Whitepaper
BTU [Booking Token Unit] Protocol

An open protocol for decentralized bookings

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Abstract

Our mission is to create an open source standardized decentralized booking protocol along with reference implementations that can be leveraged by participants in industries such as hospitality, travel, finance, healthcare, retail, automotive and more.

The Booking Token Unit (BTU) protocol is a building block for any decentralized application (dApp) or web site willing to implement booking features for their end-users. This standard also brings interoperability among decentralized applications that incorporate it.

The BTU protocol is being standardized as ERC-808 and requires the use of the Ethereum-based *BTU token*. The purpose of the BTU Token is to incentivize proper behaviors such as rewarding successful bookings and enforcing late cancellation and no-shows policies.

All applications implementing the BTU protocol would benefit from a hybrid approach that combines an on-chain smart contract and off-chain software components, providing more scalability.

Finally, a transparent and public inventory enabled by an open-source protocol would considerably lower the entry barriers into the online booking markets.

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1. Introduction

In all booking platforms, we believe that centralization has led to an imbalance where online platforms are gaining more power over the actual service providers who bear the operational costs and investments. Digital network effects are preventing existing players from operating in a free market.

As a result, service providers are experiencing high commission fees ranging from 15% to 35%. Those fees are paid to the centralized “winner takes all” booking platforms.

Other issues with centralized booking platforms include, but are not limited to :

- Loyalty points are platform or service specific,
- End-user confidential information is at risk of large-scale hacks,
- Complementary services offered are limited.

With blockchain networks emerging as a new global infrastructure, we have the opportunity to create vastly different power structures. A public inventory and an open protocol lower operational costs while allowing fair competition between a higher number of market participants.

2. Impacted markets

2.1. General

At first, the Internet was thought to lead to disintermediation in many industries. Twenty years after the dot-com bubble, a new type of intermediary - “Internet Platforms” - dominate these industries. Internet platforms have provided superior value propositions to end users in terms of convenience, price or performance. But they have also benefited from powerful digital network effects due to the very nature of the Internet technology. The centralized platforms have exploited this market power to win it all, and eventually to collect higher and higher returns.

Our blockchain-based booking protocol can benefit any industry that relies on a reservation process and where centralized players have become the dominant participants.

Since decentralized platforms foster the adoption of more transparent practices, it should encourage healthier competition. It should then alter the walled-garden content policy in place and encourage a new wave of developers to deliver innovative and open services, leading to better functioning markets.

An array of markets could benefit from the above. For instance, our protocol could be used to book many of the following services :

- Hotel and Apartments;

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- Offices, Studios and Warehouses;
- Cars, Flights, Jets, Trains, Buses, Yachts and Ferries;
- Tours, Holiday packages, Cruises and Museums;
- Shows, Sports, Events and Restaurants;
- Medical and Well-being appointments;
- Tests, Photographers, Guides, Caterers, Car repair …

Innovative offerings could be built that enable the booking of bundled services. As our protocol is industry independent and easy to implement, existing players in one industry may be able to offer new services to their existing customers (cross-sales).

That is what platform envelopment strategy suggests where a second entry path is required, that does not rely on Schumpeterian innovation. This strategy has been documented by Thomas R. Eisenmann, the Howard H. Stevenson Professor of Business Administration at the Harvard Business School, in the Platform Envelopment working paper (see Ref [1])

2.2. Impacted market example - hotel booking

The hotel booking sector was one of the most impacted industries at the start of the Internet revolution. It is now a highly concentrated oligopolistic market, with a Herfindahl Index above 5,000, we have found it to be an excellent first example use case of the BTU Protocol.

Indeed, two online travel agency (“OTA”), namely Expedia and Priceline are dominating the market due to market forces only possible with the current state of the internet as well as extensive consolidation (acquisitions).

- Expedia now owns Expedia.com, Hotels.com, HomeAway, Hotwire, Orbitz Worldwide Travelocity, Traveldoo, Trivago, Venere, Wotif Group, Carrentals.com, Classic Vacations and eLong.com.
- Priceline now owns Booking.com, Kayak, Priceline.com, Agoda.com, Cheapflights.com, Ctrip.com (partially), Momondo.com, Opentable.com, Rentalcars.com and Rocketmiles.

Economic theory predicted that leading OTA would increase their fees and that these costs are split between consumers and hotels according to the relative elasticity of supply and demand. This is exactly what is happening.

In September 2017, AccorHotels’ CEO Sébastien Bazin explained the business issue facing large Hotel operators: “I think all the big hotel companies in the world, we have the same market cap as Booking and Expedia together, $130 billion. They probably have together 80,000 to 90,000 employees. All together we have over 3 million employees. So it is a weakness. It appears to be a weakness, which is why they have so much value in the stock market because they have better agility, less volatility and better free cash flow”.

However he seemed to agree he could hardly do without these OTA. “It’s more and more costly, tougher on the acquisition of a new client because Booking and Expedia have a

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better reach to new clients. You accept to pay more because they give you a client you cannot have otherwise."

Still, the Hotel industry in Europe (via the HOTREC trade association) is trying to fight back by alerting the E.U. and requesting new regulation to be enforced. Its latest position paper (Ref [2]), that we recommend reading, includes screenshot proofs of problematic issues.

HOTREC claims to have identified over the past years several unfair practices of oligopolistic platforms, which are putting pressure and increasing the fragility of the 200 000 European establishments (composed of 91% micro-enterprises). They also note that the power of narrow access gates to the online market has resulted in uniformed contracts, and several market practices which are considered unfair such as platforms dictating their conditions and influencing consumers choices in an opaque manner.

The detailed mechanisms of how two OTAs ended up controlling 95% of the U.S. market and how they use this position to command outrageously high fees are very well documented in this July 2017 article from Benjamin G. Edeman (@bgedelman): http://www.benedelman.org/publications/ota-bias-12jul2017.pdf

Benjamin G. Edelman is an Associate Professor of Business Administration at the Harvard Business School where he studies and teaches about the economics of online markets. He is a Winner of the 2013 Prize in Game Theory and Computer Science from the Game Theory Society for "the best paper at the interface of game theory and computer science in the last decade". His bottom line is that OTA practices drive up costs for both hotels and consumers.

Some of his arguments are summarized here but we highly recommend reading the article :

- Consumers are unaware of the hundreds of dollars of OTA fees, 25% or even more of their hotel booking budget, due to the OTA market structure. Consumers choose these OTA sites in part as a result of billions of dollars spent on advertising. Expedia is the 31st-largest advertiser in the U.S., just behind Pepsi, spending an estimated $1.3 billion in 2015. And travelers perceive no cost to booking through OTAs and have had little reason to seek out the "cheapest OTA" or to think about OTA fees at all.

- Priceline and Expedia have adjusted their pricing and rules to extract higher payments from hotels including auctioning off the top positions in search results. No other OTA controls more than 1% of the OTA market. The hotel industry remains fragmented and smaller hotels, especially, cannot oppose fees that have increased as OTAs have merged and gained in market power.

- OTAs have incentives to bias results, including to bias results towards hotels that pay them greatest commissions, and to demote the hotels that insist on lower commissions. When a small property requested a lower fee, the OTA had every reason to decline, knowing that customers would be unlikely to miss that property. Independent hotels pay dearly for the favored placement they receive, 25% or 30%, more than they spend on physical plant, maintenance, or cleaning.

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- When some hotels have offered lower “members only” rates on their own sites, OTAs changed the sequence of search results (e.g. placing on subsequent pages of results), changed color schemes to deemphasize these hotels, withheld standard promotional text or removed photos these hotels previously uploaded to the OTA.

- Search bias is deceptive. Consumers have no reason to expect properties to be sorted based on fees paid while OTAs indicate “Recommended” properties by default. Search bias perpetuates the expectation that prices are the same at OTAs and directly. So hotels risk end up competing not to offer low prices or high quality to consumers, but instead competing to offer the highest commission to OTAs. **This is discouraging hotels from soliciting direct bookings.**

- Moreover OTAs have taken steps to impede hotels’ efforts to become more self-reliant. Multiple hotel chain marketing managers reported that OTAs rejected their requests for contract terms preventing OTAs from bidding on their own hotel names. As a result, when a user searches for an affected hotel, the user sees OTA advertisements.

- A corrective disclosure is necessary to put consumers on notice of actual practice. **Once consumers begin direct booking in earnest, the change might be virtually irreversible.** Reasonable inquiry should examine OTA internal emails as they might reveal other practices intended to mislead consumers, penalize hotels that seek to reduce marketing costs, or otherwise fall short of applicable standards.

As much as we agree with Ben’s brilliant analysis of the market, we do not think regulation alone could solve the issues outlined above in a timely fashion.

Actually, in April 2017, the European Commission and ten national competition authorities (Belgian, Czech, French, German, Hungarian, Irish, Italian, Dutch, Swedish and UK) published a coordinated report on competition in the online hotel booking sector with the objective to assess the effects of the antitrust enforcement measures adopted in recent years in this sector. The detailed report can be found here:
http://ec.europa.eu/competition/ecn/hotel_monitoring_report_en.pdf

The results are so unconvincing that the European Competition Network has had to “keep the online hotel booking sector under review”.

We believe blockchain innovation could be called to the rescue. Decentralization, openness and tokenization would lower the cost of entry and enable new market entry strategies. This is where the BTU protocol can help.

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3. The BTU protocol

3.1. Definitions

A reservation process involves at least 4 parties or components : a provider, a booker, a booking infrastructure and the RES smart contract.

Provider	The provider is an entity providing its own resource or a third-party party resource to be booked
Booker	The booker is an entity that books the resource for itself or a third party
Booking infrastructure	The booking infrastructure is the public “location” where providers can “post” resource availability data and where these resources can be reserved by bookers. The booking infrastructure facilitates signaling between providers and bookers by aggregating a high volume of resource type and availabilities.
RES	RES is the smart contract implementation of the decentralized standardized BTU protocol.

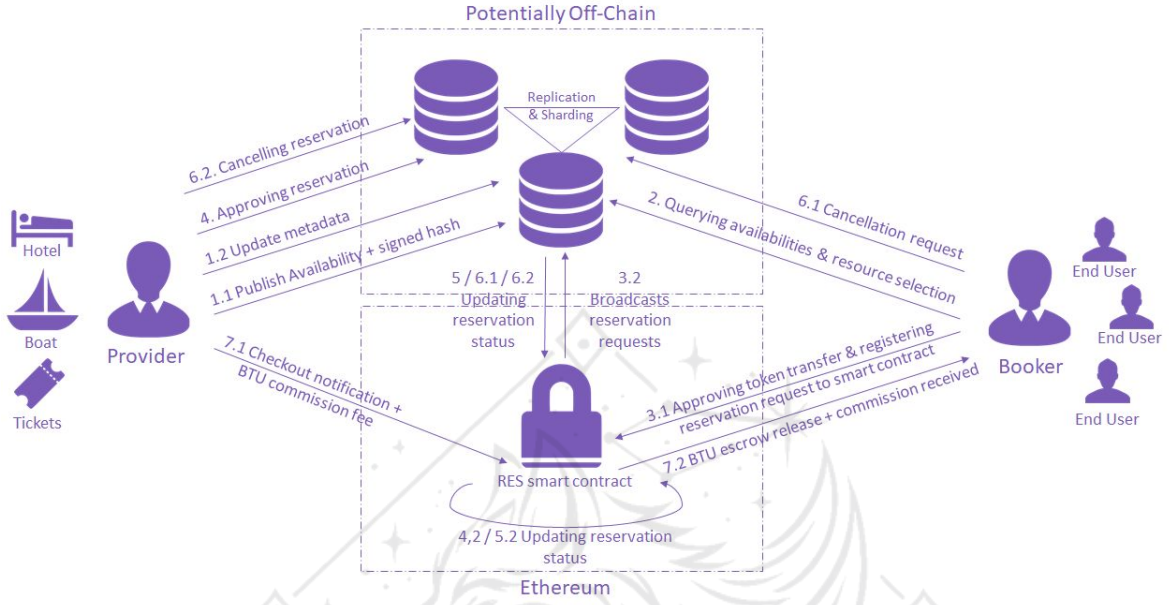
Payments are handled outside of the scope of the BTU protocol.

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3.2. Specification and sequence of steps

The BTU protocol involves potentially ten steps and our standardized decentralized reservation contract (RES). Some of following steps can be relayed off-chain, but are always settled on-chain.



Hereafter the general sequence :

- (*Step 1.1*) Provider is creating an “availability offer” (OFFER) specifying :
    - resource id OR bundle id. A bundle is a group of resources.
    - resource name OR bundle name
    - resource category
    - deposit amount in BTU : amount requested for escrow in order to allow a reservation request
    - commission amount in BTU : amount paid to booker
    - availability start date,
    - availability end date
    - limit date and time for a free reservation cancellation
    - **signed (r,s,v) hash of previous information**. This signed hash serves as a signed identifier of the resource to be reserved.
    - Metadatas : daily price of the resource (fiat amount to be paid at resource “delivery”), links to images, long description, key-values that can be used as search criteria, etc...

  The availability data is broadcasted over any communication channel, ideally a decentralized off-chain solution.
- (*Step 1.2*) At any moment, the provider can update the resource metadata by broadcasting a new message.

  It is very common that yield management requires many prices (fiat price of the resource) update during the same day. This update only impacts the off-chain components.

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- (*Step 2*) Booker is looking for a resource is querying all resources matching his criteria and is selecting a resource he is willing to reserve
- (*Step 3.1*) In the same operation :
    - Booker is approving to RES smart contract the required amount of BTU to make the booking (amount defined in step 1.1 by the provider)
    - A booking entry is registered into the smart contract with following information
        - Signed hash of resource
        - Signed pointer to all full offer information (datas + metadatas) at the moment of the reservation request. Those information are stored in the offchain booking infrastructure.
        - Public address matching the hash signature
        - desired reservation start date
        - desired reservation end date
        - status : RESERVATION_REQUESTED
- (*Step 3.2*) Booker broadcasts the resource reservation request to the Booking infrastructure adding all end-user profile information off-chain that may be necessary for the reservation approval. This would help comply with privacy protection requirements.
  It is the responsibility of the Booker to notify its end user customer of the full resource information and the provider signature (Availability “snapshot” data). This can be used as proof of reservation details in (the extreme) case resource information at reservation time is deleted from off-chain infrastructure.
- (*Step 4*) Provider is validating the reservation request and broadcasts the new status to “RESERVATION_CONFIRMED”.
- (*Step 5*) RES smart contract is updating the reservation status to “RESERVATION_CONFIRMED”
- (*Step 6.1 - Optional*) Booker cancels the reservation by broadcasting a cancellation request. This triggers a submission to the RES smart contract that empties the registries for this resource.
  Depending on the conditions and cancellation date, the BTU escrowed into the RES smart contract are affected back to the user or to the provider
- (*Step 6.2 - Optional*) Provider cancels the reservation by broadcasting a cancellation request. This triggers a submission to the RES smart contract that empties the registries for this resource. RES smart contract is releasing the escrowed amount to booker.
- (*Step 7.1 & 7.2*) Booker is notifying that the resource has been paid (presumably at resource check-out). RES smart contract is releasing the escrowed BTU back to user in addition to a BTU agreed commission.

3.3. Anti-spam

To avoid any malicious behavior, the protocol implementation may request providers to escrow some BTU tokens before being allowed to submit availabilities offers into the booking infrastructure.

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The amount of BTU tokens to be escrowed may depend on the provider's reputation as tracked by a third party service.

3.4. Broadcasted message format

Each availability message contains the following parameters :

- unique resource id
- resource description
- resource category - useful as a filtering criteria
- booking price : BTU amount requested for escrow in order to allow a reservation request
- availability start date and time
- availability end date and time
- limit date and time for a free reservation cancellation
- JSON metadata describing the bookable resource (fiat price to be paid, images, list of images, full description, options, etc..). This metadata is specific to each category of resource.

Also, the hash submitted to the smart contracts are using the blockchain network platform standard. Example : ECDSA signature and Keccak-256 function for Ethereum.

3.5. Booking infrastructure

For Bookers and Providers to meet, a booking infrastructure is required to host and propagate the messages.
In its principle, this infrastructure is very similar to an exchange order book (availability book in this case) that aggregates sell & buy orders (availability offer & availability request). This leads us to qualify this booking infrastructure as an "exchange" or "relayer".
The protocol described in this section does not describe an incentive for third parties to operate such a relayer platform. However, the next section will offer suggestions of how BTU token may be used to design such incentives.

3.6. The RES smart contract

3.6.1. Motivation

The following describes standard functions for BTU standardized and extensible reservation process. The reservation process embeds some actions (listing availabilities, deposit, sharing customer information, etc..), and claims (proof of reservation).
This standardized reservation interface allows Dapps, smart contracts or any Third Party to initiate a booking process and to check the status of a booking.

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3.6.2. Coverage

The specification covers all the steps even the ones that are potentially off-chain. Nevertheless, in practice and while waiting for more scalability on existing smart contracts infrastructures, only a few of RES smart contract function will be used.

3.6.3. Definition and Workflow

Workflow consists of following steps :

Function name	**Short Description**	**Long Description**
publishAvailabilities (off-chain)	Publish one or multiple available resources	Publish one or multiple available resources for reservations and for being “searchable”.
listAvailabilities (off-chain)	List available resources	List all available resources matching a search criteria
requestReservation	Request or update or cancel for a booking	Request for a reservation. The function can be used for initial reservation request OR updating
getReservationStatus	Request for a booking status	Read reservation status. Following values are possible : REQUESTED, REJECTED, CONFIRMED

3.6.4. Specification of the Standard Interface

The up to date standard is described in the ERC-808 specification submitted to EIP - Ethereum Improvement Proposal - process for comments (no impacts on the core protocol and Ethereum Client).
Information is available in this link :
https://github.com/appyhour770/EIPs/blob/master/EIPS/eip-770.md
A pull request to ethereum/EIPs has been submitted and is currently under review : https://github.com/ethereum/EIPs/pull/808

The ERC-808 standard implements ERC-20 transferable token standard, while adding specific functions handling the reservation process.
Find the description of main functions

```
contract ERC808 {
  // Availability structure
```


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```
  enum BookingStatus { REQUESTED, REJECTED, CONFIRMED, CANCELLED  }
  struct availability {
        address        _contractAdress;
        uint           _resourceId ;   // resource id OR bundle id
        uint           _type;   // Type of Availability
        uint           _minDeposit ; // minimum BTU deposit for booking this resource
        uint           _commission ; // commission amount paid to booker in BTU
        uint           _freeCancelDateTs; // Limit date for a reservation cancellation
        uint           _startDateTs;   //availability start date timestamps
        uint           _endDateTs;   //availability end date timestamps
        BookingStatus  _bookingStatus ; // reservation status
        string         _metaDataLink // Link to Meta Data of the bookable resource (desc, image links, etc…)
  }
  //Submit one or multiple availability - implementation will be off-chain
  function publishAvailabilities (address _owner, availability[] _availability, bytes32 _signatureProof )  constant returns
(uint status);
  //Query Availabilities - implementation will be off-chain
  function ListAvailabilities(address _requester, string _criterias)  constant returns (availability[] a);
  //Request reservation
  function requestReservation(address _requester, availability _availability)  constant returns (uint status);
  //Check booking status
  function getReservationStatus(address _requester, availability _availability)  constant returns (BookingStatus status);
}
```

3.6.5. ERC-808 reference implementation

The reference implementation can be found on github on BTU repository. Every developer is invited to review the specification and contribute to enrich the process definition.

4. Protocol token

4.1. The BTU token

The BTU token is an ERC20 token working in conjunction with a ERC-808 standard reference implementation contract that is compliant with most booking processes.

The BTU token is issued on top of Ethereum public infrastructure. It can be used as :

- Deposit value for booking a resource : The deposit is an incentive for any Booker to cancel its reservation on time. If the resource is not released, the deposit will be kept by the resource owner.
- Reward mechanisms : BTU tokens can be used to reward usage of the protocol. This would incentivize consumption of those resources through the BTU infrastructure rather than via other legacy and incumbent platforms that may list the same resources.

Our vision is that a large share of the legacy platform commissions (15 to 35%) can be used to incentivize new platforms connections to the BTU infrastructure.

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Furthermore, envelopment entails entry by one platform provider into another's market by bundling its own functionalities with that of the target's so as to leverage shared user relationships and common components.

With BTU tokens, a standard protocol and open source software, dominant firms that otherwise are sheltered from entry due to strong network effects and high switching costs can be vulnerable to such envelopment attacks.

4.2. Governance

4.2.1. BTUIPs - BTU improvement proposals

Any changes to BTU protocol (smart contracts, architecture, message format or functionality) should be proposed in the BTU Improvement Proposals (BTUIPs) available on our github. The contribution guidelines are provided there and are inspired by the Ethereum EIPs process.

4.2.2. Forks

Future proof protocol is a hard challenge when deployed in an immutable system of smart contract like Ethereum.

Once the RES smart contract is deployed, its logic and modelisation cannot be upgraded. Hence any protocol update or upgrade that is deployed may cause a disruption : a fork of the network and data that may invalidate current approved reservations.

To limit the potential disruptions of our development roadmap, we will :

- Maximize upgrades keeping backward compatibility with previous version (soft-fork)
- Use an ENS address such as btuprotocol.eth and recommend calling the smart contract with its ENS address to allow Dapps benefiting automatically from

Even if we worked hard to innovate and provide leadership on the Protocol governance, we cannot guarantee that a situation where two versions of the protocol are live (fork) could be avoided.

4.3. Token function

As it is open source, the BTU protocol and related software could substantially lower the cost for any party in providing relevant booking services to their customers. The BTU token is a network token facilitating (off and on-chain) signaling between a Provider and a Booker.

The token's role is also to create financial incentives in order to drive a network of participants to behave rationally and with economic interests aligned.

For instance, the BTU tokens will be used to reward Bookers. In essence, Bookers are effectively rewarded with tokens as they are "mining" successful bookings.

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Anti-spam parameters are also making use of token staking in order to enforce fair use.

The token also serves as a de facto standard and eventually enabling a virtuous network effect. And different industries could adopt the same protocol, thereby amplifying the network effects that would otherwise be limited to one industry.

Finally, other adoption mechanisms and token use cases may be implemented, by anyone in the community, independently from the token initial purpose.

4.4. BTU infrastructure - Scalability considerations

Existing blockchain networks do not yet offer the scalability required for data storage and querying at reasonable transaction rates to cope with existing booking volumes in whatever market, even the smallest one.

The role of the BTU booking infrastructure is to provide a cost-effective scalable way for any company (Provider or Booker) to operate a Dapp based on the BTU protocol and the BTU token.

Three options are currently considered (in no specific order) to build the BTU infrastructure :

- Cosmos that can provide a good way to build a sidechain-like infrastructure that can offer scalability and benefit from on-chain security.
  In this approach, our relayer infrastructure will be constructed as our Cosmos Zone and the incentive for operating the booking infrastructure comes from ATOM token (Cosmos token).
- Raiden + IPFS + Any open source Indexing solution.
- Raiden + IPDB (BigChainDB public infrastructure) : Raiden is used to follow deposits and IPDB to store and query availabilities. This option is a good fit for our MVP and can even be rolled out in a private BigChainDB infrastructure.

Over time we may revise this strategy depending on the technology advances. We may also develop several implementations on top of different blockchain networks.

4.5. Roadmap

Macro-phase	**Estimated delivery date**	**Description**
On-chain MVP Code name “Earth”	May 2018	● MVP Application fully onchain ○ RES smart contact ○ Demo Dapp for Booker ○ Demo Dapp
Scalability MVP Code name “Mars”	January 2019	● MVP for BTU : ○ Javascript SDK

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		○ Booking infrastructure ● Support to first platform based on BTU protocol : Hotel booking website integrated to one hotel channel manager.
Multiple Integrations Code name “Jupiter”	April 2019	● BTU 1.0 implementation ○ SDK and API ○ More off-chain performance ● Support to one more partner leveraging our booking infrastructure for activities
Protocol Upgrade Code name “Saturn”	Octobre 2019	● BTU 2.0 implementation and upgrades ○ Dapp bar componentization to on-board partner more easily ● Support to one more partner leveraging our protocol components for car rental
Partner tools Code name “Uranus”	January 2020	● Easier on-boarding of partners via Wordpress or Drupal plugins ● Support to one more partner leveraging our protocol components for cruises
Token scalability Code name “Mercury”	September 2020	● BTU 3.0 upgrade ○ Token sidechain for transactions and reward scalability ○ Hosting validator nodes ● Support to all partners via dedicated developer web-site and plugins
Data decentralisation Code name “Venus”	February 2021	● Architecture for decentralised hosting based on IPFS ● Hosting of data storage nodes ● Integration with decentralised identity systems
Full Privacy Code name “Neptune”	October 2021	● Privacy by design using ZKP ● Maintenance of application components and integration with reputation systems
Full Blockchain Code name “Pluto”	March 2022	● Implementation of a Cosmos Zone or any other state of the art scalability solution.
Full Decentralization	December 2022	● End of centralised hosting infrastructure ● Decentralised application maintenance

5. First use case - Hotel Booking

5.1. Description & involved parties

This use case leverages the BTU open source software by the following parties :

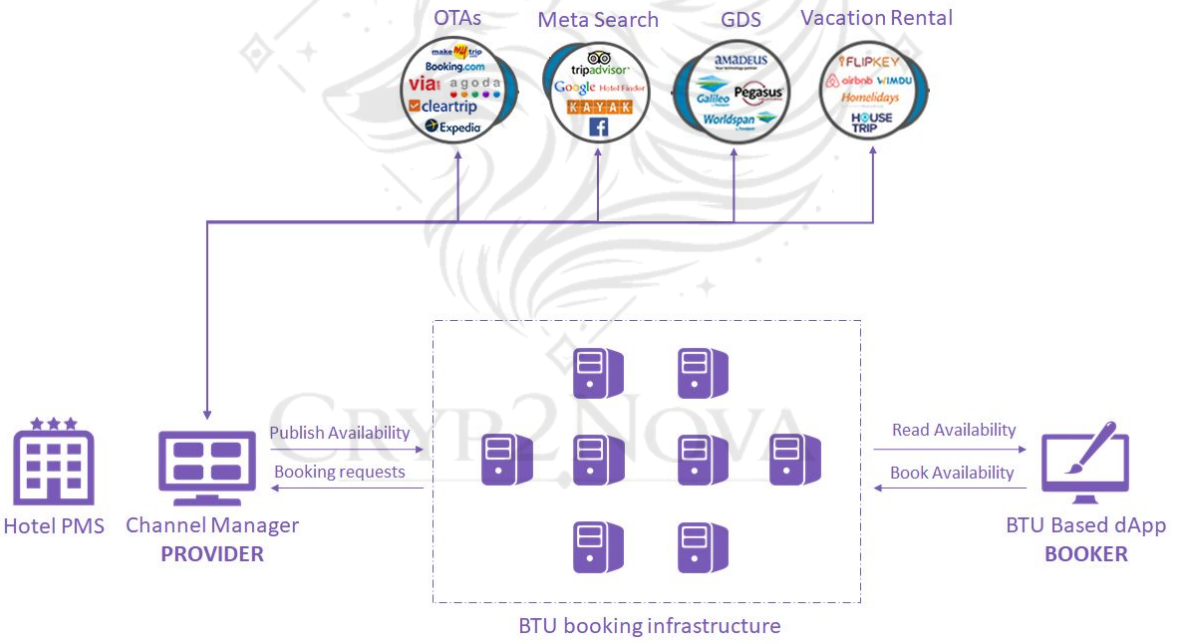
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- A hotel channel manager (BTU Provider) already working with many hotels and able to publish their availabilities into the BTU booking infrastructure.
- A website platform (BTU Booker) willing to provide hotel booking services to its end-customers

Channel managers' mission is to provide seamless real-time connections to Hotels through their Property Management Systems (PMS) or Central Reservation Systems (CRS). For instance, channel managers Sabre Hospitality and Siteminder are respectively integrated with 40 000 large hotels and 26 000 independent hotels.

Website platforms already have relationships with end-customers. They could be operated by established companies that have millions of customer relationships in other markets such as publishing, telecom, e-banking, insurance, utilities or retail. They could also be operated by independent owners catering to a specific community, or even by a facebook friend of yours.

5.2. Architecture



5.3. Simplified process description

Channel Manager Set-up:

1. A channel manager implements the BTU open source SDK
2. Its customers (all connected hotels) accept to publish their availabilities to the BTU "channel"

Website Platform Set-up:

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1. A website platform implements the BTU open source plug-in
2. Its visitors (travelers) are presented with the opportunity to book hotels

Booking Process

1. Traveler initiates booking request of a hotel on the website platform
2. Website platform may escrow some BTU tokens according to the hotel terms
3. Channel manager checks with hotel and confirms booking

Cancellation Process

1. Traveler initiates a booking cancellation request on the website platform
2. Website platform may charge its customer (traveler) depending on terms
3. Channel manager informs hotel of the cancellation and may provide compensation

Payment Process

1. Traveler pays at the hotel using any accepted payment method
2. Channel manager may charge its customer (hotel) for commission
3. Channel manager may reward BTU tokens to website platform

Conclusion

It is our belief that open-source blockchain software and protocols along with token design supported by business strategy research and game theories, can bring new solutions to a vast number of business issues.

We have applied these concepts and technologies in order to demonstrate how the current centralized internet booking services could be disrupted by creating a new technical protocol (BTU Protocol) and a specific token (BTU).

We have explained how such a protocol could be leveraged by any developer on a first example use case : the internet hotel booking industry. Implementation of the BTU token would facilitate the creation of a more rational, fairer and dynamic market there.

Other use cases could be implemented : yachts, car, ski or apartment rentals, medical appointments, spa booking, token booking, computing resources reservation etc...

By providing a transparent inventory through an open-source protocol, the community would considerably lower the entry barriers for many internet booking providers, ultimately benefiting consumers and service providers as well.

Decentralization is getting to a new level. Be part of the journey.

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The White Paper including the T&C does not constitute or form part of, and should not be construed as, an offer for a sale or subscription, or an invitation to buy or subscribe securities or financial instruments. It does not constitute the basis for, or should not be used as a basis for, or in connection with, a contract for the sale of securities or financial instruments or a commitment to sell securities or financial instruments of any kind.

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(i) any reliance on the information contained in this document,
(ii) any error, omission or inaccuracy in said information, or
(iii) any resulting action that may be brought.

Regulatory uncertainties of tokens

The regulatory status of tokens and distributed ledger technology is unclear. It is difficult to predict how or whether regulatory authorities may apply existing regulation with respect to such technology. It is difficult to predict how or whether the regulator may implement changes to the law and regulation affecting distributed ledger technology and its applications, including the BTU Tokens and the Protocol. Regulatory actions could negatively impact the Protocol in various ways, including, for purposes of illustration only, though a determination that the purchases, sale and delivery of the BTU Tokens constitutes unlawful activity or that the BTU Token is a regulated instrument that requires registration, or the licensing of some or all of the parties involved in the purchase, sale and delivery thereof. The Protocol will not be used and may cease operations in a jurisdiction in the event where that regulatory actions, or changes to low or regulation, make it illegal to operate in such jurisdiction, or commercially undesirable to obtain the necessary regulatory approval(s) to operate in such jurisdiction.

A BTU Token is not a financial instrument
A BTU Token does not represent an investment in a security or a financial instrument within the meaning of EU Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 relating to markets in financial instruments: the BTU Token confers no direct or indirect right to the 808Labs' capital or income, nor does it confer any governance right within 808 Labs.

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A BTU Token is not proof of ownership or a right of control
It does not confer any right on any asset or share in 808 Labs. A BTU Token does not grant any right to participate in control over 808 Labs' management or decision-making set-up.

A BTU Token is not an electronic currency within the meaning of EU Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 relating to access to and pursuit of the business of electronic currency institutions: BTU Token does not have a fixed exchange value equal to the amount delivered at the time of its issue.

A BTU Token does not qualify as a payment service within the meaning of EU Directive (2007/64/EC) of 13 November 2007 relating to payment services in the internal market, nor within the meaning of the (EU) Directive relating to payment services 2 (DSP 2) N° 2015/2366 of the European Parliament and of the Council of 25 November 2015: the ICO does not involve the purchase/sale of BTU Token and the 808 Labs' business does not consist in receiving currencies against the delivery of BTU Tokens; as such, a BTU Token is not a means of payment either.

A BTU Token is a cryptographic token used through the Protocol.
A BTU Token is a crypto-currency, i.e. an unregulated, digital asset, issued and controlled by its developers, and used and accepted only by the members of a given community.

Intellectual property belonging to 808 Labs
The Purchaser acknowledges that 808 Labs retains sole and exclusive ownership of all intellectual, industrial and expertise rights relating to the BTU Tokens, documents, data, etc. The technical and technological resources and expertise used to design both BTU Tokens, and documents of any nature, shall remain the exclusive property of 808 Labs regardless of whether they are protected under an intellectual property clause. Therefore, any document, listing, database, etc., in its entirety, is given to the Purchaser in return for payment or free of charge solely as a loan for use that exclusively enables them to use the Protocol, under or not a separate availability and/or non-disclosure agreement that forms an integral part of these T&C, and may not be used by the Purchaser for any other purpose without incurring their liability

Protection of Personal Data
The processing of personal data performed under the Crowdsale will be declared in France to the National Commission for Data Protection and Liberties.
In accordance with Article 32 of French law N° 78-17 of 6 January 1978 relating to Information Technology, Files and Civil Liberties, 808 Labs, which is responsible for processing the said data, will inform the Purchaser that it is processing their personal data. The details entered by the Purchaser on the forms available on the website are intended for authorized 808 Labs personnel for administrative and business management purposes. These data are processed to allow Purchasers to access the Crowdsale.

- The Purchaser is entitled to access, question, modify, rectify and delete their own personal data,

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- The Purchaser is also entitled to object to the processing of their personal data for legitimate reasons, as well as to object to the use of such data for the purposes of prospecting activities.

To exercise their rights, the Purchaser shall notify their request to 808 Labs, attaching a copy of their signed ID document.

The Purchaser shall comply with the provisions of French law N° 78-17 of 6 January 1978 relating to Information Technology, Files and Civil Liberties, amended, any breach of which is deemed a criminal offence. In particular, they shall not collect or misuse data and, in general, perform any act likely to infringe the privacy or reputation of individuals.

Regulatory uncertainties

The Purchaser acknowledges and accepts that the Crowdsale launched by 808 Labs is taking place within a French legal environment that is still under development. New laws or rules may subsequently frame, modify or clarify the practice of such Crowdsale. Where necessary, should legislative changes conflict with all or part of these terms and conditions, 808 Labs reserves the right to amend the terms of the Crowdsale as appropriate, retroactively if necessary, in order to ensure that the Crowdsale remains legal and compliant with the various French regulatory bodies.

808 Labs will respond to any request issued via regular legal process aimed at obtaining specific information about the Purchasers, particularly in terms of the fight against money laundering.

Applicable law and jurisdiction

These T&C and any contract relationship relating to the Protocol set-up by 808 Labs are governed exclusively by French law, the 808 Labs' commitment being subject to this clause.
808 Labs and the Purchasers agree to seek an amicable settlement prior to bringing any legal action. Failing this, any dispute, of any nature whatsoever, will be brought expressly before the court with jurisdiction over the 808 Labs's registered headquarters, as no document can affect a novation or waiver of this jurisdiction clause

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