STSO

STERLING SOVEREIGN

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Introduction and background

Sterling Sovereign will revolutionize travel booking by directly connecting travellers to providers through the blockchain, resulting in 20%-40% savings on travel purchases, as well as substantial increases in reliability, transparency, and transaction security.

The current travel booking ecosystem is caught in a stranglehold by two sets of powerful intermediaries that stand between customers and providers: Global Distribution Systems (GDSs) and Online Travel Agencies (OTAs).

GDS is a primarily B2B computerized reservation network, utilized as a single access point for making and tracking airline, hotel, and rental cars reservations by travel agents, OTAs, and consortiums like American Express. Together Sabre, Galileo, Amadeus, and Travel port control most of the GDS industry. These companies extract substantial fees to use these networks – for example, the average added cost of an airline ticket booked utilizing GDS is $10 (USD), and the average hotel booking commission is 20%. Developed initially in the 70s and 80s, GDS predates the modern web, and unfortunately, the security of their antiquated systems predates any modern notion of web security as well. Passenger private information can be accessed utilizing a just single 6-digit identifier coupled with the traveller's last name, allowing anyone with this information to modify reservations or acquire that traveller's home address or email.

On the OTA side, two companies dominate: the Priceline Group (which includes Booking.com), and Expedia (which includes Travelocity and Orbitz). Online global travel booking in 2016 exceeded $523 BN (USD), which was over half the market of all travel sales, and their share of the market continues to grow. This effective duopoly has allowed OTAs to impose "rate integrity" agreements on travel providers, ensuring that no one can publicly list lower prices than they themselves offer, even on those providers' own websites.

Sterling Sovereign will replace this morass of hidden fees and artificial pricing with a straightforward cost-plus model, powered by the blockchain. Inventory is purchased at a bulk discount from elite travel providers, and listed on a secure platform. Members (anyone who has purchased one Sterling Sovereign token) may make airline, hotel reservations on this platform using STERLING SOVEREIGN tokens, and the resulting transactions are executed immediately and recorded securely on the blockchain. Since Sterling Sovereign platform is members-only with a website that requires a log-in, it is effectively private, allowing Sterling Sovereign to circumvent rate-integrity agreements and their bloated margins and thereby offer its customers a considerably lower price.

Overview

In addition to significant savings and genuine security, Sterling Sovereign will provide numerous additional benefits and advantages over current booking systems. Sterling Sovereign Rewards program will offer a substantial rebate on every purchase, in some cases as high as 20%, returning Sterling Sovereign tokens to members that can be used for future travel purchases. Sterling Sovereign Referral program will award up to 10% of all Sterling Sovereign token spent by the person referred to the referrer. Its platform will also feature premium concierge services that will allow members to maximize the enjoyment and success of their travel plans.

Worldwide, the travel industry is a staggering $6.6 (USD) enterprise, which creates a tremendous opportunity for technological disruption for anyone with the right combination of experience, connections, insight, and technical savvy. Travel providers and consumers alike are frustrated with the status quo, frustrated by high commissions and fares, frustrated by monopolistic intermediaries extracting rent on every booking. Comprised of a set of industry specialists with over 50 years of travel and hospitality experience, Sterling Sovereign team is uniquely positioned to seize this opportunity. Their experience has already been leveraged to form partnerships with most premier travel providers, ensuring access to the best inventory.

Problems with GDS

✈ **Airline Ticket**
$12 (USD)

🏨 Hotel Reservation
$10-15 (USD)

💲 GDS Fees
$5(USD)

GDS Cost

As noted above, GDS functions as an intermediary connecting travel providers with other businesses involved in the distribution of travel services, such as travel agents, OTAs, and large travel consortiums like ABC, BSI, American Express, BCD, CCRA, Carlson Wagonlit, Radius, and Thor. GDS functions as a centralized digital database for assigning and tracking reservations for its clients, allowing them to coordinate travel bookings worldwide in real time.

In return, GDS companies charge their clients a fee for each transaction. Depending on the deal the travel provider is able to strike, and the price structure of the specific GDS Company, booking fees range from about 2-4% of an airline ticket's cost, and between 15-20% for a hotel booking. This cashes out roughly around $12 (USD) per airline ticket, which is about twenty times greater than the cost of selling through direct channels. For hotels, the cost nets out between $10-15 (USD) per hotel reservation. While travel providers might directly pay the fees, it is consumers that bear the eventual burden, since in order to remain profitable, the fee costs must be factored into the purchase price.

In addition to charging per transaction, GDS companies also collect a series of ancillary fees, including a start-up fee, annual maintenance fees, and fees for accessing and utilizing their database.

One thing is certain, GDS companies have grown fat on siphoning off the profits of providers, raking in billions of dollars each year. Looking just at Travel port, revenues have increased 7% year-on-year.

There is growing resistance in the industry to the steep costs imposed by using GDS. There has been a huge if not terribly successful push within the hotel industry to amp the level of direct sales through their own websites, with the stated intention of escaping the grip of GDS and OTAs. Airlines, especially European airlines, have been leading a revolt of their own. Ryanair cancelled its agreement with Amadeus, citing the exorbitant fee structure as the reason. Lufthansa now imposes a $16 surcharge for fares booked using GDS, joining Air France KLM and British Airways who also impose GDS surcharges. Carriers have also started employing the strategy of unbundling food and baggage from their fares as a way of reducing the percentage they are forced to pay GDS (and OTAs).

The GDS Security Nightmare

Few people are aware of how easily and deeply exposed their personal information whenever they make a travel reservation that utilizes GDS. The reason for this is the Personal Name Record (PNR) data ecosystem that GDSs, and through them tens of thousands of travel providers, employ to track reservations.

Whenever someone makes a reservation, a PNR is created for that transaction.

PNRs store:

And for someone who has or can hack to obtain GDS access:

Including car rentals, hotel, and baggage

Personal Information: including phone numbers, date of birth, email, and possibly postal address and passport information

Frequent Flier information

GDS was one of the earliest "cloud" data storage systems, in use long before the advent of the modern web. As a result, The PNR system was not designed with security in mind. Instead, it was designed to maximize frictionless transmission of information back when the communications infrastructure could only manage much smaller packets of information.

PNRs are referenced by a single 6-digit alpha-numeric pin, familiar to anyone who has used one to retrieve a boarding pass at an airline kiosk. That code is printed on everything from boarding passes to bag check-ins, sometimes concealed behind a bar code (which can easily be translated with a phone app), but often just explicitly displayed on travel documents.

Only two things are required for anyone to access a PNR: the 6-digit identifier, and the traveller's last name. Not only does this yield that traveller's personal information, but it also allows you to modify or cancel that reservation. Researchers at Berlin-based Security Research Labs quipped," While the rest of the Internet is debating which second and third factors to use, GDSs do not offer a first authentication factor."

Security experts Karsten Nohl and Nemanja Nikodijevic demonstrated how trivial it is to access and alter PNRs illicitly at a talk the 33rd Chaos Communications Congress in Hamburg, breaking down the security issues in this manner:

A few global databases keep information on travellers, in systems that have grown for decades and now lack modern IT security

Passengers authenticate only with their last name and a low-entropy (oftensequential) booking code, which is also printed on passes and tags

Numerous web interfaces permit brute-forcing of these booking codes, putting travellers' privacy at risk

Travelers will never know who accessed their information, since PNR access is internationally not logged:

- Coarse access control

- Weak authentication

- Insufficient rate limiting

- No logging

Problems with OTAs

OTA Cost

Although OTAs charge a comparable fee to GDSs for airline bookings, between 2-4%, they charge an even higher commission for hotels, averaging between 20-30%.   On top of that, hotels pay an additional commission of about 3% if they want "preferential listing", which basically means that a hotel's available accommodations will be displayed closer to the top of the search list. The fees are so exorbitant that one expert commented that" it makes hoteliers wonder if they are in fact operating a franchise under Expedia's control."

OTAs' commissions on hotels were not always so steep – at their inception, their commissions were closer to 5-10%. But as they have grown to dominate more than half the market for travel booking, that commission rate has increased by leaps and bounds.

Like GDSs, hotels chains have recently attempted to push back against reliance on OTAs, striving to drive potential clientele to their own websites for direct sales. But for hotels at least, challenging OTAs' web presence is a nearly insurmountable task. While hotels only spend 6-9% of their revenue on marketing, while OTAs, taking advantage of the reduced infrastructure costs inherent in being an online company, spend 35-40%. In 2016, the Priceline group spent $3.5 BN (USD) in Google AdWords alone. Even searching for a hotel by name will often instead take you directly to one of the OTAs' numerous "shell sites" that bear a close resemblance to that hotel's webpage. Put simply, hotels simply cannot compete with OTAs for web presence on their own.

In order to list, hotels are forced to accept unilateral "rate integrity" agreements, which guarantee that they will never publicly offer a better price than the one listed on the OTAs' sites, even on their own websites. OTA's have not been shy about enforcing those agreements either. In a survey, 40% of UK hotels report that they had been threatened by an OTA for violating pricing agreements. Commenting in an EU report on problems in the industry, one expert noted that rate parity clauses, "could have the same effect as a cartel," because "if one major firm says, 'We employ a price parity clause', the price is more or less fixed in the market."

OTAs utilize a more robust security strategy than GDSs, it has not been sufficient to keep them from being hacked repeatedly. This year Orbitz acknowledged that in the last quarter of 2017, over 880,000 payment card records were accessed, with exposed information including name, payment card information, date of birth, phone number, email address, physical and/or billing address and gender. Both Expedia and Booking.com have acknowledged that their records have been hacked as well. Utilizing the personal data gained from these sites about their customer's recent reservations, hackers created phishing schemes in which they masquerade themselves as the hotel in order to gain credit card information.

OTA Lack of Transparency

In addition to high commissions and poor security, OTAs have been accused of numerous deceptive practices in relation to both their pricing and listing structures, including:

- Bait and Switch Pricing

- Undisclosed algorithms adjust listed price based on user's browser history and spending patterns. "Personalized" Pricing

- Misleading Availability Claims

- Undisclosed algorithms adjust search result order.

- Hotels pay additional commission for higher listing.

- Inadequately screened favourable reviews result in higher placement.

- Opaque Search Result Algorithms

General Reliability issues:

Viral videos of a ticketed passenger being forcibly "walked out" from a united flight have recently brought airline overbooking practices to theForefront of the public's attention. The practice, however, has long been both legal and the industry standard. Nor is overbooking the soleprovince of the airline industry; the hotel industry routinely engages in it as well.

The dilemma for travel providers is that some percentage of the time, customers simply fail to show. To combat what would otherwise just belost revenue, both industries have developed algorithms that attempt to forecast the actual percentage of no-shows depending on the anticipatedvolume of traffic, and overbook accordingly.

Since this forecasting is probabilistic, inevitably some passengers will be forced to take a different flight, or to find other accommodations.

Although customers are compensated for the inconvenience, the practice of overbooking decreases consumer confidence in the overall reliabilityand integrity of the travel industry.

Unreliable Reviews

Customer reviews are one of the single biggest drivers to consumer online purchases: 61% of consumers read reviews before making a purchase,and conversion rates increase by 133% after reading a favourable review. The stakes are even higher in the travel industry, since favourablereviews result in higher OTA search result listing.

Unfortunately for consumers, fake or planted reviews plague most online sites – some estimates placing the number of false reviews as high as

15%, and OTAs are no exception to the rule. In an analysis of over 40,000 TripAdvisor reviews, a study determined that around 20% of themwere either unreliable or fake. The Bed and Breakfast Association stated that OTAs frequently do not validate that reviews were in fact writtenby someone who booked an accommodation.

Although OTAs have recently attempted to improve screening, the problem is difficult to manage since validation is not built into the fundamentalstructure of the reviewing process, especially since reviews can be left anonymously.

Sterling Sovereign Solution

Sterling Sovereign solution to the issues posed by the GDS/OTA dominance of travel booking can be illustrated by examining its business model indetail. Expressed succinctly, that model consists of four main elements:

- A Cost-Plus Model Directly Connecting

- Customers to Providers

- Secured by Blockchain

- Closed Consumer Group Online Distribution

Cost-Plus Means

- No Commissions

- No Hidden Fees

- No Overbooking

- No Preferential Listing

- No Dynamic Pricing

In contrast with GDS/OTA, Sterling Sovereign does not function as an intermediary agency facilitating transactions between providers and customers. Instead it embraces a Straightforward cost-plus retail model.

Sterling Sovereign purchases inventory directly from elite travel providers at a discountedbulk wholesale price. It then sells that inventory at a profit directly to its memberson its website, offering them a price significantly below the prices mandated by OTArate integrity agreements.

By avoiding the GDS/OTA ecosystem altogether, Sterling Sovereign members pay no commissions or hidden fees.

Because members directly purchase travel inventory, as opposed to just reserving it,there is no possibility of overbooking.

Because Sterling Sovereign only lists its own inventory, providers are not charged additionalcommission for preferential listing. Searches on the platform are instead orderedby a member's preferred sorting filter.

Sterling Sovereign will use this implementation of blockchain to forge an indelible and secure ledger for all member transactions, protecting this information from attack and forming a reliable record that can be consulted in case of any problem or dispute.

In stark contrast to GDS's outdated and vulnerable systems, blockchain represents the cutting edge of cryptographic security. Centralized platforms present a single point of failure, increasing their vulnerability to hackers. The decentralized and encrypted nature of how transaction information will be recorded and validated on Sterling Sovereign blockchain ledger will shield it from precisely the sort of attacks that allowed hackers to raid personal and credit card information from the centralized platforms utilized by Expedia and Booking.com.

Secured Through Blockchain

Blockchain is at its most basic a cryptographically secured, decentralized, distributed ledger. Sets of entries on this ledger are recorded in blocks, each of which contains a cryptographic hash of previous blocks in the series, linking them together in a chain. These blocks are not housed on a central server, but are instead housed by each node in the entire distributed network. New entries on the blockchain can only be made if all network validators reach consensus that the integrity of the chain is preserved, and since each new block contains a hash of the previous block in the series, it is very difficult to maliciously alter the ledger's contents without first subverting most of the network.

Sterling Sovereign will be built as a DApp (decentralized application) on the Ethereum blockchain. Its token, the Sterling Sovereign token, will be a standard ERC20 token that members can exchange for travel inventory on the platform.

The Blockchain Advantage

Decentralized Cryptographically Secured Ledger protects members from having their transaction data stolen in a way that the centralized platforms that OTAs employ cannot.

Sterling Sovereign blockchain implementation provides the basis for forming a Closed Consumer Group through the Sterling Sovereign token. Owning one Sterling Sovereign token is sufficient for becoming a member and gaining access to Sterling Sovereign website. Since that website requires a log-in and is open to members only, the listing is not public, allowing Sterling Sovereign to circumvent the artificial prices that OTAs have imposed on the market through their rate integrity agreements.

When you combine the savings accrued by the removal of OTA/GDS fees and commissions together with the reduced mark-up on travel inventory, Sterling Sovereign member can expect to save between 30-60% on every travel purchase.

Online Distribution

As we saw in the OTA Cost section, travel providers have been unable to compete with the online presence of OTAs, inlarge part due to the vast difference in resources that OTAs can dedicate to marketing – 35-40% as opposed to the 6-9%travel providers can manage. OTAs have two advantages:

- Without another option, travel providers are locked into the viscous cycle with OTAs, needing the revenue stream that OTAs are able to tap for them, but vulnerable to their unilateral price setting demands and ever-increasing fees and commissions.

- As this cycle worsens, travel providers'dissatisfaction with the existing ecosystem has become stronger and more vocal, but this in and of itself has not allowed them to escape the trap.Fortunately for them, Sterling Sovereign can leverage precisely the same advantages as the OTAs, while at the same time rejecting their monopolisticand predatory business model.

Like OTAs, Sterling Sovereign employs an online distribution model, reducing the amount it has to spend on infrastructure. Because of this, Sterling Sovereign can spend an equivalent amount on marketing, the current plan being 40% of revenues. This, however, is where the commonality ends, as we saw in detail in the last three sections.

To combat OTAs already entrenched position in the market, Sterling Sovereign has three main weapons:

- Superior price

- Genuine security

- Satisfactionof travellers and travel providers with the status quo. By offering a more attractive deal to both providers and customers using state-of-the-art technology, Sterling Sovereign aims to challengethe OTA monopoly on its own turf.

Validated Reviews

Last but not least, Sterling Sovereign members-only platform, when combined with its indelible record of all transactions, allows it to ensure that all reviews created for the site are genuine. Restricting reviewsto members who have actually purchased that specific travel service guarantees the authenticity oftheir content. Validating from the outset is a far more reliable screening strategy than trying to second guess whether or not some anonymous review has been planted after the fact, as OTAs are currently forced to do.

Sterling Sovereign Token

The Sterling Sovereign is an ERC20 token that serves the following functions on its platform:

- Sterling Sovereign Closed Consumer Group, allowing access to the booking website.

- Reward Sterling Sovereign Token

Membership:

Based on the Reward rate for each travel option, a percentage of Reward Sterling Sovereign tokens are returned to the member's walletwith each purchase.

Rewards Program:

Reward Sterling Sovereign tokens are only created through the Rewards Program. Reward tokens can only be spent on the Sterling Sovereign booking platform, and unlike regular Sterling Sovereign Tokens, they cannot be sold or transferred. Reward Sterling Sovereign tokens function as partial mechanism to reduce Sterling Sovereign velocity.

Sterling Sovereign tokens can be exchanged to purchase on many exchanges and will have its own decentralized exchange.

ICO and allocation

Total Supply

- 50 billion

- Public sale: 30 billion (60%)

- Team and Advisors: 5 billion (10%)

- Developers: 5 billion (10%)

- Pre-sale: 5 billion (10%)

- Airdrop/Bounty: 2.5 billion (5%)

- Partnership: 2.5 billion (5%)

PRE ICO

01/01/2019 to 14/01/2019

1 ETH = 25 mill + 25% Bonus
0.5 ETH = 12.5 mill + 20% Bonus
0.1 ETH = 2.5 mill + 15 % Bonus
0.01 ETH = 250000 + 10% Bonus

ICO ROUND 1

15/01/2019 to 29/01/2019

1 ETH = 25 mill + 20% Bonus
0.5 ETH = 12.5 mill + 15% Bonus
0.1 ETH = 2.5 mill + 10% Bonus
0.01 ETH = 250000 + 5% Bonus

ICO ROUND 2

30/01/2019 to 12/02/2019

1 ETH = 25 mill + 10% Bonus
0.5 ETH = 12.5 mill + 5% Bonus
0.1 ETH = 2.5 mill +5% Bonus
0.01 ETH = 250000

ICO ROUND 3

13/02/2019 to 28/02/2019

1 ETH = 25 mill + 5% Bonus
0.5 ETH = 12.5 mill + 5% Bonus
0.1 ETH = 2.5 mill
0.01 ETH = 250000

Roadmap

2018

- Identification of competitors and market analysis
- Concept development
- Launch of STSO project
- Marketing

2019

- Presale of Sovereign token
- ICO Round
- Airdrop distribution
- Exchange listing
- Coin market cap listing
- Explaining of concept for communities and partnerships
- Developing application and launching beta version
- Decentralized exchange launching to support hotel and flight booking app.
- Launching IOS/Android apps for booking system.

*Detailed road map of future development will be available after 2019.