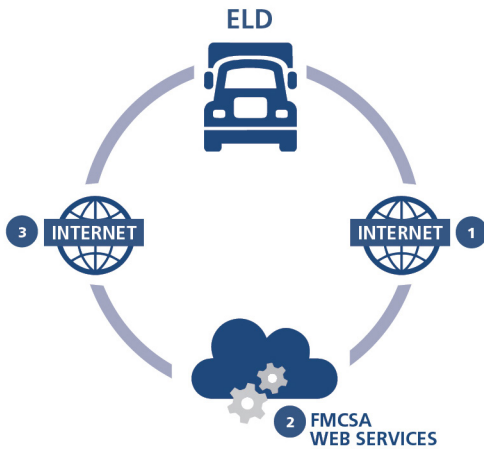


## TELEMATICS

## Web Services



### HOW IT WORKS:

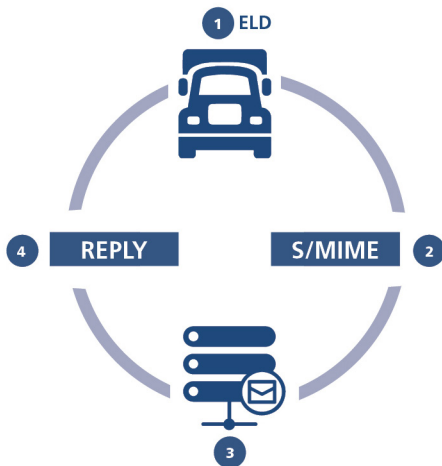
- 1 ELD connects to an FMCSA SOAP service and submits:
  - » Client certificate.
  - » ELD data file.
  - » Output file comment.
- 2 FMCSA validates ELD certification status.
- 3 ELD data file is validated.
  - » If no errors are found, it will be passed onto the inspector.
  - » If errors are found, they will be indicated in the SOAP response.

### HOW TO TEST:

- » WSDL and ELD Development Guide will contain details on the service endpoints and detailed requirements.
- » ELD submit function will have an optional "test" flag. When set, submissions will not be sent on to inspectors or used by FMCSA for verifying device certification.
- » Certificate validation will be enforced when using the test flag.
- » To enable testing prior to device registration, FMCSA will provide:
  - Testing device certificate containing both public and private keys.
  - Sample ELD Identifier.
  - Sample ELD Registration ID.

## TELEMATICS

## Email



### HOW IT WORKS:

- 1 Transfer via email to FMCSA's ELD email address.  
*NOTE: Email transfers should only be used to transfer ELD data via FMCSA's ELD email address, not directly to a roadside inspector.*
- 2 Using the S/MIME standard, the email must be encrypted using at a minimum the AES-256 algorithm and FMCSA ELD public key. The message must be signed using the manufacturer's private key.

Email to be composed:  
 TO: <FMCSA ELD EMAIL ADDRESS>  
 FROM: <VENDOR ADDRESS FOR SUCCESS/FAIL RESPONSE>  
 SUBJECT: ELD records from <ELD REGISTRATION ID>:<ELD IDENTIFIER>  
 BODY: <output file comment provided by inspector>  
 ATTACHMENT: <ELD output file>

- 3 Once transmitted to FMCSA:
  - » Email will be decrypted.
  - » Signature will be validated using the manufacturer's public key.
  - » ELD file will be validated.
- 4 A reply is sent to "From" address indicating success or providing a list of errors.

### HOW TO TEST:

- » ELD Development Guide will provide details on the FMCSA ELD email address.
- » Test emails will be identified by prefixing the subject line with the keyword "TEST."

For example:

```
TEST: ELD records from <ELD REGISTRATION ID>:<ELD IDENTIFIER>
```

- » "TEST" submissions will not be sent on to inspectors or used by FMCSA for verifying device certification.
- » Signature will be validated using the ELD registration database.
- » To enable testing prior to device registration, FMCSA will provide:
  - Testing device certificate containing both public and private keys.
  - Sample ELD Identifier.
  - Sample ELD Registration ID.

### KEY TERMS:

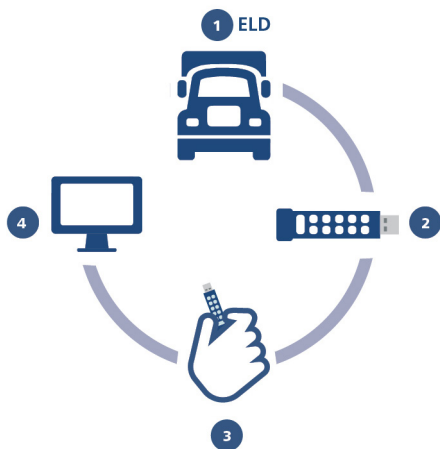
**FMCSA ELD public key:** provided by FMCSA during device registration.

**Manufacturer private key:** corresponds to manufacturer's public key, which is submitted during device registration.

# ELD DATA TRANSFER REQUIREMENTS

## LOCAL TRANSFER

## USB 2.0



### HOW IT WORKS:

- 1 Inspector connects a hardware-encrypted USB device to the ELD and inputs the device key to decrypt it.
- 2 Driver initiates the ELD transfer of the output file to the USB device.
- 3 Inspector connects USB device to his/her PC.
- 4 ELD file is validated locally using software on the inspector's PC.

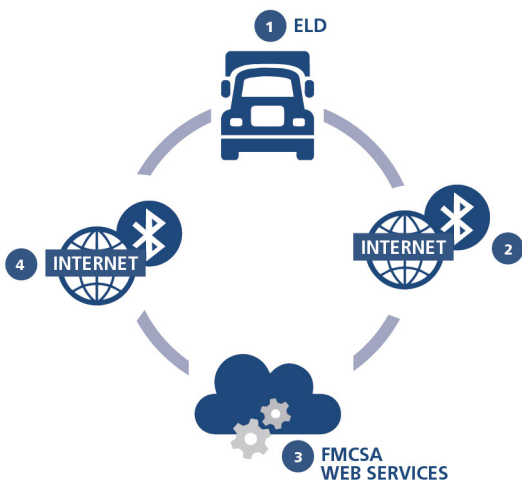
### HOW TO TEST:

- » Confirm the ELD can transfer data files to various USB devices.  
*NOTE: FMCSA will only make use of devices that provide a hardware mechanism for device decryption.*
- » Use the file validator website to confirm the generated ELD file meets the ELD specification.

**File validator** will be available on FMCSA ELD website in the near future.

## LOCAL TRANSFER

## Bluetooth®



### HOW IT WORKS:

- 1 An operational internet connection is made available by enforcement, via Bluetooth, to the ELD. The ELD will use the Internet connection provided by the Bluetooth device to submit the ELD data file via FMCSA Web Services.  
*NOTE: Bluetooth is not intended to allow direct transfer of the ELD data file to an inspector device.*
- 2 ELD connects to an FMCSA SOAP service and submits:
  - » Client certificate.
  - » ELD data file.
  - » Output file comment.
- 3 FMCSA validates ELD certification status.
- 4 ELD data file is validated.
  - » If no errors are found, it will be passed onto the inspector.
  - » If errors are found, they will be indicated in the SOAP response.

### HOW TO TEST:

- » Vendors should confirm the ELD device can effectively pair with a variety of third-party devices sharing an Internet connection via Bluetooth.
- » Web services testing methods should be used once it is confirmed the device can successfully connect to the Internet.