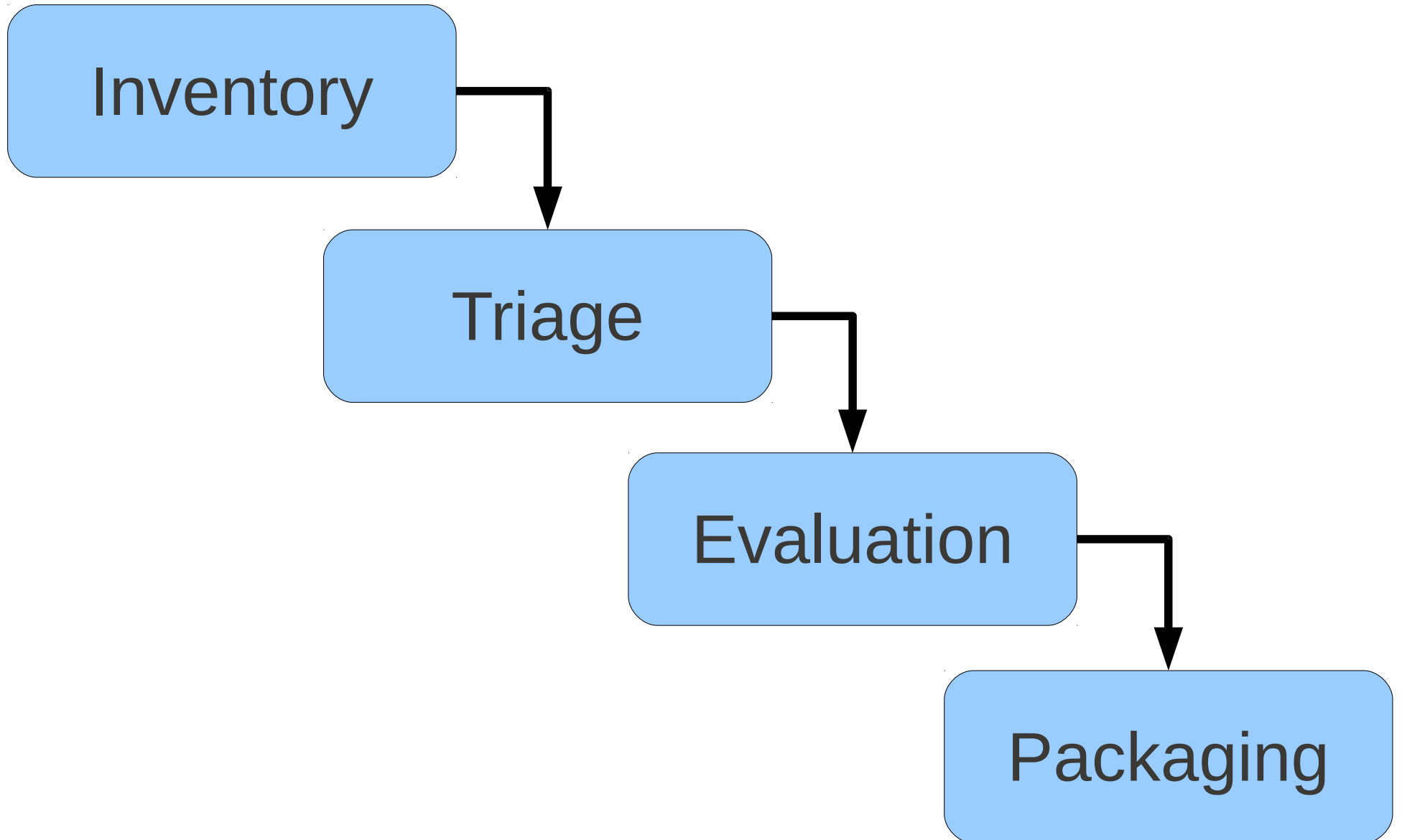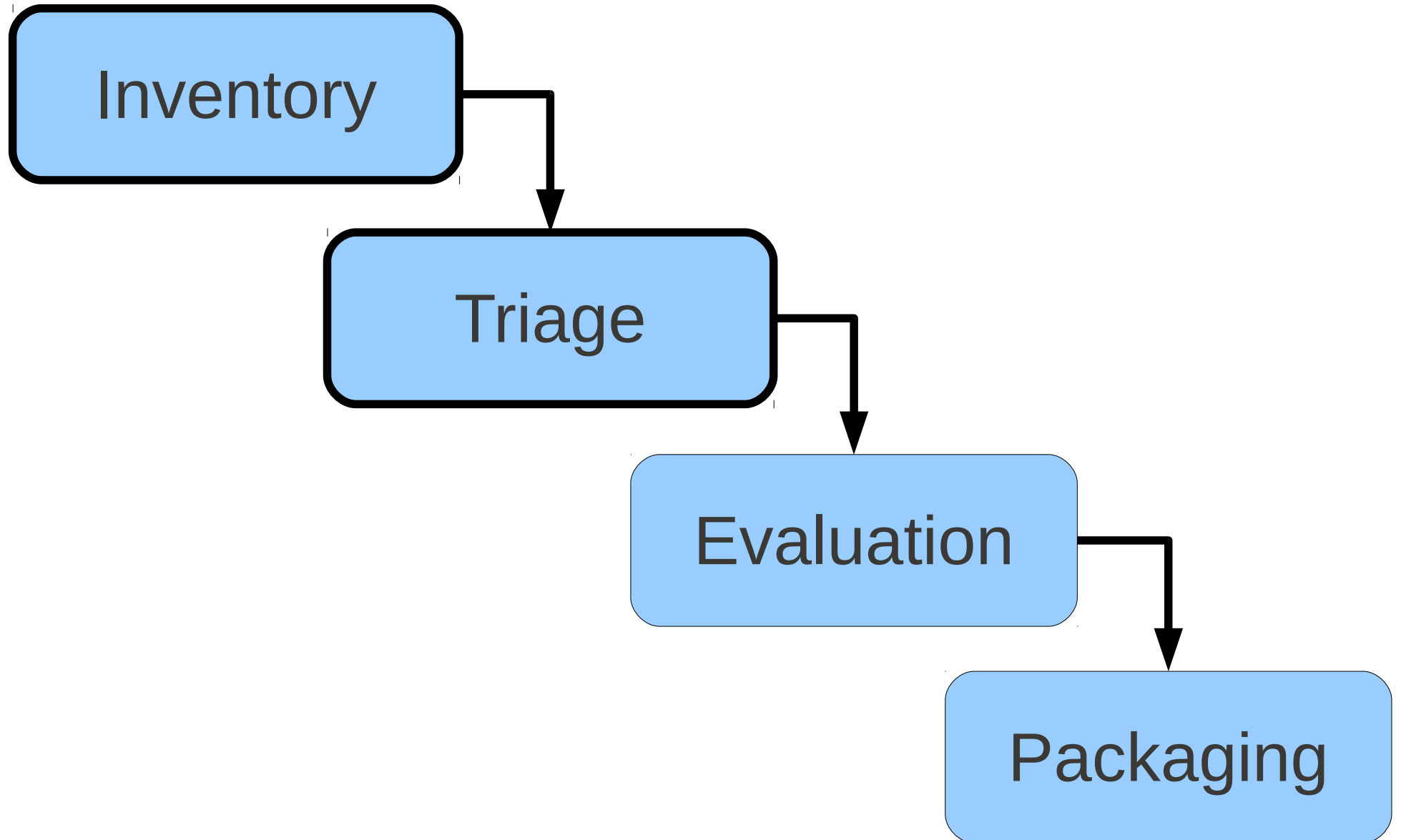# ITKv4 Modularization

December - 2010

Modularization Goals

- Growth Management

- Software Quality Improvement

- Facilitating Add-Ons

- Separate Third Party Libraries

- Optional Components

Road-map Phases

Inventory

Triage

Evaluation

Packaging

Road-map Phases

Inventory

Triage

Evaluation

Packaging

Inventory

- **2331** Files (.h, .txx, .cxx)
  - 802 Common
  - 335 BasicFilters
  - 339 Algorithms
  - 374 Numerics
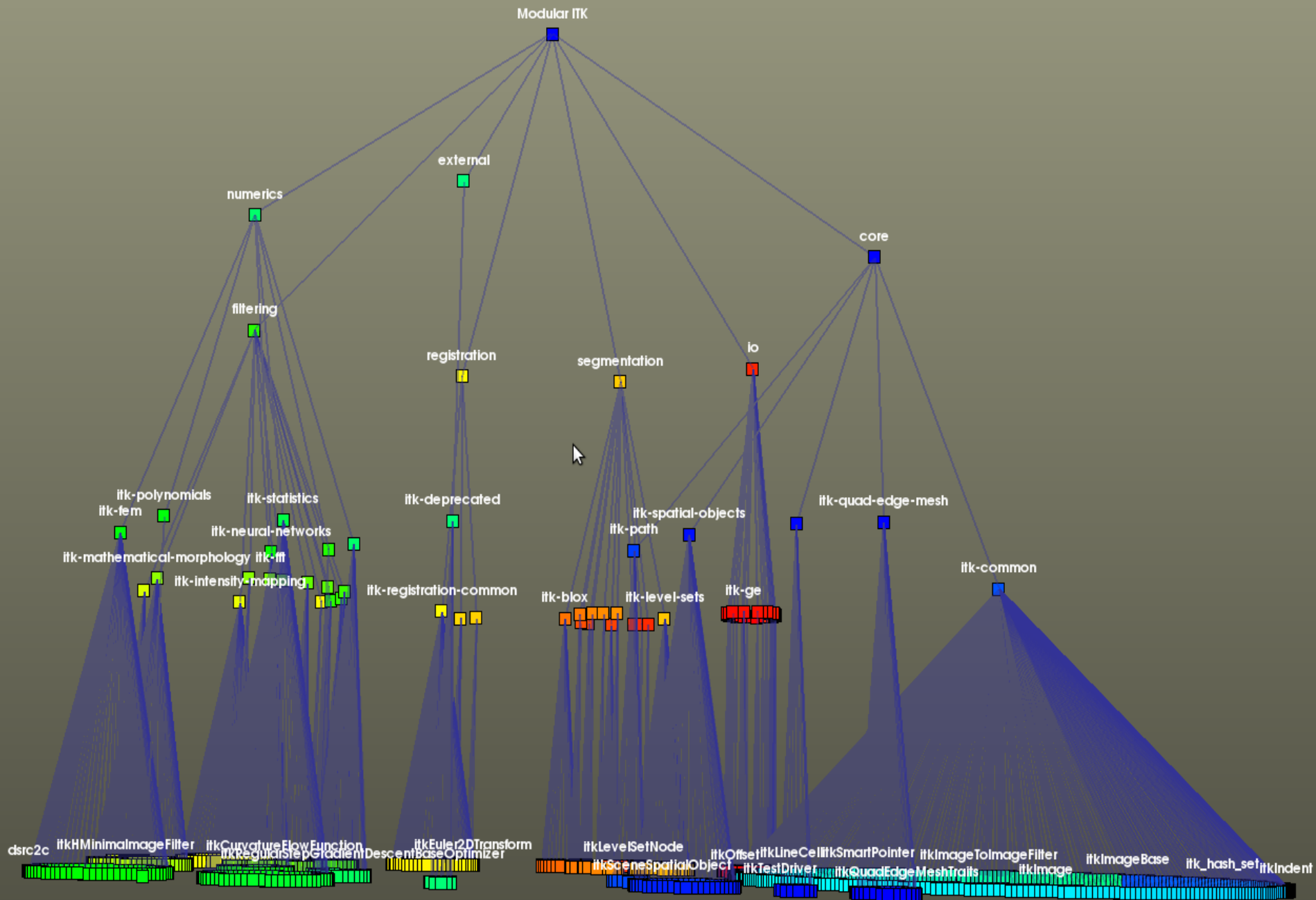 - 153 IO
  - 110 SpatialObjects
  - 378 Review

Triage

- Fine Granularity
- Skeleton Hunting...

Triage

Major Groups

- Core
- Filtering
- Io
- Numerics

- Registration
- Segmentation
- External
- Bridge

Modular ITK

external

numerics

core

filtering

registration

segmentation

io

itk-polynomials
itk-fem
itk-statistics
itk-neural-networks
itk-mathematical-morphology itk-fft
itk-intensity-mapping
itk-deprecated
itk-registration-common

itk-spatial-objects
itk-path
itk-quad-edge-mesh

itk-blox
itk-level-sets
itk-ge
itk-common

dsrc2c
itkHMinimalImageFilter
itkCurvatureFlowFunction
itkRegularStepGradientDescentBaseOptimizer
itkEuler2DTransform
itkLevelSetNode
itkSceneSpatialObject
itkOffset
itkLineCell
itkSmartPointer
itkImageToImageFilter
itkImageBase
itk_hash_set
itkIndent
itkTestDriver
itkQuadEdgeMeshTraits
itkImage

Core

- itk-common
- itk-io-common
- itk-path
- itk-quad-edge-mesh
- itk-spatial-objects

Filtering (1)

- itk-anisotropic-smoothing
- itk-anti-alias
- itk-bias-correction
- itk-distance-map
- itk-edge-detection
- itk-fft

Filtering (2)

- itk-gradient
- itk-image-statistics
- itk-intensity-mapping
- itk-mathematical-morphology
- itk-quad-edge-mesh-filtering
- itk-resampling
- itk-thresholding

IO

- itk-analyze
- itk-biorad
- itk-bmp
- itk-gdcm
- itk-ge
- itk-gipl
- itk-io-deprecated
- itk-io-mesh
- itk-io-spatialobjects
- itk-io-transform
- itk-io-vtk

- itk-ipl
- itk-jpeg
- itk-lsm
- itk-meta
- itk-nifti
- itk-nrrd
- itk-png
- itk-siemens
- itk-stimulate
- itk-tiff
- itk-xml

Numerics

- itk-eigen
- itk-fem
- itk-neural-networks
- itk-optimizers
- itk-polynomials
- itk-statistics

Segmentation (1)

- itk-bio-cell
- itk-blox
- itk-classifiers
- itk-connected-components
- itk-deformable-mesh
- itk-label-voting

Segmentation (2)

- itk-level-sets
- itk-markov-random-fields-classifiers
- itk-region-growing
- itk-region-growing-klm
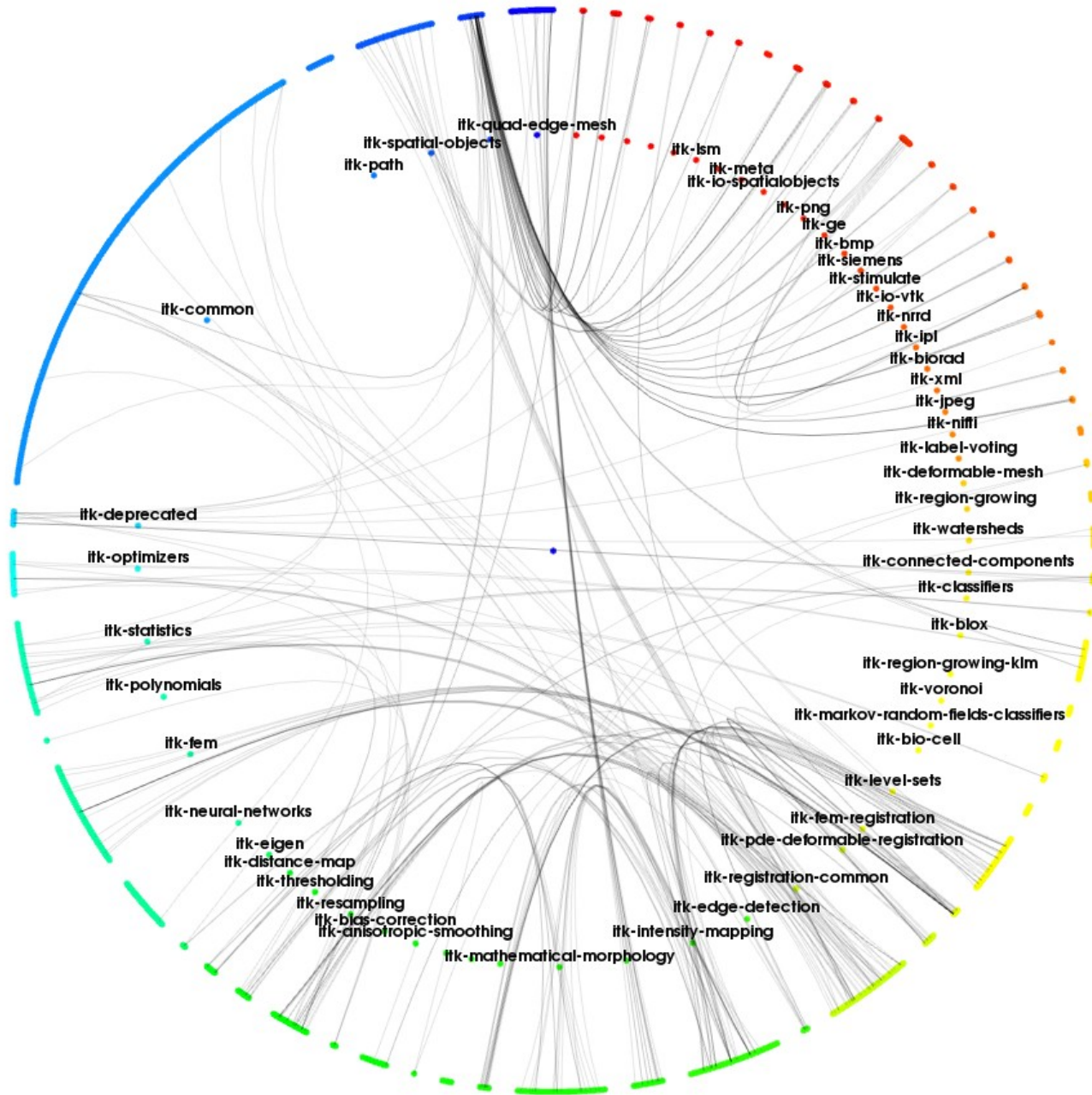- itk-voronoi
- itk-watersheds

Registration

- itk-fem-registration
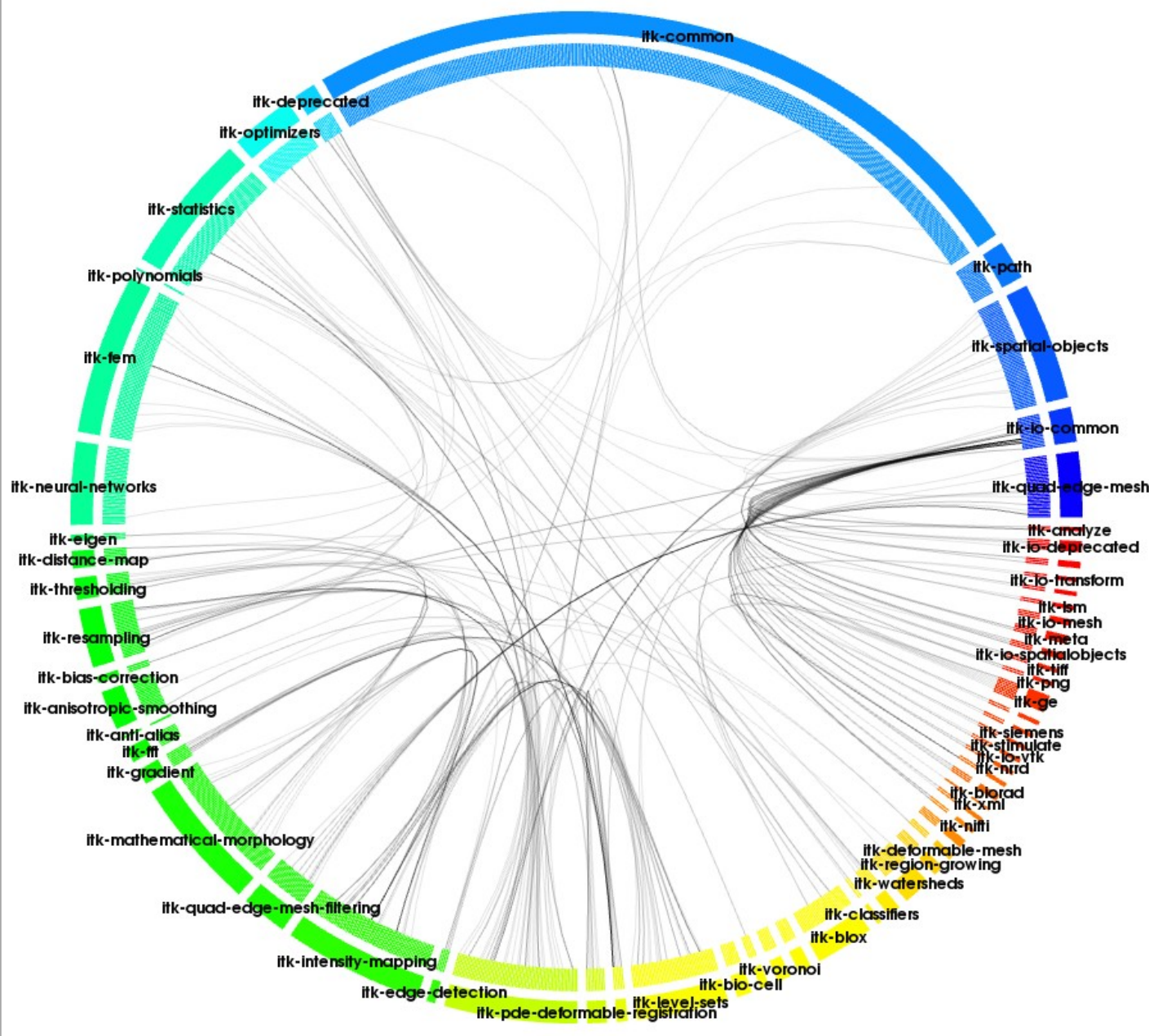- itk-pde-deformable-registration
- itk-registration-common

Bridge

- itk-vtk
- itk-fltk
- itk-qt
- itk-opencv

External

- itk-deprecated

Visualization Toolkit – Cocoa #1

itk-quad-edge-mesh
itk-spatial-objects
itk-path
itk-lsm
itk-meta
itk-io-spatialobjects
itk-png
itk-ge
itk-bmp
itk-siemens
itk-stimulate
itk-io-vtk
itk-nrrd
itk-ipl
itk-biorad
itk-xml
itk-jpeg
itk-nifti
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itk-watersheds
itk-connected-components
itk-classifiers
itk-blox
itk-region-growing-klm
itk-voronoi
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itk-intensity-mapping

itk-common

itk-deprecated
itk-optimizers
itk-statistics
itk-polynomials
itk-fem
itk-neural-networks
itk-eigen
itk-distance-map
itk-thresholding
itk-resampling
itk-bias-correction
itk-anisotropic-smoothing
itk-mathematical-morphology

Dependency Cleaning

- Identify bogus #includes
- Segregate modules

Quality Labeling

- Code Coverage per module

- Valgrind reports per module

- Labeling modules

End