

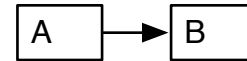
Legend



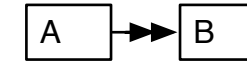
Ptolemy Filter



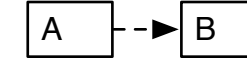
Object



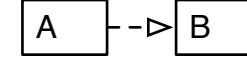
A sends a token to B using Ptolemy filter connector



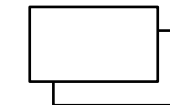
A sends a communication token to B



A sends an MQTT message to B



A sends attribute change token to B



Multiplicity



Android Handheld



Ptolemy Server



Process



Ptolemy Simulation



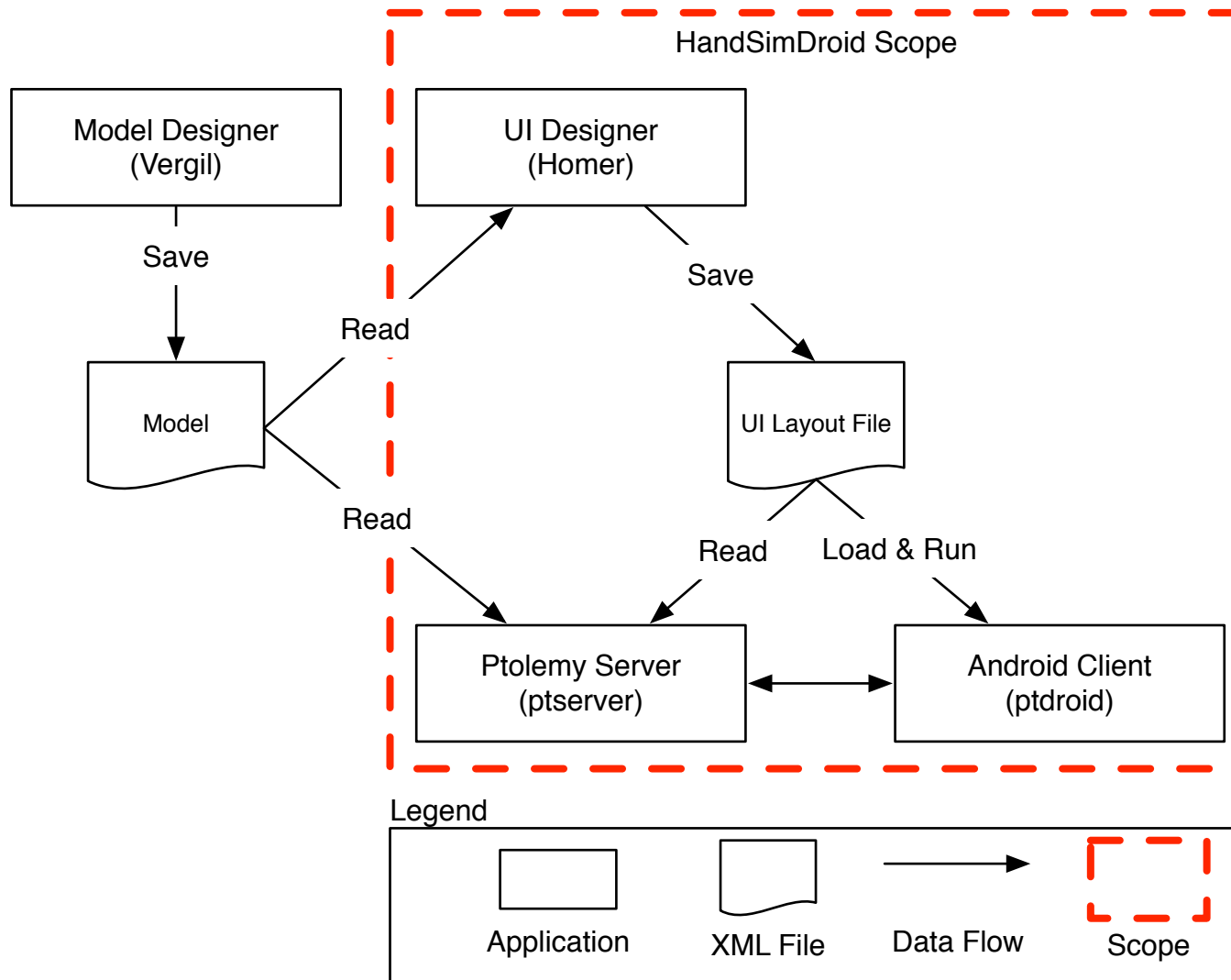
New Component

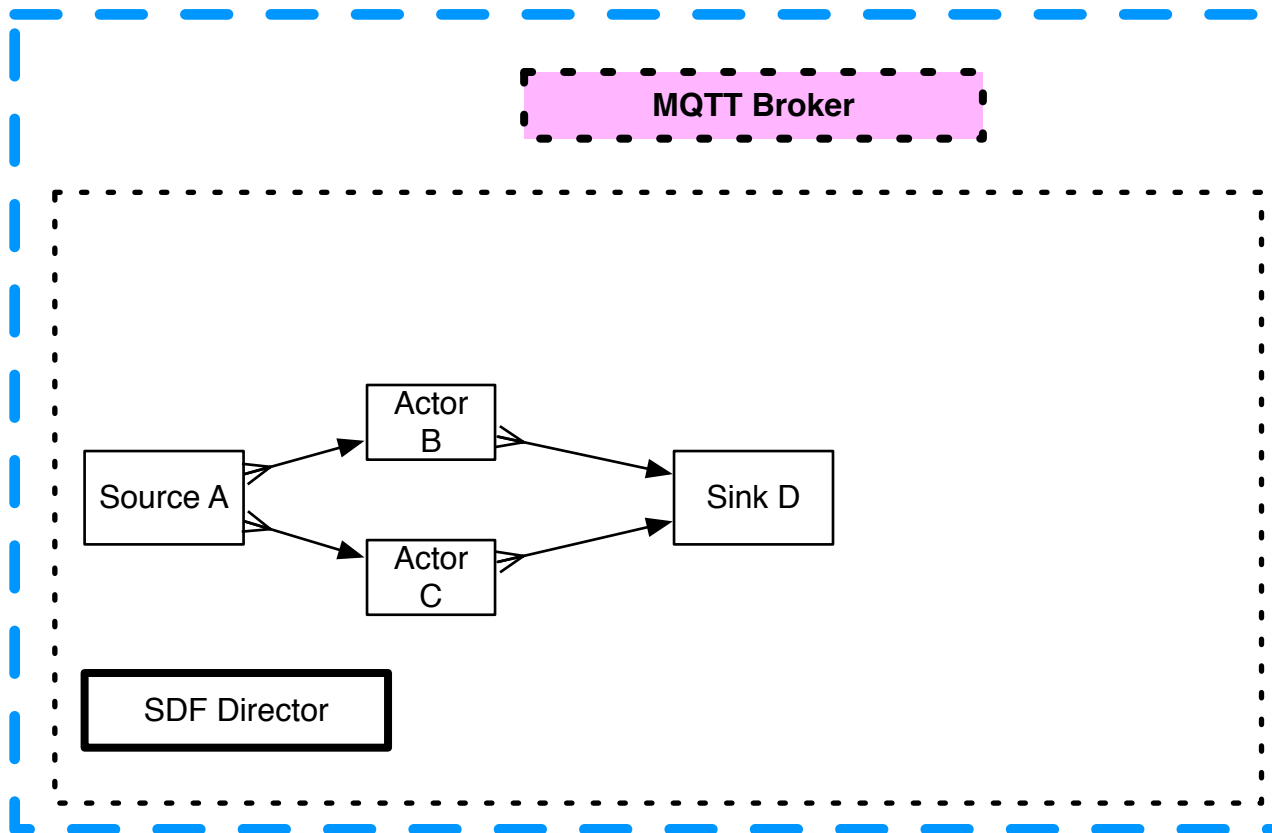
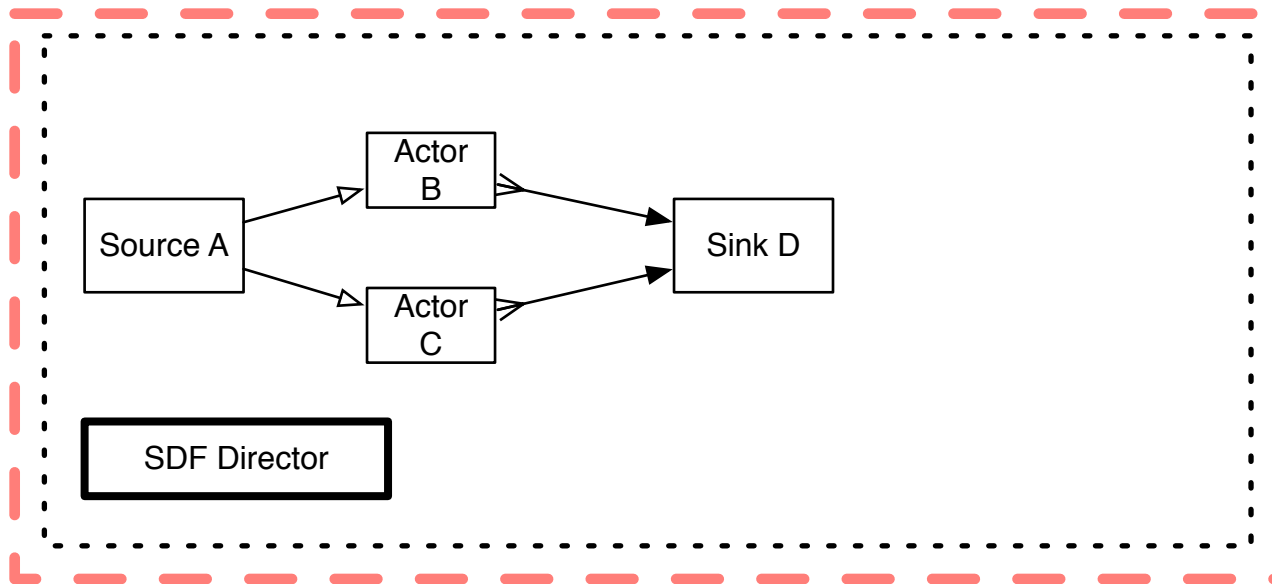


Existing Component



Modified Component





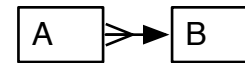
Legend



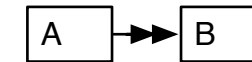
Ptolemy Actor



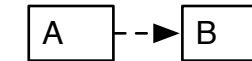
Object



A sends a token to B using Ptolemy link



A sends a communication token to B



A sends an MQTT message to B



Android Handheld



Ptolemy Server



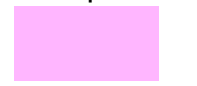
Process



Ptolemy Simulation



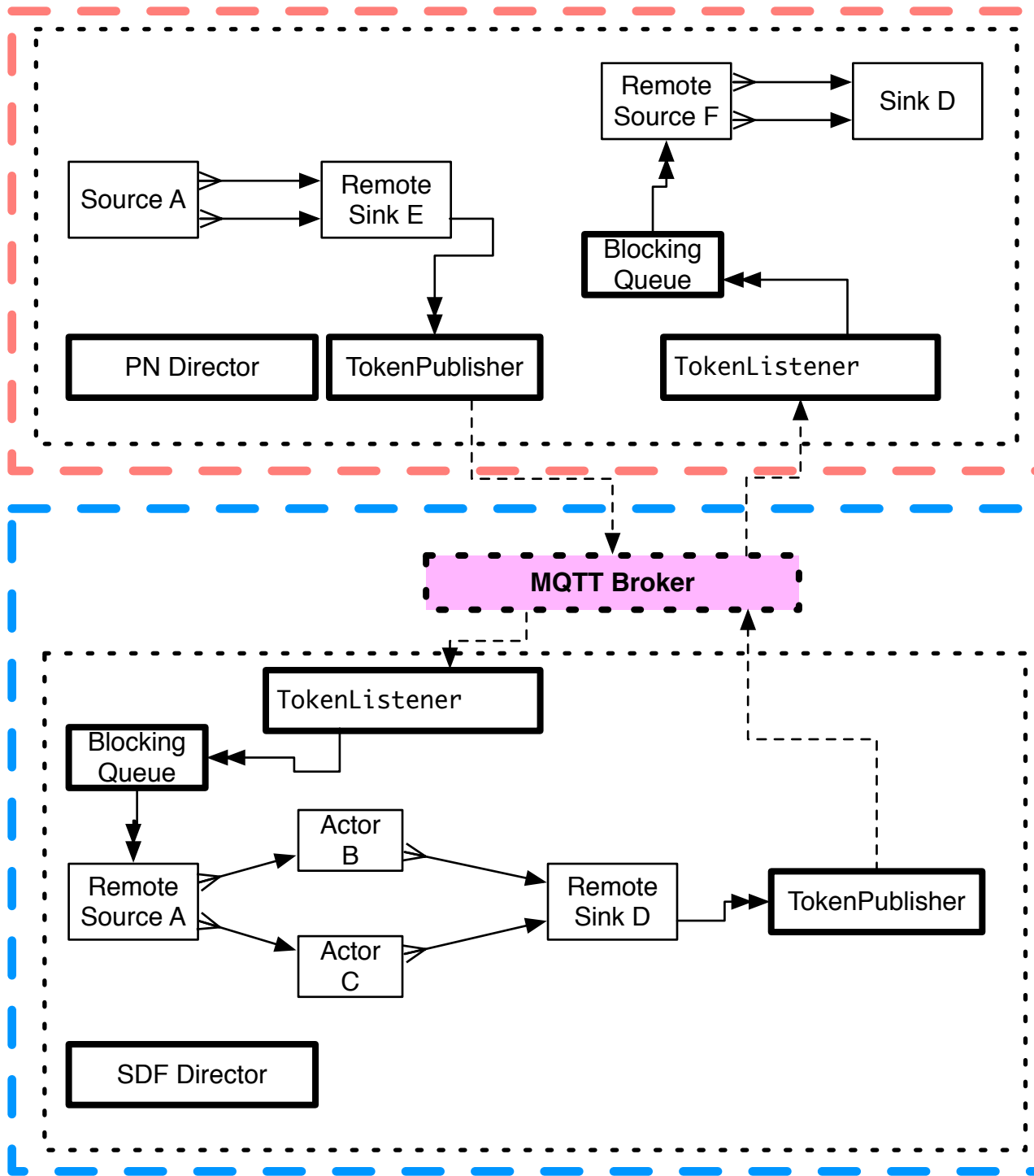
New Component



Existing Component



Modified Component



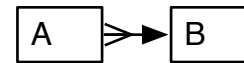
Legend



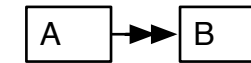
Ptolemy Actor



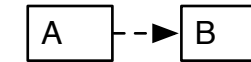
Object



A sends a token to B using Ptolemy link



A sends a communication token to B



A sends an MQTT message to B



Android Handheld



Ptolemy Server



Process



Ptolemy Simulation



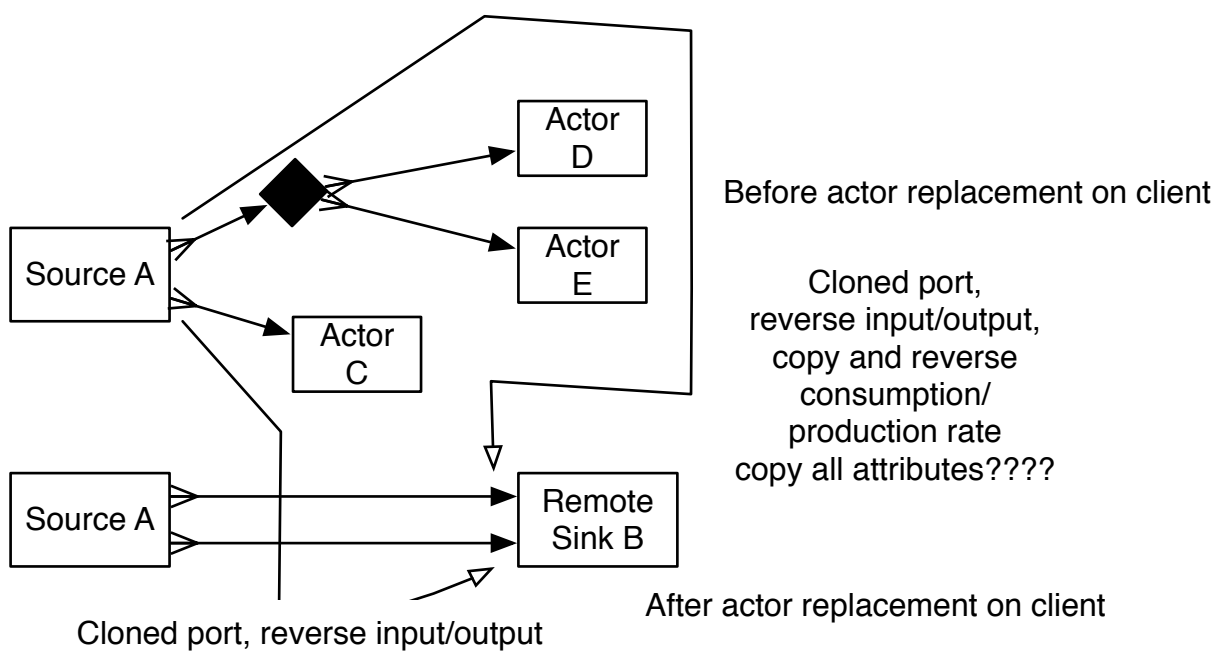
New Component



Existing Component



Modified Component



Loading model on the server
(loadModel method as Server)

Parse model XML, filter out
non-portable classes

Find remote sinks, sources
and attributes
Currently they must be added
to the model file but in the
future this info should be
loaded from the UI file.

Perform type resolution and
capture type information on
all remote sinks, sources, and
attributes

Replace sinks and sources
with proxies, set up remote
attribute listeners

set up infrastructure

Loading model on the client
(loadModel method)

Parse layout XML, filter out
non-portable classes

Find remote sinks, sources
and attributes.

Assign type information to all
sinks and sources that were
marked as _remote
TODO: the same must apply
to the remote attribute

Set up remote attributes

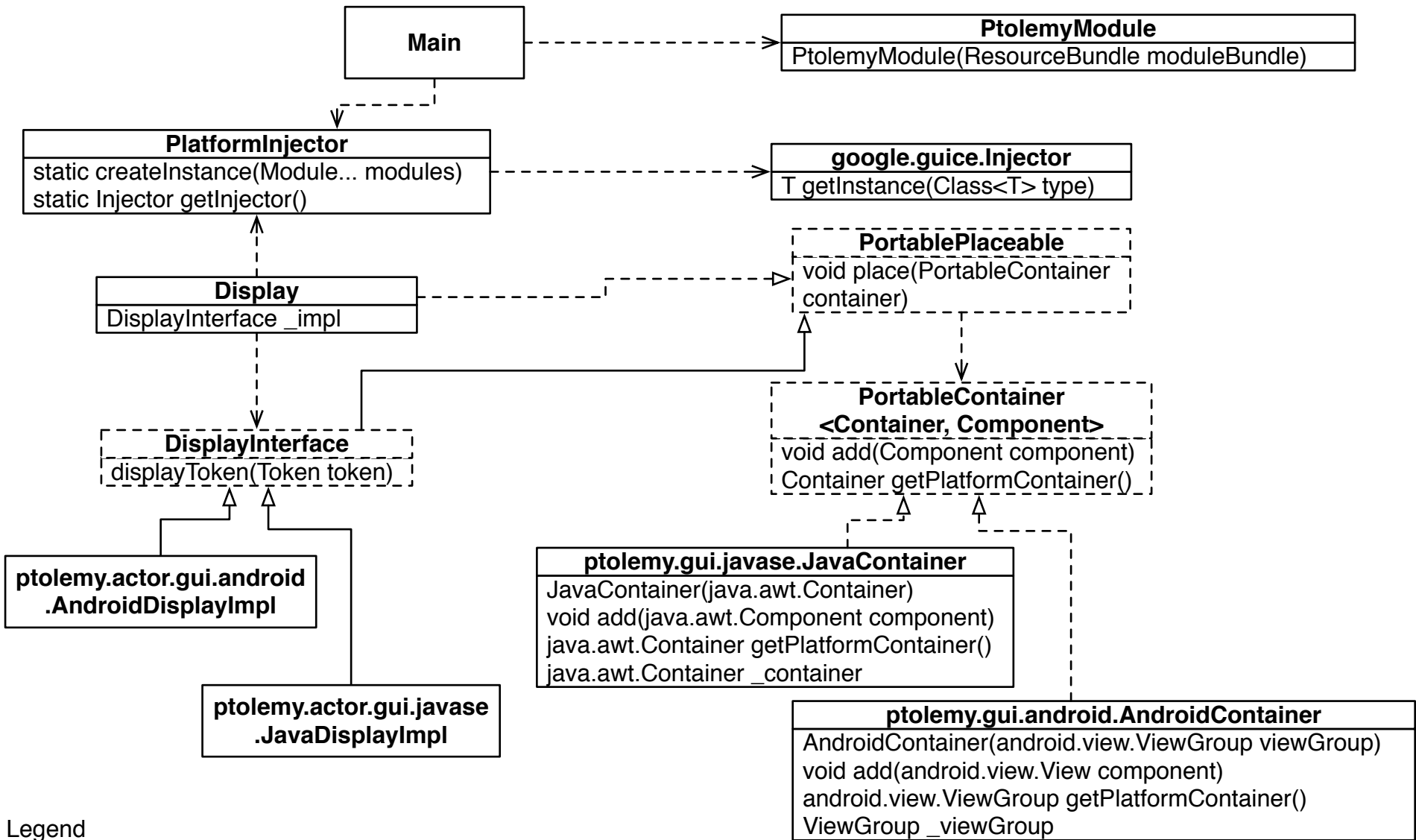
Generating layout file
(loadModel method as Client)

Parse layout XML, filter out
non-portable classes

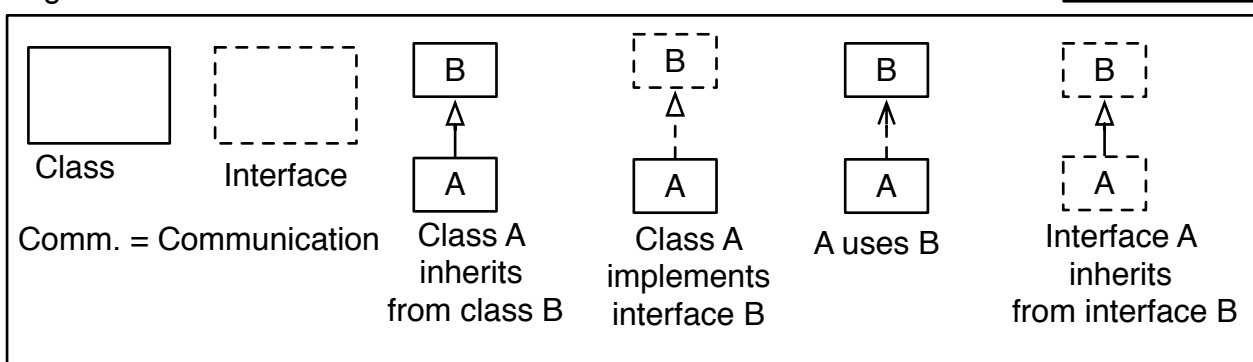
Find remote sinks, sources
and attributes
Currently they must be added
to the model file but in the
future this info should be
loaded from the UI file.

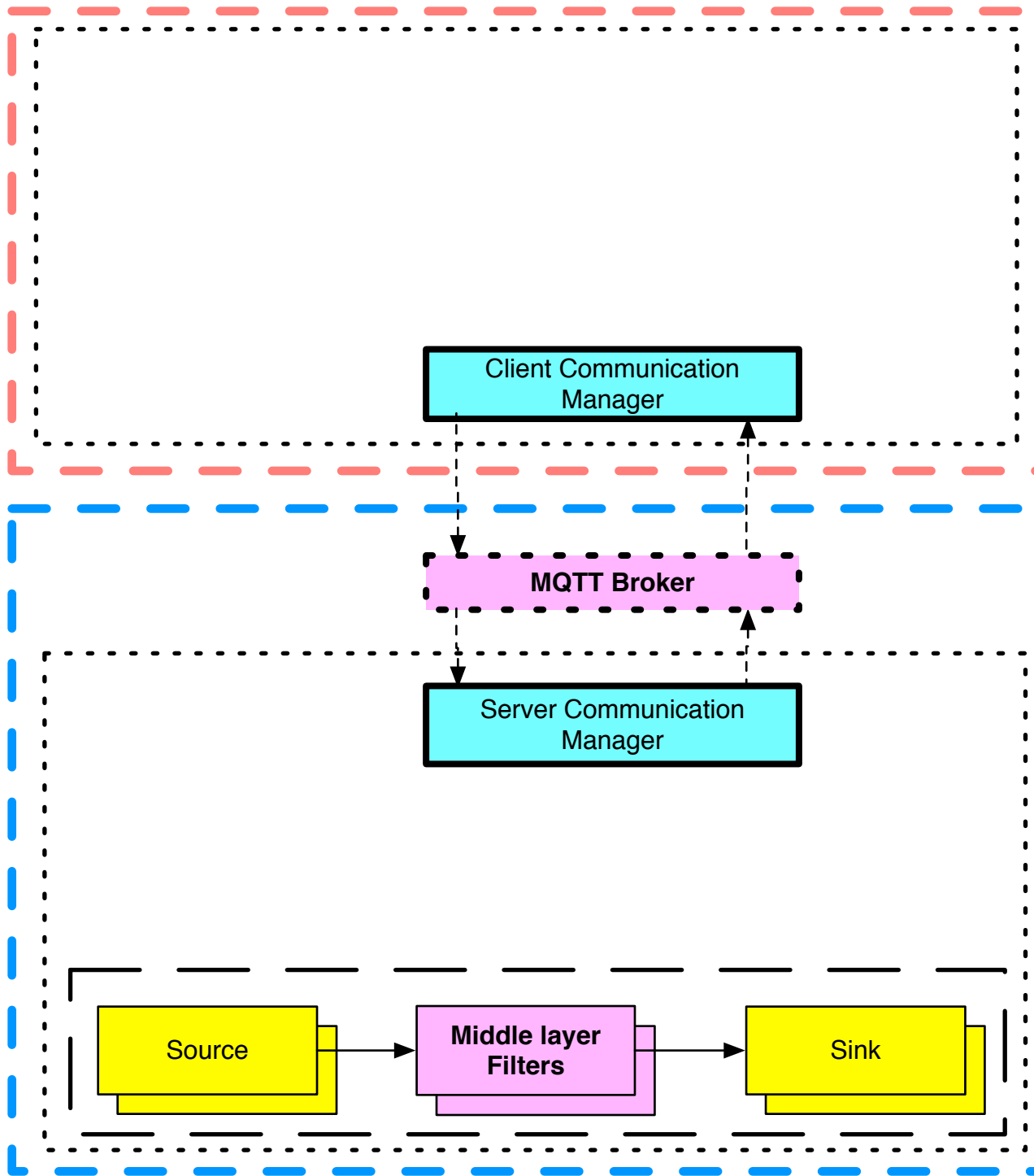
Replace actors connected to
sinks and sources with
proxies, set up remote
attribute listeners, remove
other actors

Copy port of the target
actor to the connected
remote actor; flip its
input/output fields.
Copy target actors
attributes.



Legend





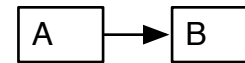
Legend



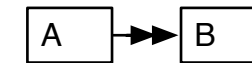
Ptolemy Filter



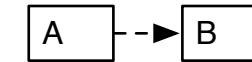
Object



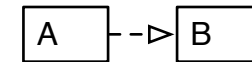
A sends a token to B using Ptolemy filter connector



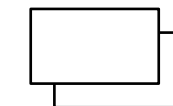
A sends a communication token to B



A sends an MQTT message to B



A sends attribute change token to B



Multiplicity



Android Handheld



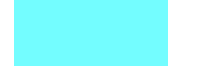
Ptolemy Server



Process



Ptolemy Simulation



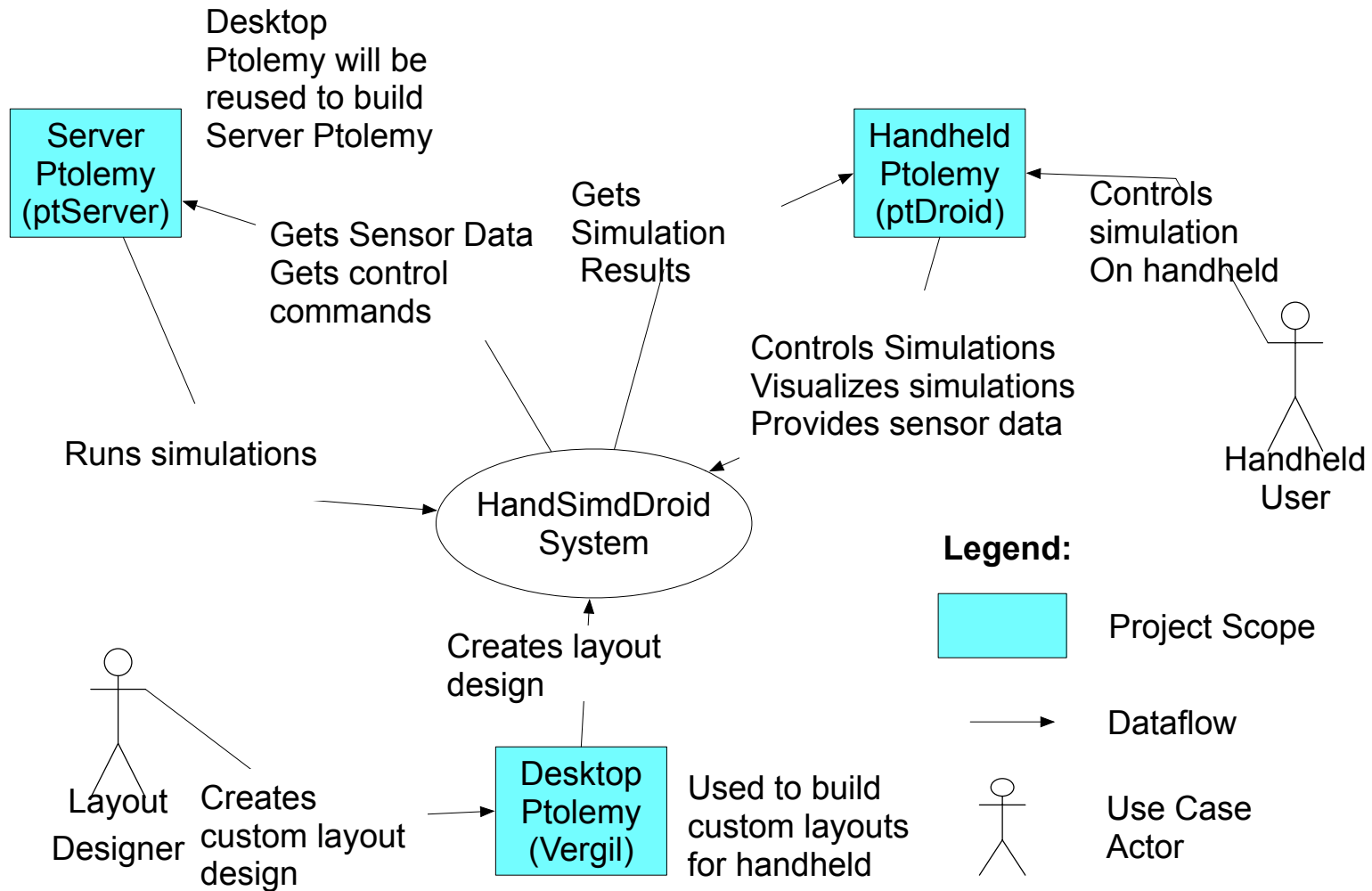
New Component

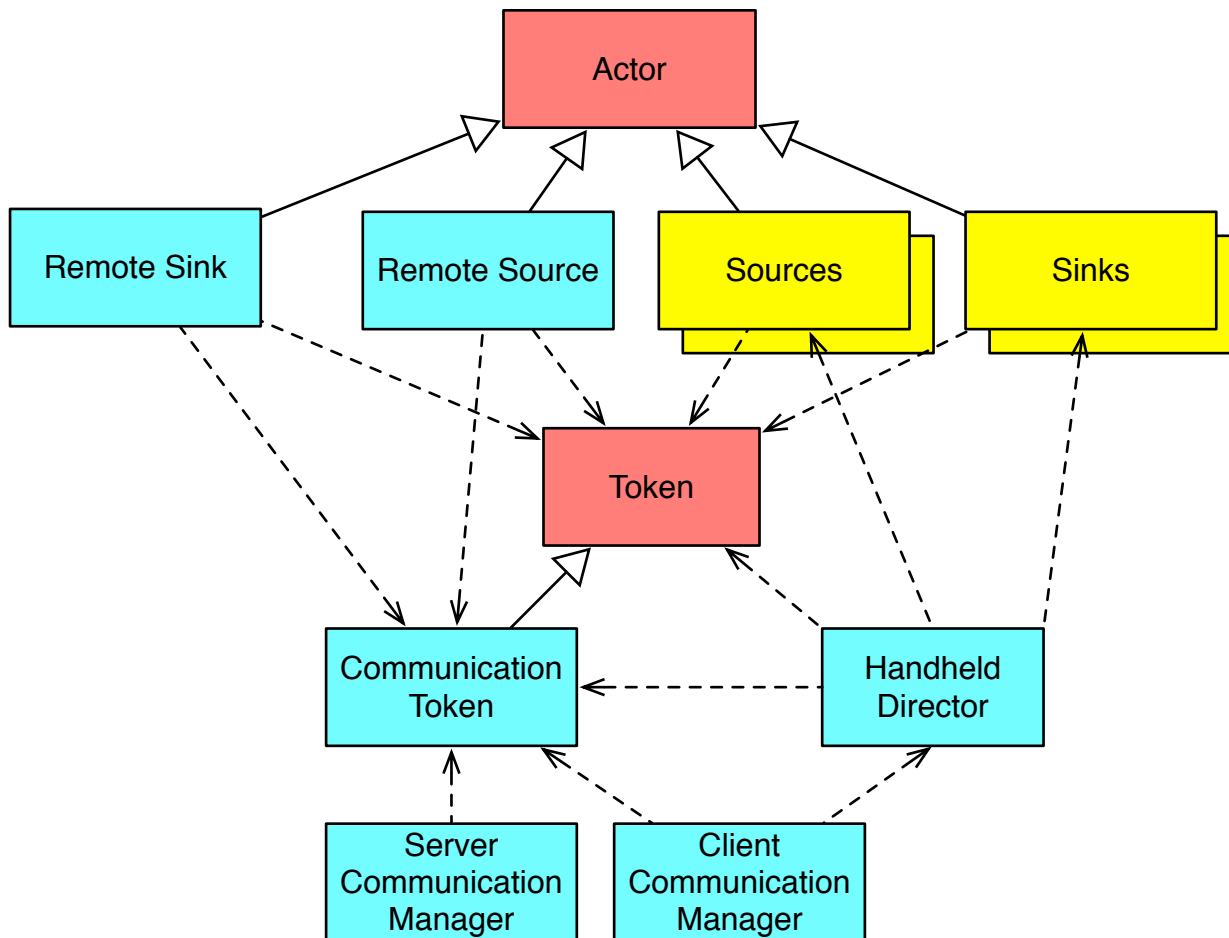


Existing Component

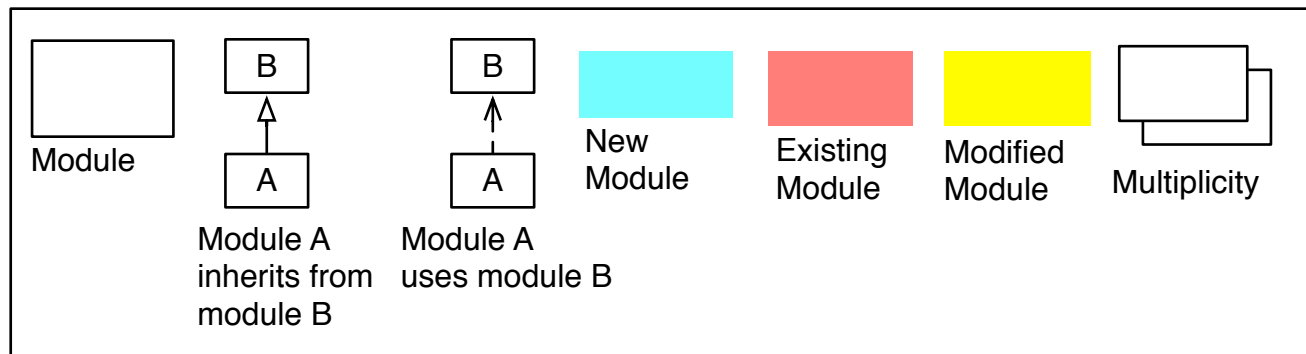


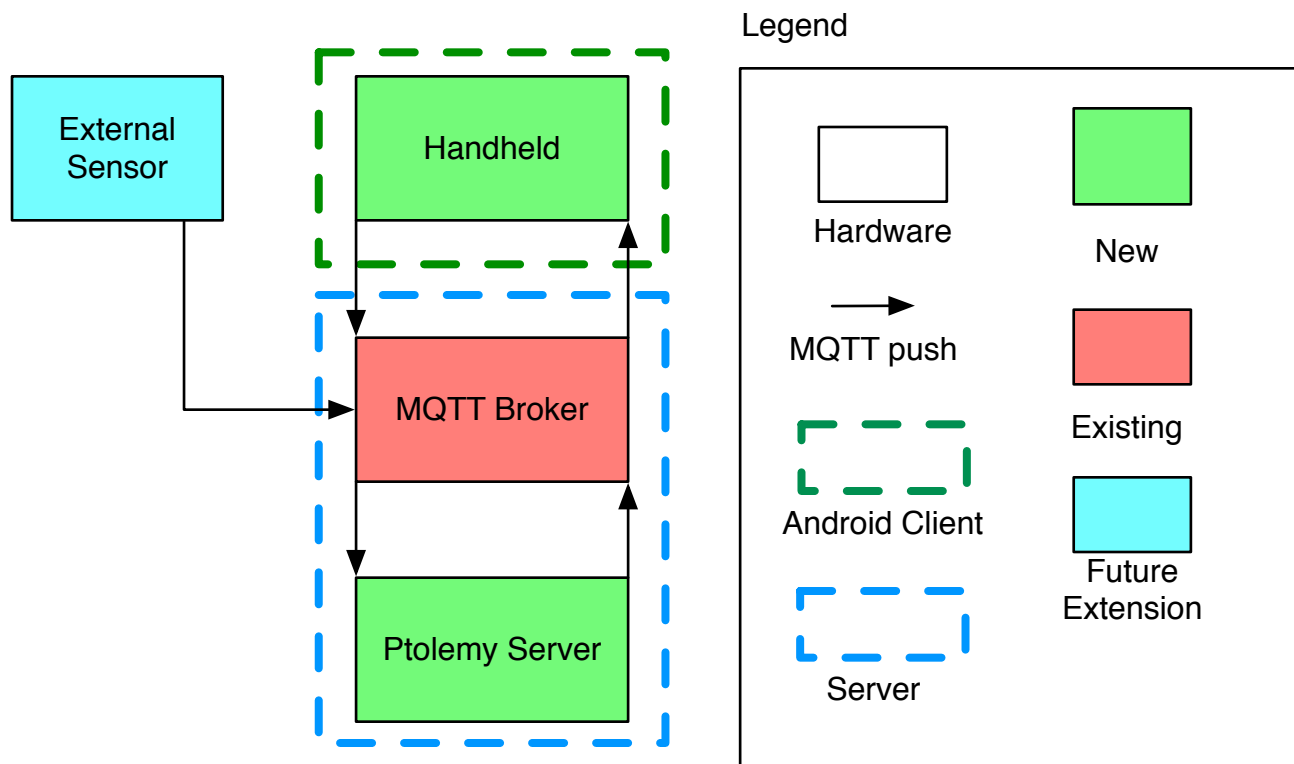
Modified Component

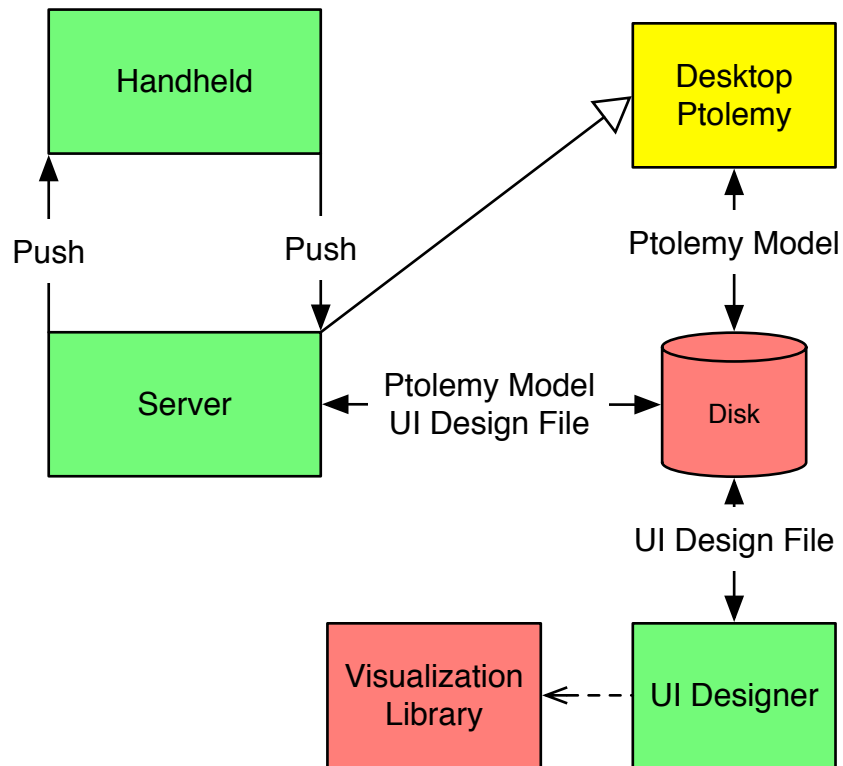




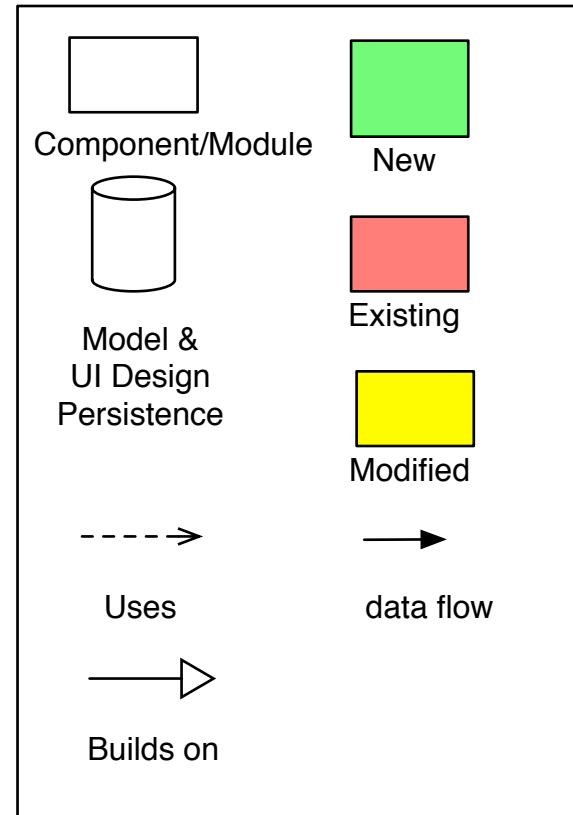
Legend

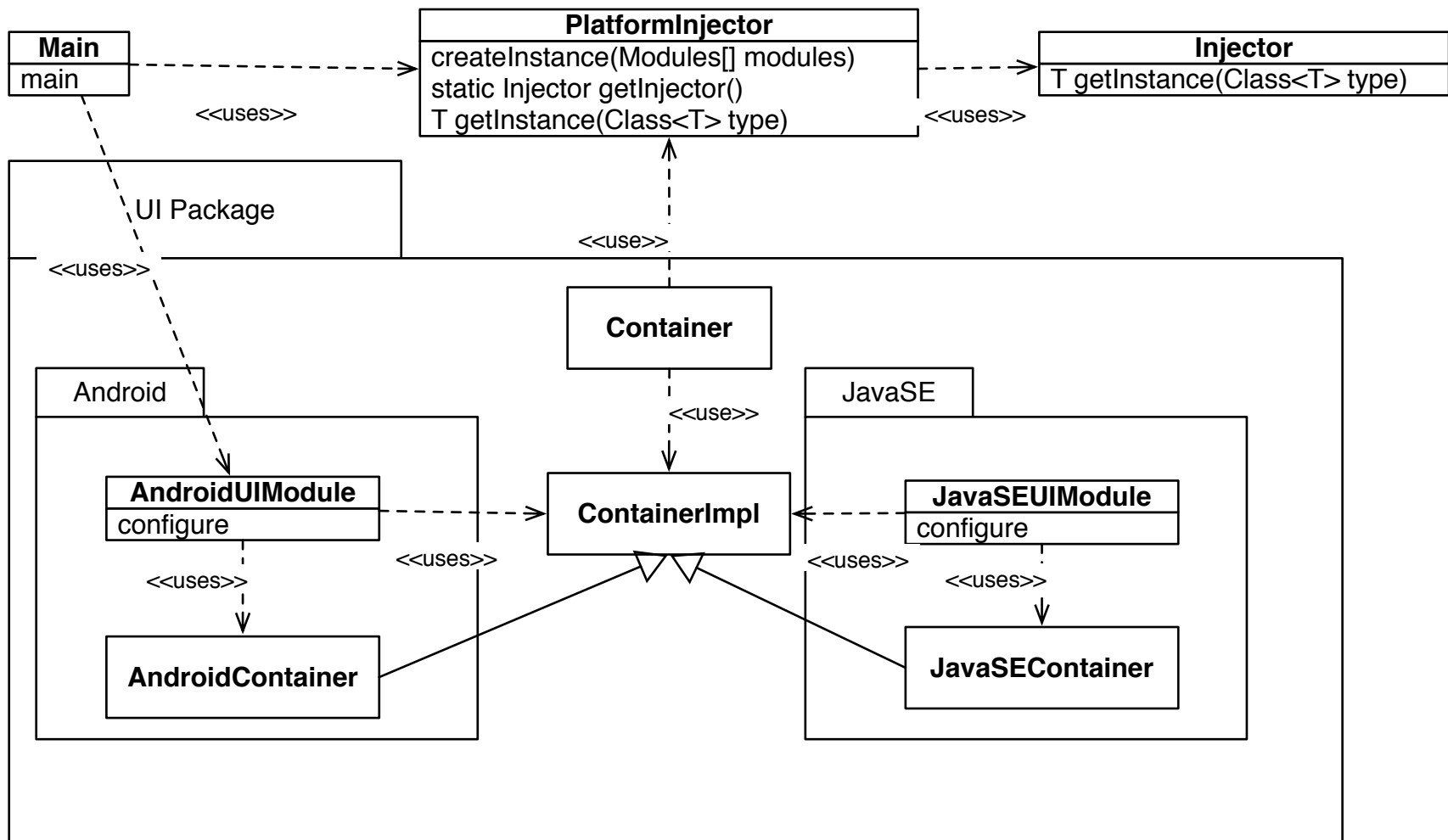


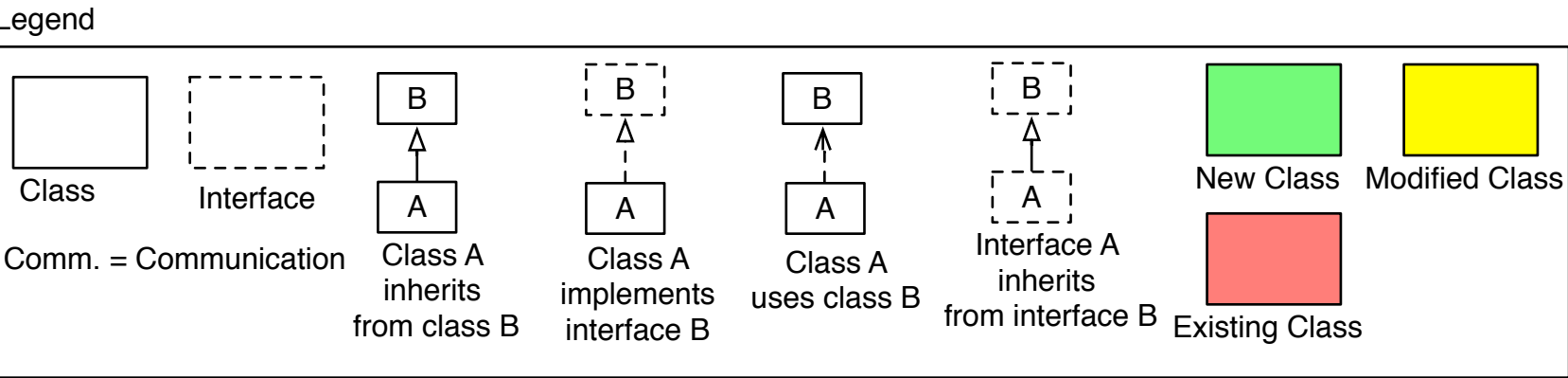
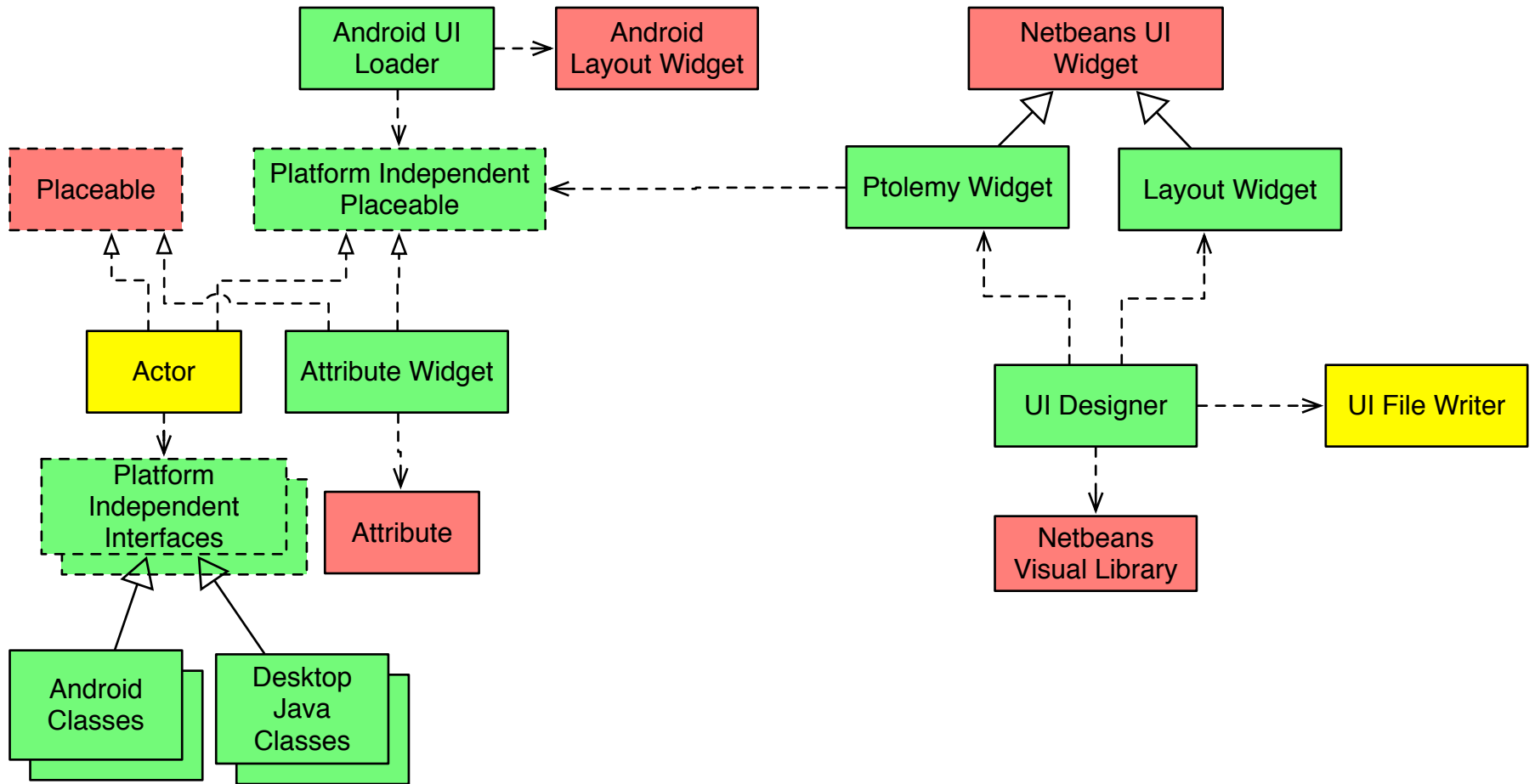


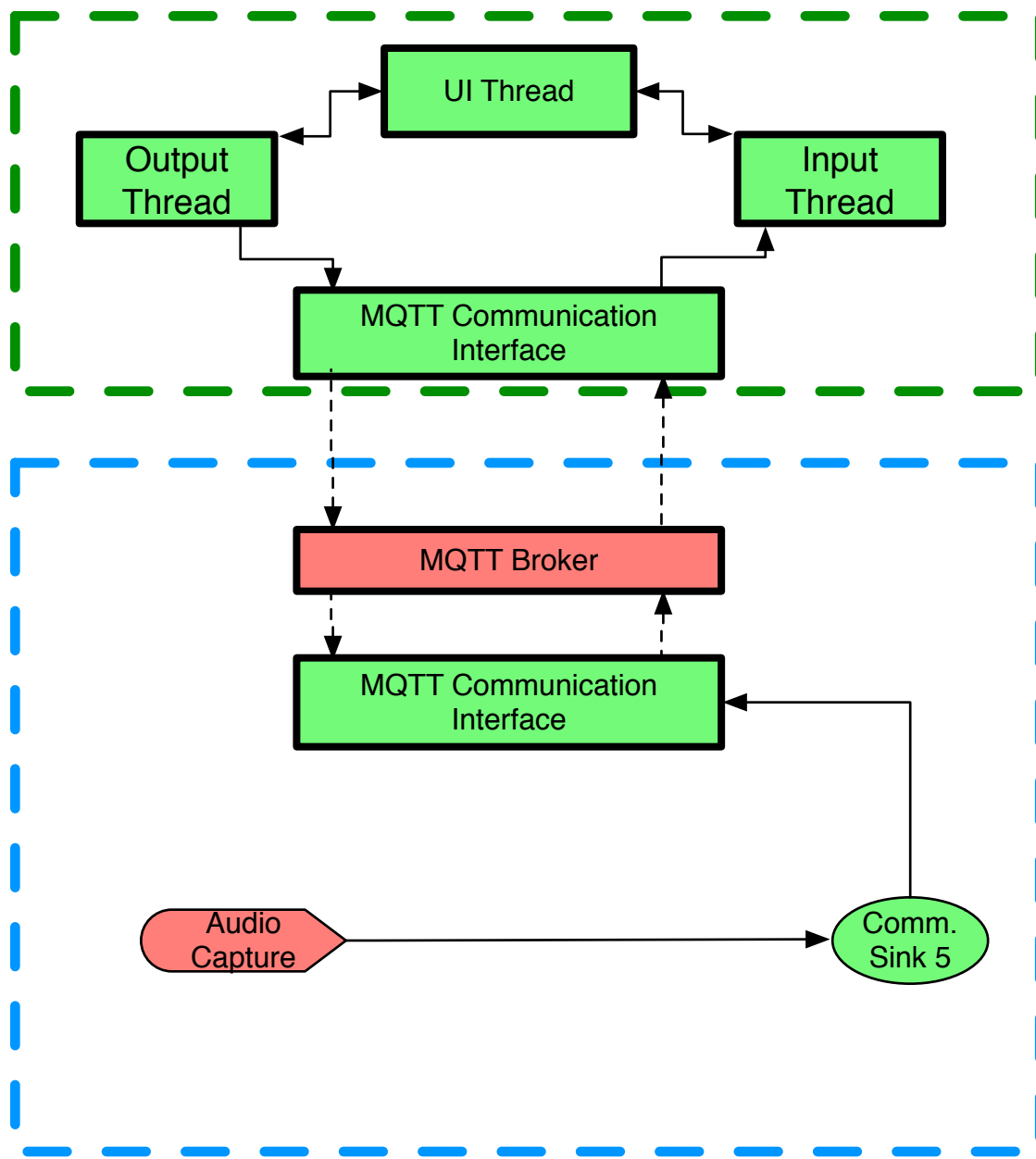


Legend





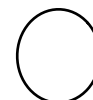




Legend



Source



Sink



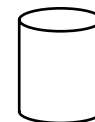
Actor/Filter



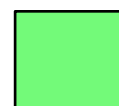
Android Client Tier



Server Tier



Model & UI Design Persistence



New



Existing



Modified



data flow

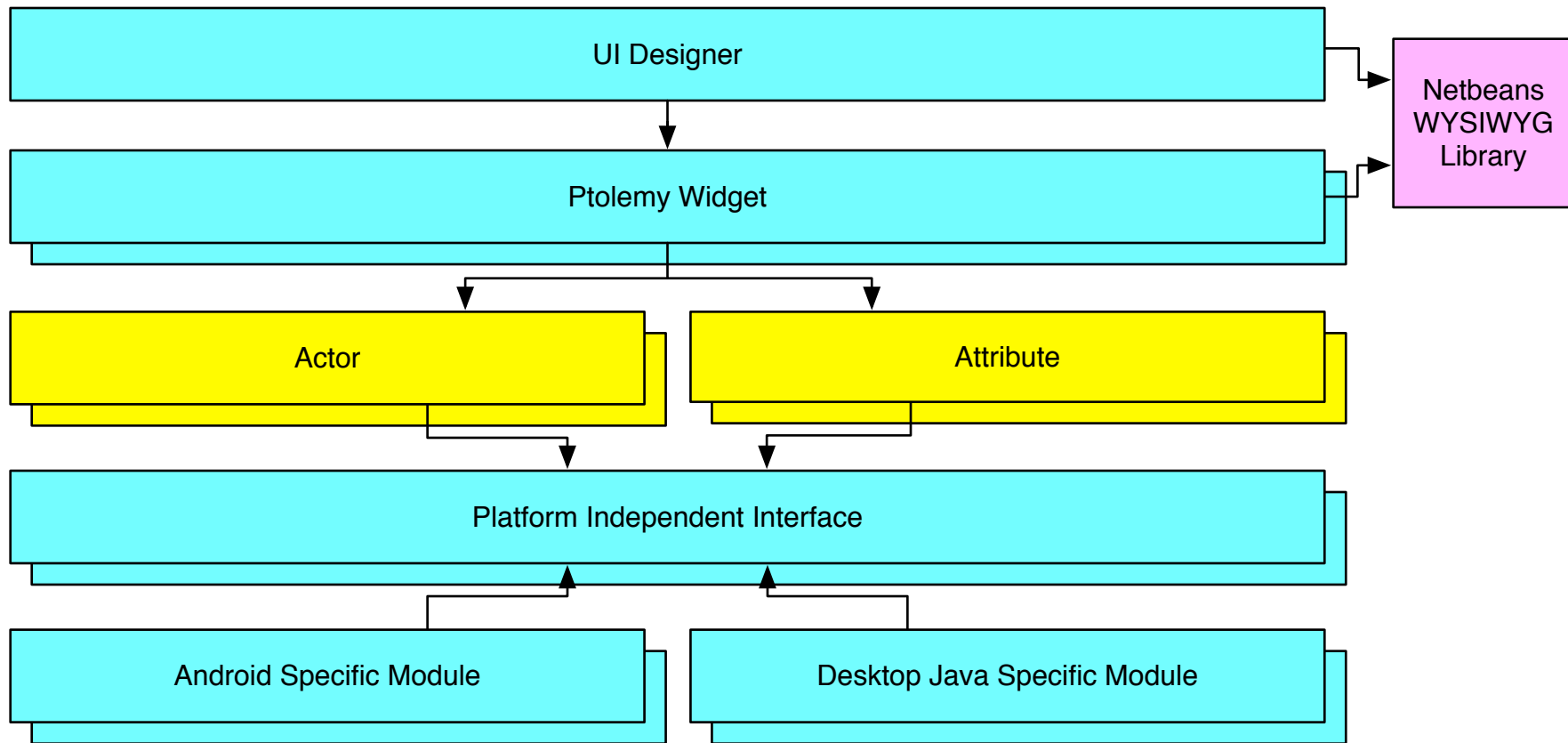


network push protocol

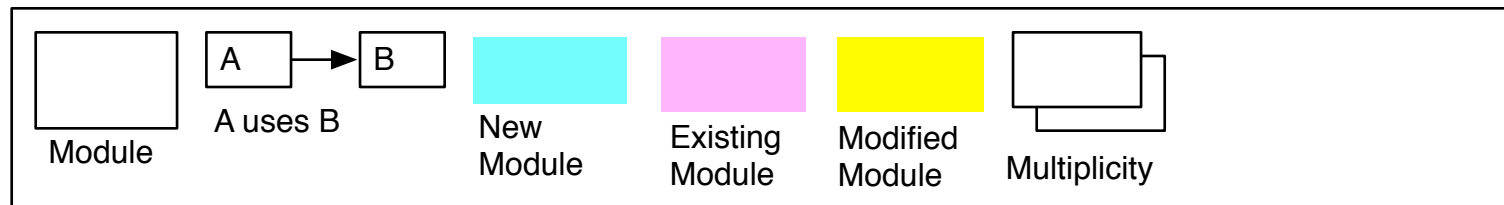


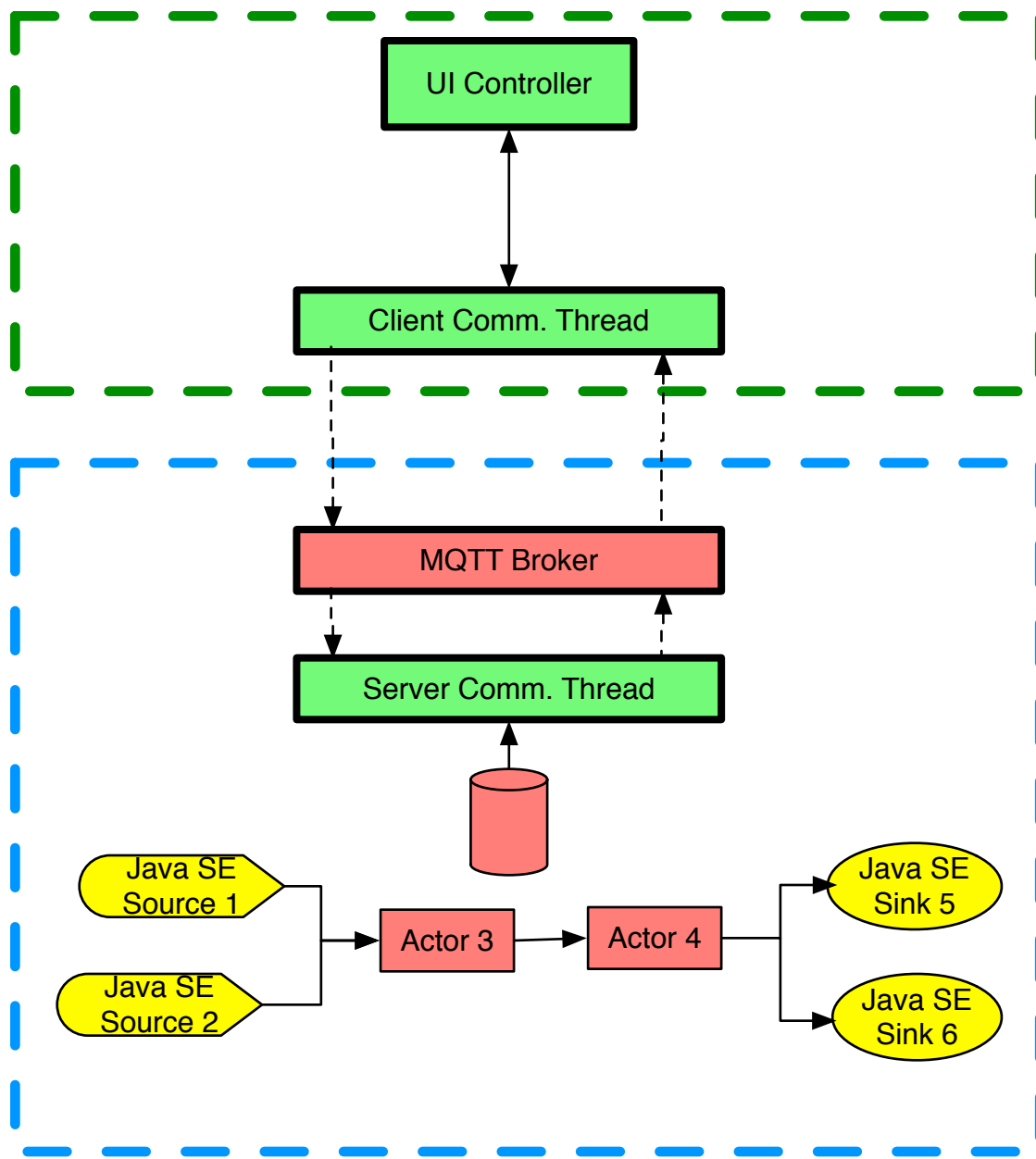
Component

Comm. = Communication



Legend





Legend



Source



Sink



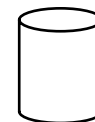
Actor/Filter



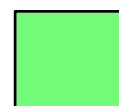
Android Client Tier



Server Tier



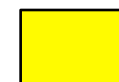
Model & UI Design Persistence



New



Existing



Modified



data flow

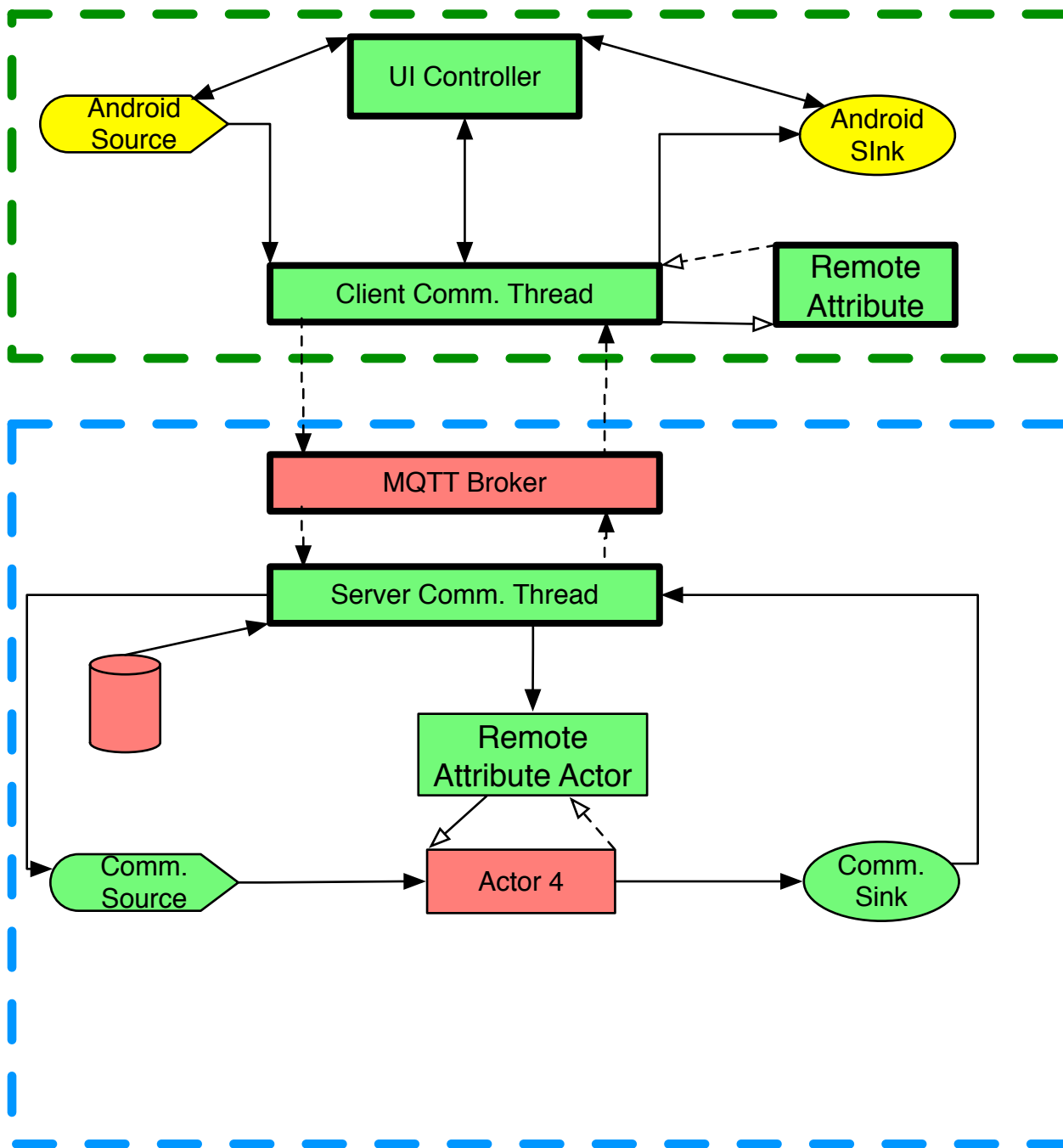


network push protocol

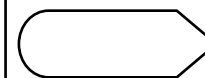


Component

Comm. = Communication



Legend



Source



Sink



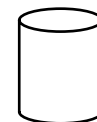
Actor/Filter



Android Client Tier



Server Tier

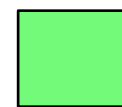


Model & UI Design Persistence

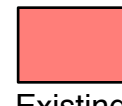


Component

Comm. = Communication



New



Existing



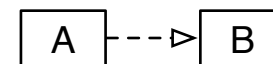
Modified



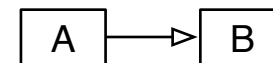
token data flow



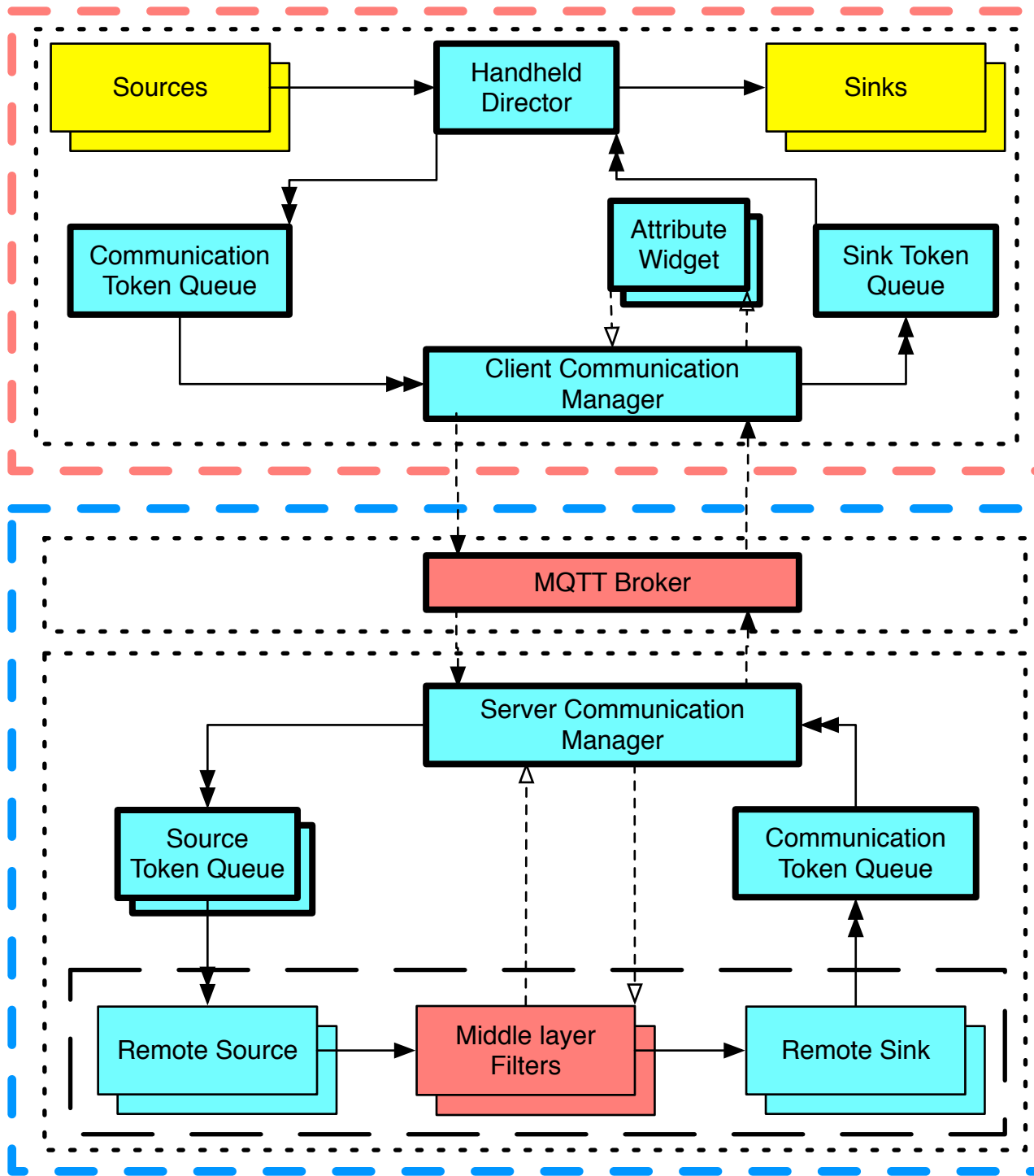
network push protocol



A sends event to B



A calls B



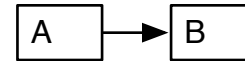
Legend



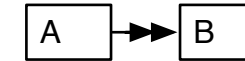
Ptolemy Filter



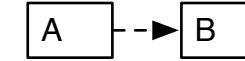
Component



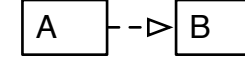
A sends a token to B using Ptolemy filter connector



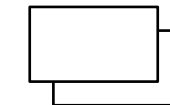
A sends a communication token to B



A sends an MQTT message to B



A sends attribute change token to B



Multiplicity



Android Handheld



Ptolemy Server



Process



Ptolemy Simulation



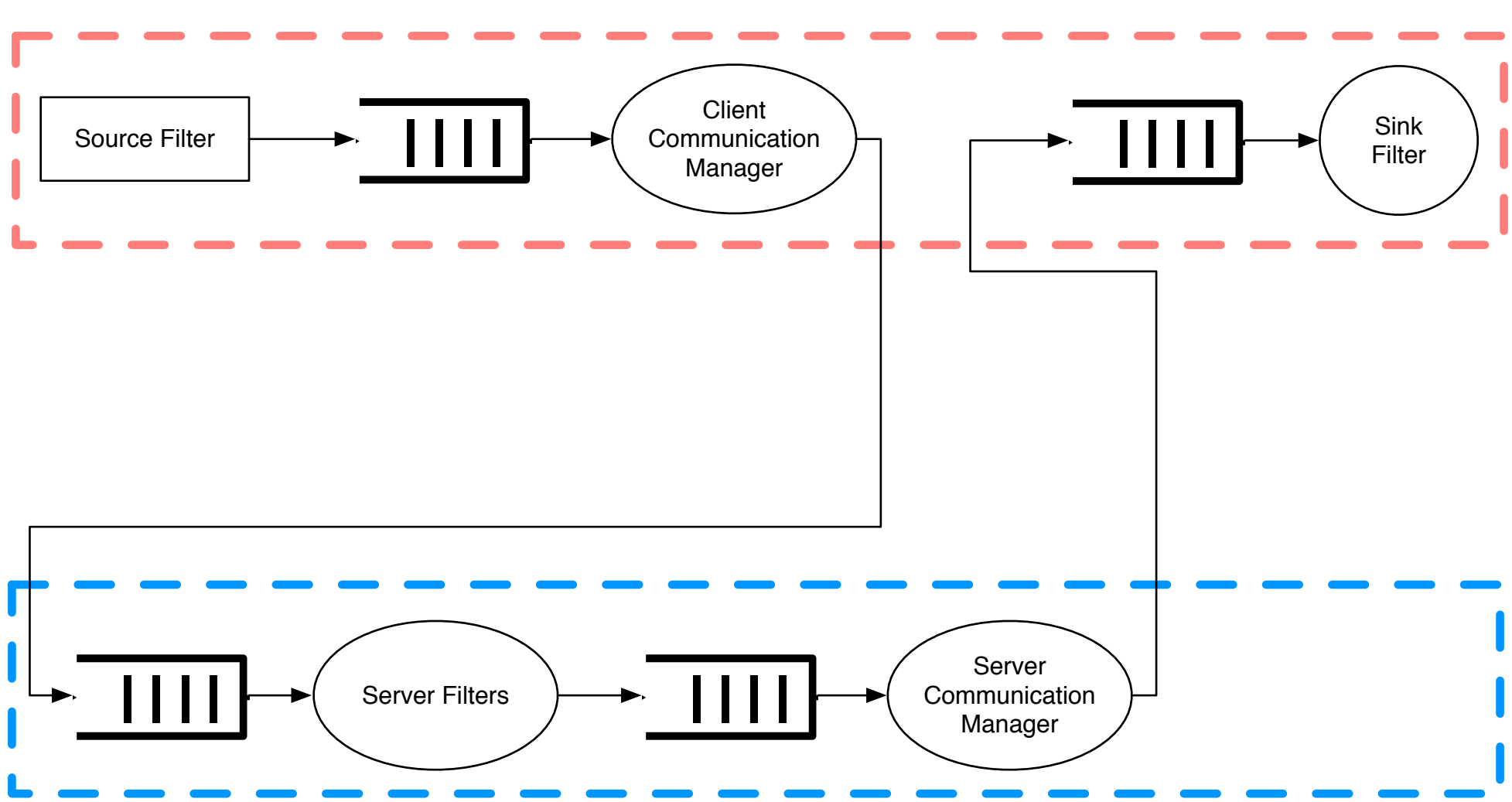
New Component



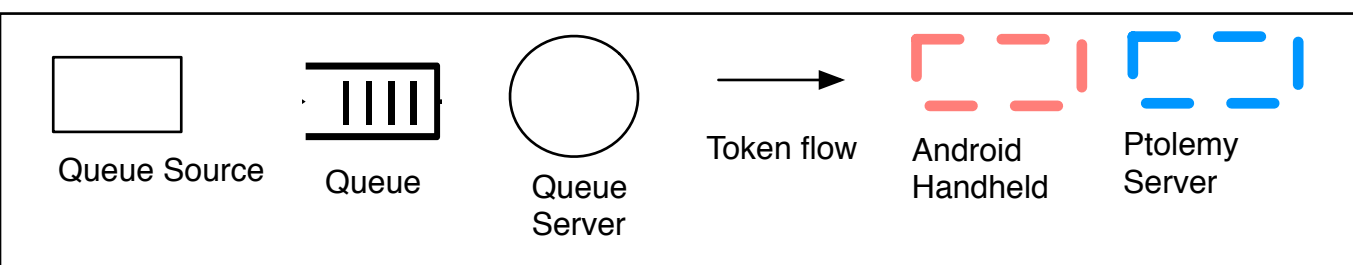
Existing Component

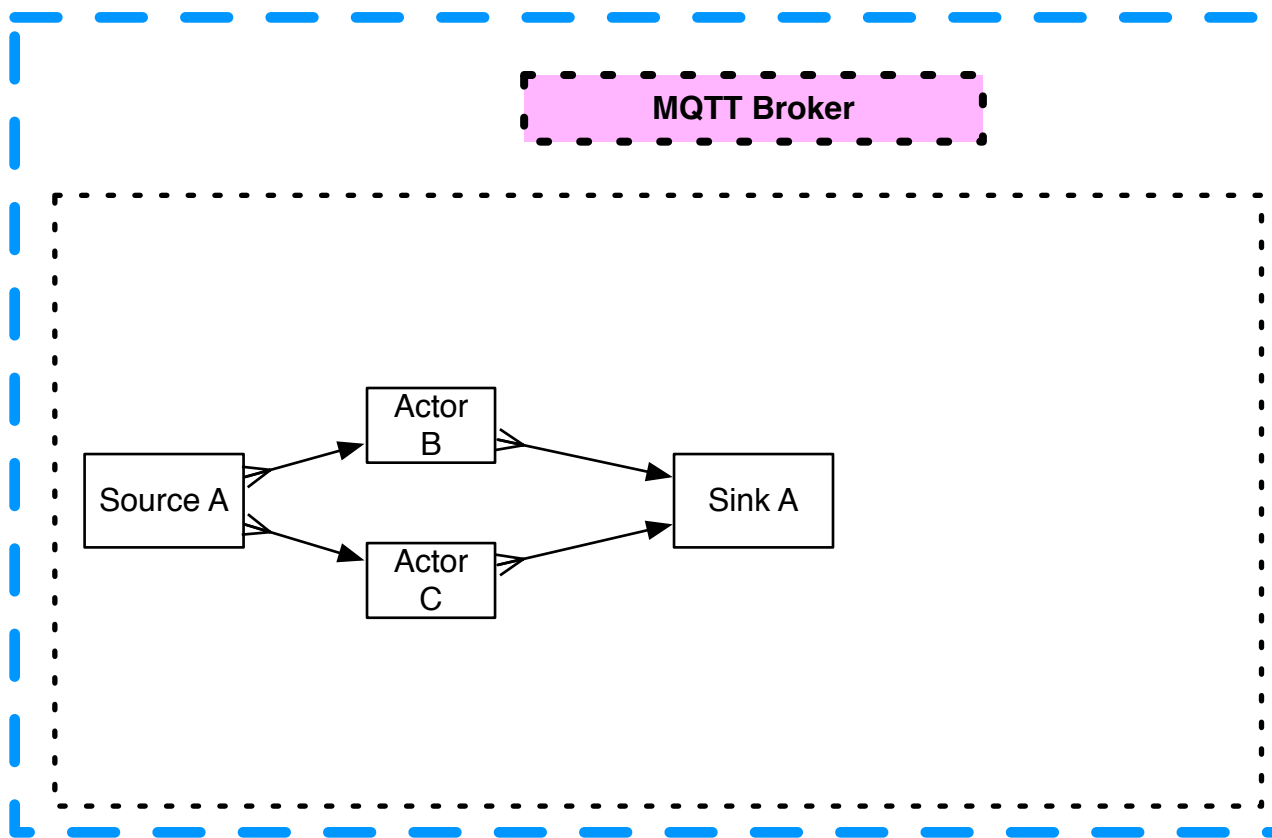
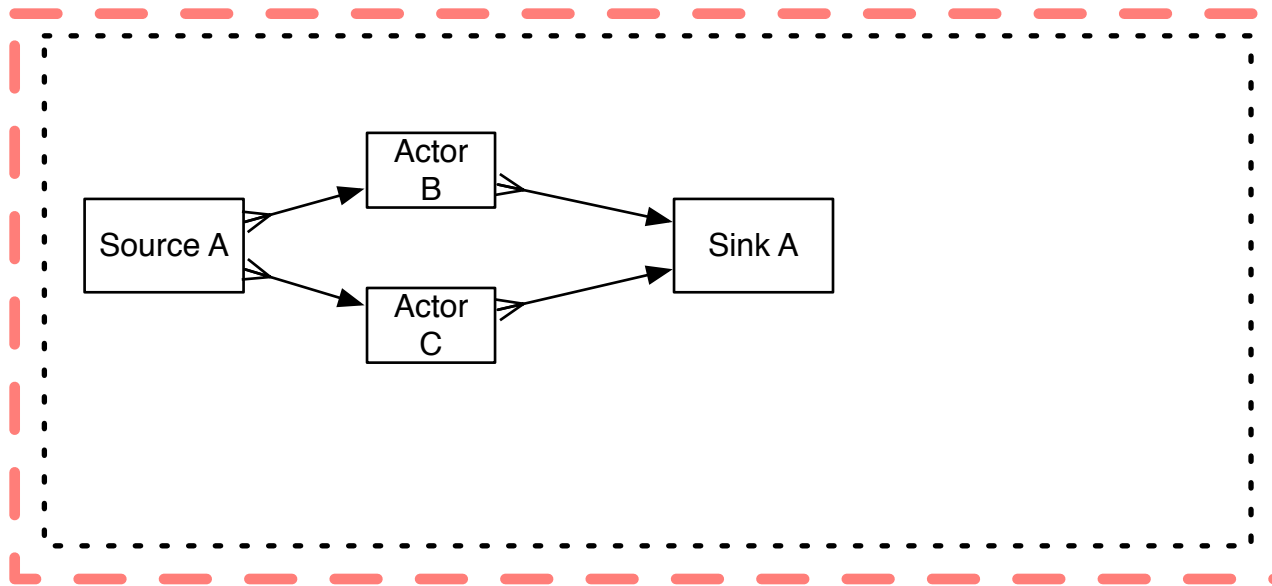


Modified Component

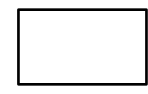


Legend





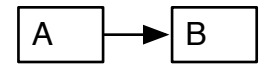
Legend



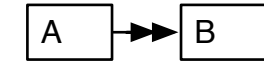
Ptolemy Actor



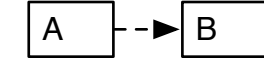
Object



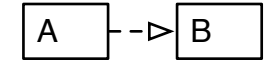
A sends a token to B using Ptolemy filter connector



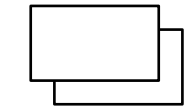
A sends a communication token to B



A sends an MQTT message to B



A sends attribute change token to B



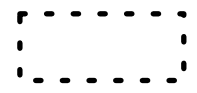
Multiplicity



Android Handheld



Ptolemy Server



Process



Ptolemy Simulation



New Component



Existing Component



Modified Component