Blockchain:
A complementary relationship?

IATA ClearingHouse

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Agenda

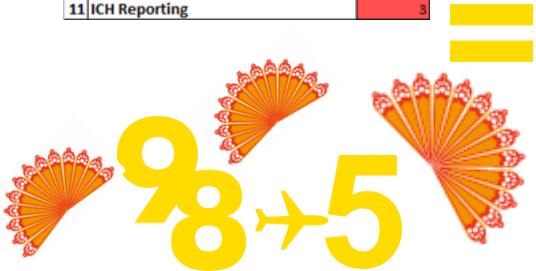
- Blockchain BRD ; PoC vs Phase 2
- Review of APP & ICH Reports
- Technical issues faced
- Enhancements effected during test periods
- Concluding comments by Pilots
- Future Enhancements proposed by Pilots

BRD

#	Functionality	Description
1	Partial payments	Enable the capability to partially pay invoices (manually or automatically)
2	Disputes Management	• Flagging/Unflagging an invoice on the app/Solution • Advising reason for dispute • Triggering a notification to the billing carrier
3	Multi Device	Ability to interface the solution via iOS/PC/WebTerminal
4	Advanced payment terms	• Factoring/Discount option • Installment options, etc.
5	Advance approval mechanisms	• Payment approval automation (based on parameters like amount, categories, etc.) • Ability to have multiple users/layers of approval (eg. Dual signatories)
6	FX Data Feed	Enable an open data feed with current value of any invoice (pending, paid or partially paid) in any currency
7	IATA notification APP	• Ability to exchange messages via the solution complementing ICH email notifications (triggered by user) • Ability to implement a chat communication channel. (triggered by user) • Push notification on disputes, partial payments (triggered by system)
8	Cash in/out	Cash in/out IATA Coins at any time and multiple currencies
9	Enhance the available data. APP- SIS	• Ability to display additional information coming from the original IATA XML invoice • Ability to link with SIS unique identifier number
10	Wallet Reporting	Enhance visibility on wallet´s position and movements
11	ICH Reporting	Enhance visibility on ICH notification (form 1 , claims confirmation)

Scoring:

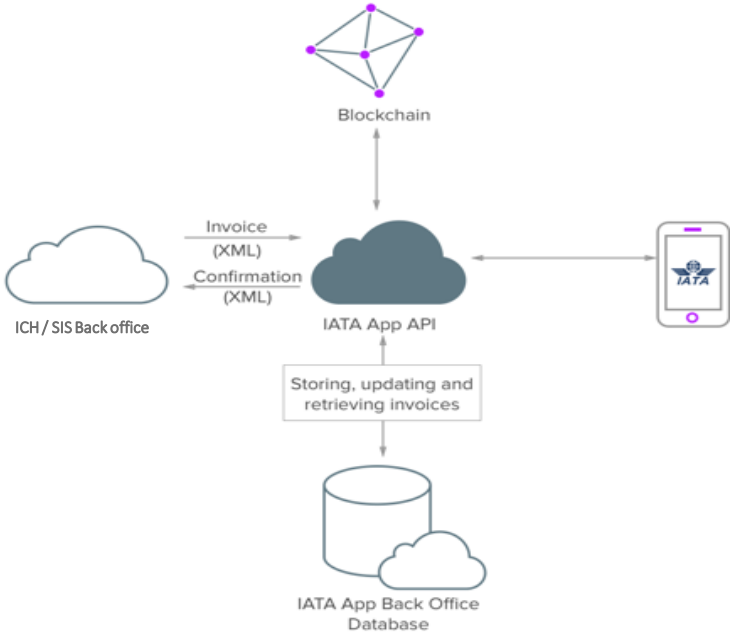
#	Functionality	TOTAL
1	Partial payments	4
2	Disputes Management	7
3	Multi Device	6
4	Advanced payment terms	2
5	Advance approval mechanisms	4
6	FX Data Feed	3
7	IATA notification APP	2
8	Cash in/out	5
9	Enhance the available data. APP- SIS	4
10	Wallet Reporting	4
11	ICH Reporting	3

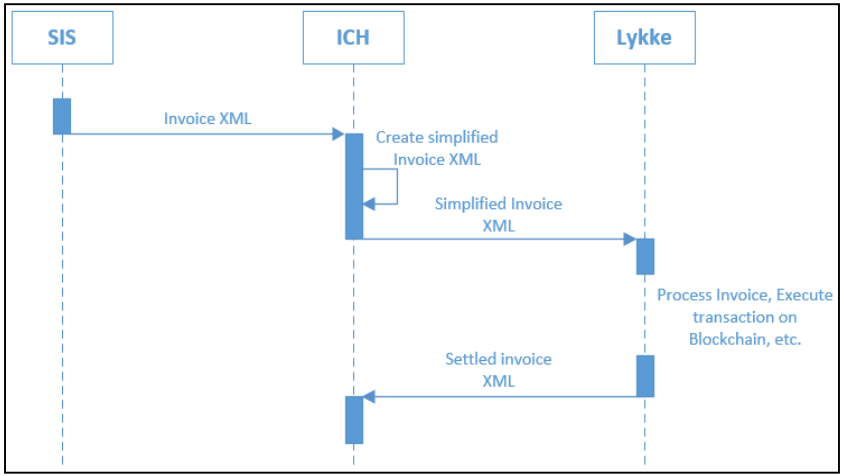


PoC vs Phase 2

	PoC	Phase 2
Objectives	• Operational &Technical feasibility • Cash flow acceleration	• Expand to more airlines, cycles and new features • Analyze legal, treasury and revenue accounting implications
Pilot	BRITISH AIRWAYS, IBERIA	BRITISH AIRWAYS, IBERIA, Emirates, UNITED, ETIHAD AIRWAYS
Transactions	MISC	MISC & PASS
Cycles	2	4
Invoices	20	54
Value USD	17k	789k
New Features		• Dispute interface • Partial payment • Cash-in/out options • Enhanced reporting & App visibility

Process Flow





ICH Notifications

Advice Day Message

IATA Clearing House Operations [redacted]

ADVICE MESSAGE Period 03 July 2018 of X 00ICH

Company: [redacted]
Clearance period: 03 July 2018 of X 00ICH

The total amount of invoices submitted against your company inside the blockchain is:
USD: 148,238

The following invoices remain unsettled inside the blockchain:

SENT TO LYKKE:
PB00038922 (SIS: 71D915AE93B71370E0532919050A5E29) 696 USD
195635466 (SIS: 722028408EBA8F27E0532919050AFD3E) 1,197 USD
PB00038951 (SIS: 71DAB52E48E78614E0532919050A85CF) 2,268 USD
EY03071883 (SIS: 71E7D53BD2DD8144E0532919050A92AA) 13,810 USD
5000001688 (SIS: 7238702AAD567D84E0532919050A91E8) 130,267 USD

Call Day (last day for payment): 08 Aug 2018

Claims Confirmation

P04 July 2018 - PROVISIONAL CONFIRMATION OF CLAIMS RECEIVED BY THE ICH FOR EY-607 ETIHAD AIRWAYS

WE CONFIRM THAT INVOICES FOR THE SUBJECT CLEARANCE WITHIN THE ICH 00ICH SMI "X" AGREEMENT HAVE BEEN RECEIVED IN ICH AND PROCESSED IN THE BLOCKCHAIN IN THE P04 JULY 2018 CLEARANCE ON BEHALF OF EY-607 ETIHAD AIRWAYS

THE TOTAL OF INVOICES CLAIMED BY CURRENCY OF CLEARANCE IS:

	TOTAL	PAX	CARGO	MISC	UATP
USD	10,560	10,560	-	-	-

FORM 1 REPORTS ARE AVAILABLE IN SIS UNDER REPORTS - FINANCIAL CONTROLLER AND FROM YOUR IINET ACCOUNT AS APPLICABLE

IN CASE THERE IS ANY DISCREPANCY, PLEASE NOTIFY IS HELPDESK URGENTLY.

THANK YOU.

ICH TEAM

ICH Report

- Form 1

IATA CLEARING HOUSE

FORM 1 FROM DEBTOR - Provisional

AGREEMENT : X 00ICH
CLEARANCE PERIOD: P04 June 2018
SETTLEMENT PERIOD: P04 June 2018
DEBTOR: IB-075 - IBERIA LINEAS AEREAS DE ESPANA S.A OPERADORA, S.U.

Zone Code	Creditor Member	Currency Code	Billing Category	Invoice Number	Invoice Date	Converted Amount	Settled in Blockchain On	Settled in Blockchain By	Blockchain Status	Blockchain amount paid	Blockchain amount unpaid	Blockchain in dispute?	Blockchain dispute reason
B		USD	MISC	201-AI0C	2017/03/13	1,275.00	7/12/2018 9:04:	cfo@iberia.es	Paid	1275	0		
B		USD	MISC	202-AI0C	2017/03/13	1,975.00	7/12/2018 9:06:	cfo@iberia.es	Partial	1000	975		
B		USD	MISC	203-AI0C	2017/03/13	875.00	7/12/2018 9:08:	cfo@iberia.es	Paid	875	0		
B		USD	MISC	204-AI0C	2017/03/13	1,575.00	7/12/2018 10:47	cfo@iberia.es	DisputeCancelle	0	1575	FALSE	
B		USD	MISC	205-AI0C	2017/03/13	575.00	7/12/2018 9:08:	cfo@iberia.es	DisputeCancelle	0	575	FALSE	

Invoice Status

Unpaid

UNITED
28.06.2018 | JUN-18 P1
#0000[redacted]
1 200 $
MISCELLANEOUS

Paid

BRITISH AIRWAYS
27.06.2018 | JAN-17 P1
#000[redacted]
0.55 $
MISCELLANEOUS
PAID

In progress

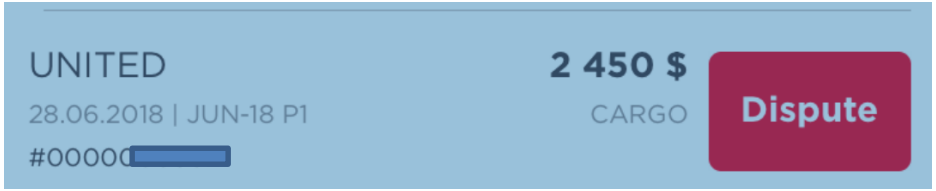
BRITISH AIRWAYS
27.06.2018 | JAN-17 P1
#000[redacted]
0.55 $
MISCELLANEOUS
IN PROGRESS

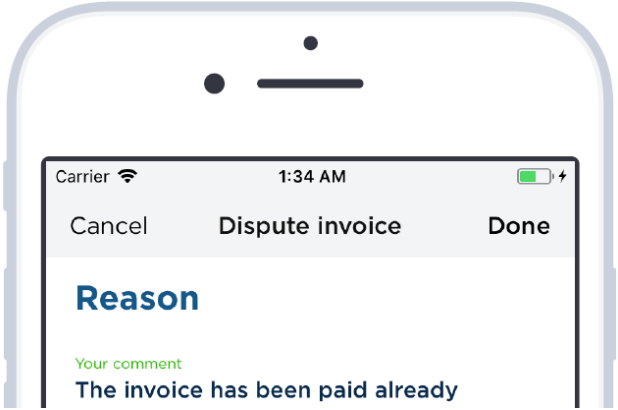
Partially paid

BRITISH AIRWAYS
27.06.2018 | JAN-17 P1
#000[redacted]
0.55 $
MISCELLANEOUS
PARTIALLY PAID

Dispute Interface

- To raise dispute over an invoice, swipe the invoice from right to left and tap “Dispute” button





- To cancel dispute, swipe the invoice from right to left and tap “Cancel Dispute” button

Dispute Interface

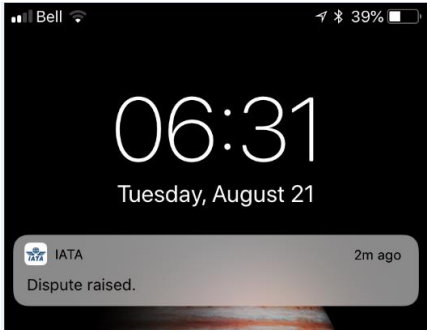
- Reporting

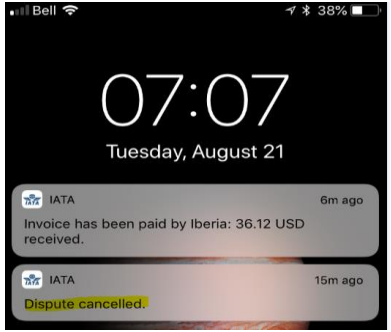
IATA CLEARING HOUSE

FORM 1 FROM DEBTOR - Final

X 00ICH
P01 August 2018
P01 August 2018
EK-176 - EMIRATES AIRLINE

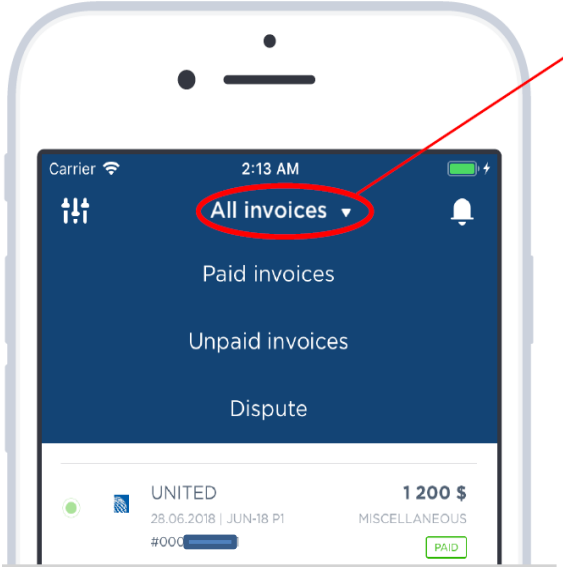
Creditor Member	Currency Code	Billing Category	Invoice Number	Invoice Date	Local Currency	Local Amount	Input Rate	Converted Amount	Invoice Source	Settled in Blockchain On	Settled in Blockchain By	Blockchain Status	Blockchain amount paid	Blockchain amount unpaid	Blockchain in dispute?	Blockchain dispute reason
[redacted]	USD	MISC	500[redacted]	2018/05/09	EUR	158.58	0.85636	185.18	IS-WEB	8/21/2018 8:29:	verkot.suresh@	Paid	185.179	0		
	USD	MISC	500[redacted]	2018/05/18	EUR	190.52	0.85636	222.48	IS-WEB	8/21/2018 8:27:	verkot.suresh@	DisputeRaised	0	222.477	TRUE	testing for dipute scenario



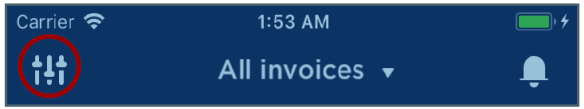


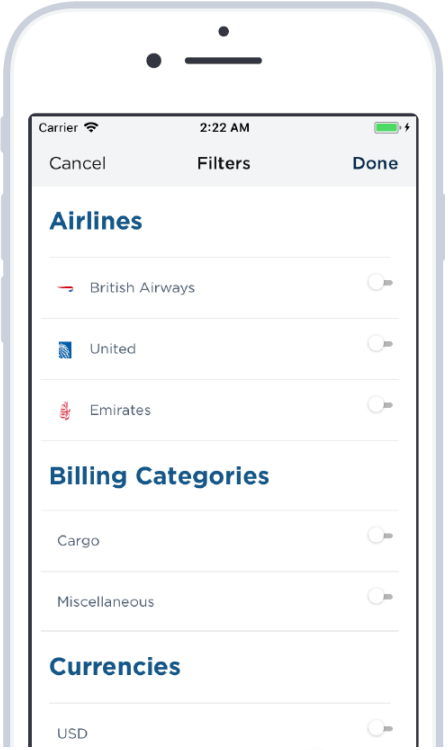
APP filters

- Reporting



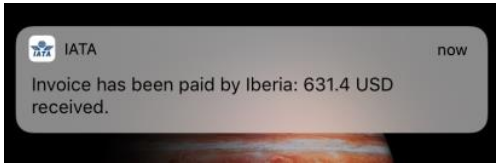
Tap the header





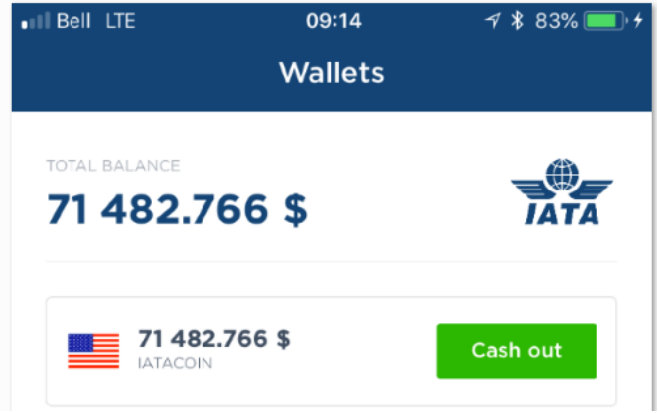
Wallet

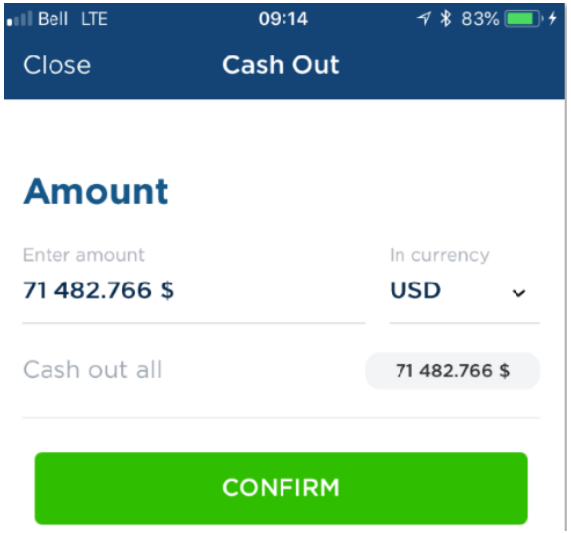
- Reporting



Wallet

- Cash-out





Thu 8/30/2018 12:22 PM

do_not_reply

Blockchain cash-out request

To ichrwu1@iata.org; [redacted]

A cash-out request has been done by [redacted] for 71482.766USD.

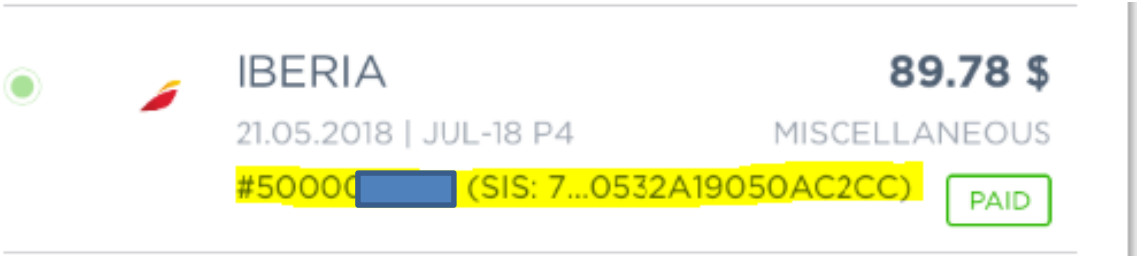
Technical Challenges

- Invoices incorrectly flagged as Past Due on App; Provider adjusted behavior to resolve issue
- Not all wallet history was reflected in App; Provider adjusted server settings and resolved issue
- Funds in some instances were not immediately released to creditor wallet; preventative measures installed by Provider once issue identified
- Dispute status was not reflected in ICH Form 1 Reports;

  IT Support adjusted config file and issue was resolved

Enhancements

- Added accounting invoice number to supplement SIS Unique Invoice Number



- Re-designed Advice Message to be more user friendly re list of unsettled invoices

Concluding Comments

- Overall the APP is easy to use and functionalities intuitive
- All transactions reflected in the APP & ICH Reports were accurate
- Dispute / Cancel Dispute tested satisfactorily
- Wallet transactions & history reporting accurate

Recommendations

- Develop for android users; need a PC based desktop solution
- Expand Dispute reporting to include notes / more detail
- Enlarge filter options and also include monthly history reporting
- Privacy issues to be addressed; nodes for saving transactions can be on airlines side; need to select a blockchain that offers privacy
- Advanced security needed; Password management/ Dual signatory option
- Need for a clear vision for the usage of I-Coin within the settlement platform, prompting increased participation level by all partners to extract the full benefit

Recommendations

- Ability to select and settle multiple or all invoices should be introduced
- Receivable invoices submitted to other carriers should be included in APP rather than just on the history tab once paid
- Improve location of certain APP features like Disputes to make easier to find
- The ‘Invoice’ listing tab should improve on the filtering option by introducing filters like P1/P2, by date or period, amount etc.
- ‘Find’ option will help in searching for invoices
- Rounding should be consistent in APP

  (2 decimals only instead of 3)

Recommendations

- Dispute feature should show unread notifications
- Partial payment feature does not reveal what is already paid or total of the invoice – only the balance remaining
- Overdraft limit in the event of other airline failure to pay and become underfunded
- Notification synchronized with IATA Calendar in order to pay invoices on time
- Fiat currency symbols should be displayed in cash-out interface consistent with settlement currency selected

Pilots Experience

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