

Pacio White Paper

October 2019

Pacio

Latin noun, alternative form of *pactiō*

Pactio

Latin from *pacīscor* ("agree, stipulate"), from *pacō* ("make or come to an agreement")

Pronunciation (Classical): IPA: /'pak.ti.o:/ (Thus the Pacio pronunciation is Pak.io)

Noun with principal meaning: The act of agreeing or covenanting; an agreement, covenant, contract, bargain, pact, treaty, truce.

Synonyms: agreement, contract: *pactum*

(From WordSense.eu)

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1 Vision

Trade and industrialisation provided the wealth which built the modern world, enabled by continuous productivity improvement resulting from advances in science and engineering, and the invention of double entry accounting (DEA)¹ in the 15th Century to keep the records.

The advances of the last five centuries have culminated in the current internet or information age, which has transformed our lives, but at great indirect cost: control by a few central corporations owning and selling our data, with high risk of misuse and theft.

Distributed ledger technology (DLT), or blockchain technology, can potentially improve the situation by providing more control over our money and data, but the technology has not yet succeeded despite lots of hype, largely because of scalability and cost problems.

Nor has the internet delivered the productivity and wealth increases of previous eras such as the industrial revolution, in part because record keeping has not advanced commensurately.

The Pacio vision is to fix the shortcomings and enable generation of world changing wealth by:

- Making distributed ledger technology viable by creating the Tender collaborative open economy and releasing this into the wild for the benefit of all, with no entity including Pacio benefitting at the expense of others. Tender will scale to meet the world's digital money, data, and app needs, in a safe, zero transaction fee, microtransactions possible, and flexible way, while meeting with regulatory approval because it is designed from the start to do so.

Tender created by Pacio will provide scale and new opportunities - safely. It can become the world's major app platform, used on virtually every phone and computer.

- Leading the world into the next advance in record keeping – triple entry accounting (TEA)² – built on Tender to enable the internet's potential productivity improvements and wealth to be realised. TEA has been described as the [Most Important Invention in the Last 500 Years](#) yet it is not in use because the means to do so was not available before Pacio and Tender.
- Enabling the world's productivity – the way to wealth – to be increased dramatically by integrating TARI^{®3} technology and TEA, then making it accessible to businesses of all sizes so that the internet era wealth increase can exceed that of the industrial revolution.
- Continuing to build the Pacio Integrated Business Suite from the TEA and TARI[®] start to provide tools and services for app developers, businesses, and individuals to make it all happen,

In these ways Pacio will help enable the true potential of the internet to be realised and deliver world improving wealth.

¹ Double Entry Accounting (DEA) was first described by [Benedetto Cotrugli](#) of Croatia in his 1458 manuscript *Della mercatura e del mercante perfetto*, and then codified and popularised by [Friar Luca Pacioli](#) of Italy in his *Summa de arithmetica* of 1494. The Pacio name is in part a tribute to Friar Pacioli.

² Triple Entry Accounting is described in section 2.1 *Triple Entry Accounting - TEA*

³ TARI[®] is a management methodology described in section 2.2 *Target Average Rate Index - TARI[®]*

2 Pacio Integrated Business Suite

Pacio is building the Pacio Integrated Business Suite (PIBS) as a suite of SaaS (Software as a Service) systems to provide business, accounting, and management solutions or tools for the decentralised digital age.

PIBS builds on Tender, Pacio's collaborative open economy, which:

- provides a DLT platform for PIBS with the scalability and cost problems of first and second generation blockchains solved
- builds virality, credibility, and excitement to help solve the problems involved with launching new PIBS based apps that are only viable at scale.

The PIBS systems planned are:

2.1 Triple Entry Accounting - TEA

Pacio will enable Triple Entry Accounting or TEA, the [Most Important Invention in the Last 500 Years](#), to become the normal way of doing business.

Double entry accounting allowed global trade which has built the modern world. Yet despite the enormous success of double entry accounting, it is far from perfect, being subject to fraud, estimated at US\$4 Trillion⁴ per annum for insider fraud alone, and requires expensive, complicated support systems involving banks, auditors, and government regulators to function.

TEA can provide the next leap forward by greatly reducing opportunities for fraud, reducing the need for complex supporting systems, and making business data accessible in real time for more effective use by accounting and management systems. That will help society to advance and to better confront the challenges ahead. Thus TEA is the "Most Important Invention in the Last 500 Years". The Pacio article [BlockchainTech: Can Triple Entry Accounting Save the World?](#) expands on the story.

TEA requires

- an immutable (no fiddling it afterwards) transaction to be a shared part of the record of both entities involved in a monetary transaction
- a way for the TEA transaction to be made visible to anybody with a need or right to see it, but optionally to remain private otherwise, according to entity preference
- a way for each party to the transaction to be uniquely and immutably identified – a universal unique immutable Id
- scalability and networking to be possible with all parties wanting or likely to transact business being able to use the same system
- compliance with financial regulations
- affordability so that all entities including the smallest micro businesses can use it
- ease of use so that all entities including the smallest micro businesses can use it

Before blockchain technology there was no way to have immutable shared transactions.

Before blockchain technology there was no way to have an unique immutable universal Id.

Before Tender and Pacio there was no way for blockchain systems to scale to meet world needs, and thus for the networking catch 22 to be overcome.

⁴ [2018 GLOBAL STUDY ON OCCUPATIONAL FRAUD AND ABUSE](#) page 8. Thank you for this insightful report, Bruce Dorris, J.D., CFE, CPA, President and CEO, Association of Certified Fraud Examiners.

No real systems using TEA are yet in use. Pacio and Tender will change that by providing the seven essential elements that TEA requires as a TEA Service for apps via its TEA Engine and API:

- immutable TEA transactions using Tender technology via the API.
- the TEA transaction exposed as public if both entities' data is public, or if one or both entities use private data by default, the transaction made visible only to anybody with a right to see it e.g. both parties, auditors and accountants of one or both parties if applicable, and any applicable regulator, with options to allow viewing on a temporary or time limited basis
- universal unique immutable id via a Tender app which links with the world's main id systems for people and entities
- scalability and networking via Tender
- compliance with in KYC⁵/AML⁶, GDPR⁷, FATF⁸ regulatory requirements via these capabilities being built into Tender
- affordability via Tender micropayments per TEA entry
- ease of use via the Pacio API for use by any app, whether Tender based or not

Background

The “triple” in “triple entry accounting” is because the shared immutable transaction is also recorded in the books of both entities in normal debit/credit manner = 3 entries. This might seem like more work, but it actually can greatly reduce the work required to complete, confirm, and audit inter party transactions, while helping to fight fraud, so TEA is a big plus, and of course Pacio will handle the “work” automatically anyway.

The TEA term was originally coined in 1989 by Yuji Ijiri as mentioned in the [Most Important Invention in the Last 500 Years](#) article, and the Wikipedia entry: [Momentum accounting and triple-entry bookkeeping](#).

Other early references were [Triple Entry Accounting](#) in 1995, and [Triple Entry Accounting](#) in 2005 by Ian Grigg, who describes the concept as "The Receipt is The Transaction". That paper predates blockchain but introduces the "digitally signed receipt, an innovation from financial cryptography".

Triple Entry Accounting with its current blockchain meaning, building on Ian Grigg's work, differs from the 1989 Yuji Ijiri momentum accounting meaning, and has replaced the initial meaning of the term. The blockchain meaning has become generally accepted usage since about 2014 with [Triple Entry Bookkeeping With Bitcoin](#).

Stakeholders

Once Pacio has TEA available as a service it will be necessary to work with and seek to co-operate with many stakeholders including businesses who will adopt TEA; new app developers; existing accounting/business software suppliers such as SAP, Intuit, Sage, Xero etc; accounting standards setting bodies such as IFRS and FASB, regulators, tax authorities, auditors, and accountants including the “Big Four”.

A risk is that once Pacio has blazed the path some of these stakeholders might become competitors rather than partners.

⁵ KYC: Know Your Customer, a finance industry regulatory requirement

⁶ AML: Anti-Money Laundering, a finance industry regulatory requirement

⁷ GDPR: General Data Protection Regulation, a set of EU regulations

⁸ FATF: The Financial Action Task Force which develops standard for financial transactions

2.2 Target Average Rate Index - TARI®

TARI®, invented and developed by Accounting Professor, Dr Keith Cleland, and his IT partner Trevor Watters, Pacio co-founders, has been shown to significantly boost the bottom line of businesses, large and small, some dramatically so.

Pacio will provide a TARI® Service integrated with TEA to handle all the mechanics, to allow business apps to easily incorporate TARI® to improve their offerings and thereby provide real business improvement help.

Many programs can produce monthly accounts with budgets and variances, play around with ratios, and do cash flow projections, but no others can do what TARI® does, that is to see accounting from an interactive and holistic perspective - the woods through the trees!

TARI® can model (and re-model) the business, track it through time and change, and extract key data from day to day activities to aid immediate decision-making. TARI® can be likened to a GPS system guiding management to an improved bottom-line performance.

TARI® provides real time actual vs target feedback. With real time support for the calculation of the value added per unit of activity in each sale, apps using TARI® can deliver the information as the sale is being processed.

Pacio TARI® identifies and tracks the key activity fundamental to bottom-line profitability, measuring input, output and the added value result of the activity continuously and in real time, nudging management to achieve improved results.

Apps using Pacio TARI® can handle all the normal processes of business – invoices, quotes, direct sales – plus via Tender have the ability to handle relevant IoT devices feeding in data at an enormous rate. This will all work automatically with the help of AI systems for front end applications to make it all easy, transparent, automatic, and business transforming.

Where could this lead?

The TARI® service will enable apps to be developed that provide real time guidance or business improvement, and thus real time management, as a better replacement for what is currently known as management accounting.

Results flowing from the application of TARI® to 700+ businesses engaged in Manufacturing, Trades, Services, Retail, Wholesale, Trucking etc, indicate an average improvement in unit output of 40+% boosting net profit by an average of 96%.

That is huge. Widespread adoption of TARI® can thus dramatically improve national productivity and wealth.

Despite the successes and the glowing testimonials from people who have used TARI®, it has not achieved the scale it deserves, because current accounting systems do not store the activity data that it needs. (TARI® has been implemented as standalone software, but not as an integral part of a general accounting package.) Pacio will fix the missing data problem by including activity data in all relevant accounting records via TEA, and thus make TARI® available to all businesses via apps embodying TARI®.

Some of TARI®'s successes are described in Keith's book [Improving Profit | Using Contribution Metrics to Boost the Bottom Line](#). Much more about TARI® is available through the many books and papers published by Keith, as listed at [TARI Info](#).

2.3 Further PIBS Services and Products

Further services and products will be added to PIBS progressively, prioritised according to demand.

Some possible additions are:

- The Standardised Semantic Information Model (SSIM) for data as described in [The Case for the Standardised Semantic Information Model](#) to help to bring the world's data flood under control and to provide better reporting
- Interoperable actionable event driven business documents/interfaces: This includes inter-person, inter-entity, and inter-app transactions.
- authenticated accounting and real time feed for oracles or apps
- ricardian contracts (Internet of Agreements™)
- Internet of Things (IoT) interface
- artificial intelligence interface
- specific accounting and management requirements for individual markets, countries/regions

3 Tender

Pacio is creating the Tender collaborative open economy to connect a multitude of digital applications, services, communities, and users. It is a common good. The economy is based on cooperation and favours transactions over speculation.

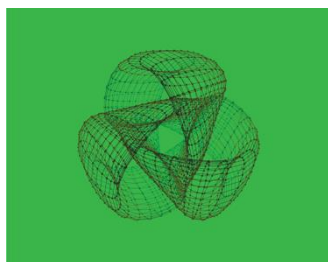
For Pacio Tender will provide the DLT base for the Pacio Integrated Business Suite described in the previous section.

Tender features:

- zero cost transfers permitting micropayments and money streaming
- virtually unlimited scalability with transaction finality in seconds, able to handle world needs
- a set of stable digital currencies named Tender* eg Tender Dollar or Tender\$ and Tender Euro or Tender€ etc to be synchronised with fiat currencies⁹ as the economy's money, with exchanges, and a user experience that makes the digital currencies invisible
- optional validation time for transfers to allow recall (revocation) of transfers made in error
- data immutability with security and privacy
- a creator (Pacio) but no owner - built and developed to benefit its users
- regulatory compliance because of built in KYC¹⁰/AML¹¹, GDPR¹², FATF¹³ capabilities
- support for distributed applications of any sophistication
- full peer to peer operation – no central servers ever for anything
- support for multiple groups, communities, or ecosystems (knowledge domains or areas of specialisation) within the economy including the Paco one for business and accounting apps
- governance for the economy
- funding mechanism for new and future applications

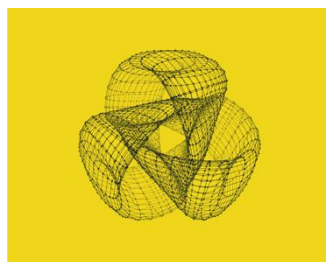
A Swiss Foundation is planned as the not for profit entity for Tender.

Tender is described more completely in the following documents available via the [Tender web site](#):



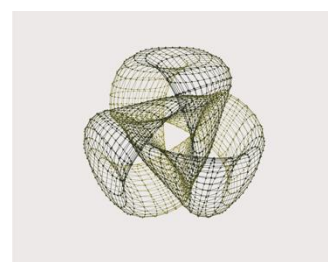
Tender Context Paper

Describes the current state of digital economies, the need of a better solution and Pacio's



Tender Design Paper

Describes the economic and structural design of the Tender economy, use cases and business model.



Tender White Paper

Technical description of the Tender economy, currency design, governance.

⁹ Tender Dollar and Tender Euro etc are derivatives of the respective national fiat currencies, without explicit fiat currency backing

¹⁰ KYC: Know Your Customer, a finance industry regulatory requirement

¹¹ AML: Anti-Money Laundering, a finance industry regulatory requirement

¹² GDPR: General Data Protection Regulation, a set of EU regulations

¹³ FATF: The Financial Action Task Force which develops standard for financial transactions

4 Launch

The Minimum Viable Product or MVP for launch in Q1 2020 is Tender stage 1, able to process micro-transactions and support apps.

The goal is to attract many developers to build Tender apps, as described in the Tender documents, but Pacio is creating a Tender app for launch named SmartLike, to kick things off and to prove the platform.

[SmartLike](#) helps to create a better web by celebrating great content with tiny money appreciations or donations.

The Pacio Integrated Business Suite systems will launch progressively from 2020 Q4 and onward.

5 Team, Business, and Roadmap

The [Pacio](#) and [Tender](#) websites give Pacio team details.

The Business aspects of Pacio and the Roadmap are covered by the separate [Business Plan](#).

6 Conclusion

In achieving its plans to empower online applications to realise the capability of decentralised ledger technology to provide safer, more inclusive, fairer, more productive, lower cost systems and new opportunities for society, business, and government, Pacio can both do good, and become a successful venture which generates excellent returns for its supporters.

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