

How to create a Deployable Web Service Using a Multiple – Instance Array

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This session describes how an experienced CA 2E Application Developer can use CA 2E Web Service support with enhanced array support to make an invocation and retrieve a reservation data including the reservation detail and multiple passenger detail lines.

Agenda

- Why go with Multiple Instance Array Parameter (MIAP)?
- Overview/Demo
- Limitations and the way forward.
- Q&A

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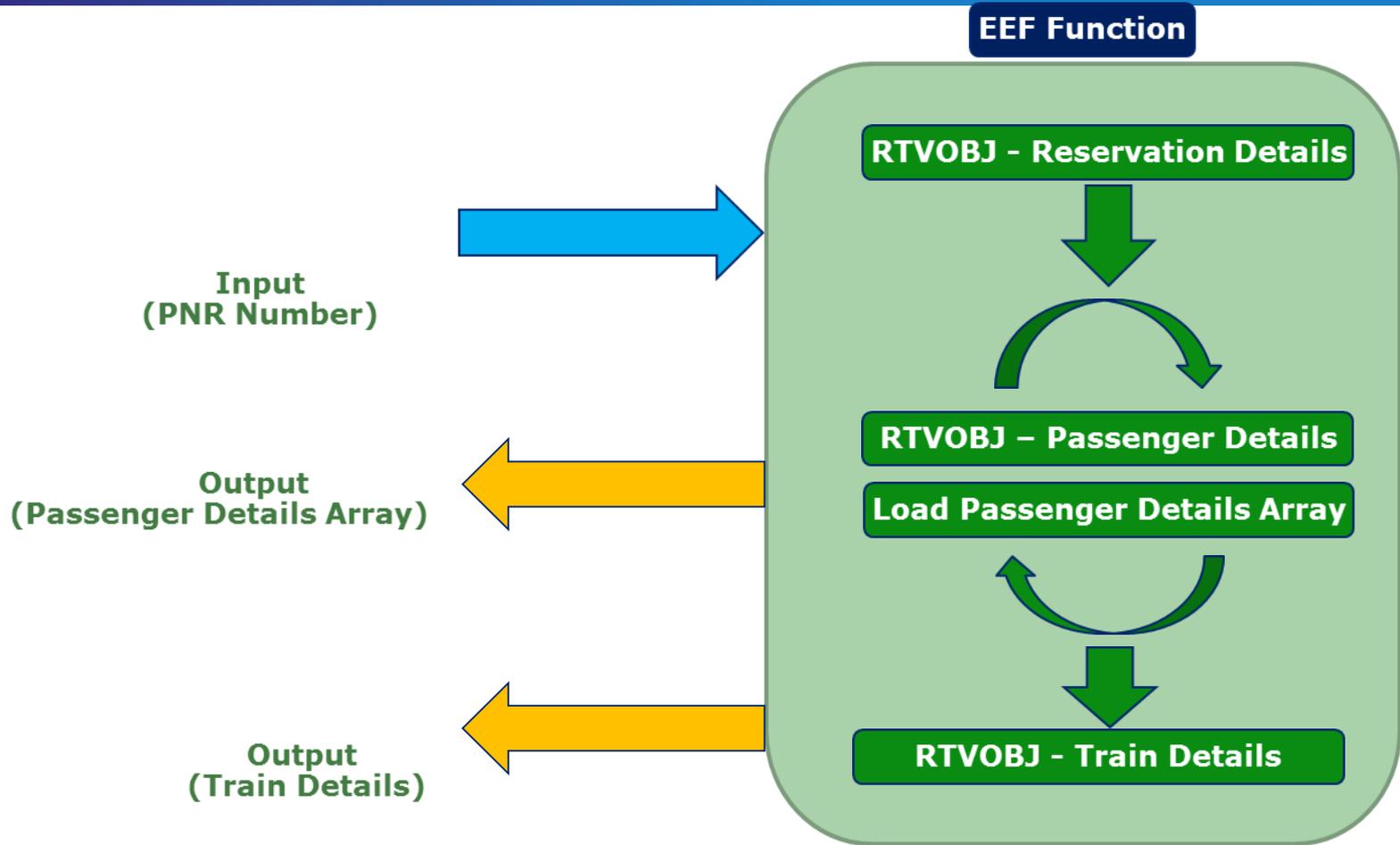
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Why go with Multiple Instance Array Parameter (MIAP)

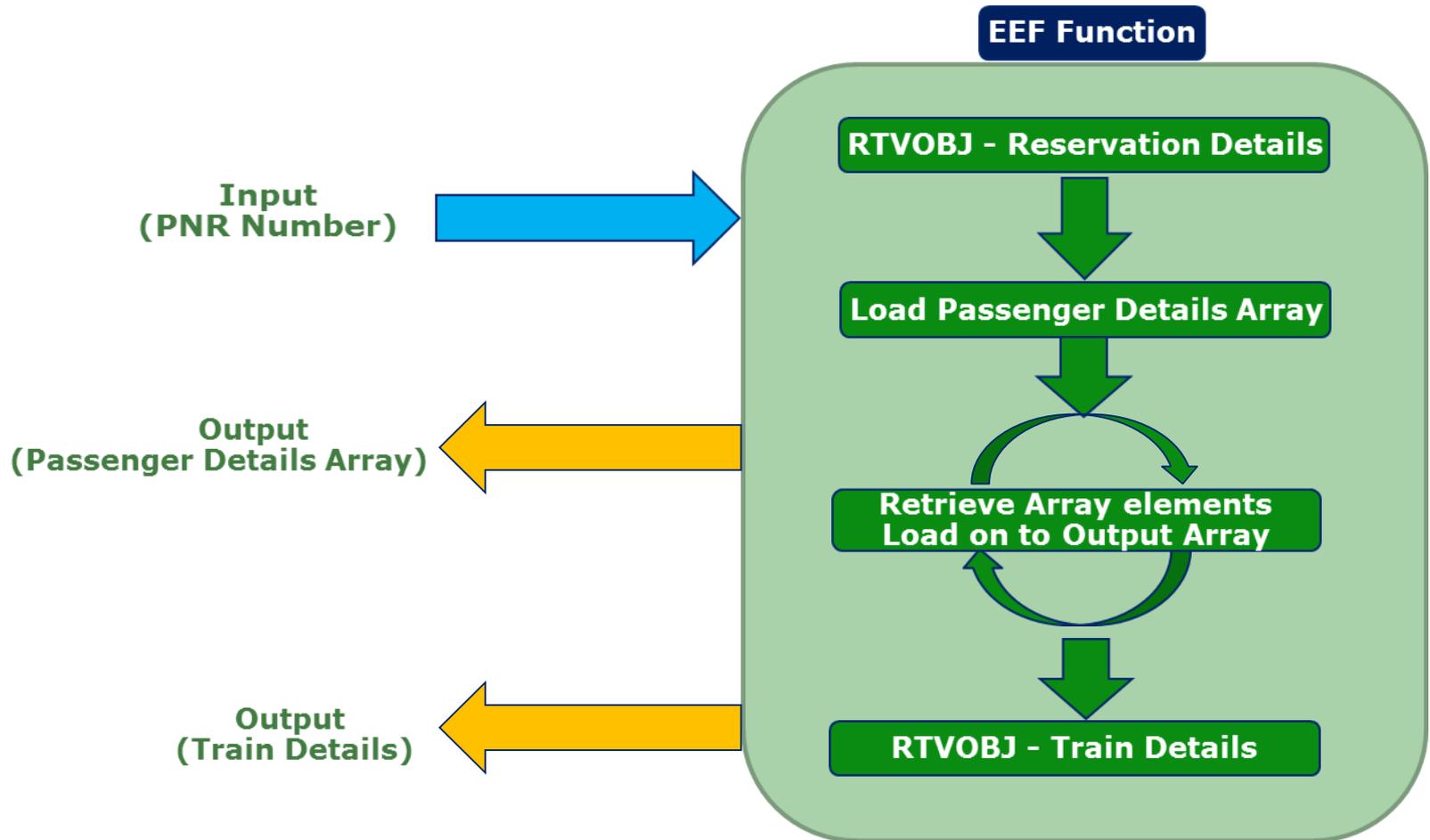
- In a scenario such as, for a single input of a reservation number, we want to retrieve the Reservation information and all the passengers' information.
- While it can be achieved by placing a RTVOBJ call in a loop to retrieve one passenger information at a time, it has drawbacks such as:
 - Application performance
 - Additional code to ensure all the details are retrieved.
- Using MIAP concept, we can populate an ARRAY's elements with the passenger details and then step through each element of the array to retrieve passenger details. It has the benefit of:
 - Faster Processing than multiple RTVOBJ calls
 - Looping through the ARRAY in memory overcomes any gaps in passenger numbers.



Passenger information system without MIAP



Passenger information system with MIAP



Module and Service Program Creation

- Change the object type of the EXCEXTFUN function to a Module.
- Ensure that following line is generated in the Module Source:
 - RPG:
 - H PGMINFO(*PCML:*MODULE)
 - COBOL:
 - PROCESS OPTIONS PGMINFO(PCML MODULE)
- We can do that either by changing compile override for the Module to include PCML information in the Module (V6R1 onwards) or, by changing the model value YRP4HS2 (For an RP4 module) to:
 - H DATFMT(*YMD) DATEDIT(*YMD) DEBUG(*YES) PGMINFO(*PCML : *MODULE)
- Generate and compile the Module.
- Create a Service program and add the Module created earlier.

Web Service Creation and Deployment

- Create a Web Service function.
- Add the Service program created earlier to this Web Service function.
- Deploy the Web Service function to IBM i Web Service Server using F10=Create Web Service instance.
- A single invocation of the web service can retrieve all the information regarding the Reservation Detail and all Passenger Detail lines.
- Test the Web Service using IBM's Web Services Test Client.



Demo



Current Limitations

- With CA 2E Release 8.6, a multiple-instance array parameter can only be defined for EXCEXTFUN and EXCUSRPGM functions.
- We do have a backlog item on expanding the MIAP support on other function types as well. But, we do not guarantee this feature in the forthcoming releases. 😊

Q&A

