What's Next?
z/TPF Automated Test Infrastructure

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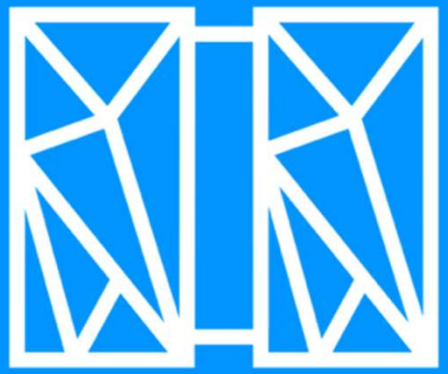
z/TPF Development



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Background

- **2018 - The z/TPF automated test framework was delivered.**
  - Provides a set of APIs to create z/TPF automated tests.
  - Ability to integrate into automated test platforms.
    - z/TPF REST APIs and a z/TPF jUnit Plugin

Problem

- Some application code cannot be tested with the z/TPF automated test framework
  - Applications require access to remote systems
    - Not all test systems have access to the remote systems.
    - Testers cannot control what is being returned by remote systems
  - For repeatability, local functions can cause problems (For example, controlling time of day)
  - Procedural application code that does not adhere to the call-return model

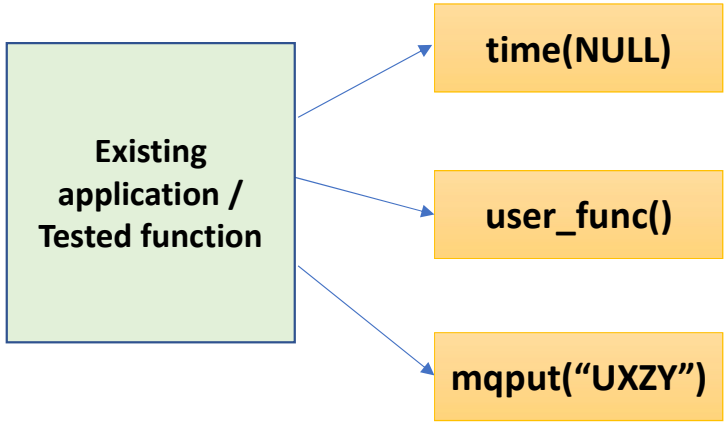
Users

Zach is an
application programmer

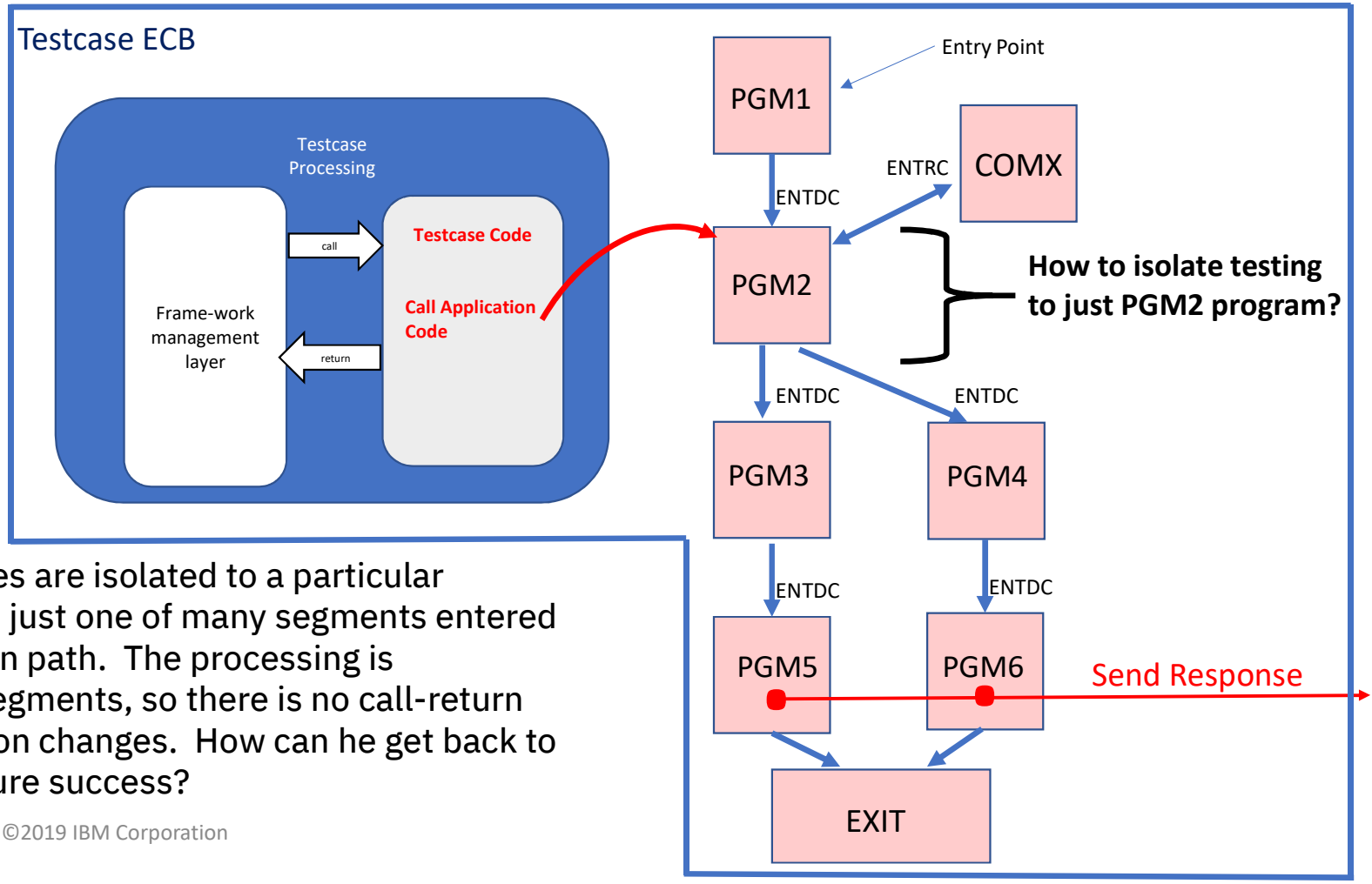
"A majority of my development time is spent testing new function."

As-Is Scenario : System / User Functions

Zach wants to use the z/TPF automated test infrastructure to build repeatable tests, but he quickly realizes to fully test his changes, he needs to control what is being returned from system or user services called by the application.



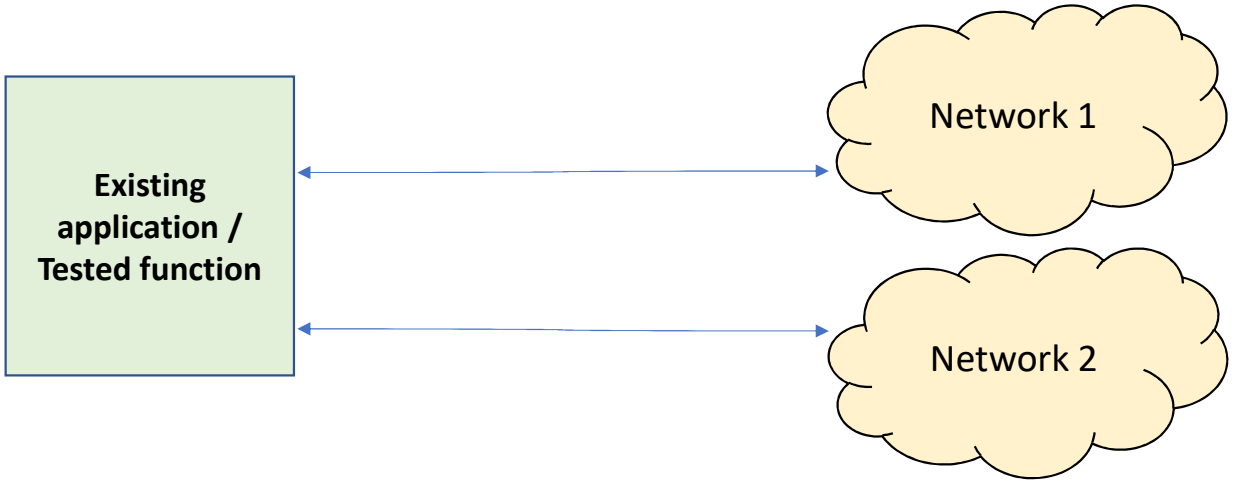
As-Is Scenario : Call-Return Model



Zach's application changes are isolated to a particular segment. The segment is just one of many segments entered throughout the application path. The processing is procedural through the segments, so there is no call-return model for these application changes. How can he get back to the test case logic to ensure success?

As-Is Scenario : Remote System Calls

Zach realizes the application code he updated has remote calls to business partners and depending on the data returned from the remote partner different paths through the application code are taken. Zach needs to control responses from remote partners, but the remote systems he is communicating with are not owned by his company.



Pain Points

- Tests of application code dependent on access to external systems
  - Even if you have access, cannot control the responses returned by those systems
- Tests of application code dependent on specific output from z/TPF system or user functions
  - Cannot control the responses returned by those functions (ie. tpf_STCK())
- Cannot easily test z/TPF application code that does not follow the call-return model.

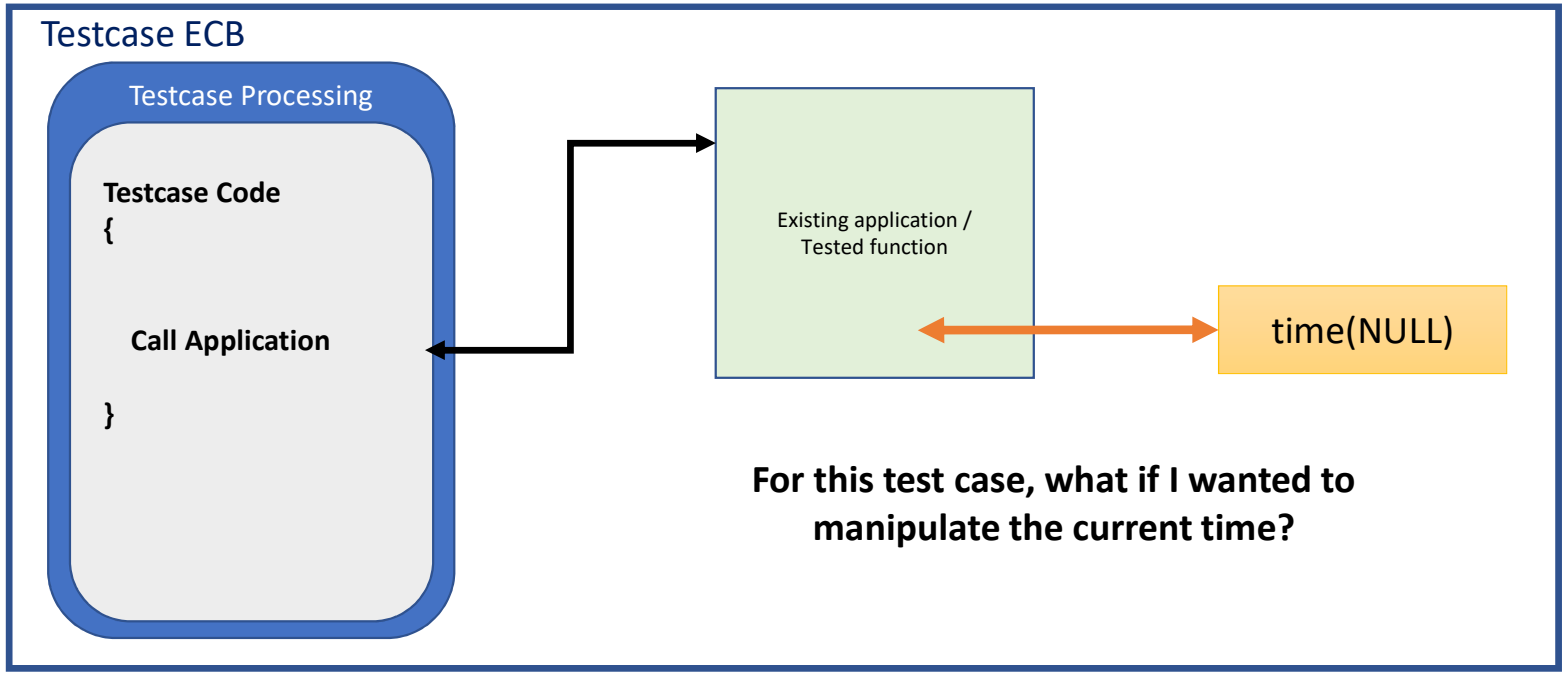
*** These pain points prevent usage of the z/TPF test framework for some z/TPF applications increasing the time needed to test.**

Our Vision – Overriding Functions

- Looking to incorporate a function override facility within the z/TPF automated test framework.

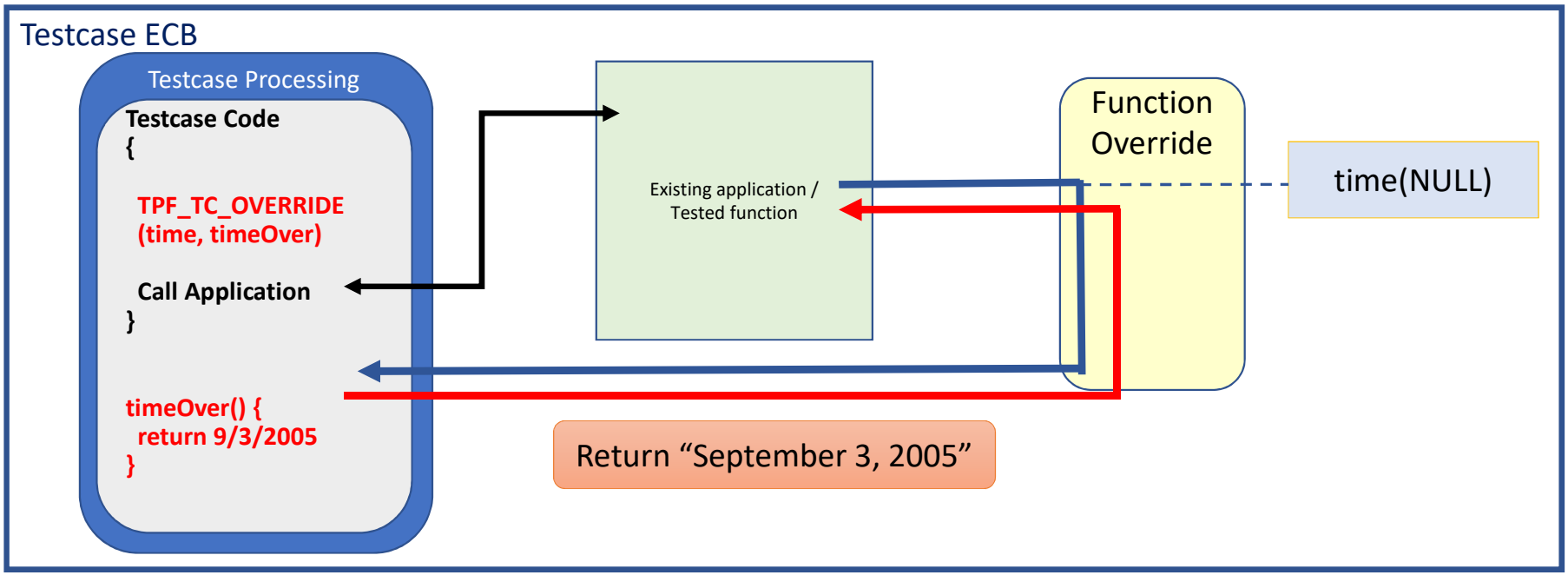
- The ability to override z/TPF application function calls from within a test case allows for testing complex application code using the z/TPF automated test framework.

As-Is Scenario : Calling User/System Functions



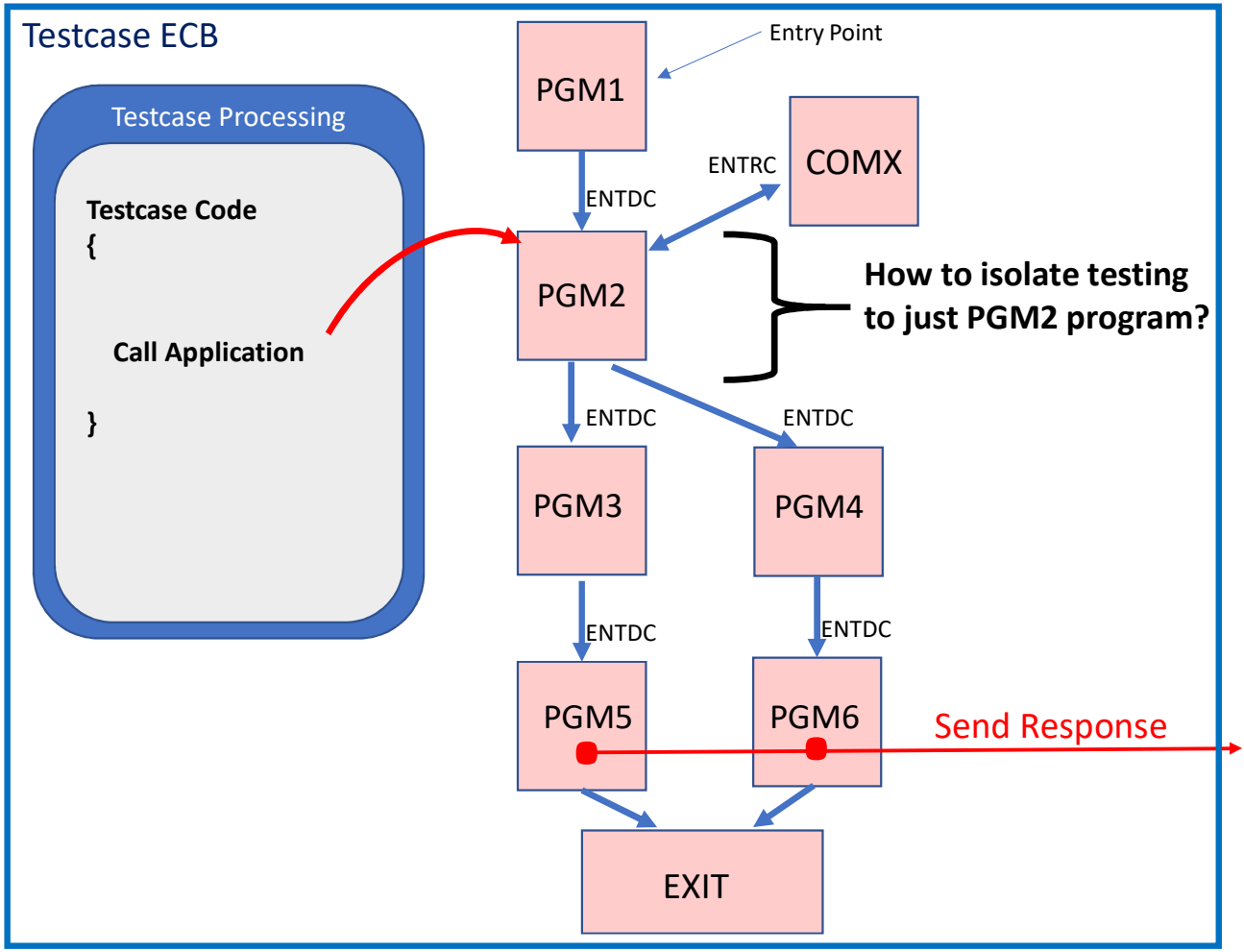
To-Be Scenario : Overriding Functions

Ability to override a user/system function with one defined in the test case logic. By coding override functions in the test case allows calls to the “time” function to be redirected to the testcase function called – “timeOver”.



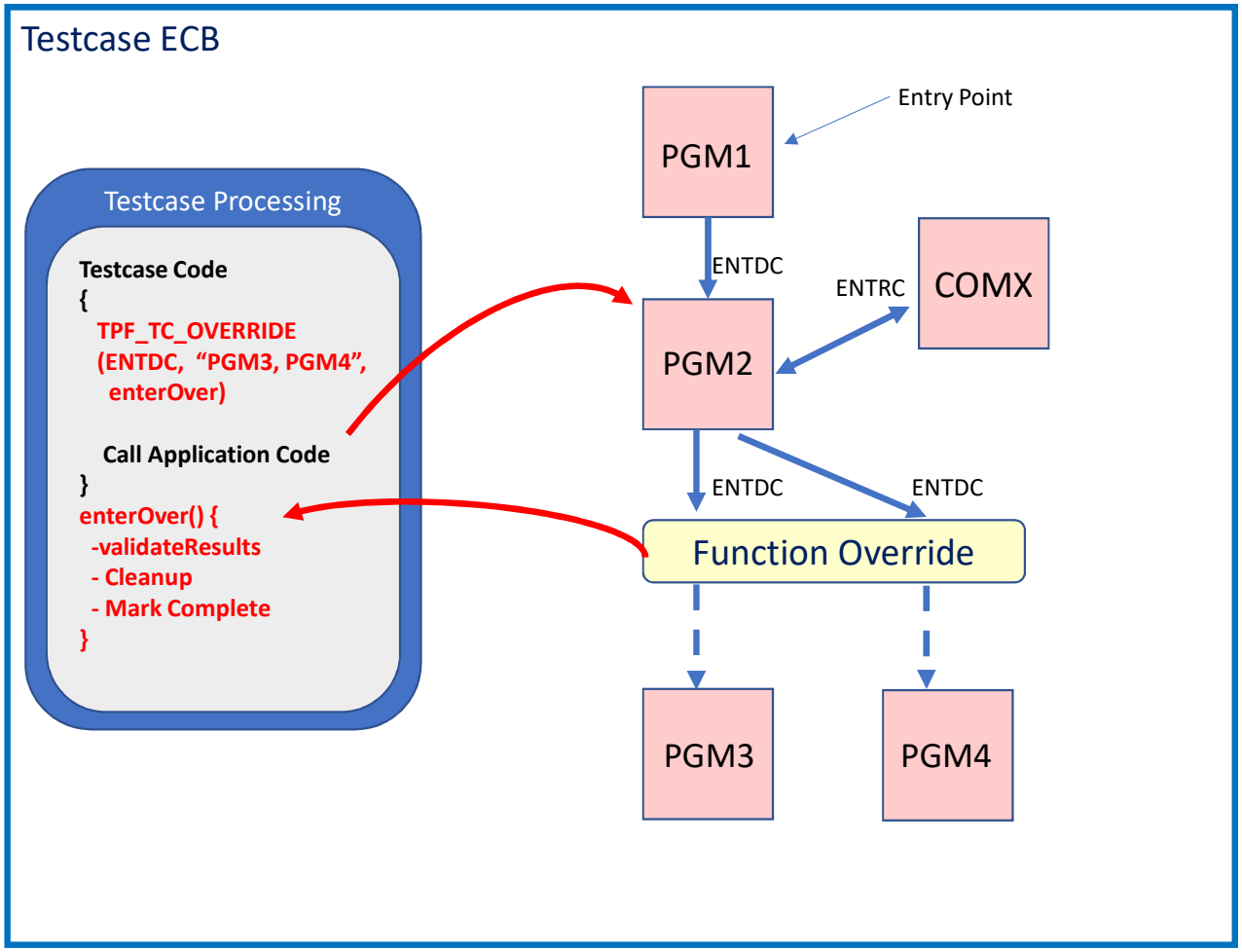
As-Is Scenario : Procedural Application Code

- If application changes are made to PGM2, there is no easy way to isolate the testing to that segment.
- PGM2 is just one segment in a long line of application processing.

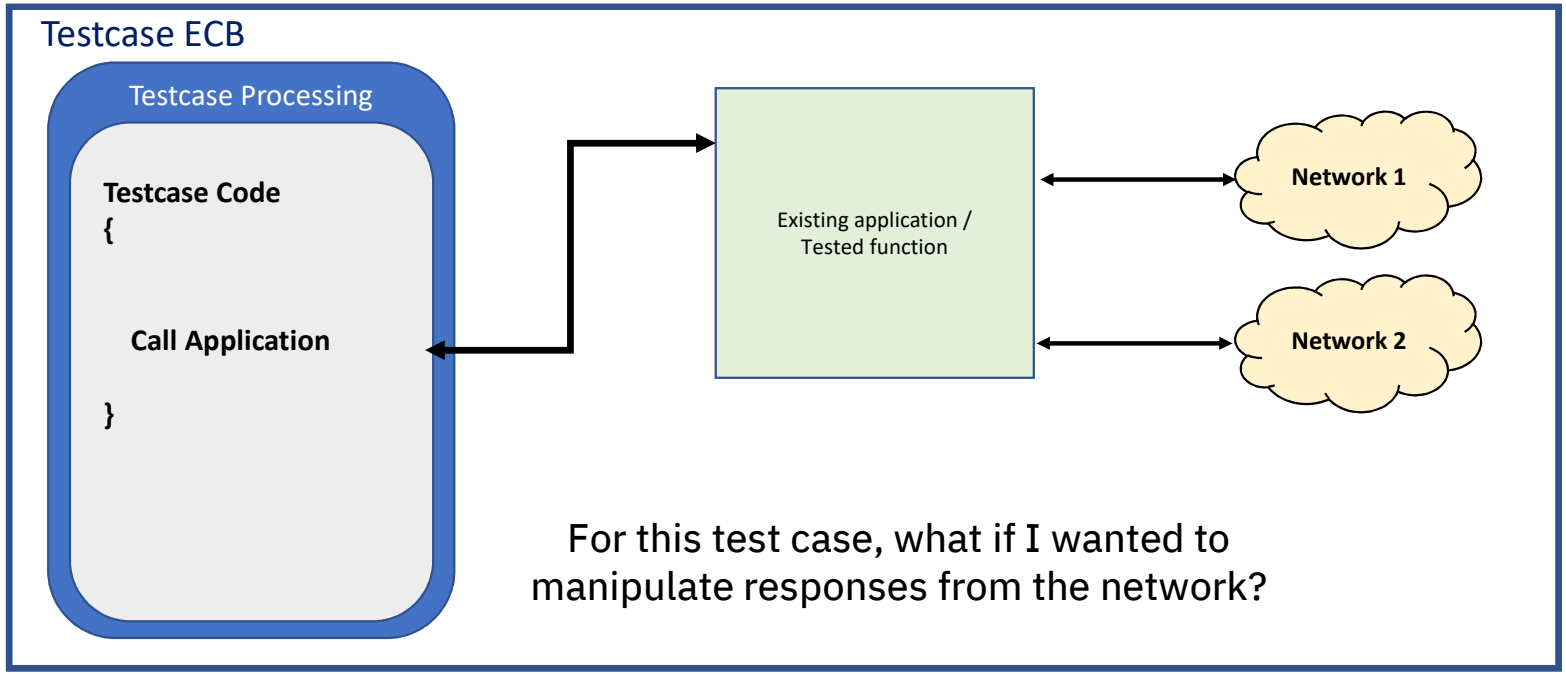


To-Be Scenario : Procedural Application Code

- Ability to specify overrides for a specific enter to another segment
  - Override only if ENTDC to PGM3 or PGM4

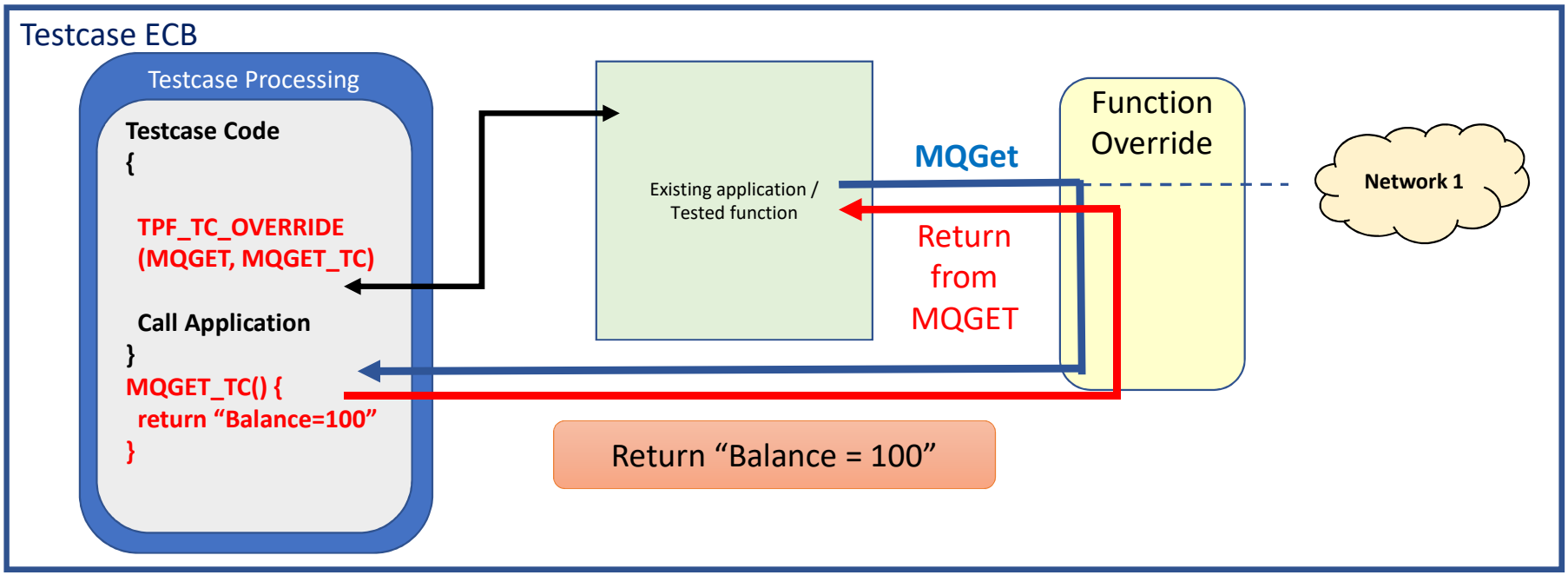


As-Is Scenario : Remote System Calls



To-Be Scenario : Remote System Calls

Ability to override remote system calls by calling a function within the test case logic. By coding override functions in the test case allows MQGET calls to be redirected to the testcase function called – “MQGET_TC”.



Value Statement

- Function override
  - Eliminates the dependency on external systems
  - Allows for truly repeatable test cases
  - Allows testing of more application programming models

- More of your testing can be automated

Sponsor Users

- Get involved!
  - Targeting sponsor user involvement - 2Q 2019

- Email dgritter@us.ibm.com
  jvfarmer@us.ibm.com

Content Survey

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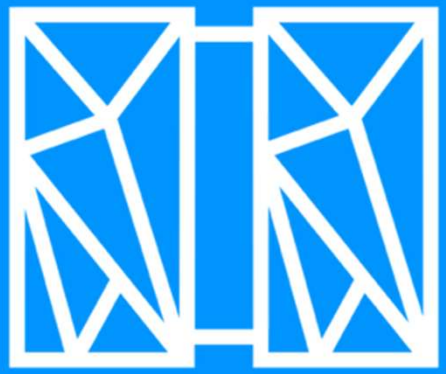
Thank You!

Questions or Comments?



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Notes

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