all* check boxes are selected, and then click **Next**.
3. Next, you identify the Installation Location. Telestream recommends installing in the default folder. Enter the full path in the **Destination Folder** field (*or use the **Browse** button to find it*) if you must change the default folder.
4. When you are satisfied with the installation location, click **Install** to proceed with the installation. Clicking **Show Details** enables you to view the details of the installation process.
5. When the wizard displays the final screen, click **Close** to complete the installation.

Installing AM Communicator

This chapter describes installation of AM Communicator and includes the following information:

- [AM Communicator Installation Overview](#)
- [Installing AM Communicator](#)
- [AM Communicator Command Line Options](#)

AM Communicator Installation Overview

Separate configuration stages are required for DIVA Core, AMC, and Avid Archive Manager servers to configure interaction between DIVA Core and Avid Archive Manager using the AM Communicator.

You can install AMC on any computer, provided the computer is accessible through the network from the Datahub, Manager, and Avid Archive Manager servers. This option enables installation of AMC on its own computer, separate from any specific server, if desired.

The following definitions apply when the term or acronym is used within this chapter:

\$DLL_HOME

This variable identifies the folder on target Avid server where the DET2.DLL is installed.

\$AMC_HOST

This variable identifies the DNS (*Domain Name Service*) name or IP address of the computer where AM Communicator is installed.

\$DIVA_HOME

This variable identifies the folder created on the target computer during the installation.

\$AMC_HOME

This variable identifies the AM Communicator folder on the target computer.

\$AMC_INSTALLATION

This variable identifies the AM Communicator folder created during DIVA Core installation as follows:

\$DIVA_HOME/AMCommunicator for earlier Interplay releases.

\$DIVA_HOME/AMCommunicatorI22 for Interplay 2.2 and later.

Installing AM Communicator

You use the following procedure to install AM Communicator:

1. Copy all files from the \$AMC_INSTALLATION/bin folder to the \$AMC_HOME folder on the Destination Server computer.
2. The default configuration file is located in the \$DIVA_HOME/conf/amc folder. Rename the file named amc.conf.ini to amc.conf.

If you require multiple AMC instances to run on the target computer, add the corresponding service name to the file name. The service name must match the SERVICE_NAME parameter value from the AMC configuration; that is, rename the file to amc_ \$SERVICE_NAME.conf.

3. Edit the AMC configuration file using a plain text editor (*for example, Notepad or Notepad++*) to modify any required parameter values. See [Appendix B](#) for detailed parameter descriptions.

AM Communicator Command Line Options

AM Communicator can be started either as a Windows system service, or as a console application. Telestream recommends running AMC as a system service in production environments. However, console mode is useful when performing troubleshooting activities.

If you must run two AMC instances on a single computer, you must specify the fully qualified configuration file path in the command-line using the `-conf` (or `-f`) option described in the following list.

The general syntax to start AMC is as follows:

```
AMCService {options_from_the_following_list}
```

For example, the following command starts an AMC instance using parameters from the configuration file named `amc_example.conf`, and runs in console mode (*the `-d` option*). You must set the SERVICE_NAME parameter value to `example` for this sample. See [Appendix B](#) for all AMC parameters.

```
AMCService -d -conf ../conf/amc/amc_example.conf
```

AM Communicator supports the following command-line options:

install OR -i

This option installs AMC as a Windows service using the provided command-line options as the default parameters. *This option will not start the service, it only installs the service.*

uninstall OR -u

This option removes AMC from the Windows services. *This option will stop the service automatically if it is running.*

debug OR -d

This option starts the AMC service in console mode. The console mode provides additional information as standard output.

version OR -v

This option displays the AMC release level, and then exits.

help OR -h

This option displays use information, and then exits.

conf OR -f

This option specifies a fully qualified configuration file path for AMC to use instead of the default configuration file. You use this option when running multiple instances of AMC on a single computer (*as shown in the previous example*).

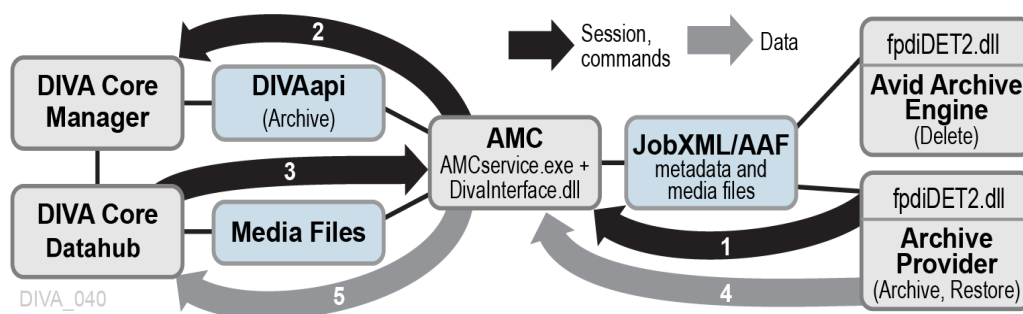
Legacy AM Communicator Workflows

The following sections are examples of standard Legacy AMC workflows for various requests, followed by a description of the sequence of events for each request.

This chapter includes the following information:

- [Legacy AM Communicator Archive Workflow](#)
- [Legacy AM Communicator Delete Workflow](#)
- [Legacy AM Communicator Restore and Partial File Restore Workflow](#)

Legacy AM Communicator Archive Workflow

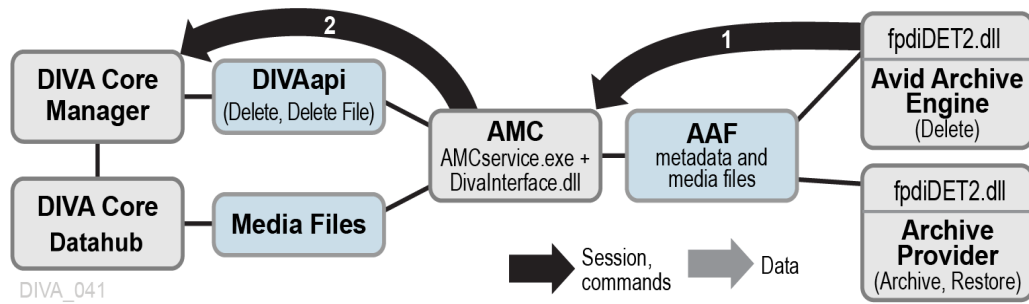


The general Archive workflow is as follows:

1. The Media Services application submits a JobXML to the Archive service.
 1. The Archive Service loads the fpdiDET2.dll and DET2 calls provided.
 2. The fpdiDET2 uses the Avid Archive SDK for this purpose.
 3. The fpdiDET2 connects to AMC, and submits the JobXML.
2. AMC receives the command and then receives the JobXML from fpdiDET2.
3. The JobXML is parsed and a list of all files, and their details, is constructed.
4. AMC confirms whether the clip (*or sequence of clips*) is part of any existing object, determines if it requires deletion (*based on the configuration*), and then sends the Archive request to the Manager.

If a Delete operation is required, the workflow in the following is initiated to perform the action.
5. The Manager notifies the Datahub of the request, and then the Datahub contacts the AMC service and proceeds to archive the objects.

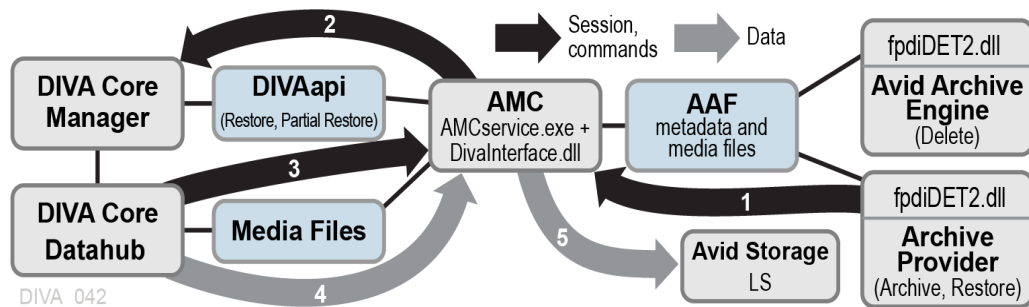
Legacy AM Communicator Delete Workflow



When a required Delete operation is identified by AMC, the general Delete workflow is as follows:

1. The Avid Archive Engine sends a Delete command to the AMC service.
2. The AMC service notifies the Manager that a delete is required, and then the Manager processes the request.

Legacy AM Communicator Restore and Partial File Restore Workflow



The general Restore workflow is as follows:

1. The Media Services Application submits a JobXML to the Restore service.
 1. The Restore service loads the fpdiDET2.dll and DET2 calls provided.
 2. The fpdiDET2 connects to AMC, and then submits the JobXML.
2. AMC receives the command, and then receives the JobXML from fpdiDET2.
3. The JobXML is parsed and a list of all files, and their details, is constructed.
4. AMC searches all categories and identifies a list of objects to Restore, and then sends the Restore request to the Manager.
5. The Manager notifies the Datahub of the request, and then the Datahub contacts the AMC service and proceeds to restore the objects.

Direct Connect AM Communicator Workflows

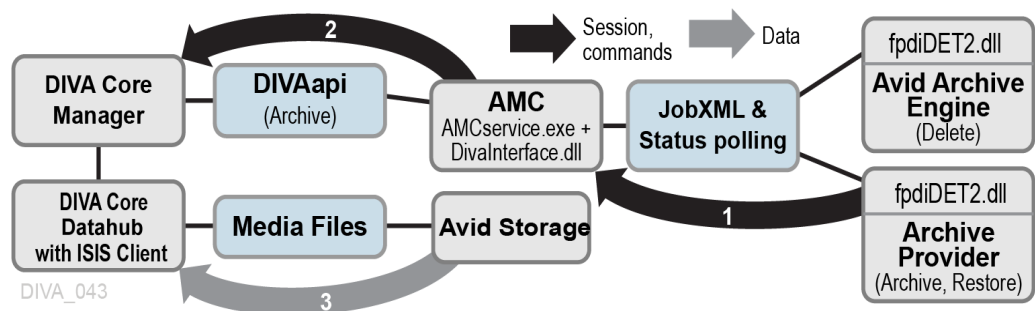
The following figures are examples of standard Direct ISIS AMC workflows for various requests (*Archive, Restore, and Partial File Restore*), followed by a description of the sequence of events for each request.

All Delete commands are the same as in the Legacy AMC Delete Workflow described in [Legacy AM Communicator Delete Workflow](#).

This chapter includes the following information:

- [Direct Connect AM Communicator Archive Workflow](#)
- [Direct Connect AM Communicator Restore and Partial File Restore Workflow](#)
- [Configuring AM Communicator for Direct ISIS/Nexis Connectivity](#)
 - [Installing the ISIS Client](#)
 - [Configuring the AM Communicator Servers in DIVA Core](#)
 - [Configuring the Avid Archive Manager](#)

Direct Connect AM Communicator Archive Workflow

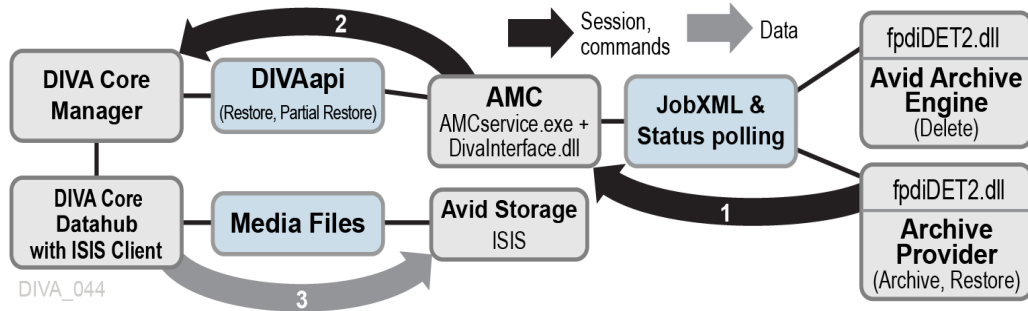


The Archive workflow is as follows:

1. The Media Services Application submits a JobXML to the Archive service.
 1. The Archive Service loads the fpdiDET2.dll and DET2 calls provided.
 2. The fpdiDET2 uses the Avid Archive SDK for this purpose.
 3. The fpdiDET2 connects to AMC, and then submits the JobXML.
2. AMC receives the command, and then receives the JobXML from fpdiDET2.
3. The JobXML is parsed and a list of all files, and their details, is constructed.

4. AMC confirms whether the clip (or sequence of clips) is part of any existing object, determines if deletion is required (based on the configuration), and then sends the Archive request to the Manager.
5. The Manager processes the requests, and then forwards all necessary information to the Datahub (using the ISIS/Nexis Client).
6. The Datahub then archives the objects directly from the ISIS server.

Direct Connect AM Communicator Restore and Partial File Restore Workflow



The Restore workflow is as follows:

1. The Media Services Application submits a JobXML to the Restore service.
 1. The Restore service loads the fpdiDET2.dll and DET2 calls provided.
 2. The fpdiDET2 connects to AMC, and then submits the JobXML.
2. AMC receives the command, and then receives the JobXML from fpdiDET2.
3. The JobXML and fpdiDET2 provide AMC with the file path and MOB ID to construct the Manager request.
4. AMC searches all categories, identifies a list of objects to Restore, and then sends the Restore request to the Manager.
5. The Manager notifies the Datahub of the request, and then the Datahub proceeds to restore the objects directly to the ISIS/Nexis server.

Configuring AM Communicator for Direct ISIS/Nexis Connectivity

Caution: Never change any category parameters, for example, DIVA_DEFAULT_CATEGORY when the system has been used previously. This will affect all Restore operations.

The default configuration file named amc.conf.ini is delivered in both 1.x and 2.x packages with specific parameters for Legacy and Direct Connect respectively. You must configure the file with the appropriate parameters. If an upgrade is being performed from a previous release, you can copy amc.conf, and then add any new parameters for the release to the new file.

Installing the ISIS Client

You must install the newest ISIS client on the Datahub computer that interfaces with the ISIS server. Execute the ISIS client installation file, and install the program with the default settings.

If the ISIS server is on the *same subnet* as the Datahub where the ISIS client is installed, the ISIS client will automatically detect the server. You right-click the server name in the top *Systems* panel, and select **Connect** from the resulting context menu to connect to the server.

If the ISIS server is on a *different subnet* than the Datahub computer where the ISIS client is installed, you use the following procedure to add the server to the ISIS client interface:

1. Open the ISIS client and click the **Add Server** icon in the icon bar (*it looks like a globe*). The *Remote Hosts* dialog box appears.
2. Enter the IP address of the remote ISIS server in the field and click **+** to add the host name to the *Host* panel.
3. Confirm that the server has connectivity, and has been added, by clicking the **Network** icon on the icon bar (*the icon looks like two computers connected together*).

A window is displayed showing the added server on the network. Confirm that the **Enabled** check box is selected to use the server.

4. You right-click the server name in the top *Systems* panel, and select **Connect** from the resulting context menu to connect to the server.

Configuring the AM Communicator Servers in DIVA Core

To enable archive and restore workflows, you must configure dedicated FTP-like Servers with the **Source Type AVID_AMC** in DIVA Core. You perform this task in the *DIVA Configuration, System, Servers* panel in DIVA Command.

You use the following specific parameters when you add a Server for use with Legacy AM Communicator. You set the other parameters as you normally would for your environment and operations.

Source Name

This parameter identifies the AMC Server name. The name must either match the value of the `DIVA_SRC DST` parameter from the AMC configuration, or the partition parameter value from the *Archive Profile* in Avid (*depending on configuration*).

IP Address

This parameter identifies the IP address of the AMC FTP interface. The value must be consistent with the `FTP_IP` parameter value from the AMC configuration.

Source Type

This parameter identifies the **Source Server Type** and must be set to **AVID_AMC** for Legacy AM Communicator operations.

Connect Options

The AMC FTP interface port, login, user name and data socket buffer size (*in kilobytes*) must match the values of `FTP_PORT`, `FTP_LOGIN`, `FTP_PASSWORD`, and `AM_BUFFER_SIZE` from the AMC configuration.

An example entry in this field might be `-login amc -pass diva -port 6121`.

AMC supports Passive Mode FTP. To switch to Passive Mode FTP add the `-PASV` option to the string as follows:

```
-login amc -pass diva -port 6121 -PASV
```

You use the following specific parameters when you add a Server for use with Direct ISIS AM Communicator.

You must keep the Server **Root Path** value empty for Direct ISIS. There is only one Server type that is **AVID_DIRECT** for all Datahubs. Multiple Datahubs do not require **METASOURCE**.

All Datahubs with an ISIS/Nexis Client and the **AVID_DIRECT** Server must be in a single Network so that other (*Legacy AMC*) Datahubs are not used with this Server.

You must set the other parameters as you normally would for your environment and operations.

Source Name

This parameter identifies the AMC Server name. The name must either match the value of the **DIVA_SRCDEST** parameter from the AMC configuration, or the partition parameter value from the *Archive Profile* in Avid (*depending on configuration*).

IP Address

This parameter field is left empty for Direct ISIS AM Communicator operations. The IP address does not have any significance for ISIS configuration. An IP address is not required in the configuration because the ISIS Server acts like a CIFS Server. The Datahub uses the `-login {user_name} -pass {password}` options for authentication to access the ISIS Workspace Paths for reading and writing files in the file list.

For example:

```
\\rd-avid-isis5k\raw\avid mediafiles\mxf\rd-avid-mc.1\justinseq1_audi5384fd47.1.mxf
```

Source Type

This parameter identifies the **Source Server Type** and must be set to **AVID_DIRECT** for Direct ISIS AM Communicator operations.

Connect Options

The **Connect Options** field must include the login and password for the Server ISIS server.

An example entry in this field might be `-login amcdirect -pass is-admin`.

The `amc.conf` configuration file must be configured with all required parameters. Important parameters for Direct Connect configuration include the following:

- **AM_MAX_CONNECTIONS** - the default is 100.
- **DIVA_SRCDEST** - this is a type of **AVID_DIRECT**.
- **DIVA_DEFAULT_CATEGORY**

You set all other parameters the same as a Legacy configuration.

Note: The **AM_TIMEOUT** parameter is no longer used for status because the status is no longer monitored by AMC. The **AM_TIMEOUT** parameter will continue to monitor requests until they are canceled or terminated.

See [AM Communicator Default Configuration File](#) for the default, delivered `amc.conf` file.

Configuring the Avid Archive Manager

The Push, Pull, and Remove requests are initiated, and processed by, three separate Avid services. The services normally reside on different computers. In a typical configuration, Archive and Restore services are installed on the Archive Provider server, and the Archive Engine server handles Remove services.

The DET2 DLL must be installed on the servers where the corresponding Avid services reside to enable Archive, Restore, Partial File Restore, and Delete functionality.

The following procedure is identical for all Avid servers:

1. Copy the fpciDET2.dll, and all other files, from the \$AMC_INSTALLATION/fpciDET2 folder to \$DLL_HOME folder on the target Avid server. Telestream recommends you use the default C:\DET2\fpciDET2 path.
2. If the selected \$DLL_HOME folder is different from the recommended default path, you must edit the am_regkey.reg file's VendorFolder Key Value so it matches the \$DLL_HOME value.
3. Merge the am_regkey.reg file into the Windows Registry.
4. Change the AMC parameter value in fpciDET2.xml to define the correct AM Communicator network address using the format {IP}:{Port}.

IP

This parameter is the IP address of the AM Communicator Listener. This must be consistent with the value of the AM_IP parameter from the AMC configuration file.

Port

This parameter is the port number for the AM Communicator Listener. This must match the value of the AM_PORT parameter from the AMC configuration file.

5. If required, set the optional SOCKET_BUFFER_SIZE parameter in fpciDET2.xml to enable TCP/IP Scaling.

This parameter value specifies the socket receive and send buffer sizes in kilobytes. The value must match the value of the AM_SOCKET_BUFFER_SIZE parameter from the AMC configuration.

Leave this parameter set to the default value if TCP/IP Scaling is not configured for your system.

6. The Archive and Restore Provider services must both be restarted for these changes to take effect. Telestream also recommends restarting the Avid Archive Engine server.

You must define both the Archive and Restore profiles using the Avid Interplay Media Services and Transfer Status utility to submit Archive, Restore, or Partial File Restore requests to the AM Communicator.

The partition parameter value defines either the Destination Server tape group or disk array name, or the **Server Name** in DIVA Core. Creation and use of multiple Archive profiles enables archiving to different tape groups, disk arrays, or both.

Using the partition parameter as the **Server Name** enables the creation of Storage Plans based on the Server in DIVA Core. You can also use the Storage Plan as media.

Changing or adding Archive profiles does not require AMC Service reconfiguration or restarting.

If you do not specify the partition parameter value, or you submit a request with no profile selected, AMC uses the tape group, or disk array, and **Server Names** from its configuration file.

Note: All other parameters in the Archive and Restore profiles depend on your specific requirements and are left to your discretion.

You can configure Avid Interplay 1.4 and later to store AAF (*Advanced Authoring Format*) Metadata with the media files. This configuration enables duplicate media files in a single archive.

You use the following procedure to enable these options:

1. Open the Avid Interplay Administrator application.
2. Connect to the AvidAM database by clicking the name in the navigation tree on the left side of the screen.
3. Click the **Asset Tracking/Archive Settings** link.
4. You select the value for the options in the *Archive and Restore Settings* section of the screen.

Enabling the **Allow duplicate media file(s)** option consumes more storage space in DIVA Core, but generally decreases the time required for archived object restoration.

In order to archive meta-data files (.AAF) as part of the object, select the setting for *Allow Metadata Archive* option parameter to Yes. This requires updating the **fpdiDET2.xml** file for NETWORK_STORAGE_PATH, which allows the Archive Provider to place the .aaf file in a folder where Datahub can connect and add it to the object.

Telestream recommends enabling these two parameters if you want use these objects with DIVA View workflows to create proxies by transcoding clips/sequences.

5. Click **Apply Changes** to save your changes.

You can configure Avid Interplay 1.6 and later to enable *Best Effort Restore*. When the **Best Effort Restore** option is enabled, AMC attempts to restore as many media files as it can, and reports an error only if cannot restore any files at all.

Caution: It is recommended to disable **Best Effort Restore** because the Avid Interplay Media Services, and Transfer Status GUIs, do not show partially restored, and completely restored clips and sequences differently. As a result, it may appear that some content is successfully restored while it actually is not.

You use the following procedure to enable Best Effort Restore:

1. Open the Avid Interplay Administrator application.
2. Connect to the AvidWG database by clicking the name in the navigation tree on the left side of the screen.
3. Select the check box next to **Use best effort restore** option to enable the function. Deselect the check box to disable the function.
4. Click **Apply Changes** to save your changes.

AM Communicator Operations

All operations for the AM Communicator are performed from Avid Interplay, not DIVA Core.

This chapter describes general operations for AM Communicator and includes the following information:

- [AM Communicator Archive Operations](#)
- [AM Communicator Restore Operations](#)
- [AM Communicator Delete Operations](#)

AM Communicator Archive Operations

You use the following procedure to perform Archive operations using AM Communicator:

1. Open the Avid Interplay Access application.
2. Select the required clip.
3. Right-click the clip, and select **Archive** from the resulting context menu.
The *Archive* dialog box will be displayed.
4. Select the user profile from the *User Profile* list.
5. Click **OK** to begin the Archive operation.

You can check the status of the job using the Avid Interplay Media Services window.

AM Communicator Restore Operations

You use the following procedure to perform Restore operations using AM Communicator:

1. Open the Avid Interplay Access application.
2. Open the Archive folder in the navigation tree on the left side of the screen.
3. Select the archived object requiring restoration.
4. Right-click the clip and select **Restore** from the resulting context menu.
The *Restore* dialog box will be displayed.
5. Select the user profile from the *User Profile* list.
6. Click **OK** to begin the Restore operation.

You can check the status of the job using the Avid Interplay Media Services window.

AM Communicator Delete Operations

You use the following procedure to perform Delete operations using AM Communicator:

1. Open the Avid Interplay Access application.
2. Open the Archive folder in the navigation tree on the left side of the screen.
3. Select the archived object requiring deletion.
4. Right-click the clip and select **Delete** from the resulting context menu.
The *Delete* dialog box will be displayed.
5. Select **All**.
6. Click **OK** to begin the Delete operation.

Installing and Configuring TM Communicator

This chapter describes installation and configuration of TM Communicator. Installation and configuration of additional components is described only to the extent necessary to allow interaction with TM Communicator.

The following information is included in this chapter:

- [Installing TM Communicator](#)
 - [Installing the Transfer Manager Client](#)
 - [TM Communicator Command Line Options](#)
- [Configuring TM Communicator](#)
 - [Configuring the Transfer Manager Automation API](#)
 - [Configuring TM Communicator Servers in DIVA Core](#)
 - [Configuring Avid Transfer Manager](#)
 - * [DHM Specific Configuration](#)
 - * [DET Specific Configuration](#)

Installing TM Communicator

You must complete separate configuration stages for DIVA Core, TM Communicator, and Avid Transfer Manager or Avid Interplay Transfer Engine to set up media transfers between DIVA Core and Avid Unity through the TM Communicator.

The following definitions apply when the term is used within this chapter:

\$TMC_HOME

This term identifies the TM Communicator folder.

\$TMC_HOST

This term identifies the DNS name or IP address of the computer where TM Communicator is installed.

\$TMSERVER_HOST

This term identifies the DNS name or IP address of the computer where Avid Transfer Manager is installed.

\$TMSERVER_HOME

This term identifies the Avid Transfer Manager (*or Interplay Transfer Engine*) folder on the Avid Server.

\$WORKSPACE

This term identifies the Avid Unity workspace used for transfers.

\$DIVA_HOME

This term identifies the folder created on the target computer during installation.

\$WINDOWS_HOME

This term identifies the folder where Microsoft Windows is installed on the target computer.

You can install the TM Communicator on any computer accessible through the network from the Datahub, Manager, and Avid Transfer Manager hosts. This option allows installation of TMC on its own computer, separate from any specific server, if you want it configured this way.

You use the following procedure to install TM Communicator:

1. Copy the files from the \$DIVA_HOME/TMCommunicator/bin folder to the \$TMC_HOME folder on the Destination Server computer.

For installation in Interplay environments, you must use the appropriate /bin subfolder under the TMCommunicatorI22, TMCommunicatorI25, or TMCommunicatorI26 folder.
2. Rename the default configuration file, tmc.conf.ini, in the \$DIVA_HOME/conf/tmc subfolder to tmc.conf. You must append the service name matching the SERVICE_NAME parameter value from the TMC configuration to the file name, if the SERVICE_NAME parameter value is set. That is, you must rename the file to tmc_{SERVICE_NAME}.conf.
3. Change the parameter values in the TMC Configuration file. If you are only configuring the DHM or the DET workflow, you must only specify parameters related to the selected workflow.

The TM Communicator requires you to install and configure the Avid Transfer Manager Automation API and the Transfer Manager Client on the same computer. The TMC process must have permission to access the license registry keys.

Note: TM Communicator requires you to install the MOG SDK license to provide support for the MXF format in the DHM Restore and Archive workflows. The license comes in the form of a file that must be merged into the Windows Registry. You must apply the license registry for MOG SDK Modules if you are using DNxHD or AVCIntra formats.

If you execute TM Communicator as a Windows system service, you must start it using the account of the user who installed the license. To verify the account being used, open the Services Window from Windows Control Panel and follow this procedure:

1. Right click the **TM Communicator Service**.
2. Select **Properties**.
3. Click the **Log On** tab.
4. Select the **This Account** option, and enter the corresponding user login and password.

Installing the Transfer Manager Client

Telestream highly recommends installing the Transfer Manager Client release that matches the release level of the Transfer Manager Server and Interplay Transfer Engine. Interplay components are not compatible with their Workgroup 4 counterparts, and often with other Interplay releases.

You use the following procedure to install the Transfer Manager Client:

1. Execute the Transfer Manager Client software installation program.
2. Select the **Client for Avid Editing Station** option.
3. Follow the on screen instructions.

The Transfer Manager Client requires the TMClient.ini file on the target computer to be modified as follows:

```
TMClient.ini
[MyServer,MyWorkgroup]
MyServer = $TMSERVER_HOST, $WORKSPACE
```

If a domain name is used as the \$TMSERVER_HOST value, it must correctly resolve to the corresponding IP address.

The \$WORKSPACE value must match the value of the TM_WORKSPACE parameter from the TMC configuration file. See [TM Communicator Configuration Parameters](#) for detailed parameter descriptions.

The location of the TMClient.ini file depends on the Avid Transfer Manager Client release:

- For non-Interplay environments, and Interplay releases before Interplay 1.6, the file is in \$TMC_HOME.
- For Interplay releases from 1.6 to 2.1, the location depends on the operating system release.

For example, on Windows 2008 and later, you must copy the file to the %ALLUSERSPROFILE%\Avid folder, and on Windows XP or 2003 you must copy it to the \$TMC_HOME folder.

- For Interplay 2.2 and later, the location depends on the operating system release:

For example, on Windows 2008 and later, you must copy the file to the %ALLUSERSPROFILE%\Avid\TMCSservice folder, and on Windows XP or 2003, you must copy it to the %ALLUSERSPROFILE%\Application Data\Avid\TMCSservice folder.

TM Communicator Command Line Options

You can start TM Communicator either as a Windows system service, or as a console application. Telestream recommends running TMC as a system service in production environments. However, console mode is useful when performing troubleshooting activities.

You can specify a fully qualified configuration file path in the command line using the `-conf` (or *its alias -f*) option.

For example, the following command starts a TMC instance using parameters from the configuration file named `tmc_example.conf`, and runs in console mode (*the -d option*). You must set the `SERVICE_NAME` parameter value to `example` for this sample. See [TM Communicator Configuration Parameters](#) for all TMC parameters.

```
TMCSservice -d -conf ../conf/tmc/tmc_example.conf
```

TMCommunicator supports the following command-line options:

install or -i

This option installs TMC as a Windows service using the provided command-line options as the default parameters. *This option will not start the service, it only installs the service.*

uninstall or -u

This option removes TMC from the Windows services. *This option will stop the service automatically if it is running.*

debug or -d

This option starts the TMC service in console mode. The console mode provides additional information as standard output.

version or -v

This option displays the TMC release level, and then exits.

help or -h

This option displays use information, and then exits.

conf or -f

This option specifies a fully qualified configuration file path for TMC to use instead of the default configuration file.

Configuring TM Communicator

The following sections describe the configuration procedures for TM Communicator.

Configuring the Transfer Manager Automation API

The configuration steps listed in this section are required only for the DHM Workflow and can be skipped in DET-Only environments.

The Transfer Manager Automation API is supplied with the TM Communicator in the form of the Avid TM Auto API DLL, and enables communication with the Avid Transfer Manager.

To process DHM Restore requests correctly, the Transfer Manager Automation API requires the following two configuration files:

AvidTMAAPI_Ingest_DeviceToSetupFile.txt

The contents of this file are as follows:

```
Avid TMAAPI_Ingest_HostToDevice.txt
#This is the default file for converting Ingest Host Name to Device #Name
#It needs to be in the following format (everything inside the #double-quotes on a new line):
# "[IngestHostName] [IngestDeviceName]"
# make sure you also set the other file - IngestDeviceName to #SetupDLL
#
$TMC_HOST FPD_I_Ingest
```

AvidTMAAPI_Ingest_HostToDevice.txt

The contents of this file are as follows:

```
# This is the default file for converting Ingest Device Name to #Setup File Name
# It needs to be in the following format (everything inside the #double-quotes on a new line):
# "[IngestDeviceName] [IngestSetupFileName]"
# make sure you also set the other file - IngestHostName to #IngestDeviceName
#
FPDI_Ingest fpdisetup
```

You must only enter the correct value for \$TMC_HOST. You must use the DNS name instead of the IP address as the \$TMC_HOST value, and it must correctly resolve to the IP address entered as the TM_INGEST_IP value in the TMC Configuration File.

You must copy the previous two files to different locations depending on the environment release:

- For Avid Transfer Manager 2.9.x and Interplay environments before Interplay 1.6, you copy the configuration files to the \$WINDOWS_HOME folder on the target computer.

- For Interplay 1.6 and later environments, you copy the configuration files to the %ALLUSERSPROFILE%\Application Data\Avid\TMAuto folder on Windows XP or 2003, and to the %ALLUSERSPROFILE%\Avid\TMAuto folder on Windows 2008 and later.

Configuring TM Communicator Servers in DIVA Core

Caution: DHM and DET Servers must use different login and password parameter pairs. Entering the same values will lead to termination of all DET requests.

Also, Telestream strongly recommends matching Max Read Accesses/Max Write Accesses and Max Simultaneous Playback Transfers/Max Simultaneous Ingest Transfers parameter values from the Avid Transfer Manager configuration for DHM Servers, or Max DET Push Transfers/Max DET Pull Transfers for DET Servers.

You must configure two separate FTP Servers in DIVA Core, using DIVA Command, to enable TM Communicator DHM and DET workflows. Although these Servers have different types, **AVID_DHM** for DHM workflows and **AVID_DET** for DET workflows, both have the same set of parameters as follows:

Source Name

This parameter identifies the Server name for the TM Communicator.

For DHM workflows, the value must match the value of the DIVA_DHM_SRCDEST parameter from the TMC configuration file for DHM workflows.

For DET workflows, the value must match the value of the DIVA_DET_SRCDEST parameter from the TMC configuration file for DET workflows.

IP Address

This parameter identifies the IP address of the TM Communicator FTP computer. This value must be consistent with the value of the FTP_IP parameter from the TMC configuration file. This value is the same for both DHM and DET workflows.

Source Type

You select the correct Source Server type from the list. You use **AVID_DHM** for DHM workflows, and **AVID_DET** for DET workflows.

Connect Options

This parameter identifies the TM Communicator FTP port, login, user name, and data socket buffer size (*in kilobytes*).

These values must match the values of the FTP_PORT, DHM_LOGIN, DHM_PASSWORD, and TM_BUFFER_SIZE from the TMC configuration file for DHM workflows.

These values must match the values of the FTP_PORT, DET_LOGIN, DET_PASSWORD, and TM_BUFFER_SIZE from the TMC configuration file for DET workflows.

An example entry in this field might be -login dhm -pass diva -port 6021 for a DHM workflow, or -login det -pass diva -port 6021 for a DET workflow.

TMC supports Passive Mode FTP for both DHM and DET workflows. To switch to Passive Mode FTP add the -PASV option to either string.

For example, -login dhm -pass diva -port 6021 -PASV or -login det -pass diva -port 6021 -PASV.

Configuring Avid Transfer Manager

Avid provides a unified GUI to set both the DHM, and DET, related parameters of Transfer Manager and Interplay Transfer Engine.

You use the following procedure to configure the Transfer Manager server:

1. Open the Transfer Manager Server Configuration GUI.
2. Change the following settings under each section of the screen:
 - *Workgroups*
 - Select the check box for the **Workgroup transfers enabled** option to enable the option.
 - Select the check box for the **Incoming workgroup transfers enabled** option to enable the option.
 - Enter the required value in the **Max. simultaneous workgroup transfers** field.
 - Leave the default value in the **Directory for temporary composition files** field.
 - Select the check box for the **Delete temporary composition files after transfers** option to enable the option.
 - Add 1 line to the **Workgroup name** field containing {Name of Workspace} {Name of Transfer Manager Server}.
 - *Playback (for DHM only)*
 - Select the check box for the **Playback transfers enabled** option to enable the option.
 - Enter the required value in the **Max. simultaneous playback transfers** field.
 - Add the IP address of the computer where TM Communicator is installed to the **Playback devices** field. This value must be consistent with the PBP_IP parameter in the TMC configuration file.
 - *Ingest (for DHM only)*
 - Select the check box for the **Ingest transfers enabled** option to enable the option.
 - Enter the required value in the **Max. simultaneous ingest transfers** field.
 - Add the DNS name of the computer where the TM Communicator is installed to the **Ingest devices** field. This value must be consistent with the TM_INGEST_IP parameter from the TMC configuration file; that is, the DNS name must either match the parameter value, or resolve to the IP Address specified by the parameter value.

If the DNS name is used as the Ingest Device Name, it must correctly resolve to the IP address of the TM Communicator Ingest Listener (*the value of the TM_INGEST_IP parameter in the TMC configuration file*) from the Transfer Manager server. If necessary, add a corresponding line to the \$WINDOWS_HOME\system32\drivers\etc\hosts file.
 - *Dynamically Extensible Transfers (DET) (for DET only)*
 - Enter the required values in the **Max. DET push transfers** field, and the **Max. DET pull transfers** field.
3. After all other required parameters are defined, enter a value in the **Max. simultaneous transfers** field under the *Total Transfers (All Types)* area on the screen.

Telestream recommends setting a value that does not exceed the sum of the values of **Max. simultaneous ingest transfers**, **Max. simultaneous playback transfers**, **Max. DET push transfers**, and **Max. DET pull transfers**.

4. Click **Save** to save the configuration.

The settings are saved in the TMServer.ini file in \$WINDOWS_HOME folder.

Remove the line HoldForPermission=1 if it is present in the TMServer.ini file. This line is added in standalone configurations, and disables transfers to Unity storage.

5. Restart the Transfer Manager server.

DHM Specific Configuration

You must use the following procedure to copy the DHM and Playback Sender implementations to the Avid Transfer Manager to enable DHM transfers:

1. Copy the *Telestream Receiver DLL* from the \$TMC_HOME/fpdireceiver folder, and the *Telestream Sender DLL* from the \$TMC_HOME/fpdisender folder, to the \$TMSERVER_HOME folder on the Avid Transfer Manager host.
2. Set the **Sample Bit Depth** value in the Avid Transfer Manager as follows:

Note: If clips with 24-bit audio are ingested, or sent to playback, you must set the **Sample Bit Depth** value in Avid NewsCutter, or Media Composer, to **24-bit**.

1. Select **Edit**, and then **Preferences** from the menu.
2. Click the **Settings** tab.
3. Select **Audio Project**.
4. Set the **Sample Bit Depth** to **24-bit** from the list. If you do not set the value correctly, the DHM Archive request may fail with the error Audio with inconsistent sample sizes.

DET Specific Configuration

You must copy the *DET Vendor DLL* implementation to the Avid Transfer Manager, and perform the following additional configuration steps as required to enable DET transfers:

1. Copy the *Telestream Transceiver DLL* and all other files from the \$TMC_HOME/fpditransceiver folder to the \$TMSERVER_HOME folder on the Avid Transfer Manager server.

Caution: In the next step, if the det subfolder already exists in the \$TMSERVER_HOME folder, Telestream recommends creating a backup copy of its contents. Overwriting any of the files in the det folder may disable other vendor DET implementations configured in the environment.

2. Copy the \$TMC_HOME/det folder, including all subfolders, to the \$TMSERVER_HOME folder on the Avid Transfer Manager server.

The following structure is created:

```

/det
 /mappings
   DivaPullMap.xml
   DivaPushMap.xml
 /settings
   DivaPull.xml

```

```
DivaPush.xml
/temp
/xmlcookies
/vendors
Move.xml
```

3. You must change the settings file XML parameter values so that DivaPullMap.xml points to the \$TMSERVER_HOME/det/settings/DivaPull.xml file, and DivaPushMap.xml points to the \$TMSERVER_HOME/det/settings/DivaPush.xml file.
4. You must change the vendor file XML parameter values so that DivaPullMap.xml and DivaPushMap.xml both point to the \$TMSERVER_HOME/det/vendors/Move.xml file.
5. Change the TMC XML parameter value in Move.xml to define the correct TM Communicator DET parameters using the format {IP}:{Port}.

IP

This parameter is the IP address of the TM Communicator DET Listener. This must be consistent with the value of the TM_DET_IP parameter from the TMC configuration file.

Port

This parameter is the port number for the TM Communicator DET Listener. This must match the value of the TM_DET_PORT parameter from the TMC configuration file.

6. Set the MaxPullSessions and MaxPushSessions XML parameter values in the Move.xml file to be consistent with the **Max. Read Accesses** and **Max. Write Accesses** parameters of the DET Server.
7. Confirm that the HKEY_LOCAL_MACHINE\SOFTWARE\Avid Technology\DETMove\MoveCookiePath Windows Registry key exists, and that it points to the folder specified by the value for the **Directory for temporary composition files** parameter (see [Configuring Avid Transfer Manager](#)).

If the registry key does not exist, or points to a different location, edit the key value in the tm_regkey.reg file and merge the file into the registry.

If the specified folder does not exist, you must manually create it because TM Communicator will not create new directories.

Telestream recommends setting this to the \$TMSERVER_HOME/det/temp folder.

TM Communicator Operations

All TM Communicator Archive operations are performed from Avid, but all Restore and Delete operations are performed from DIVA Core. This chapter describes TM Communicator DHM and DET Archive operations and includes the following information:

- [DET Archive Operations](#)
- [DHM Archive Operations](#)
- [DHM Archive Operations with Empty Video and Audio Frames](#)

DET Archive Operations

You use the following procedure to perform Archive operations with DET TM Communicator:

1. Open the Avid Media Composer application.
2. Select a clip, or sequence, to archive.
3. Right-click the clip, or sequence, to display the context menu.
4. Select **Send To Workgroup**, and then select **Transfer** from the menu.
5. Select **Transfer** from the menu bar, and then **Status Window** to view the transfer status.

DHM Archive Operations

You use the following procedure to perform Archive operations with DHM TM Communicator:

1. Open the Avid Media Composer application.
2. Select a sequence to archive.
3. Right-click the sequence to display the context menu.
4. Select **Send To Playback**, and then select the **TMC Host IP Address** from the menu.
The *Send To Playback* dialog box is displayed.
5. Enter the Tape ID in the **Tape ID** field.

Note: The **Tape ID** entered during Archive from Media Composer becomes the object name and clip name in DIVA Core.

6. Click **OK** to start the operation.
7. Select **Transfer** from the menu bar, and then **Status Window** to view the transfer status.

DHM Archive Operations with Empty Video and Audio Frames

TM Communicator supports archiving empty audio and video frames in the Avid sequences. *Black Video Frames* replace corresponding empty video frames. *Mute Audio Frames (with muted audio)* replace corresponding empty audio frames

After the MXF, or GXF, file is generated and archived to DIVA Core, you can Restore these files back to AVID, and they will be played the same as the original sequence. During restore, TM Communicator treats all *Black Video Frames* and *Mute Audio Frames* the same as other frames, and no additional changes are required for a Restore workflow.

A sequence can have holes in only video, only audio, or both, because TM Communicator handles empty video and audio frames separately. A sequence can have multiple holes in each track of video or audio.

The following is the processing of a DHM Archive of a sequence with empty audio frames:

1. During playback, Avid Interplay Transfer Engine sends empty frame code (*IsFill*) to indicate mute audio.
2. When TMC sees empty frame code for audio, it assumes that it needs to make that frame mute audio.
3. TMC assigns the value 0x00 to all bytes of the frame buffer that is the same size as other non-empty frames.
4. TMC writes the audio frame to the Muxer.
5. This process continues until the entire sequence is archived.

The following is the processing of a DHM Archive of a sequence with empty video frames:

1. When TMC receives the request from Avid, it identifies the video format of clips that are part of a sequence.
2. After it identifies the video format (*for example, DV-25, DV-50, D10 30 Mbps, and so on*), it reads the *Black Video Frame* file corresponding to the identified format and assigns it to a video frame.

The *Black Video Frames* are placed in the TM Communicator installation folder (*either TMCCommunicator/bin or TMCCommunicator/bin/BlackFrames*). All of the *Black Video Frames* are acquired from Avid Interplay Engine's installation folder.

Each file contains one frame of *Black Video Frame* corresponding to that format. The files are as shown in the following screen shot (*this is a partial list*):

Name
Black_AVCI_720p_23_976_420.hd
Black_AVCI_720p_25_420.hd
Black_AVCI_720p_50_420.hd
Black_AVCI_720p_50_422.hd
Black_AVCI_720p_60_420.hd
Black_AVCI_720p_60_422.hd
Black_AVCI_1080i_50_420.hd
Black_AVCI_1080i_50_422.hd
Black_AVCI_1080i_60_420.hd
Black_AVCI_1080i_60_422.hd
Black_AVCI_1080p_25_422.hd
Black_AVCI_1080p_2997_422.hd
Black_Frame_DV100_720p_50.dif
Black_Frame_DV100_720p_60.dif
Black_Frame_DV100_1080i_50.dif
Black_Frame_DV100_1080i_60.dif
Black_HD720pDNxHD145.hd
Black_HD720pDNxHD220.hd
Black_HD720pDNxHD220X.hd
Black_HD1080iDNxHD145.hd
Black_HD1080iDNxHD220.hd
Black_HD1080iDNxHD220X.hd
Black_HD1080pDNxHD36.hd
Black_HD1080pDNxHD145.hd
Black_HD1080pDNxHD220.hd
Black_HD1080pDNxHD220X.hd
NTSC_Black_DV50.dif
NTSC_Black_IMX50.imx
NTSC_Black_MPEG30.imx
NTSC_Black_MPEG40.imx
NTSC_Black_MPEG50.imx
NTSCBlackFrame.dif
PAL420BlackFrame.dif
PAL_Black_DV50.dif
PAL_Black_IMX50.imx
PAL_Black_MPEG30.imx
PAL_Black_MPEG40.imx
PAL_Black_MPEG50.imx
PALBlackFrame.dif

3. TMC reads the frame from Avid and checks if it is an empty frame (*IsFill*).
4. If it is an empty video frame, it writes the *Black Video Frame* to the Muxer.
5. This process continues until the Archive request completes.

Avid Interplay Supported Environments

This appendix describes the Avid Interplay supported environments and includes the following information:

- [DIVA Core Compatibility](#)
- [Avid Interplay Supported Environments](#)

DIVA Core Compatibility

The following table identifies the Avid packages compatible with DIVA Core.

Table A-1 *DIVA Core Compatibility*

Interplay Release	TM Communicator	TM Communicator Binaries	AM Communicator
2.2.x	Yes	TMCommunicatorI22	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2.3.x	Yes	TMCommunicatorI22	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2.4.x	Yes	TMCommunicatorI22	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2.5.x	Yes	TMCommunicatorI25	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2.6.x	Yes	TMCommunicatorI26	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2.7.x	Yes	TMCommunicatorI26	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
3.0.x	Yes	TMCommunicatorI30	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows

Table A-1 (Cont.) DIVA Core Compatibility

Interplay Release	TM Communicator	TM Communicator Binaries	AM Communicator
3.1.x	Not supported	Not supported	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
3.2.x	Only DHM	TMCommunicatorI32 TMClient3.1 is required DET Restore not supported	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
3.3.x	Only DHM	TMCommunicatorI33 DET Restore not supported	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
3.4.x	Only DHM	TMCommunicatorI33 DET restore not supported	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
3.5.x	Only DHM	TMCommunicatorI33	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
3.6.x	Not Supported	Not Supported	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
3.7.x	Not Supported	Not Supported	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
3.8.x	Only DET	TMCommunicatorI37 DHM not supported	AMCommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2017.2	Only DET	TMcommunicatorI37 DHM not supported	AMcommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2018.6	Not Supported	Not Supported	AMcommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2019.6	Not Supported	Not Supported	AMcommunicatorI22 1.0 For all Legacy workflows 2.0 For Avid Direct workflows
2020.4	Not Supported	Not Supported	AMcommunicatorI22 2.0 For Avid Direct workflows

Avid Interplay Supported Environments

The following list identifies the Avid Interplay support environments.

Table A–2 Avid Interplay Supported Environments

	TMC	TMC	TMC	AMC
Avid Protocol	DHM	DHM	DET	AM
Workgroup	WG4 Transfer Manager 2.9.x Interplay: 2.2.x 2.3.x 2.4.x 2.5.x 2.6.x 2.7.x 3.0.x 3.2.x 3.3.x 3.4.x 3.5.x 3.7.x 3.8.x	WG4 Transfer Manager 2.9.x Interplay: 2.2.x 2.3.x 2.4.x 2.5.x 2.6.x 2.7.x 3.0.x 3.2.x 3.3.x 3.4.x 3.5.x 3.7.x 3.8.x	WG4 Transfer Manager 2.9.x Interplay: 2.2.x 2.3.x 2.4.x 2.5.x 2.6.x 2.7.x 3.0.x 3.2.x 3.5.x 2017.2	Interplay: 2.2.x 2.3.x 2.4.x 2.5.x 2.6.x 2.7.x 3.0.x 3.1.x 3.2.x 3.3.x 3.4.x 3.5.x 3.6.x 3.7.x 3.8.x 2017.2 2018.6 2019.6 2020.4
Wrappers¹ (Archive and Restore)²	MXF ³	GXF	OMF MXF OP atoms	MXF OP atoms
Video Essences	MPEG2 D10 (50, 40, or 30 Mbps) ⁴ DV25 DVCPRO25 DVCPRO50 DVCPRO100 ⁵ XDCAM HD422 and SD(IMX) AVCIntra 100 Mbps DNxHD 145 Mbps and 220 Mbps ⁶	MPEG2 D10 (50, 40 or 30 Mbps) DV25 DVCPRO25 DVCPRO50 ⁷	All essences supported by Avid.	All essences supported by Avid.

Table A-2 (Cont.) Avid Interplay Supported Environments

	TMC	TMC	TMC	AMC
Audio Essences	PCM AES ⁸ Up to eight audio tracks (up to 16 audio tracks for Interplay 2.2.x) 16-bit or 24-bit	PCM Up to eight audio tracks (up to 16 audio tracks for Interplay 2.2.x) 16-bit or 24-bit	All essences supported by Avid.	All essences supported by Avid.
Compatible Avid Objects Created by DIVA Core⁹	OmneonD10 DV25 DVCPRO25 DVCPRO50 K2	Profile K2	Not applicable	Not applicable
Formats Restorable to Avid⁹	Omneon MXF D10 DV25 DVCPRO25 DVCPRO50 SeaChange MXF D10 K2 MXF D10	Profile GXF D10 K2 GXF D10	Not applicable	Not applicable

- ¹ This is a list of formats that can be exported and imported from and to Avid. An imported clip must have been previously exported by DIVA Core.
- ² Original clip time code is preserved during both archive and restore.
- ³ SMPTE 386M compliant MXF-wrapped content is supported.
- ⁴ MXF D10 files can be archived with either PCM or AES3 audio (as required by SMPTE 386M). Restore supports MXF files with any of the two audio formats.
- ⁵ DVCPRO100 is not fully supported by Avid Transfer Engine. Some essence types (for example, 720p24 and 720p30) can be archived, but cannot be restored back to Avid.
- ⁶ Not all DNxHD clips are supported. Support depends on Avid Interplay release.
- ⁷ DV files are archived with PCM audio. Existing (DV) clips with AES3 audio can be successfully restored. AES3 audio is supported only for MXF-wrapped content.
- ⁸ There is an option to generate DV clips with AES3 audio.
- ⁹ DIVA Core can restore some clips to Avid even if they were not generated by DIVA Core. It can also restore its Avid Objects to some video platforms other than Avid. Essences and servers not listed must be tested.

AMC and TMC Configuration Parameters

This appendix describes the AMC and TMC configuration parameters and includes the following information:

- [AM Communicator Configuration Parameters](#)
- [AM Communicator Default Configuration File](#)
- [TM Communicator Configuration Parameters](#)

AM Communicator Configuration Parameters

This section identifies the AM Communicator parameters located in the AMC configuration file. Any parameter not specifically mentioned in the following table is used solely for debugging purposes and should not be modified from its default value.

All listed parameters must be defined even if the default values are not provided in the configuration file.

All IP addresses mentioned in this section can be replaced by corresponding DNS names, provided the DNS service functions properly. If the Listener's IP address has the default value 0.0.0.0, then AM Communicator listens to all configured network interfaces on the given computer.

Table B-1 AM Communicator Configuration Parameters

Parameter	Description	Default Value
SERVICE_NAME	This parameter specifies the Windows service name for the AMC service. This option is required to run multiple AMC instances on a single computer. If not specified, the default service name, DIVA Core AMCommunicator, is used.	DIVA Core AMCommunicator
AM_IP	This parameter identifies the IP address of the AM Communicator PBP (<i>Play Back Protocol</i>) Listener.	0.0.0.0
AM_PORT	This parameter identifies port number of the AM Communicator PBP Listener	6101
AM_TIMEOUT	This parameter identifies the time (<i>in seconds</i>) that AM Communicator waits for a connection from the Datahub.	30

Table B-1 (Cont.) AM Communicator Configuration Parameters

Parameter	Description	Default Value
AM_MAX_CONNECTIONS	This parameter identifies the maximum simultaneous number of requests submitted by Avid. <i>This is present only in the 2.0.x packages.</i>	100
AM_BUFFER_SIZE	This parameter identifies the size of the network I/O Buffer in kilobytes. The valid value range for this parameter is from 8 to 2048 kilobytes. Telestream recommends keeping the default value for environments with high speed networks.	2048
AM_SOCKET_BUFFER_SIZE	This parameter identifies the socket receive and send buffer sizes in kilobytes. If this is set to 0, the system default values are used. You can use this parameter to enable TCP/IP scaling if it is supported by the installed hardware and operating system.	0
AM_SOCKET_LINGER	This parameter identifies the maximum time (<i>in seconds</i>) the FTP Data Socket remains open during a Socket Close call to enable sending of queued data.	1
AM_MODE	This parameter identifies the AMC operation mode as follows: 1 - All clip or sequence files are archived as single object. 2 - Each clip or sequence file is archived individually. 3 - All files are archived as one object, but AMC tries to restore clips and sequences from individual files if an object containing all files does not exist. This is useful for migration purposes.	1
AM_OPTIMIZE_FOR_MIGRATION	This parameter notifies AMC to restore the content in <i>Single File Per Object Mode</i> before searching for objects by file name. You should set this parameter to 1 only when content archived in <i>Single File Per Object Mode</i> is used; that is, most often to speed up content migration to <i>Multiple File Per Object</i> format.	0
AM_READABLE_NAMES	When this parameter is set to 1, the original clip or sequence name is used as the object name rather than the Metadata MOB ID. <i>This parameter does not affect Single File Per Object Mode.</i>	0
AM_OVERWRITE	This parameter identifies whether AMC attempts to delete an existing object, or returns an error if an object with the same name already exists in DIVA Core. <i>This parameter does not affect Single File Per Object Mode.</i>	0

Table B-1 (Cont.) AM Communicator Configuration Parameters

Parameter	Description	Default Value
FTP_IP	This parameter identifies the IP address of the AM Communicator FTP interface. You must set this parameter value to the IP address or DNS name visible from the Datahub computers if the partition parameter from the Avid profile is interpreted as the DIVA Core Server, and multiple Archive, Restore, or both providers are used.	0.0.0.0
FTP_PORT	This parameter identifies the port of the AM Communicator FTP interface.	6121
FTP_LOGIN	This parameter identifies the login required to access AM Communicator through an FTP interface.	amc
FTP_PASSWORD	This parameter identifies the password required to access AM Communicator through an FTP interface.	diva
DIVA_MANAGER_ADDRESS	This parameter identifies the IP address of the Manager where AM Communicator sends requests. You can specify multiple Manager IPs separated by commas. AMC will attempt to connect to the second IP if it cannot connect to the first, and so on. You must configure the same port number on all Managers.	localhost
DIVA_MANAGER_PORT	This parameter identifies the Manager port where AM Communicator sends requests.	9000
DIVA_REQUEST_RETRY	This parameter identifies the number of reconnect attempts made if a request sent by AM Communicator fails due to a lost connection with the Manager. <i>Telestream recommends leaving this value at the default setting.</i>	1
DIVA_MONITOR_INTERVAL	This parameter identifies the request status polling interval (<i>in seconds</i>).	10
DIVA_SRC DST	This parameter identifies the name of the AMC Server configured in DIVA Core.	
AM_CATEGORY_DELIMITER	This parameter identifies the delimiter separating the base category from the appended resolution, and optional index. <i>Changing this parameter after it has been set may prevent previously archived objects from being successfully restored.</i>	~
AM_CATEGORY_IGNORE_LIST	This parameter identifies a comma separated list of resolution values that do not affect object category selection.	Metadata, PCM, WAVE, AIFC, MPEG1Layer2

Table B-1 (Cont.) AM Communicator Configuration Parameters

Parameter	Description	Default Value
AM_CATEGORY_MIXED_RESOLUTION	This parameter identifies a special resolution value to construct the category for multi-resolution content. <i>Telestream strongly recommends keeping this parameter value empty if AMC is upgraded from an earlier implementation.</i>	
DIVA_DEFAULT_CATEGORY	This parameter identifies the base category of objects created by AM Communicator.	
DIVA_ARCHIVE_PRIORITY	This parameter identifies the priority of requests initiated by AM Communicator.	-1
DIVA_ARCHIVE_QOS	This parameter identifies the value of the <i>Quality Of Service</i> parameter for Archive requests initiated by AM Communicator.	0
DIVA_RESTORE_QOS	This parameter identifies the value of the <i>Quality Of Service</i> parameter for Restore, and Partial File Restore requests initiated by AM Communicator.	0
PARTITION_IS_MEDIA	When you set this parameter to 1, the partition parameter from the Archive Profile specifies the Destination Server media. When the value is set to 0, the partition parameter value specifies the Server name.	1
DIVA_ARCHIVE_MEDIA	This parameter identifies the name of the media where objects are archived. You use this parameter in configurations where the partition parameter value identifies the Server, and when the archive is submitted with no profile selected.	

AM Communicator Default Configuration File

The following file is the default AMC configuration file delivered with Avid, and is named `amc.conf.ini`. See the previous section for parameter descriptions and default values.

```
#####
# AM Communicator network interfaces
#####

# AMC service name
SERVICE_NAME =

# AMC listener ip and port (default 6101)
AM_IP =
AM_PORT = 6101

# Time in seconds AM Communicator waits
# for connection from Diva Actor
AM_TIMEOUT = 14400

# Network I/O buffer size in kilobytes
AM_BUFFER_SIZE = 2048

# Socket receive and send buffer sizes in kilobytes
# If set to 0 system default values are used
```

```

AM_SOCKET_BUFFER_SIZE = 0

# Maximum time in seconds FTP data socket remains open
# on socket close call to enable sending of queued data
AM_SOCKET_LINGER = 1

# Maximum simultaneous number of requests submitted by AVID
# default is 100
AM_MAX_CONNECTIONS = 100

# Hints AMC to restore content in single file
# per object mode before searching for objects
# by file name
AM_OPTIMIZE_FOR_MIGRATION = 0

#####
# Parameters from the block below affect
# only multiple files per object modes
#####

# Indicates whether existing DIVA object
# is deleted as a result of archiving an
# object under the same name
AM_OVERWRITE = 0

# Indicates whether metadata mob id or
# clip/sequence name is used as DIVA
# object name
AM_READABLE_NAMES = 0

# Delimiter used to separate default category from
# appended resolution and optional index
AM_CATEGORY_DELIMITER = ~

# A comma separated list of resolution values that
# do not affect object category selection
AM_CATEGORY_IGNORE_LIST = Metadata, PCM, WAVE, AIFC, MPEG1Layer2

# A special resolution value used to construct
# category for multi resolution content
AM_CATEGORY_MIXED_RESOLUTION =

#####
# Diva connectivity parameters
#####

# A comma separated list of Diva Manager IPs/DNS names AMC tries to connect to
DIVA_MANAGER_ADDRESS = localhost
# Diva Manager port
DIVA_MANAGER_PORT = 9000

# Number of retry attempts made when
# connection to Diva Manager fails
DIVA_REQUEST_RETRY = 1

# Request status polling interval
# in seconds
DIVA_MONITOR_INTERVAL = 10

#####
# Diva request parameters

```

```
#####  
  
# AMC source name in DIVA  
DIVA_SRC DST =  
  
# Category set for archived objects  
# in single file per object mode  
DIVA_DEFAULT_CATEGORY =  
  
# Priority of submitted requests  
DIVA_ARCHIVE_PRIORITY = -1  
  
# Values for DIVA_ARCHIVE_QOS:  
# 0 => DIVA_QOS_DEFAULT // Direct and Cache  
# 1 => DIVA_QOS_CACHE_ONLY // Cache only  
# 2 => DIVA_QOS_DIRECT_ONLY // Direct only  
# 3 => DIVA_QOS_CACHE_AND_DIRECT // Cache and direct (if cache n/available)  
# 4 => DIVA_QOS_DIRECT_AND_CACHE // Direct and cache (if direct n/available)  
DIVA_ARCHIVE_QOS = 0  
  
# Values for DIVA_RESTORE_QOS:  
# 0 => DIVA_QOS_DEFAULT // Direct and Cache  
# 1 => DIVA_QOS_CACHE_ONLY // Cache only  
# 2 => DIVA_QOS_DIRECT_ONLY // Direct only  
# 3 => DIVA_QOS_CACHE_AND_DIRECT // Cache and direct (if cache n/available)  
# 4 => DIVA_QOS_DIRECT_AND_CACHE // Direct and cache (if direct n/available)  
DIVA_RESTORE_QOS = 0  
  
# Indicates whether partition parameter from  
# archive profile is used as destination media  
# name or source/destination name  
PARTITION_IS_MEDIA = 1  
  
# If PARTITION_IS_MEDIA parameter is set to 0  
# this parameter specifies destination media  
# name. Otherwise it is used only if archive  
# is submitted with no profile selected on  
# Avid side  
DIVA_ARCHIVE_MEDIA =
```

TM Communicator Configuration Parameters

This section describes the TM Communicator parameters in the TMC configuration file. Any parameter not specifically mentioned in the following tables is used solely for debugging purposes and must not be modified from its default value.

The parameters are logically split into three groups:

- Common Parameters (*required for both DHM and DET workflows*)
- DHM Related Parameters
- DET Related Parameters

When you configure the TM Communicator to support any of the two workflows, you must define all common parameters, and parameters pertaining to the corresponding workflow. *All listed parameters must be defined even if default values are not specified in the configuration file.*

You can replace all IP addresses mentioned in this section with the corresponding DNS names, provided the DNS service functions properly. If the Listener's IP address has the default value 0.0.0.0, the TM Communicator listens to all configured network interfaces, and passes the DNS name of its host to the Sender, Receiver, or both.

Setting values of the timeout parameters, `PLAYBACK_TIMEOUT`, `INGEST_TIMEOUT`, and `DET_TIMEOUT` greater than 120 seconds is impractical and leads to increased memory consumption because the Datahub closes inactive TM Communicator connections in 120 seconds. Telestream recommends keeping these parameters at the default values.

Table B-2 Common TM Communicator Parameters

Parameter	Description	Default Value
<code>SERVICE_NAME</code>	This parameter identifies the Windows service name for the TMC service. If not specified, the default Service Name <code>DIVA Core TMCommunicator</code> is used.	<code>DIVA Core TMCommunicator</code>
<code>TM_WORKSPACE</code>	This parameter identifies the Avid Unity Workspace (<i>logical storage unit</i>).	
<code>TM_USER</code>	This parameter identifies the Avid Unity user name. <i>This user must have write access to <code>TM_WORKSPACE</code>.</i>	
<code>DIVA_MANAGER_ADDRESS</code>	This parameter identifies the IP address of the Manager where TM Communicator sends Archive requests. You can specify multiple Manager IPs separated by commas. TMC will attempt to connect to the second IP if it cannot connect to the first, and so on. You must configure the same port number on all Managers.	<code>localhost</code>
<code>DIVA_MANAGER_PORT</code>	This parameter identifies the port of the Manager where TM Communicator sends Archive requests.	<code>9000</code>
<code>DIVA_REQUEST_RETRY</code>	This parameter identifies the number of reconnect attempts made if the request sent by TM Communicator fails due to a lost connection with the Manager. <i>Telestream recommends leaving this parameter value set to the default.</i>	<code>1</code>
<code>DIVA_MONITOR_INTERVAL</code>	This parameter identifies the request status polling interval (<i>in seconds</i>).	<code>10</code>
<code>FTP_IP</code>	This parameter identifies the TM Communicator FTP interface IP address.	<code>0.0.0.0</code>
<code>FTP_PORT</code>	This parameter identifies the TM Communicator FTP interface port.	<code>6021</code>
<code>TM_BUFFER_SIZE</code>	This parameter identifies the size of the network I/O Buffer (<i>in kilobytes</i>). The valid value range for this parameter is from 8 to 2048 kilobytes. Telestream recommends keeping the default value for environments with high speed networks.	<code>2048</code>

Table B–2 (Cont.) Common TM Communicator Parameters

Parameter	Description	Default Value
TM_SOCKET_BUFFER_SIZE	This parameter identifies the socket receive and send buffer sizes (<i>in kilobytes</i>). If set to 0, the system default values are used. You can use this parameter to enable TCP/IP scaling, if it is supported by installed hardware and operating system.	0
TM_SOCKET_LINGER	This parameter identifies the maximum time (<i>in seconds</i>) that the FTP data socket remains open in a Socket Close call to enable sending of queued data.	1

Table B–3 TM Communicator DHM Related Parameters

Parameter	Description	Default Value
DHM_LOGIN	This parameter identifies the login required to access TM Communicator through an FTP interface in the DHM workflow.	dhm
DHM_PASSWORD	This parameter identifies the password required to access TM Communicator through an FTP interface in the DHM workflow.	diva
PBP_IP	This parameter identifies the IP address of the TM Communicator Receiver that accepts PBP contacts from the Transfer Manager (<i>DHM Archive workflow</i>).	0.0.0.0
PBP_PORT	This parameter identifies the port of the TM Communicator Receiver that accepts PBP contacts from the Transfer Manager (<i>DHM Archive workflow</i>).	6535
TM_PLAYBACK_IP	This parameter identifies the IP address of the TM Communicator Receiver that listens for connections from the Sender (<i>DHM Archive workflow</i>).	0.0.0.0
TM_PLAYBACK_PORT	This parameter identifies the port of the TM Communicator Receiver that listens for connections from the Sender (<i>DHM Archive workflow</i>).	6001
PLAYBACK_TIMEOUT	This parameter identifies the time (<i>in seconds</i>) that TM Communicator waits for a connection from the Datahub (<i>DHM Archive workflow</i>).	30
TM_INGEST_IP	This parameter identifies the IP address of the TM Communicator Receiver that listens for connections from the Receiver (<i>DHM Restore workflow</i>).	0.0.0.0
TM_INGEST_PORT	This parameter identifies the port of the TM Communicator Receiver that listens for connections from the Receiver (<i>DHM Restore workflow</i>).	6002
INGEST_TIMEOUT	This parameter identifies the time (<i>in seconds</i>) that TM Communicator waits for a connection from the Receiver (<i>DHM Restore workflow</i>).	30

Table B-3 (Cont.) TM Communicator DHM Related Parameters

Parameter	Description	Default Value
AVID_METADATA_FORMAT	This parameter identifies the format of the Avid composition submitted to initiate ingest (<i>DHM Restore workflow</i>). <i>You must set this parameter to AAF if Avid Media Manager is set to MXF/AAF mode, otherwise it should be set to OMFI (Open Media Framework Interchange).</i>	OMFI
INGEST_QUEUE_SIZE	This parameter identifies the maximum number of video frames and audio chunks per clip stored in memory on the Avid Transfer Manager side during a DHM Restore.	100
INGEST_SET_TAPE	Setting this parameter to 0 forces TM Communicator to use an empty string rather than the clip name or title (<i>if present</i>) for the Tape field in the Avid Metadata.	1
MUXER_TYPE	This parameter identifies the format of clips stored in DIVA Core (<i>DHM Archive workflow</i>). <i>This parameter must be set to either GXF or MXF.</i>	GXF
MUXER_SMPTE386M	Setting this parameter to 1 forces TM Communicator to generate MXF D-10 clips compliant with the SMPTE 386M standard (<i>DHM Archive workflow</i>). <i>Telestream recommends keeping the default value for this parameter.</i>	1
MUXER_DV_AES3	Setting this parameter to 1 forces TM Communicator to generate MXF DV-25 and DV-50 clips with AES3 audio rather than WAV audio (<i>DHM archive workflow</i>). <i>Telestream recommends keeping the default value for this parameter.</i>	0
DEMUXER_TYPE	This parameter identifies whether ingested clips are considered to be GXF or MXF when the clip type is not explicitly defined by the file extension (<i>DHM Restore workflow</i>). <i>This parameter must be set to either GXF or MXF.</i>	GXF
DEMUXER_D10_STRIP	Setting this parameter to 1 enables stripping of MPEG user data from D10 frames of restored clips (<i>DHM Restore workflow</i>). <i>Telestream strongly recommends keeping the default value of this parameter, unless changing it is absolutely required to enable DHM restore of D10 clips.</i>	0
DEMUXER_D10_STRICT	Setting this parameter to 0 disables checking of restored D10 clips for frame size compliance (<i>DHM Restore workflow</i>). <i>Telestream does not recommend disabling the check permanently because it might lead to creation of non-playable clips in Avid Unity.</i>	1

Table B-3 (Cont.) TM Communicator DHM Related Parameters

Parameter	Description	Default Value
DEMUXER_UMF_TIMECODE	Setting this parameter to 0 forces the GXF demuxer to retrieve the timecode from the MAP packet, rather than the UMF packet, during GXF clip restore (<i>DHM Restore workflow</i>). <i>Telestream strongly recommends keeping the default value of this parameter.</i>	1
CONVERT_24BIT_AUDIO	Setting this parameter to 1 enables conversion of 24-bit audio to 16-bit during DHM Archive and Restore. <i>Telestream recommends keeping the default value of this parameter, and enabling the conversion only if it is required for software or hardware compatibility.</i>	0
IGNORE_FILL_TRACKS	This parameter identifies whether TMC ignores audio tracks composed entirely of fill (<i>reserved</i>) segments, or terminates the corresponding DHM Archive request (<i>DHM Archive workflow</i>). If you set this parameter to 1, fill tracks are removed, and subsequent audio tracks are shifted.	1
CHECK_AUDIO_TRACKS	This parameter identifies whether TMC terminates the DHM Archive request when it cannot obtain an audio sample size for an audio track, or assumes that the sample size in question is consistent with that of other audio tracks from the same sequence (<i>DHM Archive workflow</i>).	1
DIVA_DHM_SRC DST	This parameter identifies the name of the TM Communicator DHM Server configured in DIVA Core.	
DIVA_DHM_ARCHIVE_MEDIA	This parameter identifies the name of the media where objects archived through TM Communicator in the DHM workflow are stored.	
DIVA_DHM_ARCHIVE_CATEGORY	This parameter identifies the category of objects archived through TM Communicator in the DHM workflow.	
DIVA_DHM_ARCHIVE_PRIORITY	This parameter identifies the priority of Archive requests initiated by TM Communicator in the DHM workflow.	-1
DIVA_DHM_ARCHIVE_QOS	This parameter identifies the value of the <i>Quality Of Service</i> parameter for DHM Archive requests initiated by TM Communicator.	0

Table B-4 TM Communicator DET Related Parameters

Parameter	Description	Default Value
DET_LOGIN	This parameter identifies the login required to access TM Communicator through an FTP interface in the DET workflow.	det
DET_PASSWORD	This parameter identifies the password required to access TM Communicator through an FTP interface in the DET workflow.	diva

Table B-4 (Cont.) TM Communicator DET Related Parameters

Parameter	Description	Default Value
TM_DET_IP	This parameter identifies the IP address of the TM Communicator Receiver that listens for connections from the Transceiver (<i>DET Archive and Restore workflows</i>).	0.0.0.0
TM_DET_PORT	This parameter identifies the TM Communicator Receiver port that listens for connections from the Transceiver (<i>DET Archive and Restore workflows</i>).	6003
DET_TIMEOUT	This parameter identifies the time (<i>in seconds</i>) that TM Communicator waits for a connection from the Transceiver (<i>DET Archive and Restore workflows</i>).	30
DET_PULL_NAME	This parameter identifies the name of the DET Pull Device configured on the Avid Transfer Manager side for DET Restore requests.	DivaPullTransfer
DET_XML_DUMP	If this parameter is set to 1, TM Communicator stores incoming XML Metadata on the local disk (<i>DET Archive workflow</i>).	0
DET_XML_PATH	This parameter identifies the full path on the local disk where TM Communicator stores incoming XML Metadata (<i>DET Archive workflow</i>). <i>You must manually create directories that compose a defined path. TM Communicator will not attempt to create the specified path, and will not verify its accuracy.</i>	
DIVA_DET_SRCDEST	This parameter identifies the name of the TM Communicator DET Server configured in DIVA Core.	
DIVA_DET_ARCHIVE_MEDIA	This parameter identifies the name of the media where objects archived through TM Communicator in the DET workflow are stored.	
DIVA_DET_ARCHIVE_CATEGORY	This parameter identifies the category of the objects archived through TM Communicator in the DET workflow.	-1
DIVA_DET_ARCHIVE_PRIORITY	This parameter identifies the priority of the Archive requests initiated by TM Communicator in the DET workflow.	0
DIVA_DET_ARCHIVE_QOS	This parameter identifies the value of the <i>Quality Of Service</i> parameter for DET Archive requests initiated by TM Communicator.	