Points-as-a-Currency (PaaC):
The Value of Stolen Airline Points in Dark Web Markets

Daniel Shkedi
Senior Product Marketing Manager

February 27, 2020 | LSA Spring Conference | London, UK
Why Are Loyalty Programs Being Targeted By Fraudsters?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Increasing Value and Liquidity</td>
</tr>
<tr>
<td>2</td>
<td>Lagging Behind in Security</td>
</tr>
<tr>
<td>3</td>
<td>Unaware Customers</td>
</tr>
<tr>
<td>4</td>
<td>Multiple Attack Points</td>
</tr>
</tbody>
</table>

As a result, loyalty points have become a new currency for fraudsters, especially in dark web markets.
British Airways: Hacked Account with 100,000 Points

#LoyaltyFraud Loyalty Security Association
Spring Conference 2020
#LoyaltyFraud Loyalty Security Association
Spring Conference 2020

**Fraud Marketplace: Alaska Air, Qatar Airways, Virgin Australia**

![Image of a website interface showing fraud marketplace items for Alaska Air, Qatar Airways, and Virgin Australia](image-url)

<table>
<thead>
<tr>
<th>Name</th>
<th>Quantity</th>
<th>Price</th>
<th>Purchase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qatar Airways</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virgin Australia</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Website Features**
- EMPLOYERS
  - zipRecruiter (EMPLOYER-ACC)
  - Saskjobs.ca (EMPLOYER)
  - Jobvertise (EMPLOYER)
- PayPal
- AcornHotels.com
- ORBITZ
- HOTELS and AIR
  - Alaska Air
  - Qatar Airways
  - Virgin Australia
JetBlue Airlines: Stolen Points and Accounts for Sale

High Balance JetBlue.com Air Miles (login details)

- Quality rate: ★★★★★
- Type: Digital
- Offers: 15 $ per item, for at least 1 product
- Coins: BTC
- Left/Sold: 

Pay with: BTC
Coin: 
Purchase type: Normal Escrow
Amount: 1

Verifed Vendor
Please ensure you check feedback and read vendor terms before purchase.

Seller information

Level 1
Send message
Seller's products (36)

#LoyaltyFraud Loyalty Security Association
Spring Conference 2020
Emirates Skywards: Stolen Points for Sale

EMIRATES- AIR MILES

Added by: dantae

Description:
Emirates award-winning frequent flyer programme costs nothing to join and will change the way you see the world forever. It's simpler than ever before to apply and begin collecting more Miles more quickly in even more ways. Membership gives you the chance to earn and spend Miles with Emirates and a wide selection of partners, and also enhances your travel experience with benefits and services that make every trip more rewarding.
## Hacked Accounts for Sale (Multiple Airlines)

<table>
<thead>
<tr>
<th>Accounts</th>
<th>Included</th>
<th>Department</th>
<th>Seller</th>
<th>Count</th>
<th>Views</th>
<th>Last Upload</th>
<th>Discount</th>
</tr>
</thead>
<tbody>
<tr>
<td>cheapOair.com</td>
<td>Online</td>
<td>Avia miles</td>
<td>PARADISE</td>
<td>8</td>
<td>5</td>
<td>2020-01-26</td>
<td>0%</td>
</tr>
<tr>
<td>SinoporeAir.com</td>
<td>Online</td>
<td>Avia miles</td>
<td>PARADISE</td>
<td>3</td>
<td>5</td>
<td>2020-01-26</td>
<td>0%</td>
</tr>
<tr>
<td>Jetblue.com</td>
<td>Online</td>
<td>Avia miles</td>
<td><em>smart</em></td>
<td>25</td>
<td>13</td>
<td>2020-01-25</td>
<td>0%</td>
</tr>
<tr>
<td>Flytap.com</td>
<td>Online</td>
<td>Avia miles</td>
<td>COSMO</td>
<td>5</td>
<td>35</td>
<td>2020-01-18</td>
<td>0%</td>
</tr>
<tr>
<td>Emirates.com</td>
<td>Online</td>
<td>Avia miles</td>
<td>PARADISE</td>
<td>3</td>
<td>83</td>
<td>2020-01-13</td>
<td>0%</td>
</tr>
<tr>
<td>Airmiles.ca</td>
<td>Online</td>
<td>Avia miles</td>
<td>COSMO</td>
<td>6</td>
<td>105</td>
<td>2020-01-06</td>
<td>0%</td>
</tr>
<tr>
<td>Miles &amp; More</td>
<td>Online</td>
<td>Avia miles</td>
<td>PARADISE</td>
<td>6</td>
<td>78</td>
<td>2020-01-05</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Included</th>
<th>Miles</th>
<th>Payment method</th>
<th>Country/Address</th>
<th>Screenshot</th>
<th>Last Upload</th>
<th>Refund</th>
<th>Price</th>
<th>🛒 Buy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lufthansa.com</td>
<td>Online</td>
<td>0</td>
<td>Visa ****5123 09/20</td>
<td>4150-598 Pontos Portugal</td>
<td><a href="http://pic.su/img/7fs/kiiss_8db1.1373237189.png">http://pic.su/img/7fs/kiiss_8db1.1373237189.png</a></td>
<td>2019-12-25 23:55:27</td>
<td></td>
<td>$5</td>
<td>🛒 Buy new</td>
</tr>
<tr>
<td>2</td>
<td>Lufthansa.com</td>
<td>Online</td>
<td>Award miles 4,441 Status miles 1,860</td>
<td>-</td>
<td>Sweden</td>
<td><a href="http://pic.su/img/7fs/kiiss_184b.1573298471.png">http://pic.su/img/7fs/kiiss_184b.1573298471.png</a></td>
<td>2019-11-20 23:43:40</td>
<td>15 min.</td>
<td>$5</td>
<td>🛒 Buy new</td>
</tr>
<tr>
<td>3</td>
<td>Lufthansa.com</td>
<td>Online</td>
<td>601</td>
<td>-</td>
<td>90064 Los Angeles, CA, USA</td>
<td><a href="http://pic.su/img/7fs/kitss_34b.1373473992.png">http://pic.su/img/7fs/kitss_34b.1373473992.png</a></td>
<td>2019-11-16 16:27:06</td>
<td></td>
<td>$5</td>
<td>🛒 Buy new</td>
</tr>
<tr>
<td>5</td>
<td>Lufthansa.com</td>
<td>Online</td>
<td>2110</td>
<td>-</td>
<td>4736-497 Santo Tiesh Portugal</td>
<td><a href="http://pic.su/img/7fs/kiiss_84f.1573376401.png">http://pic.su/img/7fs/kiiss_84f.1573376401.png</a></td>
<td>2019-11-09 19:55:49</td>
<td>15 min.</td>
<td>$5</td>
<td>🛒 Buy new</td>
</tr>
</tbody>
</table>

#LoyaltyFraud Loyalty Security Association
Spring Conference 2020
How Much Are Your Points/Air Miles Going for in the Dark Web?
Methodology

Data Collection

Automated tool (TorBot) to crawl the dark web for 48 hours.

Sample (N=x)

Stolen accounts were added to a database if they met the following criteria:

• Airline frequent flyer accounts (no OTAs).
• Point balance and price appeared in the listing.
• Listings were live.

Metrics

We calculated 3 core metrics:

• **PPP (Price Per Point)** The average selling price ($) per point in the dark web.
• **RVPP (Real Value Per Point)** The real value ($) per point using three industry point/value calculators.
• **PPP-RVPP Ratio**: The relation between selling price in the dark web and the real value.
21% of accounts had credit cards attached to them that were sold along with the points.

1.2 Billion stolen points sold on dark web markets.

Total value of points exceeds $50 million.

Sample: 21 Airlines

Ratio between the selling price and real value is 5.8%.
Stolen Points (By Geography)

North America 74%
LATAM 2%
EMEA 12%
APAC 12%
Analysis
Prices Are Low Because of Oversupply

The average PPP in dark web markets

Prices are also low because of the monetization process.

This is because the dark web data/account market is flooded.

Buyers are required to find a way to convert the points into valuable goods/services (e.g., “redeem & resell”).

There is a good chance that sizeable datasets from almost every airline in the world have leaked.
Quantity Over Quality (Phishing, Not Spear-Phishing)

Loyalty fraudsters prefer:

- More Accounts
- Lower Balance Accounts

VS.

- Fewer Accounts
- Higher Balance Accounts

Minimal Communication: Both buyers and seller want to stay anonymous and evade capture.

Both buyers and sellers distrust each other and adopt a spread strategy to reduce risk.

#LoyaltyFraud Loyalty Security Association
Spring Conference 2020
Mixed Transactions as a Way to Trick Fraud Prevention Systems

Fraudsters are willing to pay much more for accounts with points AND CCs attached (21% of the sample) for two reasons:

- CCs are more liquid and can be utilized for transactional fraud.

Mixed transactions from a stolen account (points + CC) is an effective way to trick fraud prevention systems: breaking fraud patterns and changing the chain of evidence.

(Advanced fraud prevention systems don’t solely rely on pattern/anomaly detection, but rather the digital persona behind the transaction).
Recent Data Breaches in the U.S Have Potentially Fueled Loyalty Cyber-Crime

Massive data breaches in recent years have resulted in more than 10 Billion Data Items leaked to the internet and the dark web.

The leaked data includes:
- Names
- Addresses
- Social Security Numbers
- Credit Card Numbers
- Passport Details
- Medical Records
Conclusion and Recommendations

- The stolen points market is flooded. We should assume that customer data from most of the airlines in the world has leaked to the dark web.
- The travel (airlines/hotel) industry needs to implement new fraud prevention solutions, to protect loyalty accounts throughout the entire user journey.
- The level of threat awareness in the airline industry has to change. We recommend adopting a more proactive approach to threat intelligence.
Forter’s Loyalty Program Protection Solution

Payment Protection
Payment Fraud Protection, Phone Fraud Protection, PSD2 Solution for Merchants, Chargeback Guarantee, Chargeback & Claims Resolution

Account Protection
New Account Fraud, Account Takeover, Marketplace Abuse, Private Label Card Applications

Policy Abuse Protection
Promotion Abuse, Return Abuse, “Product Not Received” Abuse, Reshipper Abuse, Reseller Abuse
Thanks!