

DRAFT DATED 13 January 2025

**ADMINISTRATIVE AND
LEGAL AFFAIRS
DEPARTMENT**

Regulation No IENW/BSK-2024/PM of the State Secretary for Infrastructure and Water Management of [date] laying down rules relating to the Central Taxi Transport Database (Regulation on the Central Taxi Transport Database)

The State Secretary for Infrastructure and Water Management,

Having regard to Article 83b(3) and (4) of the Passenger Transport Decree 2000 [Besluit personenvervoer 2000];

HEREBY DECREES THE FOLLOWING:

§ 1. Definitions

Article 1

For these regulations, the following terms and definitions shall apply:

API: abbreviation for *Application Programming Interface*;

working hours: working hours as defined in Article 1:7(1)(k) of the Working Hours Act [Arbeidstijdenwet];

Decree: Passenger Transport Decree 2000;

central application: application managed by the ICT service provider;

CDT: central database for taxi transport;

CDT Notifications API: facility for the exchange of taxi transport data, as described in the CDT interface specification;

event: occurrence that takes place within the registration tool, being a malfunction, error or notification;

ICT solution: the complete set of digital techniques and processes for the CDT;

CDT interface specification: technical description of the message exchange for the submission of taxi transport data to the CDT Notifications API;

break: break as defined in Article 1:7(1)(e) of the Working Hours Act;

journey: operation within the working time during which the driver transports passengers;

taxi transport data: data as referred to in Article 83b(2) of the Decree;

two-factor authentication: method whereby the identity of a person is established on the basis of two different factors.

§ 2. Registration and submission of taxi transport data

Article 2 (Registering and submitting taxi transport data)

1. The central application is connected to the CDT Notifications API.
2. The central application used by the carrier is connected to the CDT if the registration tool and the central application meet the conditions laid down in this Regulation.
3. Via the CDT Notifications API, the carrier shall report which ICT solution is being used.
4. The driver shall use the registration tool assigned by the carrier to register taxi transport data.
5. The taxi transport data shall be registered by the registration tool and submitted to the CDT Notifications API via the central application, unless there are circumstances as a result of which these data cannot be registered or submitted in real time.
6. The circumstances referred to in paragraph 5 shall be limited to:
 - a. the unavailability of the CDT Notifications API due to technical problems or maintenance;
 - b. a disruption of data transmission between the central application and the CDT Notifications API.
7. The taxi transport data as referred to in paragraph 5 and not submitted on time shall be submitted without delay to the CDT Notifications API as soon as circumstances as referred to in paragraph 6 no longer occur.
8. The registration and submission of taxi transport data shall take place as described in the CDT interface specification.

§ 3. Use by the carrier

Article 3 (Obligations of the carrier)

1. The carrier shall ensure validation of the details of the driver who carries out taxi transport on the carrier's behalf in the CDT Notifications API.
2. The carrier shall ensure validation of the car with which taxi transport is carried out in the CDT Notifications API as referred to in Article 5.
3. The carrier shall make available to the driver an appropriate registration tool.
4. The carrier shall ensure that the driver keeps a record of the data referred to in Article 83b(2) of the Decree during his or her working time.
5. If the registration tool is faulty, defective or lost, the carrier shall repair or replace the registration tool within 3 working days.
6. The carrier ensures that the delivery to the CDT Notifications API takes place without error messages and warning messages.
7. If error messages and warning messages are received, the carrier shall remedy their causes without delay.

Article 4 (Validation of the driver)

1. The carrier shall validate the driver's details with the CDT Notifications API before the driver performs working time for the first time with the registration tool.
2. Validation shall take place by submitting the driver's driver number and driving licence details as described in the CDT interface specification.
3. The driver shall be validated if:
 - a. the driving licence details are those of a valid driving licence;
 - b. the driver number is of a valid taxi transport authorisation;
 - c. the driver number and driving licence belong to the same person.
4. An unvalidated driver may not perform working time unless the CDT Notifications API is unavailable at the time of the validation attempt.
5. If there is a situation as referred to in paragraph 4, the carrier shall validate the data referred to in paragraph 2 without delay, as soon as the CDT Notifications API is available again.
6. If the driver is not in possession of a Dutch driving licence but of a non-Dutch driving licence, the carrier shall validate the driver's driver number.
7. The driver with a non-Dutch driving licence shall be validated if the driver number corresponds to a valid taxi transport authorisation.

Article 5 (Validation of the car used for taxi transport)

1. The carrier shall validate a car used for taxi transport before it is used for the first time by the carrier with the CDT registration system and shall register this.
2. Validation shall take place through the electronic validation of the registration certificate.
3. A driver shall not perform any working time in a car used for taxi transport that has not been validated by the carrier.
4. If a validated car is no longer used to carry out taxi transport, it shall be deregistered by the carrier.

§ 4. Use by the driver

Article 6 (Driver sign-in)

1. At the start of work activities on board a car used for taxi transport, the driver shall sign in on the registration tool.
2. A driver who is in possession of a Dutch driving licence shall sign in by electronically authenticating their Dutch driving licence on the driver registration tool.
3. If the Dutch driving licence is defective, the driver shall sign in for a period of up to 5 working days by means of two-factor authentication.
4. A driver who does not possess a Dutch driving licence and instead possesses a non-Dutch driving licence shall sign in by means of two-factor authentication.
5. Without signing in, a driver is not permitted to perform working hours.

Article 7 (Use of the registration tool)

1. If, prior to work activities on board a car with which taxi transport is carried out, the driver has performed other work activities after his or her

- last sign-out, as referred to in paragraph 7 of this Article, he or she shall submit the start and end times of the other work activities at the start of his or her work activities.
2. The driver shall sign in to a journey on the registration tool at the time when the transport of persons starts.
 3. The driver shall sign out of a journey on the registration tool at the time when the transport of persons ends.
 4. If the registration tool is not linked to the taximeter, the driver shall manually enter the total fare indicated by the taximeter or, if no taximeter is required for transport and the full fare is paid immediately after the journey, the compensation payable by the passenger.
 5. During the period that no registration tool is available, as referred to in Article 3(5), the driver shall register his or her taxi transport data in another transparent and verifiable way.
 6. The driver shall deliver the registration referred to in paragraph 5 to the carrier, who shall ensure that the registration is delivered to the CDT.
 7. Upon termination of work activities on board a car used for taxi transport, the driver shall sign out on the registration tool.
 8. If the driver has taken a break during his or her work activities on board a car used for taxi transport, this break must be signed in and out at the time it occurs.

§ 5. Technology

Article 8 (Registration tool)

1. The registration tool contains or has the following properties:
 - a. motion detection of the registration tool;
 - b. a location determination with an accuracy of at least 25 meters;
 - c. the functionality to retain the last known location;
 - d. the ability to determine a distance travelled on the basis of the location determination with a maximum deviation of 15 %;
 - e. a time determination with an accuracy of at least 1 second and synchronisation with a calibrated external time function;
 - f. features to authenticate the driver as referred to in Article 6;
 - g. the functionality to generate unique identification codes for services, journeys, breaks and events;
 - h. the functionality to sign in to and sign out of services, operations and other work activities as referred to in Article 83b(1)(k) of the Decree via the central application;
 - i. features that transmit taxi transport data to the central application in real time;
 - j. features ensuring that taxi transport data cannot be lost;
 - k. the functionality for the driver to specify only cars authorised for him or her by the carrier;
 - l. the functionality for the driver to sign in for carriers that allow him or her to do so.
2. It is not permitted to use the registration tool in a way that allows taxi transport data to be changed or deleted before they have been delivered to the CDT.
3. If, after the registration tool has been put into service, changes are made to the registration tool or to the properties, features or functionalities

contained therein, as referred to in paragraph 1, these changes shall be immediately notified by the carrier to Our Minister.

Article 9 (Central application)

1. The delivery of taxi transport data from the registration tool to the CDT shall take place via a central application.
2. The central application contains or has the following properties:
 - a. a functionality to forward all received data directly and unchanged to the CDT Notifications API;
 - b. a functionality that ensures messages within a service are delivered in chronological order to the CDT Notifications API;
 - c. a functionality that ensures that a subsequent message within a service is not offered until the previous message has been successfully processed.

Article 10 (Information security)

1. The carrier uses an ICT solution and an organization that are certified for ISO 27001. The certification is carried out by a certification body accredited by the Accreditation Council or another accreditation body recognised in a Member State of the European Union.
2. This certification, referred to in paragraph 1, has as its scope all functionalities that submit data to the CDT Notifications API. The functionality shall include at least all registration tools and the central application.

§ 6. Transitional and final provisions

Article 11 (Entry into force)

This Regulation shall enter into force at the time when Article I of the Decree amending the Passenger Transport Decree 2000 in connection with rules on the Central Taxi Transport Database enters into force.

Article 12 (Citation title)

This Regulation shall be cited as the: Regulation on the Central Taxi Transport Database

This regulation and the explanatory notes shall be published in the Government Gazette.

THE STATE SECRETARY FOR INFRASTRUCTURE AND WATER MANAGEMENT –
PUBLIC TRANSPORT AND THE ENVIRONMENT,

C.A. Jansen

EXPLANATORY NOTES

1. General explanation

Under the Passenger Transport Act 2000 [Wet Personenvervoer 2000] and the Working Hours Act, taxi operators are obliged to record data on, among other things, working and rest times. Since 2014, these data can be registered in an on-board computer (hereinafter: BCT) and by 2025 (also) by means of a registration tool. Via the latter registration tool, taxi transport data that have been registered are submitted in real time via a central application to the Central Taxi Transport Database (hereinafter: CDT).

The present Regulation on the Central Taxi Transport Database lays down rules requiring taxi operators (the carriers) to ensure that taxi transport data are delivered to this CDT. From the CDT, these taxi transport data can be checked by the regulator responsible for monitoring and enforcing taxi regulations.

As of 1 January 2028, the use of the BCT shall no longer be permitted, and only the registration and submission of data to the CDT will be allowed. Delivery is made via the registration means and through a central application to the CDT. Submission to the CDT is actually made by means of submission to the so-called CDT Notifications API. After submission to the CDT Notifications API, the data are received in the CDT.

Relationship between carrier, driver and the ICT solution

The carrier is a natural or legal person that has been granted a taxi transport licence. The driver is a natural person who holds a driver card or pass and thereby has the authority to carry out taxi transport. A driver can also be a carrier, for example, a sole proprietorship. Carriers must be connected to the CDT from 1 January 2028 in order to fulfil their obligation to submit data. Until 1 January 2028, they have the choice between submitting data via the BCT or to the CDT.

In order to be able to submit data, carriers must ensure that their drivers can use the registration tool on board a taxi. In this registration tool, drivers must keep records of, among other things, working and rest times. The registration tool is an ICT tool. This tool must include certain functionalities and features required by the present Regulation.

The driver and the carrier are both responsible for this registration. The recorded data must then be delivered in real time via a central application to the CDT Notifications API. The carrier is responsible for the correct and complete delivery. The data submitted relate to the vehicle, the driver and the carrier. No passenger data are recorded.

The central application, like the registration tool, is also an ICT tool and can be developed and managed internally by a carrier or outsourced to, for example, an ICT service provider. The carrier may then turn to an ICT service provider for the procurement of services or resources: a registration tool, functionality for vehicle and driver validation, or possibly other functionalities outside the scope of this Regulation. The entire technology, consisting of ICT resources and the processes (management or otherwise) necessary for the registration and delivery of data, is referred to as an ICT solution.

1. Feasibility and enforceability

ILT is the regulatory body for taxi regulations. ILT monitors the registration and submission of taxi transport data as set out in this Regulation and the associated interface specification. This Regulation was established at the instigation of and in consultation with ILT. ILT conducted practical tests with the taxi industry on the operation, implementation and enforcement of data delivered to the CDT. The parties involved in these practical tests agree with the system of registration and submission to the CDT.

ILT conducted a feasibility and enforceability test on the draft CDT Regulation. As a result, ILT put forward a number of points for improvement to prevent discussion about the use of terminology and to remove a number of ambiguities. In joint consultation, these issues were taken up and incorporated into the Regulation.

Kiwa also conducted a feasibility and enforceability test. Kiwa mainly asked questions about the phasing out of the on-board computer system and about the driver's pass used in the CDT system. This is addressed in a conversation with Kiwa. No objections were raised with regard to the CDT.

2. Online consultation

A public online consultation on this Regulation took place from 13 August 2024 to 13 October 2024. The responses to those consultations are discussed separately below.

The software industry is concerned about the ISO certification requirement and the costs that that system entails. The industry fears that due to these costs, smaller companies will not be able to participate. There are also doubts about cost reduction given the regular replacement of smartphones and tablets required. Precisely because this concerns taxi transport data, which can also include personal data, it is considered necessary to include an ISO security system, so that these data are delivered with integrity to the CDT Notifications API. Security in accordance with ISO 27001 is not free of cost. ISO 27001 was chosen to distinguish between serious and non-serious providers of innovative applications. The purchase of a BCT and associated maintenance is also not free of cost. It is estimated that the CDT system is financially less expensive for the carrier than the BCT system. The device or app that is being used is not subject to any form requirements. A carrier can investigate which device or app works best for them, including in terms of costs.

With BCT legislation, high quality standards have been established whereby data availability from a single source has become commonplace. By ignoring this, the CDT creates an inferior or incomplete solution.

The CDT legislation is separate from the obligation to have a taximeter. The taximeter can be linked to the ICT solution chosen by the carrier.

The software industry is concerned about the manipulability of data and believes that a hack on encrypted data is no longer necessary to manipulate but merely installing already existing apps can serve this purpose.

Taxi transport data are submitted in real time via a central application to the CDT by means of a registration tool. The resources and applications and their use are

also subject to (quality) conditions. These conditions are enforced. Action is taken against misuse.

It is recommended that the CDT legislation be used to take a broader view of the entire transport market. The solution should enable carriers to conduct complete and transparent data administration in an automated manner.

The scope of this legislative amendment does not cover other carriers. The scope covers the taxi market.

In other countries, there is a need for dedicated measuring instruments because stand-alone apps without a link to the vehicle cannot provide sufficient insight. It is remarkable that we in the Netherlands are going against this trend with the CDT legislation.

This legislative amendment anticipates general digitalisation, including in data collection. If an app is chosen instead of a device, this app is digitally linked to both the vehicle and the driver through validation, even if it is not linked to the vehicle like the BCT.

The legislation only considers the CDT as an enforcement tool for ILT and not other parties, such as the tax authorities. These other parties will then come up with their own requirements that will make this solution even more complex than the BCT. The benefits for carriers are overestimated.

In this legislation, other authorities are not entitled to collect taxi transport data from the CDT. This is no different under the BCT. Possible future developments that are currently unforeseeable do not alter the assessment that the CDT has financial benefits for carriers. Under the Working Hours Act and the Transport Working Hours Decree [Arbeidstijdenbesluit vervoer], carriers are obliged to keep their own records. Taxi transport data are submitted directly to the CDT, which means that carriers must make agreements with the ICT service provider to ensure that the taxi transport data also remain available to them on the server or otherwise, so that they can also use these data for other purposes, for example, for information requests from other authorities or for the remuneration of drivers working under their responsibility.

Carriers find it complex to manually register vehicles with a registration certificate. It is requested to present this differently. Reference is also made to the significant cost increases of this process.

When switching to the CDT, this Regulation requires a one-time registration of vehicles with the registration certificate. This is therefore a one-off exercise that indeed requires some extra time and effort but is not considered insurmountable. Every carrier must do this, so that no distinction is made.

There is no direct enforcement to the ICT service provider. The provider is not an addressee of the Regulation. The carrier is held accountable for the failure of its ICT service provider. It is also unclear whether periodic verifications are still taking place with regard to the data quality of the apps.

The carrier remains the addressee of the Regulation. The carrier may build and install a device or app itself or engage an ICT service provider for this purpose. Further agreements will then have to be made with this service provider in a contract as is normally done between parties. If the ICT service provider does not comply with the agreements made, the subscription with this ICT service provider

may, for example, be terminated and the carrier may choose another ICT service provider.

The requirements of the Regulation must also be complied with during the period of data delivery. The data that are delivered must be delivered correctly. If the data quality decreases, ILT will indicate that the data quality is not good and appropriate measures must be taken.

Checking by means of algorithms over all data should not be allowed. Checks must be carried out on the basis of samples and in the event of poor performance in accordance with the principle of the SFT. That is more desirable.

The CDT does not work with algorithms. Enforcement is done by means of data collected during street checks as well as on the basis of data from the CDT. The data from the CDT are analysed by a digital inspection, in which the data are checked by an inspector for deviations. ILT applies an enforcement strategy for enforcement. The fact that there is a CDT with data does not mean that every minor violation is also punished immediately. Automatic decision-making based on the data in the CDT does not take place. The intervention of an inspector is essential in order to apply the principles of proportionality and subsidiarity.

Attention was drawn to vehicle validation. According to this respondent, the proposed process whereby vehicles can only be validated using a physical registration card leads to significant cost increases for operators. For larger, national companies with a decentralised fleet, the proposed method is not workable. Due to the logistical process of having all these vehicles and their registration cards returned to different workshops for validation, the (operational) costs will increase exponentially. In addition, reading devices would need to be installed at several sites and staff trained for this purpose.

Validating the vehicle by scanning the registration card is a one-off action to be performed at the start of the carrier's commissioning of the car for the CDT. This action is not necessary for the remainder of the period of use of the car by the carrier. This is the same action for large carriers as for small carriers; large carriers will have the advantage of being able to scan multiple cars per scanning tool. The commissioning of a car or converting it to the CDT will, we assume, often be accompanied by a visit to a fitting station or garage. The registration certificate of each car must be in the possession of the driver, so if someone takes the car to a fitting station or garage where there is a scanning tool, that seems like a suitable time to scan the registration card.

Currently, drivers must use their driver card in the BCT. The card is equipped with a chip for this purpose. After the introduction of the CDT, this function lapses and the driver card (which will become a pass) will be solely and exclusively intended as proof that the driver is authorised to carry out taxi transport. One respondent indicates that an identification means is, of course, useful, but is in favour of a digital identification, as is also being developed in the form of a digital wallet. The respondent states that it is not clear what the pass will look like, what requirements it must meet, and what the costs will be. Nor is the possibility of digital identification in the long term mentioned anywhere.

It is true that the requirements for a new pass are not included in the proposed legislation. The introduction of the driver's pass is not part of the amendment to the Passenger Transport Decree 2000 and the entry into force of the CDT Ministerial Regulation. The existing Regulation on the use of on-board computers and on-board computer cards remains unchanged. The expiry of this Regulation

and a replacement Regulation will coincide with the phasing out of the BCT system at the end of 2027.

One respondent sees practical concerns regarding the registration of operators' vehicles. It is mandatory to register vehicles with a registration certificate. According to the respondent, this differs from the preference of carriers to do otherwise, as they would have to carry out considerable manual work to scan all registration certificates separately. The challenge lies in the fact that the registration certificate contains a smart card chip instead of a more user-friendly option such as NFC. This means that the chip can only be read after purchasing specific hardware.

A smartcard reader is easy to purchase through all online stores or in the local telecom store. The smart card reader is therefore not a complex part of the legislation.

Through the online consultation, KNV Zorgvervoer en Taxi also submitted a number of questions that were addressed in a separate letter.

1. Fixed dates for changes

This Regulation shall enter into force at the time when Article I of the Decree amending the Passenger Transport Decree 2000 in connection with the introduction of the CDT enters into force.

Article-by-Article Explanatory Notes

Article 1 (definitions)

Article 1 contains the definitions.

A two-factor authentication is a method of establishing a person's identity based on two different factors. The following factors may be taken into account: knowledge (knowing a password), possession (possession of a device) or personal characteristics (for example, a fingerprint or a person's face). These factors can be built into an ICT solution. The ICT solution must be GDPR compliant. This information is for the sole purpose of identifying the driver. ILT relies on the two-factor service of the registration tool. ILT does not use these data. The data are not stored or exchanged by ILT. The holder of a smartphone or tablet, in this case the driver, must set whether facial recognition or a fingerprint may be used. If the driver chooses not to use this, he or she can opt for the other factors with which he or she can identify himself, other than biometric data. Two-factor authentication without the use of biometric data is (also) possible with the registration tool.

The interface specification is a description of the messages exchanged, which takes place during the data submission process. In addition to procedural descriptions, it also contains a technical description of these messages.

Article 2 (registering and submitting taxi transport data)

If the carrier chooses to submit taxi transport data to the CDT, the carrier must be connected to the CDT Notifications API in order to comply with its data delivery obligation. From 1 January 2028, it shall be mandatory to submit to the CDT and

therefore to be connected to the CDT Notifications API. The carrier shall be connected if it meets the conditions of this Regulation. Fulfilling the conditions of the Regulation is an ongoing obligation.

A carrier reports to ILT and specifies which registration tool and which central application it will use, whether it arranges this itself or through an ICT service provider, and which ICT service provider this will be. If the application(s) or device(s) meet the required functionalities and features, the ICT solution used by the carrier will be connected to the CDT.

The carrier reports the ICT solution to ILT. Even if the ICT solution or parts thereof, including the software, change. Reporting is done via the CDT Notifications API.

The driver records his or her taxi transport data using a registration tool assigned to him or her by the carrier. This data is then transmitted directly to the CDT Notifications API via a central application that is managed by the carrier or a third private party and meets the requirements of these Regulations.

Circumstances may arise that make it impossible to deliver. This could be a failure of the CDT notifications API due to, for example, maintenance or technical issues, such as a disruption of data communication or other technical problems.

The machine, software or device used must then buffer, i.e. hold, the data that have been and are being recorded so that these data can still be delivered to the CDT Notifications API if the circumstances preventing delivery have ceased to exist. The data to be delivered must be delivered in chronological order and in limited volume, as described in the interface specification. The carrier is also responsible for maintaining proper records in these circumstances. And monitoring the ICT service provider's resolution of the disruption. If the carrier finds that an ICT service provider is no longer adequate, it must switch to another ICT service provider for the submission of taxi transport data.

The data and messages used for this purpose are described in the Interface Specification CDT. This CDT interface specification is annexed to this Regulation.

Article 3 (obligations of the carrier)

This Article sets out obligations for the carrier.

The carrier must ensure that the car used for taxi transport and the driver have been validated. Validation means checking the registration number to establish that the car used for taxi transport is available to the carrier. The carriers also ensures that the driver is identified, holds a valid driving licence, is authorised to carry passengers, and that the driver number and driving licence belong to the same person. The carrier shall also ensure that the driver has access to a proper registration tool.

If the driver's registration tool is lost or fails, taxi transport data must be recorded in another way, for example on paper. The carrier must keep this information in its undertaking and present it in an accessible condition to the enforcement authority upon request or during an inspection.

Article 4 (validation of the driver)

The carrier checks whether the driver in question is permitted to carry out taxi transport. It therefore checks his or her driver number and his or her driving

licence details. Driving licence details refer to the validity of the driving licence and the driving licence number.

Only a driver validated by the carrier may provide services. A circumstance may arise that prevents validation in the event of a temporary failure of the CDT Notifications API. The carrier must then validate as soon as the API is available again. The validation is recorded in the CDT.

Article 5 (validation of the car used for taxi transport)

Before the car is used, validation must be carried out once. Services may only be provided in a car that has been validated. Validation is required to ensure that the carrier lawfully possesses the car. The carrier must record in its own records that validation has taken place. This record is not subject to any form requirements and must be available for inspection. For example, the challenge, public key and encrypted response could be recorded. This makes it possible to check whether a particular registration card has been authenticated.

Validating the car is done by electronically reading the registration card and establishing its authenticity through an electronic challenge-response transaction. In order to maintain an orderly overview of validated cars, a carrier deregisters cars that it no longer has at its disposal (for example, because it has sold the car to a third party).

Article 6 (driver sign-in)

A driver who signs in by having his or her driving licence electronically authenticated may provide services on behalf of the carrier. The carrier must know who is driving the car used for taxi transport. The regulator must know from whom taxi transport data originates. Without authentication, it is therefore not permitted to provide services. For example, if the driving licence is defective, such as if the chip or antenna is defective, or unreadable, there is a period of 5 working days to apply for a new driving licence to replace the defective driving licence. These 5 working days are the normal period that RDW and municipalities use for this. In addition, there is an urgent procedure for applying for a new driving licence.

The driver who does not possess a Dutch driving licence must possess a non-Dutch driving licence that permits taxi transport. Without a driving licence, it is not permitted to drive at all. The CBR website describes the type of driving licence and the period of time you can drive with that type of licence in the Netherlands.

If the driver has a non-Dutch driving licence or the driving licence used is defective, he or she must sign in by means of two-factor authentication. No services may be provided without signing in.

Article 7 (use of the registration tool)

Article 7 concerns the manual entry of all work activities, other than driving, from the last break correctly taken daily (or weekly). In this way, it is ensured that the recording of working and rest times is complete, which makes it possible to monitor working and rest times. After all, without complete and proper recording of working and rest times, compliance monitoring will not be possible. Reference is also made to Article 4:3 of the Working Hours Act and the Explanatory Notes to this Article.

A registration tool records working time, journeys, breaks and other work activities.

There are three distinct components of working time:

1. The start of work;
2. The transport of persons;
3. Breaks.

The start of work is recorded in the notice of registering of working hours, and working hours start when the driver performs work activities on behalf of the carrier. It is not important whether these work activities are carried out in the car.

At the start of working time, the driver reports, where applicable, that he or she has undertaken other work activities or taken a break prior to his or her service. This means that all work activities, other than driving, since the last break correctly taken daily (or weekly) is manually entered into the registration tool.

The transport of persons starts as soon as the first person gets in, and ends when the last person gets out. When carrying out group transport, where multiple people are picked up at different locations and/or dropped off at different locations in one journey, this may be submitted as one journey or as individual journeys per person.

With contract transport, the fare should not be recorded. For this type of transport, a 0 may be entered for the fare.

Breaks taken are reported by signing in at the beginning of the break, and signing out again at the end of the break. Breaks cannot be reported afterwards, but must be recorded in real time, i.e. at the time they occur.

Article 8 (registration tool)

The registration tool must have certain characteristics or features. These characteristics or features must ensure that taxi transport data are delivered to the CDT via the central application in a complete, correct and timely manner. Making changes to the tool is not permitted.

When signing in to services from the registration tool, the combination of driver, carrier and car will always be specified. The registration tool includes provisions that restrict the driver to register only the carrier for which he or she is currently performing taxi transport, and only the car that the carrier has provided to him or her for that purpose.

If, after checking the requirements, it appears that the application or device is satisfactory, it can be used by the carrier to register and submit the taxi transport data to the CDT Notifications API. However, if during this use there are changes to the functionalities or features of the tool, this must be reported to the regulator, so that it can be assessed whether the changes made also comply with the prescribed requirements. A form-free notification obligation has been included for this.

Article 9 (central application)

The submission of taxi transport data takes place via a central application. This application contains the real-time recorded data from the driver registration tool

and transfers this data to the CDT Notifications API in real time. This application must therefore have certain properties that are prescribed in this Article. If the CDT Notifications API issues error messages or warnings on messages, the carrier must take action to remedy the causes of the error messages or warnings. The aim is to submit data without error messages or warnings. Fulfilling the conditions of the Regulation is an ongoing obligation.

Article 10 (information security)

For the information security of ICT resources and the associated organisation, it is required that the carrier use an ICT solution and an organisation that are certified for ISO 27001. The Accreditation Board or another recognised accreditation body in the EU assesses whether this certification has been carried out by an independent, impartial, and expert body. The scope of this certification includes all resources involved in the delivery of taxi monitoring data to the CDT Notifications API. The integrity of the delivery of taxi monitoring data is important: the data submitted by the carrier, or the driver on behalf of the carrier, must be delivered to the CDT Notifications API in a complete, correct and timely manner. This allows the regulator to be confident that the information comes from the carrier and the driver.

The decision to include security in accordance with ISO 27001 was made to ensure sufficient guarantees that the taxi transport data, as submitted by the carrier, are delivered with integrity to the CDT Notifications API, while also allowing the market space to introduce innovative applications. An ISO standard focuses on continuous improvement. The Plan, Do, Check, Act cycle is reflected in every ISO standard.

If a carrier chooses to build an ICT solution itself or decides to use an ICT solution provided by the market, it must therefore ensure that this solution complies with ISO 27001.

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ANNEX 1. CDT Interface Specification

(Annex as referred to in Article 2(8) of the Regulation on the Central Taxi Transport Database)

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1 INTRODUCTION

This interface specification describes the following functions of the CDT Notifications API:

- 1.) Delivery of services, journeys and breaks by the operator;
- 2.) Validation of driver details;
- 3.) Requesting open services and operations within the CDT;
- 4.) Registering and deregistering ICT service providers by operators;
- 5.) Reporting events from the driver registration tool related to a service.
- 6.) Requesting the driver number of a taxi driver based on the number of their Dutch driving licence.

1.1 Context

The driver uses a Driver Registration Tool to register real-time relevant information about the performance of taxi transport for the operator in the central application, which again submits the data to the CDT in real time. For the exchange of messages with ILT, the CDT Notifications API (based on REST) has been developed, which must be called by the Central Application.

1.2 Purpose

This document is an Annex to the CDT Regulation. The purpose of this document is to provide parties who wish to use the CDT Notifications API with insight into the functions and functioning of the CDT Notifications API.

2 PROCESSES

In this interface specification, the term ‘service’ is used as it is used in everyday speech. The meaning of service in this document is therefore not the definition of Service in Article 1.7(1)(c) of the Working Hours Act. The legal term for Service in this interface specification is ‘working time as a taxi driver in the car’.

The following processes are in scope for delivery to the CDT:

1. Sign in to service (link driver, operator and vehicle);
2. Report other work activities of the driver prior to the service;
3. Sign in to journey or break;
4. Sign out of journey or break;
5. Sign out of service;
6. Register ICT service provider by operator;
7. Deregister ICT service provider by operator;
8. Validate driver;
9. Request open services and operations;
10. Transmit events from the driver registration tool;
11. Request a driver number.

2.1 Sign in to service (link driver, operator and vehicle)

Precondition

The operator has ensured that:

1. The ICT service provider is registered with the CDT Notifications API;
2. The vehicle has been validated;
3. The driver has been validated;
4. The driver has access to the ‘driver registration tool’.

Process

The driver:

1. Authenticates himself with an authorised authentication method;
2. Enters, if applicable, the start and end times of other work activities carried out prior to the taxi service;
3. Signs in to the service, including the operator and the vehicle, with the central application via the driver registration tool, which then immediately signs in to the service with the CDT Notifications API.

Postcondition

The signing in to the service is registered for the driver, the vehicle and the operator in the central application and in the CDT. The optional signing in to other work activities is registered for the driver.

2.2 Sign in to journey and sign in to break

Precondition

- The service in which the journey or break takes place is notified and registered in the central application and the CDT;
- When signing in to a break: there are no journeys or breaks that have not been signed out of within this service;
- When signing in to a journey: there are no breaks that have not been signed out of within this service;

Process

- The driver signs in to the journey or break with the central application via the driver registration tool, which then immediately signs in to the journey or break with the CDT Notifications API.
- When signing in to a journey, the location is mandatory. If no current location is available, the last known location will be transmitted.

Postcondition

The signing in to the journey or break is registered within the driver's service in the central application and the CDT.

2.3 Sign out of journey and sign out of break

Precondition

The journey or break is registered in the central application and the CDT.

Process

- The driver signs out of the journey or break with the central application via the driver registration tool, which then immediately signs out of the journey or break with the CDT Notifications API.

Postcondition

The signing out of the journey or break is registered within the service for the driver and the operator in the central application and the CDT.

2.4 Sign out of service

Precondition

The service is registered and all journeys and breaks within the service are logged in the central application and the CDT.

Process

The driver signs out of the service with the central application via the driver registration tool, which then immediately signs out of the service with the CDT Notifications API.

Postcondition

The signing out of the service is registered in the central application and the CDT.

2.5 Register ICT service provider

Precondition

The entrepreneur purchases an ICT solution from the ICT service provider and has not registered the ICT service provider with the CDT Notifications API.

Process

The central application sends the operator's registration for the ICT service provider to the CDT Notifications API.

Postcondition

The ICT service provider has been registered by the entrepreneur with the CDT Notifications API.

2.6 Deregister ICT service provider

Precondition

The operator has stopped purchasing the ICT solution from the ICT service provider. The ICT service provider has been registered by the entrepreneur with the CDT Notifications API.

Process

The central application sends the operator's deregistration for the ICT service provider to the CDT Notifications API.

Postcondition

The ICT service provider has been deregistered from the CDT Notifications API by the operator.

2.7 Validate driver

Precondition

The operator does not have the information on whether a driver is authorised.

Process

The operator validates the driver details with the CDT via the Central application.

NB: only with validation code 0 shall the driver details be considered validated.

Postcondition

The operator has the information on whether the specified driver details pertain to an authorised driver.

2.8 Request open services and operations

Precondition

The central application does not have the information on which services and operations remain open in the CDT for longer than a specified duration.

Process

The central application requests services and operations that have been open with the CDT for longer than a specified period of time (at least 24 hours).

Postcondition

The central application has the information regarding which services and operations are open in the CDT for longer than the specified period of time.

2.9 Report events from the driver registration tool

Events of the driver registration tool are notifications ('M'). A more detailed explanation of this can be found in Section Error: Reference source not found of this document.

Precondition

The service to which the event is related is notified and registered in the central application and the CDT.

Process

The driver registration tool reports the event to the central application, which then immediately reports the event to the CDT Notifications API.

Postcondition

The event is registered in the central application and the CDT.

2.10 Request driver number

The driver number is not mentioned on the decision for driver cards issued for 2025. To retrieve the driver number, based on the details of a Dutch driving licence, the driver number can be requested from the CDT Notifications API.

Precondition

Driver and operator do not have the driver number, and the driver has a valid Dutch driving licence, and his or her or her BSN is registered with Kiwa.

Process

Based on the driver's Dutch driving licence, the operator requests the driver number from the CDT.

Postcondition

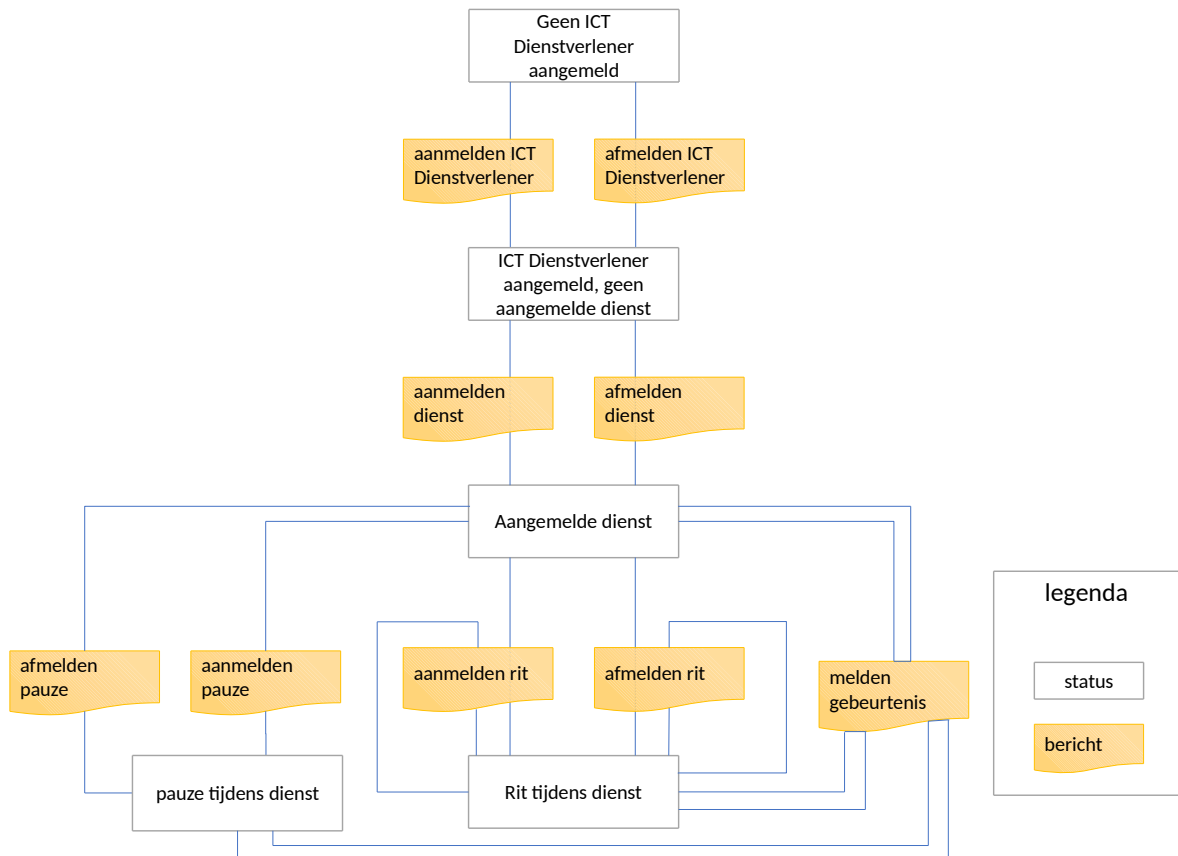
If the driver holds a valid taxi licence, the CDT returns the driver number to the operator.
NB: for drivers who do not have a Dutch driving licence or who are not registered with Kiwa with a BSN, it is not possible to request the driver number on the basis of driving licence details. These drivers receive the driver number by letter from Kiwa and must then pass on the driver number to the operator.

3 MESSAGES

Messages consist of generic message data (metadata) and the content of the message itself. ILT has chosen to include the metadata as headers in the message.

3.1 Status transitions

The logical relationship between messages and the status of a service and operation is shown in the figure below. The messages ‘request open services’ and ‘validate drivers’ do not appear in the figure below because they do not affect the status of services and operations.



Geen ICT Dienstverlener aangemeld	No ICT Service provider registered
aanmelden ICT Dienstverlener	register ICT service provider
afmelden ICT Dienstverlener	deregister ICT service provider
ICT Dienstverlener aangemeld, geen aangemelde dienst	ICT service provider deregistered, no registered service
aanmelden dienst	sign in to service
afmelden dienst	sign out of service
Aangemelde dienst	Notified service
afmelden pauze	sign out of break
aanmelden pauze	sign in to break
aanmelden rit	sign in to journey
afmelden rit	sign out of journey
melden gebeurtenis	report event
legenda	legend
status	status

bericht	message
pauze tijdens dienst	break during service
Rit tijdens dienst	Journey during service

Rules:

- Services can only be registered by a registered ICT service provider;
- Registering an operation (journey or break) requires a registered service;
- Registering an event requires a registered service;
- In order to sign out of a service, all operations within that service must be signed out of;
- Events can be reported during a service, regardless of whether an operation takes place;
- The following rules apply in the case of overlapping operations:
 - o Overlapping journeys are allowed;
 - o It is not possible to sign in to a break during a journey;
 - o It is not possible to sign in to a journey during a break.
- A break can only be reported with a sign-in time that is after the last journey has been signed out of.

3.2 Generic message data in headers

The fields in the table below represent the message header.

Field name	Type/length	Example	Explanation
Service provider	UUID	a0eebc99-9c0b-4ef8-bb6d-6bb9bd380a11	Key issued by ILT that uniquely identifies the supplying ICT service provider to the CDT Notifications API.
ext_key	UUID	a0eebc99-9c0b-4ef8-bb6d-6bb9bd380a11	Unique key to access the API gateway
Message ID	UUID	a0eebc99-9c0b-4ef8-bb6d-6bb9bd380a11	Identification of a message. NB: this must be generated when sending the message.
Dispatch time	date-time in UTC according to IETF RFC3339	2023-03-31T14:55:44Z or 2023-03-31T14:55:44.444Z	Send time of message from ICT service provider to ILT. NB: this time must be updated with each sending attempt.
Software Version-Registration Tool	String(20)*	v12.23.124	Software version of the registration tool.
Software Version-Central Application	String(20)	v2.2.9	Software version of the Central application

*: Software Version-Registration Tool may be an empty string if the message does not originate from a 'driver registration tool'.

3.3 Functional message data

The fields in the table below may appear in a message (in the message body). For each message, it is specified which of these fields appear. In addition, Sections 3.3.1 to 3.3.7 contain objects that may appear in messages.

Field name	Type/length	Examples	Explanation
ID	UUID	a0eebc99-9c0b-4ef8-bb6d-6bb9bd380a11	Identification of a service, operation or event NB: this must be generated at the creation of the service, operation or event.
registration time	date-time in UTC according to IETF RFC3339	2023-03-31T14:55:44Z or 2023-03-31T14:55:44.444Z	The time at which the service or operation started. NB: this is the time on the registration tool.
sign-out time	date-time in UTC according to IETF RFC3339	2023-03-31T14:55:44Z or 2023-03-31T14:55:44.444Z	The time at which the service or operation ended. NB: this is the time on the registration tool.
fare	Integer(6)	10170	Total final price of the journey in euro cents
distance	Numeric (4.1)	12.1	Distance travelled during journey
registration time	date-time in UTC according to IETF RFC3339	2023-03-31T14:55:44Z or 2023-03-31T14:55:44.444Z	The time at which registration takes place on the registration device.
event time	date-time in UTC according to IETF RFC3339	2023-03-31T14:55:44Z or 2023-03-31T14:55:44.444Z	Time at which the event occurs on the registration device.
event code	String(4)	M106	code from table in Section 8.14

Rules:

- The message indicates which fields are mandatory;
- Message is rejected if fields are not in the correct format or layout;
- Message is rejected if mandatory fields are missing;
- Message is rejected if fields other than those allowed are present;
- Message is rejected if allowed fields occur more often than specified.

In addition to the fields in the table above, objects can also be sent. These are described in the following sections.

3.3.1 Driver

components	type	RegEx	example	Explanation
driver number	String(8)	^\Td{7}\$	T0012345	Driver number as issued by Kiwa
validated	Boolean		true	indication of whether driving licence has been validated with CDT Notifications API. This should only be set to true if, upon calling POST https://[host]/v2/chauffeurs/valideren , validation code 0 has been returned for the driver/operator combination.
driving licence	object			see Section Error: Reference source not found

Example:

```

'driver': {
  'driver number': 'T0012345',
  'validated': true,
  'licence': {
    'country': 'NL',
    'number': '123456789'
  }
}
    
```

3.3.2 Driving licence

components	type	RegEx	example	Explanation
country	string2	^[A-Z]{2}\$	NL	ISO 3166-1 alpha-2 country code
driving licence number	string(16)	^[0-9a-zA-Z]{1,16}\$	1234567890	A Dutch driving licence number consists of 10 digits; other countries may differ. Hyphens, spaces and full stops are omitted.

Example:

```

'licence': {
  'country': 'NL',
  'licence number': '123456789'
}
    
```

3.3.3 Authentication

components	type	RegEx	example	Explanation
tool	string{4}	RBNL BIO 2FA	RBNL	RBNL = Dutch driving licence BIO = Biometrics 2FA = 2-factor authentication
attribute	string(32)	-	1234565677 fingerprint facial recognition password-SMS password-linking code PIN code-SMS PIN code-linking code	For RBNL → driving licence number For BIO → fingerprint, facial recognition For 2FA → password-SMS, password-linking code, PIN code SMS, PIN code-linking code

Examples:

```

'authentication': {
  'tool': 'RBNL',
  'attribute': '2090710264'
}
    
```

```

'authentication': {
  'tool': 'BIO',
  'attribute': 'facial recognition'
}
    
```

```

'authentication': {
  'tool': '2FA',
  'attribute': 'password-SMS'
}
    
```

3.3.4 Operator

components	type	RegEx	example	Explanation
Kiwa number	string(7)	^P\d{4,6}\$	P123456	Kiwa taxi licence number
KVK number	string(8)	^\d{8}\$	12345678	Chamber of Commerce (KVK) number

Example:

```
'operator': {
  'KVK number': '12345678',
  "kiwaNumber": 'P1234'
}
```

3.3.5 Vehicle

components	type	RegEx	example	Explanation
registration number	string(6)	^[0-9A-Z]{6}\$	P390HV	Vehicle registration number
validation method	string(1)	K N	K	'K': registration card read 'N': not validated
validation date	string(10)	^\d{4}-\d{2}-\d{2}\$	2024-03-04	date on which validation was performed, format YYYY-MM-DD

Example:

```
'vehicle' {
  'registration number': 'P390HV',
  'validation method': 'N'
  'validation date': '2024-03-04'
}
```

3.3.6 Other work activities

components	type	example	Explanation
start time	date-time in UTC according to IETF RFC3339	2023-03-31T14:55:44Z or 2023-03-31T14:55:44.444Z	date and time when other work activities started
end time	date-time in UTC according to IETF RFC3339	2023-03-31T14:55:44Z or 2023-03-31T14:55:44.444Z	date and time when other work activities ended

Example:

```
'other work activities': [
  {
    'start time': '2023-03-31T14:44:55.000Z',
    'end time': '2023-03-31T15:44:55.000Z'
  },
  {
    'start time': '2023-03-31T18:44:55.000Z',
    'end time': '2023-03-31T19:44:55.000Z'
  }
]
```

3.3.7 Location

components	type	RegEx	example	Explanation
latitude	string	<code>^[+-]?(90(\.0{4,6})? [1-8]?\d(\.0{4,6})?)\$</code>	5.10005	geographical latitude with 4 to 6 digits after the decimal point
longitude	string	<code>^[+-]?(180(\.0{4,6})? [10-7][1-9]?\d(\.0{4,6})?)\$</code>	52.086749	geographical longitude with 4 to 6 digits after the decimal point

Example:

```
'location': {
  'latitude': '5.10005',
  "longitude": '52.08649'
}
```

3.4 Sign in to service (link driver, operator and vehicle)

Use cases:

- Sign in to service at the start of working time, possibly with prior other work activities.

Endpoint: POST https://[host]/v2/diensten

When signing in to a service, the message contains, in addition to all generic message data, the following functional message data:

Field name	Mandatory
ID (of the service)	yes
driver	yes
authentication	yes
operator	yes
vehicle	yes
registration time	yes
registration time	yes
other work activities	no

Response sunny day: '201 CREATED'

Fields:

- data
 - o ID

Notifications in the table below are possible with a '201 CREATED' result code.

Status code	Notification code	Notification text	Remark
201	DF00	[#] services are active for the driver at the ICT service provider.	For the specified driver, an open service is still registered with ILT with this ICT service provider. NB: this notification is not displayed if the service is open for the driver with another ICT service provider.
201	DF06	'vehicle.registration number' is in use on another service by the ICT service provider.	For the specified vehicle, an open service is still registered with ILT with the ICT service provider. NB: this notification is only returned if the service with the vehicle originates from the supplying ICT service provider.
200	DF07	'driver' is not validated while marked as validated.	A driver may only be reported as validated if a successful validation has been conducted.
200	DF08	'ICT service provider' is not notified for an operator	An operator must indicate which ICT service provider is delivering for it.

In the event of a rejection, notifications can be found in Section 8.16.

Response to outstanding services: '201 CREATED'

details of open service(s) at the sending ICT service provider are in the message body.

Fields in message body:

- data
 - ID (of the registered service)
- notifications (optional, one or more)[
 - code
 - text
 - details (optional, will occur with DF00 and DF01)
 - open Services (one or more) [
 - ID
 - registration time
 - open Operations (optional, one or more)[
 - ID
 - registration time

3.5 Sign out of service

Use cases:

- Sign out of service at the end of working time.

Endpoint: POST [https://\[host\]/v2/diensten/{dienst.id}/afmelden](https://[host]/v2/diensten/{dienst.id}/afmelden)

When signing out of a service, the message contains, in addition to the generic message data in the header, the following functional message data in the message body:

Field name	Mandatory
sign-out time	yes
registration time	yes

Response sunny day: '200 OK'

- data
 - ID

If error code DF05 (see Section 8.15) is returned, the response is: '400'.

- data
 - error message: message rejected
 - number: [all error messages]
 - notifications (there may be more)[
 - code
 - text
 - Details (optional)
 - open Operations (one or more)[
 - ID
 - registration time

In the event of other rejections, notifications can be found in Section 8.16.

3.6 Sign in to journey

Use cases:

- Sign in to a journey when the (first) passenger boards.

Endpoint: POST https://[host]/v2/diensten/{dienst.id}/ritten

When signing in to a journey, the message contains, in addition to all generic message data, the following functional message data:

Field name	Mandatory
ID (of the journey)	yes
registration time	yes
registration time	yes
location	yes

Response sunny day: '201 CREATED'

- data
 - o ID

In the event of a rejection, notifications can be found in Section 8.16.

3.7 Sign out of journey

Use cases:

- Sign out of journey when the (last) passenger gets out.

Endpoint: POST https://[host]/v2/diensten/{dienst.id}/ritten/{rit.id}/afmelden

When signing out of a journey, the message contains, in addition to all generic message data, the following functional message data:

Field	Mandatory
sign-out time	yes
registration time	yes
distance	yes
fare	yes

NB. In the case of contract transport and group transport, the price is not mandatory. In that case, the fare may be 0 (zero).

Response sunny day: '200 OK'

- data
 - o ID (of the journey)

In the event of a rejection, notifications can be found in Section 8.16.

3.8 Sign in to break

Use cases:

- Sign in to break at start of break;

Endpoint: POST https://[host]/v2/diensten/{dienst.id}/pauzes

When signing in to a break, the message contains, in addition to all generic message data, the following functional message data:

Field name	Mandatory
ID (of the break)	yes
registration time	yes
registration time	yes

Response sunny day: '201 CREATED'

- data
 - o ID (of the break)

In the event of a rejection, notifications can be found in Section 8.16.

3.9 Sign out of break

Use cases:

- Sign out of break at end of break;

Endpoint: POST https://[host]/v2/diensten/{dienst.id}/pauzes/{pauze.id}/afmelden

When signing out of a break, the message contains, in addition to all generic message data, the following functional message data:

Field	Mandatory
sign-out time	yes
registration time	yes

Response sunny day: '200 OK'

- data
 - o ID (of the break)

In the event of a rejection, notifications can be found in Section 8.16.

3.10 Register ICT service provider

Use case:

- operator registers for the use of ICT solution from ICT service provider.

Endpoint: POST https://[host]/v2/ondernemers/aanmelden

In the message body, the data of the notifying operator are transmitted.

Field	Mandatory
operator	yes

Response sunny day: '200 OK'

- data
 - o validations:[
 - validation code
 - validation description
-]

Validation code	Verification description
0	'operator.Kiwa number' is from a licensed taxi operator 'operator.KVK number' is from an existing company
1	'operator.Kiwa number' is unknown
2	'operator.Kiwa number' is not from a licensed taxi operator
3	'operator.KVK number' is unknown
4	'operator.KVK number' is from an inactive

Validation code	Verification description
	company

In the event of a rejection, notifications can be found in Section 8.16.

3.11 Deregister ICT service provider

Use case:

- operator stops using ICT solution from ICT service provider.

Endpoint: POST [https://\[host\]/v2/ondernemers/{ondernemer.kiwaNummer}/afmelden](https://[host]/v2/ondernemers/{ondernemer.kiwaNummer}/afmelden)
There is no message body.

Response sunny day: '200 OK'

If the operator is unknown to the ICT service provider, the response is '404 – not found'.

In the event of a rejection, notifications can be found in Section 8.16.

3.12 Validate driver

Use cases:

- Check that a driver's Dutch driving licence number and driver number are valid and belong to the same person.
- Check that the driver number of a driver with a foreign driving licence exists and is valid.

Endpoint: POST [https://\[host\]/v2/chauffeurs/valideren](https://[host]/v2/chauffeurs/valideren)

In the message body, the driver to be validated is indicated with his or her or her driver number and Dutch driving licence, as well the operator performing the validation.

Field	Mandatory
driver	yes
operator	yes

NB: the driver object has the component 'validated'. The value of this must be false in this query.

Response sunny day: '200 OK'

- data
 - o validations:[
 - validation code
 - validation description
-]

Validation code	description for Dutch driving licence	description for foreign driving licence
0	'driver.driver number' is from unauthorised driver; 'driver.licence.licence number' is	'driver.driver number' is from an unauthorised driver

	from a valid driving licence and both belong to the same driver	
1	'driver.driver number' is from a different driver than 'driver.licence.licence number'	'driver.driver number' is from a different driver than 'driver.licence.licence number'
2	'driver.driver number' unknown	'driver.driver number' unknown
3	'driver.licence.licence number' unknown	not applicable
4	'driver.driver number' is from unauthorised driver	'driver.driver number' is from unauthorised driver
5	driving licence is invalid	not applicable

If the validation code 0 has been returned on this validation, the service for this driver with driver.driver number and driver.licence.driver number driver.validated can be set to true when signing in. All previously used combinations of driver.driver number with driver.licence.number are no longer considered validated from that moment.

In the event of a rejection, notifications can be found in Section 8.16.

3.13 Request open services and operations

Use case:

- Request open services and operations.

Endpoint:

GET https://[host]/v2/diensten/openstaand?ouderdan=24

This application does not have a message body.

Returns all services not signed out of with any operations not signed out of with a sign-in time longer than x hours ago for ICT service provider Y, where x has a default value of 24, so if older than is omitted, 24 is used. A value lower than 24 is ignored, and 24 is used instead.

Headers: Software Version-Registration Tool may be empty (empty string) if the query is from a central application.

Response sunny day: '200 OK'

Fields in message body:

- data
 - o services (there may be more) [
 - service.ID [
 - registration time
 - operations (optional, there may be more) [
 - operation.ID,
 - registration time
- o]
 - service.ID [
 - registration time

If there are no open services, the call will receive a '204 No Content' response without a message body.

3.14 Report events from the driver registration tool

Use case:

- Report an event on the driver registration tool to ILT.

Endpoint: all events are considered service-related.

POST https://[host]/v2/diensten/{dienstId}/gebeurtenissen

Fields:

Field	Mandatory
ID (of the event)	Yes
event time	Yes
registration time	Yes
event code	Yes
authentication	No*
location	No*

*: See the table below when this field is required

Notification codes are mandatory.

Event code	Description	Field required
M100*	Authentication attempt before and during service unsuccessful.	authentication
M101	Failure of driver registration tool during service. NB: this notification can only be generated once the registration tool is restarted after a failure.	
M102	No positioning for longer than 3 minutes.	Last known location
M103	Positioning successful after event M102.	location
M104	Time on registration tool not synchronised for longer than 10 minutes.	
M105	Time on registration tool synchronised after synchronisation problem notification.	
M106	No movement detected for longer than 1 minute during 'journey' operation while positioning suggests movement.	
M107	Movement detected while positioning suggests movement after M106 notification.	
M108**	No data connection for longer than 1 minute with the driver registration tool.	
M109**	Data connection restored with driver registration tool after interruption.	
M110**	Service signed out of by operator.	
M111**	Operation signed out of by operator.	
M112	Accidentally started service/operation terminated. NB: the functionality to terminate an accidentally started service or operation is optional. When applying this functionality, sending this event code is mandatory.	
M113	The fare has been increased manually. NB: this notification is not necessary for contract or group transport, where the value of 'fare' may be 0.	

*: Transmit notification after the next successful service sign-in on the driver registration tool.

** : Notification normally comes from the Central Application.

NB: for M101 and M104, the event time should be the time when the error was first detected and the registration time the time when the error was reported from the detecting device.

Response sunny day: '201 OK'

- ID (of the notification)

In the event of a rejection, notifications can be found in Section 8.16.

3.15 Request driver number

Use case:

- Requesting a driver number based on a Dutch driving licence number.

Endpoint:

POST https://[host]/v2/chauffeursnummer/opvragen

If the driver number can be found for the given Dutch driving licence, this will be returned. If a non-Dutch driving licence is provided, no driver number will be found.

Headers: Software Version-Registration Tool may be empty (empty string) if the query is from a central application.

Fields:

Field	Mandatory
driving licence	Yes

Response if found: '200 OK'

Fields in message body:

- data
 - o driver number

Response if not found: '404 Not found'.

In the event of a rejection, notifications can be found in Section 8.16.

3.16 Error message codes

The CDT Notifications API has the following error message codes. With each error code, the http status code is displayed and the calls on which it can occur.

Encoding error codes:

Code prefix	Type of error
Hxxx	technical error in (one of) the header(s).
HFxx	functional error in (one of) the header(s).
Gxxx	generic (technical) error.
DFxx	functional error in service message.
VFxx	functional error in operation message.
BFxx	functional error in event message.
OFxx	functional error in query.

Errors are returned in the response body in the format below:

- ```

- data
 o error message
 ▪ number
 o errors [
 ▪ code
 ▪ text
]

```

### 3.16.1 Error messages due to headers

The following notifications can be returned on all calls:

| Statu<br>s | Notificatio<br>n | Notification text                                                                | Explanation                                                                                                                      |
|------------|------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 400        | H000             | Missing header <headername>.                                                     | Service Provider, Message ID, Software Version-Registration Tool, Software Version-Central Application, or Send Time is missing. |
| 400        | H001             | Value of 'Message ID' does not comply with the format.                           | Must be UUID                                                                                                                     |
| 400        | H002             | Value of 'Send Time' does not comply with the format.                            | IETF RFC3339 'date-time' specification.                                                                                          |
| 400        | H003             | Value of 'Send Time' is in the future.                                           | A message cannot have been sent in the future.                                                                                   |
| 400        | H004             | Value of 'Software Version-Registration Tool' does not comply with the format.   | ^[0-9A-Za-z.-]{2,20}\$                                                                                                           |
| 400        | H005             | Value of 'Software Version-Central Application' does not comply with the format. | ^[0-9A-Za-z.-]{2,20}\$                                                                                                           |
| 400        | H006             | Value of 'Service Provider' does not comply with the format.                     | Must be UUID                                                                                                                     |
| 400        | HF00             | Unknown service provider.                                                        | Service provider code is not active or unknown.                                                                                  |
| 400        | HF10             | Message ID is not unique.                                                        | The Message ID on the header must be unique                                                                                      |

NB: Due to the way the validations are performed, the header error messages only occur on messages that do not produce other error messages.

Notification details:

| Cod<br>e | Call                          |
|----------|-------------------------------|
| A        | Sign in to service            |
| B        | Sign out of service           |
| C        | Sign in to journey            |
| D        | Sign out of journey           |
| E        | Sign in to break              |
| F        | Sign out of break             |
| G        | Register ICT service provider |
| H        | Validate driver               |
| I        | Report events                 |
| J        | Request driver number         |

NB: 'Request open services' and 'deregister ICT service provider' are not included in the tables because neither contains a message body to which the error codes relate.

3.16.2 Error messages due to errors in the message itself

| Status | Code | Text                                                               | Explanation                                                                                         | A | B | C | D | E | F | G | H | I | J |
|--------|------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|
| 400    | G000 | Invalid JSON.                                                      | Applies to the entire message: invalid JSON formatting.                                             | X | X | X | X | X | X | X | X | X | X |
| 400    | G001 | Double field.                                                      | Data must be unambiguous; it is not permitted to include the same data more than once in a message. | X | X | X | X | X | X | X | X | X | X |
| 400    | G010 | 'sign-in time' is missing.                                         | mandatory field                                                                                     | X |   | X |   | X |   |   |   |   |   |
| 400    | G011 | Value of 'sign-in time' does not comply with the format.           | The date/time is in UTC, ISO-format yyyy-MM-ddThh:mm:ss.sssZ                                        | X |   | X |   | X |   |   |   |   |   |
| 400    | G012 | Value of 'sign-in time' is in the future.                          | The date/time must not be in the future.                                                            | X |   | X |   | X |   |   |   |   |   |
| 400    | G020 | 'registration time' is missing.                                    | mandatory field                                                                                     | X | X | X | X | X | X |   |   | X |   |
| 400    | G021 | Value of 'registration time' does not comply with the format.      | The date/time is in UTC, ISO-format yyyy-MM-ddThh:mm:ss.sssZ                                        | X | X | X | X | X | X |   |   | X |   |
| 400    | G022 | Value of 'registration time' is in the future.                     | The date/time must not be in the future.                                                            | X | X | X | X | X | X |   |   | X |   |
| 400    | G030 | 'sign-out time' is missing.                                        | Mandatory field                                                                                     |   | X |   | X |   | X |   |   |   |   |
| 400    | G031 | Value of 'sign-out time' does not comply with the format.          | The date/time is in UTC, ISO-format yyyy-MM-ddThh:mm:ss.sssZ                                        |   | X |   | X |   | X |   |   |   |   |
| 400    | G032 | Value of 'sign-out time' is in the future.                         | The date/time must not be in the future.                                                            |   | X |   | X |   | X |   |   |   |   |
| 400    | G040 | 'ID' is missing.                                                   | mandatory field                                                                                     | X |   | X |   | X |   |   |   | X |   |
| 400    | G041 | Value of 'ID' does not comply with the format.                     | UUID                                                                                                | X |   | X |   | X |   |   |   | X |   |
| 400    | G050 | Value of path parameter 'service' does not comply with the format. | UUID                                                                                                |   | X | X | X | X | X |   |   | X |   |
| 400    | G060 | 'driver' is missing.                                               | Mandatory                                                                                           | X |   |   |   |   |   |   | X |   |   |
| 400    | G061 | 'driver.driver number' is missing.                                 | Mandatory field                                                                                     | X |   |   |   |   |   |   | X |   |   |
| 400    | G062 | Value of 'driver.driver number' does not comply with the format.   | Format ^T\d{7}\$, e.g. T0012345.                                                                    | X |   |   |   |   |   |   | X |   |   |
| 400    | G063 | 'driver.validated' is missing.                                     | Mandatory field                                                                                     | X |   |   |   |   |   |   |   |   |   |

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| Status | Code | Text                                                                      | Explanation                                                                                                                                                     | A | B | C | D | E | F | G | H | I | J |
|--------|------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|
| 400    | G064 | Value of 'driver.validated' does not comply with the format.              | Boolean, true or false                                                                                                                                          | X |   |   |   |   |   |   |   |   |   |
| 400    | G070 | 'licence' is missing.                                                     | mandatory                                                                                                                                                       | X |   |   |   |   |   |   | X |   | X |
| 400    | G071 | 'driver.licence.licence number' is missing.                               | Mandatory field                                                                                                                                                 | X |   |   |   |   |   |   | X |   | X |
| 400    | G072 | Value of 'driver.licence.licence number' does not comply with the format. | Field is up to 16 alphanumeric characters.                                                                                                                      | X |   |   |   |   |   |   | X |   | X |
| 400    | G073 | 'driver.licence.country' is missing.                                      | Mandatory field                                                                                                                                                 | X |   |   |   |   |   |   | X |   | X |
| 400    | G074 | Value of 'driver.licence.country' does not comply with the format.        | country code in accordance with ISO3166-1 alpha-2                                                                                                               | X |   |   |   |   |   |   | X |   | X |
| 400    | G080 | 'authentication' is missing.                                              | mandatory for I if event code = M100                                                                                                                            | X |   |   |   |   |   |   |   | X |   |
| 400    | G081 | 'authentication.tool' is missing.                                         | mandatory for I if event code = M100                                                                                                                            | X |   |   |   |   |   |   |   | X |   |
| 400    | G082 | Value of 'authentication.tool' does not comply with the format.           | See Section 3.3 for permitted values                                                                                                                            | X |   |   |   |   |   |   |   | X |   |
| 400    | G083 | 'authentication.attribute' is missing.                                    | mandatory for I if event code = M100                                                                                                                            | X |   |   |   |   |   |   |   | X |   |
| 400    | G084 | 'authentication.attribute' does not comply with the format.               | Field is up to 32 alphanumeric characters.                                                                                                                      | X |   |   |   |   |   |   |   | X |   |
| 400    | G090 | 'operator' is missing.                                                    | Mandatory                                                                                                                                                       | X |   |   |   |   |   | X | X |   |   |
| 400    | G091 | 'operator.Kiwa number' is missing.                                        | Mandatory                                                                                                                                                       | X |   |   |   |   |   | X | X |   |   |
| 400    | G092 | Value of 'operator.Kiwa number' does not comply with the format.          | First position is always a 'P', the other 6 positions are digits. If the sequence of digits is less than 6 positions, it must be filled with leading zeros (0). | X |   |   |   |   |   | X | X |   |   |
| 400    | G093 | 'operator.KVK number' is missing.                                         | mandatory field.                                                                                                                                                | X |   |   |   |   |   | X | X |   |   |
| 400    | G094 | Value of 'operator.KVK number' does not comply with the format.           | If the sequence of digits is less than 8, it must be filled with leading zeros (0).                                                                             | X |   |   |   |   |   | X | X |   |   |
| 400    | G100 | 'vehicle' is missing.                                                     | Mandatory                                                                                                                                                       | X |   |   |   |   |   |   |   |   |   |
| 400    | G101 | 'vehicle.registration number' is missing.                                 | Mandatory                                                                                                                                                       | X |   |   |   |   |   |   |   |   |   |
| 400    | G103 | Value of 'vehicle.registration number' does not comply with the format.   | Regex <code>^[0-9A-Z]{6}\$</code>                                                                                                                               | X |   |   |   |   |   |   |   |   |   |



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| Status | Code | Text                                                                           | Explanation                                                                      | A | B | C | D | E | F | G | H | I | J |
|--------|------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|
| 400    | G104 | 'vehicle.validation method' is missing.                                        | Mandatory                                                                        | X |   |   |   |   |   |   |   |   |   |
| 400    | G105 | Value of 'vehicle.validation method' does not comply with the format.          | enumeration                                                                      | X |   |   |   |   |   |   |   |   |   |
| 400    | G106 | 'vehicle.validation date' is missing.                                          | Mandatory                                                                        | X |   |   |   |   |   |   |   |   |   |
| 400    | G107 | Value of 'vehicle.validation date' does not comply with the format.            | YYYY-MM-DD                                                                       | X |   |   |   |   |   |   |   |   |   |
| 400    | G108 | Value of 'vehicle.validation date' is in the future.                           | The validation date cannot be in the future                                      | X |   |   |   |   |   |   |   |   |   |
| 400    | G110 | 'other work activities.start time' is missing.                                 | Mandatory if other work activities are present.                                  | X |   |   |   |   |   |   |   |   |   |
| 400    | G111 | Value of 'other work activities.start time' does not comply with the format.   | The date/time is in UTC, ISO-format yyyy-MM-ddThh:mm:ss.sssZ                     | X |   |   |   |   |   |   |   |   |   |
| 400    | G120 | 'other work activities.end time' is missing.                                   | Mandatory if other work activities are present.                                  | X |   |   |   |   |   |   |   |   |   |
| 400    | G121 | Value of 'other work activities.end time' does not comply with the format.     | The date/time is in UTC, ISO-format yyyy-MM-ddThh:mm:ss.sssZ                     | X |   |   |   |   |   |   |   |   |   |
| 400    | G122 | 'other work activities.end time' is before 'other work activities.start time'. | Start must be before the end                                                     | X |   |   |   |   |   |   |   |   |   |
| 400    | G123 | Value of 'other work activities.end time' is after 'service.sign-in time'.     | The end of other work activities must be before the sign-in time of the service. | X |   |   |   |   |   |   |   |   |   |
| 400    | G130 | 'location' is missing.                                                         | mandatory object for:<br>- sign in to journey (C)<br>- event code M102 and M103  |   |   | X |   |   |   |   |   | X |   |
| 400    | G131 | 'location.latitude' is missing.                                                | mandatory on location                                                            |   |   | X |   |   |   |   |   | X |   |
| 400    | G132 | Value of 'location.latitude' does not comply with the format.                  | <u>Numeric(8.6)</u>                                                              |   |   | X |   |   |   |   |   | X |   |
| 400    | G133 | 'location.longitude' is missing.                                               | mandatory on location                                                            |   |   | X |   |   |   |   |   | X |   |
| 400    | G134 | Value of 'location.longitude' does not comply with the format.                 | Numeric(9.6)                                                                     |   |   | X |   |   |   |   |   | X |   |

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| Status | Code | Text                                                               | Explanation                                                  | A | B | C | D | E | F | G | H | I | J |
|--------|------|--------------------------------------------------------------------|--------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|
| 400    | G140 | 'distance' is missing.                                             | mandatory when signing out of journey                        |   |   |   | X |   |   |   |   |   |   |
| 400    | G141 | Value of 'distance' does not comply with the format.               | Numeric                                                      |   |   |   | X |   |   |   |   |   |   |
| 400    | G150 | 'fare' is missing.                                                 | mandatory for journeys                                       |   |   |   | X |   |   |   |   |   |   |
| 400    | G151 | Value of 'fare' does not comply with format.                       | Integer                                                      |   |   |   | X |   |   |   |   |   |   |
| 400    | G160 | Value of path parameter 'journey' does not comply with the format. | UUID                                                         |   |   |   | X |   |   |   |   |   |   |
| 400    | G170 | Value of path parameter 'break' does not comply with the format.   | UUID                                                         |   |   |   |   |   | X |   |   |   |   |
| 400    | G180 | 'event time' is missing.                                           | Mandatory event reporting                                    |   |   |   |   |   |   |   |   | X |   |
| 400    | G181 | Value of 'event time' does not comply with the format.             | The date/time is in UTC, ISO-format yyyy-MM-ddThh:mm:ss.sssZ |   |   |   |   |   |   |   |   | X |   |
| 400    | G182 | Value of 'event time' is in the future.                            | Events cannot be reported before the event time.             |   |   |   |   |   |   |   |   | X |   |
| 400    | G190 | 'event code' is missing.                                           | mandatory field                                              |   |   |   |   |   |   |   |   | X |   |
| 400    | G191 | Value of 'event code' does not comply with the format.             | String(4)                                                    |   |   |   |   |   |   |   |   | X |   |

3.16.3 Error messages due to content processing

| status | Code              | Text                                                                   | explanation                                                                                                                         | A | B | C | D | E | F | G | H | I | J |
|--------|-------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|
| 400    | DF01              | Value of 'sign-in time' is within another service.                     | A service can only be signed in to if the start time of the service does not overlap with a signed-out service for the same driver. | X |   |   |   |   |   |   |   |   |   |
| 400    | DF02              | The value of 'ID' is not unique.                                       | Identification must be unique                                                                                                       | X |   | X |   | X |   |   |   | X |   |
| 400    | DF03              | Service cannot be found based on the specified ID.                     | A notification within a service can only be made when the service can be found.                                                     |   | X | X | X | X | X |   |   | X |   |
| 400    | DF04              | Service has already been signed out of.                                | A service can only be signed out of if the service has not already been signed out of.                                              |   | X |   |   |   |   |   |   |   |   |
| 400    | DF05 <sup>1</sup> | There are operations that have not been signed out of on this service. | A service can be signed out of if all operations on that service have been signed out of.                                           |   | X |   |   |   |   |   |   |   |   |

<sup>1</sup> This code also returns the relevant operation(s) in the response.

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| status | Code | Text                                                                     | explanation                                                                                                                                                                    | A | B | C | D | E | F | G | H | I | J |
|--------|------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|
| 400    | VF01 | Value of 'sign-in time' is for 'service.sign-in time'.                   | Operation within service cannot start earlier than service.                                                                                                                    |   |   | X |   | X |   |   |   |   |   |
| 400    | VF02 | operation cannot be found based on the specified ID.                     | An operation (journey/break) can only be signed out of when it has been signed in to.                                                                                          |   |   |   | X |   | X |   |   |   |   |
| 400    | VF03 | operation has already been signed out of.                                | A signed-out operation (journey/break) cannot be signed out of.                                                                                                                |   |   |   | X |   | X |   |   |   |   |
| 400    | VF04 | Value of 'sign-out time' is before 'sign-in time' for operation.         | An operation within a service cannot end before the start of the operation.                                                                                                    |   |   |   | X |   | X |   |   |   |   |
| 400    | VF05 | The maximum number of transactions has been reached for this service.    | The number of operations per service is capped at 100.                                                                                                                         |   |   | X |   | X |   |   |   |   |   |
| 400    | VF06 | Value of 'sign-in time' for a break is within the journey or break.      | A break may not overlap with another operation.                                                                                                                                |   |   |   |   | X |   |   |   |   |   |
| 400    | VF07 | Value of 'sign-in time' for a journey is within the reported break.      | A journey cannot be started if:<br>a break has previously been signed in to and has not been signed out of;<br>the sign-in time falls within a signed-in and signed-out break. |   |   | X |   |   |   |   |   |   |   |
| 400    | VF08 | Value of 'sign-out time' for a break is within the journey or break.     | A break may not overlap with another operation. NB: in principle, this error can only occur if a break is reported afterwards.                                                 |   |   |   |   |   | X |   |   |   |   |
| 400    | VF09 | Value of 'sign-out time' of journey not permitted, break during journey. | A journey cannot be signed out of if this results in a break during the journey.                                                                                               |   |   |   | X |   |   |   |   |   |   |
| 400    | VF10 | Operation not found within the specified service                         | A journey or break is signed out of whose ID is not known on the service.                                                                                                      |   |   |   | X |   | X |   |   |   |   |
| 400    | VF11 | Value of 'sign-in time' of break is before signed-in operation           | It is not permitted to sign in to a break with a sign-in time before the sign-in time of another operation.                                                                    |   |   |   |   | X |   |   |   |   |   |
| 400    | BF01 | The maximum number of events has been reached for this service.          | The number of events per service is capped at 100.                                                                                                                             |   |   | X |   | X |   |   |   |   |   |
| 400    | OF01 | Maximum number of requests reached                                       | There is a maximum number of requests of 500 per day per ICT service provider                                                                                                  |   |   |   |   |   |   |   |   |   | X |

## 4 TECHNICAL REQUIREMENTS

### 4.1 Conventions

#### 4.1.1 *JSON conventions*

The Central application must provide the messages to the endpoints of CDT Notifications API by means of JSON (JavaScript Object Notation) messages and REST (Representational State Transfer).

For a complete technical specification of the JSON messages, the OpenAPI specification can be consulted; this is REF-1.

Fields that have no value are omitted.

#### 4.1.2 *Encoding*

The character encoding standard of the messages is UTF-8.

#### 4.1.3 *Case sensitivity*

The backend service CDT is case sensitive.

#### 4.1.4 *Date/time*

The IETF RFC 3339 standard is used for date and time, specifically the specification of the 'date-time' value.

#### 4.1.5 *Messaging*

Messaging is handled synchronously. If there is a time-out, the Central Application must offer the message again. A transaction is only completed when a response is received.

The caller of a transaction must wait at least 15 seconds before the transaction can be considered timed-out.

#### 4.1.6 *Endpoints*

All endpoints are specified in the OpenAPI specification [REF-1].

### 4.2 Up-to-date data

Messages must be delivered to the backend service CDT without delay. Each message contains two timestamps: the moment when the event occurred (sign-in time or sign-out time) and the moment when the message about this action is created (registration time). The 'send time' header shows the time at which the central application makes the call to the CDT Notifications API.

The ICT service provider is responsible for ensuring that messages are submitted in chronological order of *registration time*.

### **4.3 Availability and performance**

#### **4.3.1 Availability**

The API has a guaranteed availability of 98 %.

#### **4.3.2 Performance**

The target time for handling a taxi message is < 2 seconds.

## LOGGING AND MONITORING CONNECTION

### 5.1 Logging

For management purposes, ILT expects the ICT service provider to log all transactions on the CDT Notifications API, including ILT's response. This data must be kept for at least 1 month.

### 5.2 Connection monitoring

In order to monitor whether a connection between the ICT service provider and ILT is possible, if no other notification has been sent for more than 60 seconds, the ICT service provider will send a GET to [https://\[host\]/v2/verbinding](https://[host]/v2/verbinding), upon which ILT will return a 200 OK as a sign that the connection has been established. In this way, the management organisations of both parties can monitor whether the connection is in order.

NB: if the call to this endpoint fails, other transactions may not be called until this call succeeds again.

## 6 ERROR HANDLING

Errors may occur in one or more messages. This Chapter describes what should be done in which case.

### 6.1 General

If a message relating to a service is rejected, messages for the same service, which must be sent chronologically after that message, must be retained until the rejected message (whether corrected or not) has been successfully processed by the CDT Notifications API.

If the */connection endpoint* returns a 500 error, there is likely a connection error. No other messages should then be sent to the CDT Notifications API, and instead, a new call to */connection* should be made every minute until this call succeeds. After this, the sending of the other messages can be resumed.

### 6.2 Error in call to service-related endpoints

If an error situation occurs in one of the calls, actions are recommended as described in the table below.

| Status code | Recommended actions.                                                                                                                 |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 403         | Unauthorised call. Wrong credentials or an unknown endpoint specified. Recovery is necessary for a new attempt.                      |
| 400         | For a 400 error due to errors in the header or message: first correct the error and then send a new message with the corrected data. |
| 50x         | The CDT Notifications API is not accessible. Try again after 1 minute (same message body, different time, same message ID).          |

### 6.3 Error in call/connection

The */connection endpoint* is used to check if the CDT Notifications API is operational. This is a separate case and has therefore been dealt with separately. If other messages are sent to the CDT Notifications API, the */connection endpoint* should not be called.

| Status code | Recommended actions.                                                                                                                                                                      |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 40x         | There was an error in the call. Please try again with a new message.                                                                                                                      |
| 50x         | The CDT Notifications API is not accessible. Try again after 1 minute with a new <i>/connection</i> call, the current call should not be offered again (no retry for <i>/connection</i> ) |

### 6.4 Duplicate detection

There is no duplicate detection; a message that is offered for the second time is functionally rejected.

## 7 AUTHENTICATION AND INFORMATION SECURITY

### 7.1 Authentication

#### 7.1.1 PKI Certificates

Information exchange with the CDT Notifications API takes place via the ILT's central API Security gateway to which all ICT service providers must be connected. Authentication by the ICT service providers takes place using PKI government server certificates and client certificates at the ICT service provider. For more information, see the Logius website.

#### 7.1.2 Driving licence authentication

For every service that is started, the driver's Dutch driving licence must be authenticated. The driving licence number is read from the driving licence via NFC. If the driver does not have a Dutch driving licence, authentication must be undertaken in one of the other ways.

#### 7.1.3 Registration certificate authentication

When registering a vehicle for a carrier, the registration certificate of the vehicle must be authenticated. The registration number of the vehicle is read by means of a smart card reader. After this, the registration number may be used for services and journeys of this carrier. It is possible that a vehicle is used by different carriers. For each carrier, the registration certificate must be read once before the vehicle is put into service.

### 7.2 Information security

The information exchange goes from the supplying ICT service providers via the public internet to the secure API gateway. Only pre-authorized IP addresses can offer messages on it. The gateway is located within the government infrastructure.

#### 7.2.1 Transport Layer Security (TLS)

Traffic occurs over TLS with certificates on the sending and receiving sides. For this purpose, the current standards as prescribed by the Netherlands Standardisation Forum are used. The certificates on the receiving side are from the Certificate Authority (CA) of the national government; the certificates on the sending side must be from a public CA; Most CAs are known and accepted by the national government. If there is any doubt about a CA, please contact ILT. The most up-to-date guidelines are described by the National Cyber Security Centre in the document 'IT Security Guidelines for Transport Layer Security (TLS) v2.1'.

NB: the acceptance environment differs from the production environment: no client certificate is required in the acceptance environment.

#### 7.2.2 API keys

ILT issues an API key (ext\_key-header) for each ICT service provider. The ICT service provider uses the API key to identify itself to the ILT API gateway.



### 7.3 Headers

The CDT Notifications API expects the following headers in a call:

| Header                               | Value                                      | example                                                                          |
|--------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------|
| Accept                               | Fixed value                                | Accept: application/json                                                         |
| Content-Type                         | Fixed value                                | Content-Type: application/json                                                   |
| Service provider                     | UUID                                       | Service provider:                                                                |
| ext_key                              | UUID                                       | ext_key:                                                                         |
| Message ID                           | UUID                                       | Message ID:                                                                      |
| Dispatch time                        | date-time in UTC according to IETF RFC3339 | Shipping time: 20241120T17:51:01Z<br>or<br>Shipping time: 20241120T17:51:01.556Z |
| Software Version-Registration Tool   | Max. 20 positions                          | Software Version-Registration Tool: v1.0.3                                       |
| Software Version-Central Application | Max. 20 positions                          | Software Version-Central Application: v12.6.5                                    |

See also Section 3.2