

Global Mitigation

A Safe and Accountable Financial Structure for Somalia



The issues

- There is a risk that remittance money entering Somalia may help fund terrorism and/or terrorist organizations.
- There is a risk that money out of Somalia may be derived from, or be sent in support of, terrorism and/or terrorist organizations.
- On the basis of the risks, most banks have closed their facilities in Somalia, further crippling the economy of Somalia and quarantining international transactions.
- Somalia has one of the lowest land-rights indexes (7 of 100) in all of Africa. This also limits the economy of Somalia, by making internal and foreign investment problematic.



<https://www.theguardian.com/global-development/2015/feb/06/somali-us-money-transfers-merchants> <https://www.theguardian.com/global-development/2015/feb/06/somali-us-money-transfers-merchants-bank-remittances-bank-remittances>

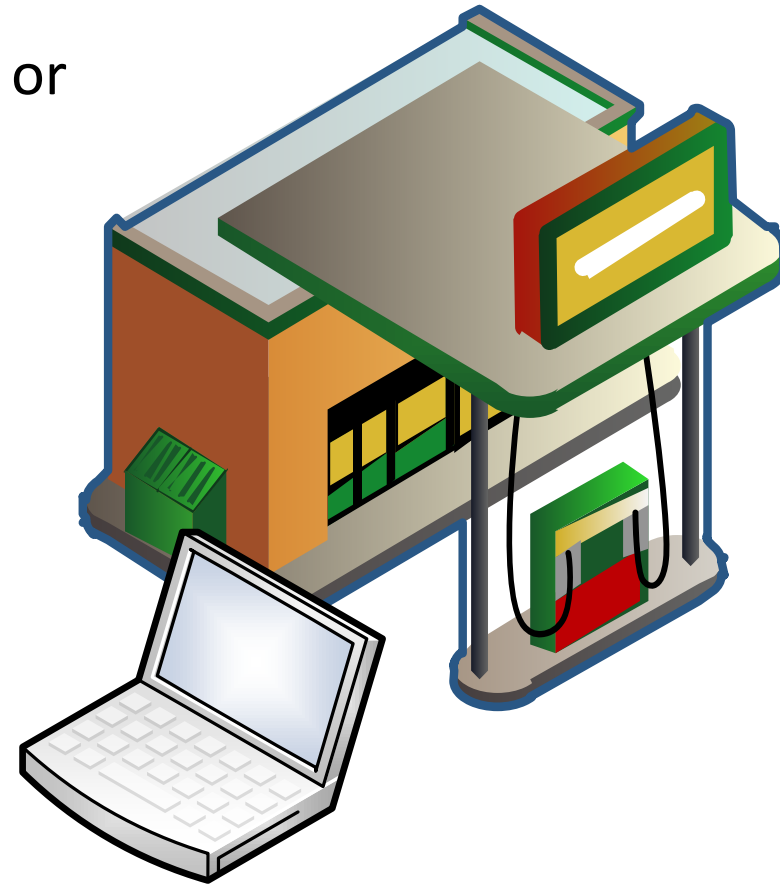
LTL

The needs

- A safe and accountable means for buying and selling at a local level.
- A safe and accountable means for financial transactions outside of Somalia.
- A reliable and trusted means to order and pay for goods within and outside of Somalia.
- A reliable and attributable means to receive and send money within and outside of Somalia.
- A reliable and attributable way to establish property ownership.
- A solution that is robust, self-healing, and can leverage existing infrastructure.

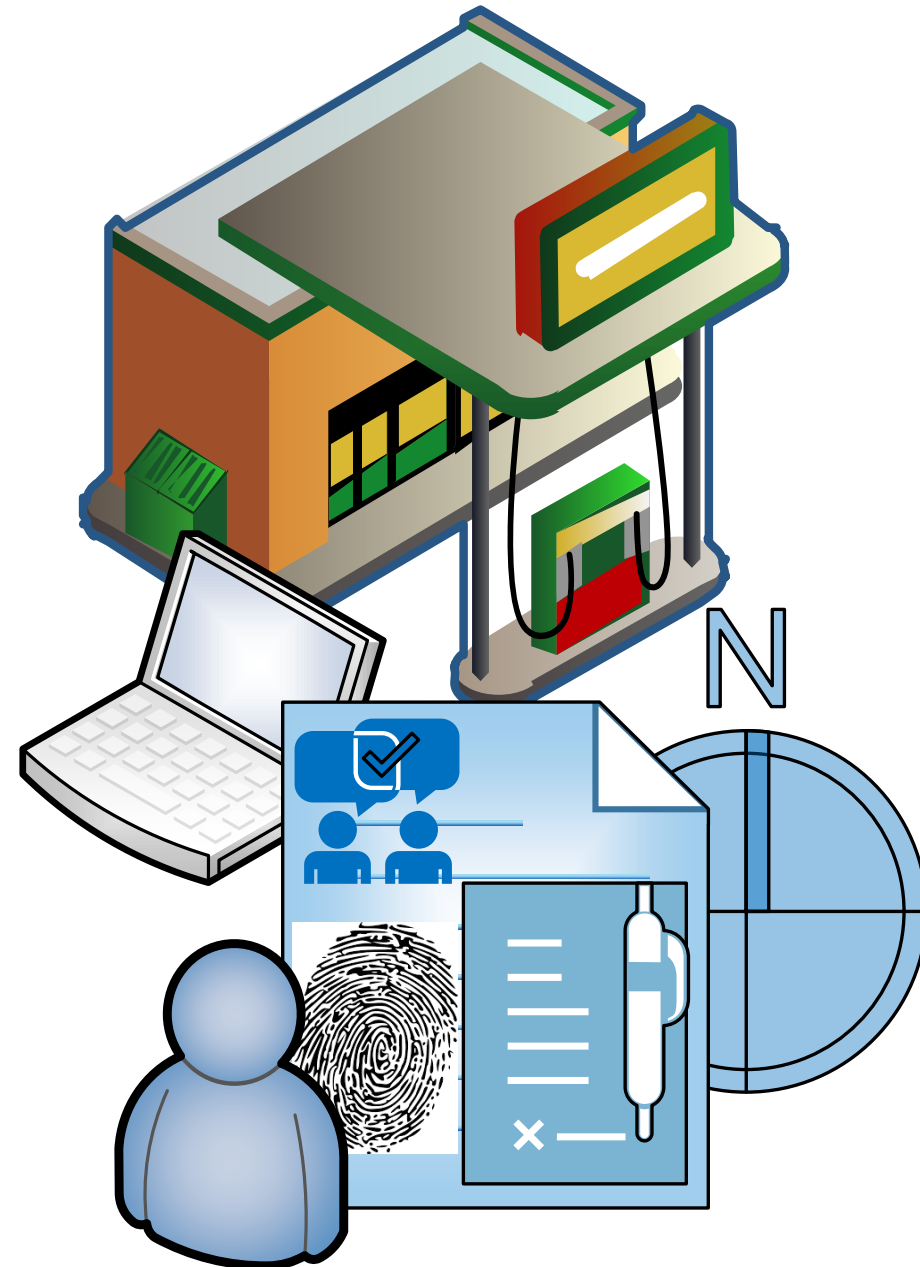
At some level all commerce is local

A local shop owner using a laptop, tablet, or simply a smartphone is provided with a **Global Mitigation** (GM) software account and becomes a GM agent .



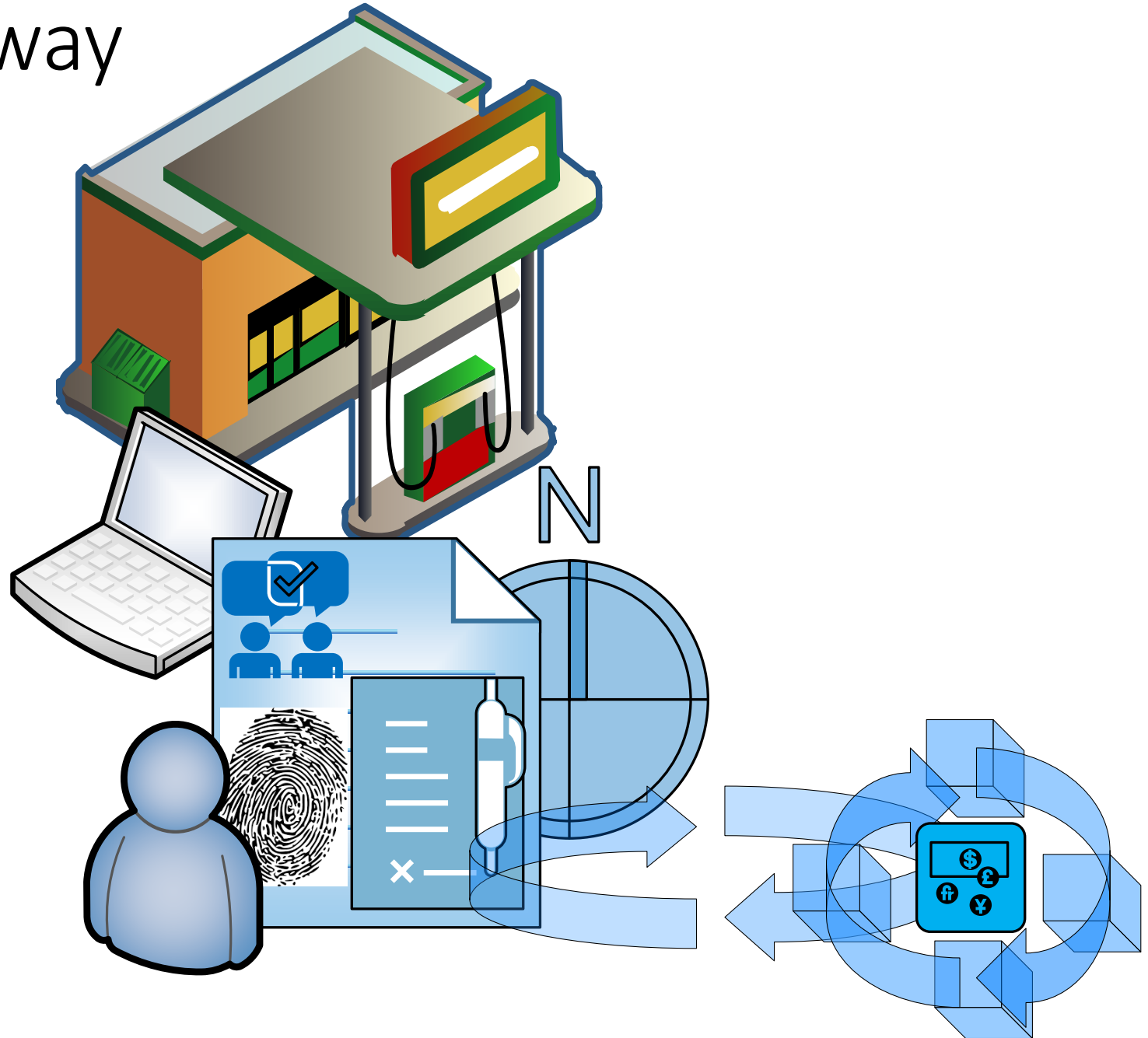
A personal contract

The contract is between the shop owner and the GM infrastructure and the GM agent is registered biometrically, tagged to a geo-specific area, and provided an automatic public/private key signature. This is the functional equivalent of becoming a Notary of the Republic in the US or the UK, but with the leveraged capability of the tablet or phone providing the addition of the biometric signature, geo-fencing, and P/P key signature.



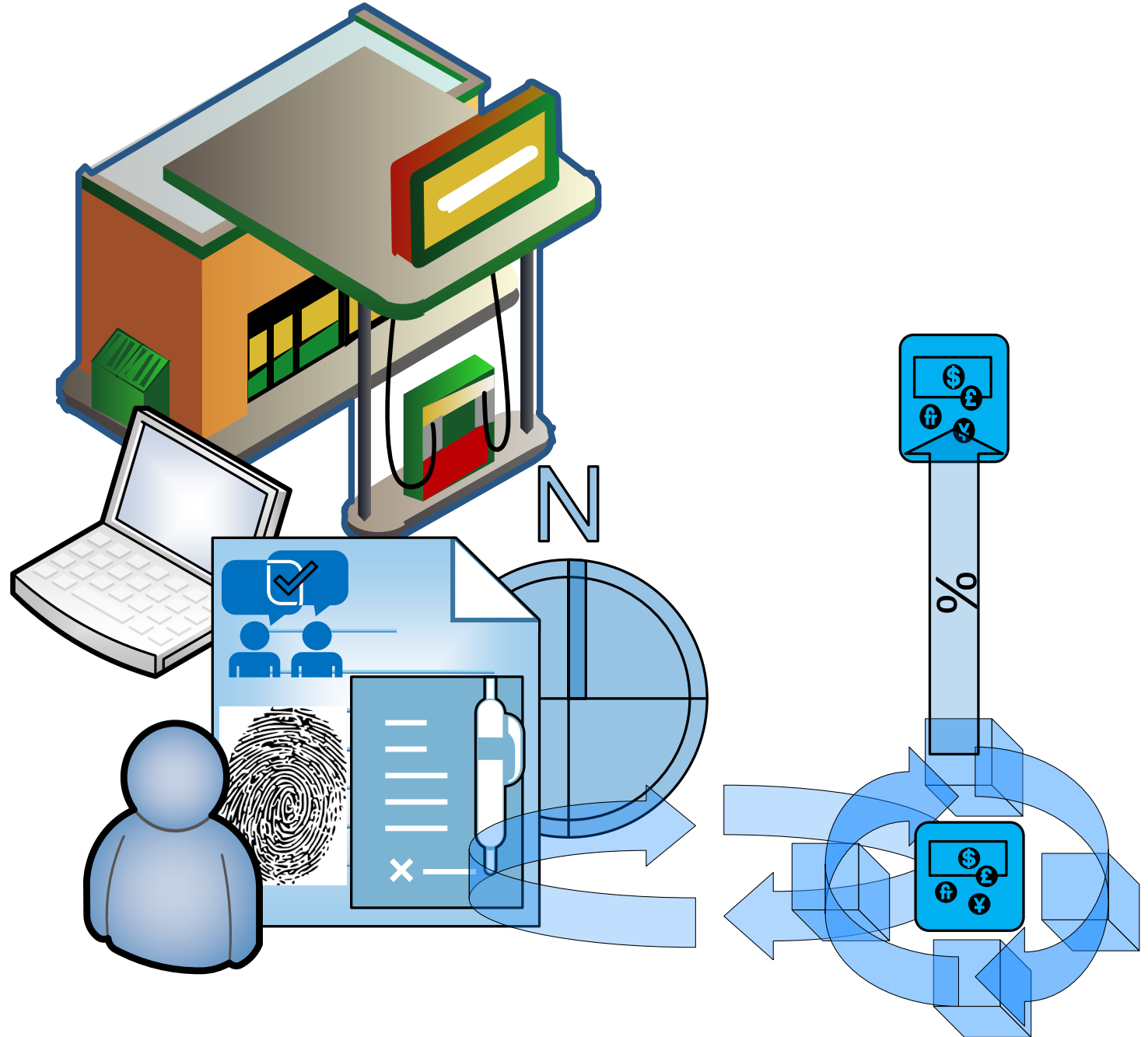
A blockchain doorway

The GM agent identity provides a blockchain private key signature to all transactions entering the GM infrastructure, ensuring attribution to the transaction.



Skin in the game

For every transaction, a fixed percentage is set aside in an interest-bearing SWIFT-compliant escrow account. The more an agent processes transactions through the GM infrastructure, the faster the account grows.



A robust network

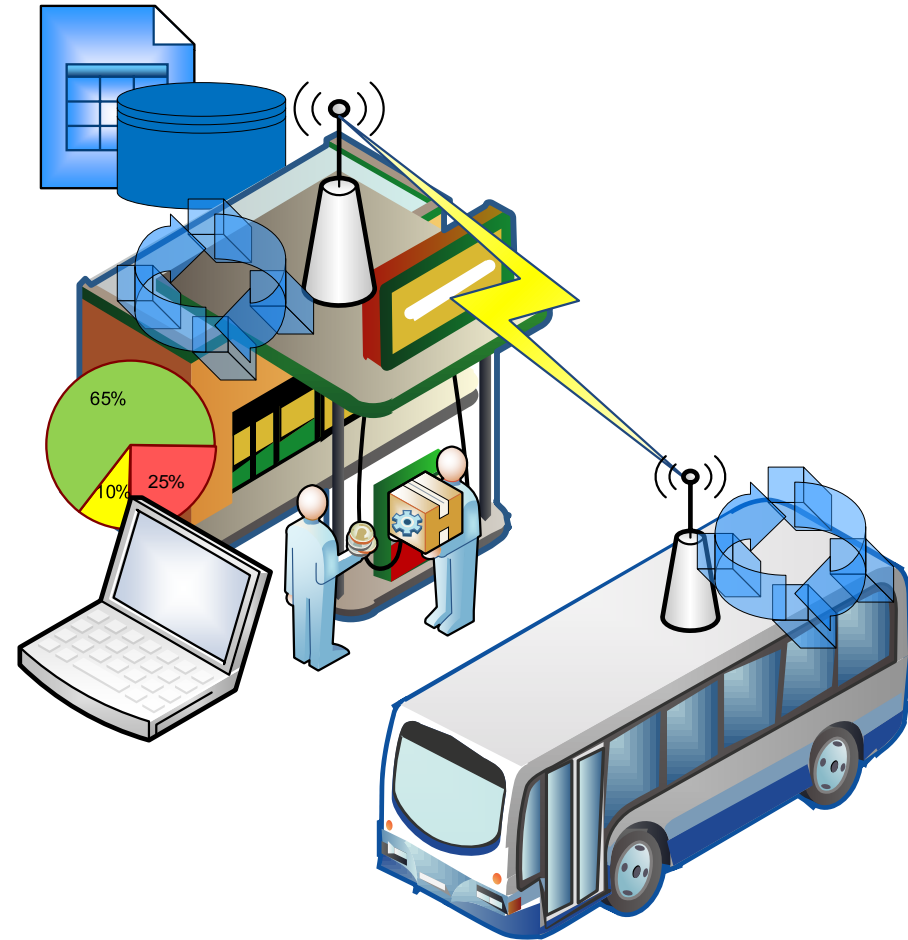
When a bus or truck carrying a GM server stops at or near the shop, a blockchain ledger of the shop's GM transactions is transferred to the vehicle and a copy of the GM network-wide blockchain ledger is passed to the shop in checksum form. This process will continue at each route stop.

The checksum format allows rapid transfer of data, while preserving the integrity of the ledger.



Breathing digital exhaust

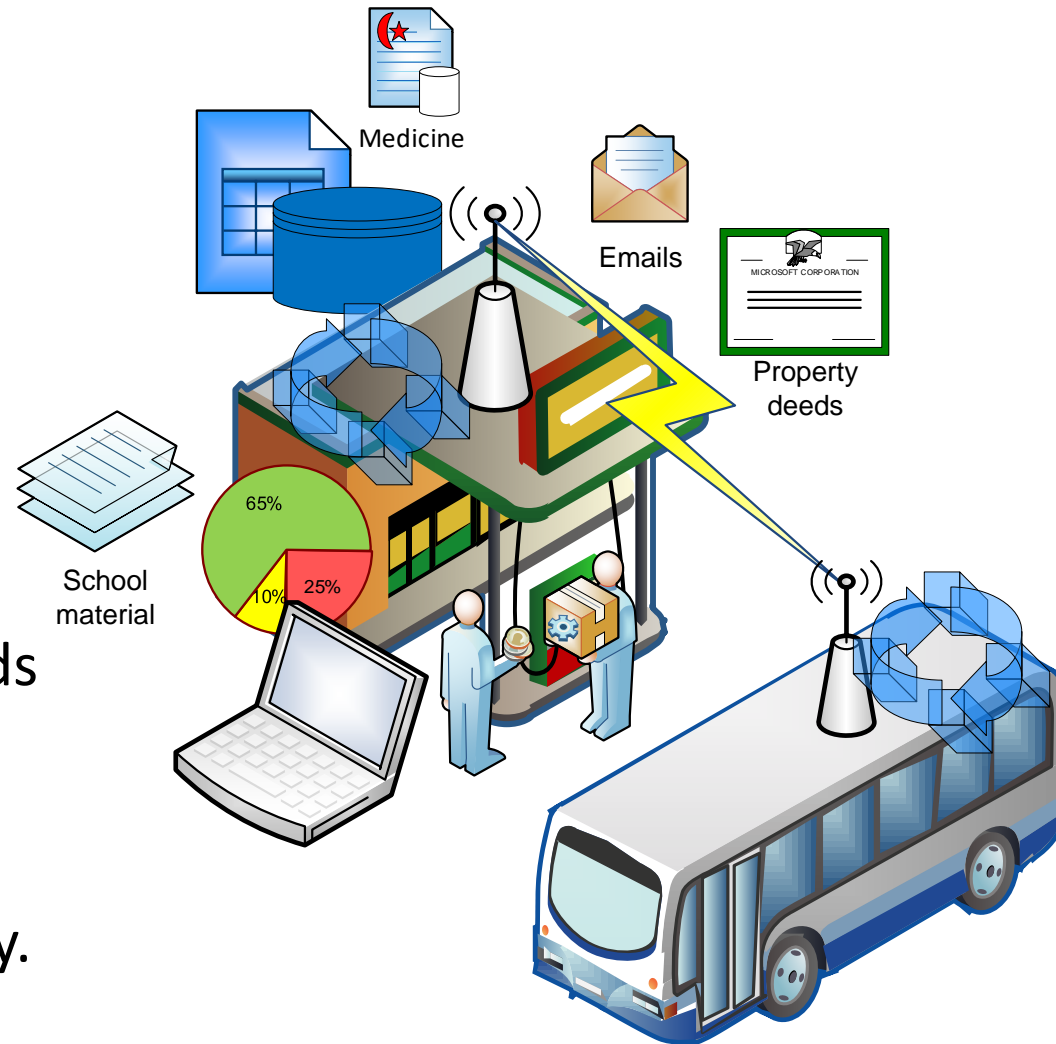
Integral to the GM agent account is the capture of metrics for the agent and for the GM infrastructure. This “digital exhaust” provides commercial situational awareness to the agent, including exchange rates, commodity prices, etc., as well as their accumulated savings in the GM escrow account.



Leveraging the vetted GM agent

Because the GM agent is vetted, has an assured identification, and a financial interest in the process, the GM agent via the GM infrastructure can function as a trusted agent for emails, sworn property titles, school exams, prescription medicine, etc.

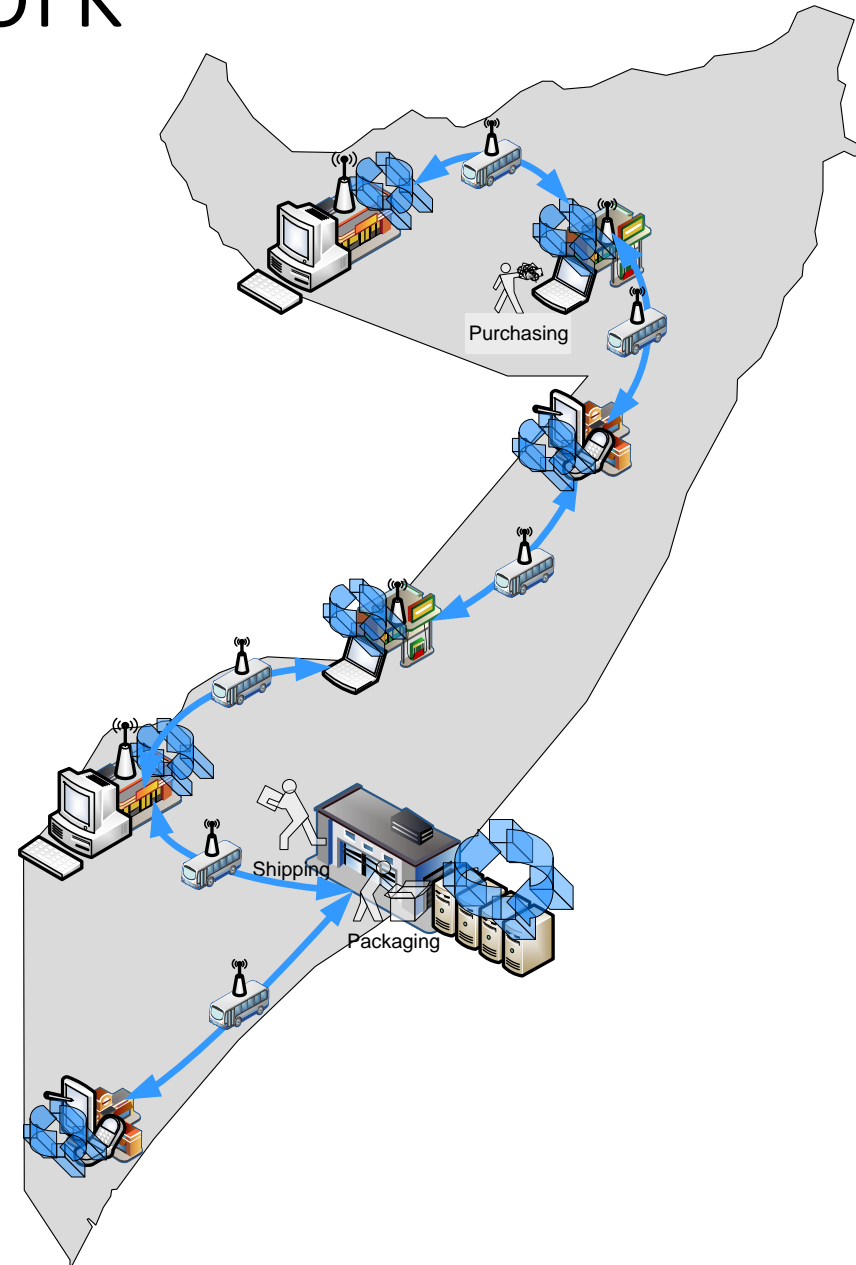
The same server-equipped vehicle transferring data can deliver the goods to the shop based upon the previous stop at the shop. For many remote areas, this will represent first-time-ever next-day mail and goods delivery.



A robust nationwide network

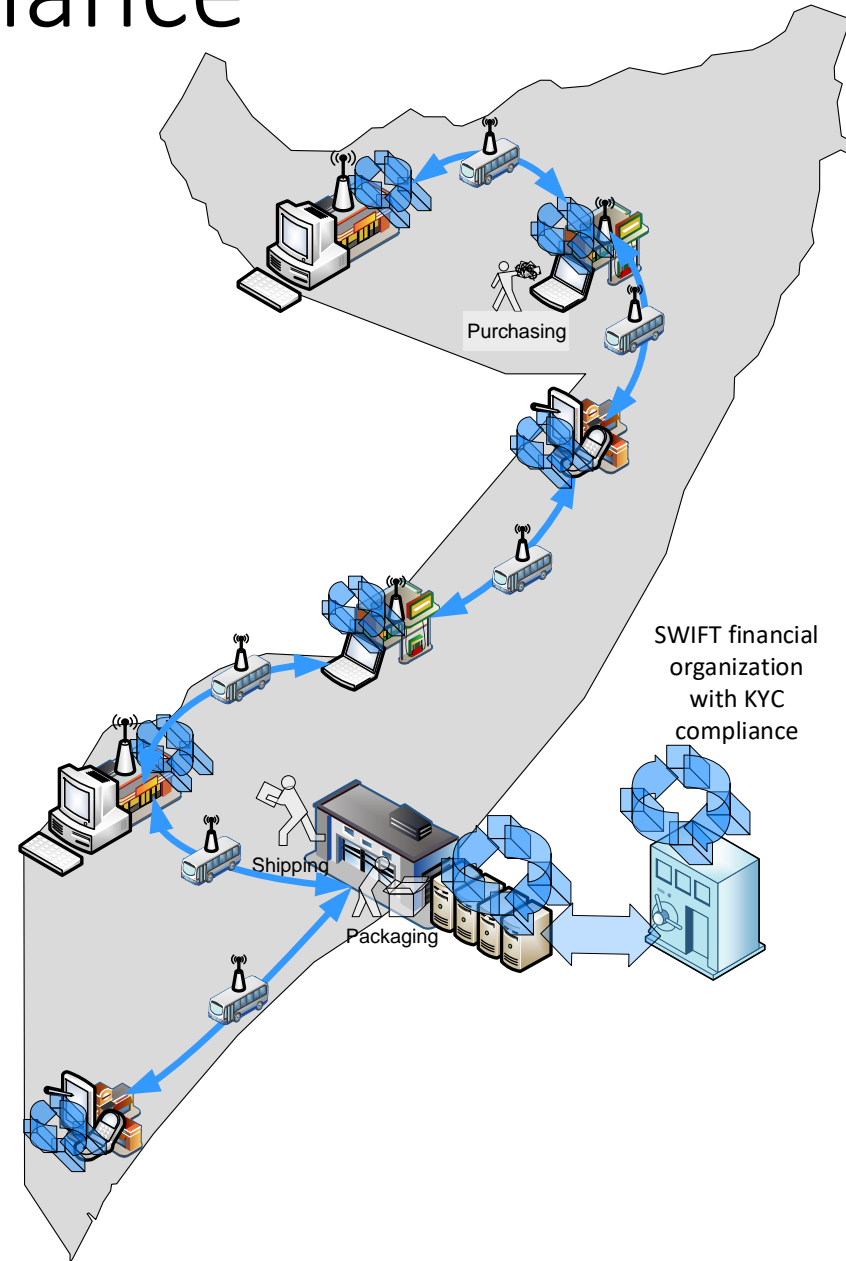
The vehicle-borne routers and integrated GM shop system will provide a secure nationwide physical and data infrastructure with robust attribution.

Linked GM packaging and shipping centers co-located at bus stations and/or truck depots can provide a trusted fulfillment architecture for both local and international vendors.



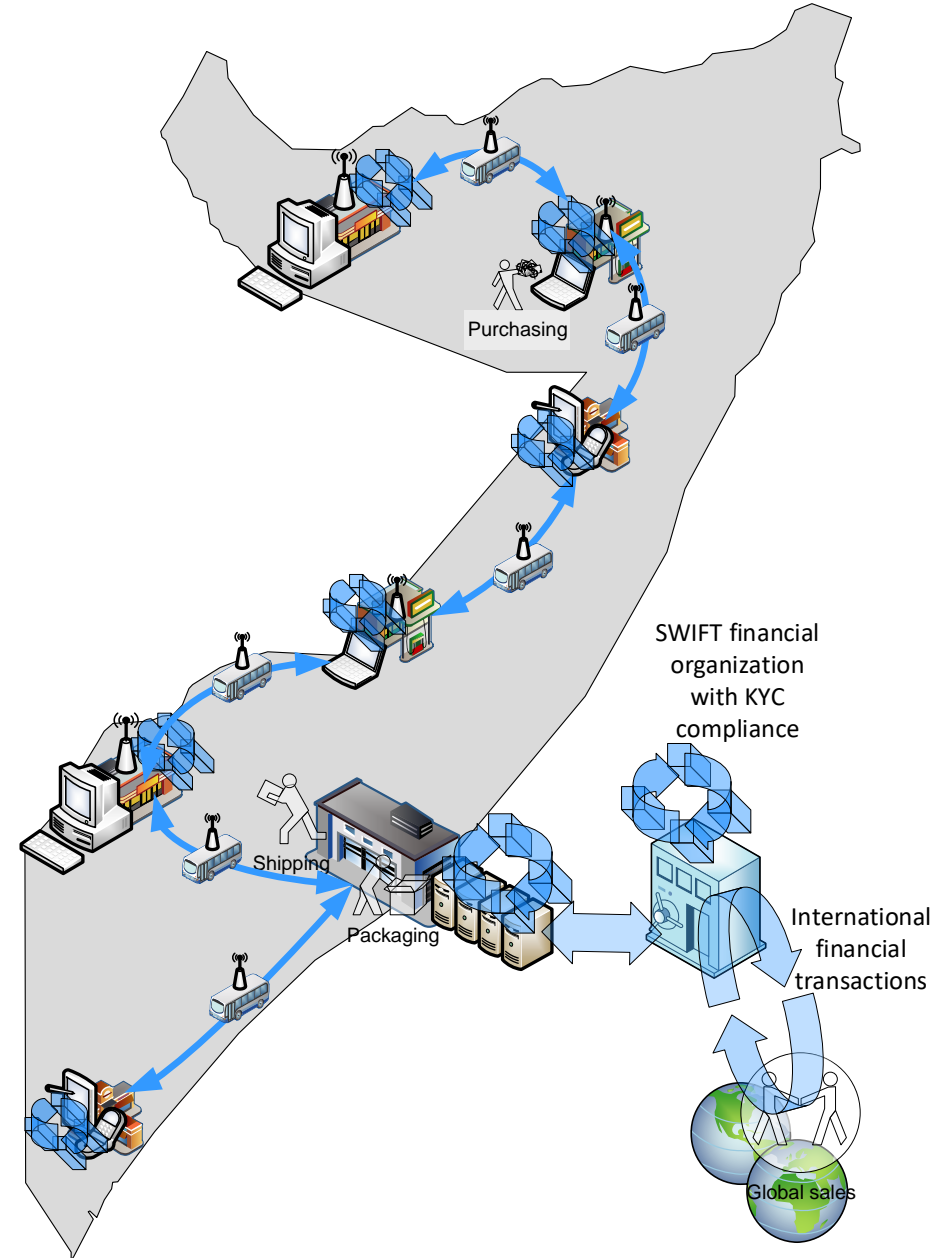
A gateway to SWIFT compliance

As the system has robust and vetted identification with blockchain/private-public key encryption down to the small-shop level, it has the potential to meet or exceed the “know your client” threshold for SWIFT financial compliance.



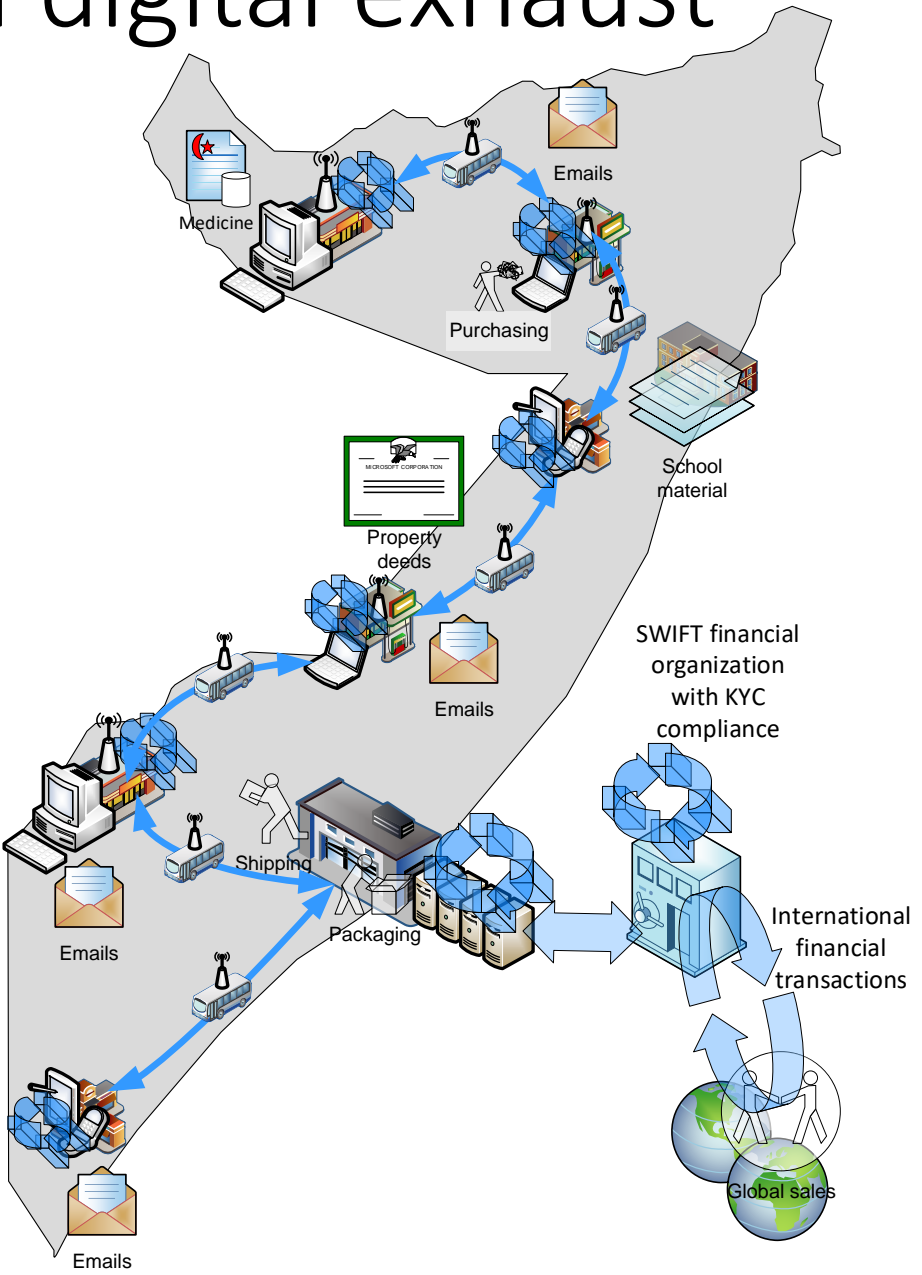
A gateway to the world

With SWIFT compliance, trusted and vetted in-bound and out-bound financial transactions are possible in the international arena.



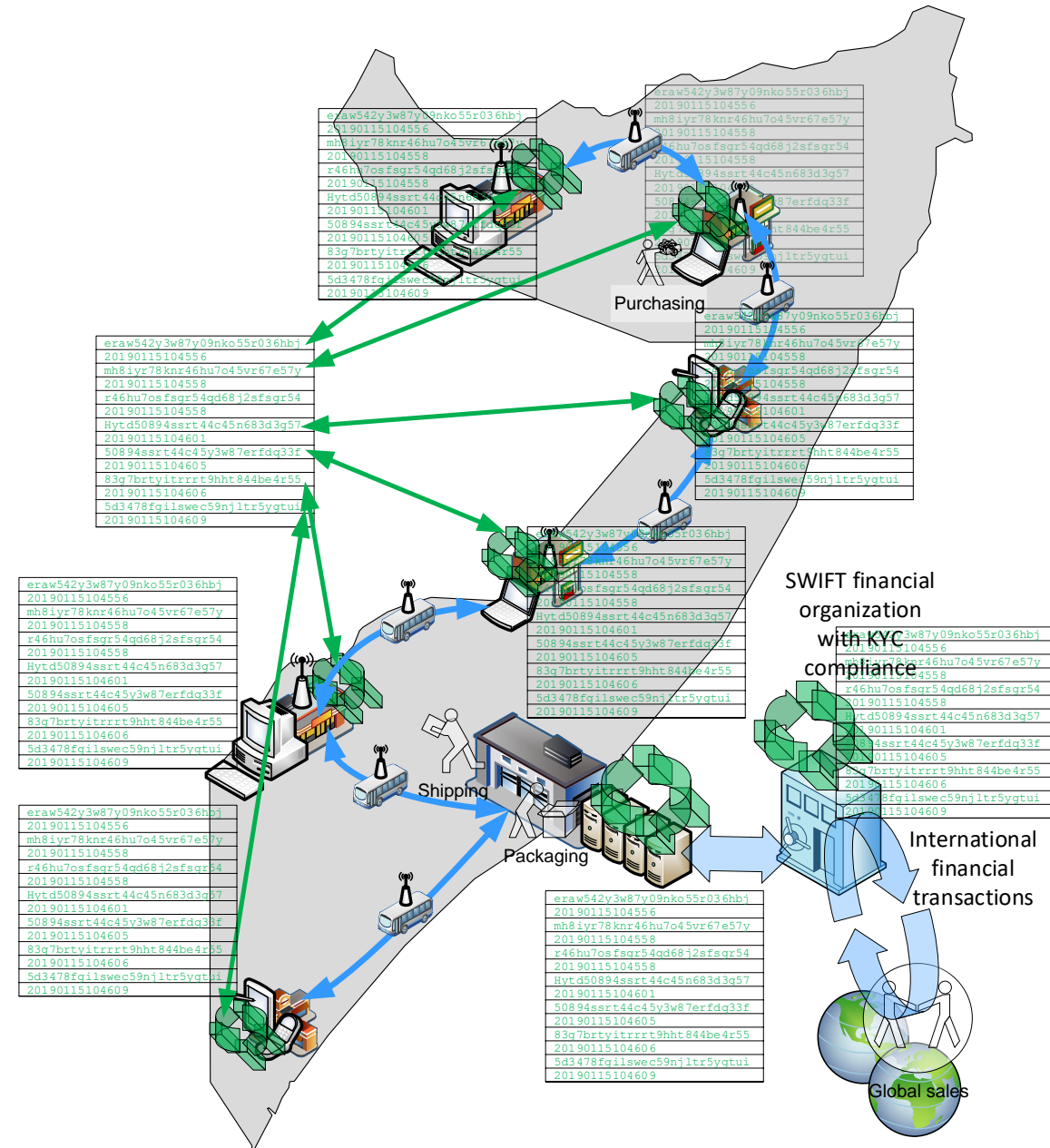
Beyond financial – national digital exhaust

Beyond commercial transactions, the nationwide flow of email traffic, the securing and codification of property ownership, and the transfer of school materials and medicine all produce digital exhaust that can be mined to detect trends in crops, disease, and countless other indicators on a national level.



A trusted system

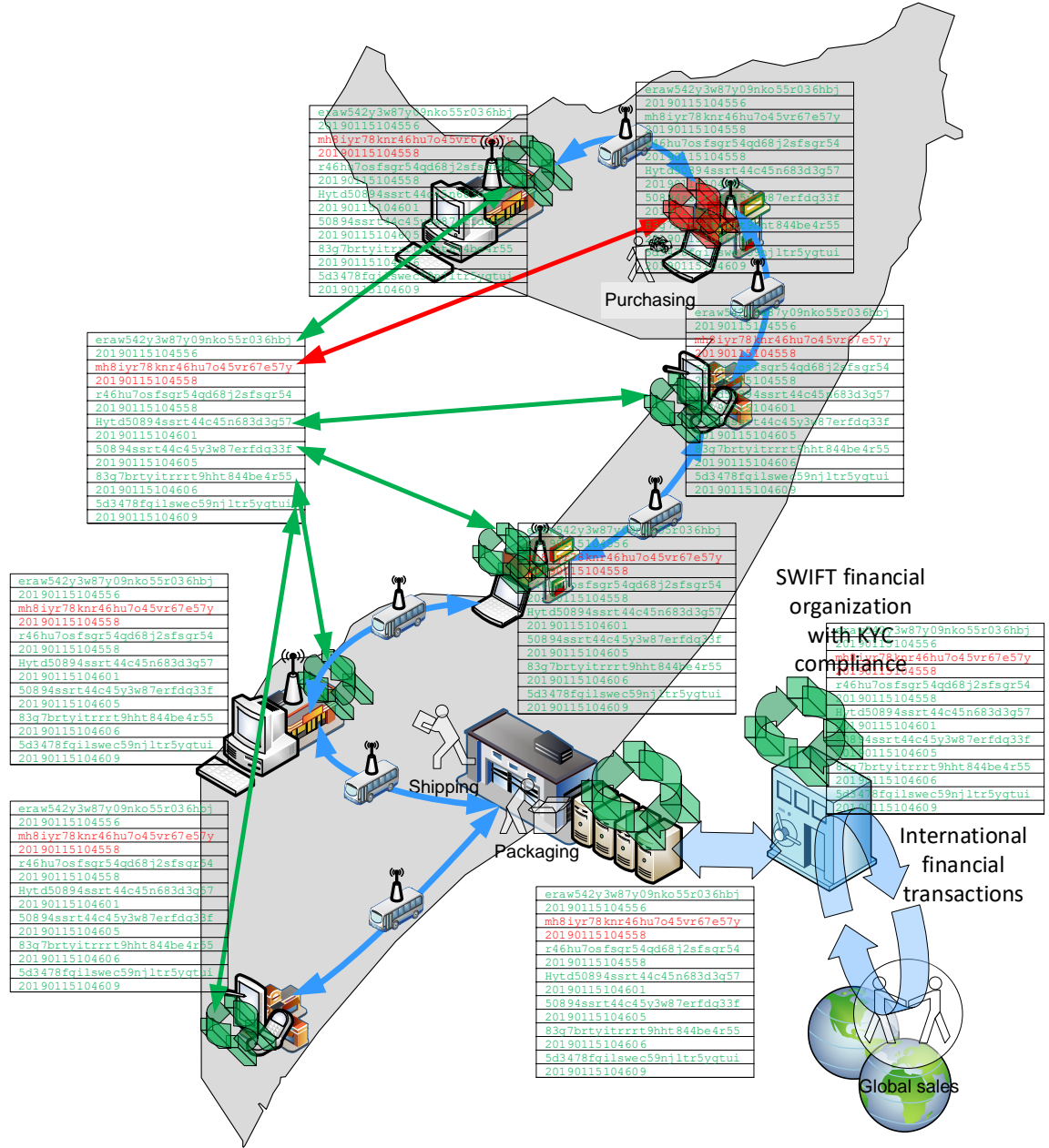
Blockchain is based upon a consensus of multiple platforms sharing and agreeing on a ledger. Normally facilitated by immediate connectivity, in Somalia the vetted and geo-tagged agent's account will be linked by the server-equipped vehicles ensuring a robust and accurate shared ledger.



Fraud detection

Through the shared ledger, any attempt to change a blockchain recorded transaction is detected through the consensus of other distributed ledgers.

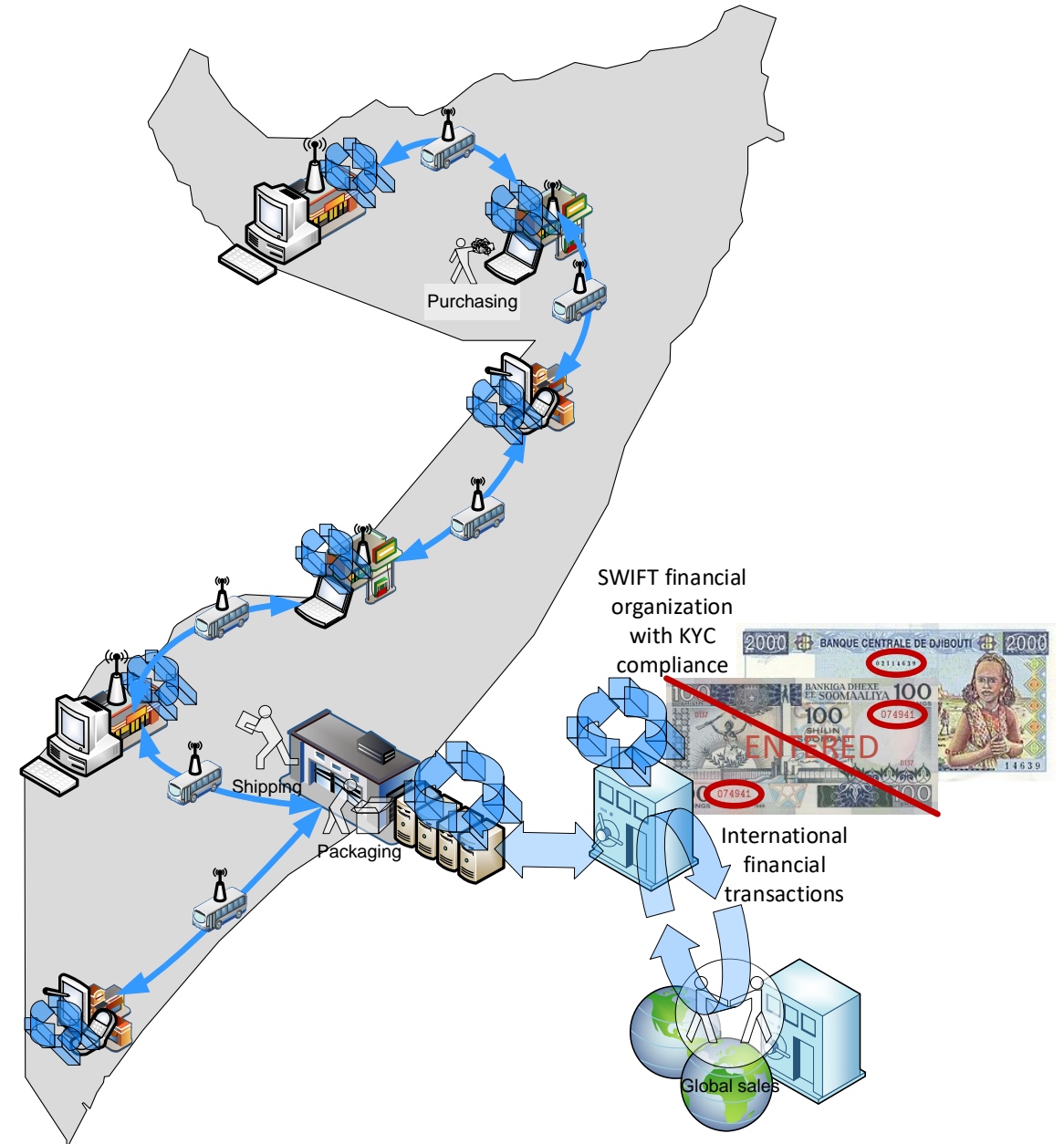
If deliberate fraud is detected, the GM agent forfeits the whole of their GM interest-bearing escrow account. This is the importance of the agent having skin in the game.



Removing the currency

As the “ENTERED” currency enters the gateway to the SWIFT-compliant financial structure, it is slated for destruction, and the value of the currency is credited to the submitting agent.

Even in the case of the money being taken off the bus subsequent to submittal, the serial number of the currency is already recorded in the blockchain, and is locked out from resubmittal. The “strikethrough line” and/or stamp discourages further in-country use.



Summary – architecture

- Vetted at the most basic level of commerce.
- Secured by blockchain and private/public keys.
- Leveraging the capability of smartphones and tablets.
- Leveraging the existing transportation infrastructure as the network.
- Capable of satisfying the KYC compliance of a SWIFT financial environment.

Questions?

Migration to a digital economy

To migrate the Somali economy out of a hard currency structure, it will need to become a digital economy. The M-Pesa process has proven that this migration is possible.

In M-Pesa hard currency is used to purchase cellular minutes, and then the minutes are used as currency. In the GM system, hard currency will be exchanged in local transactions to credit for the trusted agent.

The small local transactions will become the gateways to the migration to a digital economy.

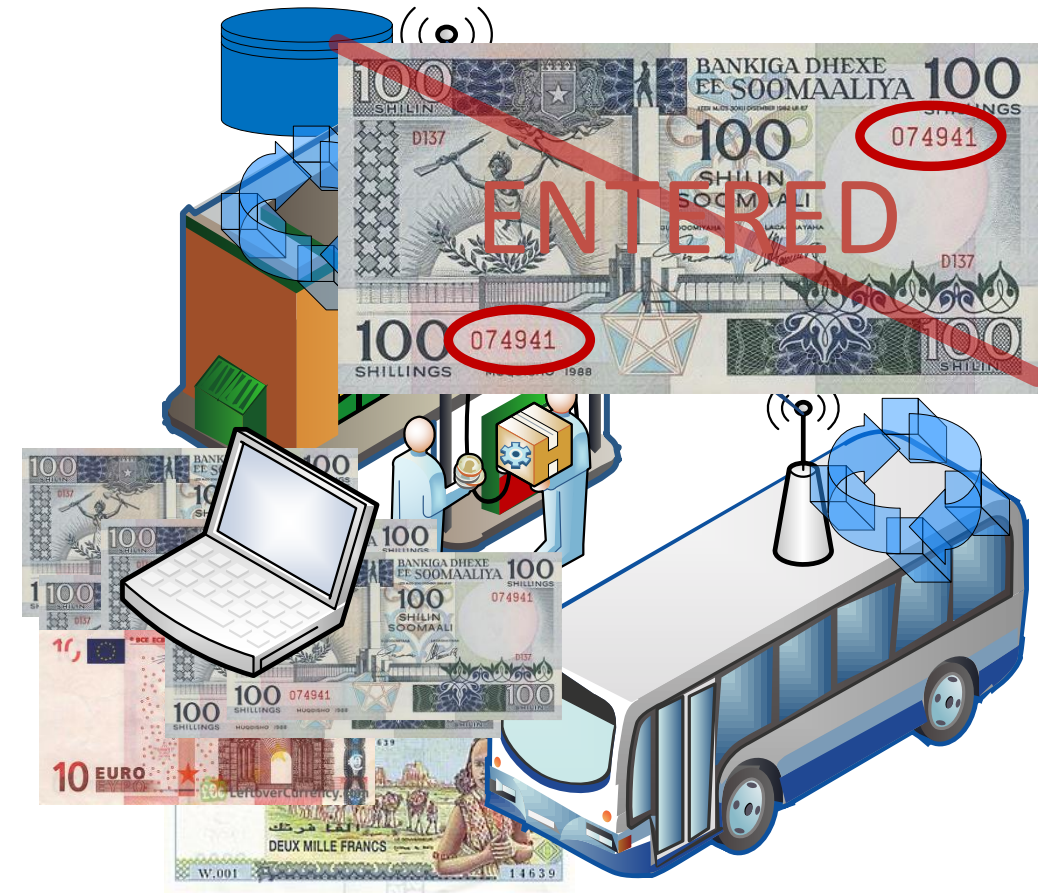


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Capturing the currency

In each local transaction, the currency serial number will be captured by the GM agent and added to the blockchain history of the transaction. The agents will add a permanent marker “strikethrough line” and/or “stamp” to the bill. This captures the digital value of the currency and strips the hard currency of value in the GM system.

Received currency will be added to a serialized, lockable deposit bag. The same server-equipped vehicle transferring data will carry the bags to a centralized facility for final resolution. This is the first step in removing the hard currency from circulation and moving the value to a digital economy.

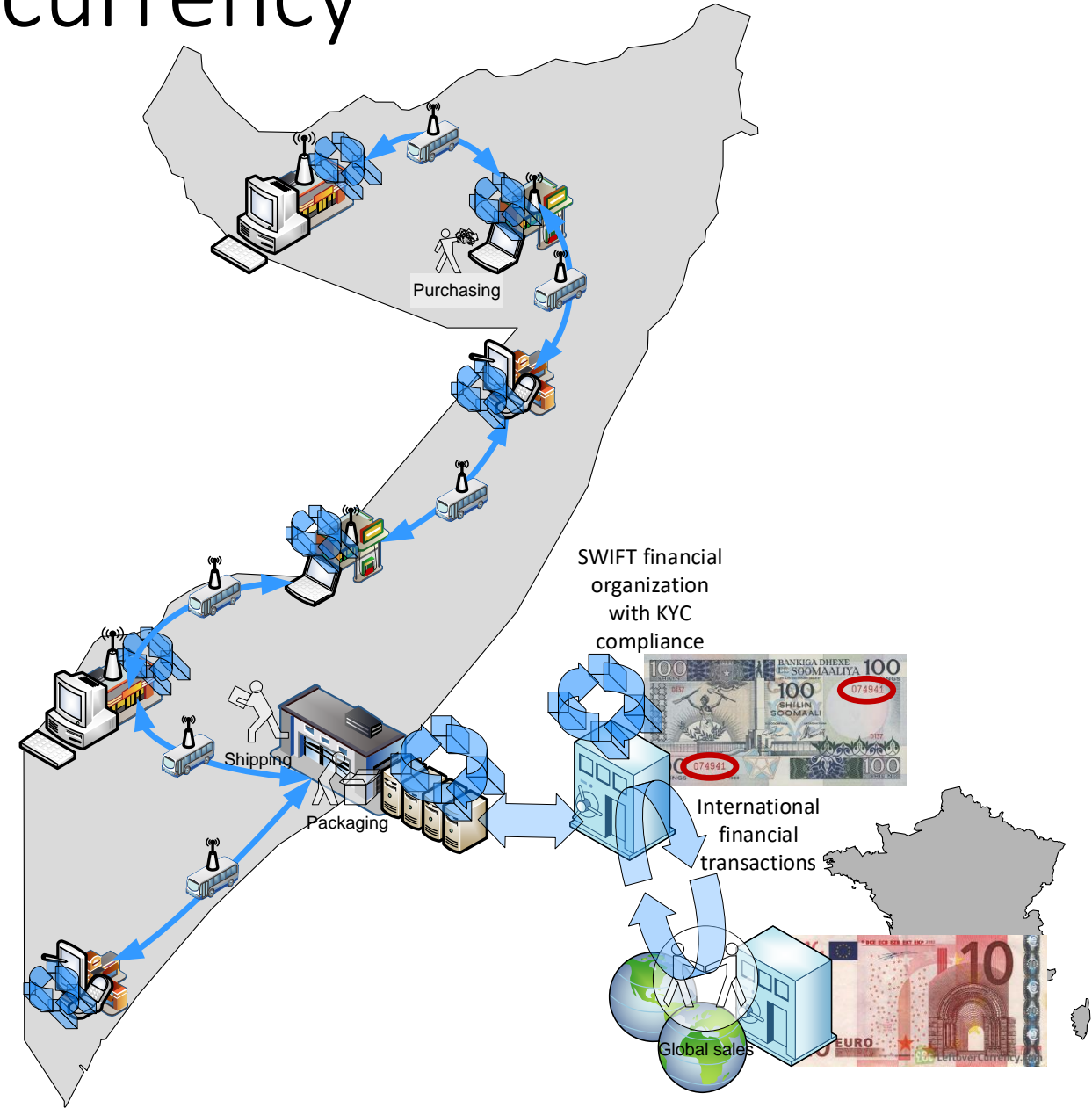


LTL

Worldwide clearing of the currency

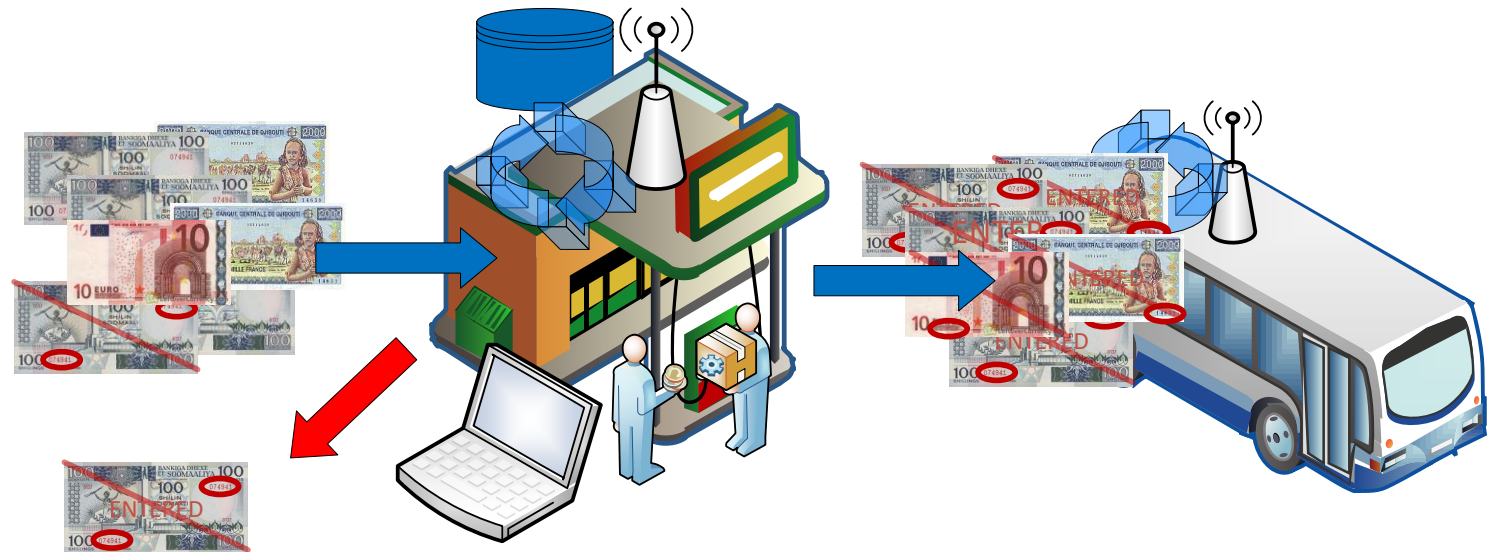
Some currency will remain local, but in the case of “ENTERED” currency outside the immediate region, the serial numbers of the entered currency can be submitted to foreign banks for clearing. This facilitates the removal of the entered currency from circulation and granting of financial credit.

This completes the transition of the hard currency in circulation to a digital currency in a safe and attributable system.



The erosion of the value of hard currency

- Hard currency enters the system through small local transactions with the GM agents.
- The recording of the serial number/markings initiates the transition of the hard currency to digital value and strips the hard currency of value in the GM system and erodes the value for local transactions.
- If hard currency with a previously entered serial number is presented into the GM system, it is flagged as counterfeit, further eroding the value for local transactions.
- The collection of the hard currency and reconciliation of the recorded serial numbers with the blockchain ensures and completes the translation of the hard currency to digital value.



Summary – hard currency to digital

- GM agents capture hard currency in local transactions.
- Capture of hard currency is translated to digital value and ensured by blockchain ledger.
- Hard currency is marked and stripped of value.
- Captured/marked hard currency is submitted to SWIFT-compliant financial institutions for credit.

Questions?

The logo for LTL features the letters 'L', 'T', and 'L' in a stylized, red, outlined font. A blue curved line starts at the top left and sweeps across the bottom of the letters.

Pragmatic solutions in existing
and emerging technology