ISS INTEGRITY® SECURITY SERVICES

TRAFFICAUTH
Distribution Center Security Solution

Distribution center security requires positive confirmation of the vehicles and drivers that enter and exit the center. This typically means that drivers and trucks must be manually registered and their credentials checked on every entry and exit, which is a tedious and error-prone process.

HIGHLIGHTS

→ **Improved Enforcement**
Enables improved enforcement and accountability of credential checks.

→ **Secure**
Can significantly reduce the opportunities for fraud and theft.

→ **Standards-based**
Leverages SAE J3217 roadside tolling standard and IEEE 1609.2 digital signatures.

→ **Increased Efficiency**
Optimizes drive-time as well as truck entry and exit.

The TrafficAuth Distribution Center Security (DCS) solution automates this process, reducing the time required for each vehicle. Enabling better enforcement and accountability of credential checks, this approach can also significantly reduce fraud and theft. For drivers and fleet operators it offers safety and drive-time optimization benefits.

This solution is based on the existing SAE J3217 standard for connected vehicle tolling, which defines a secure and interoperable way for a roadside tolling system to request identity information from a passing vehicle.

This transaction can be executed over any cellular network and it does not require that the truck and the toll gate operate on the same carrier. All messages are digitally signed using IEEE 1609.2 standard certificates which are commonly used in connected vehicle applications and can be trusted across multiple vendors and many different use cases. The proposed transaction is outlined in *Figure 1*.
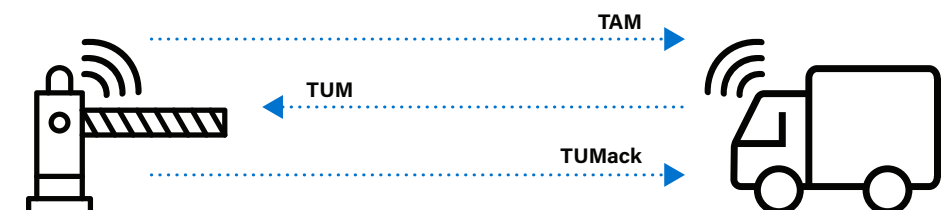

Figure 1: The standards-based TrafficAuth validation transaction.

SECURE REGISTRATION

Drivers can install the ISS TrafficAuth-Mobile app to produce the TUM message with encrypted identifiers. Each driver can register the app with an authorized email address, and ISS can support any additional workflow required (MFA, in-person interviews, etc) to validate that the drivers are known and authorized. ISS integration partners have equipment installed in many fleet vehicles running the TrafficAuth-Mobile application whic can be used as an alternative to a cell phone

BENEFITS FOR FLEET OPERATORS

Being based on an existing SAE standard, this approach can be extended to allow drivers and fleet operators to gain secure access across multiple facilities with a single registration.

Since the standards also support connected vehicle safety and tolling, the same credentials and equipment can also provide safety and road efficiency benefits. For example, connected vehicle safety applications can interact with roadside infrastructure that detects pedestrians and warns drivers about potential accidents.

Such upgrades can bring insurance savings as well as efficiency benefits like extended green lights for authorized freight vehicles in congested areas.

STEPS IN THE VALIDATION TRANSACTION

1. **The Distribution Center Gate repeats a local TAM (Toll Announcement Message)* that requires all approaching vehicles to be authorized**
   a. The TrafficAuth service can generate this message on behalf of a Distribution Center. The facility operators don't need to install or create anything
   b. The TAM message includes an ephemeral (temporary) public key that can be used for encrypting data.

2. **Vehicles respond with a TUM (Toll User Message) that identifies the vehicle and driver.**
   a. ISS will register drivers through an enrollment process. In this process, ISS validates the driver's license and identity credentials and issues a certificate that represents the driver's identity
   b. The driver loads the truck information by scanning the VIN number on the truck. Registration details are automatically loaded from DOT records.
   c. The driver and vehicle certificate are encrypted using the public key that was included in the TAM and then sent back to the DC to identify who is approaching or leaving.

3. **Validation of the driver and vehicle certificate is performed automatically by checking the integrity of the corresponding certificates. The Distribution Center gate is actuated for authorized vehicles.**
   a. A log of the TUM message provides a time-stamped digitally signed proof of presence for the vehicle at the Distribution Center

4. **A TUMack message is returned to the vehicle with the approval status.**

* TAM & TUM authentication does not necessitate a payment or financial transaction.

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