

## exportSeasidePackagesAllTogether

```
[exportTime packages ]  
"IMPORTANT: OPEN A Transcript"  
FileStream forceNewFileNamed: 'seasidePierMagritte.fuel' do: [:aStream |  
  aStream binary.  
  FLCompiledMethodCluster setTrailerWithNoSource.  
  packages := self seasidePackages.  
  exportTime := [FLPackageStore new storeInOneBundleSortedPackageNames: packages on: a  
Stream ] timeToRun.  
  Transcript show: 'Total time to export ', self seasidePackages size asString, ' packages of S  
easide all together: ', exportTime asString, ' miliseconds and occupied ', aStream size asBytesDescri  
ption; cr.  
].
```

## Transcript

```
Total time to export 103 packages of Seaside all together: 12104 miliseconds and  
occupied 4.54M
```

## PostMortem: Materialized debugger ;)

```
Block in FileSystem      entriesAt:  
Block in class)         new:streamContents:  
Block in class)         streamContents:  
FileSystem              entriesAt:  
FileReference           entries  
PRFuelPersistency      newestSnapshotIn:  
PRFuelPersistency      materializationStream  
Block in class          restoreKernel  
Block in Dictionary     valuesDo:  
Block in Dictionary     associationsDo:  
Array(SequenceableCollection) do:  
Dictionary              associationsDo:  
Dictionary              valuesDo:
```

Full Stack

Where

newestSnapshotIn: directoryReference

```
| entries |  
entries := directoryReference entries select: [ :each | each isFile and: [ each basename beginsWith:  
self namePrefix ] ].  
entries := (SortedCollection sortBlock: [ :a :b | a basename >= b basename ] )  
f.  
entries size > 0  
  ifTrue: [ ^ entries first reference ]  
  ifFalse: [ self error: 'No snapshots found in: ', self directory greaseString ]
```

```
self  
all inst vars  
properties  
kernel  
mutex  
history  
properties: nil  
kernel: a PRKernel[6991380  
48] name: 'pierDBX'  
mutex: a Semaphore()  
history: an OrderedColle  
thisContext  
stack top  
all temp vars  
directoryReferenc  
entries  
snapsl
```



# FUEL

```
;-) pharo.sh Pharo-2.0.image exportCoreFuelPackages.st  
Started to export Pharo...  
Total time to export: 7698 miliseconds and occupied 11.92M  
mariano @ Aragorn : ~/PhD/Presentaciones/Fuel/PharoConf2012/  
;-) pharo.sh Pharo-2.0.image pharo.fuel  
Materializing package from file: /Users/mariano/PhD/Presenta  
executed...  
Time to materialize: 1388 miliseconds and occupied: 11.92M  
Loading and initializing package from file: /Users/mariano/P
```



- Is a fast, well-designed, concrete, general-purpose and flexible binary serializer.
- Can serialize/materialize not only plain objects but also classes, traits, methods, closures, contexts, packages, etc.
- Support for global references.
- Large number of hooks: ignore certain instance variables, substitute objects by others, post and pre serialization and materialization actions.
- Supports class rename and class reshape.
- 90% (approx. 500 unit tests) of test coverage.
- Large suite of benchmarks.
- Object-Oriented design.
- No VM support needed.
- Modular (clear division of packages).



## Some numbers...

- Time to serialize all 2138 classes of Pharo: 7.7 seconds generating a file of 7.6 MB. Time to materialize that: 1,1 second.
- Time to serialize all 1489 classes of Seaside/Pier/Magritte: 12 seconds generating a file of 4.5 MB. Time to materialize that: 1,1 seconds.