12 December 2013
All Hands Meeting



Restricted - Confidential Information

All GSMA meetings are conducted in full compliance with the GSMA's anti-trust compliance policy

We'll cover

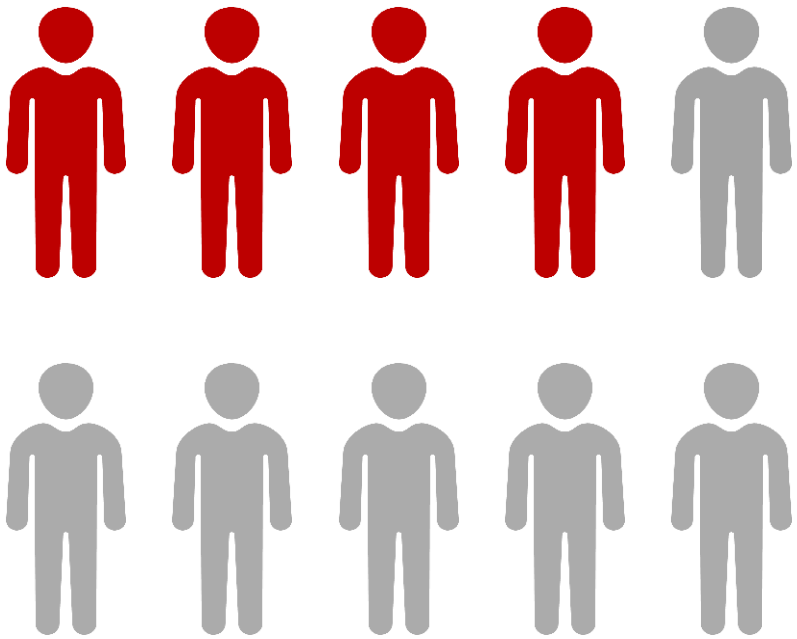
1. **AssureUK** — **Andy**
   - Progress with wider cross-sector collaboration in UK.
2. **Update on Pilots** — **Pilot Leads**
   - Technical progress and forward plan for each.
   - Including demonstration from Verizon/MiiCard.
3. **Update on Workstreams** — **Workstream Leads**
   - Including decisions sought, Trust Framework v1.0 and forward plan.
4. **Convergence on a neutral central data exchange** — **Andy**
5. **Forward Planning** — **Sue**
   - 2014 meeting dates.

We'll cover

1. **AssureUK** **Andy**
   - **Progress with wider cross-sector collaboration in UK.**

UK consumers are embracing easier digital access

GB Population



4 in 10 of UK population have used their social media account to login to other websites



Key Need Driver: Freedom
Frees me from creating another online account , simply and easily

With 40% adoption the market maturity has reached **Early Majority**

GSMA/Gfk Research June 2013:
8 focus groups, 2003 consumer interviews, 60 expert interviews

UK Digital Economy

The UK digital marketplace leads the world

- **At £121 Bn, the internet contributes to 8.3% of the UK economy, a bigger share than for any other G20 country***
- **Mobile is the digital channel of choice****
- **92% of UK citizens own a mobile, 15% are mobile only*****
- **To transact in the digital economy, there is an increasing need for a simple, ubiquitous, mobile service for individuals and business to prove who they are.**

* Source: BCG, The Internet Based Economy - 2010.
** Source: Facebook Annual Report - Oct 2013,
Last 12 months; 50% income via mobile, 47% of users are mobile only. Average user checks Facebook 14x daily on their mobile phone
*** Source: Ofcom - 12 months to Aug 2012.

Introducing AssureUK™

- **AssureUK is the personal data exchange where individuals benefit from sharing their personal data**

  How it works

  – The individual controls the real time sharing of personal data with a service provider.
  – The individual sets permissions, which determines how, when and with whom their personal data can be shared.
  – The individual can delete all his or her previous history at any time.
  – The individual benefits from sharing their personal data with a service provider.

Consumer benefit of AssureUK™

Individual benefits from transacting with AssureUK

1. Faster, more tailored transactions and/or service provision
2. Prepopulated online forms
3. FastPass login to digital sites/services
4. Identity proving based on your personal data, service usage and/or transaction history
5. Greater protection from online fraud

AssureUK

- A collaborative forum established in early 2013

- Whole UK Ecosystem
  - Banking
  - Retailers
  - Mobile Operators
  - Personal data experts
  - Government
- Working together based on shared Vision and Objectives

- All participants actively contribute to the AssureUK workstreams.
  - Meet quarterly face-to-face.
  - Decisions supported by a monthly Steerco.

- Aim to establish a neutral central data exchange so that individuals benefit from sharing their personal data

AssureUK Vision

- **To establish a secure and trusted marketplace that enables consumers to control, share and benefit from their digital transactions and personal information**

Principles

- **The consumers interests are uppermost and at all times the individual controls storage and exchange of data**
- **We will seek to reuse existing standards work where ever possible and align with the work of UK government.**
- **We will seek to enable the maximum product and business model diversity, consistent with inter-working between participants.**

AssureUK Objectives

- **Define an end-2-end framework and pilot use case by year end**
  - **a) Architect standards for personal data verification and authentication**
  - **b) Define a permissions system for personal data exchange**
  - **c) Develop a legal framework that will facilitate the interoperability between different players in the ecosystem, while ensuring users' data protection and privacy, encompassing:**
    - i. Risk & Liability flows
    - ii. Auditing framework
    - iii. Privacy
    - iv. Regulatory compliance
  - **d) Establish and prove a commercial model for personal data exchange**
  - **e) Pilot and demonstrate efficient marketplace for personal data transactions**

Summary

- Digital transactions have grown the need to provide individuals and businesses with a secure digital identity supplied by a trusted entity
- Service Providers are unlocking assets to create new propositions founded on security and privacy
- The technology is proven, the digital marketplace is ready, and in many markets service providers are implementing solutions
- Opportunity to pilot is now for UK: start small, think big and scale fast
- In the medium term, AssureUK will establish a neutral central data exchange - for easier transactions for individuals and a marketplace for IDPs across all sectors.

We'll cover

1. AssureUK — Andy
   - Progress with wider cross-sector collaboration in UK.

2. **Update on Pilots — Pilot Leads**
   - **Technical progress and forward plan for each.**
   - **Including demonstration from Verizon/MiiCard.**

3. Update on Workstreams — Workstream Leads
   - Including decisions sought, Trust Framework v1.0 and forward plan.

4. Convergence on a neutral central data exchange — Andy

5. Forward Planning — Sue
   - 2014 meeting dates.

AssureUK Pipeline

Pilot	Sponsor	When	
		Dev	Launch
Age Verification Ticketing	Verizon/Miicard	Now	Dec
Use Case: Comic Relief Gift Aid	Verizon	Now	April
Express Account Transfer	SecureKey	In discussion	ASAP
Mobile ID Federated Login	SecureKey	Feb	June
m-Banking passcode re-set using biometric authentication	The Human Chain	Feb	June
Verified SIM Card	Avoco Secure	May	Sept
m-Commerce Low and High Value Authentication	The Human Chain	May	Sept

Mobile Identity Assurance Services



E-ticketing Pilot Project for Assured UK

Bharadwaj Pulugundla, MBA
Solution Architect – Consumer & Mobile Identity Management
Verizon Enterprise Solutions
December 12, 2013

Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

Re Cap - Project Overview

Project Objective

The aim of this project is to develop a pilot ready identity & attribute verification and exchange service for UK commercial market before end of 2013. The selected use cases are as follows:

1. Ticket to enter (prove who you are)
2. Contextual offer at Checkout (prove your status to get offer)

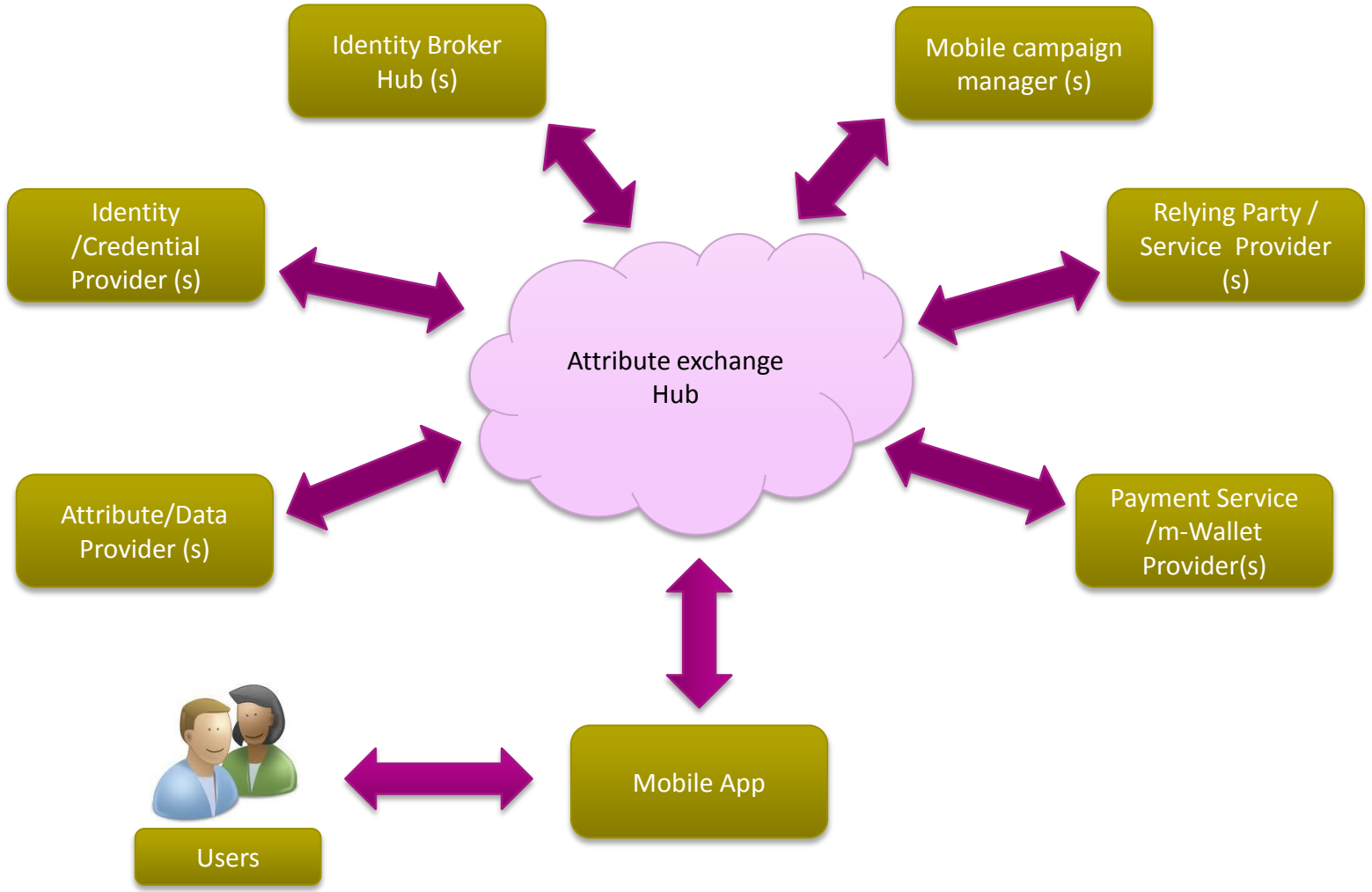
Guiding Principles

The pilot will work within the OIX UK sponsored Assured UK Framework vision, objectives, and guiding principles.

1. Focus on first combined 2 Use Cases, then roadmap for later releases / functionality
2. Open API / Trust Ecosystem with ensured interoperability across countries and easy integration of Relying Party services
3. The solution should be scalable and allow integration with any existing programs from OIX UK IDAP, STORK, GSMA, NSTIC , US MCX and commercial initiatives like WEVE.
4. Happy Consumer (great user experience), who can easily consume services provided by Relying Parties in an User Centric and Secure fashion
5. The consumer is in control of their data at all times

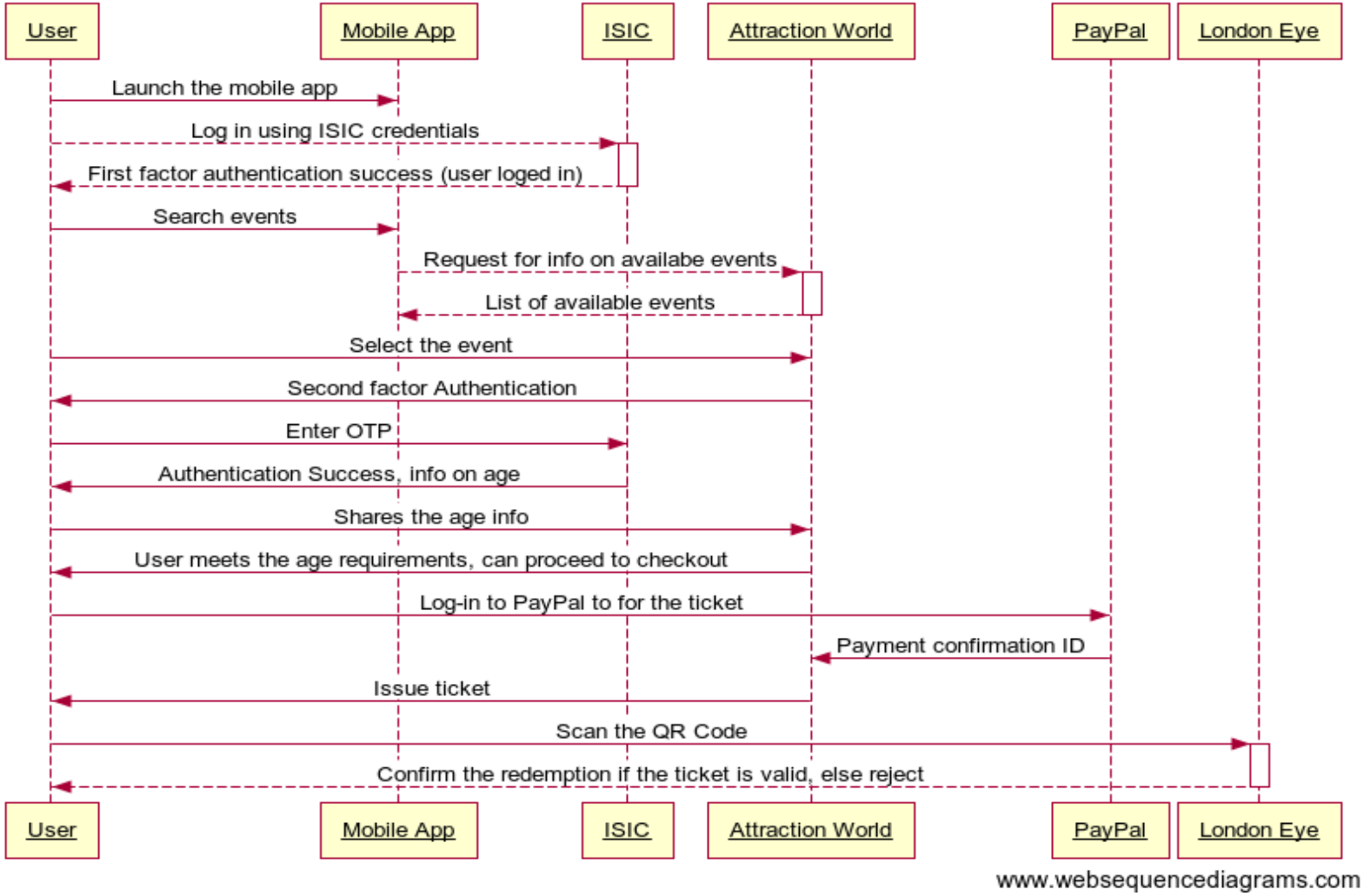
Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

Overview of the identity assurance eco-system



Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

E-Ticketing User Journey



Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

End Project Summary

Approach

1. Used Appcelarator, a cross platform SDK for building the mobile app.
2. In order to quickly develop a functional solution, we aimed at illustrating mainly the basic functionalities and focused on building the mobile app for iPhone for the first beta.
3. Organized weekly calls to discuss the progress with the core team

Lessons Learned

1. Identifying key players in the ecosystem (API providers) is key.
2. Obtaining solid documentation, API access and example calls for each player is necessary for smooth development. i.e. the programmers are not waiting for access/fixes to APIs, stalling coding.

Key Challenges

1. Team was working on best efforts, some funding arrangements would have helped to procure dedicated resources
2. Change of the solution design due to short timelines to host a hub infrastructure

Next Steps

1. Improve user experience and design of the mobile app screens
2. Discuss with Legal, Commercial teams in this pilot to define next steps
3. Enrich the eco system by adding more members (IDPs, Benefit providers, etc)
4. Implement analytics functionality to analyze the data generated in this ecosystem

Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

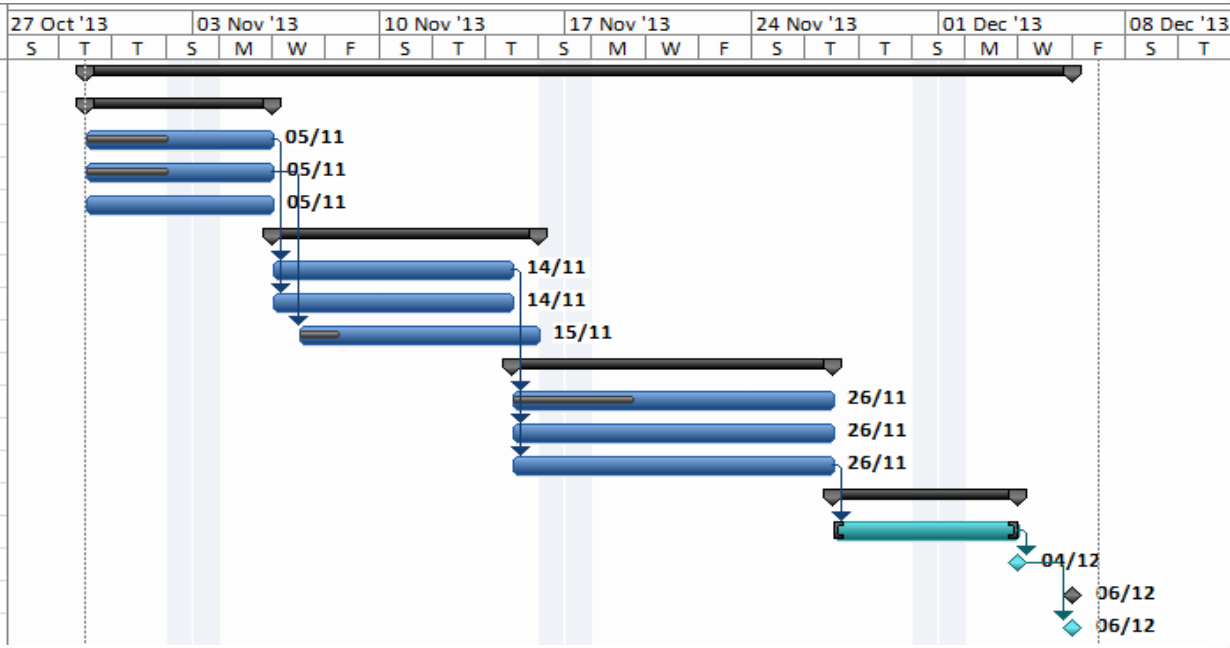
Core Team

Name	Company
Harm Jan Arendshorst	Verizon
Bharadwaj Pulugundla	Verizon
Alex Chong	Verizon
James Varga	Miicard
Tim Jefferson	The Human Chain
Steve Pannifer	Consult Hyperion
Susan Morrow	Avoco Secure
Robert Blumenthal	Secure Key
Russell Parr	Attraction World
Muhammad Atif	Attraction World
Steven Winnen	ISIC

Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

Project Planning until December 6, 2013

ID	Task Name	% Complete
1	**e-ticketing pilot for Assured UK**	**15%**
2	**Define**	**40%**
3	Define Use cases	60%
4	Develop wireframes	60%
5	Define demo script	0%
6	**Build**	**7%**
7	Set up an attribute exchange proxy	0%
8	Develop user interface (web) for the proxy	0%
9	Build the frontend mobile app	20%
10	**Integrate**	**10%**
11	Integration with ISIC (and other IDPs)	30%
12	Integration with Paypal	0%
13	Integration with Attraction world (and other service prov	0%
14	**Test:**	**0%**
15	System testing per the demo script	0%
16	Testing complete	0%
17	**Deploy:**	**0%**
18	Demonstrate the solution	0%



Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

Mobile Identity Assurance Services



E-ticketing Pilot Project for Assured UK

Bharadwaj Pulugundla, MBA
Solution Architect – Consumer & Mobile Identity Management
Verizon Enterprise Solutions
December 12, 2013

Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.



THE HUMAN CHAIN

Passcode Reset Pilot 2014

From The Human Chain

V1.0 – 12/12/2013

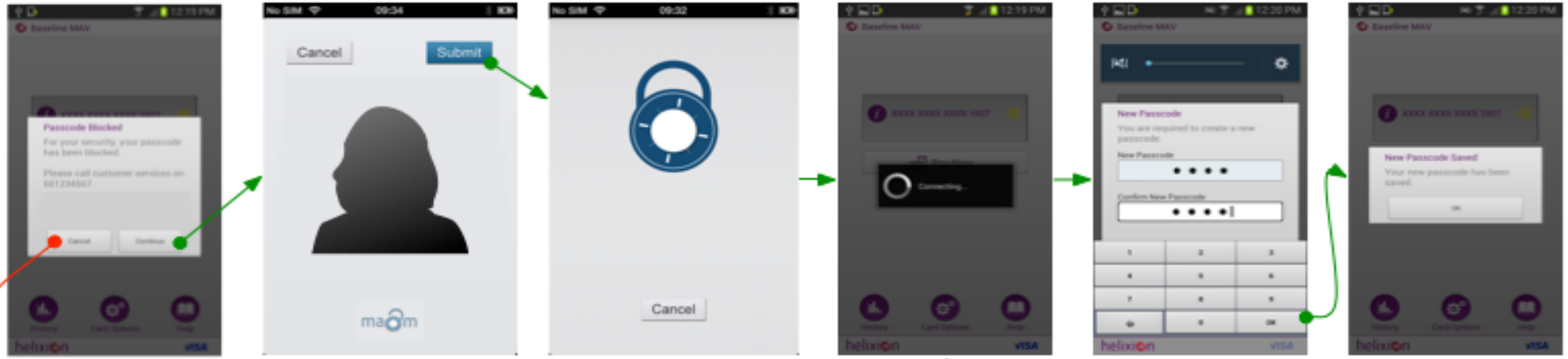
Passcode Reset Pilot – What is it?

- **Purpose of Trial**
  - **Automate** mobile banking, contactless payment or MAV **app passcode re-set process** by using strong mobile biometric authentication mechanisms, reducing complexity, costs and improving security and convenience
- **How does it work?**
  - Customer clicks to initiate passcode re-set in mobile banking app, which initiates the re-set process
  - Seamlessly the Mobile Adaptive Authentication Manager (MAAM) screen opens and user is prompted to use either biometric (voice or facial recognition) authentication to identify themselves
  - Authentication data is authenticated by the MAAM processes and sent to the bank, which initiates a secure reset script, which then in app connects to the Visa Mobile Gateway (VMG) which prompts the end user to choose a new passcode
  - User completes re-set process and resumes full mobile banking app functionality
- **Benefits**
  - **Reduce complexity,** substantially **reduce costs** and greatly improve the mobile banking password re-set **user experience** by automating the process using the Visa Mobile Gateway (VMG)
  - **Improve security** by using strong mobile biometric authentication mechanisms
  - Provides all pilot participants with unrivalled knowledge/expertise and **first mover advantage** in mID

User Journey – Pilot

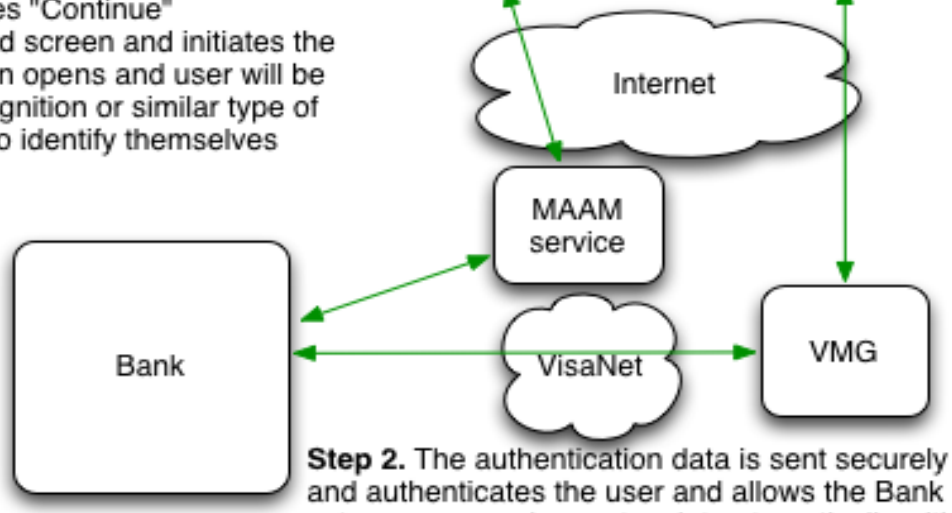
2. Mobile Adaptive Authentication Manager (MAAM) Biometrics Passcode Unblock Flow

2.1 Passcode blocked | 2.2 Authenticate using facial recognition | 2.3 MAAM processing | 2.4 Connection to VMG to reset | 2.5 Enter new passcode | 2.6 Passcode saved



Step 1. The user presses "Continue" on the passcode blocked screen and initiates the reset. The MAAM screen opens and user will be prompted for facial recognition or similar type of authentication method to identify themselves as the authorised user.

Cancel takes the user back to the home screen. Limited functionality available and payments disabled.



Step 2. The authentication data is sent securely to the MAAM system and authenticates the user and allows the Bank back end systems to set up a passcode reset script automatically without the need for the customer services step.

Step 3. Once the MAAM system has authenticated the user with the Bank and authorised the Passcode reset the app then connects to the VMG to complete the passcode reset process and the script is sent securely sent to the device.

Step 4. Once the passcode reset process has been completed the user is prompted to choose a new passcode and confirm it. The user can now resume making payments and using the full functionality of the app.

Passcode Reset – Work so far

- **Part of GSMA/OIX Assure UK Programme**
  - Passcode Pilot already selected for 2014 pilot programme
  - Agreed support from GSMA, Open Identity Exchange (OIX) and Cabinet Office (IDAP Programme)
- **Partners**
  - Payment Scheme – Visa
  - Issuer – tbc
  - Biometric Partner – Nuance
  - Identity Providers – UK Government accredited providers – Post Office, Verizon, Experian, Mydex & Digidentity
  - App and SDK Provider – Helixion
  - Technology Framework (MAAM) – The Human Chain
  - MNO – UK MNOs
- **Timeline**
  - Q1 2014 – Ramp Up
  - Q2-Q3 2014 – Pilot
- **Work still to do**
  - Formal engagement with issuing bank
  - Finalise pilot scope and deliverables

MAAM Contact

Tim Jefferson

The Human Chain Limited
Magdalen Centre
The Oxford Science Park
Oxford
OX4 4GA
United Kingdom

Mob: +44 7836 660 419
Tel: +44 1865 784 386
Fax: +44 1865 784 387

E-mail: timj@thehumanchain.com
Web: http://www.thehumanchain.com



Gift Aid Pilot

giftaid it

- **Pilot definition document created**
  - Limited circulation for feedback: wider circulation w/c 16th
  - Processes for both PSMS and Mobile Payments outlined
  - Underlying process will work with future forms of Digital Giving
- **Requirements and architecture to be reviewed w/c 16th December**
  - In context of AssureUK exchange
- **Donor recruitment options under review**
  - Ideally, donors will be registered with an IDP
  - Option to register during donation / Gift Aid process, but expect low uptake
- **Wider stakeholder discussions underway**
  - Cabinet Office, Treasury, HMRC
- **Application to Technology Strategy Board for funding**
  - If successful, will provide funds for ~12 months, allowing development of a fully commercial model
  - Outcome will beknown 20th December

COMIC RELIEF

verizon

piran PARTNERS

Assure UK

SIM Card Registration Online Process

Using a verified identity

Copyright Avoco Secure Ltd 2013

Avoco Experience in this area

- Worked with government agency, DBCDE in Australia
- Large degree of fraudulent activity using pre-paid SIM cards
- Reduce fraud by registering SIM card only if verified
- In Australia used DVS system for online verification
- But could use any other verifying data source

Copyright Avoco Secure Ltd 2013

Identity AVOCO

AssureUK Pilot for SIM Card Registration

- **Benefits to the customer,**

- Customers go through registration process to achieve:
  - A verified identity that can be used to access Telco account and any other federated service / company through SSO
  - Activation of their SIM card

- **Benefits to the business?**

- SIM activation only occurs post verification of that customer. This means the business has verified address details which helps to prevent fraud and allows traceability of SIM cards used for criminal activities.

Copyright Avoco Secure Ltd 2013

Identity AVOCO

Added Value

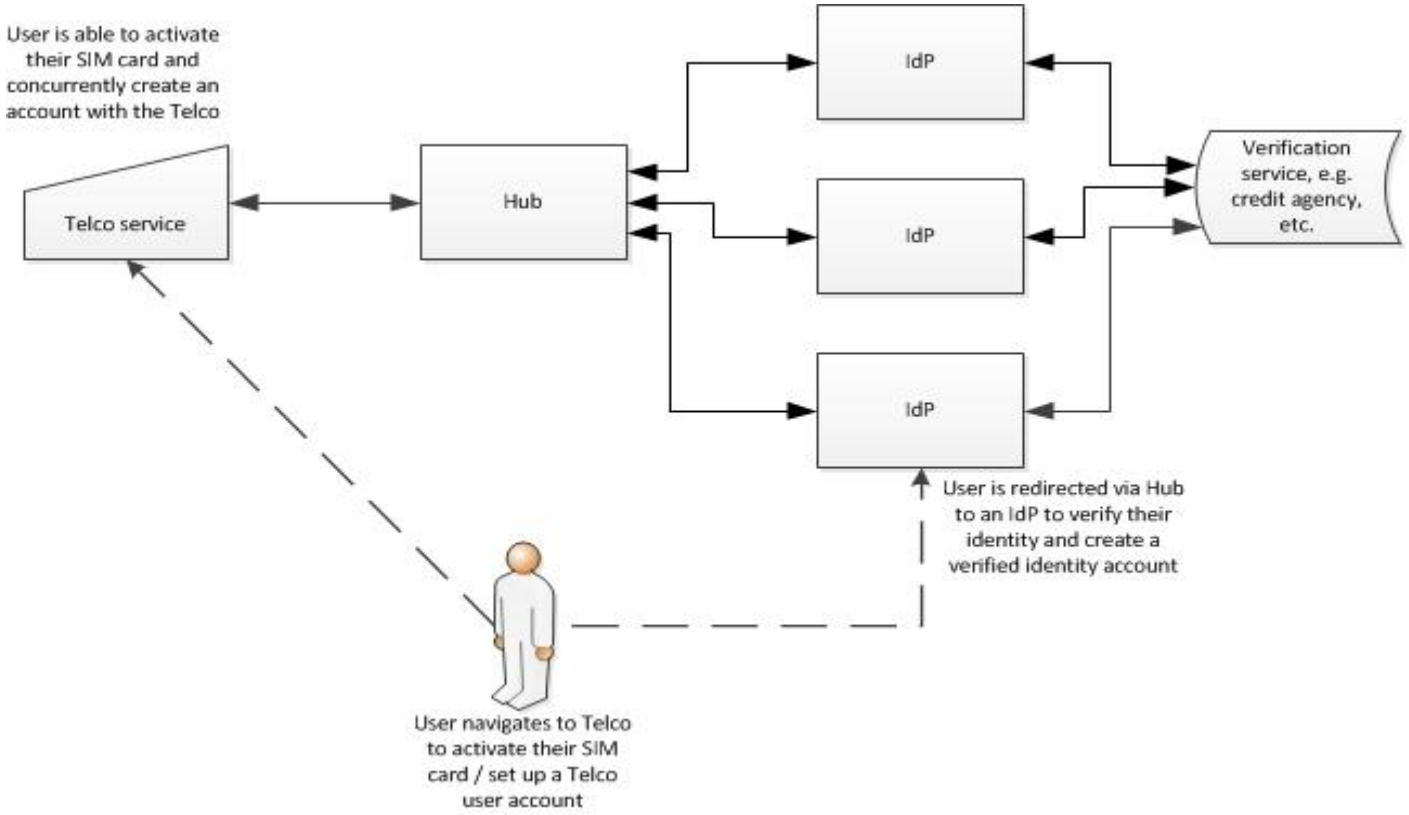
The verification process, not only allows that customer to activate their sim but it also has the potential to create them an account at the Telco

This account then:

- Creates a relationship between the customer and the Telco
- Allows the customer to use the same identity with other federated services
- Can offer SSO across those federated services
- And by doing so within the context of a wider data services platform (aka Trust Platform) can offer user consent models which build greater trust by giving users choices of who they share data with – ultimately this can be used to target marketing at the customer with their consent
- Other services such as user controlled credential management can be offered, which includes the ability to add their newly activated mobile number to their authentication options (both in SMS and mobile App form)
- The above can be sold as add on services to the basic identity

Copyright Avoco Secure Ltd 2013

Sim Activation Proposed Architecture (overview)



Copyright Avoco Secure Ltd 2013

Where are we and what do we need?

- Currently working with SecureKey and Human Chain to reduce duplication of work, align with commercial market and support other GSMA pilots.
- Who else is prepared to work on this?
- Meetings with Telcos needed.

Copyright Avoco Secure Ltd 2013

We'll cover

1. AssureUK — Andy
   - Progress with wider cross-sector collaboration in UK.
2. Update on Pilots — Pilot Leads
   - Technical progress and forward plan for each.
   - Including demonstration from Verizon/MiiCard.
3. **Update on Workstreams — Workstream Leads**
   - **Including decisions sought, Trust Framework v1.0 and forward plan.**
4. Convergence on a neutral central data exchange — Andy
5. Forward Planning — Sue
   - 2014 meeting dates.

Workstream Leads

- **Technical – Harm**
- **Commercial and Customer – Momin**
- **Legal - Les**

We'll cover

1. AssureUK — Andy
   - Progress with wider cross-sector collaboration in UK.
2. Update on Pilots — Pilot Leads
   - Technical progress and forward plan for each.
   - Including demonstration from Verizon/MiiCard.
3. Update on Workstreams — Workstream Leads
   - Including decisions sought, Trust Framework v1.0 and forward plan.
4. **Convergence on a neutral central data exchange** — **Andy**
5. Forward Planning — Sue
   - 2014 meeting dates.

Selection of exchange for Pilots

- **Requirements**
  - **Available in draft** (please email arudd@gsma.com or via your workstream lead)
  - **We welcome your feedback**
- **Feedback is open to all**
- **SteerCo on 20 Dec to decide**
  - **Timetable**
  - **Invite participants**
- **Time-limited to AssureUK startup phase**
  - **i.e. To host pilots and initial cross-sector engagement**
  - **There will be consolidation to enable AssureUK full launch**

We'll cover

1. AssureUK — Andy
   - Progress with wider cross-sector collaboration in UK.
2. Update on Pilots — Pilot Leads
   - Technical progress and forward plan for each.
   - Including demonstration from Verizon/MiiCard.
3. Update on Workstreams — Workstream Leads
   - Including decisions sought, Trust Framework v1.0 and forward plan.
4. Convergence on a neutral central data exchange — Andy
5. **Forward Planning** — **Sue**
   - **2014 meeting dates.**

2014 Meeting Dates – Venue: GSMA

- **Thursday 20th March 2014 10.00 – 15.00**

  Focus: Daily Banking and commuting transactions

  - ❑ Big 8 banks plus trains, buses, planes/ ticketed travel

- **Thursday 19th June, 2014 10.00 – 15.00**

  Focus: Daily Retail transactions

  - ❑ High Street, Online and Petrol forecourts

- **Thursday 25th September 2014 10.00 – 15.00**

  Focus: Monthly, seasonal or annual transactions

  - ❑ Utilities (metered domestic services) and entertainment ticketing (concerts, sport etc)
  - ❑ Insurance and Healthcare

- **Thursday 11th December 2014 10.00 – 15.00**

  Focus: AssureUK market reach, sector coverage and co-working

  - ❑ What are the next actions with our neutral central hub that ensures that the customer experience is more intuitive and convenient (but retains trust and security)

Register: oix.mvine.com **sue.dawe@openidentityexchange.org**

Any other business

GSMA – Personal Data
Andy Rudd +44 7860 400 950
arudd@gsma.com

OIX – UK Lead
Sue Dawes +44 7786 391 243
Sue.Dawes@openidentityexchange.org

