Demo : coexistence of SAGA implementations

Open Grid Forum 30

Brussels, 27 October 2010

J. Devemy, S. Reynaud, L. Schwarz

dapnia

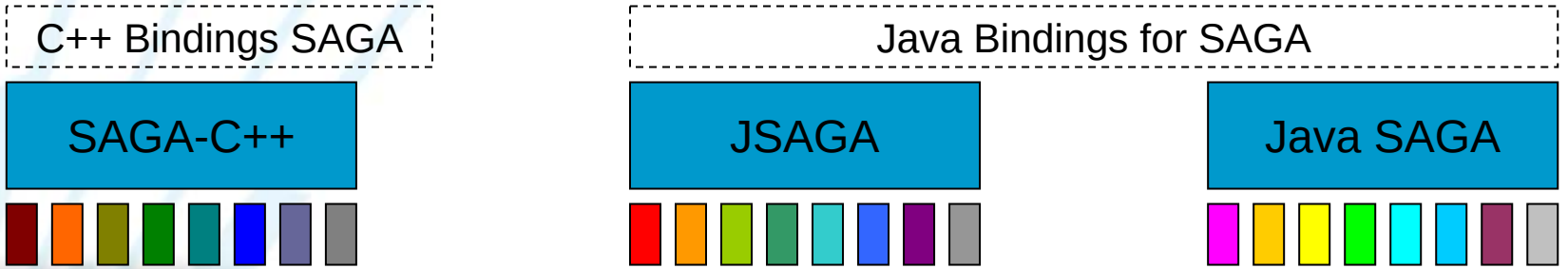
cea

saclay

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE

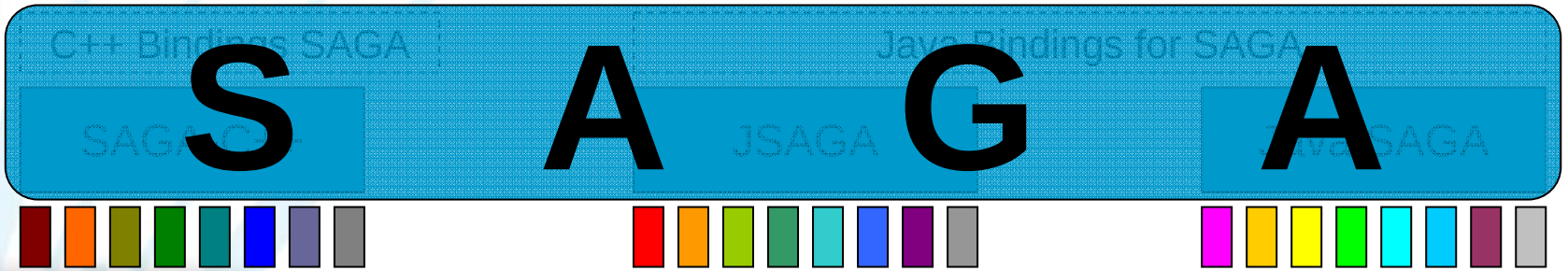
Motivation

- several implementations of SAGA
  - different languages (not necessarily)
  - different characteristics
    - features (e.g. automatic/configurable context selection, timeout…)
    - optimizations (e.g. caching of connections, meta-data, states…)
    - design choices (e.g. high-level / low-level adaptor interfaces)
  - different supported API extensions (e.g. SD, Advert, Messaging)
  - different supported technologies (adaptors)
- how to use all these API & technologies simultaneously ?

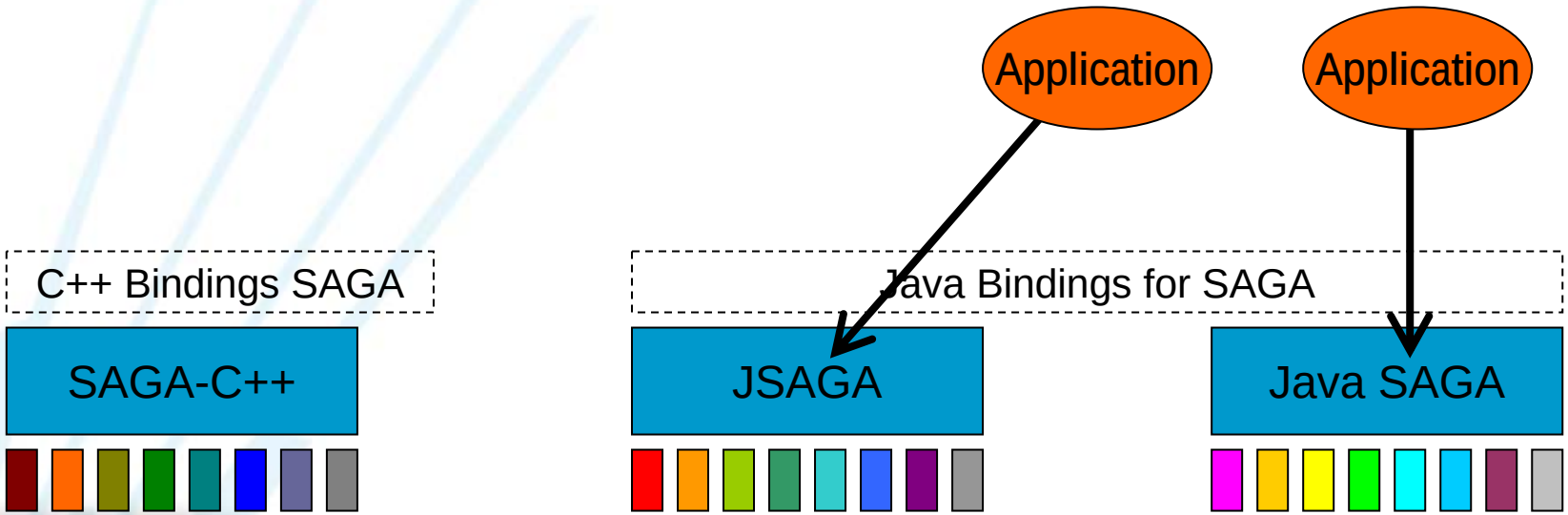


Motivation

- several implementations of SAGA
  - different languages (not necessarily)
  - different characteristics
    - features (e.g. automatic/configurable context selection, timeout…)
    - optimizations (e.g. caching of connections, meta-data, states…)
    - design choices (e.g. high-level / low-level adaptor interfaces)
  - different supported API extensions (e.g. SD, Advert, Messaging)
  - different supported technologies (adaptors)
- how to use all these API & technologies simultaneously ?

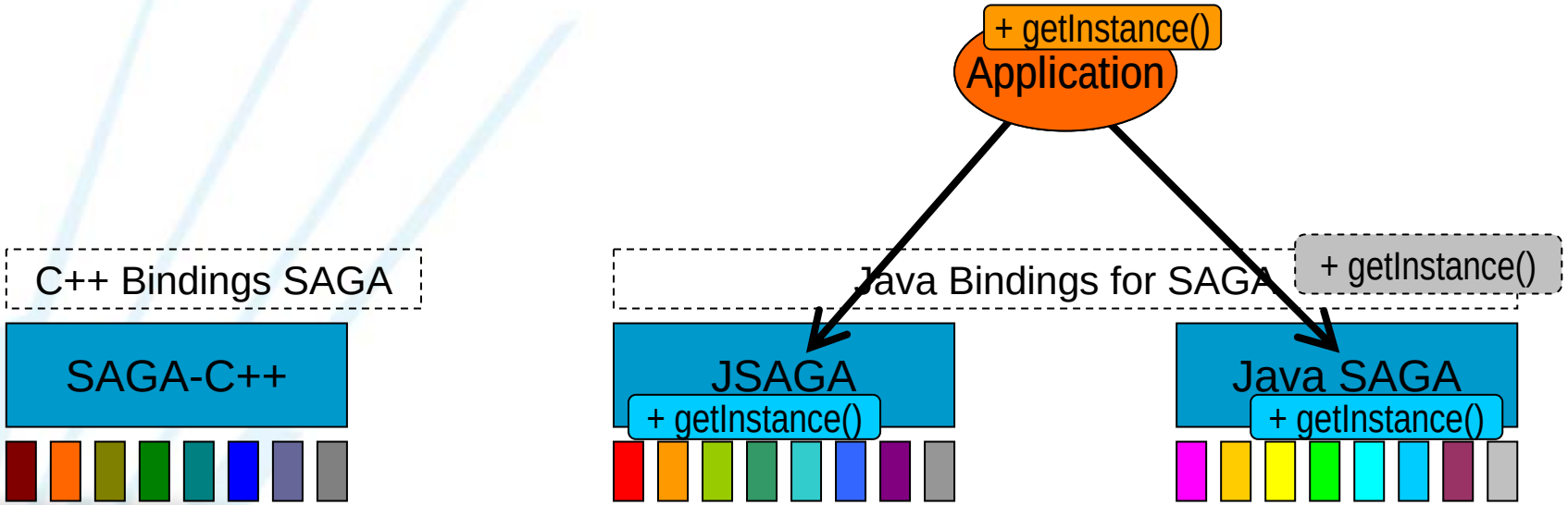


Java SAGA and JSAGA



Java SAGA and JSAGA

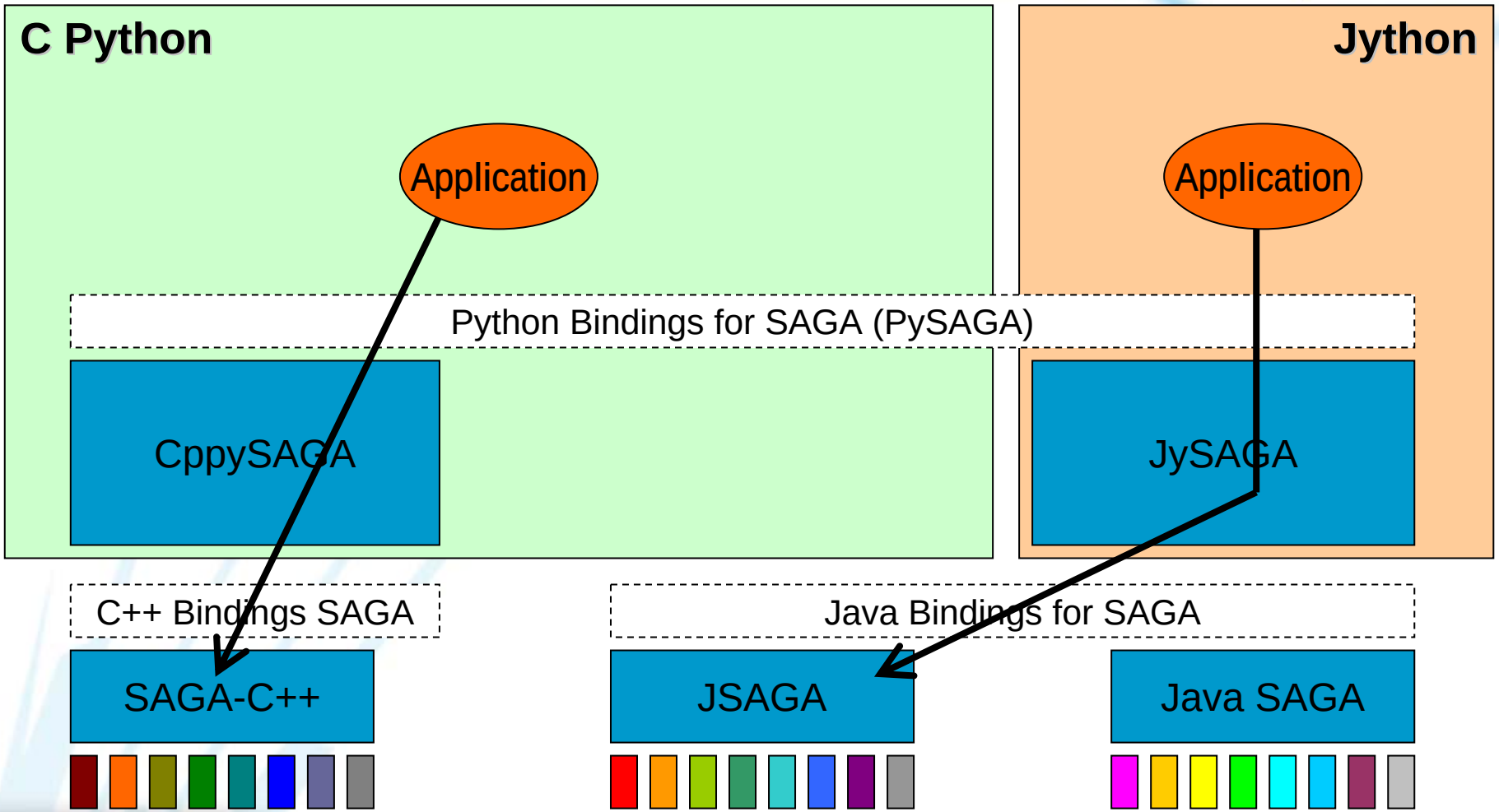
```
System.setProperty("saga.factory", IMPL_NAME);

File f = FileFactory.createFile(url);                          // old code
File f = FileFactory.getInstance().createFile(url);            // new code
File f = FileFactory.getInstance(IMPL_NAME).createFile(url);   // new (thread-safe)
```



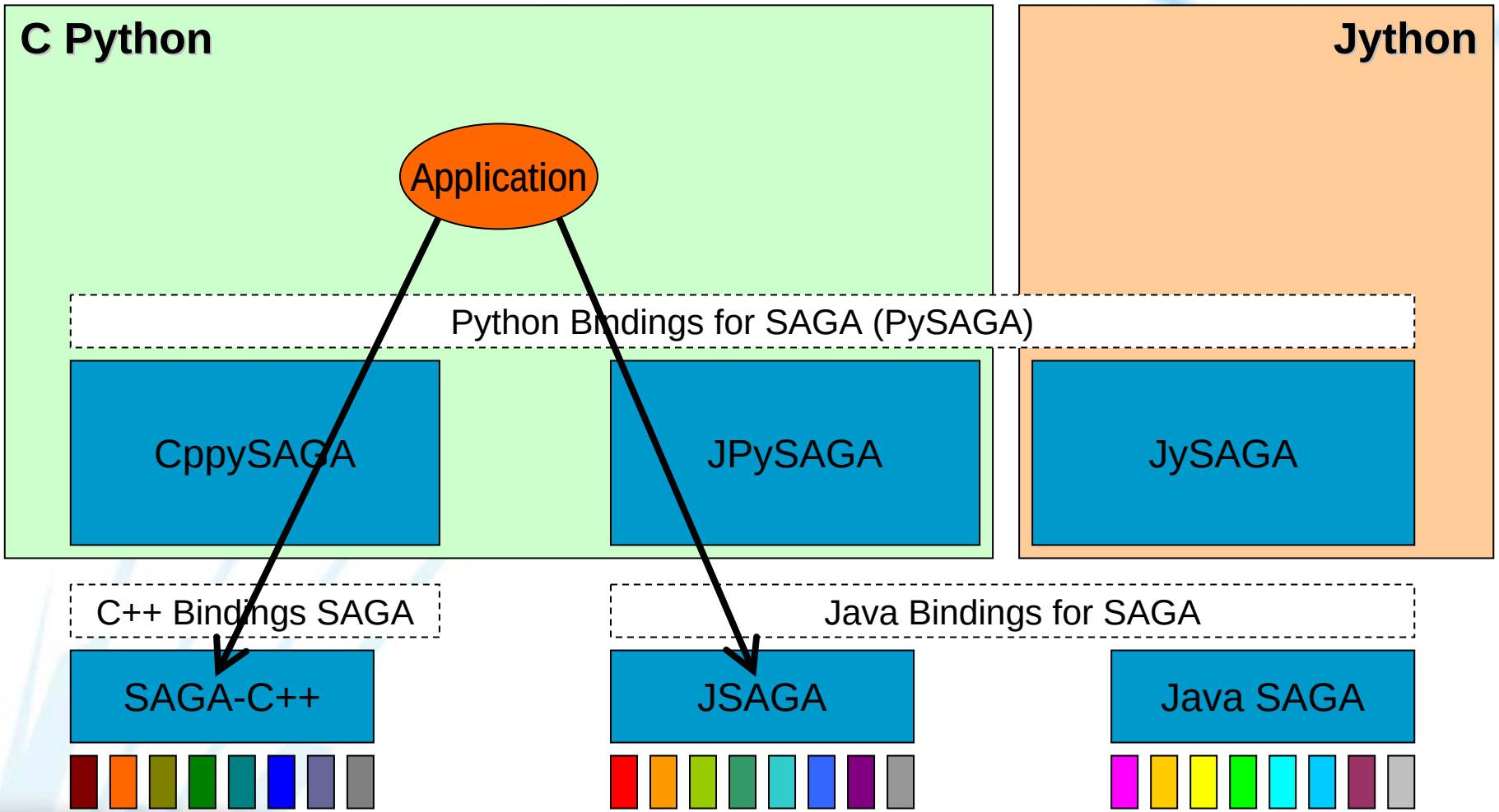
Demonstration #1

- get more supported technologies
  - example with "ls -l"
    - list some URL with JSAGA
    - list some URL with Java SAGA

SAGA-C++ and JSAGA



SAGA-C++ and JSAGA

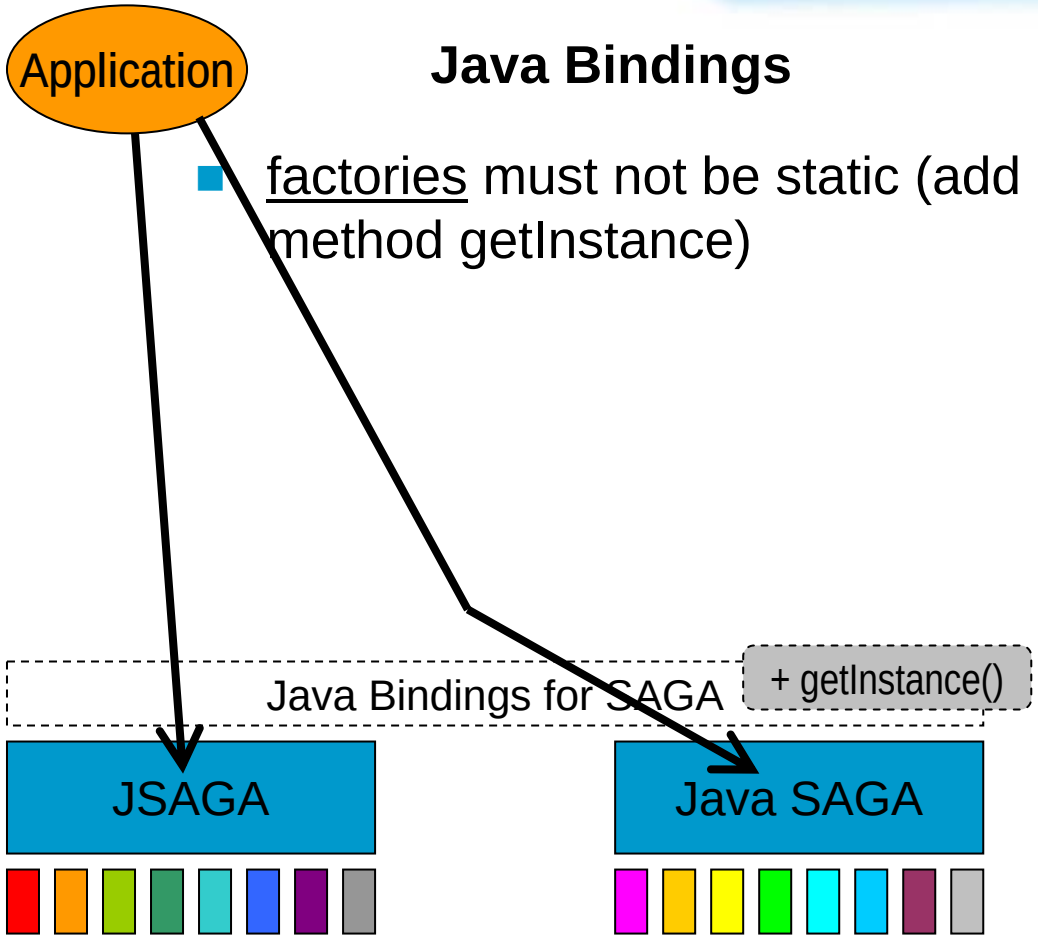


Demonstration #2

- get more supported technologies
  - example with "ls -l"
    - list some URL with JPySAGA/JSAGA
    - list some URL with CppySAGA/SAGA-C++
  - example with "job-run"
    - run the job on some resources with JPySAGA/JSAGA
    - run the job on some resources with CppySAGA/SAGA-C++
- get more functionalities
  - example with "find" and "cat"
    - find an URL with JPySAGA/JSAGA
    - then dump its content with CppySAGA/SAGA-C++

Conclusion

Coexistence of SAGA impl. is possible with few modifications...



Conclusion

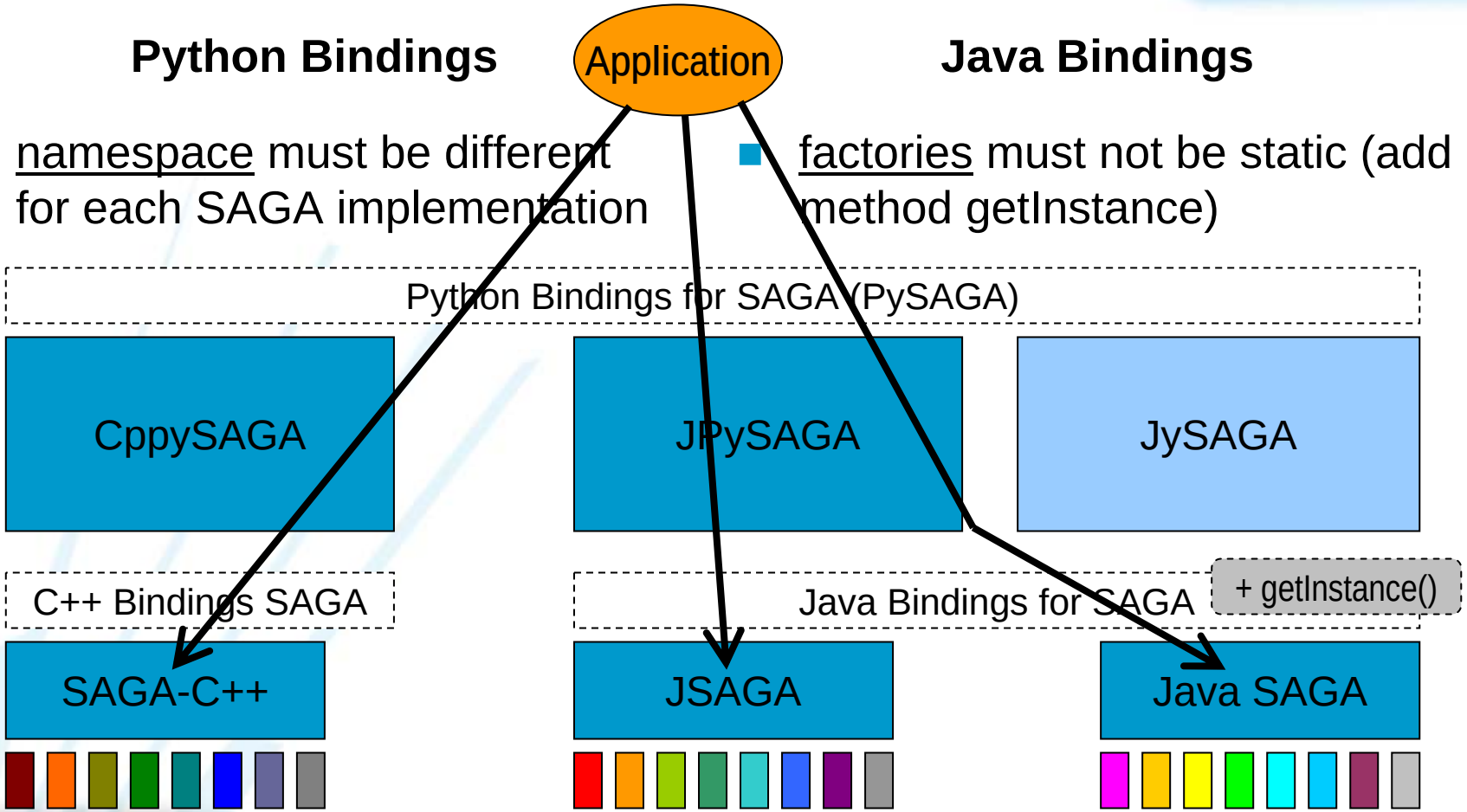
Coexistence of SAGA impl. is possible with few modifications...

Python Bindings

- namespace must be different for each SAGA implementation

Java Bindings

- factories must not be static (add method getInstance)



Conclusion

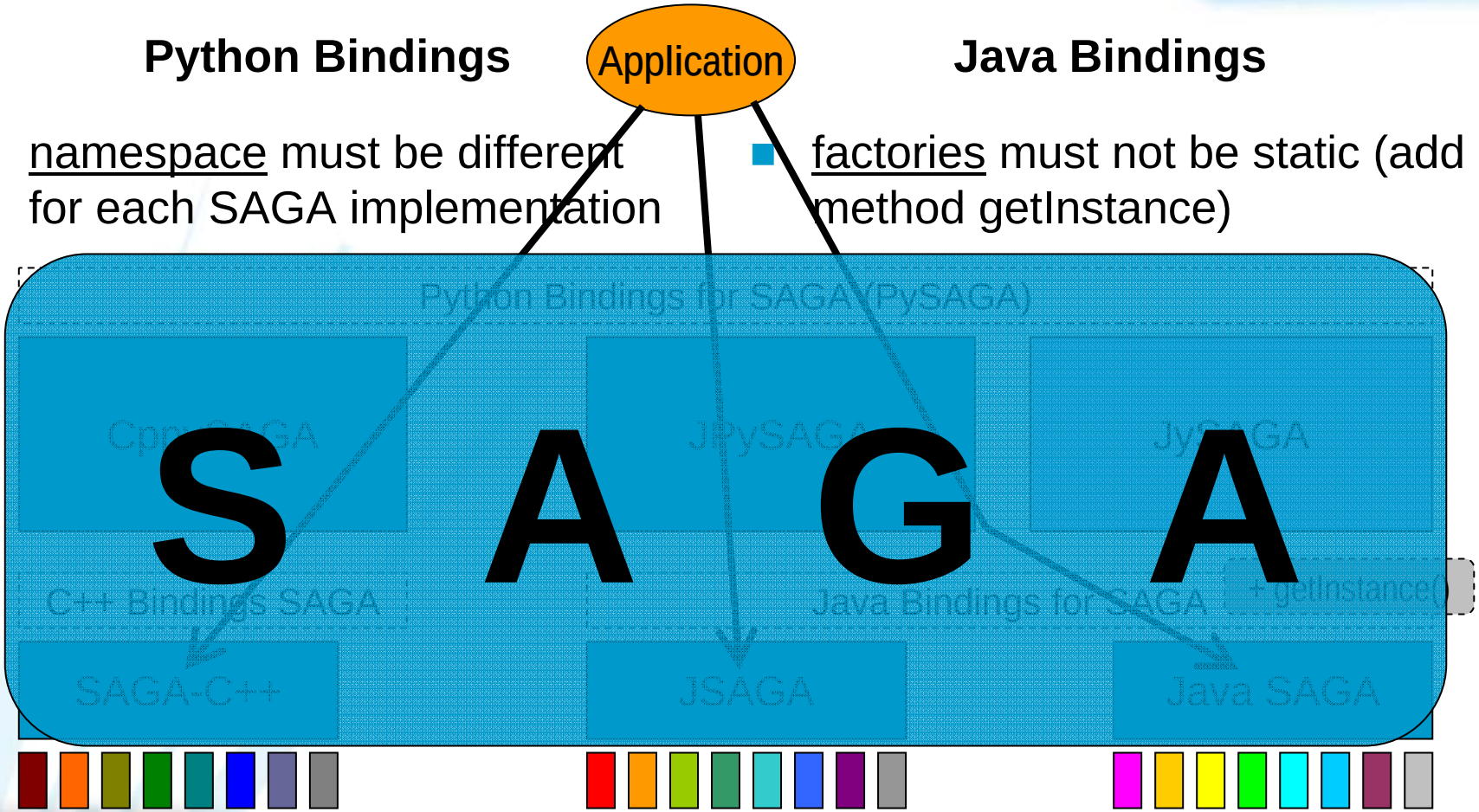
Coexistence of SAGA impl. is possible with few modifications...

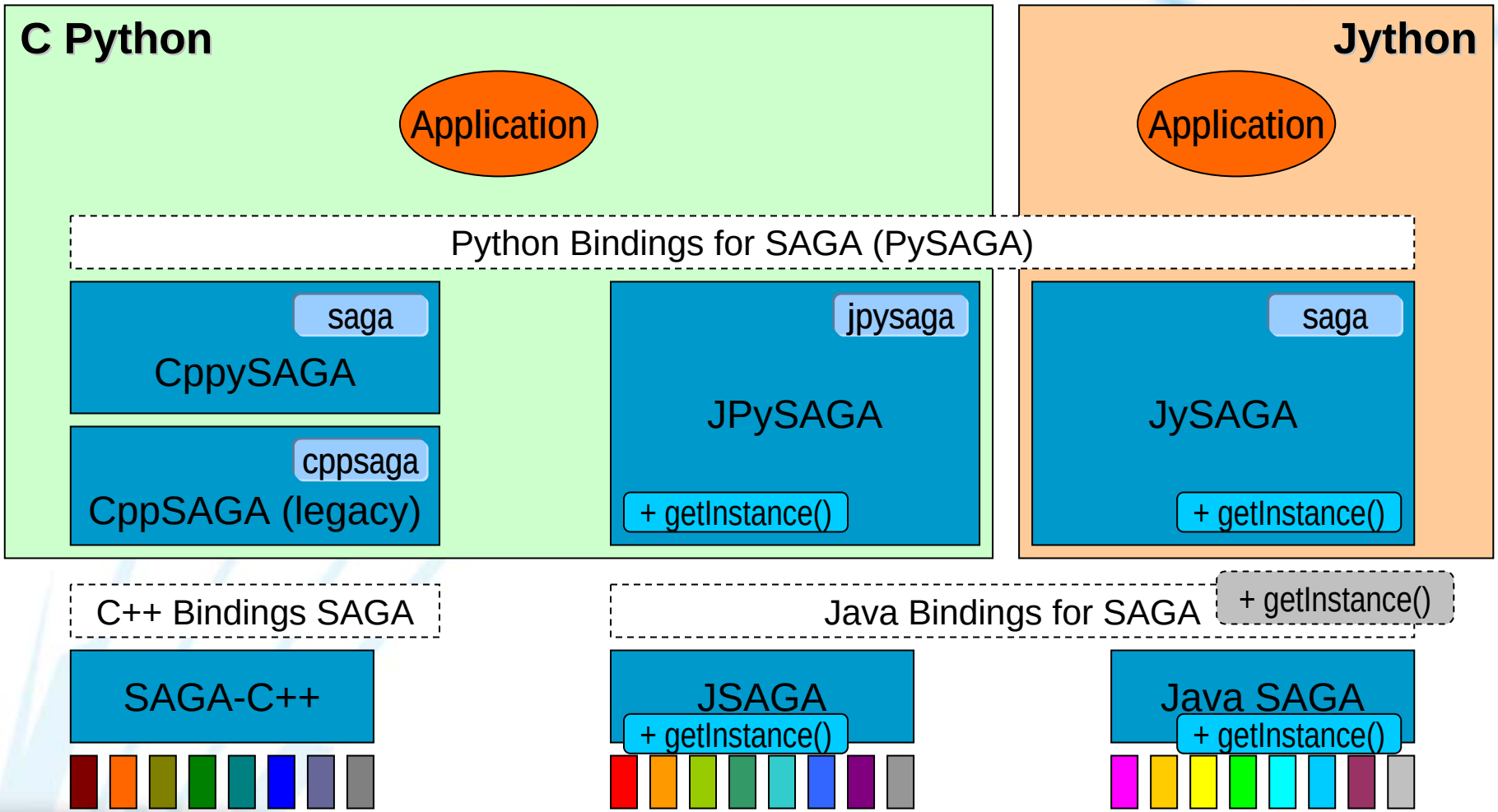
Python Bindings

- namespace must be different for each SAGA implementation

Java Bindings

- factories must not be static (add method getInstance)



Questions ?

Overview of SAGA impl./wrappers