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# 

# RelatedPlannedTransportIdentifiers

(CR: [RPCC-99](https://supercharge.atlassian.net/browse/RPCC-99))

```mermaid

flowchart TD

id1((Start)) --> id2{Level}

id2 -->|Reftrain| id3{OIM}

id3 -->|Yes| id5("TI - IDs:<p>PTID: TR, RO<p>PI - IDs:<p>PTID: PR/PR & PA<p>RPTID: all other PR/PA from the territory of the transport id")

id3 -->|No| id6("IDs:<p>PTID:TR<p>RPTID: RO(s), all PR/PA from the territory of the recipient")

id2 -->|VPR| id10{PRM}

id10 -->|No| id8{Observation}

id8 -->|No| id4("IDs:<p>PTID: TR, RO, PR, PA (if exists)"<p>RPTID: all other PR/PA from the territory of the transport id)

id8 -->|Yes| id9("IDs:<p>PTID: TR, RO, PR, PA <p>RPTID: none")

id4 --> id7((End))

id5 --> id7

id6 --> id7

id9 --> id7

id10 -->|Yes| id11("IDs:<p>PTID:TR,RO,PR" <p> RPTID: other PR as the result of path split)

id11 --> id7

```

# 

# Route - Path request links

```mermaid

flowchart TB

id1((Start)) --> id2(LA wants to create reference train)

id2 --> id3{Which interface <p>was used by LA?}

id3 -->|API| id4{Was the RO ID <p> included in the PRM}

id4 -->|Yes| id5(RO ID provided by the LA available via GUI and API)

id5 --> id6(PR from the PRM is linked to the RO ID included in the PRM)

id4 -->|No| id7("PCS generates the RO ID (available via GUI and API)")

id7 --> id8(LA releases the reftrain to harmonisation)

id6 --> id8

id3 -->|GUI| id9(LA manually provides the OR ID or requests PCS to generate it)

id9 --> id10("PCS generates the RO ID and links the existing PR(s) to this RO ID")

id10 --> id8

id8 --> id11(PR created/updated by an RA)

id11 --> id12("PCS checks the impact of the new PR on the existing route(s)")

id12 --> id13(Newly created PR: PCS links it to an existing or a new RO ID.<p>Other existing PRs: PCS updates their linked RO ID if required )

id13 --> id14((End))

style id7 fill: #a3a2a2

style id10 fill: #a3a2a2

style id12 fill: #a3a2a2

```

# 

# Path split functionality - sequence diagram

```mermaid

sequenceDiagram

participant A as Sender applicant

participant B as Recipient applicants

participant C as PCS CB

participant D as RIM

Note over A: Set progress on PR / delete PR

alt No split is in place

A ->> C: PCoM (PR ID1)

C ->> B: PCoM (PR ID1)

else PR is split to 2 IDs (PR ID1.1, PR ID1.2)

A ->> C: PCoM (PR ID1.1)

C ->> B: PCoM (PR ID1.1)

C ->> B: PCoM (PR ID1.1)

end

Note over A: Submit PRs

alt No split is in place

A ->> C: PCoM (TR)

C ->> D: PRM (PR ID1)

else PR is split to 2 IDs (PR ID1.1, PR ID1.2)

A ->> C: PCoM (TR)

C ->> D: PRM (PR ID1.1)

C ->> D: PRM (PR ID1.1)

end

Note over A: Path request update

alt No split is in place

A ->> C: PRM (PR ID1)

C ->> B: OIM (PR ID1)

else PR is split to 2 IDs (PR ID1.1, PR ID1.2)

A ->> C: PRM (PR ID1.1 - update)

C ->> B: PRM (PR ID1.2 - delete)

C ->> B: OIM (PR ID1.1, PRID1.3)

end

```

# 

# NPR on reference train level

```mermaid

flowchart LR

id1((Start)) -->|"LA {1}"| id2(Open)

id2 -->|"LA {13}"| id3(Harmonisation)

id3 -->|"LA {19}"| id2

id3 -->|"LA {65}"| id4{PaP}

id4 -->|No| id5(Path elaboration)

id5 -->|"LA {95}/LIM {324}"| id3

id4 -->|Yes| id6(Pre-booking)

id6 -->|"LA {95}/RFC"| id3

id5 -->|"LIM/RFC {127}"| id7(Observation)

id6 -->|RFC| id5

id7 -->|"LA {138}"| id8(Post-processing)

id8 -->|"LIM/RFC {160}"| id9(Acceptance)

id9 -->|"LA {187}"| id10(Allocation)

id10 -->|"RIM {208}"| id11(Booked)

id7 -->|"LA {141}"| id12(Closed)

id3 -->|"LA {141}"| id12

id9 -->|"LA {199}"| id12

id11 --> id13((End))

id12 --> id13

```

# 

# NPR on request level

```mermaid

flowchart LR

subgraph Open

direction LR

id1(none)

end

subgraph Harmonisation

direction LR

id1 <-->|"LA {13, 19}"| id2(PR)

id2 -->|"RA {25}"| id3(PR)

id2 -->|"RA {55}"| id4(PR)

id2 -->|"RA {45,35}"| id5(PR)

id3 -->|"LA {19}"| id1

id3 <-->|"RA {55}"| id4

id4 <-->|"RA {55,45,35}"| id5

id3 <-->|"RA {25,45,35}"| id5

id4 -->|"LA {19}"| id1

id5 -->|"LA {19}"| id1

end

subgraph Pre-booking

direction LR

id5 -->|"LA {65}"| id7(PR)

id7 -->|"LA {95}/RFC"| id2

end

subgraph Path elaboration

direction LR

id5 -->|"LA {65}"| id8(PR)

id7 --> id8

id8 -->|"LA {95}/LIM {324}"| id2

end

style id2 fill: #1887f0

style id3 fill: #fcba03

style id4 fill: #fc032c

style id5 fill: #03a82a

style id7 fill: #03a82a

style id8 fill: #03a82a

```

# NPR on offer level

```mermaid

flowchart LR

subgraph Path elaboration

direction LR

id1(PR)

id2(none)

id2 -->|RIM| id3(PA)

id3 <-.->|linked| id1

id2 -->|"RIM {125}"| id4(PR)

id2 -->|"RIM {120,122}"| id5(PA)

id5 <-.->|linked| id1

id3 <-->|"RIM {108,120,122}"| id5

end

subgraph Observation

direction LR

id5 -->|"LIM {127}/RFC"| id6("PA|IM")

id6 -->|"RA {132}"| id7("PA|RA")

id6 -->|RA| id8("PA|RA")

id6 -->|"RA {134}"| id9("PA|RA")

id6 -->|RA| id10("PA|RA")

id7 <-->|"RA {132}"| id8

id7 <-->|"RA {132}"| id9

id8 <-->|"RA {134}"| id9

id10 -->|"RA {132}"| id7

id10 -->|RA| id8

id10 -->|"RA {134}"| id9

end

subgraph Post-processing

id7 -->|"LA {136}"| id11("PA|IM")

id8 -->|"LA {136}"| id11

id9 -->|"LA {136}"| id11

id10 -->|"LA {136}"| id11

id11 -->|"RIM {235}"| id12(none)

id12 -->|"RIM {154}"| id13(PR)

id11 -->|"RIM {149,151}"| id14("PA|IM")

id11 -->|"RIM {147}"| id15("PA|IM")

id14 <-->|"RIM {147,149,151}"| id15

end

subgraph Acceptance

id14 -->|"LIM {161}/RFC"| id16("PA|IM")

id16 -->|RA| id17("PA|RA")

id17 -->|"RA {175}"| id18("PA|RA")

id17 -->|"RA {181}"| id19("PA|RA")

end

subgraph Allocation

id18 -->|"LA {187}"| id20("PA|IM")

end

subgraph Booked

id20 -->|"RIM {208}"| id21("PA|IM")

end

style id1 fill: #03a82a

style id1 fill: #03a82a

style id3 fill: #fcba03

style id4 fill: #fc032c

style id5 fill: #03a82a

style id6 fill: #03a82a

style id7 fill: #fcba03

style id8 fill: #fc032c

style id9 fill: #03a82a

style id10 fill: #1887f0

style id11 fill: #1887f0

style id13 fill: #fc032c

style id14 fill: #03a82a

style id15 fill: #fcba03

style id16 fill: #03a82a

style id17 fill: #1887f0

style id18 fill: #03a82a

style id19 fill: #fc032c

style id20 fill: #03a82a

style id21 fill: #03a82a

```

# 

# Pre-booking subflow

```Mermaid

flowchart LR

id1(Pre-booking) -->|RFC| id2(Alternative offer creation)

id2 -->|RFC| id1

id2 -->|RFC| id3(Alternative offered)

id3 -->|LA| id4(Alternative offer responded)

id4 -->|RFC <p> proceed to pre-booking| id1

id4 -->|RFC <p> withdraw alternative offer| id1

id3 -->|LA| id6(Closed)

```

# 

# LPR on reference train level

```mermaid

flowchart LR

id1((Start)) -->|"LA {2}"| id2(Open)

id2 -->|"LA {14}"| id3(Harmonisation)

id3 -->|"LA {20}"| id2

id3 -->|"LA {66}"| id4{PaP}

id4 -->|No| id5(Path elaboration)

id5 -->|"LA {96}"| id3

id4 -->|Yes| id6(Pre-booking)

id6 -->|"LA {96}"| id3

id5 -->|"LIM {434}/RFC"| id7(Acceptance)

id6 -->|RFC| id5

id7 -->|LA| id8(Post-processing)

id8 -->|"LIM {161}/RFC"| id9(Final acceptance)

id9 -->|"LA {188}"| id10(Allocation)

id7 -->|"LA {442}"| id10

id10 -->|"RIM {209}"| id11(Booked)

id7 -->|"LA {142}"| id12(Closed)

id3 -->|"LA {142}"| id12

id9 -->|"LA {200}"| id12

id12 --> id13((End))

id11 --> id13

```

# 

# LPR on request level

```mermaid

flowchart LR

subgraph Open

direction LR

id1(none)

end

subgraph Harmonisation

direction LR

id1 <-->|"LA {14, 20}"| id2(PR)

id2 -->|"RA {26}"| id3(PR)

id2 -->|"RA {56}"| id4(PR)

id2 -->|"RA {46,36}"| id5(PR)

id3 -->|"LA {20}"| id1

id3 <-->|"RA {56}"| id4

id4 <-->|"RA {56,46,36}"| id5

id3 <-->|"RA {26,46,36}"| id5

id4 -->|"LA {20}"| id1

id5 -->|"LA {20}"| id1

end

subgraph Pre-booking

direction LR

id5 -->|"LA {66}"| id7(PR)

id7 -->|"LA {96}/RFC"| id2

end

subgraph Path elaboration

direction LR

id5 -->|"LA {66}"| id8(PR)

id7 --> id8

id8 -->|"LA {96}/LIM {325}"| id2

end

style id2 fill: #1887f0

style id3 fill: #fcba03

style id4 fill: #fc032c

style id5 fill: #03a82a

style id7 fill: #03a82a

style id8 fill: #03a82a

```

# 

# LPR on offer level

```mermaid

flowchart LR

subgraph Path elaboration

direction LR

id1(PR)

id2(none)

id2 -->|"RIM {109}"| id3(PA)

id3 <-.->|linked| id1

id2 -->|"RIM {468}"| id4(PR)

id2 -->|"RIM {458,462}"| id5(PA)

id5 <-.->|linked| id1

id3 <-->|"RIM {109,458,462}"| id5

end

subgraph Acceptance

direction LR

id5 -->|"LIM {434}/RFC"| id6("PA|IM")

id6 -->|"RA"| id7("PA|RA")

id6 -->|"RA {440}"| id8

id6 -->|"RA {439}"| id9("PA|RA")

id6 -->|RA| id10("PA|RA")

id7 <-->|"RA {440}"| id8

id7 <-->|"RA {439}"| id9

id8 <-->|"RA {439,440}"| id9

id10 -->|RA| id7

id10 -->|"RA {440}"| id8("PA|RA")

id10 -->|"RA {439}"| id9

end

subgraph Post-processing

id8 -->|"LA {442}"| id11

id9 -->|"LA {442}"| id11("PA|IM")

id11 -->|"RIM {236}"| id12(none)

id12 -->|"RIM {155}"| id13(PR)

id11 -->|"RIM {460,465}"| id14("PA|IM")

id11 -->|"RIM {109}"| id15("PA|IM")

id14 <-->|"RIM {109,460,465}"| id15

end

subgraph Final acceptance

id14 -->|"LIM {161}/RFC"| id16("PA|IM")

id16 -->|RA| id17("PA|RA")

id17 -->|"RA {176}"| id18("PA|RA")

id17 -->|"RA {182}"| id19("PA|RA")

end

subgraph Allocation

id18 -->|"LA {188}"| id20("PA|IM")

id9 -->|"LA {442}"| id20

end

subgraph Booked

id20 -->|"RIM {209}"| id21("PA|IM")

end

style id1 fill: #03a82a

style id1 fill: #03a82a

style id3 fill: #fcba03

style id4 fill: #fc032c

style id5 fill: #03a82a

style id6 fill: #03a82a

style id7 fill: #fcba03

style id8 fill: #fc032c

style id9 fill: #03a82a

style id10 fill: #1887f0

style id11 fill: #1887f0

style id13 fill: #fc032c

style id14 fill: #03a82a

style id15 fill: #fcba03

style id16 fill: #03a82a

style id17 fill: #1887f0

style id18 fill: #03a82a

style id19 fill: #fc032c

style id20 fill: #03a82a

style id21 fill: #03a82a

```

# 

# AHPR on reference train level

```mermaid

flowchart LR

id1((Start)) -->|"LA {3}"| id2(Open)

id2 -->|"LA {15}"| id3(Harmonisation)

id3 -->|"LA {21}"| id2

id3 -->|"LA {67}"| id4{PaP}

id4 -->|No| id5(Path elaboration)

id5 -->|"LA {97}"| id3

id4 -->|Yes| id6(Pre-booking)

id6 -->|RFC| id5

id6 -->|"LA {97}"| id3

id5 -->|"LIM {162}/RFC"| id9(Acceptance)

id9 -->|"LA {189}"| id10(Allocation)

id10 -->|"RIM {210}"| id11(Booked)

id3 -->|"LA {143}"| id12(Closed)

id9 -->|"LA {201}"| id12

id9 -->|"LA {259}"| id5

id12 --> id13((End))

id11 --> id13

```

# 

# AHPR on request level

```mermaid

flowchart LR

subgraph Open

direction LR

id1(none)

end

subgraph Harmonisation

direction LR

id1 <-->|"LA {15, 121}"| id2(PR)

id2 -->|"RA {27}"| id3(PR)

id2 -->|"RA {57}"| id4(PR)

id2 -->|"RA {47,37}"| id5(PR)

id3 -->|"LA {21}"| id1

id3 <-->|"RA {57}"| id4

id4 <-->|"RA {57,47,37}"| id5

id3 <-->|"RA {27,47,37}"| id5

id4 -->|"LA {21}"| id1

id5 -->|"LA {21}"| id1

end

subgraph Pre-booking

direction LR

id5 -->|"LA {67}"| id7(PR)

id7 -->|"LA {97}/RFC"| id2

end

subgraph Path elaboration

direction LR

id5 -->|"LA {67}"| id8(PR)

id7 --> id8

id8 -->|"LA {97}/LIM {326}"| id2

end

style id2 fill: #1887f0

style id3 fill: #fcba03

style id4 fill: #fc032c

style id5 fill: #03a82a

style id7 fill: #03a82a

style id8 fill: #03a82a

```

# AHPR on offer level

```mermaid

flowchart LR

subgraph Path elaboration

direction LR

id1(PR)

id2(none)

id2 -->|"RIM {110}"| id3(PA)

id3 <-.->|linked| id1

id2 -->|"RIM {262}"| id4(PR)

id2 -->|"RIM {261}"| id5(PA)

id5 <-.->|linked| id1

id3 <-->|"RIM {110,260}"| id5

id22(PA) -->|"RIM {249}"| id2

id22(PA) -->|"RIM {260}"| id5

id22(PA) -->|"RIM {110}"| id3

end

subgraph Acceptance

direction LR

id5 -->|"LIM {162}/RFC"| id6("PA|IM")

id6 -->|RA| id7("PA|RA")

id6 -->|"RA {183}"| id8("PA|RA")

id6 -->|"RA {177}"| id9("PA|RA")

id6 -->|RA| id10("PA|RA")

id7 <-->|"RA {183}"| id8

id7 <-->|"RA {177}"| id9

id8 <-->|"RA {177,183}"| id9

id10 -->|RA| id7

id10 -->|"RA {183}"| id8

id10 -->|"RA {177}"| id9

id8 -->|"LA {259}"| id22

end

subgraph Allocation

id9 -->|"LA {189}"| id20("PA|IM")

end

subgraph Booked

id20 -->|"RIM {210}"| id21("PA|IM")

end

subgraph Closed

id8 -->|"LA {209}"| id23(PA)

end

style id1 fill: #03a82a

style id1 fill: #03a82a

style id3 fill: #fcba03

style id4 fill: #fc032c

style id5 fill: #03a82a

style id6 fill: #03a82a

style id7 fill: #fcba03

style id8 fill: #fc032c

style id9 fill: #03a82a

style id10 fill: #1887f0

style id20 fill: #03a82a

style id21 fill: #03a82a

style id22 fill: #1887f0

style id23 fill: #fc032c

```

# 

# FS on reference train level

```mermaid

flowchart LR

id1(Harmonisation) <-->|"LA {263,98}"| id2(Harmonisation conference)

id2 -->|"LA {68}"| id3(Feasibility study elaboration)

id3 -->|"LA {98}"| id1

id3 -->|"LIM {285}"| id4(Feasibility study elaboration conference)

id4 -->|"LIM {294}"| id3

id4 -->|"LA {98}"| id1

id3 -->|"LIM {290}"| id5(Feasibility study result)

id5 -->|"LIM {294}"| id3

id5 -->|"LA {308}"| id1

```

# 

# FS on request level

```mermaid

flowchart LR

subgraph Harmonisation

direction LR

id5(PR)

id6(PR)

id7(PR)

id8(PR)

end

subgraph Harmonisation conference

direction LR

id5 <-->|"LA {263,98}"| id9(PR)

id6 -->|"LA {263}"| id9(PR)

id7 -->|"LA {263}"| id9(PR)

id8 -->|"LA {263}"| id9(PR)

id9 -->|"RA {58}"| id10(PR)

id9 -->|"RA {48}"| id11(PR)

id9 -->|"RA {28}"| id12(PR)

id12 -->|"LA {98}"| id5

id11 -->|"LA {98}"| id5

id10 -->|"LA {98}"| id5

id12 <-->|"RA {28,48}"| id11

id12 <-->|"RA {28,58}"| id10

id10 <-->|"RA {48,58}"| id11

end

subgraph Feasibility study elaboration

direction LR

id11 -->|"LA {68}"| id16(PR)

id16 -->|"LA {98}"| id5

end

subgraph Feasibility elaboration conference

direction LR

id16 <-->|"LIM {285,294}"| id17(PR)

id17 -->|"LA {98}"| id5

end

subgraph Feasibility study result

direction LR

id16 <-->|"LIM {290,294}"| id18(PR)

id18 -->|"LA {308}"| id5

end

style id5 fill: #1887f0

style id6 fill: #fcba03

style id7 fill: #fc032c

style id8 fill: #03a82a

style id9 fill: #1887f0

style id10 fill: #fc032c

style id11 fill: #03a82a

style id12 fill: #fcba03

style id16 fill: #03a82a

style id17 fill: #03a82a

style id18 fill: #03a82a

```

# 

# FS on offer level

```mermaid

flowchart LR

subgraph Harmonisation conference

direction LR

id5(none) -->|"RIM {111}"| id6(PA)

id5(none) -->|"RIM {267,279}"| id8(PA)

id9(PA) -->|"RIM {111}"| id6

id9 -->|"RIM {279}"| id8

id6 <-->|"RIM {111,279}"| id8

id9 -->|"RIM {238}"| id5

end

subgraph Feasibility study elaboration

direction LR

id8 -->|"LA {69}"| id10(PA)

id10 -->|"LIM"| id9

id10 -->|"RIM {111}"| id11(PA)

id10 -->|"RIM {279}"| id12(PA)

id11 <-->|"RIM {111,279}"| id12

id5 -->|"LA {68}"| id13(none)

id13 -->|"RIM {299}"| id14(PR)

id10 -->|"RIM {238}"| id13

id13 <-->|"RIM {111,238}"| id11

id13 <-->|"RIM {238,267}"| id12

end

subgraph Feasibility elaboration conference

direction LR

id12 -->|"LIM {285}"| id16(PA)

id16 -->|"RIM {238}"| id17(none)

id17 -->|"RIM {299}"| id18(PR)

id16 -->|"RIM {111}"| id19(PA)

id16 -->|"RIM {279}"| id20(PA)

id17 <-->|"RIM {111,238}"| id19

id17 <-->|"RIM {238,267}"| id20

id19 <-->|"RIM {111,279}"| id20

id20 -->|"LIM {294}"| id10

id19 -->|"LIM {294}"| id10

id16 -->|"LIM {294}"| id10

id17 <-->|"LIM {285,294}"| id13

end

subgraph Feasibility study result

direction LR

id12 <-->|"LIM {290,294}"| id15(PA)

end

subgraph Harmonisation

direction LR

id15 -->|"LA {308}"| id21(PA)

end

style id6 fill: #fcba03

style id8 fill: #03a82a

style id9 fill: #1887f0

style id10 fill: #1887f0

style id11 fill: #fcba03

style id12 fill: #03a82a

style id14 fill: #fc032c

style id15 fill: #03a82a

style id16 fill: #1887f0

style id18 fill: #fc032c

style id19 fill: #fcba03

style id20 fill: #03a82a

style id21 fill: #03a82a

```

# 

# Path alteration on reference train level

```Mermaid

flowchart LR

id1(Booked) -->|IIM| id2{Type}

id2 -->|"No alternative {368}"| id3(Path elaboration)

id2 -->|"Alternative offer {334}"| id4(Path elaboration)

id3 -->|"IIM {375}"| id5(Allocation)

id4 -->|"IIM {349}"| id6(Acceptance)

id6 -->|"IA {363}"| id1

id6 -->|"IA {360}"| id4

id6 -->|"IA {357}"| id7(Allocation)

id5 -->|"PIM {212}"| id1

id7 -->|"PIM {212}"| id1

id3 -->|"IIM {338}"| id1

id4 -->|"IIM {338}"| id1

```

# 

# Path alteration on offer level with alternative offer

```mermaid

flowchart LR

subgraph Booked

direction LR

id1(PA)

end

subgraph Elaboration

direction LR

id1 <-->|"IIM {334,338}, AIM{342}"| id2(PA)

id2 -->|"PIM"| id3(PA)

id2 -->|"PIM {335,346}"| id5(PA)

id3 <-->|"PIM {335,346}"| id5

id3 -->|"IIM {338,344}"| id1

id5 -->|"IIM {338,344}"| id1

end

subgraph Acceptance

direction LR

id5 -->|"IIM {349}"| id7("PA|RA")

id7 -->|"PPA"| id8("PA|PPA")

id7 -->|"PPA {355}"| id9("PA|PPA")

id7 -->|"PPA {353}"| id10("PA|PPA")

id9 -->|"IA {360}"| id2

id9 -->|"IA {363}"| id1

id10 <-->|"PPA {353}"| id8

id10 <-->|"PPA {353,355}"| id9

id8 <-->|"PPA {353}"| id9

end

subgraph Allocation

direction LR

id10 -->|"IA {357}"| id11(PA)

id9 -->|"IA {357}"| id11(PA)

id11 -->|"PIM {212}"| id1

end

style id2 fill: #1887f0

style id3 fill: #fcba03

style id5 fill: #03a82a

style id7 fill: #1887f0

style id1 fill: #03a82a

style id8 fill: #fcba03

style id9 fill: #fc032c

style id10 fill: #03a82a

style id11 fill: #03a82a

```

# 

# Path alteration on offer level with cancel running days

```mermaid

flowchart LR

subgraph Booked

direction LR

id1(PA)

end

subgraph Elaboration

direction LR

id1 <-->|"IIM {338,368}, AIM{344,371}"| id5(PA)

id3(PA) <-->|"PIM"| id5

id3 -->|"IIM {338}, PIM{344}"| id1

end

subgraph Allocation

direction LR

id5 -->|"IIM {375}"| id11(PA)

id11 -->|"PIM {212}"| id1

end

style id3 fill: #fcba03

style id5 fill: #03a82a

style id1 fill: #03a82a

style id11 fill: #03a82a

```

# Path modification on reference train level

```Mermaid

flowchart LR

id1(Booked) -->|"IA {29}"| id2(Harmonisation)

id2 -->|"IA {99}"| id1

id2 -->|"IA {69}"| id3(Path elaboration)

id3 -->|"IA {99}"| id2

id3 -->|"IIM {398}"| id4(Acceptance)

id4 -->|"IA 408"| id3

id4 -->|"IA {411}"| id1

id4 -->|"IA {405}"| id5(Allocation)

id5 -->|"PIM {211}"| id1

```

# 

# Path modification on request level

```mermaid

flowchart LR

subgraph Booked

direction LR

id1(PA)

end

subgraph Harmonisation

direction LR

id1 <-->|"IA {29,99}, AA{29}"| id3(PR)

id2 -->|"PPA {29}"| id3(PR)

id2 -->|"PPA {39}"| id5(PR)

id5 -->|"IA {99}"| id1

id5 <-->|"PPA {29,49}"| id3

end

subgraph Path elaboration

direction LR

id5 -->|"IA {69}"| id7(PR)

id7 -->|"IA {99}/IIM {328}"| id2(PR)

end

style id2 fill: #1887f0

style id3 fill: #fcba03

style id5 fill: #03a82a

style id7 fill: #03a82a

style id1 fill: #03a82a

```

# 

# Path modification offer level

```mermaid

flowchart LR

subgraph Booked

direction LR

id1(PA)

end

subgraph Elaboration

direction LR

id2(PA) -->|"PIM {112}"| id3(PA)

id2 -->|"PIM 396"| id5(PA)

id12(none) <-->|"PIM {112,251}"| id3

id12 -->|"PIM {473}"| id4(PR)

id12 <-->|"PIM {472,251}"| id5

id5 <-->|"PIM {112,396}"| id3

end

subgraph Acceptance

direction LR

id5 -->|"IIM {398}"| id7("PA|PPA")

id4 -->|"IIM {398}"| id7

id7 -->|"PPA"| id8("PA|PPA")

id7 -->|"PPA {403}"| id9("PA|PPA")

id7 -->|"PPA {401}"| id10("PA|RA")

id9 -->|"IA {408}"| id2

id9 -->|"IA {411}"| id1

id8 <-->|"PPA {403}"| id9

id8 <-->|"PPA {401}"| id10

id9 <-->|"PPA {401}"| id10

end

subgraph Allocation

direction LR

id10 -->|"IA {405}"| id11(PA)

id11 -->|"PIM {211}"| id1

end

style id2 fill: #1887f0

style id3 fill: #fcba03

style id4 fill: #fc032c

style id5 fill: #03a82a

style id7 fill: #1887f0

style id1 fill: #03a82a

style id8 fill: #fcba03

style id9 fill: #fc032c

style id10 fill: #03a82a

style id11 fill: #03a82a

```

# 

# Path cancellation reference train level

```Mermaid

flowchart LR

id1(Booked) -->|"IA {378}"| id2(Harmonisation)

id2 -->|"IA {379}"| id1

id2 -->|"IA {390}"| id5(Allocation)

id5 -->|"PIM {392}"| id1

```

# 

# Path cancellation on offer level

```mermaid

flowchart LR

subgraph Booked

direction LR

id1(PA)

end

subgraph Harmonisation

direction LR

id3("PA|RA") -->|"IA {379}"| id1

id5("PA|RA") <-->|"IA {378,379}, AA{385}"| id1

id5 <-->|"PA"| id3

end

subgraph Allocation

direction LR

id5 -->|"IA {390}"| id7(PA)

id7 -->|"PIM {392}"| id1

end

style id3 fill: #fcba03

style id5 fill: #03a82a

style id7 fill: #03a82a

style id1 fill: #03a82a

```

# 

# Message sequence template

This is the PR submission (PaPs included). It contains activation and alternative streams. Based on this, any other diagram can be re-created.

```Mermaid

sequenceDiagram

participant A as Leading Applicant

participant B as Involved Applicant

participant C as PCS CB

participant D as Involved IM

participant E as Leading IM

A ->> C: PCoM(S:LA,R:3178,TOI:4)

activate C

C ->> A: RC

alt no PaP in the PR

C ->> B: PCoM(S:3178,R:RA,TOI:4)

C ->> B: PCoM(S:3178,R:RA,TOI:54)

C ->> D: PRM(S:3178,R:RIM,TOI:4)

C ->> D: PCoM(S:3178,R:RIM,TOI:54)

else PaP included in the PR

C ->> B: PCoM(S:3178,R:RA,TOI:54)

C ->> D: PRM(S:3178,R:RIM,TOI:54)

end

deactivate C

```

# 

# Handling RU appointment

```mermaid

sequenceDiagram

participant A as Involved Applicant

participant B as Responsible Applicant

participant C as Railway Undertaking

participant D as PCS CB

participant E as Responsible IM

alt RA appoints RU outside of Harmonisation

B ->> D: PRM (S:RA,R:3178, TOI:1/2)

activate D

D ->> B: EM (S:R,R:RA, code:5151)

else RA appoints RU in Harmonisation

B ->> D: PRM (S:RA,R:3178, TOI:1/2)

D ->> A: OIM (S:3178,R:RA,TOI:8,OIT:I,TIE)

D ->> C: OIM (S:3178,R:RU,TOI:8,OIT:I,TIE)

deactivate D

alt RA appoints RU on UI after Harmonisation

activate D

D ->> C: OIM (S:3178,R:RU,TOI:8,OIT:I,TIE)

D ->> E: OIM (S:3178,R:IM,TOI:8,OIT:I,TIE)

deactivate D

end

end

alt IM misses out RU in response

E ->> D: PDM(S:RIM,R:3178,TOI:8/42/13)

activate D

D ->> E: EM (S:R,R:RA, code:5151)

deactivate D

end

```