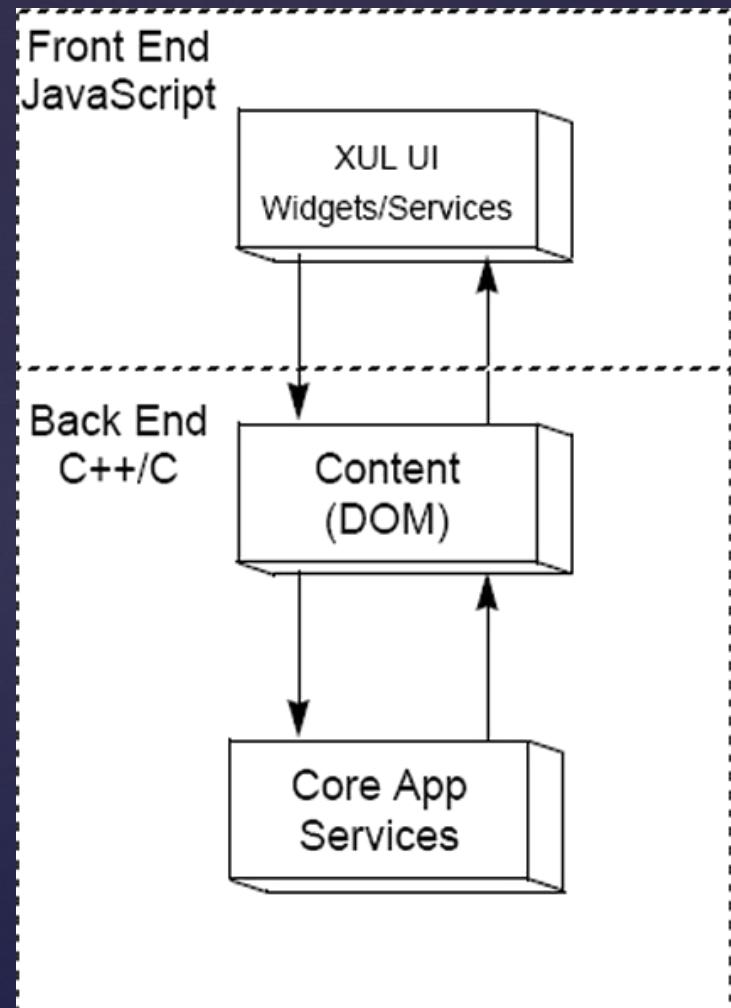


Firefox Concrete Architecture

{ By: The Other Group

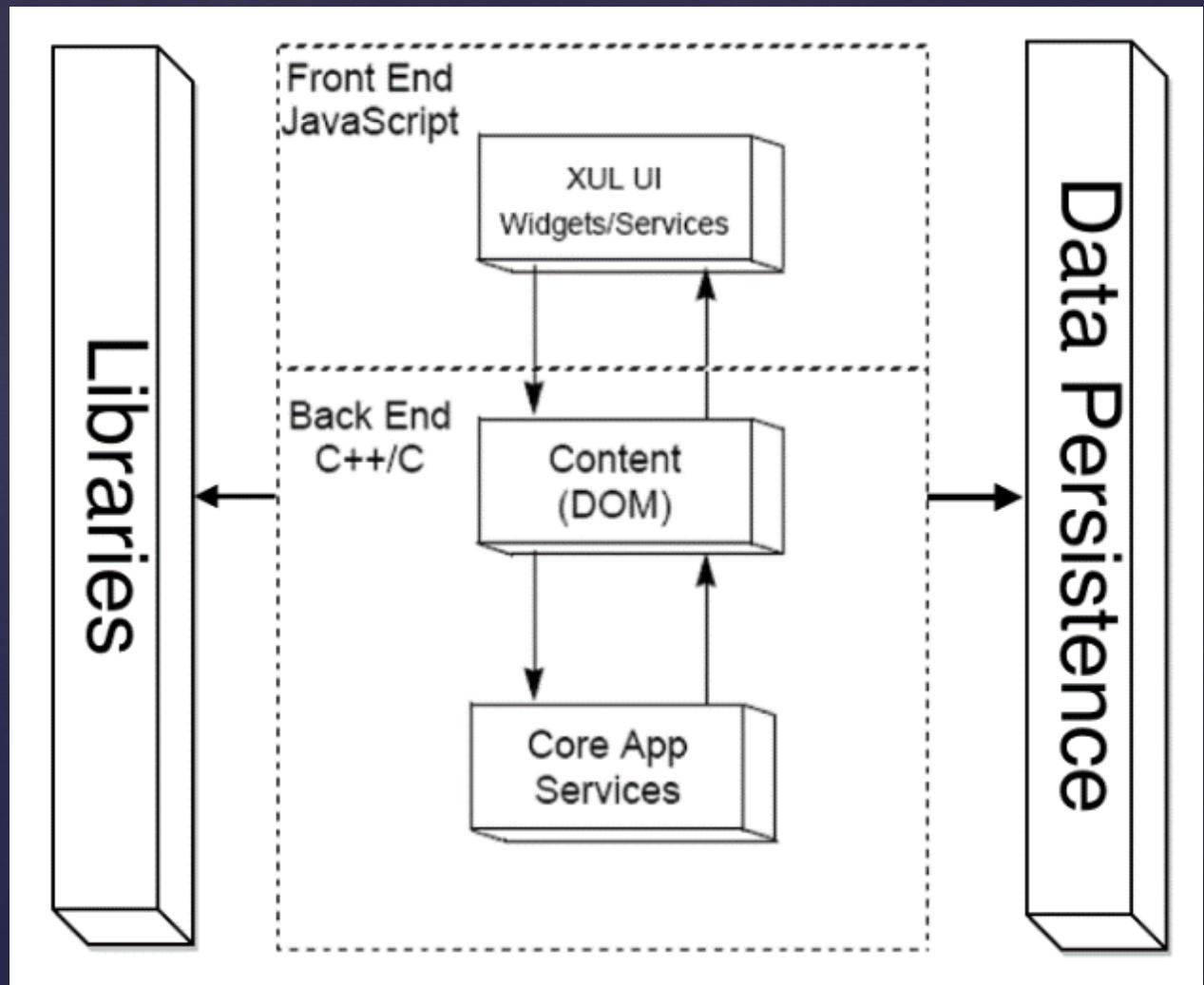
Original Conceptual Architecture

- ☒ A layered-style architecture consisting of 3 distinct layers, each with its own unique architecture
 - ☒ XUL UI Widgets/Services
 - ☒ Consists of services and widgets
 - ☒ Content (DOM)
 - ☒ Utilizes a Hybrid Pipeline-Repository architecture
 - ☒ Core App Services – Object-Model (XPCOM)
 - ☒ Consists entirely of XPCOM objects



Updated Conceptual Architecture

- & Layers interface with libraries and data-persistence.
- & Still retains the main layered-style approach (Utilizes three layers with unique architectures)

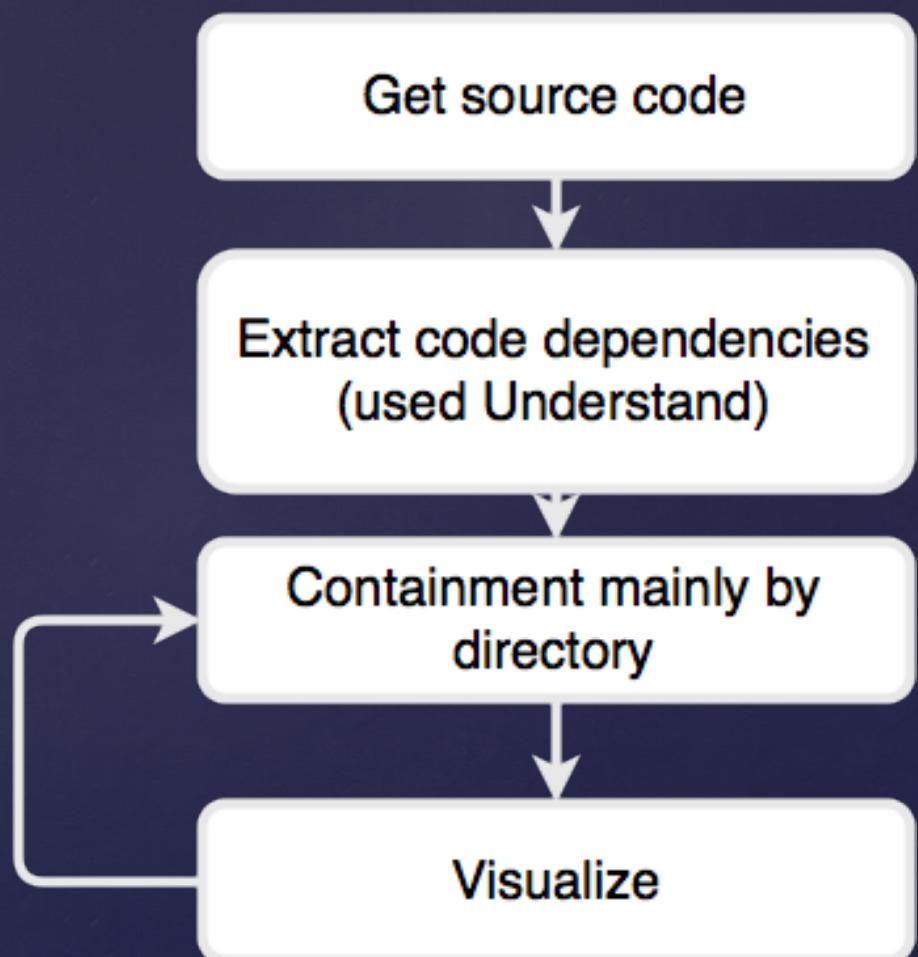


Extraction Method

& Extraction tools:

- ς Provided base relations
These were acquired using Understand
- ς Provided base layout
- ς Provided a base containment file
- ς Wrote containment rules

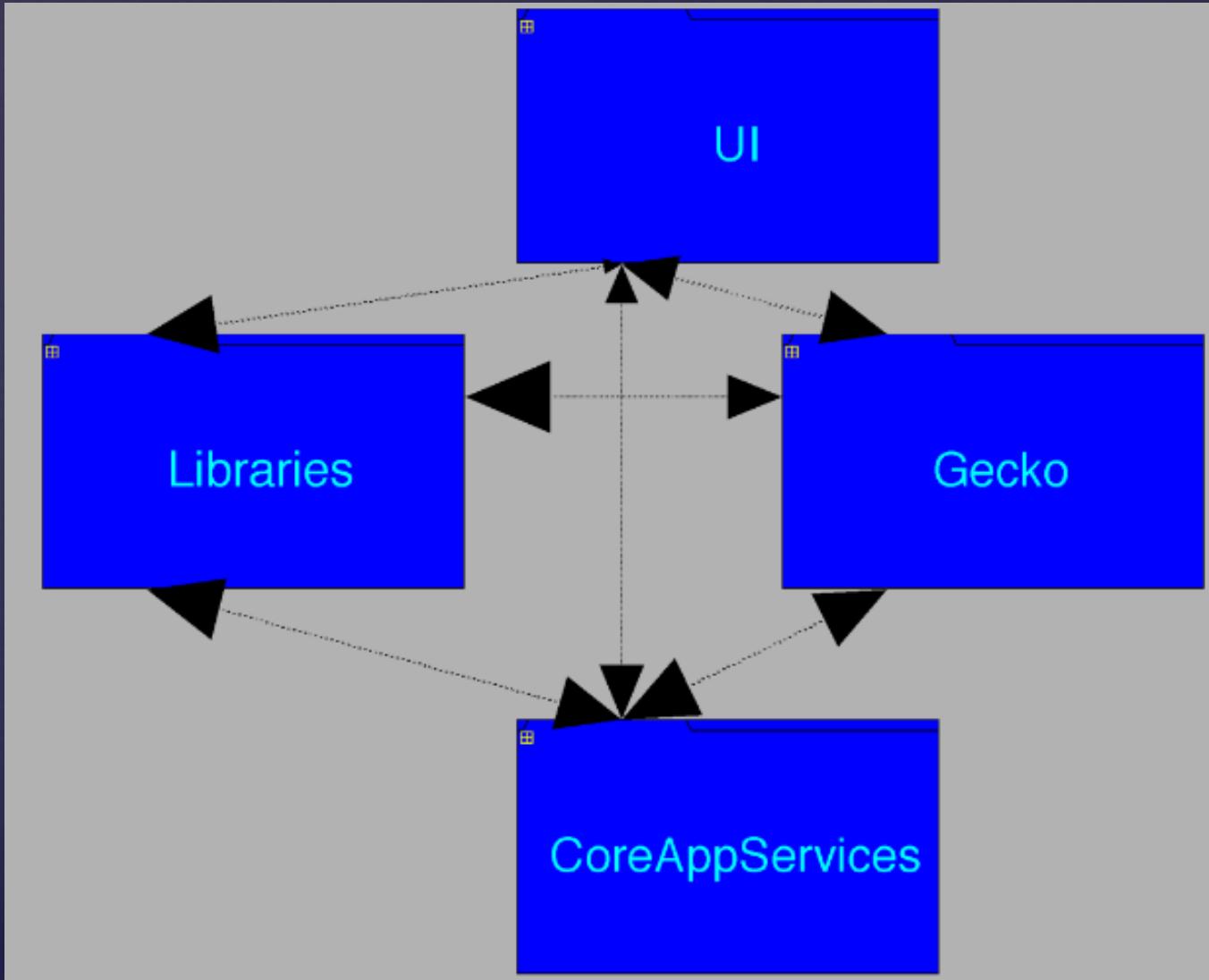
& Containment Rules were written to move folders into specific sections as well as 'name' folders



Concrete Architecture

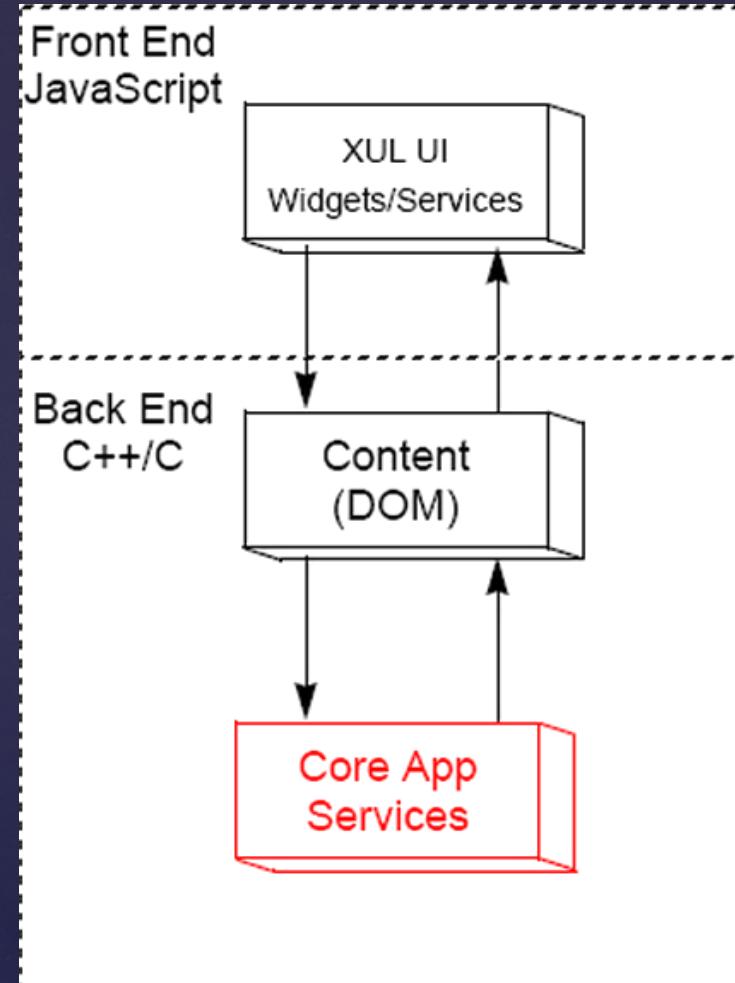
- ¶ The layout gravitated towards the conceptual three-layered architecture. Most modules fit distinctly inside one of the three layers, or a library.
- ¶ Most of the objects/components interface mostly within the same layer or with the Libraries.
- ¶ Some dependencies exist across layers (i.e .skipping a layer)
 - ☒ These however, were far fewer in number than the expected dependencies.
 - ☒ Mostly exist for optimization reasons.

Concrete Architecture

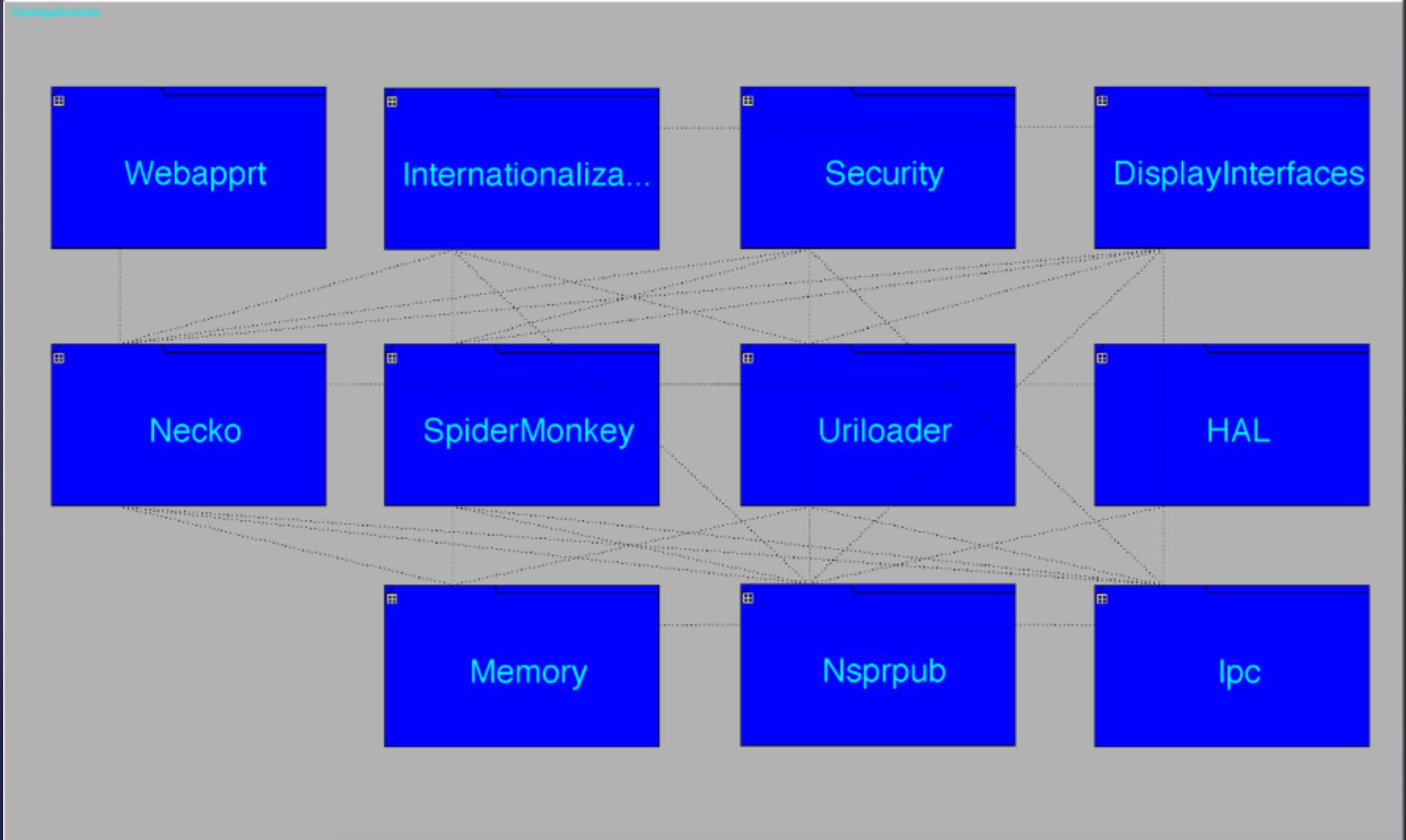


Core App Services

- Similar to the conceptual architecture the bottom layer, known as ‘Core App Services’ implements an object-oriented style, consisting entirely of XPCOM implementations
- Dependencies in this layer were predicted to be to/from the Content Layer
- Less dependencies were expected within ‘Core App Services’



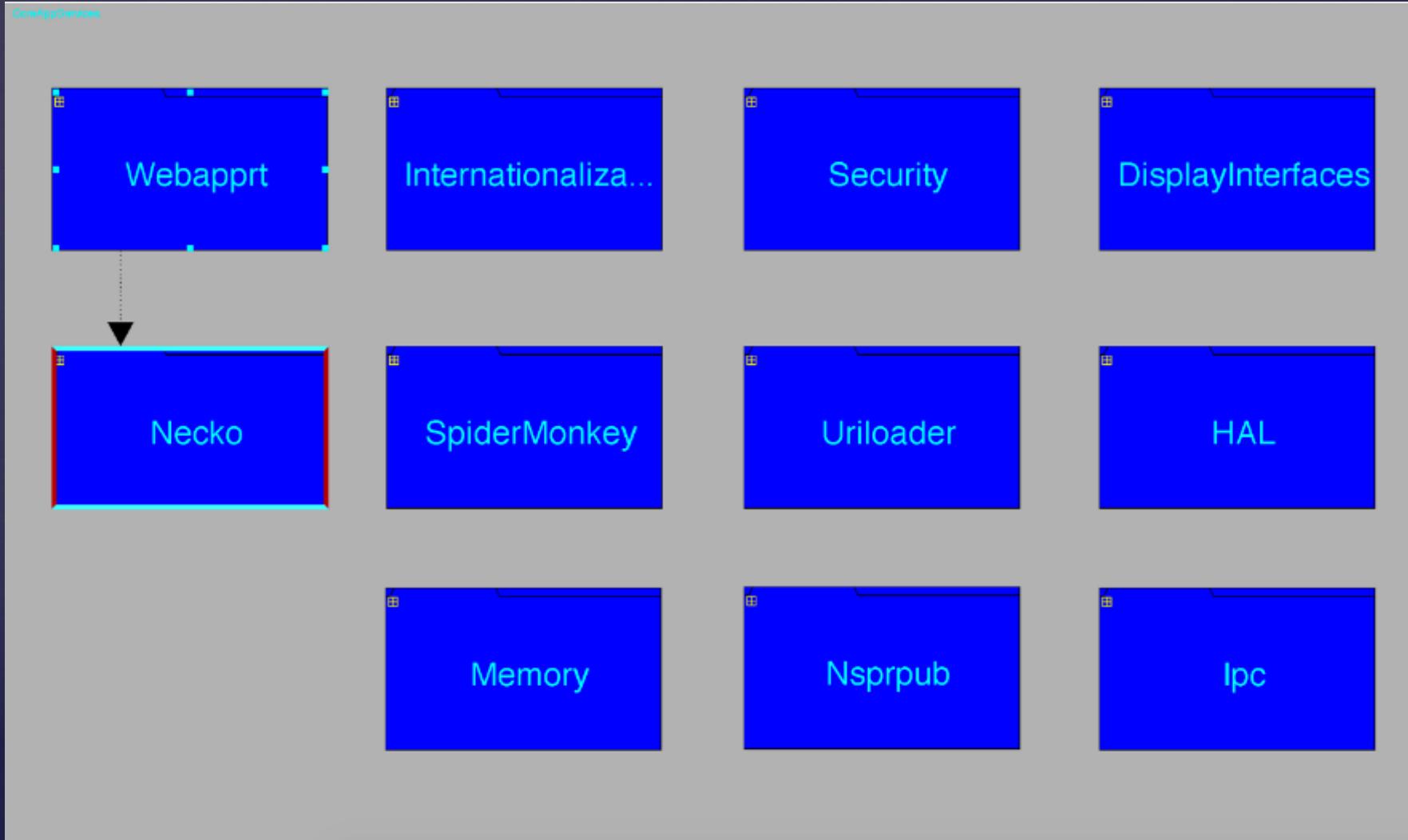
Core App Services



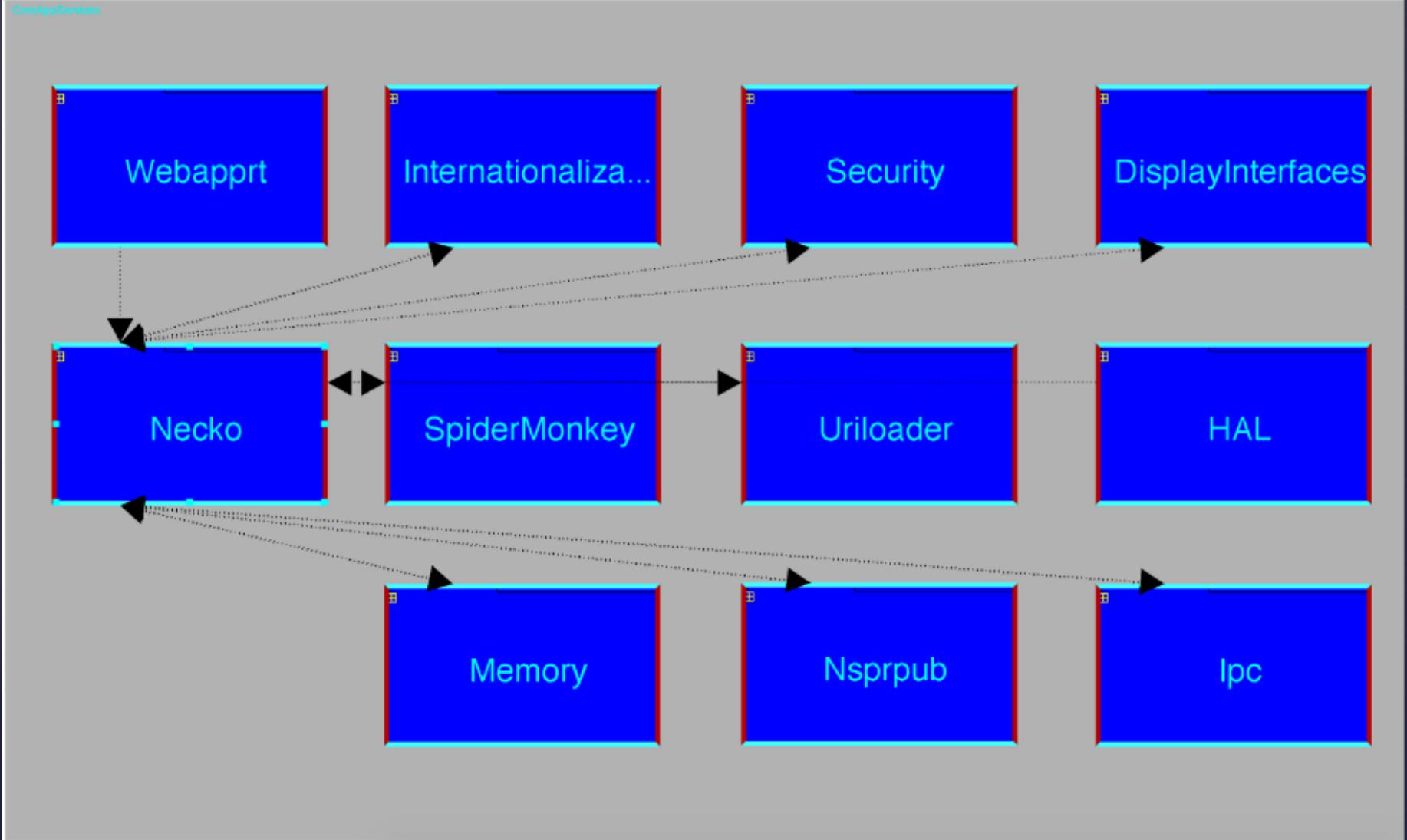
Core App Services

- & WebAppRT
- & Necko
- & Internationalization
- & SpiderMonkey
- & Memory
- & Security
- & URILoader
- & NSPRpub (Netscape Plugable Runtime)
- & DisplayInterfaces
- & HAL (Hardware Abstraction Layer)
- & IPC (Inter-process Communication)

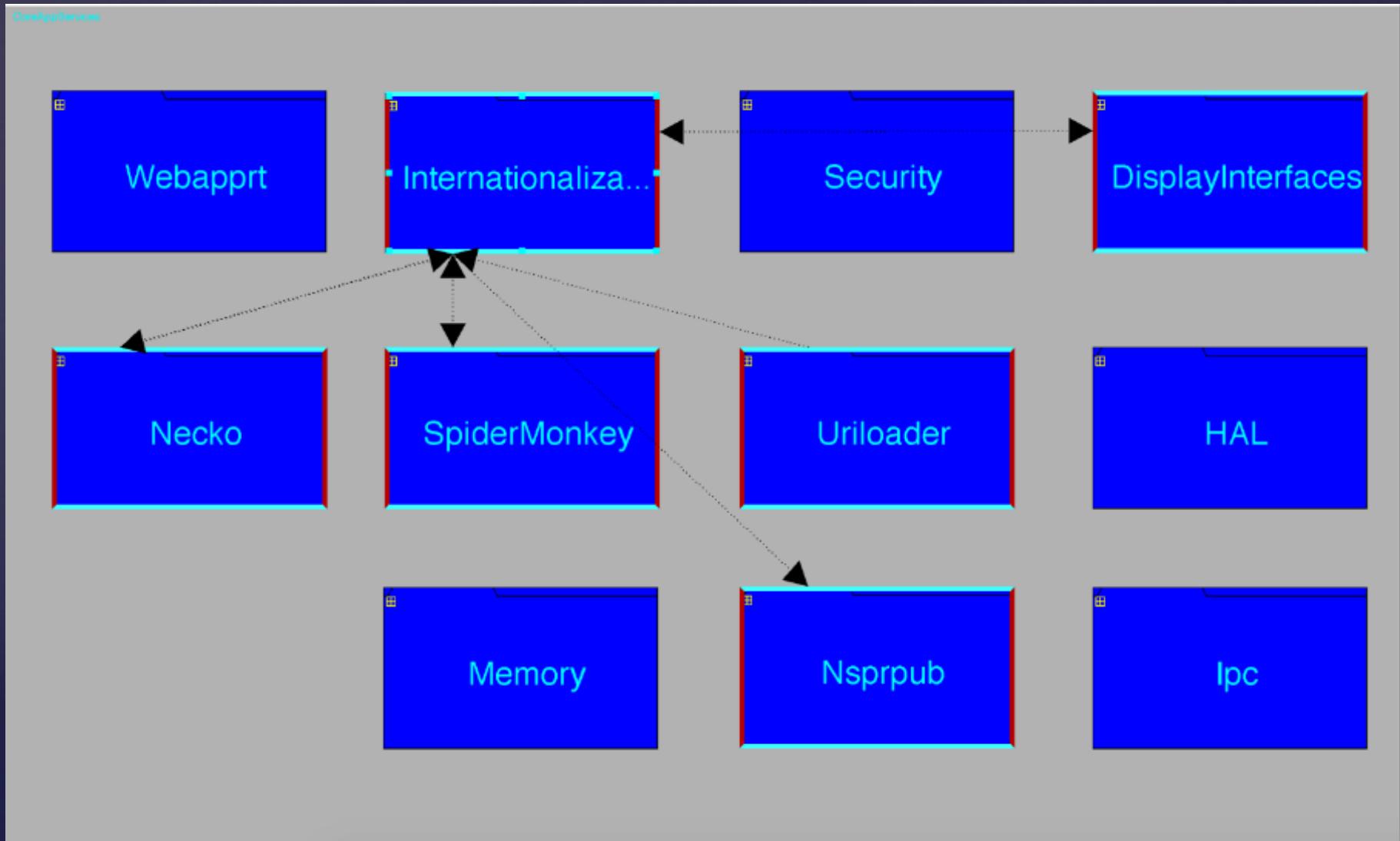
Webapprt



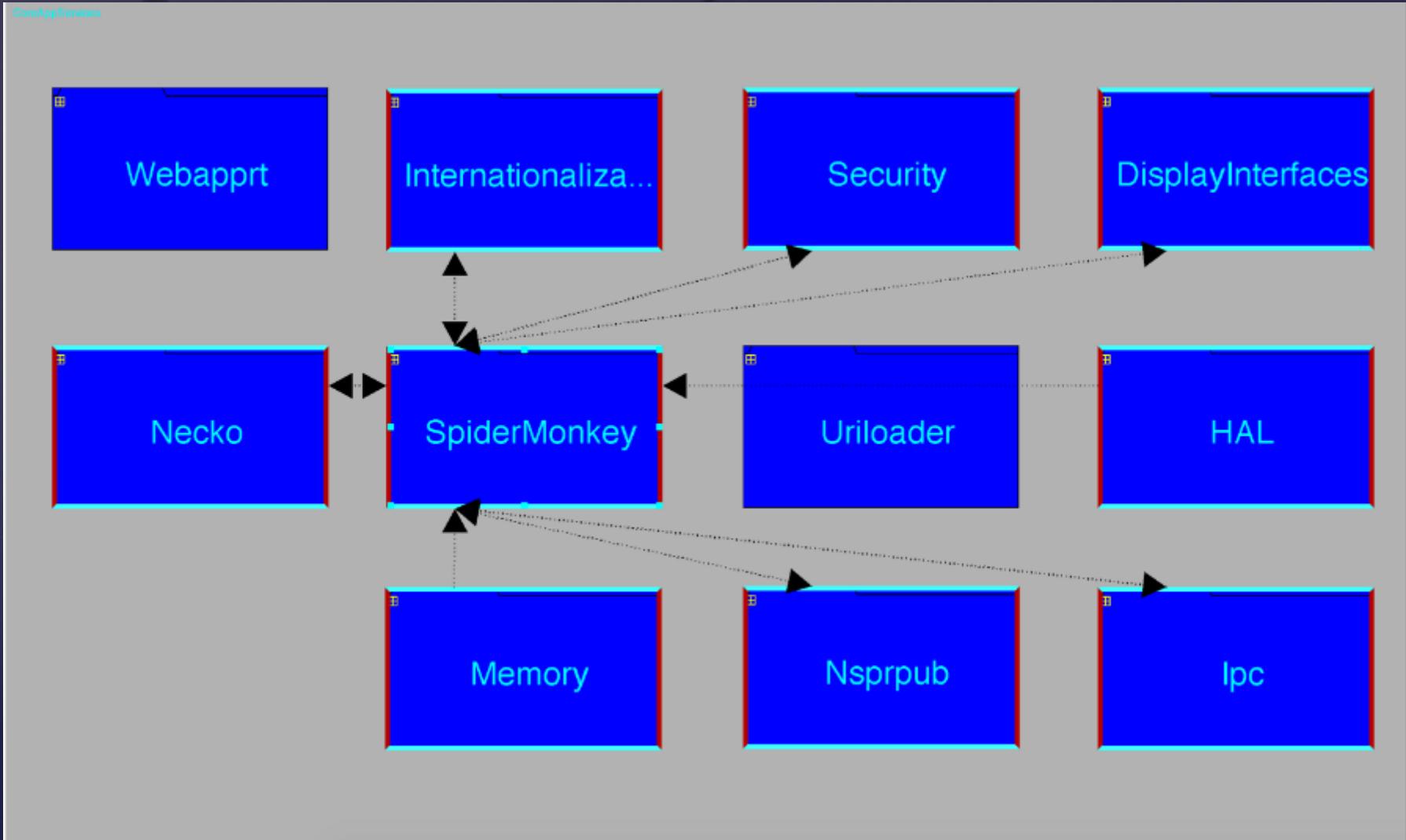
Necko



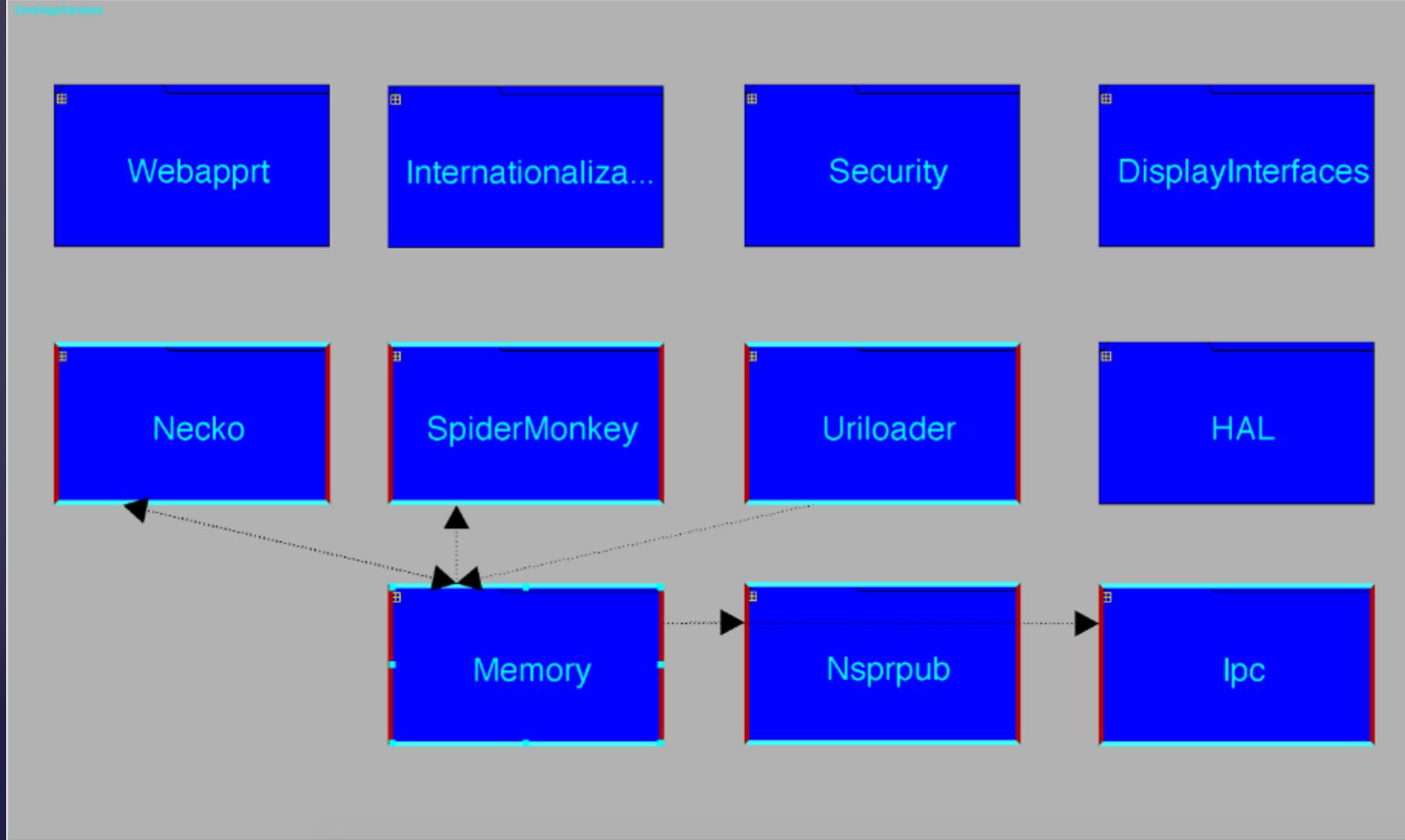
Internationalization



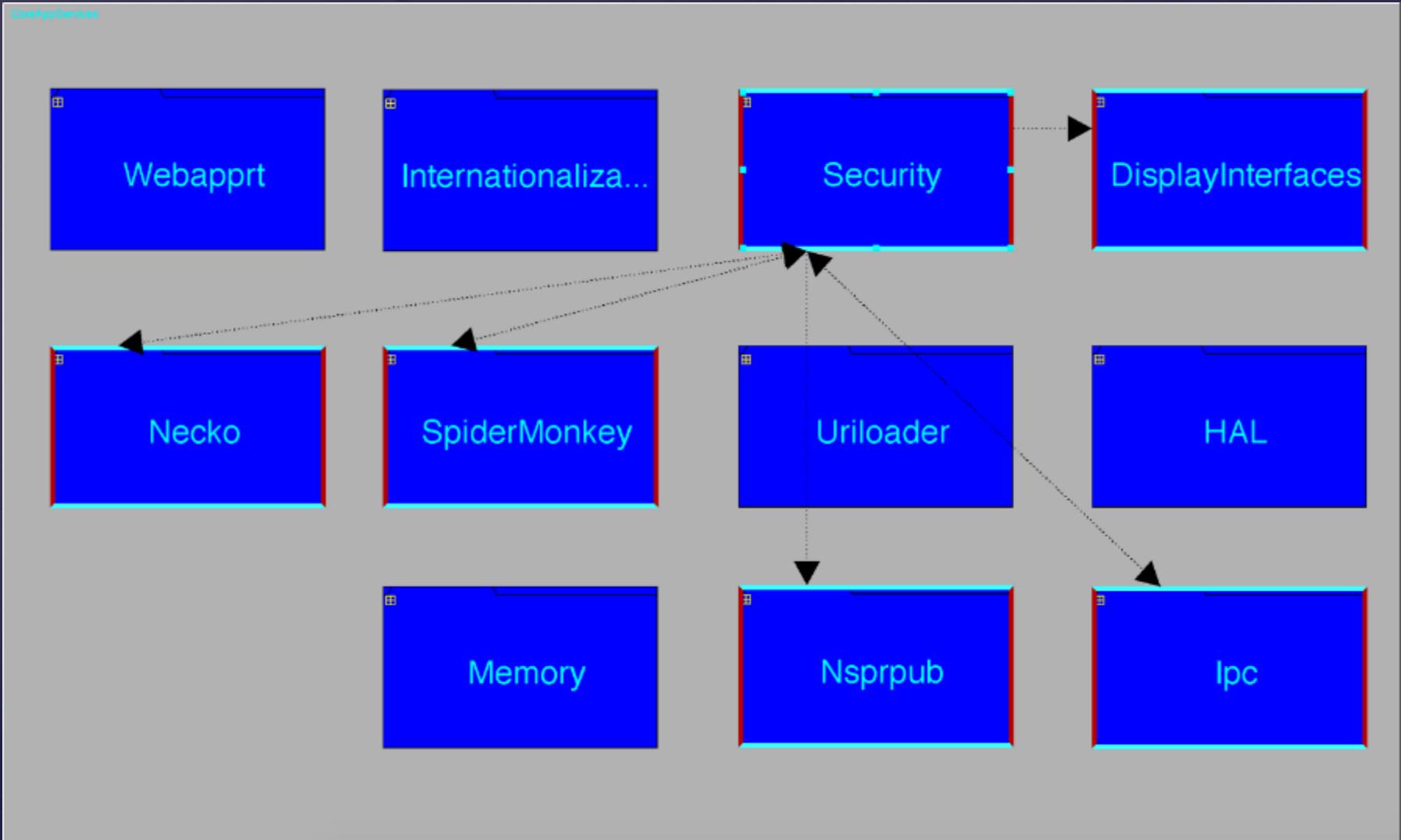
SpiderMonkey



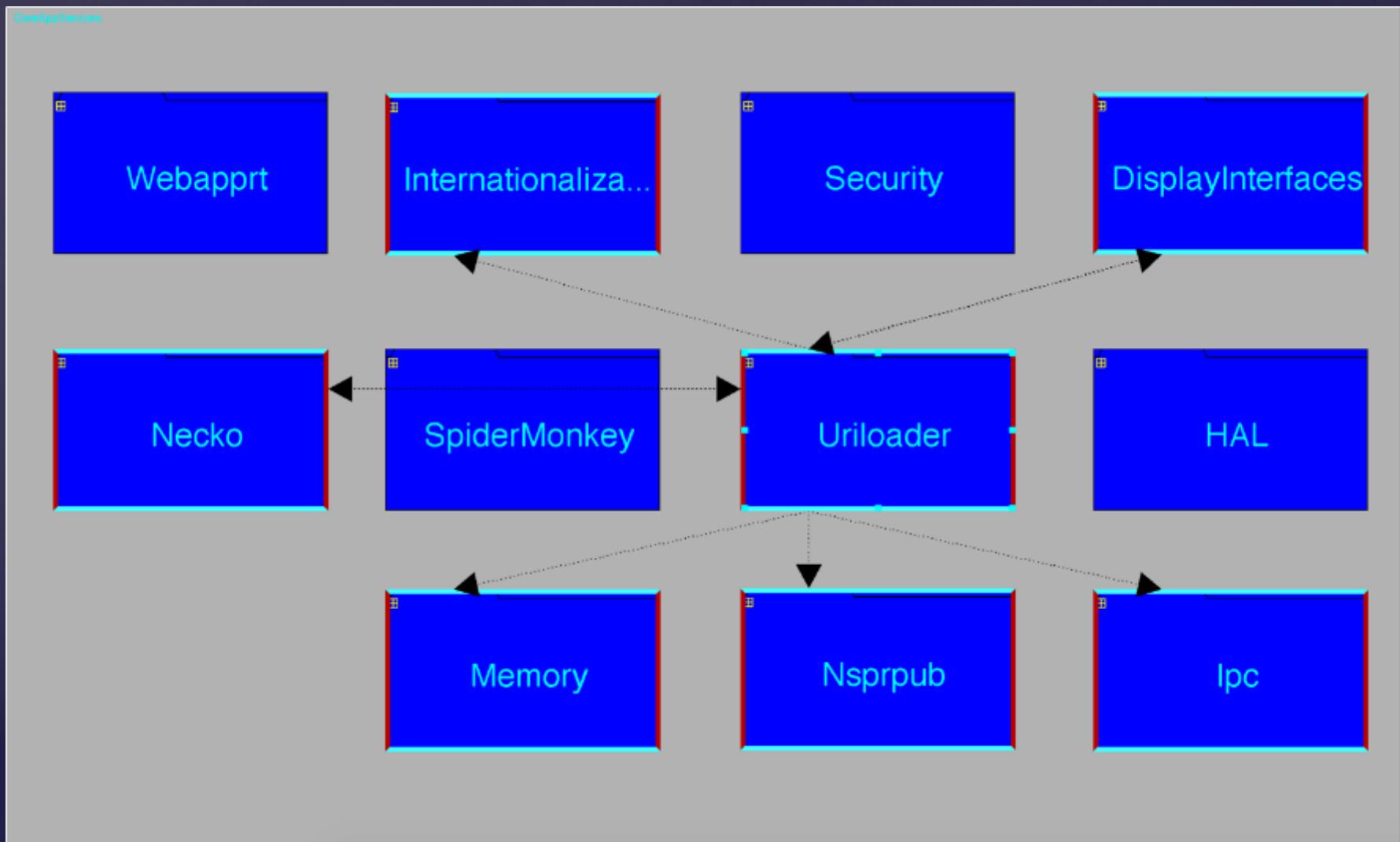
Memory



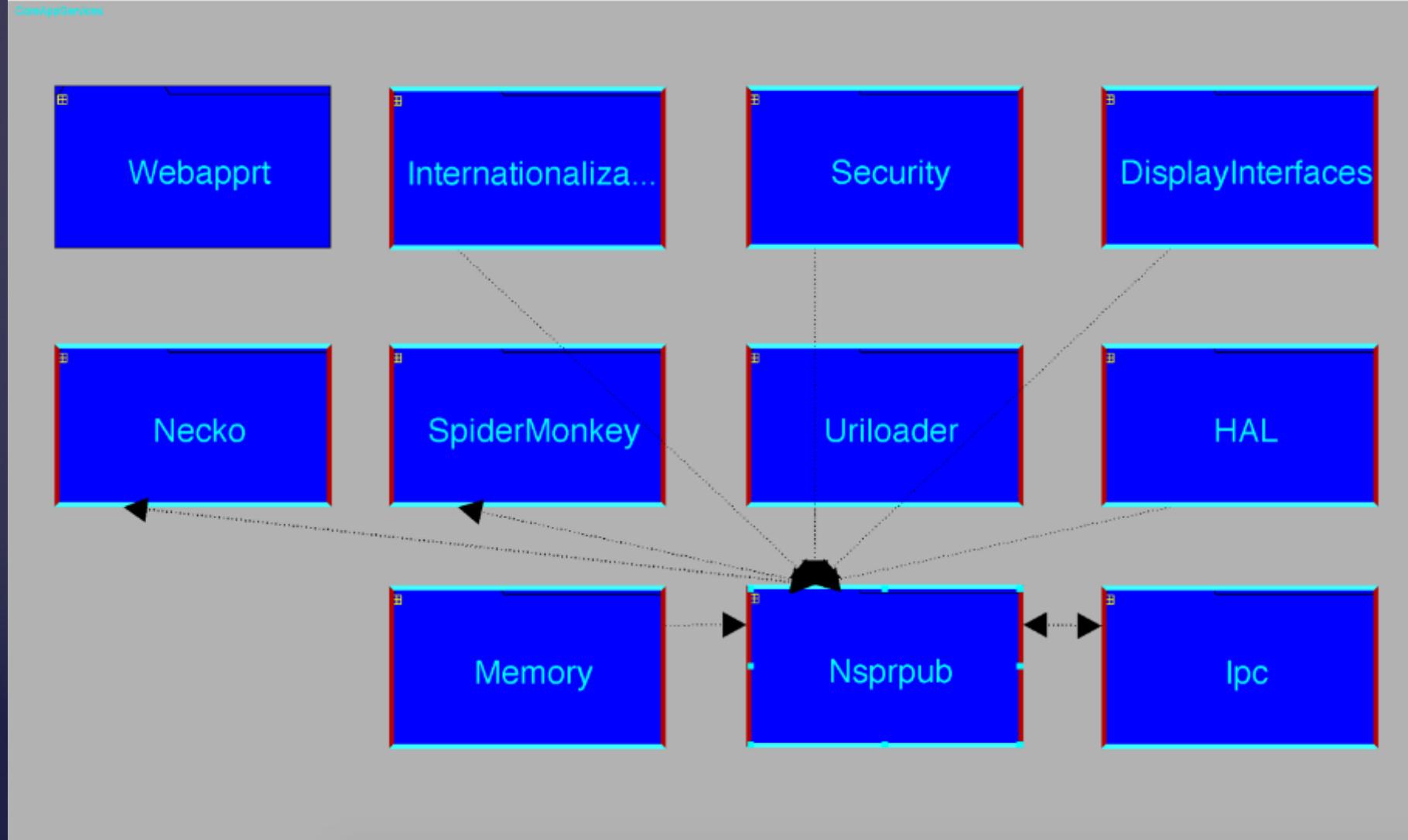
Security



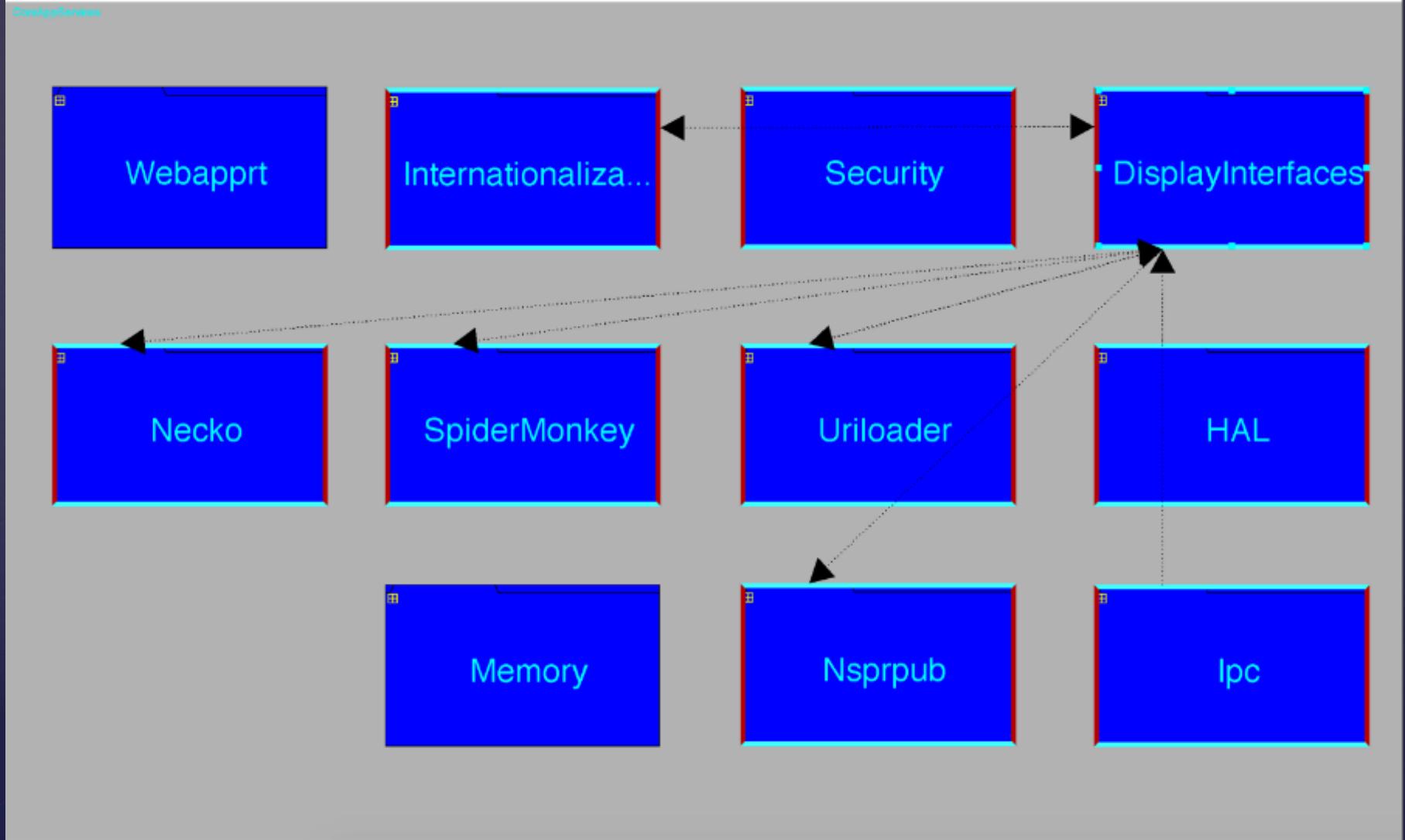
Uriloader



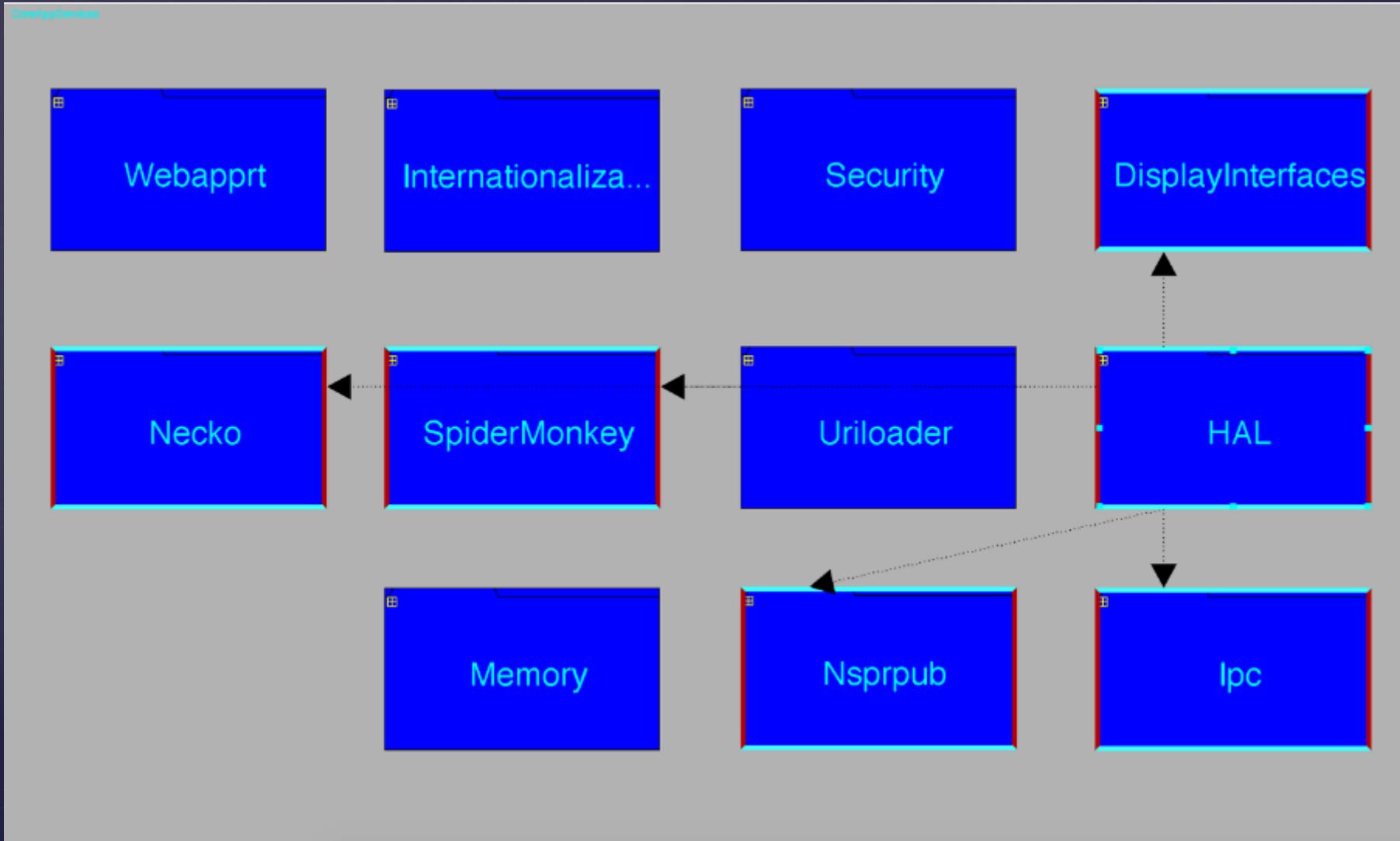
NSPRpub



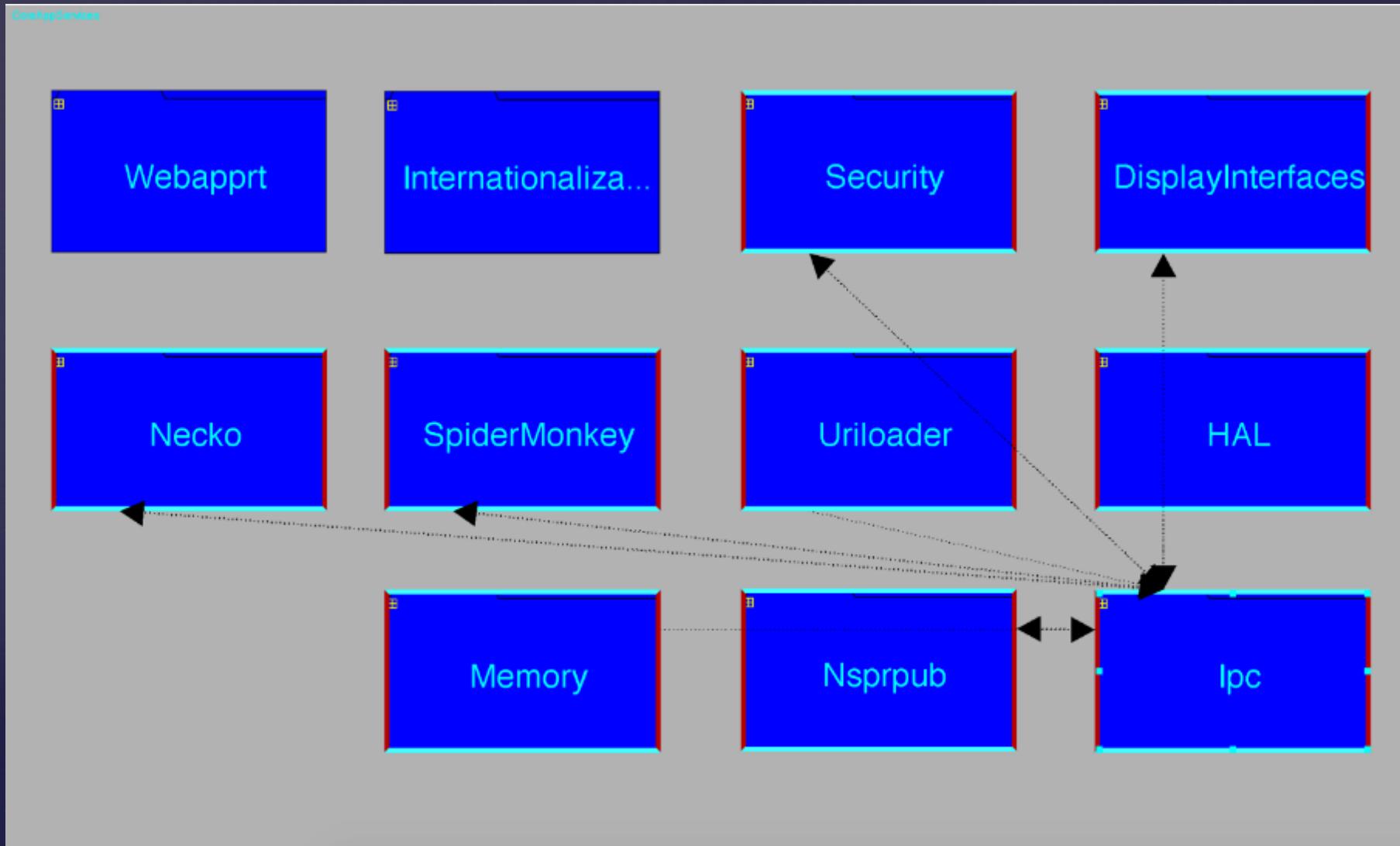
DisplayInterfaces



HAL



IPC



References

- https://developer.mozilla.org/en-US/docs/Mozilla/Developer_guide/Source_Code/Directory_structure
- <https://developer.mozilla.org/en-US/docs/Mozilla/Projects/NSPR>
- <https://wiki.mozilla.org/Apps/WebRT>