

dunetpc - Feature #13957

Add service library loading to ArtServiceHelper

09/28/2016 07:31 AM - David Adams

Status:	Closed	Start date:	09/28/2016
Priority:	Normal	Due date:	
Assignee:	David Adams	% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:			
Description			
The utility ArtServiceHelper (dunetpc/dune/ArtSupport) enable access to art services outside the art framework but users must explicitly link against the accessed service libraries. We would like to enable the helper to discover the libraries so this explicit link is not required.			

History

#1 - 09/28/2016 07:31 AM - David Adams

I have asked the art developers for advice on using the existing art code to help with this.

#2 - 09/29/2016 09:37 AM - David Adams

I got some help from Marc:

Hi David,

The facilities that art uses are located in the cetlib package. However, please note that these are facilities that my need to change during the next several months as we work on a significant multithreading upgrade of art. We are not able to promise to retain backwards compatibility of internal framework facilities as we move forward.

The facilities that might be of interest are:

1. `cet::LibraryManager` in `cetlib/LibraryManager.h`
The `LibraryManager` deals with loading dynamic libraries and finding symbols in them.
2. `cet::BasicPluginFactory` in `cetlib/BasicPluginFactory.h`

This class provides the facility to invent plugin types, and to create plugins of the invented types.

Documentation for each class can be found in the header of the class. The documentation also mentions a few related facilities that provide the macros we use for declaring types to be plugin types.

I hope this is helpful.

best regards,
Marc

and

Hi David,

I think what you're looking for is
`cet::LibraryManager::getSymbolByLibspec(...)`

The 'libspec' argument is the name that the user would put into the FHiCL file to name what he wants loaded. The `LibraryManager` handles all the necessary searching. To keep the system simple to use, we rely upon the naming rules we have chosen for the libraries.

I hope this helps!

#3 - 09/29/2016 09:42 AM - David Adams

However, I find that ArtServiceHelper already does "discovery", i.e. it finds and load service libraries at run time even if they are not included in the library list for a main program that uses ArtServiceHelper and invokes the service through an interface. I assume this is due to recent change in art.

I have modified the build instructions in `dunetpc/dune/DataPrep/Service/test` to drop explicit references to the service libraries invoked though

interfaces.

#4 - 09/29/2016 10:16 AM - David Adams

I have also updated the build instructions in `dunetpc/dune/DetSim/Service/test`. The service library was only dropped for one of the three tests because the other make direct use of the service.

#5 - 09/29/2016 10:45 AM - David Adams

- Status changed from Assigned to Closed

I close this issue. It turns out the requested feature is already present in the current release (v06_07_00) of `dunetpc`. The package has been update to take advantage of the feature for many of its test configurations.