


RESTRICTED



Network Analysis Tool for Combating Financial Crime

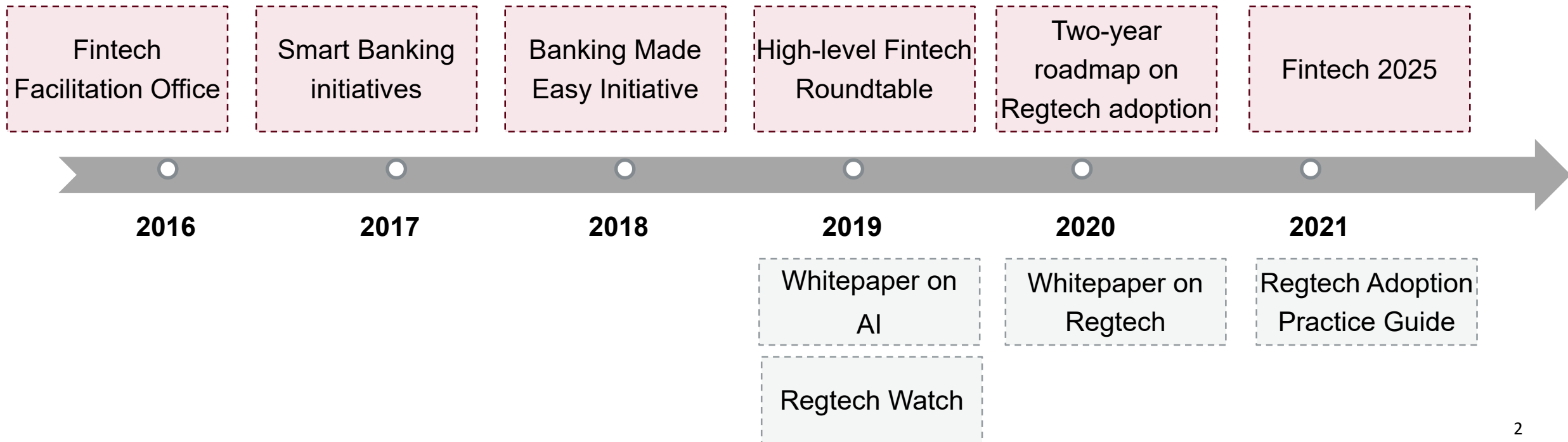
16 September 2021



Why We Need Network Analysis Tool?



HKMA promotes the application of surveillance technologies in AML / CFT



Why We Need Network Analysis Tool? (Cont'd)



BOCHK is steadfast to fight against money laundering



Group-wide Technology-based and Innovation-driven strategy



Broaden the reach of intelligence-led investigations

Typical Transaction Monitoring System

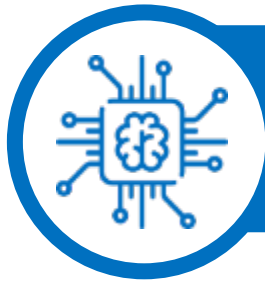


Identify any customer with **red flag behavior**
that exceeds thresholds

Examples of Red Flag Behavior

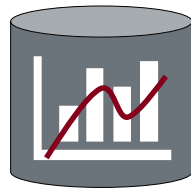
- ▶ Transitional Transactions
- ▶ Transactions Incommensurate with Customers' Profiles
- ▶ Change of Transaction Pattern
- ▶ High Volume Transactions

Typical Transaction Monitoring System (Cont'd)



Using matrices plus **advanced techniques**
e.g. machine learning, deep learning, AI

Data Input



Monitoring Matrices



Scenario ✖ **Customer Segment**

Typical Transaction Monitoring System (Cont'd)

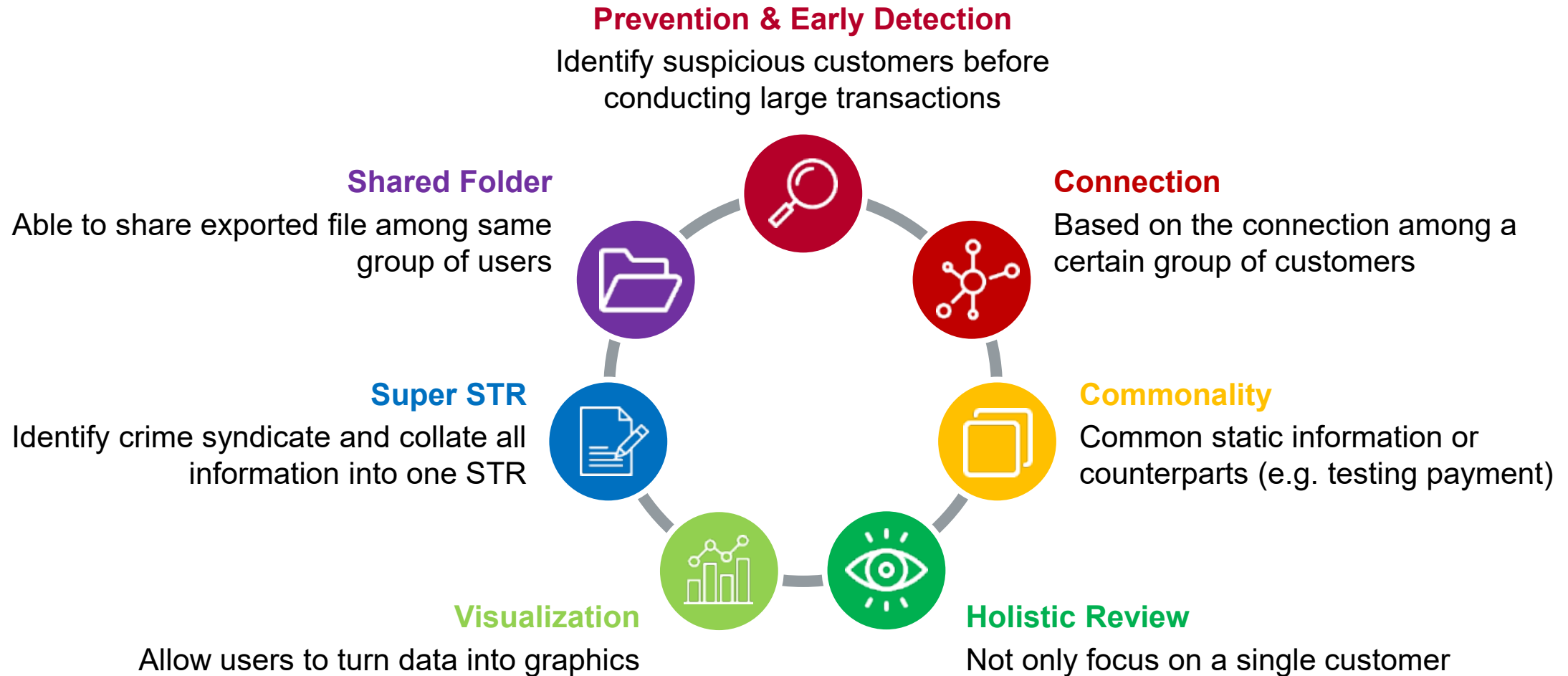


The behavior of one customer is assumed to be **independent** from that of another's in the identification process

Examples

- ▶ Single Customer to Multiple External Parties
- ▶ Multiple External Parties to Single Customer
- ▶ Single External Party to Multiple Customers
- ▶ Multiple Customers to Single External Party

What Can Network Analysis Tool Do?



Application of Network Analysis Tool

Application Situation

Past suspicious cases

Potential ML/fraud network

Intelligence received from law enforcement unit

Adverse news regarding crime syndicate



Static Information – Email, phone, address, employer, nationality

Customer Information

Digital Footprint – IP, device token



Commonality between



Internal Counterparty – Transfer transactions

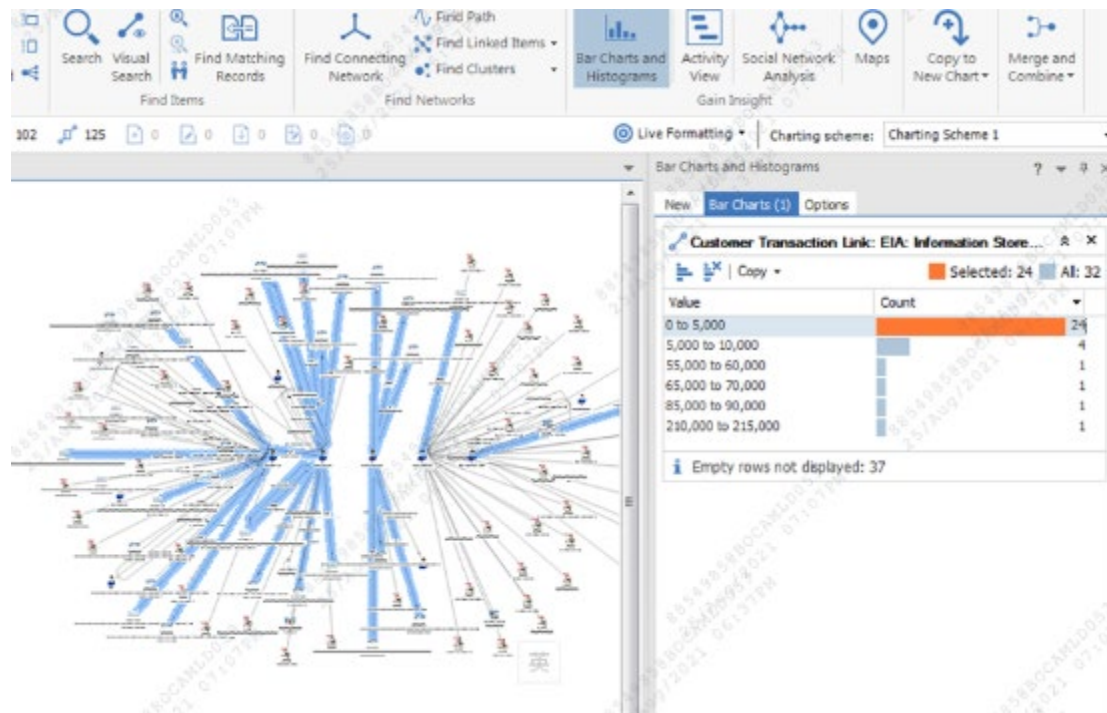
Transaction Counterparties

External Counterparty – Wire transactions

Application of Network Analysis Tool

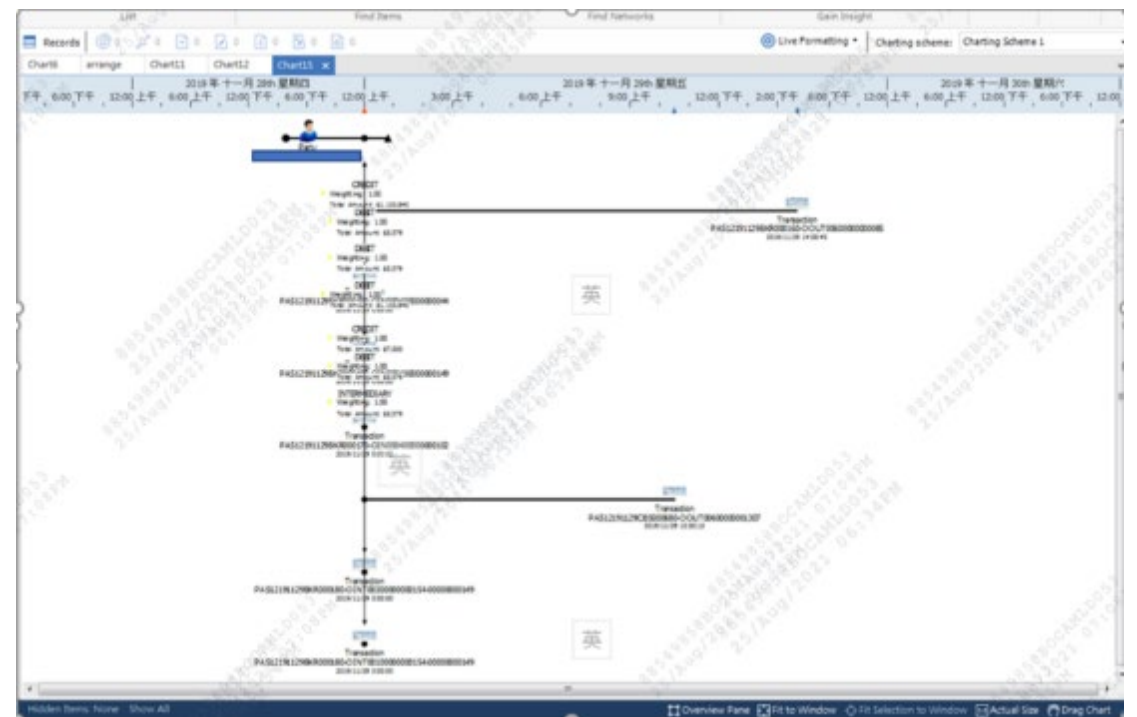
'Bar Charts and Histograms' function

- ▶ Displaying the value distributions in bar chart or histogram.



'Timeline Chart' function

- ▶ Displaying the transactions (which may belong to a group of people) in chronological order.



Case Example 1: Investigation of FMLIT Alert



Background

- ▶ In August 2020, FMLIT issued an alert stating that some newly opened accounts by Chinese customers were found to be stooze accounts
- ▶ The accounts shared the same address or email
- ▶ The names of the email account were meaningless character strings

Action Taken

- ▶ The Bank analyzed **328 accounts** reported by the Bank in the **past 6 months** which held by **Chinese customers**
- ▶ Looked for common static information from various aspects



328 Chinese
(Reported by the Bank from February to August 2020)

Identify the commonality of static data of related accounts:

Same Email: 36

Same Employer: 12

Same Residential/Mailing Address: 3



16 additional customers need further investigation

Investigation Result

- ▶ Victims: 3
- ▶ Involved in Abnormal Transactions: 13
- ▶ STRs were submitted
- ▶ Related accounts were **terminated**

Case Example 2: Analysis of Past STRs

1

Two STR subjects were found to use the same email address.



Paru

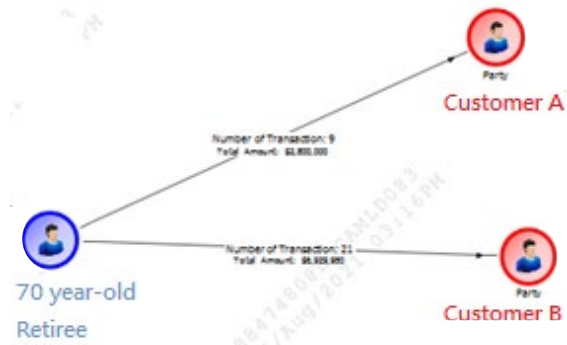
Customer A



Paru

Customer B

Case Example 2: Analysis of Past STRs



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2

A 70-year-old retiree of the Bank transferred HK\$9 million to two suspicious customers.

Case Example 2: Analysis of Past STRs

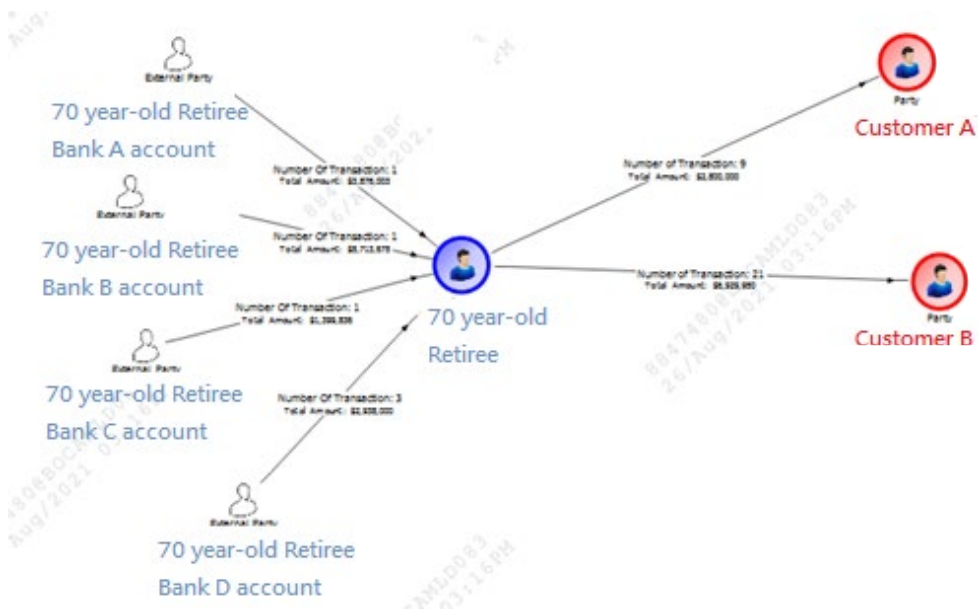
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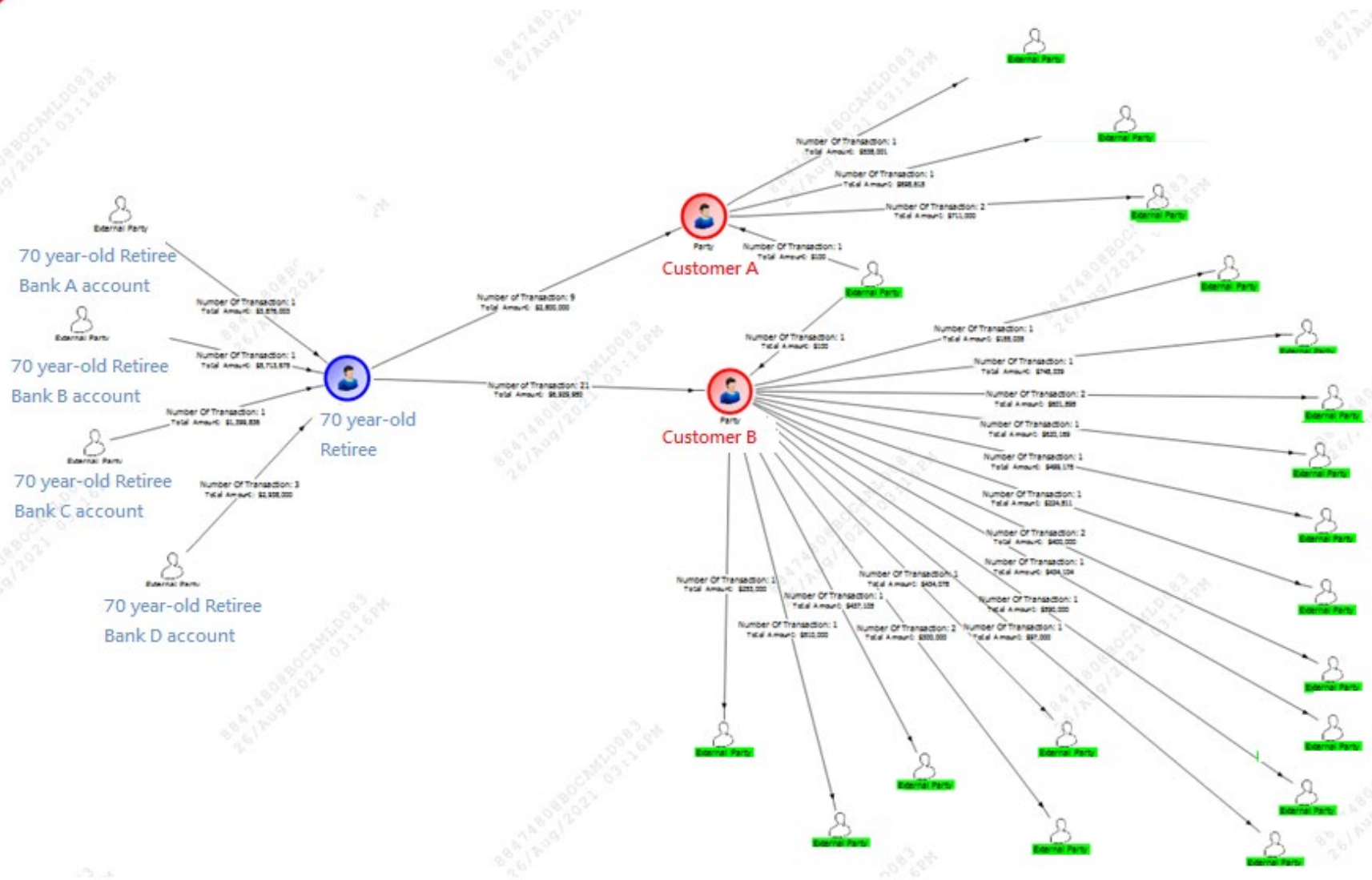
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A 70-year-old retiree of the Bank transferred HK\$9 million to two suspicious customers.

Source of funds was from same-named a/c of other banks.



Case Example 2: Analysis of Past STRs

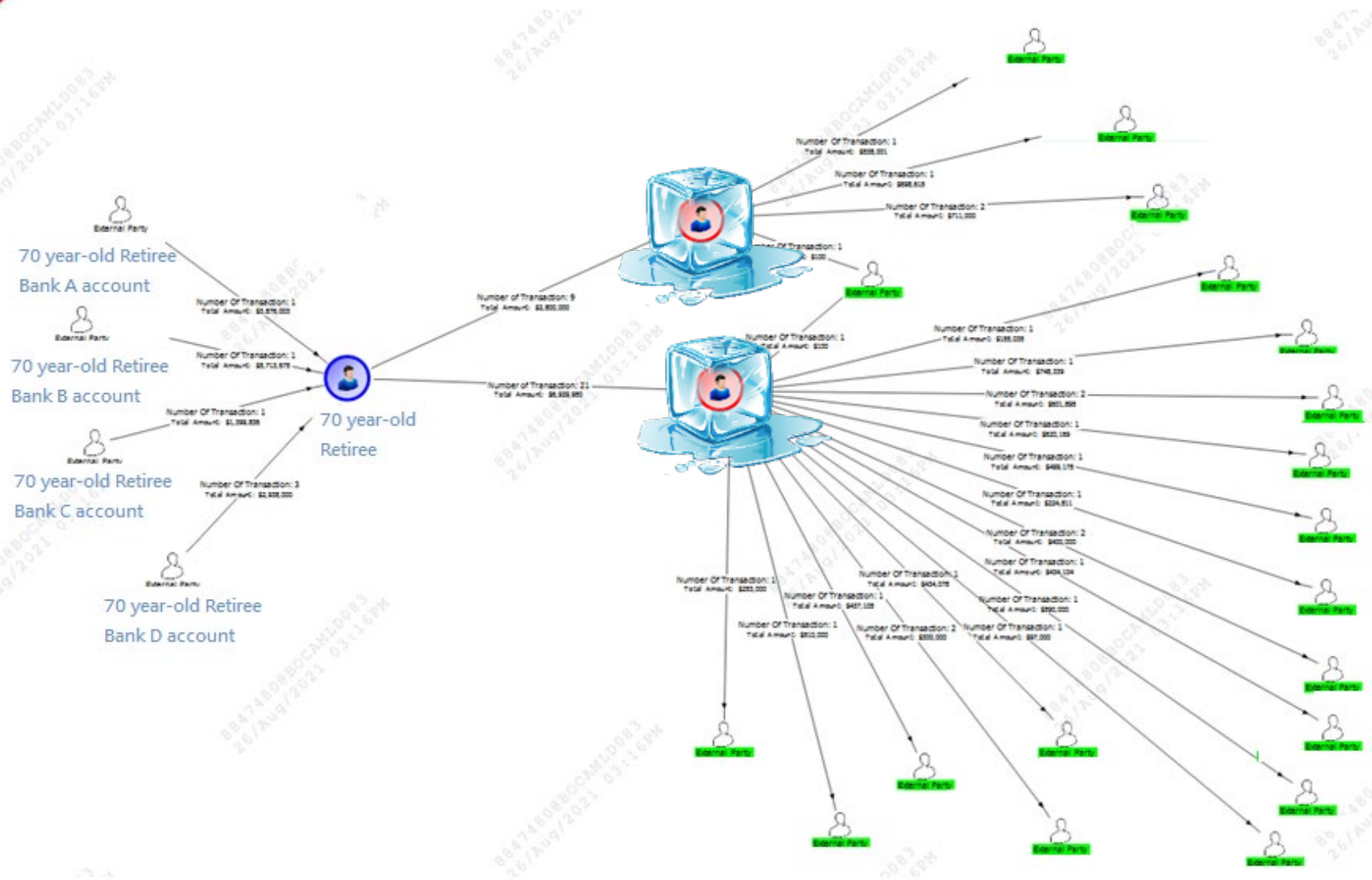


1 Two STR subjects were found to use the same email address.

2 A 70-year-old retiree of the Bank transferred HK\$9 million to two suspicious customers. Source of funds was from same-named a/c of other banks.

3 The funds were later transferred to multiple personal accounts in other banks through remittance and FPS.

Case Example 2: Analysis of Past STRs



- 1 Two STR subjects were found to use the same email address.
- 2 A 70-year-old retiree of the Bank transferred HK\$9 million to two suspicious customers. Source of funds was from same-named a/c of other banks.
- 3 The funds were later transferred to multiple personal accounts in other banks through remittance and FPS.
- 4 The Bank immediately froze the accounts of two suspicious customers.

Challenges

Vendor Selection



Factors to consider: experience, system functions, operational efficiency, data security, system maintenance, implementation timeline

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Tool Specification

Desktop version: Limited data access

Server version: Huge setup and maintenance cost

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Data Matters

Customer Demographics + Connected Parties of Corporate Accounts + Transaction + STR Filing Records + **Digital Footprint**



Customer data and transaction data is extracted from a single database platform

System customization to address users needs

Group-wide policy to manage governance, ownership, quality and security

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Human Resources

Re-balance the manpower mix of simple review and complex analysis

A dedicated team to handle network analysis

Decide applicable scenario of the network analysis tool

IT support – implementation & production





Thank You!

