Správa železniční dopravní cesty

Relationship between TAF TSI and transmission of TT data to the engines – SŽDC solution

Ing. Marek Neustadt

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Správa železniční dopravní cesty

1. Regulation 62/2006 EC - TAF TSI describes relationship between RU and IM in proceses:
   - Path Request,
   - Train Preparation,
   - Train Running.
2. TAF TSI introduces unique train identification and unique identification of other objects.
3. TAF TSI solves train identification in all business cases where present operational train number is not used as unique identification.

Správa železniční dopravní cesty

Train identification consists from identification basic objects – most important are:

TR ID – Train ID – object defines business case

PR ID – Path Request ID

PA ID – Path ID – object defines TT for train path

Train operational number (OTN) – 5-6 digits number

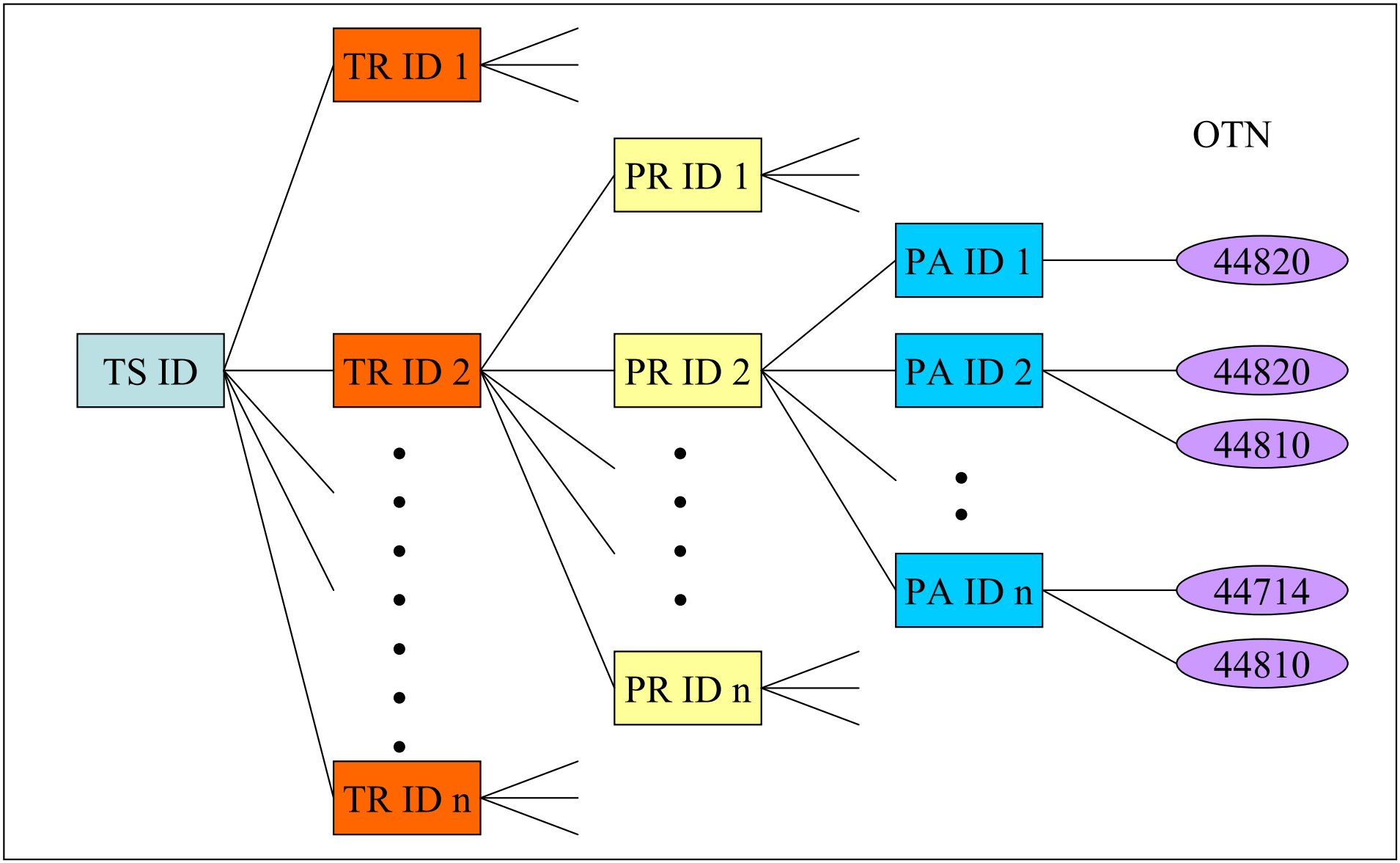
Relationship between objects:

TR ID : PA ID – 1:N

PA ID : OTN – M:N

TR ID : OTN – M:N

Správa železniční dopravní cesty



Správa železniční dopravní cesty

Description of IDs

Every ID has 2 parts:

The part for the planning phase:

- **Type of object 2 AN**
  - **TS – transport**
  - **TR – train**
  - **CR – case reference**
  - **PR – path request**
  - **PA – path details**
- **Company number 4 N – number of object owner**
- **Core element 12 AN – element is defined by creator**
- **Variant 2 AN – element is defined by creator**
- **TT period 4 N – year where TT is valid**

The part for the daily phase:

- **Date - rrrrmmdd – year, month and day of actual running day**

separator /

TR/1154/1234567890AB/00/2011/20110228

Správa železniční dopravní cesty

Lifecycle of a train – processes from TAF TSI

1. Path Request
   - output
     - allocated timetable in a data form
     - definition of TR ID and PA ID
2. Train activation/ utilisation notification – information from RU that the train path will be really used
   - RU states that the train will really use allocated train path in the concrete day and for concrete path section
3. Train preparation
   - RU sends message Train Composition – definition of concrete train parameters – mostly change of concrete loco number
   - RU sends message Train Ready – RU states its ability to start at the concrete point at concrete time, others important information is connection to the loco driver (GSM R, GSM P telephone number, etc.)
4. Train running
   - Train running information
   - Train running forecast for concrete point

Správa železniční dopravní cesty

Timetable data transmission to the loco

This project is solved in relation with project ETD (Electronic Timetable Display)

SŽDC solution is prepared in relation with TAF TSI

We must solve:

1. **correct loco identification and correspond TT**
2. **TT data transmission to the loco**

Správa železniční dopravní cesty

Timetable data transmission to the loco

Correct loco identification and correspond TT

1. OTN is not possible to be used
   - OTN is not unique, we must put other information (concrete point and planning running date – our experience – it is too complicate ..
2. PA ID, TR ID is not possible to use
   - too complicate for manual input
   - loco driver doesn‘t know this ID
   - Too many RU‘s exist without any own IT system which can solved this relationship between TR ID/PA ID and loco driver

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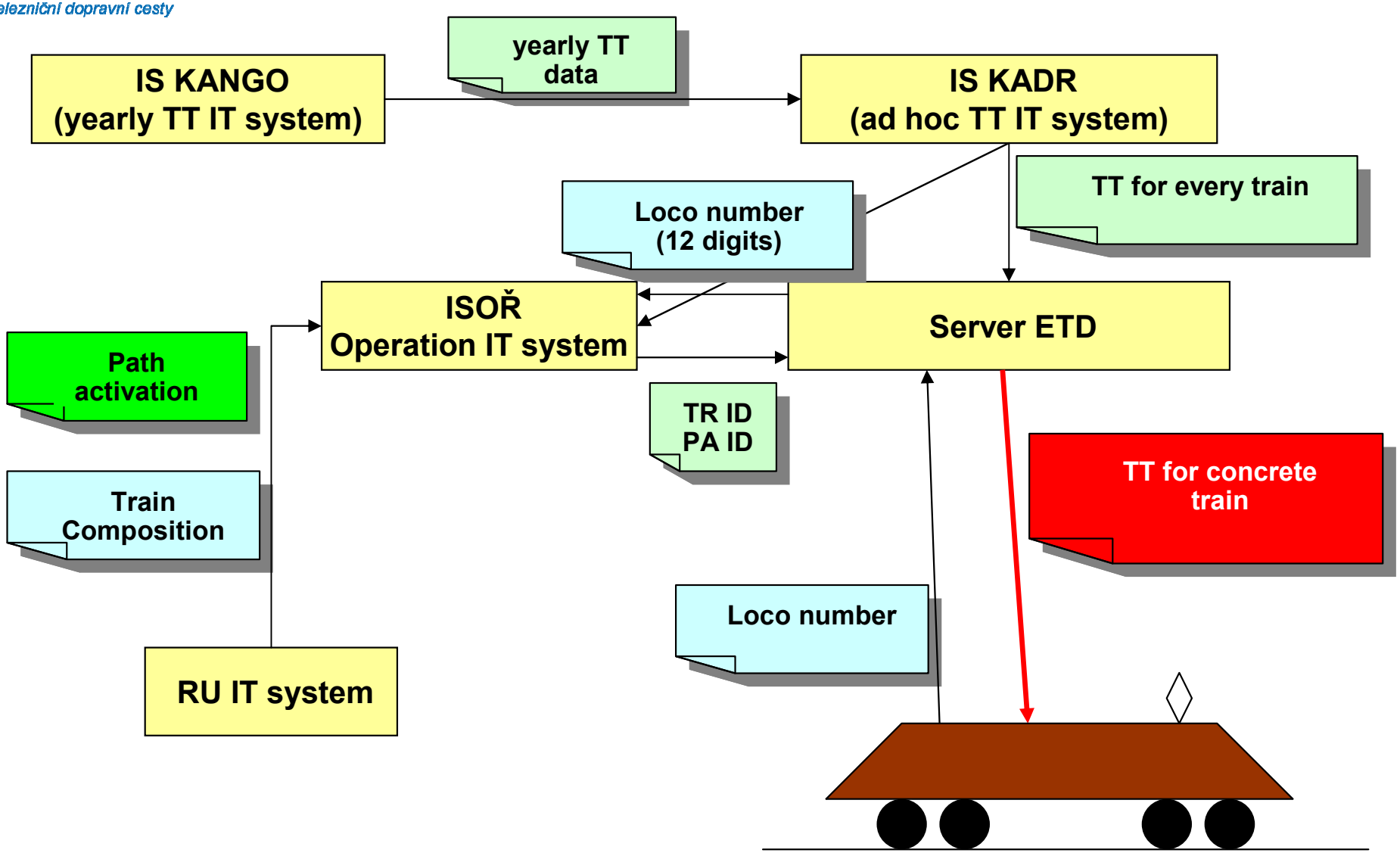
Solution:

Description of process transmission TT data to the loco



Správa železniční dopravní cesty

TT data transmission to the loco

Loco number transmission

- Test: Loco number must be found in train parameters from previous Train Composition message
- PA ID and TR ID determination
- transmission actual timetable data for actual section.

benefits:

- Loco driver must known only Loco number (respectively IT system on loco board must known this number), his login‘s name and password – from safety reasons
- different RU‘s bodies needn‘t to coordinate mutual data interchange
- multiple train running with the same OTN is possible in the SŽDC network

disadvantage

- RU must respect sequence of messages in accordance with train life cycle

Správa železniční dopravní cesty

Actual stage of SŽDC solution

Process analyse is elaborated

- process will be prepared, but temporary will be used TT data in .pdf format
  - IT system KANGO in current stage is not able send TT data in standard XML format to others IS

- the project was started for TT data transmission in XML format
- temporary solution would be prepared for operating tests for TT period 2012 – next year

Example of TT for OTN 47304

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Rušící Vn 47304

Olomouc přednádraží - Česká Třebová odj.sk. - DB

Lok. ř. 122, 123, 130. Normativ hmotnosti: viz tab. 4
Vlak brzděn I. způsobem brzdění
Brzdící procenta platí pro vlak do 500 m

1	2	3	5	6	7	8
Olomouc přednádraží	0				2 03	100/63*
Štěpánov	0	9			12	
Červenka	0	8			20	
Moravičany	0	8			28	
Mohelnice	0	2			30	
Lukavice na Moravě	0	5			35	
Zábřeh na Moravě	0	5			40	
Hoštejn	0	7^5			47^5	
Krasíkov	0	7^5			55	
Rudoltice v Čechách	0	9			3 04	
Třebovice v Čechách	0	9			13	40/37
Česká Třebová vjezd.sk.	0	5	3 18	5	23	
Česká Třebová odj.sk.	0	9	3 32		3 42	
Úhrnem ...		84	+	5	= 1 h 29 min	

* pro lok. ř. 122, 123 platí 90/49

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