

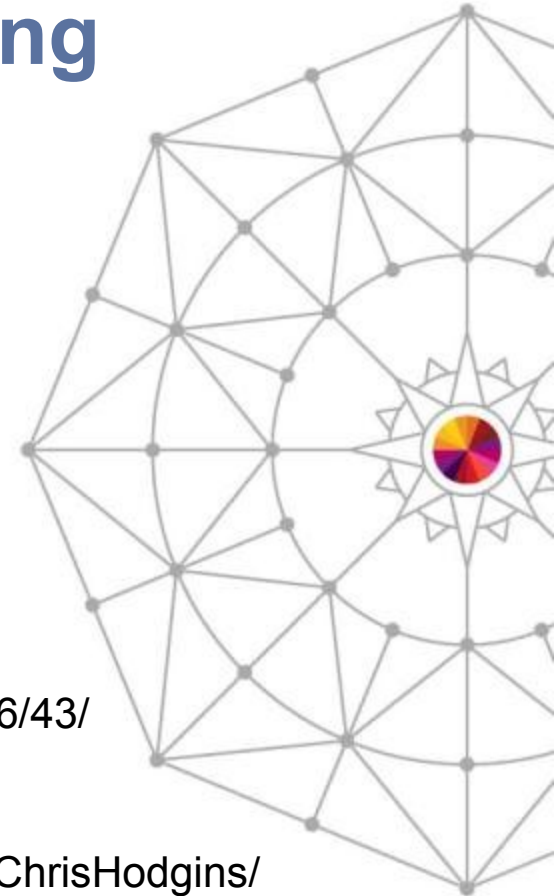
Application Multi-versioning

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Session 14912

Linkedin: <http://uk.linkedin.com/pub/chris-hodgins/1/866/43/>

CICSplex and the cloud blog:
<https://www.ibm.com/developerworks/mydeveloperworks/blogs/ChrisHodgins/>



Further sessions on Bundles and Cloud

- 15395 – Managing CICS Resources in a Unix File System
 - Monday 1:30pm Salon 2

- 14902 – Reinventing the CICS Application Lifecycle
 - Tuesday 9:30am Salon 3

- 14829 – CICS as a Platform Service Provider
 - Tuesday 11:00am Salon 3

- **14912 – Managing CICS Resources and Bundles (Application multi-versioning)**
 - Wednesday 1:30pm Salon 4

Agenda

- What is a multi-version Application?
- SPI enhancements
- What happens when an Application becomes available?
- Multi-versioning scenarios

What is a multi-version Application?

- **“You can install and manage multiple versions of an application at the same time on the same platform instance. With multi-versioning, new versions of an application can be deployed to the platform without the need to disable or remove the previous version, and made available to users without service interruption.”**

What is a private Application resource?

- **“When a resource capable of being private is defined in a CICS bundles as part of an application installed on a platform, the resources are private to that version of that application. You can therefore install more than one resource of those types with the same name, at the same time, on the same platform instance.”**
- PROGRAM, LIBRARY, POLICY resources currently supported

API/SPI Enhancements

SPI enhancements

Private resource browsing

- Extension to the SPI for PROGRAM/LIBRARIES to allow browsing of private resources
- Example: Private PROGRAM/LIBRARY browse
 - **EXEC CICS INQUIRE PROGRAM/LIBRARY
START
PLATFORM('share.example.platform')
APPLICATION('share.banking')
APPLMAJORVER(1)
APPLMINORVER(0)
APPLMICROVER(0)**

SPI enhancements

Private resource browsing

- By default the **EXEC CICS INQUIRE** SPI will
 - If issued from a public program
 - Returns public resources only
 - If issued from a private program
 - Returns private and public resources

API enhancements

Invoking specific Application versions

- New **EXEC CICS INVOKE APPLICATION** API command to route to specific Application version
- Or EXEC CICS LINK to the entry point program
 - Will always pick the highest version available

API enhancements

Invoking specific Application versions

- Example: Invoking the highest version of an Application
- **EXEC CICS INVOKE APPLICATION**
PLATFORM('share.example.platform')
APPLICATION('share.banking')
OPERATION(inquireAccountDetails)
COMMAREA(<data_area>)
LENGTH(<commarea_length>)

API enhancements

Invoking specific Application versions

- Example: Invoking a specific version of an Application
- **EXEC CICS INVOKE APPLICATION**
PLATFORM('share.example.platform')
APPLICATION('share.banking')
APPLMAJORVER(1)
APPLMINORVER(0)
EXACTMATCH
OPERATION(inquireAccountDetails)
CHANNEL('ACCOUNT')

API enhancements

Invoking specific Application versions

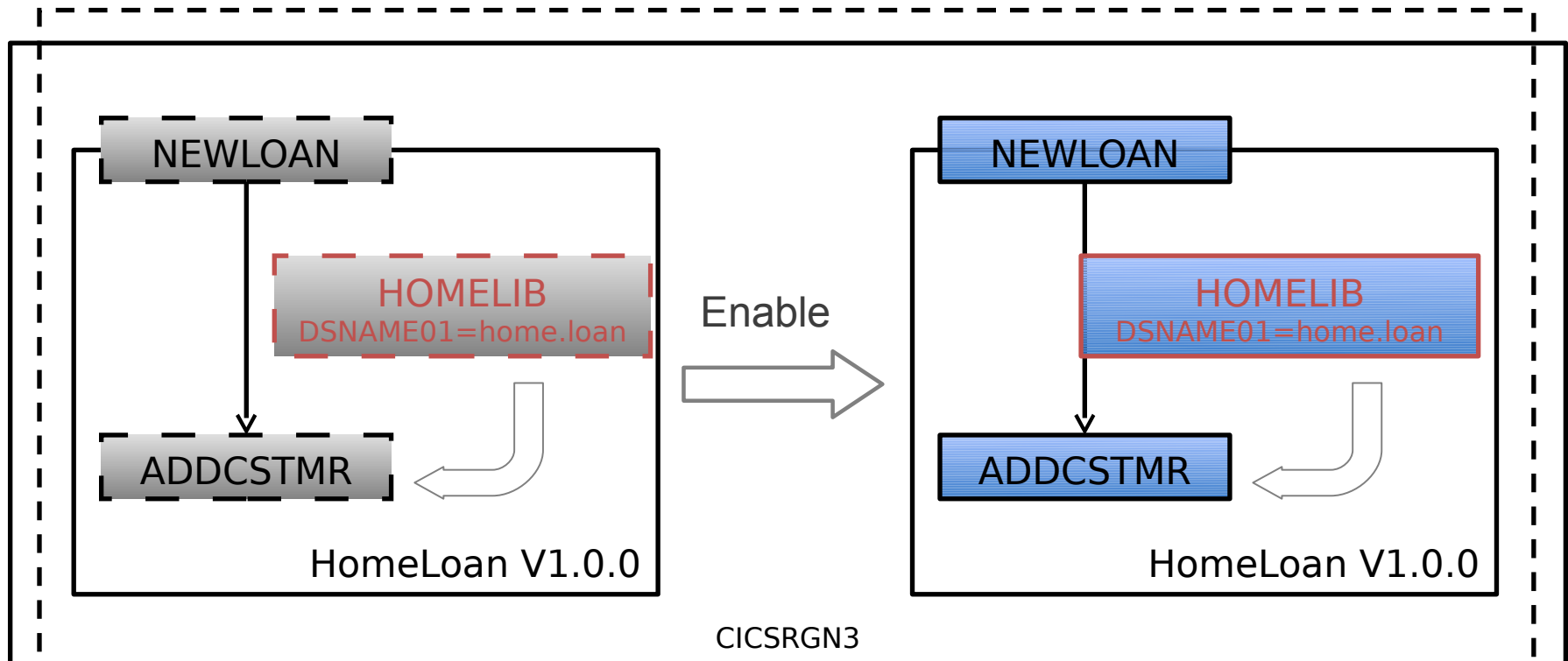
- Example: Invoking the highest version of an Application with a minimum minor version capability defined
- **EXEC CICS INVOKE APPLICATION**
PLATFORM('share.example.platform')
APPLICATION('share.banking')
APPLMAJORVER(1)
APPLMINORVER(2)
MINIMUM
OPERATION(inquireAccountDetails)
CHANNEL('ACCOUNT')

What happens when an Application becomes available?

Applications with Program Entry Points

The CICS TS V5.1 story

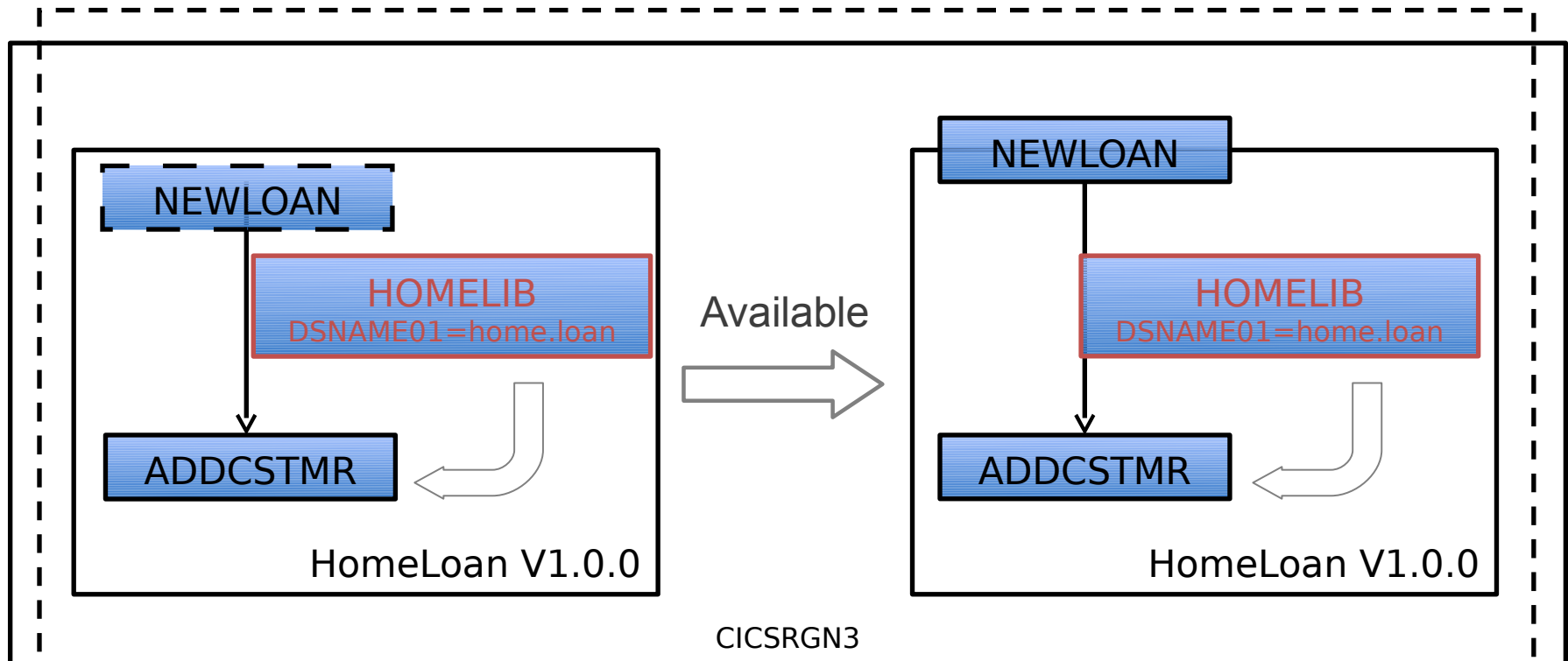
Enable the HomeLoan application to bring the Application into service



Applications with Program Entry Points

The CICS TS V5.2 open beta story

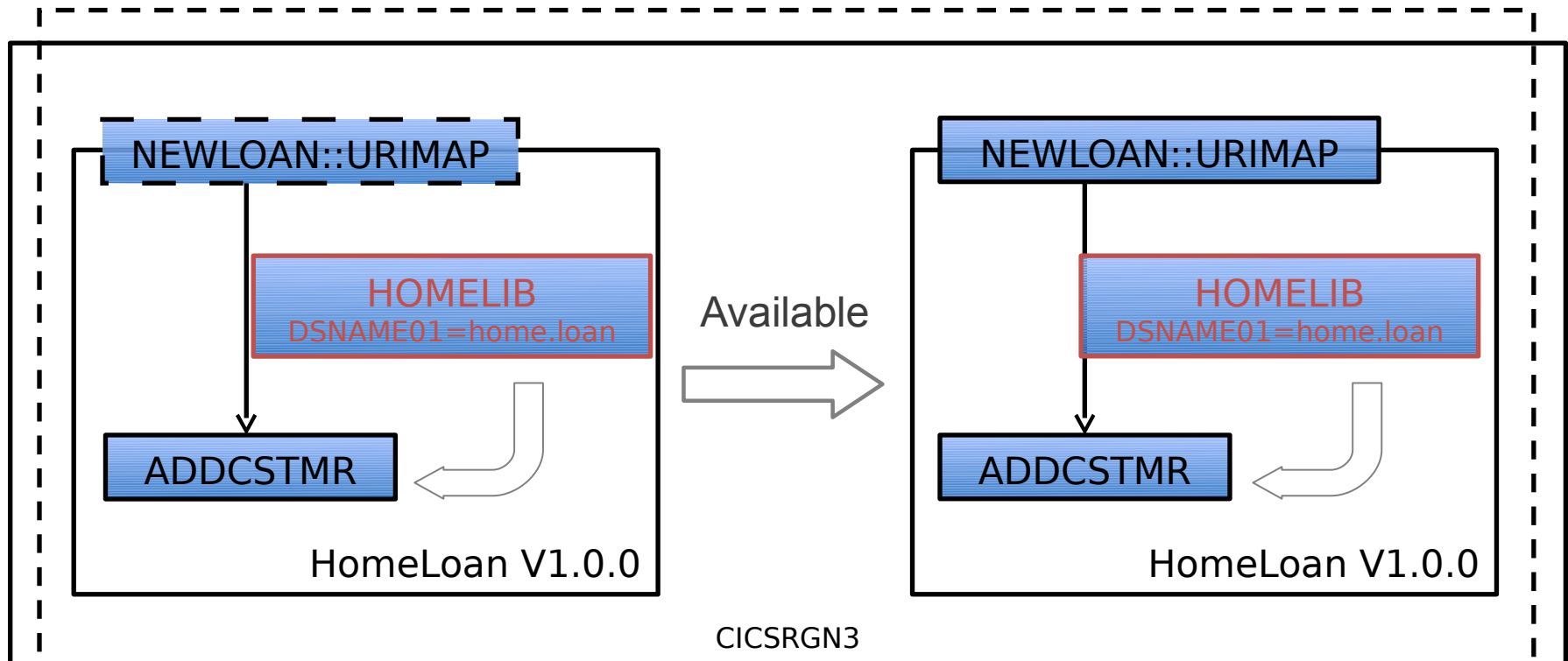
Make the HomeLoan application available to bring the Application entry point into service



Applications with URIMAP Entry Points

The CICS TS V5.2 open beta story

Make the HomeLoan application available to bring the Application entry point into service



Multi-versioning scenarios

Scenarios

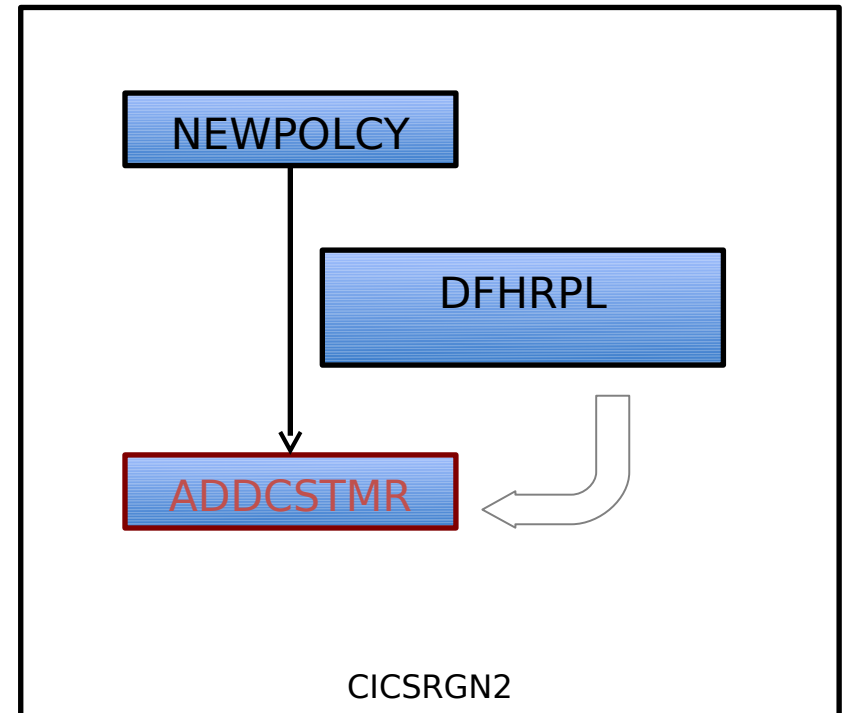
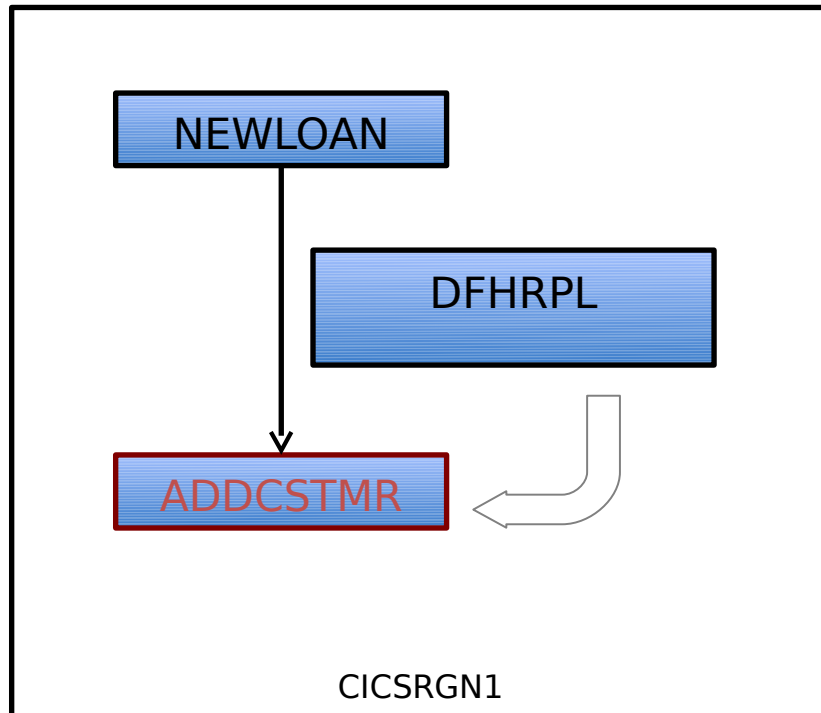
- Server consolidation
- Service version selection
 - Consumer selection
 - Developer selection
 - Service provider selection
- Application integrity

Server consolidation

Server consolidation

The CICS TS V5.1 story

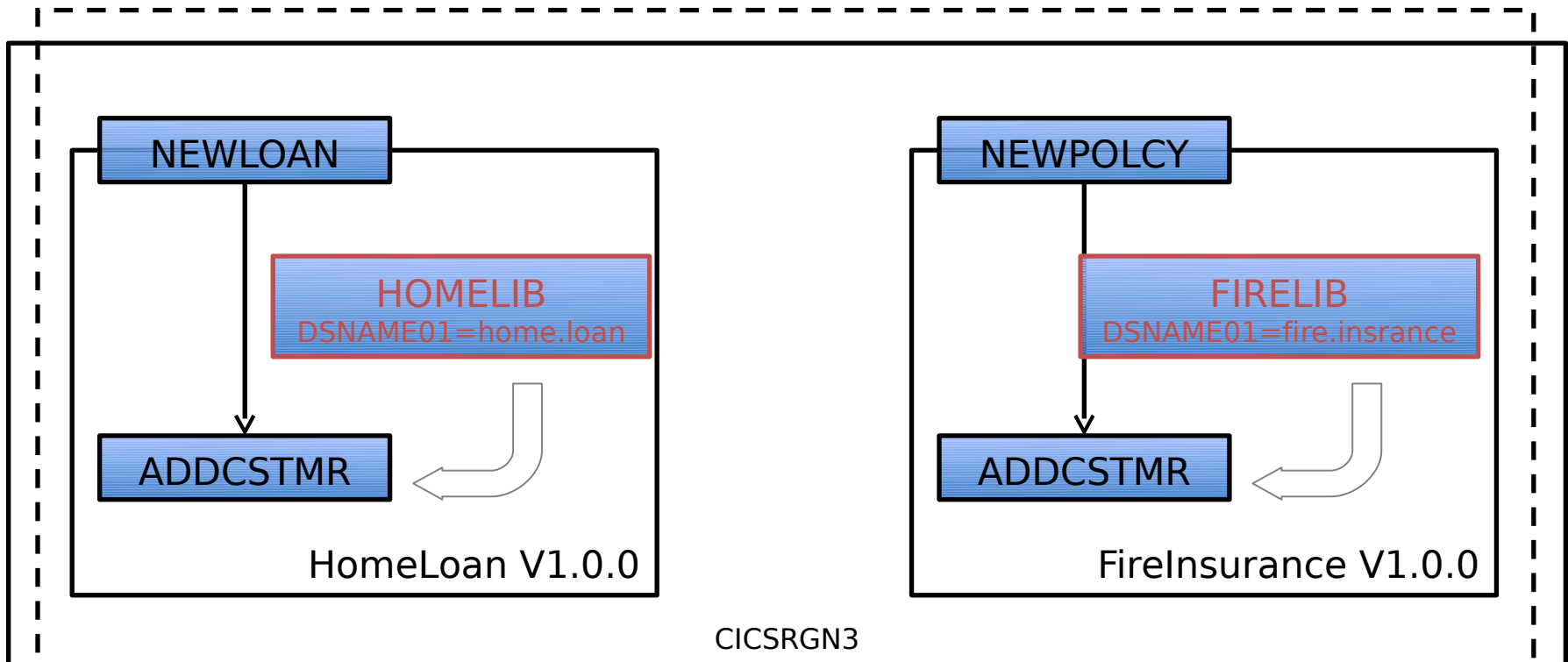
Different implementations of ADDCSTMR must be installed into separate Regions



Server consolidation

The CICS TS V5.2 open beta story

HomeLoan and FireInsurance both with ADDCSTMR installed into the same Region

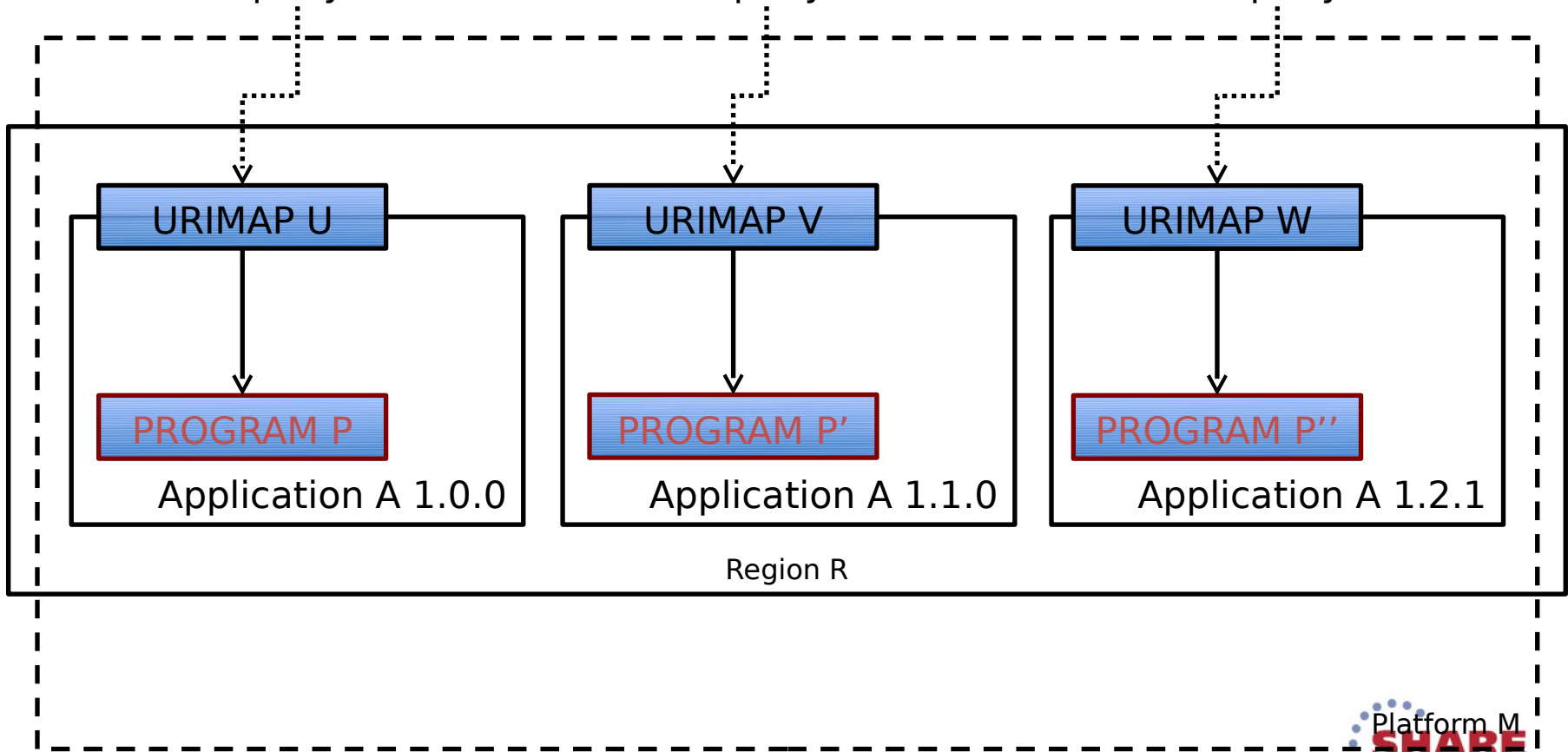


Service version selection

Consumer selection

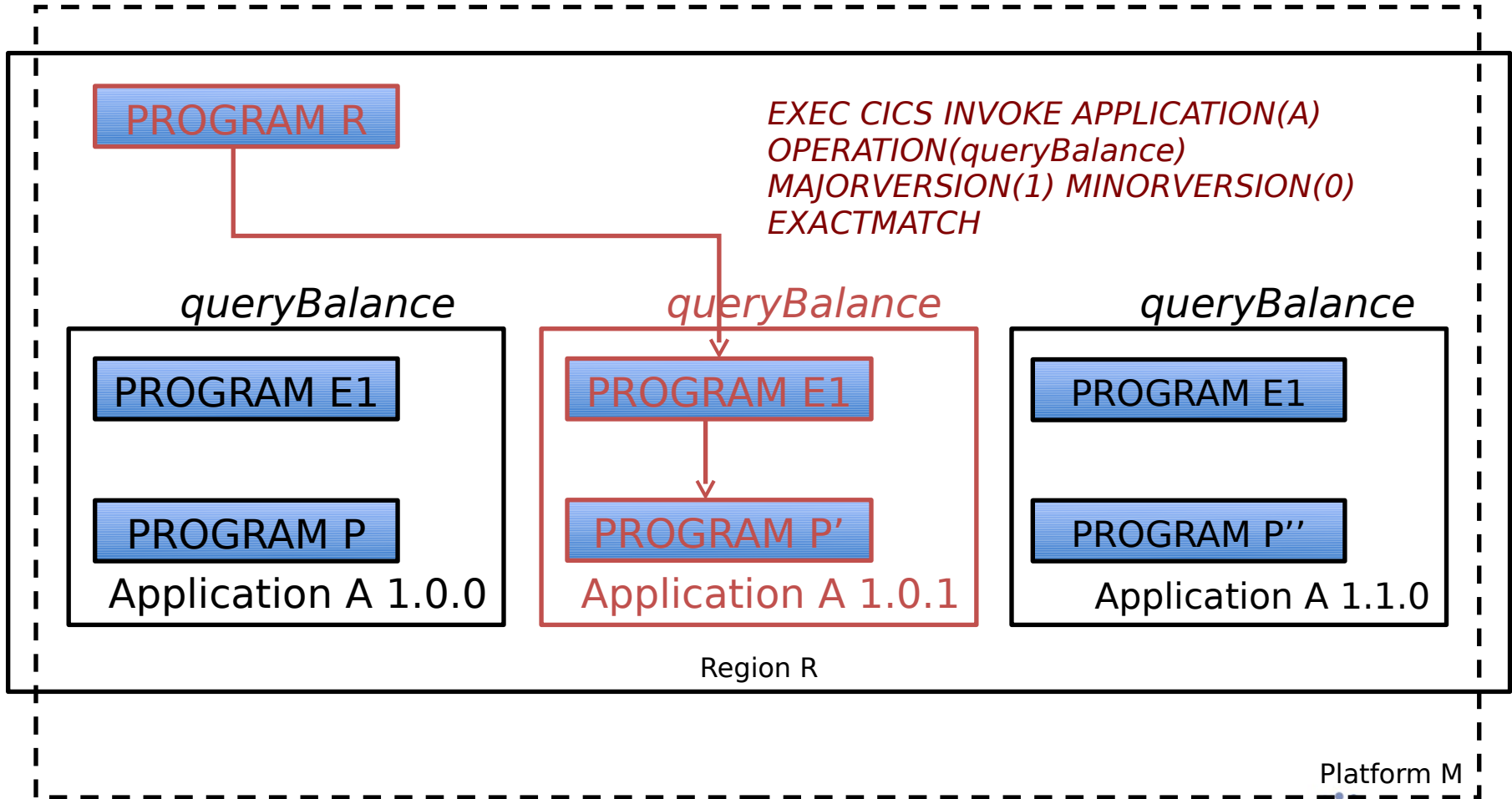
URL should not contain the micro version

“/M/A/1/0/queryBalance” “/M/A/1/1/queryBalance” “/M/A/1/2/queryBalance”



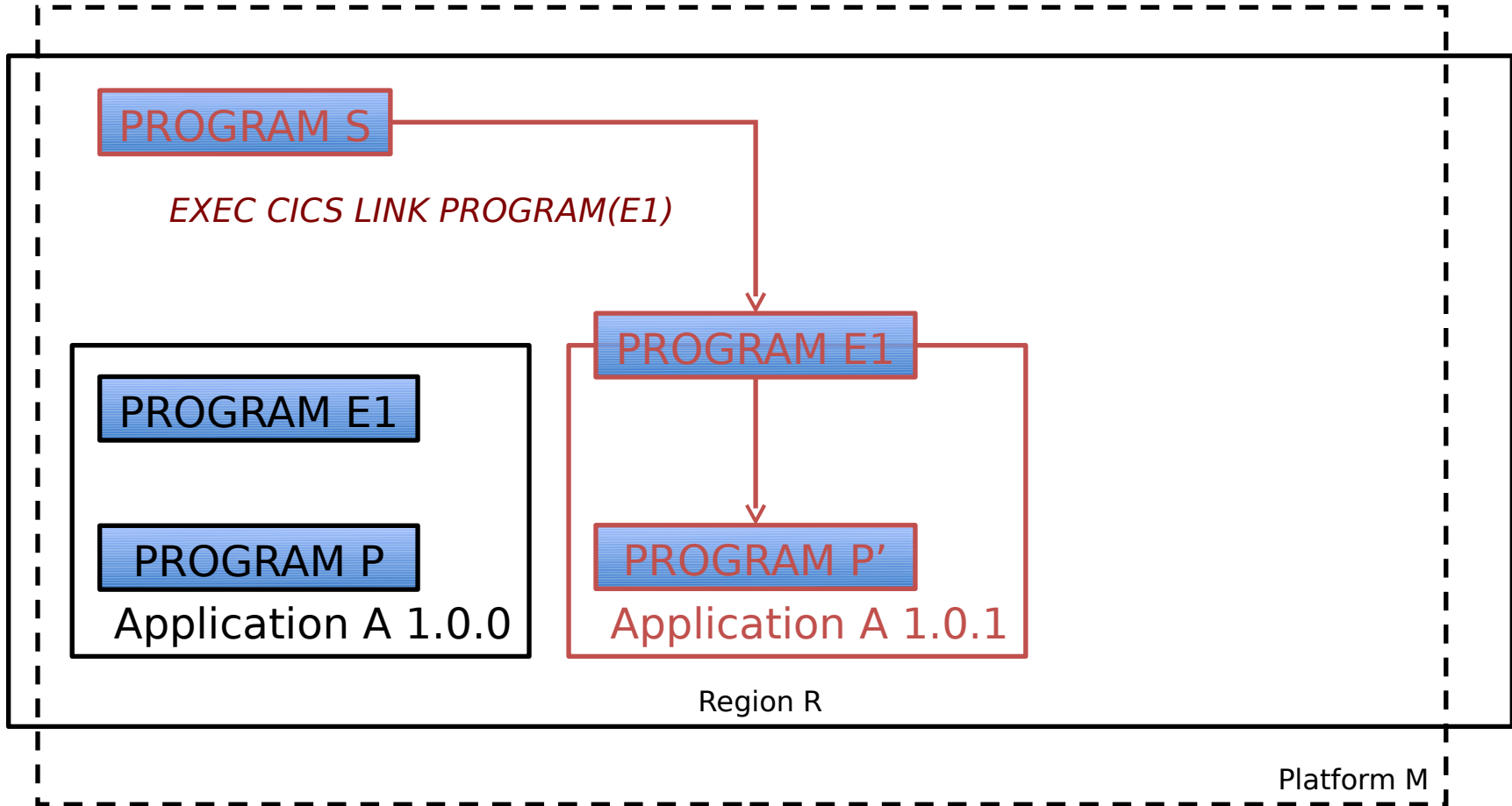
Developer selection

Version 1.0.1 “hides” lower micro version 1.0.0



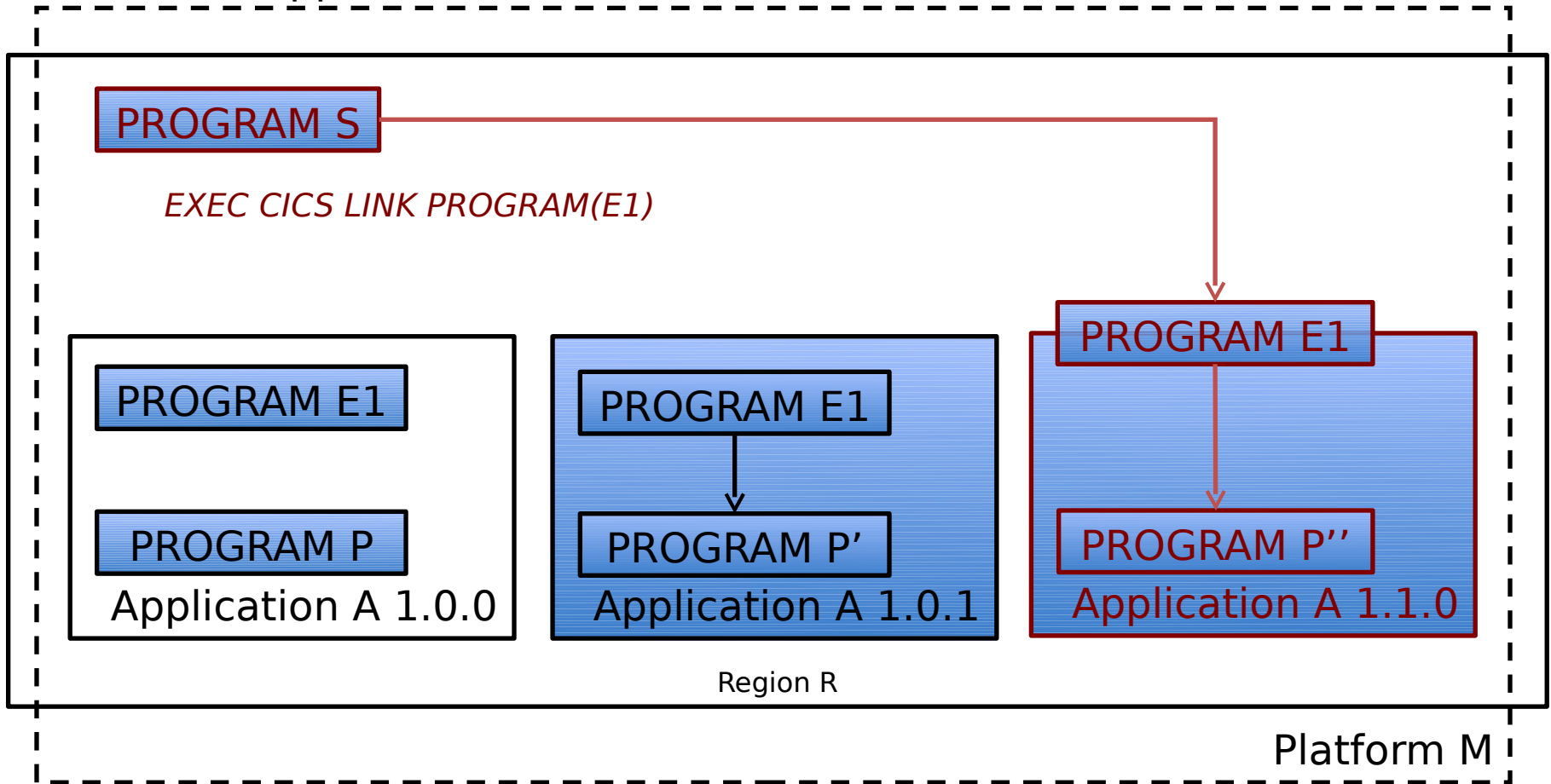
Service provider selection

Version 1.0.1 “hides” lower micro version 1.0.0



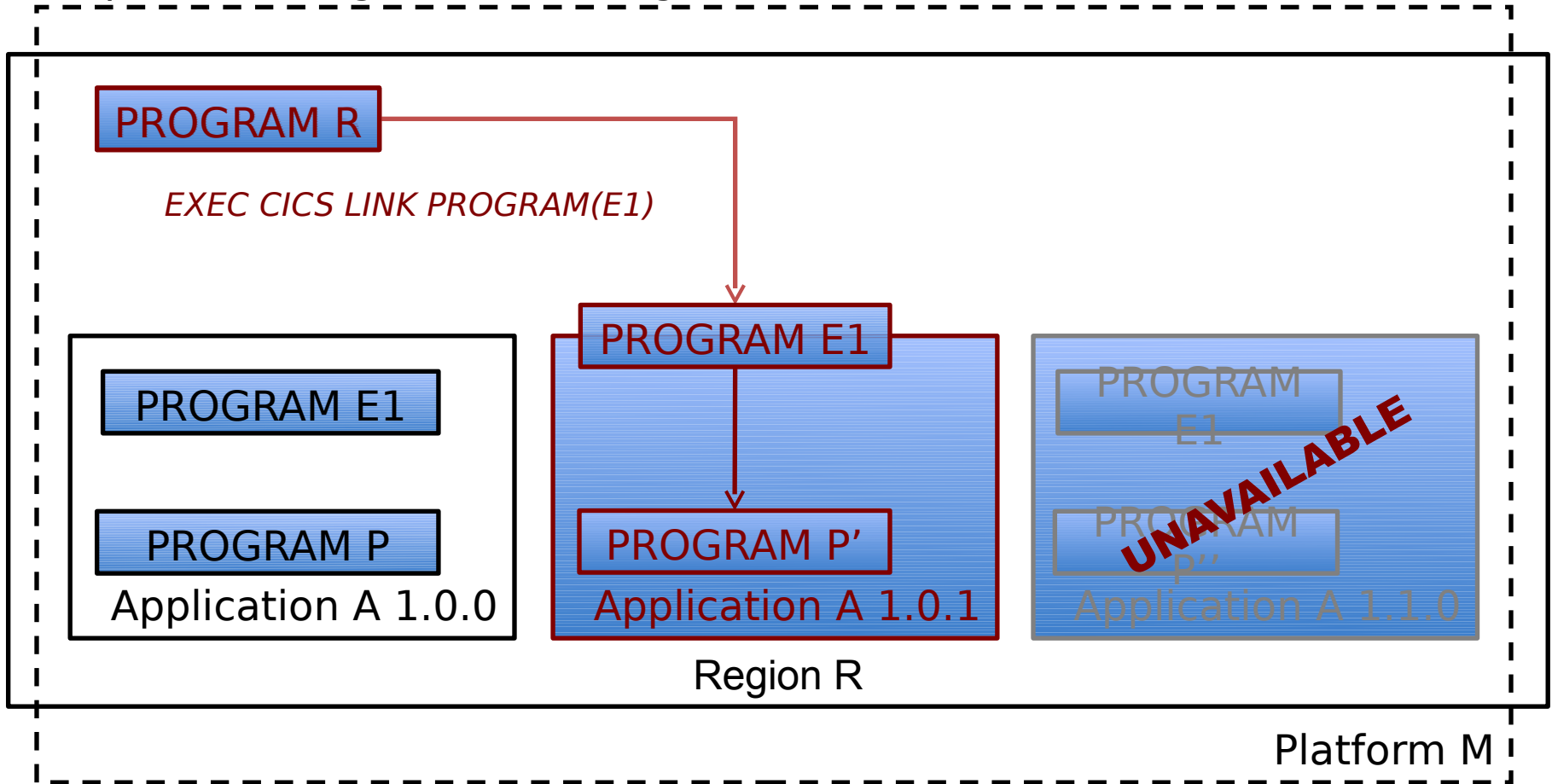
Service provider selection

LINK targets PROGRAM entry point in highest AVAILABLE version of application A



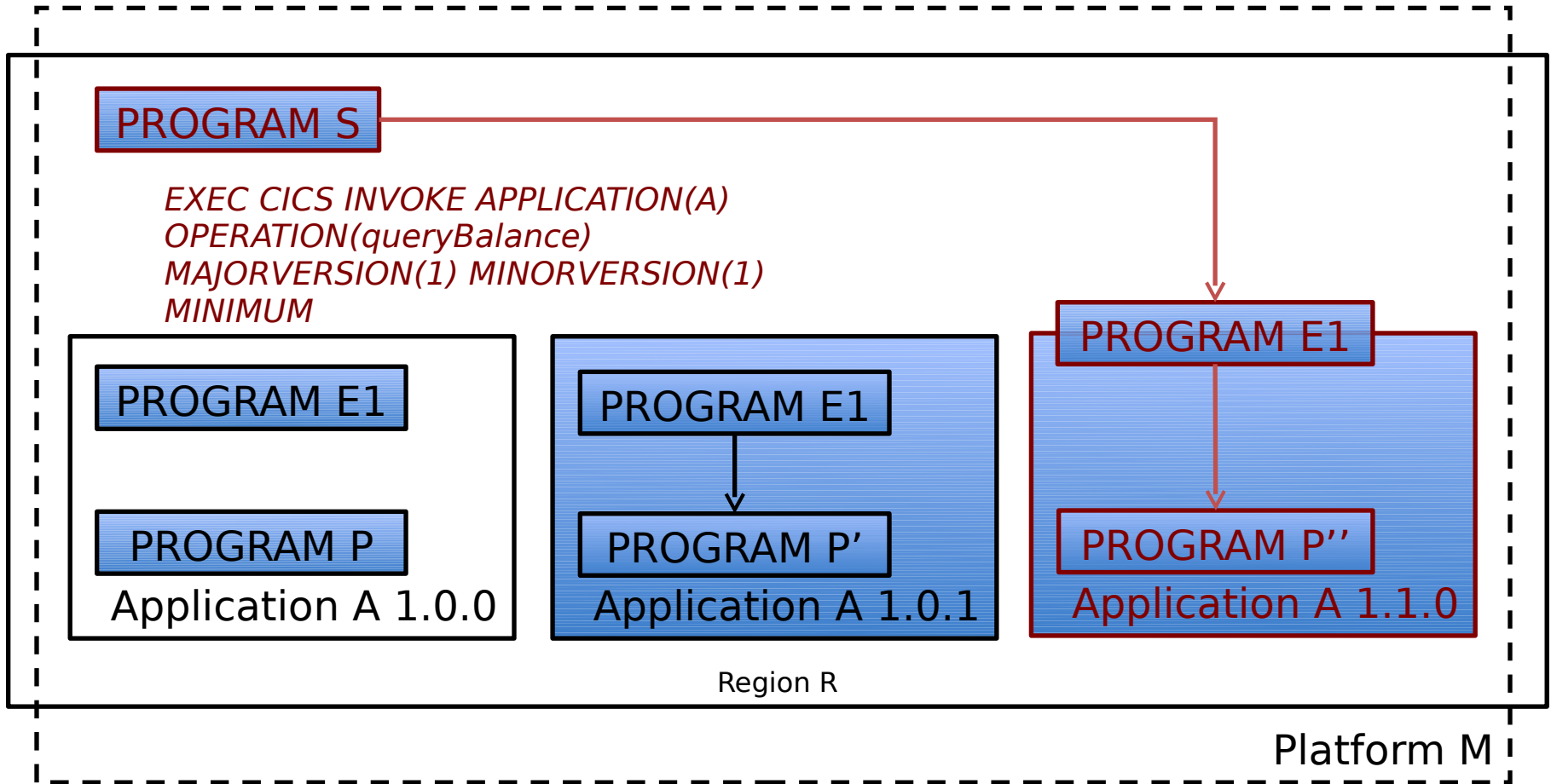
Service provider selection

Making the highest version UNAVAILABLE causes new requests to target the next highest AVAILABLE version



Service provider selection

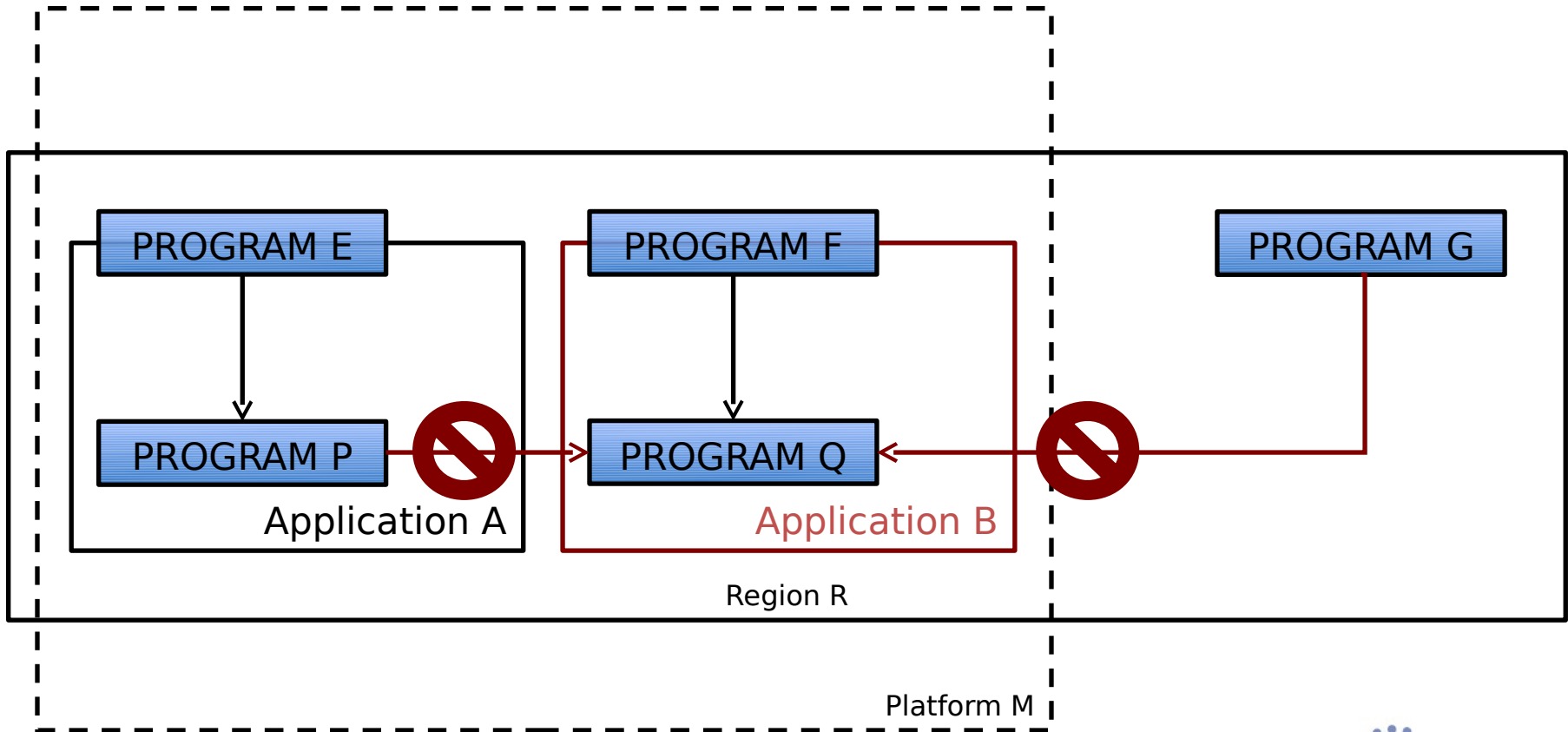
Using INVOKE APPLICATION allows you to be more precise yet flexible with dependencies



Application Integrity

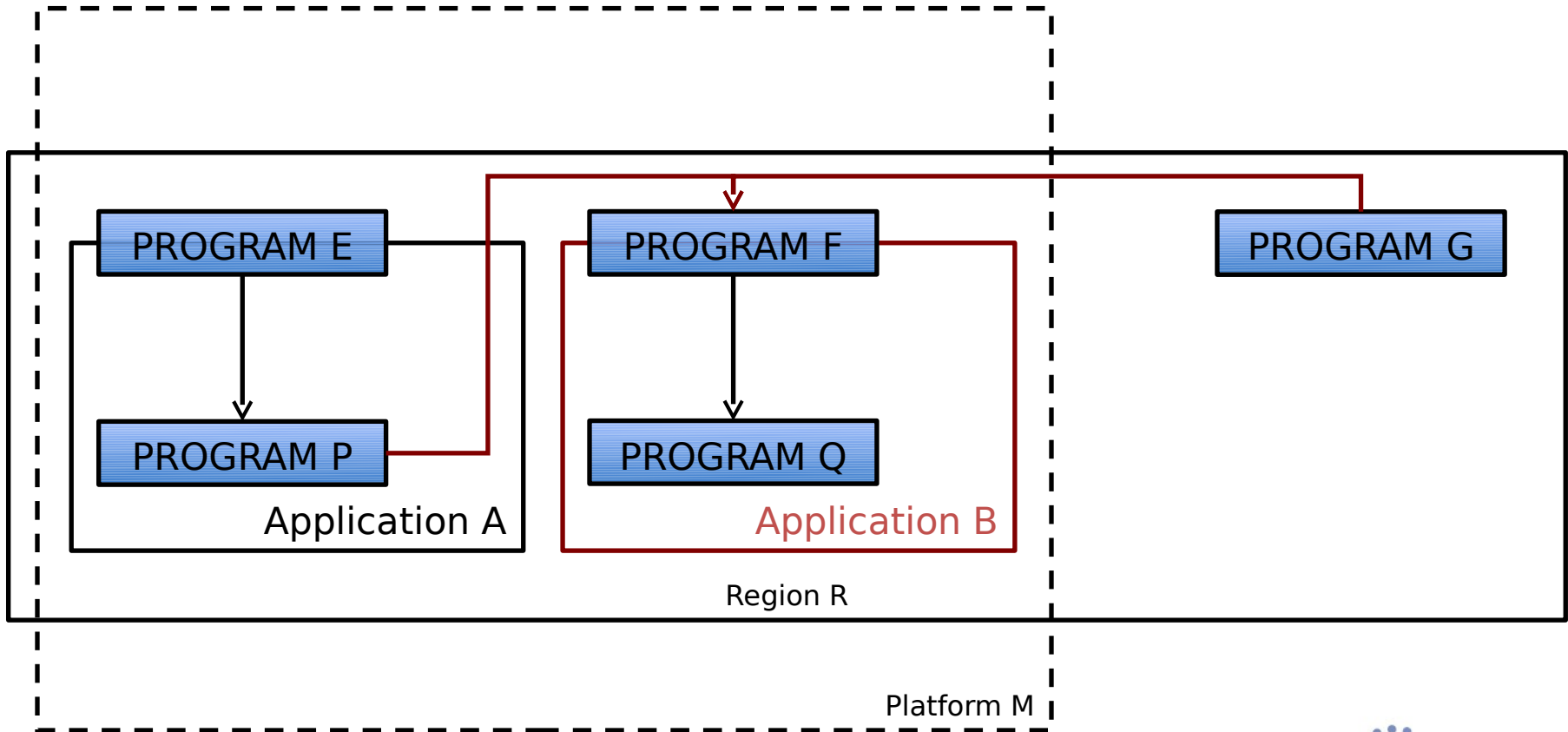
Program Q is private to application B

Can't LINK program Q



Program Q is private to application B

Must LINK entry point program F



Further information

- CICS TS V5.2 Open Beta Knowledge center
http://www.ibm.com/support/knowledgecenter/SSGMCP_5.2.0_beta/welcome.html
- CICSdev blog
<https://www.ibm.com/developerworks/mydeveloperworks/blogs/cicsdev/tags/blog>
- CICSplex and the cloud blog
<https://www.ibm.com/developerworks/mydeveloperworks/blogs/ChrisHodgins/>