

Export Data from the CTS system ExtDB

Export Format Definition

2024-09-26

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1 Data export format for external storage and analyze

A complete set of files will be produced for each day, the set of files will contain information about all timetable related activities for the given day. This includes the actual times when the vehicles arrive and depart from each planned stop. Information the vehicles sends as it travels between stops is also included.

Note that the values in the tables are only valid for the specified day, for example to compare id's between different datasets is not allowed.

In addition of vehicle centric view is presented in the Vehicle schema tables where each event triggered by the vehicles is reflected.

The exported files will be in CSV format.

Note that some fields can be empty, for example the Calls.ActualArrivalTime is empty if no vehicle reported an arrivaltime at that post. If a field can be empty they are marked NULL, otherwise NOT NULL.

The date for exporting the data will be a parameter, thus for old dates it will also be possibly to export the data. As soon as this solution has been implemented, it should be agreed about how old data that should be saved in the DB's, and older data will be deleted from the production DB's.

All data should be exported to a disc/storage that is supplied by the customer. The disc/storage should not be using any discs that is already used by the ITS4mobility system, i.e. it needs to be supplied a new extra place to where the files should be exported. It is the responsibility of the customer to make sure that this storage is available and have enough storage space.

2 Revision history

Version	Date	Description
1.0	2013-06-18	First Release
1.1	2013-06-19	Added PlannedJourneys.ExternalID
1.2	2013-08-07	Updated the eventtypes
1.3	2013-08-21	Added SystemEvents
1.4	2013-08-27	Added PlannedJourney.DirectionCode Changed coordinate format do decimal
1.5	2013-10-28	Added new eventType for offRoute
1.6	2015-11-20	Updated PlannedJourneys, PlannedBlocks. Added PassengerCount, PassengerInOut,InvalidatedJourneys
1.7	2016-01-28	Added examples of using the PassengerInOut table
1.8	2017-05-23	Added description of new Call columns, IsValid,IsRealtime,DelayOnDepartureSeconds
1.9	2017-05-24	Updated PassengerCount
1.10	2018-03-20	Added driverId, journeyServiceTypes
1.11	2018-04-01	Add Vehicles schemas
1.12	2018-10-24	Updated description of Calls.stopDurationSeconds column
1.13	2019-03-15	Updated description of Calls.IsRealtime column
1.14	2019-10-29	Updated PlannedBlock with BlockTypeid
1.15	2020-05-08	Added PassengerCount_PB
1.16	2020-05-28	Added PassengerCount_Category
1.17	2020-06-22	Added DriverOnCalDay
1.18	2020-08-12	Added PlannedJourneyProperties, NumberOfRows, updated VehicleOnCalDay
1.19	2020-08-13	Vehicle schemas vehicle & driver table changed to nullable
1.20	2020-08-20	Added Disturbances, CallsDisturbances
1.21	2020-09-15	Added ReportSheet, JourneyType dynamic
1.22	2021-01-18	Added VehicleOnCalDayProperty
1.23	2021-04-13	Updated PlannedJourneys journeyTypes
1.24	2021-06-11	Added PlannedDuty, PlannedDutyPart, predepart
1.25	2021-08-13	Added table descriptions, updated Diagram
1.26	2022-01-05	Extended Disturbances, File export
1.27	2022-07-01	Comment about export formats
1.28	2022-08-25	PassengerCount_Door, LogicalPositions.StatusFlags
1.29	2022-10-11	APC, ReportReason updated
1.30	2022-11-22	StopPointProperty, Disturbances added columns

1.31	2022-12-14	ServiceOperations,Connections
1.32	2023-01-20	BookingsLog
1.33	2023-03-10	ReportSheet, ReportSheetProperties
1.34	2023-04-26	ReportSheet, new columns
1.35	2023-11-27	New journeyTypes
1.36	2024-02-20	Events.VehicleFlags
1.37	2024-08-12	Disturbances content
1.38	2024-08-23	Disturbances.CancelledDateTime, CancelledDateTimeDto
1.39	2024-09-26	DriverOnCalDay First/Last name
1.40	2024-10-22	ReportSheetProperties additional types

3 Data Definitions

Line			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
ExternalId	String	NOT NULL	External id for the line
LineNameShort	String	NOT NULL	Shortname
LineNameLong	String	NOT NULL	Longname

Company			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
ExternalId	String	NOT NULL	External id for the company
Name	String	NOT NULL	The name of the company

StopPoint			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
ExternalId	String	NOT NULL	External id for the stop point
Name	String	NOT NULL	The name of the stop point
Code	String	NOT NULL	The code of the stop point, eg 'A', 'B', '1'
Longitude	float	NULL	The Longitude of the stop point in WGS84
Latitude	float	NULL	The Latitude of the stop point in WGS84

StopPointProperty			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
StopPointId	bigint	NOT NULL	The stopPointId
PropertyType	String	NOT NULL	Type of the property
Value	String	NOT NULL	The property

PlannedJourneys			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned

Id	bigint	NOT NULL	rowId
ExternalID	String	NOT NULL	ExternalId for the journey
JourneyName	String	NOT NULL	The name of the journey
JourneyStartTime	datetime	NOT NULL	The starttime of the journey
JourneyEndTime	datetime	NOT NULL	The endtime of the journey
BelongsToCompanyId	bigint	NOT NULL	A reference to Company.Id
BelongsToLineId	bigint	NOT NULL	A reference to Line.Id
DirectionCode	String	NOT NULL	The direction code
HasJourneyTypeId	bigint	NOT NULL	The type of the journey: 1=Ordinary 2=Extra 3=Unannounced 4=Called 5=NightTime 6=Empty 7=School 10=Reinforcement 11=VehicleTypeReplace 12=JourneyTemplate 13=CalledZoneTemplate 14=CalledZone 15=CalledZonePending 16=Charge 17=PullIn 18=PullOut 31=Dynamic 32=NonPublic
RouteIdentifier	String	NOT NULL	The identifier of the route

PlannedJourneyProperties			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
UsesPlannedJourneyId	bigint	NOT NULL	Reference to PlannedJourney.Id0
PropertyKey	String	NOT NULL	The type of the property
PropertyValue	String	NOT NULL	The value of the property

PlannedBlocks			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
ExternalId	String	NOT NULL	External id for the block
BlockName	String	NOT NULL	The name of the block
BelongsToCompanyId	bigint	NOT NULL	A reference to Company.Id
BelongsToVehicleSchedule	String	NOT NULL	The name of the VehicleSchedule
BlockTypeId	Int	NULL	The type of the block. 1=PlannedBlock 2=LineJour 3=Relative 4=NoTime 32=NonPublic

PlannedDuty			
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OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
ExternalId	String	NOT NULL	External id for the duty
Name	String	NOT NULL	The name of the duty
TypeId	Int	NOT NULL	The type of the duty 1=PlannedDuty

PlannedDutyPart			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
BelongsToDutyId	bigint	NOT NULL	The Id of the duty
SequenceInDuty	Int	NOT NULL	The sequence in the duty
UsesPlannedJourneyId	bigint	NOT NULL	The referencing journey
StartSequenceInJourney	Int	NULL	The sequence in the journey the dutypart starts at, if NULL the dutypart begins at the firsts stop
EndSequenceInJourney	Int	NULL	The sequence in the journey the dutypart ends at, if NULL the dutypart ends at the last stop

Destination			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
ExternalId	string	NOT NULL	ExternalId of the destination
DestinationNameShort	string	NOT NULL	The short name of the destination
DestinationNameLong	string	NOT NULL	The long name of the destination

DestinationDisplay			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
id	bigint	NOT NULL	rowId
Destination1Id	bigint	NOT NULL	The main destination of the call. A reference Destination.Id
Destination2Id	bigint	NULL	The secondary destination of the call. A reference Destination.Id
Via1Id	bigint	NULL	The main via destination of the call. A reference Destination.Id
Via2Id	bigint	NULL	The secondary via destination of the call. A reference Destination.Id

CallDetails			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
StartsAtCallId	bigint	NOT NULL	A reference to Calls.Id
EventType	bigint	NOT NULL	The event that triggered that the vehicle sent this Event type 1 = report between stops. Event type 2 = report at stop Event type 3 = manual repositioning Event type 4 = automatic repositioning Event type 5 = offroute Event type 6 = predepart
ReportedDistance	int	NULL	The distance since last call, reported by the vehicle.

ReportedLongitude	float	NULL	The Longitude of the report in WGS84, for future use
ReportedLatitude	float	NULL	The Latitude of the stop point in WGS84, for future use
TimeStamp	datetime	NOT NULL	The vehicle time for the report

Calls			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
UsesPlannedBlockId	bigint	NOT NULL	A reference to PlannedBlock.Id
UsesPlannedJourneyId	bigint	NOT NULL	A reference to PlannedJourney.Id
VehicleIdentity	bigint	NOT NULL	The identity of the vehicle, in the systemAddress format, -1 if no report came from the stop.
SequenceInJourney	int	NOT NULL	The sequence in the journey of the Call.
UsesStopPointId	bigint	NOT NULL	A reference to StopPoint.Id
PlannedArrivalTime	datetime	NULL	The arrival time according to the timetable
PlannedDepartureTime	datetime	NULL	The departure time according to the timetable
IsTimingPoint	int	NOT NULL	1 if the Call describes a timing point, 0 if not.
ActualArrivalTime	datetime	NULL	The arrival time according to the vehicle
ActualDepartureTime	datetime	NULL	The departure time according to the vehicle
StopDurationSeconds	int	NULL	Stay time at stop. The stay time (at the stop) is measured from the first door opening inside the stop area to the time the vehicle starts rolling the last time before it leaves the stop area.
Id	bigint	NOT NULL	rowId
MeasuredDistanceToNextPointInJourney	int	NOT NULL	The measured distance between this call and the next.
UsesDestinationDisplayId	bigint	NOT NULL	A reference to DestinationDisplay.Id
IsValid	int	NULL	1 = Call is valid, 0 = Call is based on an invalid vehicle report and was not used for forecasting
IsRealtime	Int	NULL	1 = Call was based on a realtime report , 0 = Call was based on an offline vehicle report, NULL = undefined
DelayOnDepartureSeconds	Int	NULL	The departure delay sent from the vehicle, the value calculated so that it compensates for the time the bus travels from the stop to the boundary of the N m radius. This is calculated so that a more precise time can be showed on the driver display, but it is not used in the reports, only showed in the table to give a record of what has happened in the vehicle
DriverId	Int	NULL	The Id of the driver
JourneyServiceType	Int	NULL	0x0000=ORDINARY 0x0100=REINFORCEMENT 0x0200=LEARNING 0x0400=SHORTRUN 0x0800=DEADRUN 0x1000=TOWRUN

			0x2000=TESTRUN
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AssignedBlocks			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
UsesPlannedBlockId	bigint	NOT NULL	A reference to PlannedBlock.Id
VehicleIdentity	bigint	NOT NULL	The identity of the vehicle, in the systemAddress format.
ValidityStart	datetime	NOT NULL	Time when the validity of the assignment started
ValidityEnd	datetime	NULL	Time when the validity of the assignment ended
Id	bigint	NULL	rowId
Assigner	String	NULL	The name of the assigner of the block
Deassigner	String	NOT NULL	The name of the deassigner of the block

InvalidatedJourneys			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
UsesPlannedJourneyId	bigint	NOT NULL	The id of the invalidated journey
ValidityStart	datetime	NOT NULL	The starttime of the invalidation
ValidityEnd	datetime	NOT NULL	The endtime of the invalidation
Creator	string	NOT NULL	The creator of the invalidation
Description	string	NOT NULL	The description of the invalidation

PassengerInOut			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
HappensAtCallId	bigint	NOT NULL	The call the PassengerInOut is reported from
DoorNumber	int	NOTNULL	The number of the door
TotalIn	int	NOT NULL	Number of passengers that has entered the vehicle
TotalOut	int	NOT NULL	Number of passengers that has leaved the vehicle
TimeStamp	datetime	NOT NULL	The timestamp of the passengerInOut
IsValid	int	NOT NULL	1 when valid, 0 when not valid

PassengerInOut_Category			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
HappensAtCallId	bigint	NOT NULL	The call the PassengerInOut is reported from

DoorNumber	int	NOTNULL	The number of the door
Category	Int	NOT NULL	The category the APC belongs to. 1=adult 2=bike 3=buggy 4=case 5=child 6=dog 7=unidentified
TotalIn	int	NOT NULL	Number of passengers that has entered the vehicle
TotalOut	int	NOT NULL	Number of passengers that has leaved the vehicle
TimeStamp	datetime	NOT NULL	The timestamp of the passengerInOut
IsValid	int	NOT NULL	1 when valid, 0 when not valid

PassengerCount			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	rowId
HappensAtCallId	bigint	NOT NULL	The call the PassengerCount is reported from
PassengersOnboard	int	NULL	Number of passengers onboard
TotalIn	int	NOT NULL	Number of passengers that has entered the vehicle
TotalOut	int	NOT NULL	Number of passengers that has leaved the vehicle
TimeStamp	datetime	NOT NULL	The timestamp of the passengercount
PassengersFromLast Journey	int	NULL	Number of passengers carried over from last journey, >= 0 if has value, else null
IsValid	Int	NULL	1 when everything is valid, 0 if something is invalid or previously invalid in the session.

PassengerCount_Raw			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
PassengerId	bigint	NOT NULL	rowId
HappensAtCallId	Bigint	NULL	The call the PassengerCount is reported from
TimeStamp	datetime	NOT NULL	The timestamp of the passengercount
IsValid	Int	NOT NULL	1 when everything is valid, 0 if something is invalid or previously invalid in the session.
ReportReason	Int	NOT NULL	The reason of the report. UNKNOWN = 0, JOURNEY_RESET = 1, JOURNEY_STOP_DEPARTURE = 2, JOURNEY_STOP_PASSBY = 3, JOURNEY_END = 4, DOOR_CLOSING = 5, JOURNEY_SWITCH = 6, DOOR_CLOSE_INTERMEDIATE = 7, TIME_UPDATE = 8, MANUAL_RESET = 9,

			JOURNEY_STOP_PASSBY_NO_DOOR_CHANGE = 10, JOURNEY_START_EXTRA = 11, JOURNEY_UNEXPECTED_STOP = 12, JOURNEY_STOP_DEPARTURE_NO_RESET = 13, JOURNEY_STOP_PASSBY_NO_RESET = 14, JOURNEY_STOP_PASSBY_NO_DOOR_CHANGE_NO_RESET = 15, DOOR_CLOSING_NO_RESET = 16, JOURNEY_END_NO_RESET = 17, JOURNEY_UNEXPECTED_STOP_NO_RESET = 18, NOT_ON_JOURNEY_POLL = 19
VehicleIdentity	BigInt	NOT NULL	The identity of the vehicle
Longitude	Float	NOT NULL	Longitude of the report
Latitude	Float	NOT NULL	Latitude of the report
OnBoard	Int	NULL	Passengers onboard

PassengerCount_Raw_Door			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
PassengerId	bigint	NOT NULL	rowId
DoorNumber	Int	NOT NULL	The number of the door
Category	Int	NOT NULL	The category the APC belongs to. 1=adult 2=bike 3=buggy 4=case 5=child 6=dog 7=unidentified
TotalIn	Int	NOT NULL	Number of passengers that has entered the vehicle, door, category
TotalOut	Int	NOT NULL	Number of passengers that has exited the vehicle, door, category
IsValid	Int	NOT NULL	1 when everything is valid, 0 if something is invalid or previously invalid in the session.

Disturbances			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	String	NOT NULL	The id of the disturbance
ValidityStart	datetime	NOT NULL	The validity start
ValidityEnd	datetime	NULL	The validity end
Creator	string	NOT NULL	The creator of the disturbance
Description	String	NOT NULL	Description of the disturbance
ResourceTaskId	String	NULL	Id to match with TS

CreatedDateTime	datetime	NULL	When the disturbance was created
Type	Int	NULL	The type of the disturbance: BlockCancelled = 2 JourneyCancelled = 3 StopPointsCancelled = 5 LineAtStopPointListCancelled = 6 LineCancelled = 7 JourneyAtStopPointCancelled = 8 LineAtDirectionListCancelled = 19 LineDirectionStopPointListCancelled = 21
ReasonName	String	NULL	The reason name of the property
Content	String	NULL	Text content if available.
CancelledDateTime	datetime	NULL	When the disturbance was cancelled

CallsDisturbances			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
HappensAtCallId	Bigint	NOT NULL	The id of the call
DisturbanceId	String	NOT NULL	The id of the disturbance
IsArrival	Int	NOT NULL	1 if the disturbance refers to the arrival of the call, if not 0
IsDeparture	int	NOT NULL	1 if the disturbance refers to the departure of the call, if not 0

ServiceOperations			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	String	NOT NULL	The id of the service operation
ValidityStart	datetime	NOT NULL	The validity start
ValidityEnd	datetime	NULL	The validity end
Creator	string	NOT NULL	The creator of the service operation
Description	String	NOT NULL	Description of the service operation
ResourceTaskId	String	NULL	Id to match with TS
CreatedDateTime	datetime	NULL	When the service operation was created
Type	Int	NULL	The type of the service operation: Activated = 10 JourneyStopPointTimeAdjusted = 11 JourneyStopPointForecastUncertain = 12
ReasonName	String	NULL	The reason name of the property
ServiceOperationType	Int	NULL	Type of the service operation: CallMovedAction = 1, stopPoint was moved to stoppointId =Param1 TimeAdjustedAction = 2, time on the call was adjusted Param1 seconds ActivatedAction = 3, the journey was activated
Param1	Int	NULL	Value of param1
Param1	Int	NULL	Value of param1

CallsServiceOperations			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
HappensAtCallId	Bigint	NOT NULL	The id of the call
DisturbanceId	String	NOT NULL	The id of the service operation
IsArrival	Int	NOT NULL	1 if the service operation refers to the arrival of the call, if not 0
IsDeparture	int	NOT NULL	1 if the service operation refers to the departure of the call, if not 0

JourneyConnections			
OperatingCalendarDay	datetime	NOT NULL	The calendarday the traffic is planned
Id	bigint	NOT NULL	The id of the journey connection
FeederCallId	bigint	NOT NULL	The id of the feeder call
FetcherCallId	bigint	NOT NULL	The id of the feeder call
FeederCompany	bigint	NOT NULL	The id of the feeder company
FetcherCompany	bigint	NOT NULL	The id of the fetcher company
MaximumWaitFetcher	Datetime	NOT NULL	The max time the fetcher can wait
MinimumChangeDuration	datetime	NOT NULL	The time the exchange must be done
FeederPlannedArrivalTime	Datetime	NOT NULL	The planned arrival time of the feeder
FetcherPlannedDepartureTime	Datetime	NOT NULL	The planned departure time of the fetcher
FeederActualArrivalTime	Datetime	NULL	The actual arrival time if the feeder
FetcherActualDepartureTime	Datetime	NULL	The actual departure time if the fetcher
FeederLineId	Bigint	NOT NULL	The line id of the feeder
FetcherLineId	Bigint	NOT NULL	The line id of the fetcher
FeederDestinationDisplayId	Bigint	NOT NULL	The DestinationDisplayId of the feeder
FetcherDestinationDisplayId	Bigint	NOT NULL	The DestinationDisplayId of the fetcher
FeederStopPointId	Bigint	NOT NULL	The stopPointId of the feeder
FetcherStopPointId	Bigint	NOT NULL	The stopPointId of the fetcher
Description	String	NULL	An optional description of the connection

JourneyConnectionsDisturbances			
OperatingCalendarDay	datetime	NOT NULL	The calendarday
HappensAtJourneyConnectionId	bigint	NOT NULL	The journeyConnectionId

DisturbanceId	String	NOT NULL	The disturbanceId
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SystemEvents			
OperatingCalendarDay	datetime	NOT NULL	The calendar day the traffic is planned
Id	bigint	NOT NULL	rowId
Name	String	NOT NULL	The name of the event
Value	String	NOT NULL	The value of the event. A list of attributes separated by ';', the attributes are included to identify the event. BlockId = '16293'; DriverId = '0'; ExternalBlockId = '8127'; ExternalIdStopPoint = '12012100'; ExternalJourneyId = '3540594'; ExternalLineId = '12'; JourneyId = '104169'; LineId = '34012'; LineName = '12'; StopPointId = '12012100'; SystemAddress = '3350258127';
TimeStamp	datetime	NOT NULL	The time when the event was triggered and generated
BelongsToCompanyId	bigint	NOT NULL	A reference to Company.Id

AlarmStateEvents			
Id	bigint	NOT NULL	rowId
SourceType	String	NULL	Type of source – e.g. Central, Vehicle, Display
SourceNode	String	NOT NULL	The node or device where it occurred e.g. vehicle or server. In case of SourceType being Vehicle the SourceNode will be VehicleIdentity/SystemAddress.
SourceName	String	NOT NULL	Name of the source e.g. process or module.
SourceInstance	String	NOT NULL	Name of the instance or submodule e.g. specific instance of a process (multiple with same name) or submodule/target.
Severity	String	NOT NULL	Severity level
AlarmCode	bigint	NOT NULL	Identifier of the alarm.
AlarmType	String	NOT NULL	Type/category of the alarm.
AlarmTimestamp	datetime offset	NULL	Timestamp when alarm occurred.
AlarmMetadata	String	NULL	Json object containing additional information & metadata about the alarm
EventTimestamp	datetime offset	NOT NULL	Event timestamp e.g. alarm report timestamp.
SequenceNumber	Int	NOT NULL	Sequence number to help with time ordering eg. when event timestamp is the same.
SystemTimestamp	datetime offset	NOT NULL	Central system timestamp

Vehicle			
VehicleIdentity	bigint	NOT NULL	The identity of the vehicle, in the systemAddress format
CompanyId	bigint	NOT NULL	
DisplayName	String	NULL	
RegNo	String	NULL	
NodeName	String	NULL	
ModifiedTimeUtc	String	NULL	The date and time when this row was changed
VIN	String	NULL	The VIN number

BookingsLog			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
Id	Bigint	NOT NULL	rowId
TimeStamp	DateTime	NOT NULL	The time the booking was made
CompanyId	Bigint	NOT NULL	The company the booking was made for
BookingData	String	NOT NULL	The json data for the booking

VehicleOnCalDay			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
VehicleIdentity	bigint	NOT NULL	The identity of the vehicle, in the systemAddress format
CompanyId	bigint	NOT NULL	0 vehicle not found
DisplayName	String	NOT NULL	Empty string vehicle not found
ExternalId	String	NULL	
RegNo	String	NULL	
NodeName	String	NULL	
VIN	String	NULL	The VIN number of the vehicle

VehicleOnCalDayProperty			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
VehicleIdentity	bigint	NOT NULL	The identity of the vehicle, in the systemAddress format
PropertyType	String	NOT NULL	The type of the property
Value	String	NOT NULL	The value of the property

PassengerCount_PB (N days back), PassengerCount_PBM (monthly projection)			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
Id	bigint	NOT NULL	Id
HappensAtCallId	bigint	NOT NULL	Reference to Call.id
PassengersOnboardProjected	int	NOT NULL	Number onboard projected
TotalInProjected	int	NOT NULL	Number in projected
TotalOutProjected	int	NOT NULL	Number out projected
TimeStamp	DateTime	NOT NULL	Internal use
PassengersFromLastJourneyProjected	int	NOT NULL	Number from last journey, proj
ProjectedFrom	int	NOT NULL	The source of the projection

Estimated	int	NOT NULL	1 if estimated, 0 if exact
PassengersOnboardBalanced	int	NOT NULL	Number onboard balanced
totalInBalanced	int	NOT NULL	Number in balanced
totalOutBalanced	int	NOT NULL	Number out balanced
PassengersFromLastJourneyBalanced	int	NOT NULL	Number from last journey, balanced

DriverOnCalDay			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
DriverId	bigint	NOT NULL	The internal Id of the driver
BelongsCompanyId	bigint	NOT NULL	The CompanyId
ExternalId	String	NOT NULL	The external Id of the driver
FirstName	string	NULL	First name of the driver
LastName	string	NULL	Last name of the driver

NumberOfRows			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
TableName	String	NOT NULL	The name of the table
NumberOfRows	bigint	NOT NULL	Number of rows

Published			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
StartTime	DateTime	NOT NULL	When the generation was started
EndTime	DateTime	NOT NULL	When the generation was finished
DataType	String	NOT NULL	Type of data, TIMETABLE

JourneyType			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
Id	Int	NOT NULL	The Id of the journey type
Description	String	NOT NULL	Description of the journey type

LastReport – deprecated

ReportSheet			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
Id	Bigint	NOT NULL	The id if the reportsheet
CompanyId	int	NULL	The Id of the Company
BlockId	Int	NULL	The Id of the block
JourneyId	Int	NULL	The Id of the journey
VehicleId	bigInt	NULL	The id of the vehicle
DriverId	Int	NULL	The id of the driver
SequenceInJourney	Int	NULL	The sequence number in the journey

Deviation	Int	NULL	The deviation in the journey
TimeStampUtc	DateTime	NULL	The time in UTC
Category	String	NULL	The category of the report
Type	String	NULL	The type of the report
Question	String	NULL	The Question of the answer
Answer	String	NULL	The answer
Comment	String	NULL	The comment if any
ModifiedBy	String	NULL	The creator or the updater of the report
Seqno	Bigint	NULL	The sequence number of the answer
ReportSheetExternalId	String	NULL	External id of the reportsheet
ReportSheetQuestionExternalId	String	NULL	External id of the reportsheetquestion
ReportSheetId	Bigint	NULL	Used to join with ReportSheetProperties table
Reference_number	bigint	NULL	Matches the id number in TrafficStudio
Deleted	int	NULL	1 if deleted

ReportSheetProperties			
OperatingCalendarDay	DateTime	NOT NULL	The calendarday
ReportSheetId	Bigint	NOT NULL	References ReportSheet.ReportSheetId
Key	int	NOT NULL	BlockId = 0, IndexInBlock = 1, IndexInJourney = 2, JourneyId = 3, StopPointId = 4, NetworkVersion = 5, JourneyDeviation = 6, CalendarDay = 7, UnboundAddress = 8, PointSetId = 9, SpareTruck = 10, Comment = 11, WorkflowState = 12, Priority = 13, AssignedUser = 14, AssignedUserTimestamp = 15, PublishChannels = 16, EmailSentTimestamp = 17, AnswerSource = 18, AnswerTarget = 19, PlaceText = 20, PublishComment = 21, ResourceTaskReference = 22, ConsequenceTarget = 23, PenaltyTarget = 24, PublicationRecipientsIds = 25, CauseTarget = 26
Value	String	NULL	Value of the property

3.1 Storage requirements

For a vehicle with an average number of calls per day (400) the storage requirement in the database is about 1 MB per day (excluding the vehicle schema). This value is taken from MS SQL Server without compression enabled.

3.2 File Export

The defined data is usually exported and transferred to an external system. There are multiple ways to do this, it can be copied directly to the customers database via a database copy or exported to a file format and then imported into the external system.

The default file format is a csv export with each table in a separate file, named after the table.

For example, the exported csv file for Line can look as follows:

OperatingCalendarDay;Id;ExternalId;LineNameShort;LineNameLong

2018-12-20;1;470E;470E;470Express

2018-12-20;2;471E;471E;471Express

2018-12-20;3;472E;472E;472Express

Normally the exported data is delivered in a zip archive that contains all data for an OperatingCalendarDay and then copied to a file share controlled by the customer.

3.3 Vehicle schema

DriverMap			
DriverId	bigint	NOT NULL	The unique ID of the driver for linking
From	datetimeoffset	NOT NULL	Start date of the validity of this driver
To	datetimeoffset	NOT NULL	End date of the validity of this driver

Drivers			
Id	bigint	NOT NULL	The mapping Id of the driver
InternalId	bigint	NOT NULL	Internal driver id
CompanyExternalId	String	NULL	The external company of the driver (input source id)
ExternalId	String	NULL	The external id of the driver (input source id)

Events			
Id	bigint	NOT NULL	Mapping Id of the event
VehicleTimestamp	Datetimeoffset	NOT NULL	The time stamp from the vehicle clock of the event
VehicleId	Bigint	NOT NULL	Vehicle mapping id
EventType	Int	NOT NULL	Mapping event id. The type of event
EventTimestamp	Datetimeoffset	NOT NULL	Time when the event was recorded in the backend
Metadata	String	NULL	Additional metadata of the event, can be a JSON string with additional Fault data
IsRealtime	Bit	NULL	1 if the event was recorded in realtime, 0 if it was uploaded in retrospect.
VehicleFlags	Bigint	NULL	Bitwise flags, see "Event: Vehicle flags"

EventTypes			
------------	--	--	--

Id	bigint	NOT NULL	Mapping id
Name	String	NOT NULL	The (view) name of the event
Description	String	NOT NULL	More verbose description of the name

AlarmCodes			
Id	bigint	NOT NULL	Mapping id
Name	String	NOT NULL	The name of the alarmCode

LogicalPositions			Contains the logical position of an event (if available).
EventId	bigint	NOT NULL	Mapping Id for the associated event
PositionTimestamp	Datetime offset	NOT NULL	The time when the positions was recorded (the GPS time of the fix)
OperatingCalendar Day	date	NOT NULL	The calendarday the traffic is planned
BlockId	Bigint	NOT NULL	The block mapping Id
JourneyId	Bigint	NOT NULL	The id of the journey the vehicle is servicing
IndexInJourney	bigint	NOT NULL	The current stop index in the journey
Distance	Int	NOT NULL	The distance of the last index in journey (stop)
TimeDeviation	Int	NULL	The current time table adherence difference (local forecast)
IsValid	Bit	NULL	Indicating of the data is valid
JourneyStatus	Bigint	NULL	Indicates the status of the journey

Positions			Contains the positions associated with each event
EventId	Bitint	NOT NULL	Mapping Id for the associated event
PositionTimestamp	Datetimeoffset	NOT NULL	The time when the positions was recorded (the GPS time of the fix)
Latitude	Float	NULL	WGS84
Longitude	Float	NULL	WGS84
Altitude	Float	NULL	Altitude in meters
Heading	Float	NULL	Heading in degrees
Hdop	Float	NULL	
Vdop	Float	NULL	
Speed	Float	NULL	Speed in m/s

PassengerCounters			Contains the passenger counter associated with each event
EventId	bigint	NOT NULL	Mapping Id for the associated event
PassengerCounterTimestamp	datetimeoffset	NOT NULL	The time when the passenger counter was recorded
SequenceNumber	int	NOT NULL	Passenger counter sequence number
OperatingCalendarDay	date	NULL	The calendarday the traffic is planned
BlockId	bigint	NULL	The block mapping id
JourneyId	bigint	NULL	The id of the journey the vehicle is servicing
IndexInJourney	int	NULL	The current stop index in the journey
StopPointId	bigint	NULL	The stop point id resolved from journey & index in journey
PassengerCounterData	string	NOT NULL	Json blob containing passenger counters, see external api PassengerCount.json for

			structure. Read documentation e.g. expect new properties & enum values.
IsValid	bit	NOT NULL	Contains any error/errors flags for passenger counter (excludes logical flags). Can be derived from json, use json if needing more control.

VehicleMap			Contains the validity of each vehicle
VehicleId	bigint	NOT NULL	Mapping id of the vehicle
From	datetimeoffset	NOT NULL	Start date of the validity of this vehicle
To	datetimeoffset	NOT NULL	End date of the validity of this vehicle

Vehicles			Contains all the vehicles
Id	bigint	NOT NULL	Mapping Id of the vehicle
InternalId	Bigint	NOT NULL	The internal id of the vehicles
CompanyExternalId	String	NULL	The external company of the vehicle (input source id)
ExternalId	String	NULL	The external id of the vehicle (input source id)
Name	String	NULL	Display/View name of the vehicles

3.4 Event metadata

Another source of documentation is /tmix.cap.externalapi/ - sharing a lot of similarities & parts of schema

3.4.1 JSON structure

```
{
  "Alarms": { ... },
  "Signals": { ... },
  "Metadata": { ... },
}
```

3.4.2 Signals

```
{
  "Signals": [
    {
      "Name": "TotalDistance",
      "Timestamp": "2018-05-14T23:59:56.623+02:00",
      "Value": 448295750.0
    },
    {
      "Name": "TotalEngineHours",
      "Timestamp": "2018-05-14T23:59:56.623+02:00",
      "Value": 25547.0
    },
    {
      "Name": "TotalFuelUsed",
      "Timestamp": "2018-05-14T23:59:56.623+02:00",
      "Value": 252266.0
    }
  ]
}
```

] }
}

3.4.3 Alarms

Types:

- Custom – system specific faults
- Fms
- J1939
- Mid
- Bea

Examples:

```
{
  "Alarms": [
    {
      "Spn":1569,
      "SourceAddress":0,
      "Fmi":31,
      "Type":"J1939",
      "Name":"J1939FaultLogCanlet",
      "Instance":"J1939_0",
      "ProbablyCause":110050239,
      "Severity":"Major"
    }
  ]
}

{
  "Alarms": [
    {
      "Mid":249,
      "FaultType":"PSID",
      "Number":100,
      "Fmi":14,
      "Type":"Mid",
      "Name":"VolvoJ1587J1708let",
      "Instance":"MID_249",
      "ProbablyCause":100222222,
      "Severity":"Critical"
    }
  ]
}

{
  "Alarms": [
    {
      "AdditionalParameters": [
        "knopflerfish",
        "/home/i4m/bin/knopflerfish"
      ],
      "Type":"Custom",
      "Name":"knopflerfish",
      "Instance":"",
      "ProbablyCause":1,
      "Severity":"Critical"
    }
  ]
}
```

3.4.4 Alarm probably cause

```

<xsd:simpleType name="ProbableCauseEnumeration">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">A Probable Cause number that uniquely
identifies an event within FM.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:unsignedInt">
    <xsd:enumeration value="0" id="NULL_PROBABLE_CAUSE" />
    <xsd:enumeration value="1" id="PROCESS_CRASHED" />
    <xsd:enumeration value="2" id="PROCESS_FAILED" />
    <xsd:enumeration value="3" id="IP_HOST_UNREACHABLE" />
    <xsd:enumeration value="4" id="SERVICE_UNREACHABLE" />
    <xsd:enumeration value="5" id="TCP_CONNECT_FAILURE" />
    <xsd:enumeration value="6" id="TEST" />
    <xsd:enumeration value="7" id="SERVICE_UPDATE_MISSING" />
    <xsd:enumeration value="8" id="DATABASE_UNREACHABLE" />
    <xsd:enumeration value="9" id="RESOURCE_LIMIT_ERROR" />
    <xsd:enumeration value="10" id="DATABASE_ERROR" />
    <xsd:enumeration value="11" id="CORBA_SERVER_UNREACHABLE" />
    <xsd:enumeration value="12" id="WEB_SERVICE_UNREACHABLE" />
    <xsd:enumeration value="13" id="SYSTEM_TIME_ERROR" />
    <xsd:enumeration value="14" id="PROTOCOL_ERROR" />
    <xsd:enumeration value="15" id="INFORMATION_DISPLAY_UNREACHABLE" />
    <xsd:enumeration value="16" id="URL_UNREACHABLE" />
    <xsd:enumeration value="17" id="DETECTOR_FAILURE" />
    <xsd:enumeration value="18" id="VEHICLE_ODOMETER" />
    <xsd:enumeration value="19" id="VEHICLE_GPS" />
    <xsd:enumeration value="20" id="VEHICLE_TIC1R" />
    <xsd:enumeration value="21" id="VEHICLE_SIGN" />
    <xsd:enumeration value="22" id="VEHICLE_GATEWAY_UNREACHABLE" />
    <xsd:enumeration value="23" id="VEHICLE_DEPOT_UNREACHABLE" />
    <xsd:enumeration value="24" id="VEHICLE_FARE_BOX" />
    <xsd:enumeration value="25" id="VEHICLE_APC" />
    <xsd:enumeration value="26" id="VEHICLE_MODEM" />
    <xsd:enumeration value="27" id="VEHICLE_CAN" />
    <xsd:enumeration value="28" id="VEHICLE_J1708" />
    <xsd:enumeration value="29" id="VEHICLE_DST" />
    <xsd:enumeration value="30" id="VEHICLE_LAMP_AND_FAULT_STATUS" />
    <xsd:enumeration value="31" id="VEHICLE_BE_A_FAULT" />
    <xsd:enumeration value="32" id="VEHICLE_J1939_FAULT" />
    <xsd:enumeration value="33" id="VEHICLE_VERSION_REQUEST_MISSING" />
    <xsd:enumeration value="34" id="VEHICLE_CUSTOM_FAULT" />
    <xsd:enumeration value="35" id="APC_NO_DATA_AVAILABLE" />
    <xsd:enumeration value="36" id="APC_EXTERNAL_SYSTEM_PUSH_FAILURE" />
    <xsd:enumeration value="37" id="UPLOAD_SERVICE_NO_DATA_UPLOADED" />
    <xsd:enumeration value="38" id="VEHICLE_J1587_FAULT" />
    <xsd:enumeration value="39" id="TRAFFIC_MEASUREMENT_MISSING_REPORTS" />
    <xsd:enumeration value="40" id="TRAFFIC_MEASUREMENT_LOW_FLOW" />
    <xsd:enumeration value="41" id="TRAFFIC_MEASUREMENT_HIGH_FLOW" />
    <xsd:enumeration value="42" id="VEHICLE_DATA_ERROR" />
    <xsd:enumeration value="43" id="DEPOT_PARAMETER_ERROR" />
    <xsd:enumeration value="44" id="VEHICLE_DOOR_SIGNAL" />
    <xsd:enumeration value="45" id="LOOP_ERROR" />
    <xsd:enumeration value="46" id="MR_SYNC" />
    <xsd:enumeration value="47" id="VEHICLE_EXTERNAL_SIGN_CONTROLLER_OVERRIDE" />

    <xsd:enumeration value="48" id="VEHICLE_FMS_TELL_TALE" />
    <xsd:enumeration value="49" id="VEHICLE_TOUCH" />
    <xsd:enumeration value="50" id="UDP_NODE_SPAM" />
    <xsd:enumeration value="51" id="TASK_SCHEDULER_TASK_ERROR" />
  </xsd:restriction>
</xsd:simpleType>

```

```

        <xsd:enumeration value="52" id="VEHICLE_APC_COUNTS_NOT_UPDATED_ON_JOURNEY"
/>
        <xsd:enumeration value="53"
id="VEHICLE_APC_DOOR_COUNTS_NOT_UPDATED_ON_JOURNEY" />
        <xsd:enumeration value="54" id="VEHICLE_GPS_NO_FIX" />
        <xsd:enumeration value="55" id="VEHICLE_GPS_NO_FIX_ON_JOURNEY" />
        <xsd:enumeration value="56" id="EXCESSIVE_NODE_DOWNLOADS" />
        <xsd:enumeration value="57" id="EXCESSIVE_NODE_UPLOADS" />
        <xsd:enumeration value="58" id="MQTT_CONNECTION_LOST" />
        <xsd:enumeration value="59" id="MQTT_TETRA_CONNECTION_DOWN" />
        <xsd:enumeration value="60" id="MQTT_TETRA_SEND_ERROR" />
        <xsd:enumeration value="61" id="DISPLAY_BACKLIGHT_SENSOR_FAILURE" />
        <xsd:enumeration value="62" id="VEHICLE_IGNITION_SIGNAL" />
        <xsd:enumeration value="63" id="VEHICLE_GPS_CRAZY_JUMP" />
        <xsd:enumeration value="64" id="DATAIMPORT_IMPORT_FAILED" />
        <xsd:enumeration value="65" id="DATAIMPORT_VERIFY_FAILED" />
        <xsd:enumeration value="66" id="DATAIMPORT_DEPLOY_FAILED" />
        <xsd:enumeration value="67" id="VEHICLE_NEXT_STOP_BUTTON" />
        <xsd:enumeration value="68" id="VEHICLE_PANIC_BUTTON" />
        <xsd:enumeration value="69" id="VEHICLE_ODK_CONNECTION" />
        <xsd:enumeration value="70" id="DISCO_SLAVE_MISSING" />
        <xsd:enumeration value="71" id="DISCO_SLAVE_UNKNOWN" />
        <xsd:enumeration value="72" id="CAMERA_CONTROL_CONNECTION" />
        <xsd:enumeration value="73" id="VEHICLE_CCTV_CONNECTION" />
        <xsd:enumeration value="74" id="VEHICLE_CCTV_SYSTEM" />
        <xsd:enumeration value="75" id="VEHICLE_CCTV_CAMERA" />
        <xsd:enumeration value="76" id="VEHICLE_CCTV_DISK" />
        <xsd:enumeration value="77" id="INFORMATION_DISPLAY_FLAPPING" />
        <xsd:enumeration value="78"
id="VEHICLE_INTERIOR_PASSENGER_DISPLAY_UNREACHABLE" />
        <xsd:enumeration value="79" id="VEHICLE_TRAFFIC_DATABASE_VERSION_MISMATCH"
/>
        <xsd:enumeration value="80" id="DEPOT_EXCESSIVE_SYNC" />
        <xsd:enumeration value="81" id="DISCO_CONNECTION_LOST" />

        <xsd:enumeration value="1000" id="VEHICLE_CUSTOM_FAULT_0" />
        <xsd:enumeration value="1001" id="VEHICLE_CUSTOM_FAULT_1" />
        <xsd:enumeration value="1002" id="VEHICLE_CUSTOM_FAULT_2" />
        <xsd:enumeration value="1003" id="VEHICLE_CUSTOM_FAULT_3" />
        <xsd:enumeration value="1004" id="VEHICLE_CUSTOM_FAULT_4" />
        <xsd:enumeration value="1005" id="VEHICLE_CUSTOM_FAULT_5" />
        <xsd:enumeration value="1006" id="VEHICLE_CUSTOM_FAULT_6" />
        <xsd:enumeration value="1007" id="VEHICLE_CUSTOM_FAULT_7" />
        <xsd:enumeration value="1008" id="VEHICLE_CUSTOM_FAULT_8" />
        <xsd:enumeration value="1009" id="VEHICLE_CUSTOM_FAULT_9" />
        <xsd:enumeration value="1010" id="VEHICLE_CUSTOM_FAULT_10" />
        <xsd:enumeration value="1011" id="VEHICLE_CUSTOM_FAULT_11" />
        <xsd:enumeration value="1012" id="VEHICLE_CUSTOM_FAULT_12" />
        <xsd:enumeration value="1013" id="VEHICLE_CUSTOM_FAULT_13" />
        <xsd:enumeration value="1014" id="VEHICLE_CUSTOM_FAULT_14" />
        <xsd:enumeration value="1015" id="VEHICLE_CUSTOM_FAULT_15" />
        <xsd:enumeration value="1016" id="VEHICLE_CUSTOM_FAULT_16" />
        <xsd:enumeration value="1017" id="VEHICLE_CUSTOM_FAULT_17" />
        <xsd:enumeration value="1018" id="VEHICLE_CUSTOM_FAULT_18" />
        <xsd:enumeration value="1019" id="VEHICLE_CUSTOM_FAULT_19" />
        <xsd:enumeration value="1020" id="VEHICLE_CUSTOM_FAULT_20" />
        <xsd:enumeration value="1999" id="VEHICLE_CUSTOM_FAULT_RANGE_END" />
        <xsd:enumeration value="2000"
id="VEHICLE_LAMP_AND_FAULT_STATUS_RANGE_START" />
        <xsd:enumeration value="3023" id="VEHICLE_LAMP_AND_FAULT_STATUS_RANGE_END"
/>
        <xsd:enumeration value="100000" id="VEHICLE_BEA_FAULT_RANGE_START" />
        <xsd:enumeration value="200000" id="VEHICLE_BEA_FAULT_RANGE_END" />
        <xsd:enumeration value="1000000" id="VEHICLE_FMS_FAULT_RANGE_START" />

```

```

<xsd:enumeration value="1001000" id="VEHICLE_FMS_FAULT_RANGE_END" />
<xsd:enumeration value="10000000" id="VEHICLE_J1939_FAULT_RANGE_START" />
<xsd:enumeration value="60000000" id="VEHICLE_J1939_FAULT_RANGE_END" />
<xsd:enumeration value="100000000" id="VEHICLE_J1587_RANGE_START" />
<xsd:enumeration value="100999999" id="VEHICLE_J1587_RANGE_END" />
</xsd:restriction>

</xsd:simpleType>

```

3.4.5 Metadata

Name	Type	Description
AssignmentLabel	string	Label or name of assignment or charter
AssignmentLabelSessionId	string	Session id to simplify follow up (do not try to interpret)

Examples:

```

{
  "Metadatas": [
    {
      "Name": "AssignmentLabel", "Timestamp": "2020-04-16T08:55:49.533+02:00", "Value": "Charter2"
    },
    {
      "Name": "AssignmentLabelSessionId", "Timestamp": "2020-04-16T08:55:49.533+02:00", "Value": "11000"
    }
  ]
}

```

3.5 Passenger counters

Json blob found in PassengerCounter table inside the Vehicle schema is an implementation of *PassengerCount.json*, you can find the json-schema & additional information & expectation about implementation by reading **“External API”** found from the **portal** page.

3.6 Journey status

The JourneyStatus column in the LogicalPositions table defines the state of the journey.

For example if the journey is started journeyStatus&0x01 is = 0, and if the journey is ended journeyStatus&0x01 is > 0.

Value	Position	Active
JourneyStarted	0x01	not set
JourneyEnded	0x01	set
JourneyInterrupted	0x02	set
OffRoute	0x04	set
BetweenJourneys	0x08	set
JourneyWaiting	0x10	set
JourneyInQueue	0x20	set
JourneyPause	0x40	set
ManualOffRoute	0x80	set
JourneyReinforcementService	0x0100	set
JourneyLearningService	0x0200	set
JourneyShortRunService	0x0400	set

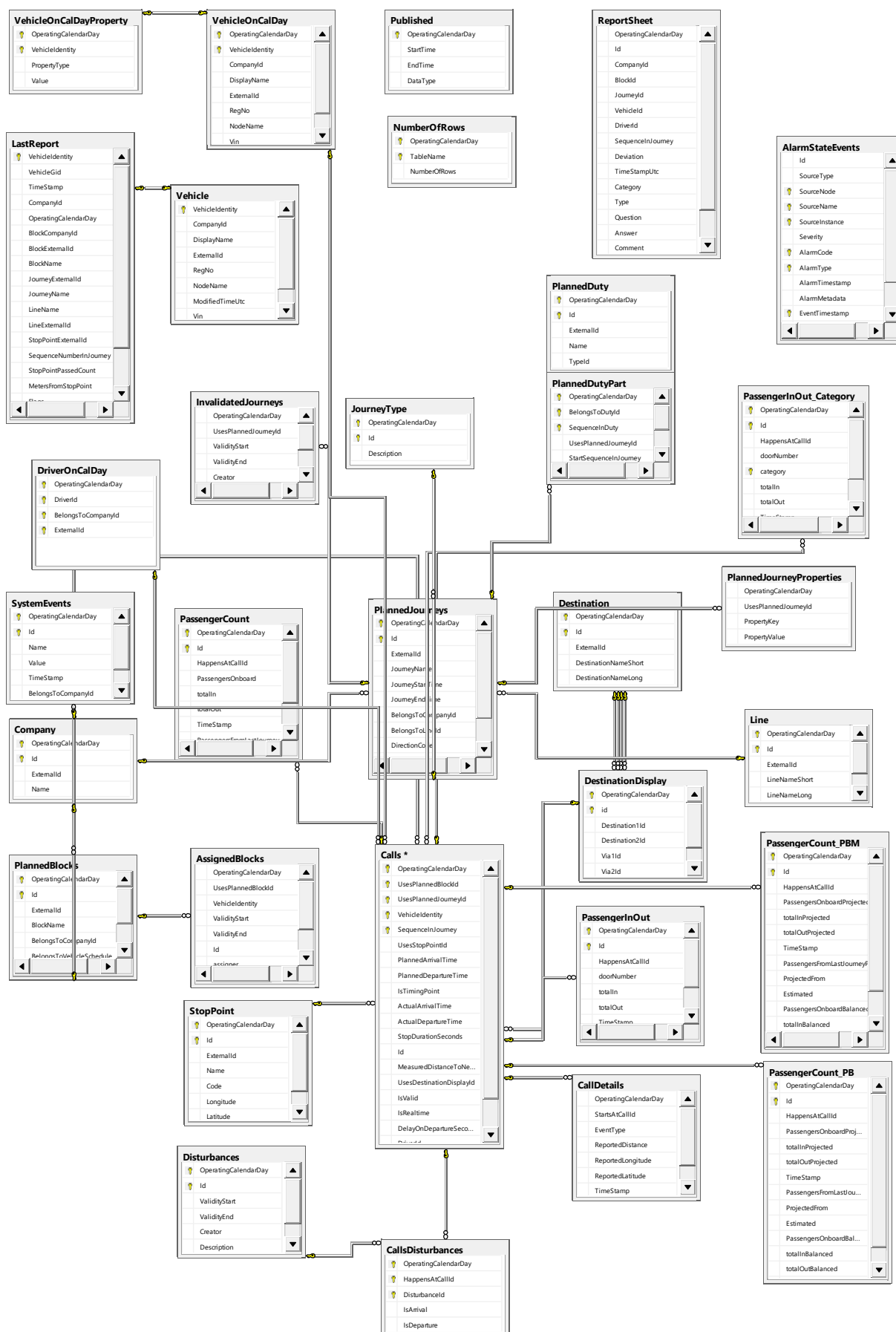
JourneyDeadRunService	0x0800	set
JourneyTowService	0x1000	set
JourneyTestService	0x2000	set
JourneyReplacementService	0x4000	set
JourneyTakeOver	0x8000	set
JourneyAtJourneyStart	0x10000	set
JourneyOtherCompany	0x20000	set
Cancelled	0x40000	set
PlannedReinforcementService	0x80000	set
VehicleTypeReplaceService	0x100000	set
OrderService	0x200000	set
SignOnService	0x400000	set
JourneyDynamicService	0x800000	set

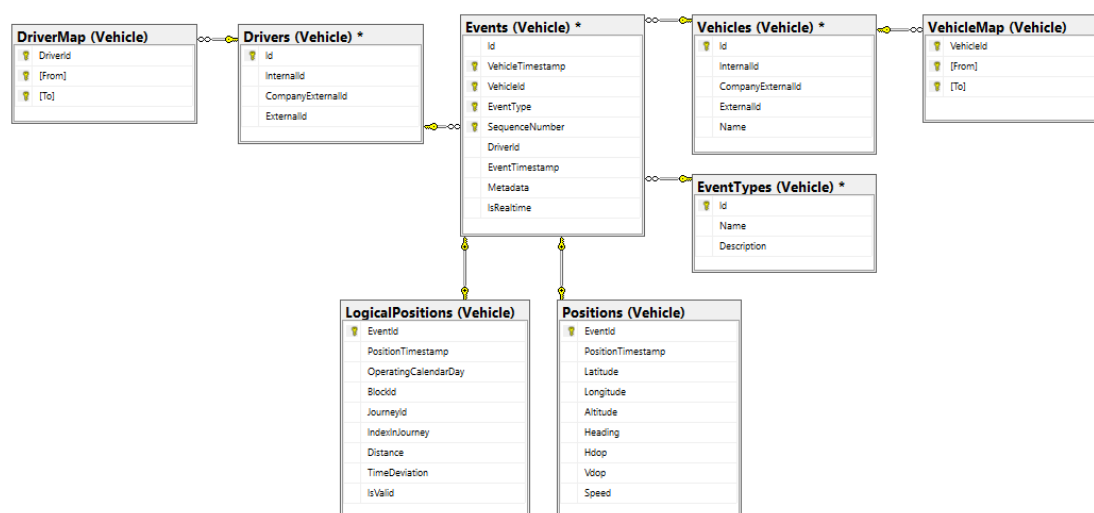
3.7 Event: Vehicle flags

The VehicleFlags column in the Event table defines common bitwise flags.

Value	Position	Comment
AnyDoorOpen	0x01	
ManualSign	0x02	Manual destination
ExternalSignControl	0x04	
VehicleFull	0x08	
LocalZoneManager	0x10	Supports zone management (basically always true)
PanicAlarmActive	0x20	
PanicAlarmTestActive	0x40	Panic alarm testing
PanicAlarmAbnormalStop	0x80	Panic alarm cancelled/stopped due abnormal reason
AlarmsActive	0x100	Has active alarms/faults – a filtered list/cfg
TestVehicle	0x200	Ignore data from vehicle
LocalSocMonitor	0x400	Can read/report state-of-charge
NextStopButtonPressed	0x800	
AlightingOnlyModeActive	0x1000	Not allowing boarding e.g. full buss
TestVehicleExternal	0x2000	Test mode/filtered in external integrations
VehicleHasAssignment	0x4000	
IncompleteEvent	0x8000	Special case – event could be overwritten, auto detect route
CompleteEvent	0x10000	Overwritten event – based on auto detection
CharterModeActive	0x20000	Performing a charter
LocalApc	0x40000	Has apc/passenger counters
AnyAlarmsActive	0x80000	Has active alarms/faults – any/raw
IgnitionOff	0x100000	
SmokeAlarmActive	0x200000	
FireAlarmActive	0x400000	

4 Relations between data types





5 Examples

List the vehicles that reported invalid passenger count messages on 2016-01-26.

```

SELECT VehicleIdentity, COUNT(*) as numberOfInvalidMessages
FROM PassengerInOut pio
  INNER JOIN Calls c
    ON pio.OperatingCalendarDay = c.OperatingCalendarDay
    AND pio.HappensAtCallId = c.Id
WHERE pio.OperatingCalendarDay = '2016-01-25'
    AND pio.isValid = 0
GROUP BY VehicleIdentity
ORDER BY VehicleIdentity
  
```

List the journeys where vehicles reported invalid passenger count messages 2016-01-26.

```

SELECT pj.ExternalId, COUNT(*) as numberOfInvalidMessages
FROM PassengerInOut pio
  INNER JOIN Calls c
    ON pio.OperatingCalendarDay = c.OperatingCalendarDay
    AND pio.HappensAtCallId = c.Id
  INNER JOIN PlannedJourneys pj
    ON c.UsesPlannedJourneyId = pj.Id
WHERE pio.OperatingCalendarDay = '2016-01-25'
    AND pio.isValid = 0
GROUP BY ExternalId
ORDER BY ExternalId
  
```

List the vehicles and the difference in Percentage between passengers in and out 2016-01-26.

```

SELECT VehicleIdentity,
  ISNULL(100.0*(SUM(totalIn)-SUM(totalOut)) / NULLIF(SUM(totalOut),0),100) as PercentDiff
FROM PassengerInOut pio
  INNER JOIN Calls c
    ON pio.OperatingCalendarDay = c.OperatingCalendarDay
    AND pio.HappensAtCallId = c.Id
WHERE pio.OperatingCalendarDay = '2016-01-26'
    AND pio.isValid = 1
GROUP BY VehicleIdentity
  
```