Pacifical MSC Blockchain

Step by Step Guide to Blockchain Integration Partners

Content

Pacifical's blockchain journey

The mission

The leaders of the 8 PNA countries in 2011, started the PNA MSC program, because they want to see:

- ✓ Sustainable fishing of tuna within our PNA waters
- ✓ Employment and other participation opportunities for our people
- ✓ Fair share of the economic return on our main natural resource tuna

The initiative to start the joint venture Pacifical, together with a trusted partner based in the Netherlands, was taken to establish:

- ✓ A closer cooperation with the business and private sector
- ✓ Build closer relations with the retailers and consumers in the end markets
- ✓ Increase demand and market value and safeguard full traceability up till final buyer.

From the start:

The PNA & Pacifical realized that **Transparency** and **Assurance** would need to be **key factors** in the MSC PNA program, driving sustainability.

The PNA have developed a unique program in which the MSC status is verified and certified on a catch & trip level. This unique **batch certification (MTCB)** is the heart of our traceability and Blockchain program, because the MTCB;

- ✓ stores a unique traceable batch code,

- ✓ Stores Key data elements on a trip level, without compromising observer safety

- ✓ Is issued by the independent PNA Office

- ✓ Assures the data has passed strict Chain of Custody Controls of independent auditors

MSC CERTIFICATE NUMBER: F-ACO-0103 (F-SCS-0090 | MML-F-112)

MSC CoC CERTIFICATION CODE: MSC-C-53088 (C-SCS-0888)

MSC Certification Batch Number: M11738-11825-FC-TUM-1S

MSC Certified Free School Skipjack confirmed Weight: **141.447 MT**

PNA Office certifies that:

Certificate applicant – F.C.F. Fishery Co., Ltd., Taiwan

Has met the PNA MSC CoC procedure for verification of MSC tuna originating from the:

"PNA Western and Central Pacific

Skipjack Tuna (Katsuwonus pelamis) Unassociated Purse Seine Fishery"

Single Purse Seiner: **KWILA 888**

PNA MSC CoC Trip Authority Code: **M11738**

Trip Date: **19/04/2017 – 29/05/2017**

Reefer Carrier: **FONG KUO NO. 819**

PNA MSC CoC Trip Authority Code: **M11825**

Transhipment Date: **30/05/2017 – 03/06/2017**

Tuna Processor: **Thai Union Manufacturing Co., Ltd.**
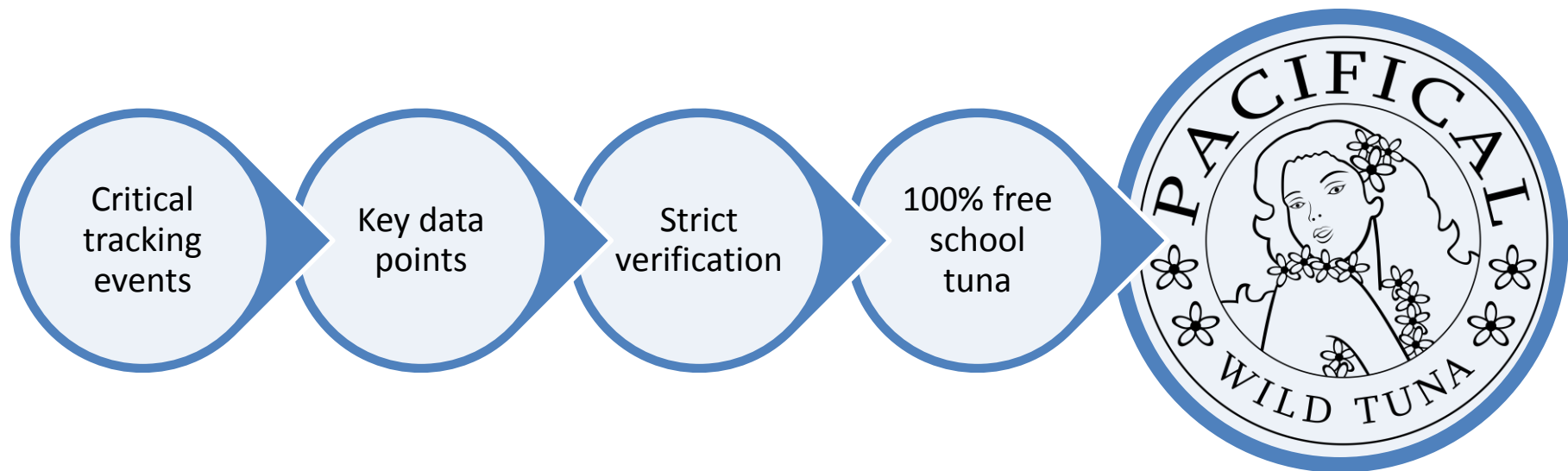
Factory CoC Number: **MSC-C-50841**

Receiving Date: **05/07/2017 – 05/07/2017**

PNA Office Authorizing Officer: .... Date: **14/07/2017**

Data as Key Competitive advantage

Unique and reliable origin story

Critical tracking events → Key data points → Strict verification → 100% free school tuna → PACIFICAL WILD TUNA

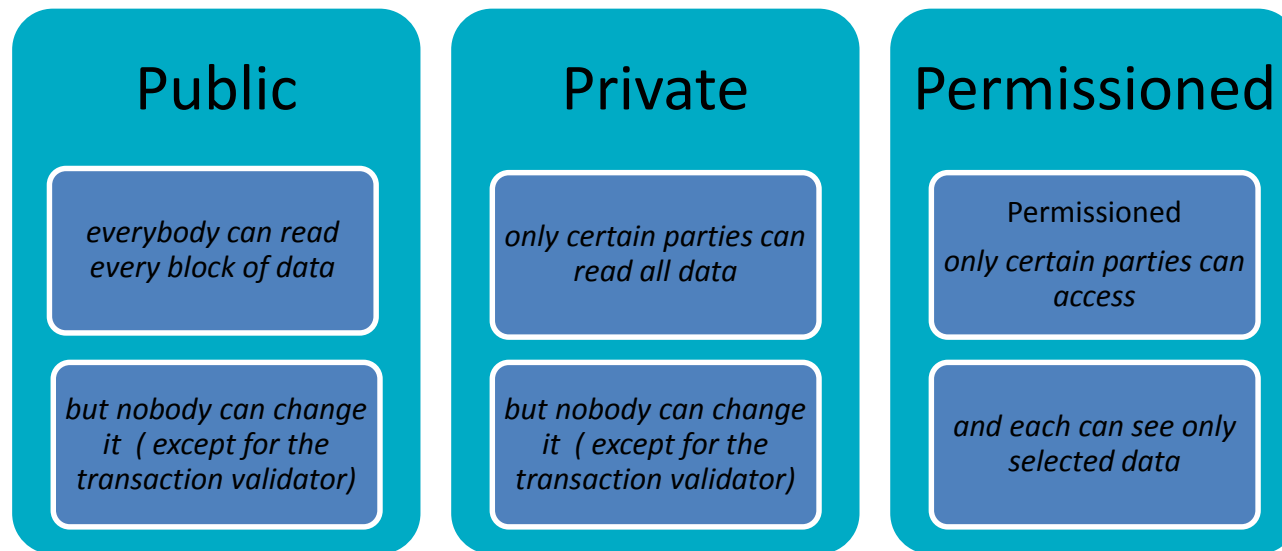# The Pacifical Blockchain

Pacifical
Frontrunner in Transparency

PUBLIC ETHEREUM BLOCKCHAIN

Various types of Blockchains

Different type of Blockchains depending on who can read what data:

Public	Private	Permissioned
everybody can read every block of data	*only certain parties can read all data*	Permissioned *only certain parties can access*
but nobody can change it (except for the transaction validator)	*but nobody can change it (except for the transaction validator)*	*and each can see only selected data*

PACIFICAL
WILD TUNA

PRIVATE

PUBLIC

Pacifical key Validator

The transaction validator is Pacifical, who validates the transactions (Tracking / production code & the MTCB#) via the ATATO notary ledger.

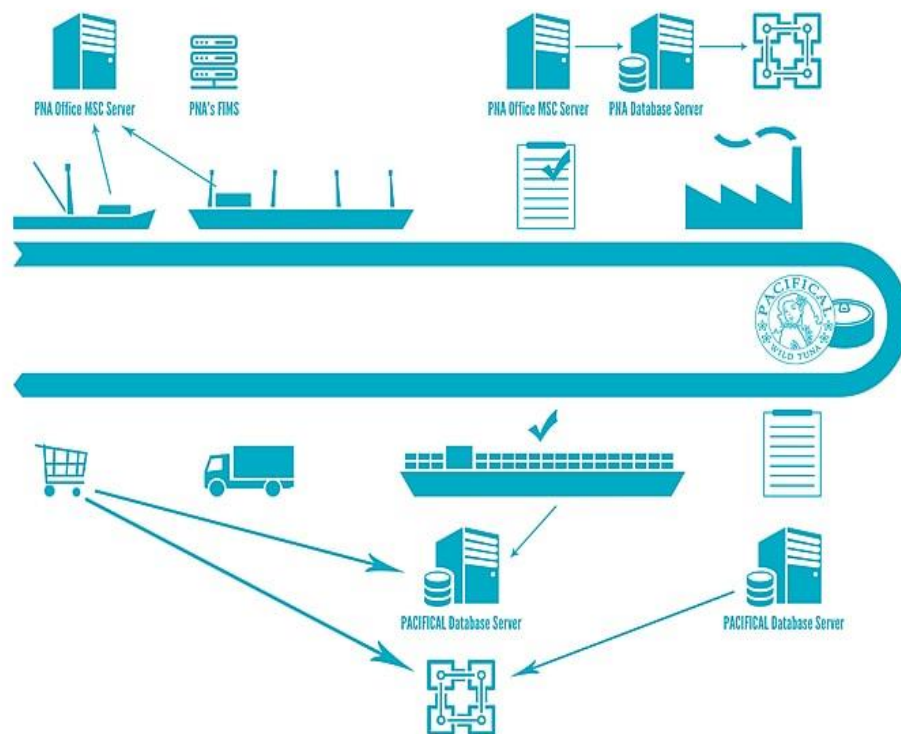# The Ledger (transaction logbook)

A certain block of data is written to the blockchain and a HASH is assigned to it

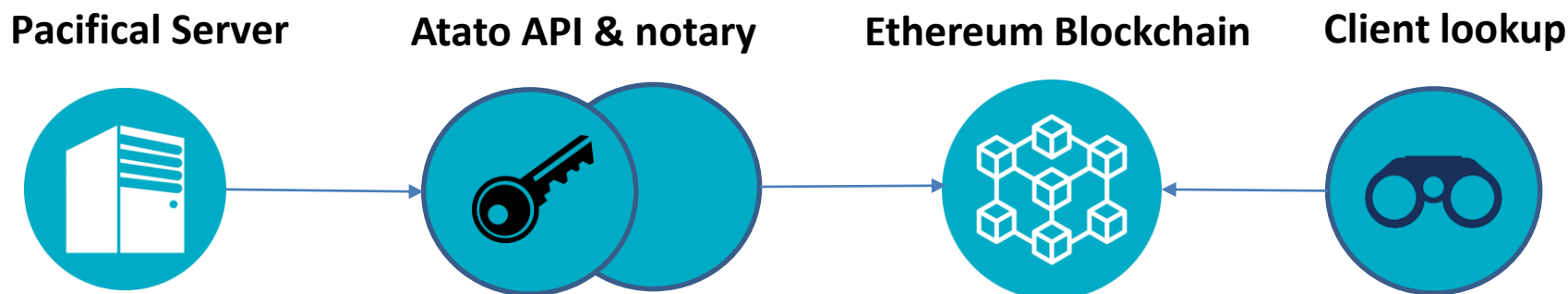"0x59053e9e4b08bbbd7d615277c60399b5d93e95b91c817cfa7810cd0b8936d14a

Once written it can only be altered by Pacifical - Ethereum records all changes
1. the change made
2. by whom – identifier
3. when – time stamped

only Pacifical can change information

Data lookup in Blockchain

Pacifical Server   **Atato API & notary**   **Ethereum Blockchain**   **Client lookup**

Look UP BY

A. **The tracking / production code**
(created by the processors and communicated to the Pacifical team – which checks and loads it into the Pacifical database)

B. **The MTCB#** = MSC Trip Certificate Batch Number (issued by the PNA Office) and shared with the applicant and Pacifical. Data is loaded into the Pacifical database, a hard copy of the MTCB# is stored.

Lookup viewer

Shows both MTCB & all linked Productioncodes

MTCB HASH
"0x59053e9e4b08bbbd7d615277c60399b5d93e95b91c817cfa7810cd0b8936d14a

"MscTripNo": "M10984-11010-03-020-1S",
 "CaptainName": "Hsu Yu Yung",
 "FishingVesselName": "Yung Hsing FA 688",
 "CatchingArea": "PNA Waters FAO 71-77",
 "CatchingPeriodEnd": "2016-08 16T00:00:00Z",
 "CatchingPeriodStart": "2016-07-26T00:00:00Z",
 "CarrierVesselName": "Yung Da Fa 108",
 "DischargeDateEnd": "2016-09-19T00:00:00Z",
 "Processor": "SV Unicord",

"**ProductionCode**": "U73X2SBNN3JLAG",

"Brand": "Raimond Freres",
 "PackagingForm": "Canned",
 "Species": "MSC Skipjack Tuna"
 "PackingStyle": "chunks",
 "PackagingMedium": "brine",
 "DrainedWeight": "155.000",
 "NetWeight": "200.000",
 "MeasurementUnit": "g",
 "OuterUnits": "1521",
 "PackagingMedium": "brine",
 "ProductionDate": "2017-01-16T00:00:00Z",
 "BestBeforeDate": "2019-01-16T00:00:00Z",

Next step: Blockchain Partnerships

Blockchain: Ready to start?

Goals

Different goals, different solutions, different technologies, **Pacifical data**
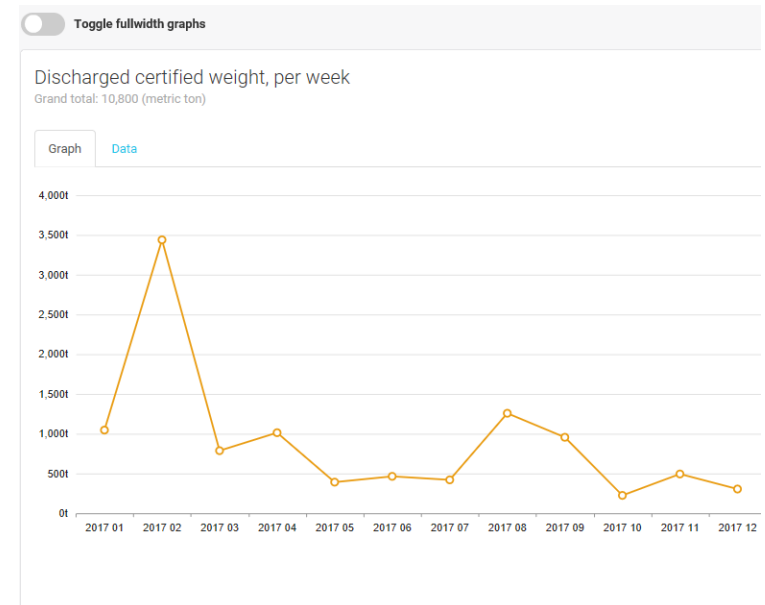
and / or

Business intelligence   Traceability

Business intelligence solutions

Pacifical account

Contract & logistical Data

(Login.pacifical.com)

Personalized Dashboard

Catch Data Analytics

(Pacifical.io)

Traceability

Technology in development
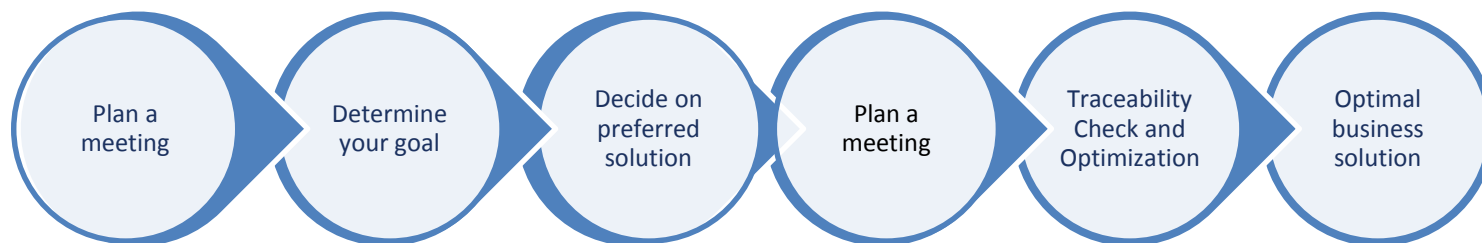

Pacifical Server

API

Blockchain

Your business solution

	Track and Trace Basic (Pacifical Server)	Custom Viewer (Pacifical Server OR API) Click for example	Custom Video (Pacifical Server OR API)	Blockchain Lookup (click for sample)	Blockchain Viewer (click for sample)	Custom Viewer Blockchain	Blockchain Video Blockchain	API Access
Output	Graphical display of MTCB and Production Information	Graphical display of MTCB and Production Information	Video display of MTCB and Production Information.	Text-based output of raw blockchain data.	Graphical display of MTCB and Production Information.	Graphical display, branded and localized per customer requirements.	Video display of MTCB and Production Information.	Programming interface for integration with customer information system.
User Input	Production Code (text)	Production Code (text)	Production Code (text)	Production Code (text)	Production Code (text)	Production Code (text or QR** code) ** Requires app + change on production process	Production Code (text or QR** code) ** Requires app + change on production process	RESTful API Call
Objective	Search tool for end consumers and clients.	Search tool for end consumers, integrated on brand website/app	Video for end consumers, integrated on brand website/app.	Proof of concept for project participants.	Search tool for advanced end consumers and clients.	Search tool for end consumers, integrated on brand website/app.	Video for end consumers, integrated on brand website/app.	Data exchange tool for advanced clients with their own tracking software.
Features	Website On pacifical.com English Language Text Output	Website or App On the client's brand site Any Language Graphical Output	Website or App On the client's brand site Any Language Video Output	Website On pacifical.com English Language Text Output	Website On pacifical.com English Language Graphical Output	Website or App On the client's brand site Any Language Graphical Output	Website or App On the client's brand site Any Language Video Output	RESTful API Integrates with client system English Language Text Output
Pricing (Atato Estimate)	Free	Internal Design costs for client + Free data	Free	$20/1000 lookups	$20/1000 lookups	One-time fee: $1,500 + $30/1000 lookups	One-time fee: $6,000 + $50/1000 lookups	$40/1000 lookups

LOW TECH →→→ **HIGH TECH**

How to get started

Plan a meeting → Determine your goal → Decide on preferred solution → Plan a meeting → Traceability Check and Optimization → Optimal business solution

Margreet Brinxma
Product Integrity Manager
Margreet@pacifical.com

Let's stay in touch!