

Sophia Antipolis, French Riviera  
20-22 October 2015



# AMADEUS TRAFFIC REPLAY FRAMEWORK

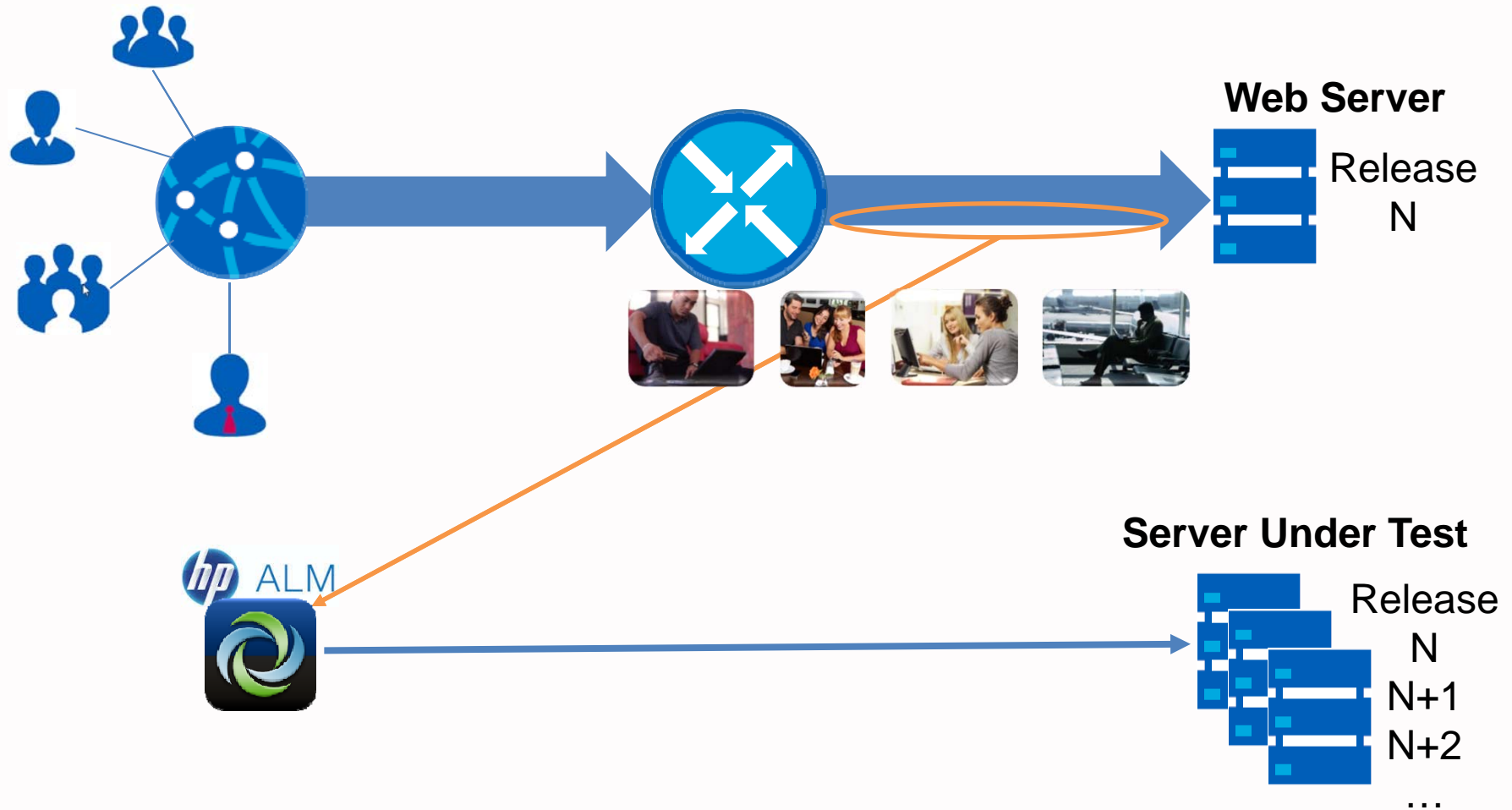
Presented by Loic Paquette (Amadeus)

# Agenda

- Presentation
- Test Selection
- Test Generation
- Test Investigation
- Lesson Learnt

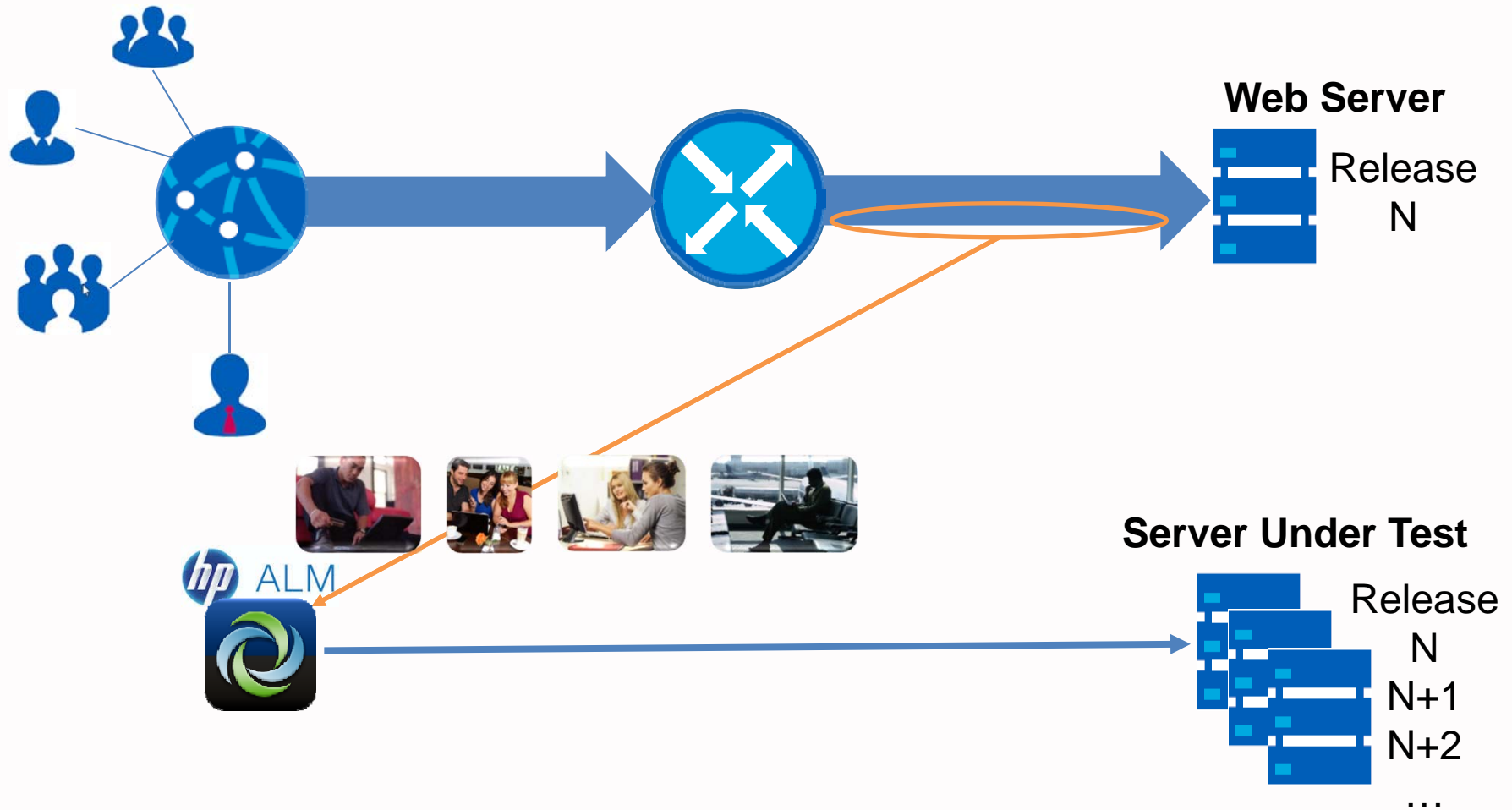


# Presentation - Concept





# Presentation - Concept




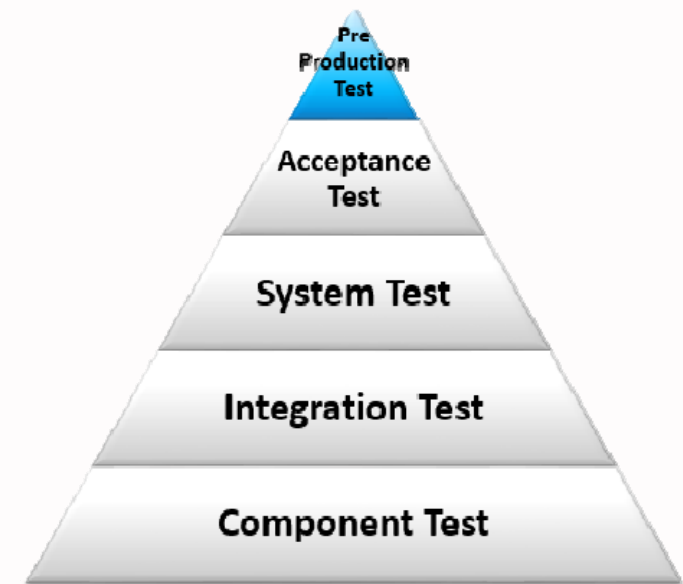
# Presentation – Usage

## E-commerce products (WebApp)

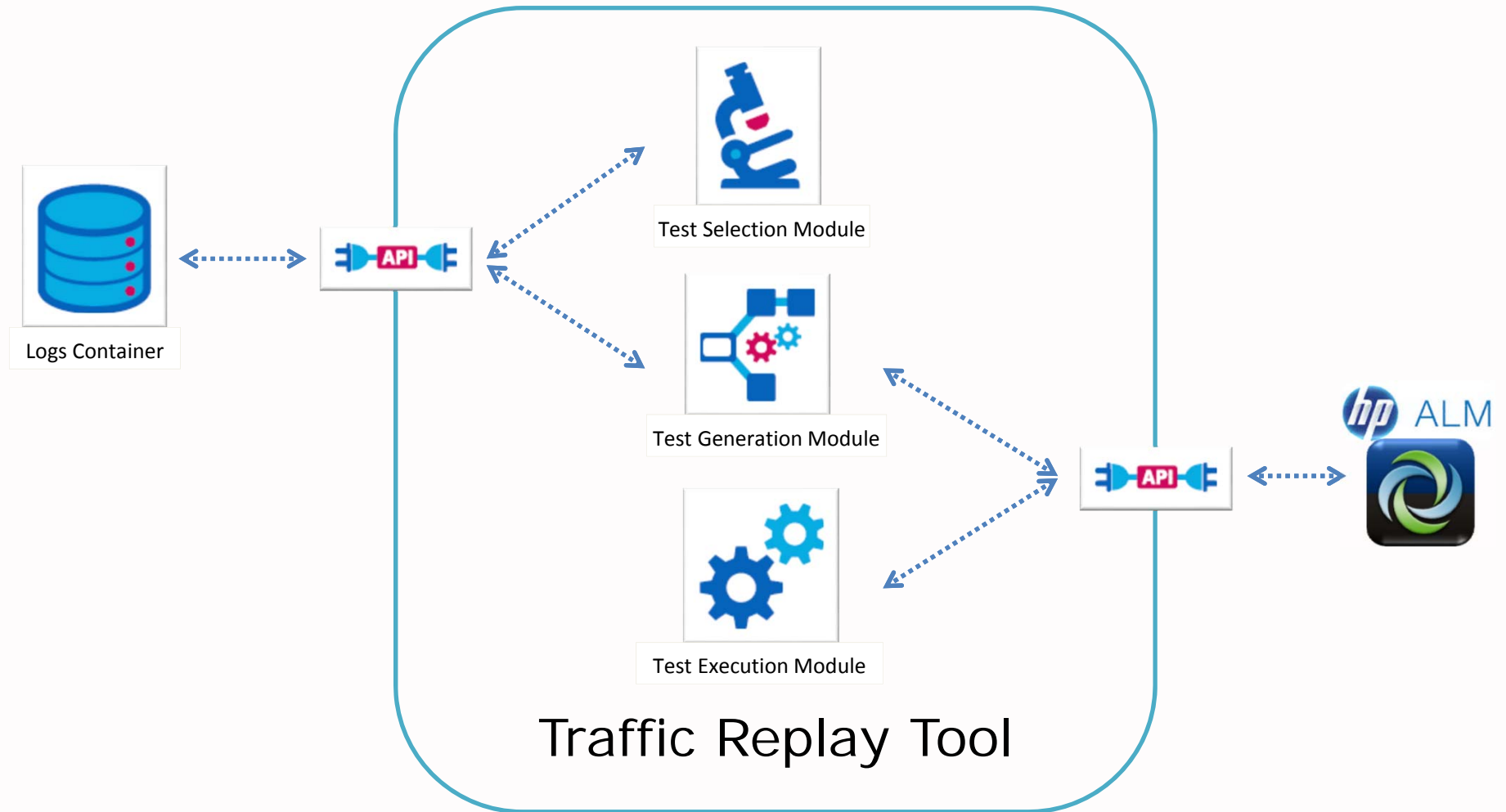
 3 Major Amadeus Products

 2 Protocols supported (HTTP / SOAP)

 ~3000 Tests / mth  
~250 Different sites&config / mth



# Presentation – Tool overview





# Test Selection



## Fine selection using Basket:

- Number of script
- Customer
- Page Reached



## Raw Selection

### Customer & Flow Repartition

- Prod Alike
- Equivalent
- None

SWAT Massive Shoot v.3.0.0 09/09/2015 Help

Settings

SiteCode Repartition:  Alike  Equivalent  None

Flow Repartition:  Alike  Equivalent  None

Number of Scenarios:

Scenarios

SiteCode Filter:

Servlet Filter:

Select all displayed SiteCodes

|                      |     |
|----------------------|-----|
| Qatar Air Ways       | 412 |
| South Africa Airline | 387 |
| Air China            | 123 |
| Bulgarian1           | 102 |
| Royal Jordanian B2C  | 84  |
| Royal Jordanian      | 34  |
| Saudi Airline B2C    | 33  |
| Turkish Airline      | 18  |
| Urala Airlines       | 18  |
| TAP                  | 8   |
| Show all SiteCodes   | 2   |

Select all displayed Servlets

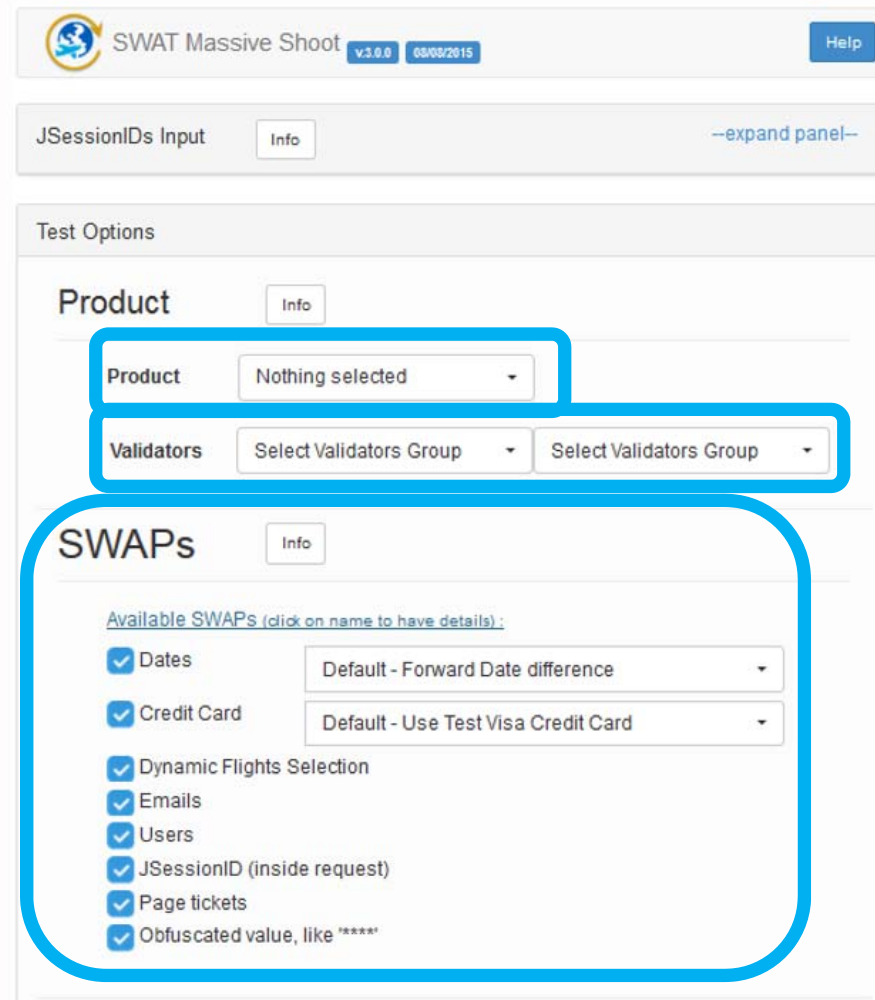
|                                      |      |
|--------------------------------------|------|
| OverrideServlet                      | 1178 |
| FlexPricerAvailabilityServlet        | 1080 |
| FareServlet                          | 104  |
| FlexPricerCacheServlet               | 72   |
| RetrievePNRServlet                   | 51   |
| AddElementsServlet                   | 35   |
| TravelShopperAvailabilityServlet     | 33   |
| TravelShopperAvailability_NEWServlet | 33   |
| GetServiceCatalogServlet             | 21   |
| SeatMapServlet                       | 19   |
| Show all Servlets                    | 22   |

Basket:  Download

Go to Next Step

# Test Generation

Select the group of regular expression to be applied to validate server response



The screenshot shows the SWAT Massive Shoot interface. At the top, there is a header with the logo, version 'v3.0.0', date '08/08/2015', and a 'Help' button. Below the header is a section for 'JSessionIDs Input' with an 'Info' button and an expand/collapse control. The main area is titled 'Test Options' and contains several sections: 'Product' with an 'Info' button and a dropdown menu currently showing 'Nothing selected'; 'Validators' with two dropdown menus both showing 'Select Validators Group'; and 'SWAPs' with an 'Info' button. The 'SWAPs' section is titled 'Available SWAPs (click on name to have details):' and lists several options with checkboxes: 'Dates' (checked), 'Credit Card' (checked), 'Dynamic Flights Selection' (checked), 'Emails' (checked), 'Users' (checked), 'JSessionID (inside request)' (checked), 'Page tickets' (checked), and 'Obfuscated value, like \*\*\*\*\*' (checked). Each checked option has a corresponding dropdown menu with a default value.

Apply template to header corresponding to the product to be validated

Select the parameter which have to be update at runtime

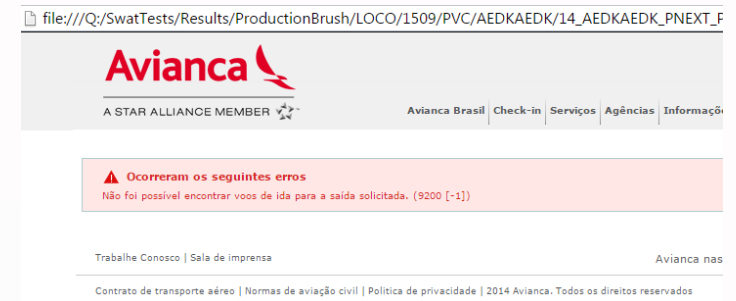
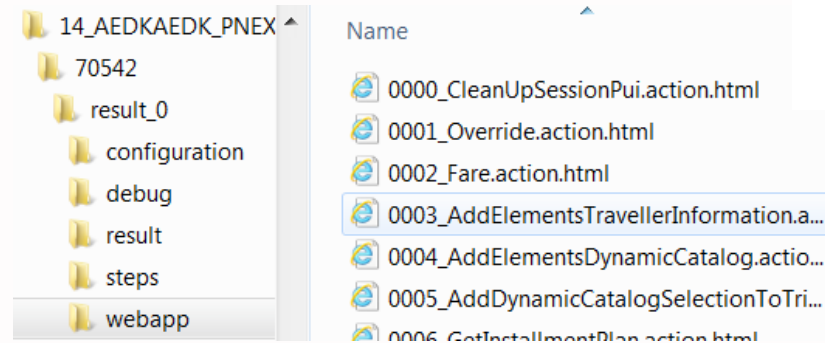


# Test Validation

Validators: `WDSerror\.(?:add|getMessage)\("s*[A-Za-z0-9\-\.\|\:\|(\|)'/@<>=" _ +]+`

- Parsing each server response looking for a pre-defined RegEx
- Call another tool to validate RegEx in another system (post execution)

## Server Response rebuilt as html file





# Test Validation

## • Debug Mode

| Global parameters       |                      |
|-------------------------|----------------------|
| Name                    | Value                |
| Target host             | http://testplatform1 |
| Show JSessionID options |                      |

| Step 0               |
|----------------------|
| Show form details    |
| Show form parameters |

| Step 1               |   |
|----------------------|---|
| Name                 | Value   |
| Action               | /planitgo_nextV18.2/ELALspof/Override.action                    |
| Method               | <input type="radio"/> GET <input checked="" type="radio"/> POST |
| Hide form parameters |   |
| Name                 | Value   |
| ARRANGE_BY           | E   |
| BOOKING_FLOW         | REVENUE   |
| B_ANY_TIME_1         | true  |
| B_ANY_TIME_2         | true  |
| B_DATE_1             | 201510220000  |
| B_DATE_2             | 201510290000  |
| B_LOCATION_1         | TLV   |

testplatform1/planitgo\_nextV18.2/ELALspof/Override.action

1 SELECT DATES 2 SELECT FLIGHTS 3 PRICE 4 TRAVELLER DETAILS 5 PAYMENT 6 CONFIRMATION

### Select your flights

Tel Aviv Yafo to Kiev Depart: Thursday, October 22 Kiev to Tel Aviv Yafo Return: Thursday, October 29 Passengers: 1

Tel Aviv Yafo → Kiev October 2015

| Sunday    | Monday    | Tuesday  | Wednesday | Thursday  | Friday   | Saturday |
|-----------|-----------|----------|-----------|-----------|----------|----------|
|           |           |          |           | \$ 112.15 | \$ 92.15 | -        |
| \$ 92.15  | \$ 92.15  | \$ 92.15 | \$ 92.15  | \$ 92.15  | \$ 92.15 | -        |
| \$ 112.15 | \$ 112.15 | \$ 92.15 | \$ 84.15  | \$ 112.15 |          |          |

Kiev → Tel Aviv Yafo October/November 2015

#### Reservation Details

→ Outbound Flight  
Tel Aviv Yafo to Kiev  
Depart: Thursday, October 22

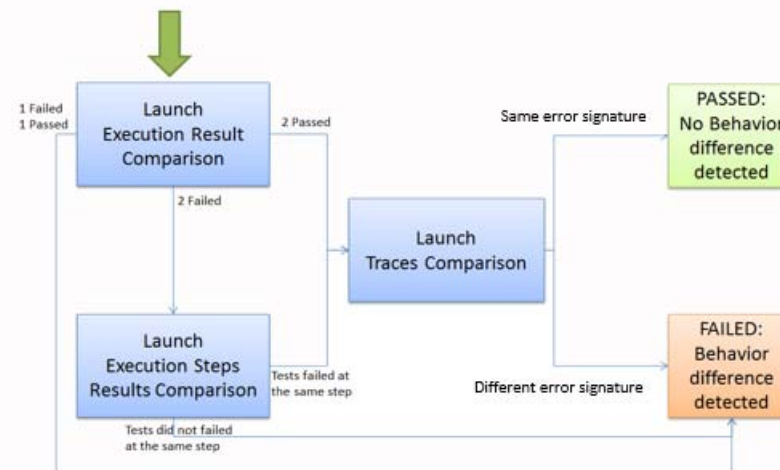
→ Inbound Flight  
Kiev to Tel Aviv Yafo  
Return: Thursday, October 29

Passengers:  
1

**Total price**  
**\$187.15**  
(For all passengers including taxes & surcharges)

# Test Validation

- Execution comparison:
  - Execute tests in 2 different environments (Reference and platform under validation)
  - Compare the result to remove False Negative result





# Lesson Learnt

| Pro                            | To improve / Limitation  |
|--------------------------------|--|
| Efficient to find Regression   | Data preparation take a lot of time<br>⇔ Scenario selection still high level |
| Scalable QA campaign           | Required synchro with Dev for specific parameters and put in place the SWAP. |
| Quick to generate and validate | Validation of server response only (no UI validation)                        |
| Usable at all QA phases        | Not possible to action done on client side (ie. Js call..)                   |

- Possible Evolution:
  - Big data/Hadoop to handle communication with server logs.
  - Virtualization system to improve test stability (Avoid external system dependency).
  - Create Selenium test from server logs
  - Extend it for performance validation purpose



# Q&A

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20-22/10/2015

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