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REQUESTING CAPACITY VIA TAF – TSI

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1 Introduction

The aim of this document is to explain the particularities of requesting published capacity as an Applicant, updating a path that contains requested capacity as IM, using interface connection. The goal is that based on the following analysis, a schema can be proposed with new elements in the TTR XSD. Those new elements will enable the Applicants to request published capacity and the IMs to answer path requests that contain requested capacity.

As this process have been working in PCS for years, we took into account the experiences and the applied solutions from there. Before making a proposal for the TAF TSI schema, we will try to explain the currently applied logic of PCS.

2 PaPs in PCS

Before going into the technical details, let's check first the PaPs in general in PCS. A PaP means Pre-arranged Path. They are stored in dossiers, just like the other requests, except that these dossiers contain only IM timetable with the offered capacity.

You can check the XSD of this kind of dossier on the following link:

https://pcs-online.rne.eu/pcs/webServicesDocs/xml_ns0_CatalogDossier.html

Currently, according to EU regulation 913/2010, the PaPs are published by Rail Freight Corridors (RFCs) with the collaboration with the IMs. Each PaP has one coordinating RFC, who is the one that published the PaP. They are responsible later also for the reservation and the allocation of those dossiers that contain a PaP belonging to them.

It's also important to mention that we distinguish between two type of PaPs in PCS:

- Fix PaP
- Flex PaP

Please find below the applied constraints of these two types. Please note that for Flex PaPs we distinguish between two type of locations (regular and protected).

FIX PAPS

- Applicant can edit the arrival/departure times only at the first/last path section if it's connected to a feeder/outflow section. Apart from that, the times are read-only for Applicants
- Applicant can delete always the first and last location of the fix PaP, but never from the middle
- Applicant/IM can update the parameters according to the published parameter limits

- IM can edit the arrival/departure times only at the first/last path section if it's connected to a feeder/outflow section. Apart from that, the times are read-only for IMs
- IM cannot delete a published, requested, then reserved PaP point from the timetable

FLEX PAPS - PROTECTED BORDER (PATH SECTION MARKED WITH A LOCK)

- Applicant/IM can edit the times only if it's connected to a feeder/outflow section. Apart from that, the times are read-only.
- Applicant/IM cannot delete path section marked as protected border
- Applicant/IM can update the parameters according to the published parameter limits

FLEX PAPS - REGULAR POINTS

- Applicant can delete any regular flex PaP location
- Applicant/IM can edit always the times
- IM cannot delete a published, requested, then reserved PaP point from the timetable
- Applicant/IM can update the parameters according to the published parameter limits

3 PaP fields in PCS

As you could see in the CatalogDossier XSD, we have several special fields for our PaPs (as PaPs are considered as catalogue object type in PCS). Without having an exhaustive list, just check some of those examples:

- On the Catalogue dossier data element level
    - PaP id: PaP identifier used for PaP dossiers. In case of a long route, when there are several separated PaP dossiers offered, the PaP id is the one that connects them together. It helps the Applicant requesting the harmonized PaPs along the required route. This value is defined by the RFC Managers. It's a 12-digit string.
    - Dossier type id: technical (PCS specific) identifier for the dossier type. Each dossier has a combination of process type and dossier type attributes. For PaPs it's important, because this differs the fix PaP (D) and the flex PaP (P)
    - Corridor id: it's used only for PaPs (corridor catalogue dossiers) and it enables to differentiate between corridor catalogues and non-corridor ones. It contains the PCS specific corridor id of the RFC who published the PaP.
    - Dossier status id: technical (PCS specific) identifier for the dossier status. It contains important information whether the PaP is published (PP), meaning visible for Applicants.

  - Process type id: technical (PCS specific) identifier for the process type. Each dossier has a combination of process type and dossier type attributes. For PaPs it's "P".

- On the Path section element level
  - Remaining capacity id: technical (PCS specific) identifier for the calendar item. It's valid only for PaP dossiers and represents the remaining days from the offered capacity on this path section. It can be updated by PCS only.
  - Not requested capacity id: technical (PCS specific) identifier for the calendar item. Not requested capacity indicates the capacity that is still not used (not assigned) in dossier. This is used to pre-reserve the capacity for Late and Ad-hoc dossiers where the first Applicant what uses the capacity in the dossier actually gets it (reserved) once when the dossier is promoted to Path Request. It can be updated by PCS only.
  - Corridor catalogue id: in case this path section is imported from a catalogue dossier (like a PaP), this value is not null and reference the source catalogue dossier.
  - Catalogue trasseelement id: in case this path section is imported from a catalogue dossier (like a PaP), this value is not null and reference the source path section in a catalogue dossier (trasse element = path section)
  - Corridor id: represents the corridor to which this path section belongs. Used for both, corridor catalogue dossiers and dossiers that use (assigned) corridor catalogues.
  - Parameter set code: it's identifier for the set of validation rules valid for the train parameters in this path section.
  - Catalogue path number: defined the by the RFC Manager in the timetable of the PaP
  - Is protected: indicates the protected locations. It can be true only in case of flex PaPs.

As you can see, there are several fields dealing with PaPs in PCS, however, it's not important to understand and use all of them for dossier creation, dossier updates. In the following chapters we will focus on those fields that are necessary for certain actions.

4 Create dossier with PaP

Based on the previous chapter, you probably think that all those data are necessary for creating a dossier that is using a PaP. Fortunately, that is not the case, however there are special entries that are required.

In order to create dossier with PaPs through web-service, we need to provide the following data on the path sections that belongs to PaP:

```
<used_catalogue_data>
        <!-- optional -->
        <corridor_catalogue_id>218184</corridor_catalogue_id>
        <corridor_id>1006</corridor_id>
        <catalogue_te_id>3704745</catalogue_te_id>
        <catalogue_selector_agency_id>228</catalogue_selector_agency_id>
        <!-- optional -->
        <catalogue_path_number>99126</catalogue_path_number>
        <!-- optional -->
        <is_protected>false</is_protected>
</used_catalogue_data>
```

Please find all the details of the used catalogue element on the following link:

https://pcs-online.rne.eu/pcs/webServicesDocs/xml_ns0_UsedCatalogueData.html

So, there are three mandatory fields to be fulfilled.

4.1 Corridor id

which corridor is in charge of the PaP that we are planning to request? In this case, it's RFC 7 (Orient/East-Med) and its PCS corridor_id is 1006.

4.2 Catalogue te id

This is a more complex field. First of all, we need the path section id of the PaP (corridor catalogue dossier) that we would like to insert in our dossier. To understand it better, let's check on the GUI, how this PaP looks like.