



# **UNIFE CONTRIBUTION TO TAF TSI IMPLEMENTATION PROCESS**

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**Niclas GALONSKE, Member of UNIFE TAF/TAP TSI Mirror Group**

**Bucharest, March 07 , 2018**

# UNIFE Members as Implementation Partners - presented Tools and Applications

## RU

### **Path Request Train Preparation**

Train Running  
Forecast

### **Service Disruption Information**

Train Location  
Consignment Note  
data  
Shipment ETI/ETA  
Wagon Movement  
Interchange Reporting  
Data Exchange for  
Quality Improvement

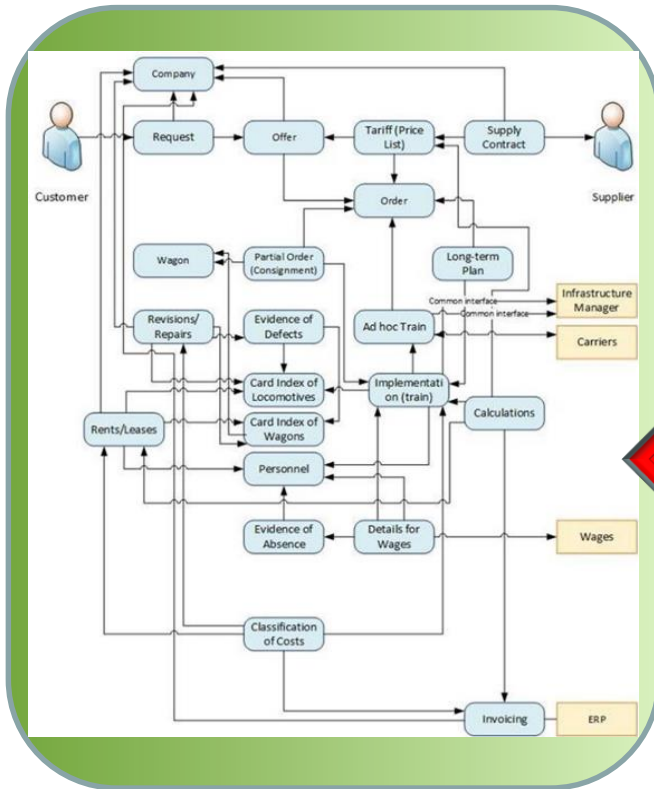
## IM

- **Path Request**
- **Train Preparation**
- Train Running  
Forecast
- **Service Disruption  
Information**
- Train Location
- Interchange  
Reporting
- Data Exchange for  
Quality Improvement

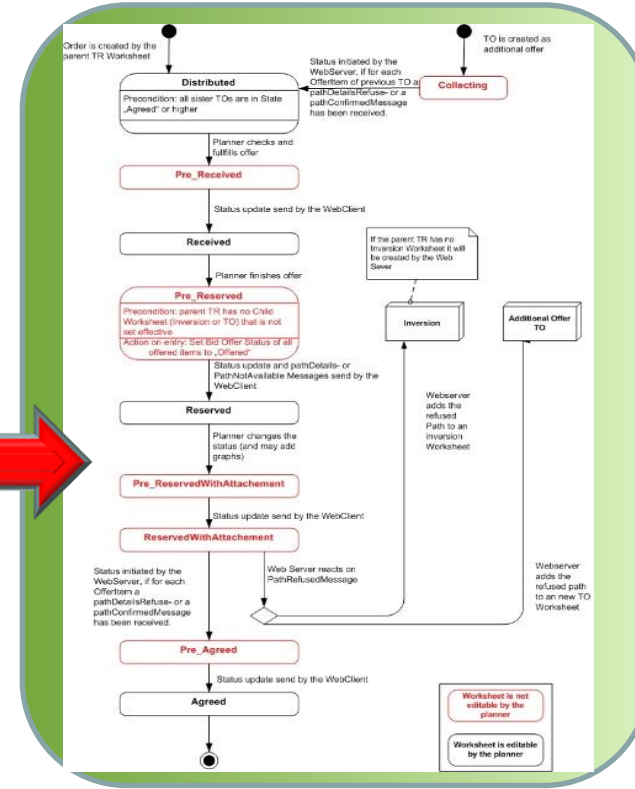
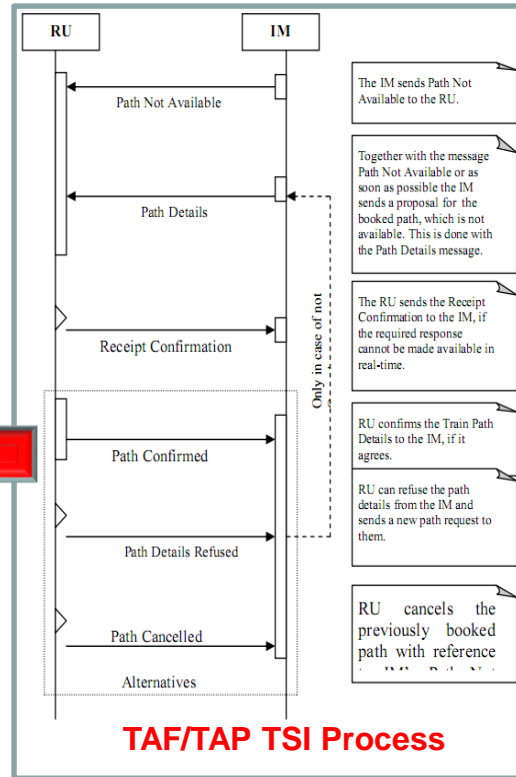
## WK

- Rolling Stock  
Reference  
Databases

# Unife Members as Implementation Partners ... providing adequate system architecture and workflow.

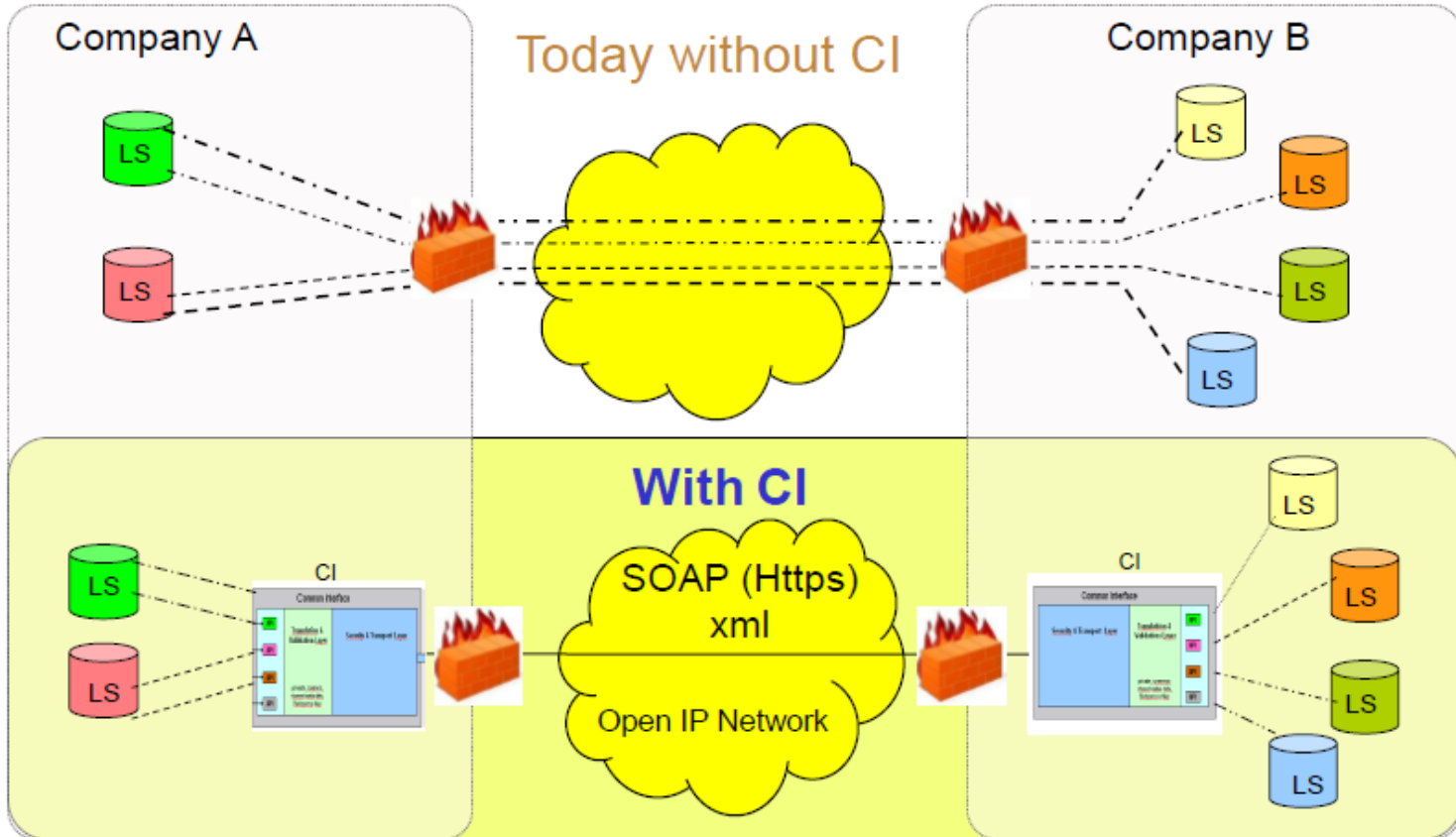


**System Architecture**



**Workflow**

# TAF TSI Communication



# TAF TSI „Soft Compliance – UNIFE Position“

# **UNIFE – Preliminary Input on TAF TSI Soft Compliance**

**Miroslav Haltuf – UNIFE Speaker to EUAR TAF TSI ICG**

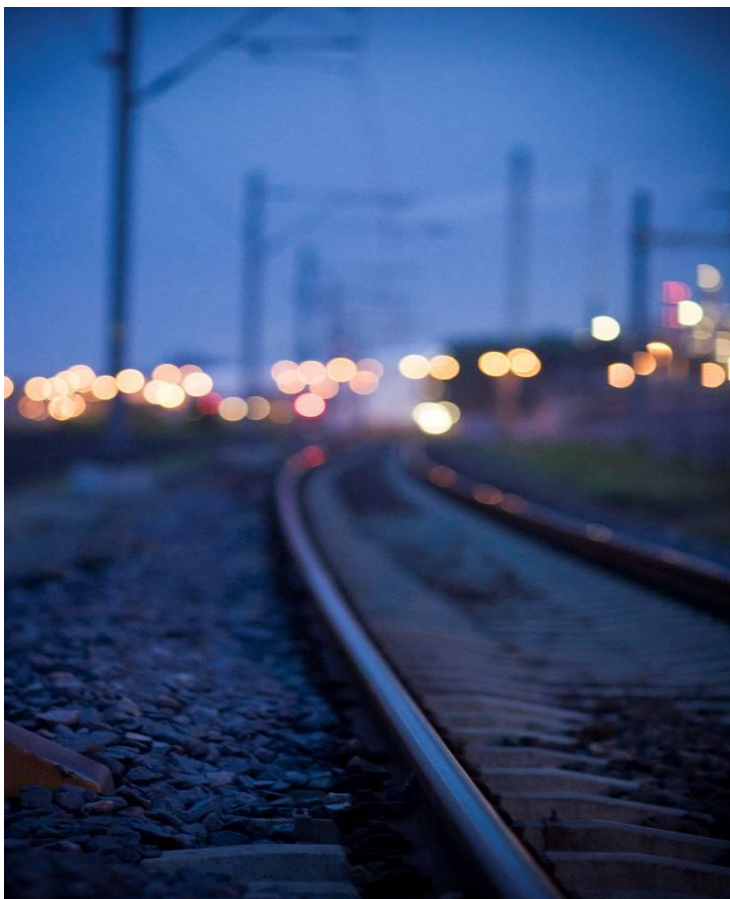
## **Definition of TAF TSI Soft Compliance (First proposal of UNIFE):**

**Any bi- or multi-lateral technical communication between IT systems is regarded as TAF TSI soft compliant, if it is using messages being Conformant with TAF TSI message format with respect to the related XSDs.**

## **UNIFE's perspective on Soft Compliance:**

### **The understanding of the industry is that:**

1. Any software products offering this kind of communication may be called "TAF TSI soft compliant".
2. TAF TSI soft compliant solutions or products are not required to have proven their compliance with the Common Interface (CI) in existing or past installations.
3. TAF TSI soft compliance means that a first important and already beneficial level of technical TAF TSI readiness of a given software has been accomplished.
4. TAF TSI software tools or interfaces used by RUs are validated (certified) by EUAR.
5. Facilitation of data exchange if the RU is operating only domestic (not international) freight traffic
6. Communication mostly between RU-IM; RU-RU not necessary



## **Motivation for implementing “soft compliance”**

Hundreds of RUs in Europe operate with no IT systems, because it is not cost-effective for them to have one considering their size.

On the other hand, there are about 30 IMs with interfaces that allow RUs to access their IT systems – mostly by the means of web clients or special applications connected to the IM’s servers.

**Implementation of TAF TSI soft compliance would allow for technical communication among all actors using a “common and unique” data exchange**



# Soft Compliance in a nutshell

## Political Aspects

### Parties involved

- Railway Undertakings
- Infrastructure Managers
- European Commission

### Aspects

- Fulfils conditions of TAF TSI
- Data communication with RUs that otherwise do not fulfil TAF TSI
- Easier co-financing by European funds

## General Aspects

### Efficiency

- No supplementary data channels
- No duplicate data manually (e.g. email) sent to RUs
- Easier correcting of mistakes in manual requests
- Easier timewise coordination of functions and processes
- Modification of the current IT Systems is enough

### Risks

- More complex checks of correctness of processes, use of all elements and avoiding incompatible national specifics
- More complex solution on IM's side
- Probably not usable for all processes



Increasing competitiveness of rail transport by interoperable SW tools

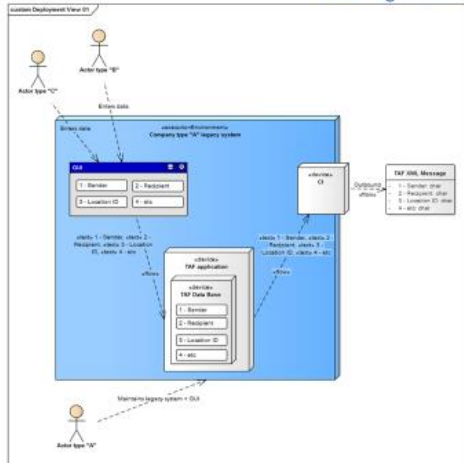


Increasing the Modal Shift of Rail Mode

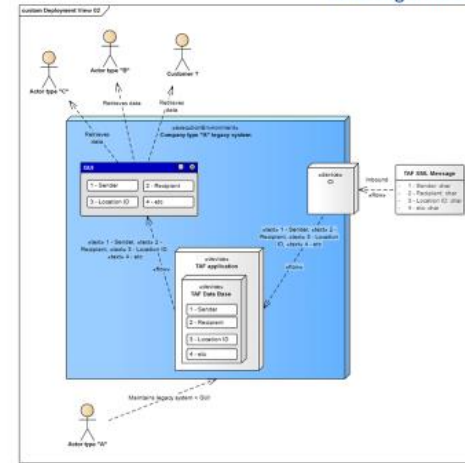
## **Priorities to successfully achieve implementation of TAF TSI soft compliance:**

1. Availability of TAF TSI software tools or web services usable for SMEs with a “very simple” or no internal IT system
2. Interoperable and efficient messaging which is (soft) compliant to the EU Regulation requirements with reasonable costs
3. Simple and fast implementation in all actors’ IT environments
4. Flexibility in operation and as low as possible need for any maintenance
5. Secure, available, accessible and resilient operation and independence on key market players for small RUs

Who might be impacted ? (cont)

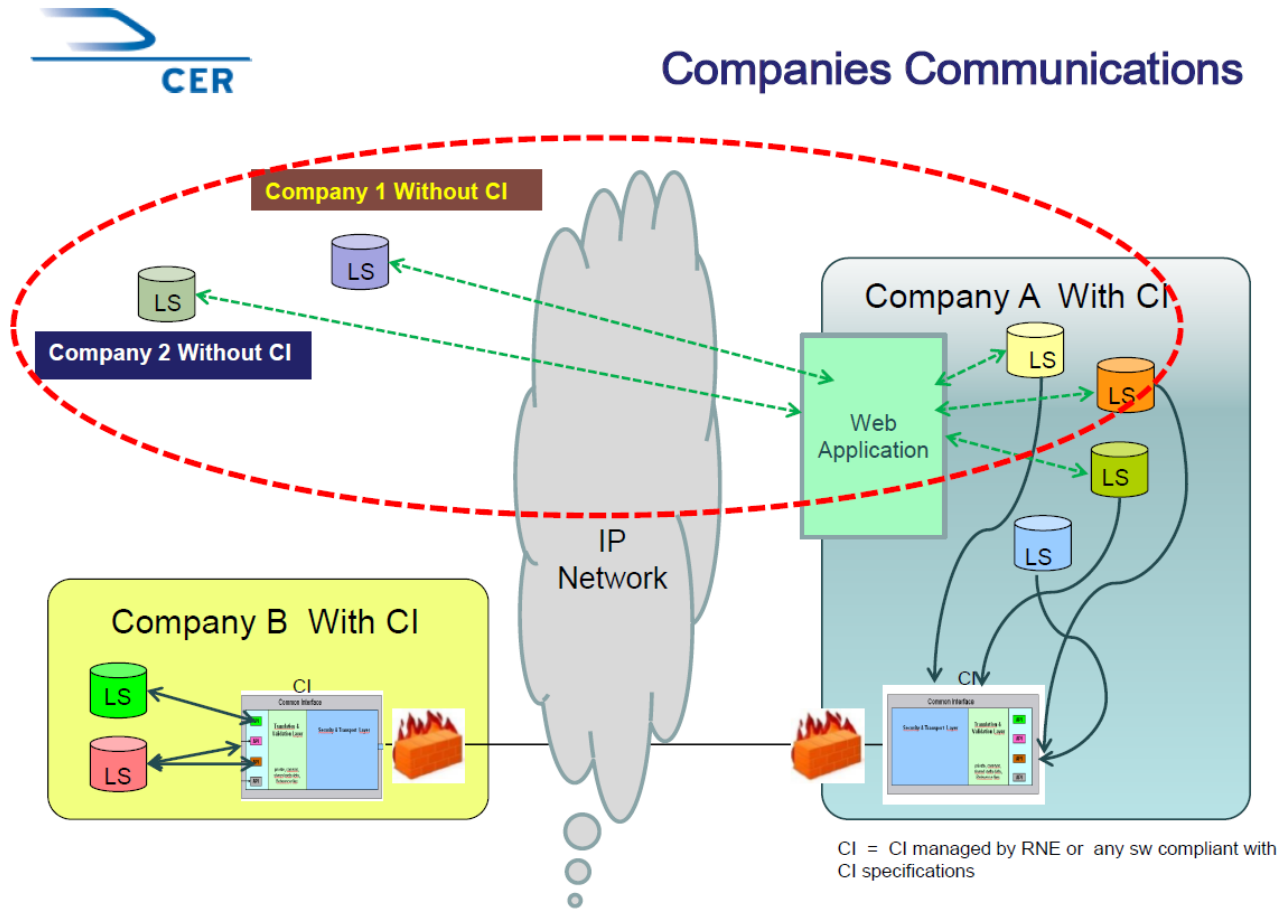


Who might be impacted ? (cont)



**UNIFE has no additional comments to diagrams published by ERA**

# UNIFE can support communication described at diagram by CER



# Recommendation of the EUAR TAF TSI „Soft Compliance“ Working Group

Still under  
discussion

## Target Situation - TAF TSI – ANNEX D.2, APPENDIX E

The target situation is to add in the Appendix E a new paragraph to get the implementation of the TAF TSI by all railways actors.

In this context, ERA proposes include in the Chapter 1.2:

***\*“In order to reach the total implementation in TAF TSI by all railways actors, other existing communication interfaces (such as Web-Services, Graphical User Interface etc) may be used for the same purpose if there is a specific agreement between the parties involved to allow the use of these communication interfaces.”***

Still under  
discussion

Slide 16

## Soft Compliance definition

ERA proposes the following definition of Soft Compliance:

*“Soft Compliance means the exchange of mandatory TAF data catalogue elements (XSD) according to the provisions of TAF TSI chapter 4.2 with the possible combination of other existing communication interfaces (such as Web-Services, Graphical User Interface etc) which may be used for the same purpose if there is a specific agreement between the parties involved to allow the use of these communication interfaces.”*

Still under  
discussion

Slide 18

## Compliance interpretation – after discussion in task force

ERA proposes the following interpretation of Compliance – to replace first sentence in chapter 4.2.12.6:

*“Compliance to the TSI, with respect to data exchange, means the exchange of mandatory TAF data catalogue elements (XSD) according to the provisions of TAF TSI chapter 4.2.*

*This can use the Common Interface specifications including the use of XSD without any specific agreement between the involved parties.*

*And combination of any communication technologies is possible if there is a specific agreement between the involved parties.”*

- *Maybe header title should be changed in chapter 4.2.12.6 of TAF and 4.2.21.7 of TAP TSI*
- *See also impact on other chapters in TAF and TAP such as CRD, Security etc*

**Still under  
discussion**



## RU – request preparation

traction type      weight      function type      Start point + end point

series

Ak	Řada HV	ID řady	Trakce	Hmotn	Funkce	Kalendář	Ze stanice	Do stanice
+	163	1630	Stejnós	84	vlakové	0	Pardubice hlavní nádraží	Olomouc hlavní nádraží

Oběh HV

Číslo oběhu	Depo	Uživatel
-------------	------	----------

OK      Storno

## RU – request ready

Upload to RU's data

KADR trasy

Filtrování:  
 všechny logy  
 přehledné kapacity  
 nezpracované kapacity  
 Vraceni/Zamitnutí

Zadavatel:  
 EMAN  
 DISCO-OR  
 KADR-web  
 MIMOZA

Kalendář: 5. 5. 2016

Textový filtr (RIN, TR, stanice)

Načíst do EMAN4

Logy 1/200

Výběr	Typ	id	Čas	TR	PR	RIN	Období	Kalendář	Výchozí stanice	Cílové stanice	Zadavatel	Načít
<input checked="" type="checkbox"/>	FridelenaKapac	71021	5. 5. 2016 13:26	TR/2154	—00399998/00/2016	FR/2154	—00399998/00/2016	PA0054-KADR104827	12.05.2016 - 12.05.2016	0 Pardubice hlavní r Olomouc hlavní nk	EMAN4_test	<input type="checkbox"/>



# IM

Request ID Date of departure

status



## RU – path activation

Train activated

1075 7 - Příprava směnového plánu

Výchozí stanice: Směr jízdy: Cílová stanice: Předpokládaný odjezd do 240 hodin

Objednat trasu

Seznam tras

Volné  Zavedené  Odřeknuté  Zapisované  Aktivované  Deaktivované

Vlakový	Vlakový	Vlakový	CKADR	Druh	Sleva	Druh přepravy	IDTT	Počátek trasy	Konec trasy	Předp.odjezd	Režim vli
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160510	Přerov předn.	Zebrzydowice	13:54 10.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160511	Přerov předn.	Zebrzydowice	13:54 11.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160512	Přerov předn.	Zebrzydowice	13:54 12.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160513	Přerov předn.	Zebrzydowice	13:54 13.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160514	Přerov předn.	Zebrzydowice	13:54 14.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160515	Přerov předn.	Zebrzydowice	13:54 15.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160516	Přerov předn.	Zebrzydowice	13:54 16.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160517	Přerov předn.	Zebrzydowice	13:54 17.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160518	Přerov předn.	Zebrzydowice	13:54 18.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160519	Přerov předn.	Zebrzydowice	13:54 19.05.2016	ucelený
48220	48220	48220		Pn		0-Běžná přeprava	TR/2154/.....1048220A/00/2016/20160520	Přerov předn.	Zebrzydowice	13:54 20.05.2016	ucelený

Odeslat a posoudit Odeslat Storno

IM

Web Service/CI

Change of train state

Train data

Request number: 047911-185-13/18-13  
 TR identification: TR/2154/.....1047761A/00/2016/20160529  
 PR identification: PR/2025A/.....1047761A/00/2016/20160529

RU: 01 Logistics s.r.o. - 993853

Departure station: Děčín M.n.a.B.E.A. Česká republika  
 Arrival station: Lázně nad Labem Ústí nad Labem

Path data

State	Country	Path point	RU	Arrival	Stay	Departure	Est. Dep.	Train number	T.S.	H	D	S	Stakes	HeadStops	Sensors	Note
0	CZ	Děčín M.n.a.B.E.A.	993853	8:00:00 PM		8:00:00 PM	4791	PR	2022	957	90	P				
1	CZ	Železná Ruda JN	993853	8:00:00 PM		8:00:00 PM	4791	PR	2022	957	90	P				
2	CZ	Věprava	993853	8:00:00 PM		8:00:00 PM	4791	PR	2022	957	90	P				
3	CZ	Chotoušev	993853	8:00:00 PM		8:00:00 PM	4791	PR	2022	957	90	P				
4	CZ	Dobruška	993853	8:00:00 PM		8:00:00 PM	4791	PR	2022	957	90	P				
5	CZ	Horácká Rada	993853	8:12:00 PM		8:12:00 PM	4791	PR	2022	957	90	P				
6	CZ	Prácheň	993853	8:12:00 PM		8:12:00 PM	4791	PR	2022	957	90	P				
7	CZ	Heřmanice	993853	8:12:00 PM		8:12:00 PM	4791	PR	2022	957	90	P				
8	CZ	Hvězdč	993853	8:14:00 PM		8:14:00 PM	4791	PR	2022	957	90	P				
9	CZ	Ústí nad Labem	993853	8:17:00 PM		8:17:00 PM	4791	PR	2022	957	90	P				
10	CZ	Ústí nad Labem	993853	8:20:00 PM		8:20:00 PM	4791	PR	2022	957	90	P				
11	CZ	Ústí nad Labem	993853	8:20:00 PM		8:20:00 PM	4791	PR	2022	957	90	P				

## RU – train preparation

Soubor Nástroje Vlaky Lokomotivy Strojvedoucí Vlakový personál Infrastruktura Komunikace Administrace Náhověda

Olomouc hn - ved.směny

(A) (B) (C) (I) (D) (K) (L) (M) (S) (N) (O) (J) (G) (Y) (V) (P) (Z)

Nálezitosti pro výchozí vlaky [32] Nastavení

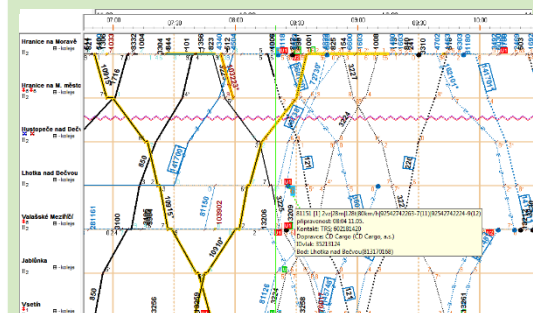
Fáze	Z	Výchozí stanice	Vlak	Druh	Cílová stanice	GVD odjezd	Předp.odjezd	Hm. Norma	Hm. Skutečná	U	M	Poznámka
▶		Jeseník	81383	Vleč	Jeseník	07:00 11.05.	07:21 11.05.	300				
▶		Lipová Lázně	81386	Vleč	VL.OMYA Pomezí	07:26 11.05.	07:26 11.05.	300				
▶		Olomouc hl.n.	81621	Mn	Dětrichov n.Bystř.	07:52 11.05.	07:52 11.05.	700				
▶		VL.OMYA Pomezí	81387	Vleč	Lipová Lázně	08:01 11.05.	08:01 11.05.	800				
▶	+	Šumperk	81354	Mn	Sobotín	08:08 11.05.	07:27 11.05.	500	154			
▶		Zábřeh na M.	81340	Mn	Hoštejn kol.č.1-4	08:21 11.05.	08:21 11.05.	300				
		Připravený k odjezdu pl.č.1-4	81341	Mn	Zábřeh na M.	09:07 11.05.	09:07 11.05.	300				
▶		Sobotín	81355	Mn	Šumperk	09:12 11.05.	09:12 11.05.	300				
▶		Olomouc předn.	60332	Pn	Č.Třebová vj.sk.	09:28 11.05.	09:28 11.05.	1600				
▶		Lipová Lázně	81203	Mn	Krnov	09:35 11.05.	13:31 11.05.	800				
▶		Javorník ve Sl.	81333	Mn	Lipová Lázně	10:27 11.05.	10:27 11.05.	300				
▶		Ptení	81103	Mn	Olomouc předn.	11:10 11.05.	11:10 11.05.	500				
▶		Šumperk	81384	Vleč	N.Matín	11:30 11.05.	11:30 11.05.	150				
▶		Olomouc hl.n.	281625	Mn	Bruntál	11:44 11.05.	11:44 11.05.	650				
▶		Třebčín	81700	Mn	Olomouc předn.	12:07 11.05.	12:07 11.05.	450				
▶		N.Matín	81385	Vleč	Šumperk	12:10 11.05.	12:10 11.05.	200				
▶		Zlaté Hory	81304	Mn	Lipová Lázně	12:25 11.05.	12:25 11.05.	380				
▶		Zábřeh na M.	81329	Mn	Mohelnice	13:32 11.05.	13:32 11.05.	500				
▶		Olomouc hl.n.	81623	Mn	Bruntál	14:03 11.05.	14:03 11.05.	650				
▶		Šumperk	81311	Mn	Zábřeh na M.	15:41 11.05.	15:41 11.05.	1100				
▶		Mohelnice	81328	Mn	Zábřeh na M.	15:43 11.05.	15:43 11.05.	500				
▶		Zábřeh na M.	61071	Pn	Třinec T7	19:52 11.05.	19:52 11.05.	1600				

Spuštěn 07:26:37

Web Service

# IM

Train with buffer ready for departure



### RUR Mapsof restrictions

**Parametry om**

**Osoba, která o**

**Údaje o výluc**

**GUID**

**Číslo rozkazu**

**Etapa**

**Typ opatření**

**Typ plánu**

**Detaily výluky**

**Související ud**

Kód	Roz
10409s-15/16	Z-2
10409u-15/16	Z-2

**Volby**

### Detail výluky

**Verze omezení infrastruktury**

27. 4. 2016 11:42:43, Leo Górak

**Údaje o omezení infrastruktury**

Manažer infrastruktury: Správa železniční dopravní cesty

Kód omezení infrastruktury: 10409k-15/16

Datum vytvoření záznamu: 20. 4. 2016 11:45:26

Datum poslední modifikace: 27. 4. 2016 11:42:43

Datum zveřejnění: 27. 4. 2016 11:44:05

Typ události dle UIC 407-1: 1 - mimořádnosti během údržby infr

Popis události

Charakter omezení: ■ TK(A) - Zastavení provozu

Příčina omezení: 101 - plánovaná výluka

Popis příčiny události: plánovaná výluka

Popis následků události

Omezení přijato ze systému: CSV

Druh události: Plánovaná

Z: Havířov 54-334540-00

Do: Ostrava-Bartovice 54-344242-00

Přes

[Mapa](#)

Popis místa

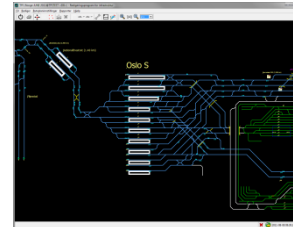
**Zneplatněno**

# PATH REQUEST

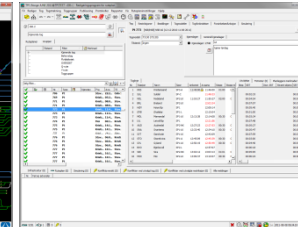
## TPS Client



Ordering Tool



Infrastructure Editor



Schedule Editor

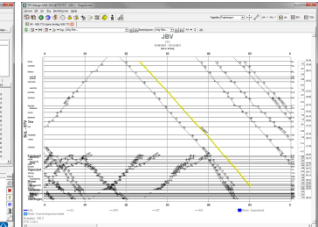
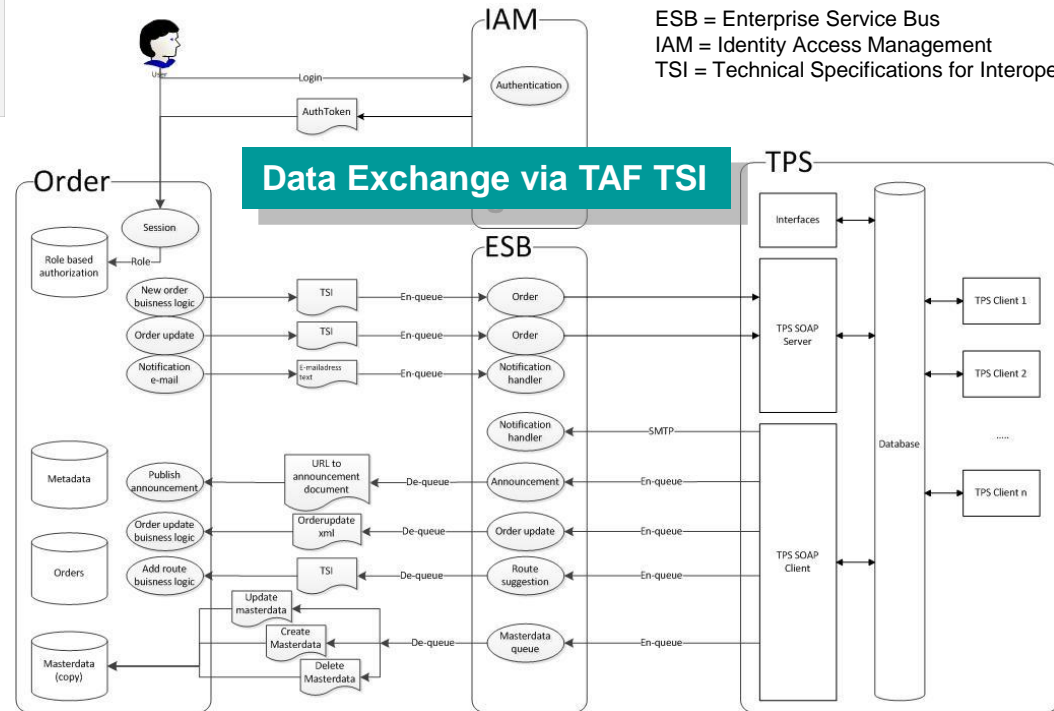


Diagram Editor



ESB = Enterprise Service Bus  
 IAM = Identity Access Management  
 TSI = Technical Specifications for Interoperability

## RU – Request Preparation

Subject Path order 1

Other information I like to order a train path

▼ Extra train Bergen - Myrdal

Train class Passenger train

Train type NSB day train

Departure date 2012-12-03

Reminder ?

Auto accept route proposal

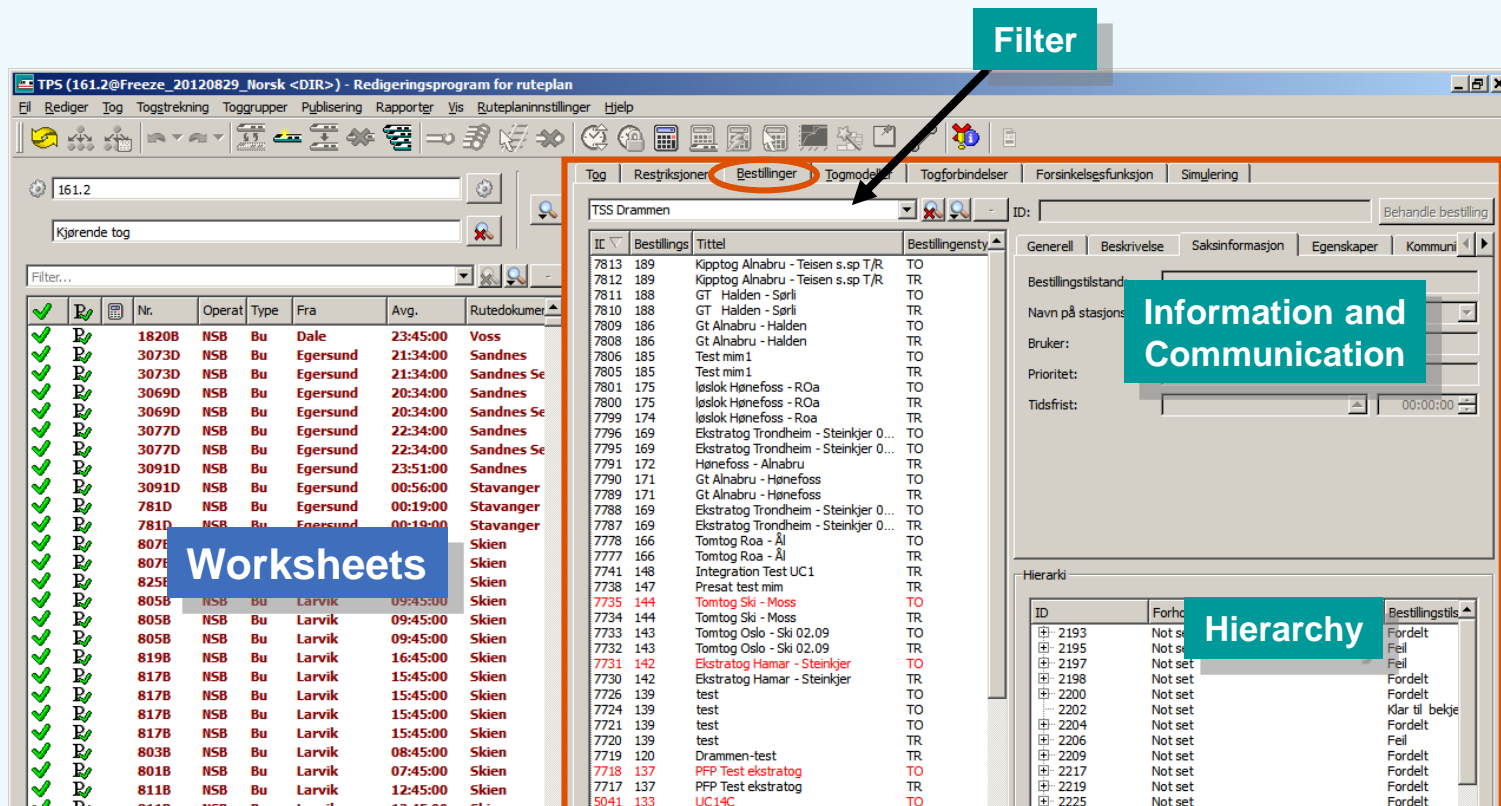
**Order** Bergen - Myrdal ✓

Station	Duration	Time	Arrival / Departure
Bergen		12:00	Dep.
Myrdal		--	Arr.

```

PathRequestMessage-Order238980-Item389734-4.txt - Editor
Datei Bearbeiten Format Ansicht ?
PATHREQUESTMESSAGE
MessageHeader:
CI_USCOREMessageStatus:
  _ns1_MessageReference:
    ns1_MessageType: 21
    ns1_MessageTypeVersion: JBV OTI 0.2
    ns1_MessageNumber: 1
    MessageDateTime: 18.05.2016 - 11:52:45
  ns1_MessageRoutingID: Not Used
  ns1_SenderReference: Not Used
  ns1_Sender:
    _Item: 9999
    ns1_CI_USCOREInstanceNumber: Not Used
  ns1_Recipient:
    _Item: 0076
    ns1_CI_USCOREInstanceNumber: Not Used
  orderID: 238980
  OrderItemID: 389734
  ReferenceOrderItemID: 389733
  OfferID: Not Used
  OfferItemID: Not Used
  NumberOfOrderItems: 6
  NumberOfOfferItems: Not Used
  LastOrderItem: Not Used
  LastOfferItem: Not Used
  SenderCompanyName: BSE-Baneservice AS
  RecipientCompanyName: JBV-Jernbaneverket
  OrderTitle: Uke 22 Ballastfordeler Daler-Mjondalen 1022
  GlobalOrderDescription: Bestillingen er sendt inn av Ole Strom, tlf. 91614356. Gjennomgaende ballastfordeling etter
  pakking mellom daler og Mjondalen
  OrderUser: 0 Element(s)
PathIdentity:
  PathIdent: Not Used
  PathDeparturePoint:
    CountryCodeISO:
      Item: NO
      LocationPrimaryCode: 1603
      PrimaryLocationName: MJD-Mjondalen
      LocationSubsidiaryCode: Not Used
      LocationSubsidiaryName: Not Used
      PathDepartureTime: 31.05.2016 - 03:15:00
  PathDestinationPoint:
    CountryCodeISO:
      Item: NO
      LocationPrimaryCode: 1603
      PrimaryLocationName: MJD-Mjondalen
      LocationSubsidiaryCode: Not Used
      LocationSubsidiaryName: Not Used
      PathDestinationTime: 31.05.2016 - 04:50:00
  TrainNumber: Not Used
  DateBitSequence: 1
  RT397Reference: Not Used
  ContractID: Not Used
  OperatorID: 14
  Remark: Not Used
RequestedJourneySection: 1 Element(s)
FreeTextField: Not Used
TrainGMRNO: Not Used
OperationalTrainType: At
PublicationTrainType: Not Used
LocDriverPersonalLeader:
  Name: Drops
  PhoneNumber:
  MessageStatus: 1
OrderDescription: [Auto accept is on]
          
```

## IM – Request Handling



**Filter**

**Worksheets**

**Information and Communication**

**Hierarchy**

TPS (161.2@Freeze\_20120829\_Norsk <DIR>) - Redigeringsprogram for ruteplan

161.2

Kjørende tog

Filter...

Nr.	Operat	Type	Fra	Avg.	Rutedokument
1820B	NSB	Bu	Dale	23:45:00	Voss
3073D	NSB	Bu	Egersund	21:34:00	Sandnes
3073D	NSB	Bu	Egersund	21:34:00	Sandnes Se
3069D	NSB	Bu	Egersund	20:34:00	Sandnes
3069D	NSB	Bu	Egersund	20:34:00	Sandnes Se
3077D	NSB	Bu	Egersund	22:34:00	Sandnes
3077D	NSB	Bu	Egersund	22:34:00	Sandnes Se
3091D	NSB	Bu	Egersund	23:51:00	Sandnes
3091D	NSB	Bu	Egersund	00:56:00	Stavanger
781D	NSB	Bu	Egersund	00:19:00	Stavanger
781D	NSB	Bu	Egersund	00:19:00	Stavanger
807E					Skien
807E					Skien
825E					Skien
805B	NSB	Bu	Larvik	09:45:00	Skien
805B	NSB	Bu	Larvik	09:45:00	Skien
805B	NSB	Bu	Larvik	09:45:00	Skien
819B	NSB	Bu	Larvik	16:45:00	Skien
817B	NSB	Bu	Larvik	15:45:00	Skien
817B	NSB	Bu	Larvik	15:45:00	Skien
817B	NSB	Bu	Larvik	15:45:00	Skien
817B	NSB	Bu	Larvik	15:45:00	Skien
803B	NSB	Bu	Larvik	08:45:00	Skien
801B	NSB	Bu	Larvik	07:45:00	Skien
811B	NSB	Bu	Larvik	12:45:00	Skien
811B	NSB	Bu	Larvik	12:45:00	Skien

Bestillinger

ID	Bestillings	Tittel	Bestillingenst
7813	189	Kipptog Alnabru - Teisen s.sp T/R	TO
7812	189	Kipptog Alnabru - Teisen s.sp T/R	TR
7811	188	GT Halden - Sørli	TO
7810	188	GT Halden - Sørli	TR
7809	186	Gt Alnabru - Halden	TR
7806	185	Gt Alnabru - Halden	TR
7805	185	Test mim 1	TO
7805	185	Test mim 1	TR
7801	175	løsløk Hønefoss - ROa	TO
7800	175	løsløk Hønefoss - ROa	TR
7799	174	løsløk Hønefoss - Roa	TR
7796	169	Ekstratog Trondheim - Steinkjer 0...	TO
7795	169	Ekstratog Trondheim - Steinkjer 0...	TO
7791	172	Hønefoss - Alnabru	TR
7790	171	Gt Alnabru - Hønefoss	TO
7789	171	Gt Alnabru - Hønefoss	TR
7788	169	Ekstratog Trondheim - Steinkjer 0...	TO
7787	169	Ekstratog Trondheim - Steinkjer 0...	TR
7778	166	Tomtog Roa - Ål	TO
7777	166	Tomtog Roa - Ål	TR
7741	148	Integration Test UC1	TR
7738	147	Presat test mim	TR
7735	144	Tomtog Ski - Moss	TO
7734	144	Tomtog Ski - Moss	TR
7733	143	Tomtog Oslo - Ski 02.09	TO
7732	143	Tomtog Oslo - Ski 02.09	TR
7731	142	Ekstratog Hamar - Steinkjer	TO
7730	142	Ekstratog Hamar - Steinkjer	TR
7726	139	test	TO
7724	139	test	TR
7721	139	test	TO
7720	139	test	TR
7719	120	Drammen-test	TR
7718	137	PPF Test ekstratog	TO
7717	137	PPF Test ekstratog	TR
5041	133	UC14C	TO

Bestillingstilstand

Navn på stasjons

Bruker:

Prioritet:

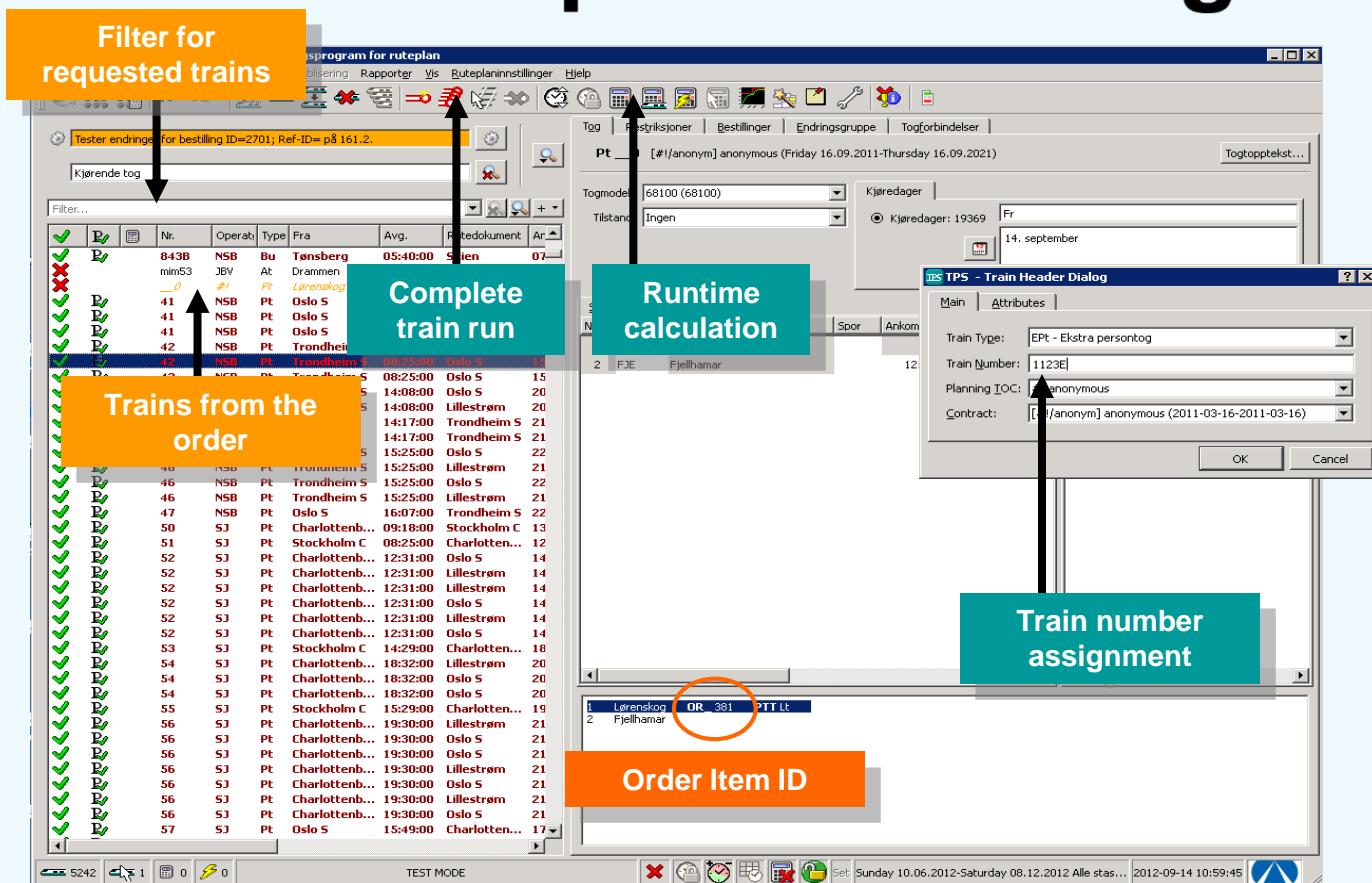
Tidsfrist: 00:00:00

Hierarki

ID	Forh	Bestillingstil
2193	Not set	Fordelt
2195	Not set	Fjell
2197	Not set	Fjell
2198	Not set	Fordelt
2200	Not set	Fordelt
2202	Not set	Klar til bekke
2204	Not set	Fordelt
2206	Not set	Fjell
2209	Not set	Fordelt
2217	Not set	Fordelt
2219	Not set	Fordelt
2225	Not set	Fordelt



## IM – Request Planning



The screenshot shows the 'Program for ruteplan' (Route Planning Program) interface. It features a main table of train runs, a 'Filter for requested trains' box, a 'Complete train run' box, a 'Runtime calculation' box, a 'Train number assignment' dialog box, and an 'Order Item ID' box. The table lists train runs with columns for 'Nr.', 'Operatør', 'Type', 'Fra', 'Avg.', 'Rutedokument', and 'Ar.'. The 'Train number assignment' dialog box shows 'Train Type: EPT - Ekstra persontog', 'Train Number: 1123E', 'Planning\_IOC: anonymous', and 'Contract: [#/anonym] anonymous (2011-03-16-2011-03-16)'. The 'Order Item ID' box highlights 'OR\_381' in the table.

**Filter for requested trains**

**Complete train run**

**Runtime calculation**

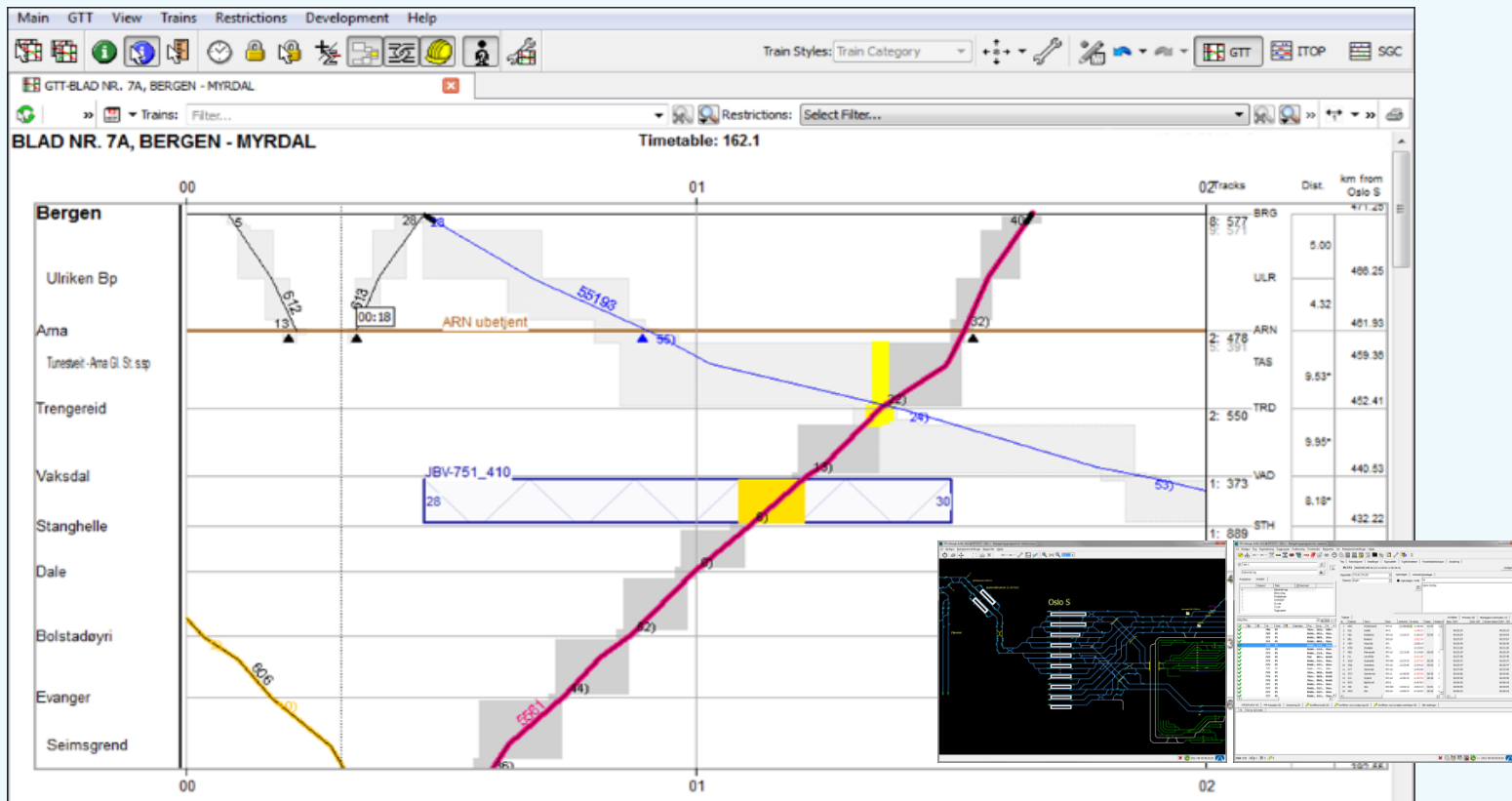
**Trains from the order**

**Train number assignment**

**Order Item ID**

Nr.	Operatør	Type	Fra	Avg.	Rutedokument	Ar.
8438	NSB	Bu	Tønsberg	05:40:00	Sien	07
mim53	JBV	At	Drammen			
0	#1	Pt	Lørenskog			
41	NSB	Pt	Oslo S			
41	NSB	Pt	Oslo S			
41	NSB	Pt	Oslo S			
42	NSB	Pt	Trondheim			
45	NSB	Pt	Trondheim	08:25:00	Oslo S	14
46	NSB	Pt	Trondheim S	08:25:00	Oslo S	15
46	NSB	Pt	Trondheim S	14:08:00	Oslo S	20
47	NSB	Pt	Oslo S	14:08:00	Lillestrøm	20
50	SJ	Pt	Charlotten...	14:17:00	Trondheim S	21
51	SJ	Pt	Stockholm C	14:17:00	Trondheim S	21
52	SJ	Pt	Charlotten...	15:25:00	Oslo S	22
52	SJ	Pt	Charlotten...	15:25:00	Lillestrøm	21
52	SJ	Pt	Charlotten...	15:25:00	Oslo S	22
52	SJ	Pt	Charlotten...	16:07:00	Trondheim S	22
53	SJ	Pt	Charlotten...	09:18:00	Stockholm C	13
53	SJ	Pt	Stockholm C	08:25:00	Charlotten...	12
52	SJ	Pt	Charlotten...	12:31:00	Oslo S	14
52	SJ	Pt	Charlotten...	12:31:00	Lillestrøm	14
52	SJ	Pt	Charlotten...	12:31:00	Oslo S	14
52	SJ	Pt	Charlotten...	12:31:00	Lillestrøm	14
52	SJ	Pt	Charlotten...	12:31:00	Oslo S	14
53	SJ	Pt	Stockholm C	14:29:00	Charlotten...	18
54	SJ	Pt	Charlotten...	18:32:00	Lillestrøm	20
54	SJ	Pt	Charlotten...	18:32:00	Oslo S	20
54	SJ	Pt	Charlotten...	18:32:00	Oslo S	20
55	SJ	Pt	Stockholm C	15:29:00	Charlotten...	19
56	SJ	Pt	Charlotten...	19:30:00	Lillestrøm	21
56	SJ	Pt	Charlotten...	19:30:00	Oslo S	21
56	SJ	Pt	Charlotten...	19:30:00	Oslo S	21
56	SJ	Pt	Charlotten...	19:30:00	Lillestrøm	21
56	SJ	Pt	Charlotten...	19:30:00	Oslo S	21
56	SJ	Pt	Charlotten...	19:30:00	Lillestrøm	21
56	SJ	Pt	Charlotten...	19:30:00	Oslo S	21
56	SJ	Pt	Charlotten...	19:30:00	Lillestrøm	21
56	SJ	Pt	Charlotten...	19:30:00	Oslo S	21
57	SJ	Pt	Oslo S	15:49:00	Charlotten...	17

## IM – Request Planning



## IM – Request Workflow

➤ Pre-configured Worksheet states (= order states):

- Collecting
- Distributed
- Received
- Reserved
- Agreed
- Published
- Cancelled
- Error
- ...

```

PathConfirmedMessage-Order238980-Item389734-4.txt - Editor
Datei Bearbeiten Format Ansicht ?
PATHCONFIRMEDMESSAGE
MessageHeader:
CI_USCOREMessageStatus:
  _ns1__MessageReference:
    ns1__MessageType: 23
    ns1__MessageTypeVersion: JBV OTI 0.2
    ns1__MessageNumber: 1
    MessageDateTime: 25.05.2016 - 11:00:55
    ns1__MessageRoutingID: Not Used
    ns1__SenderReferenceID: Not Used
    ns1__Sender:
      _item: 9999
      ns1__CI_USCOREInstanceNumber: Not Used
    ns1__Recipient:
      _item: 0076
      ns1__CI_USCOREInstanceNumber: Not Used
    orderID: 238980
    OrderItemID: 389734
    ReferencedOrderItemID: Not used
    offerID: 287167
    offerItemID: 4
    NumberOfOrderItems: 1
    NumberOfOfferItems: Not Used
    LastOrderItem: Not Used
    LastOfferItem: Not Used
    SenderCompanyName: BSE-Baneservice AS
    RecipientCompanyName: JBV-Jernbaneverket
    OrderTitle: uke 22 Ballastfordeler Daler-Mjøndalen 1022
    GlobalOrderDescription: Bestillingen er sendt inn av Ole strøm, tlf. 91614356. gjennomgående ballastfordeling etter
    pakking mellom daler og Mjøndalen
    orderUser: 0 Element(s)
  
```

735
736
736
736
736
736

5140	Inversion	Distributed
5141	Not set	Error
5142	Not set	Distributed

Worksheet Hierarchy

Worksheet

Worksheet

2nd Offer Worksheet

Inversion of the 1st Offer

# PATH REQUEST

**RUs, IMs, WKs,**

**Having interest  
in  
some solution?**

**email to**

**[stefanos.gogos@unife.org](mailto:stefanos.gogos@unife.org)**