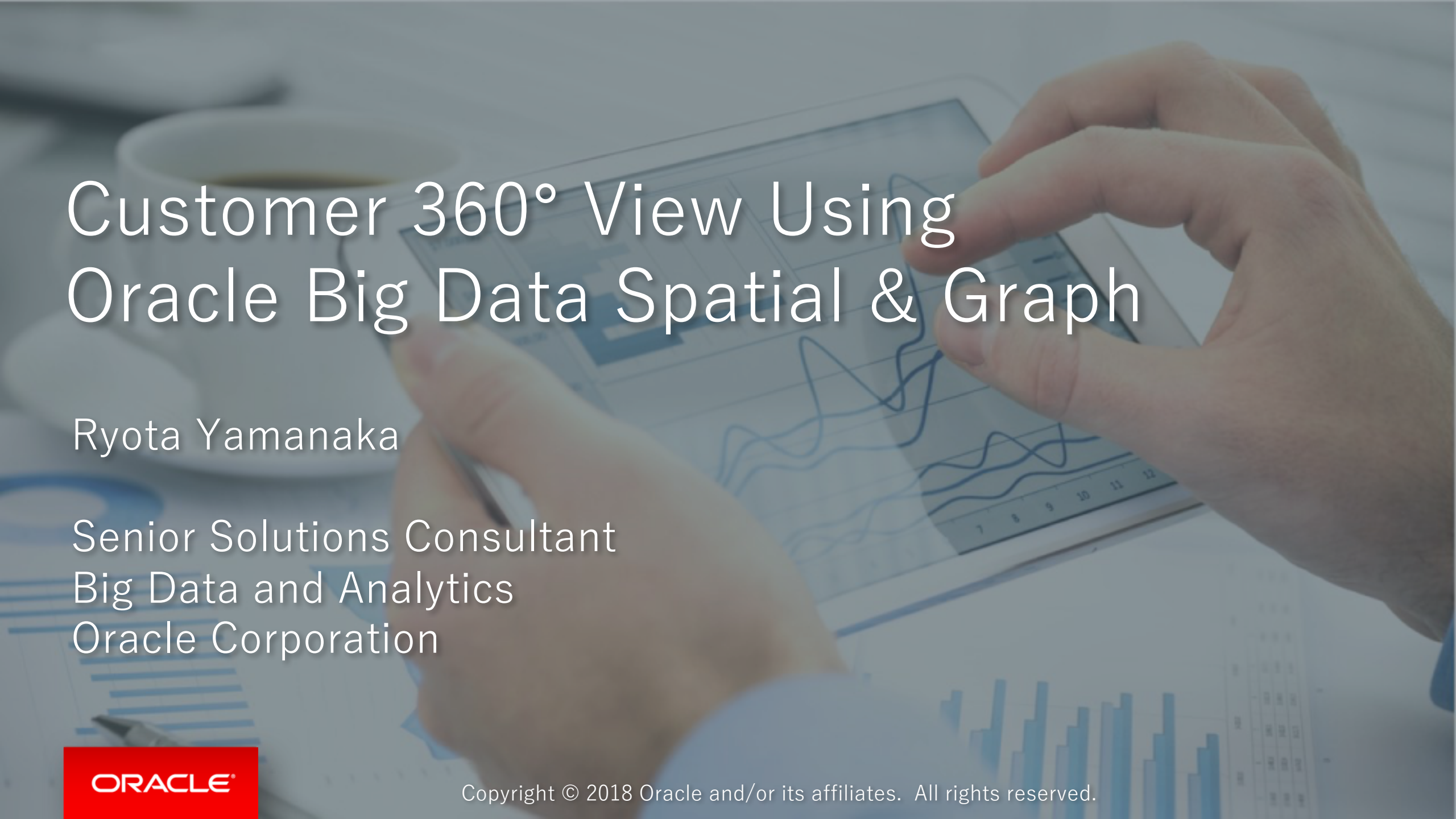

Customer 360° View Using Oracle Big Data Spatial & Graph

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Big Data and Analytics
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Graph Databases

Oracle Labs
PGX

Amazon Nepture

Azure Cosmos

SAP HANA Graph

...

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Background & Challenges

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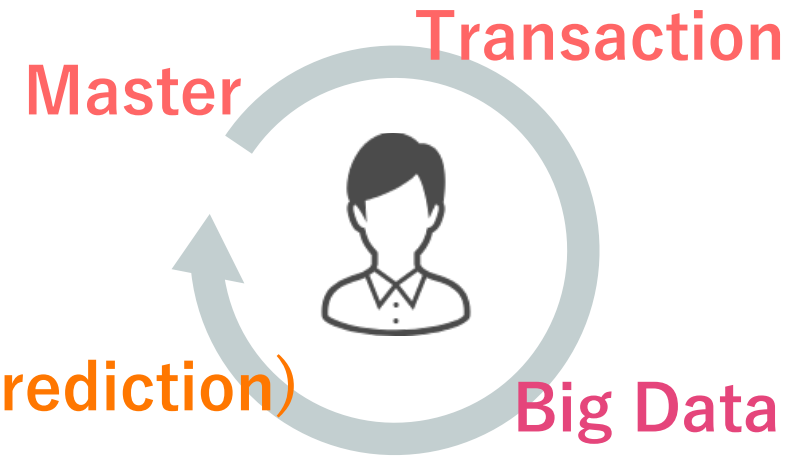
Customer 360° View – collects all information

Identity
cust ID, name, email, ...

Basic information
address, gender, age, ...

Transaction
purchase orders,
phone calls, money tx, ...



Relationship
family members,
community, ...

Predicted results
customer classification,
taste signature, ...

Text information
voice of customer,
call center, SNS, ...

Activity log
customer traffic line,
click stream, IoT, ...

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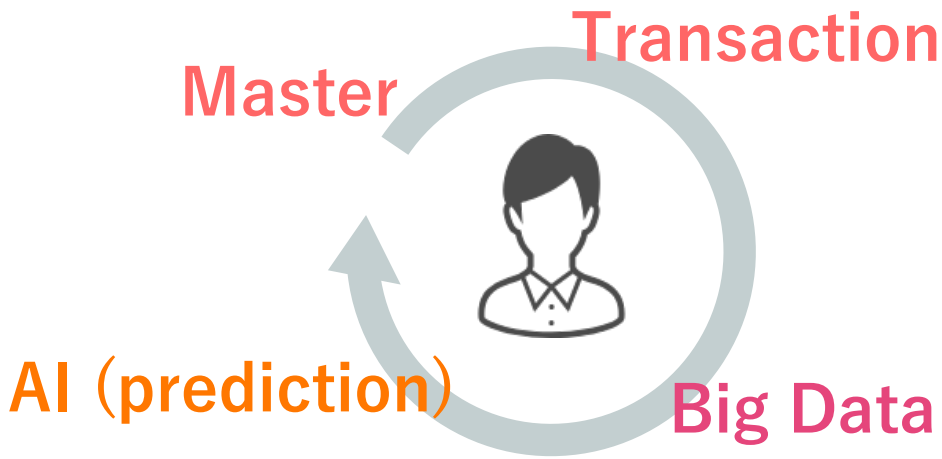
Customer 360° View – Profits



Better understanding of customers, based on data ..

Personalised Services
recommendation, demand predictions, new user experiences

!

innovation

Investment Planning
optimise ROI of product development, service delivery, marketing, ...

$

cost reduction

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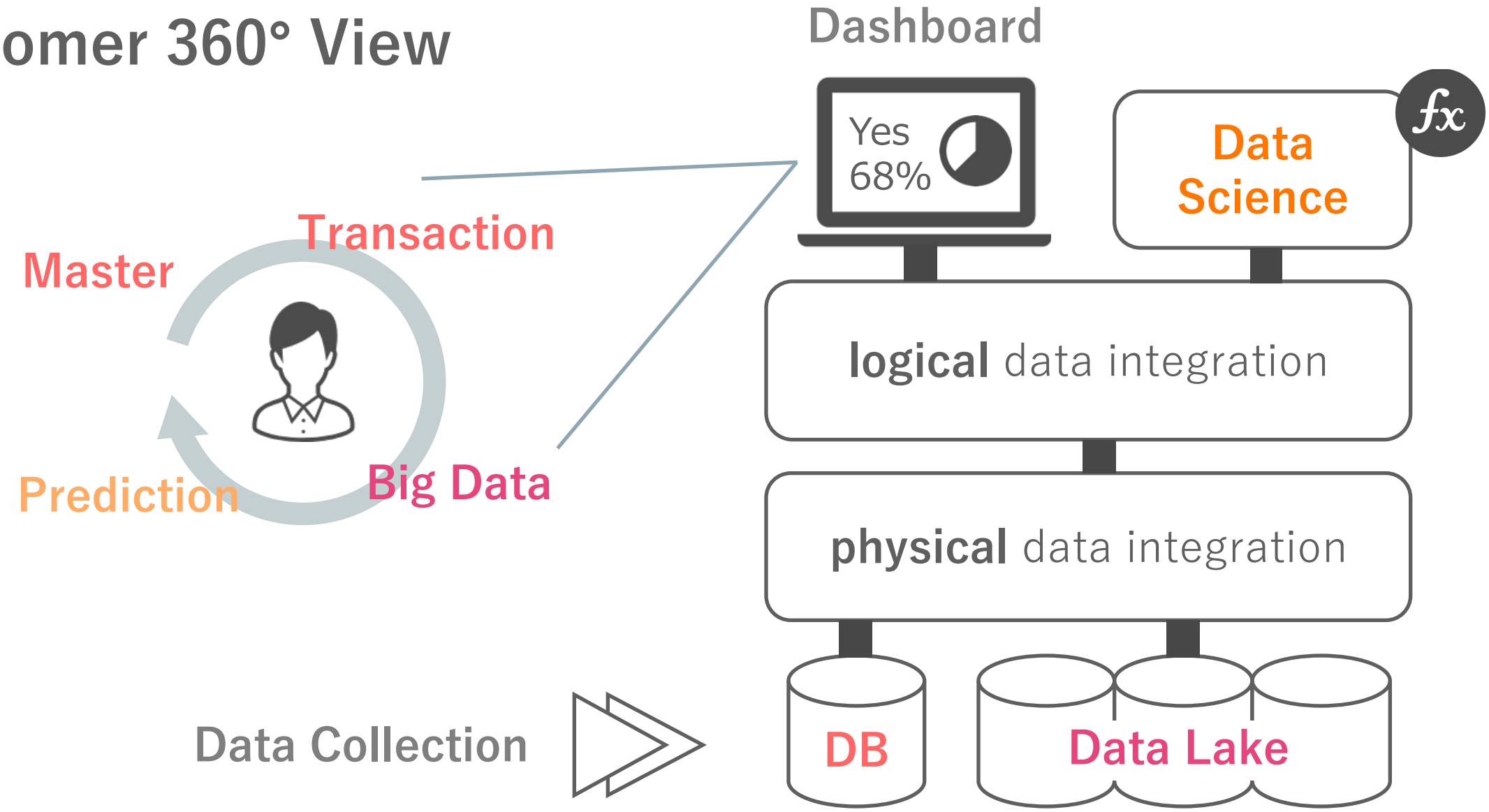
Customer 360° View



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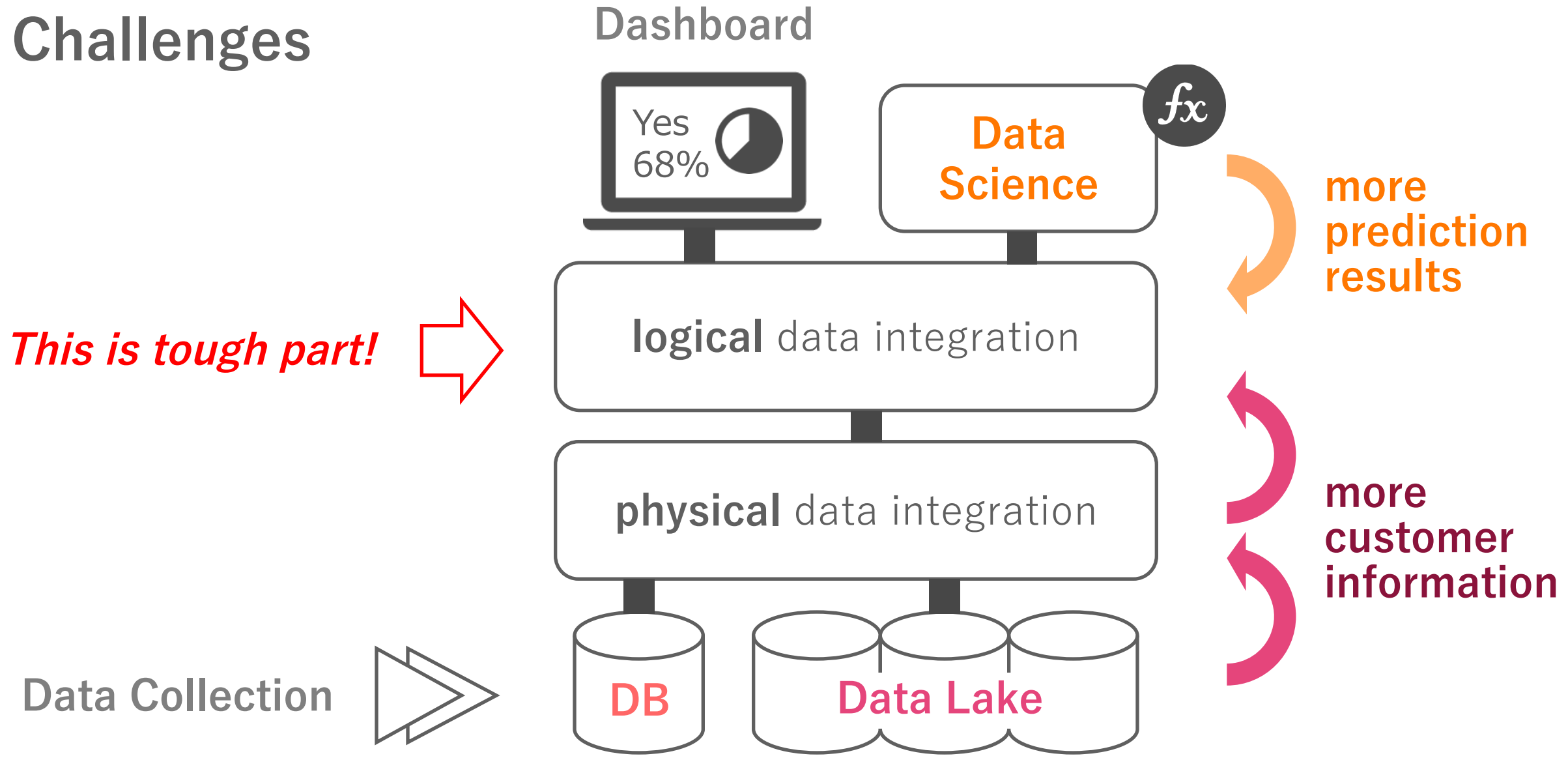
Challenges



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Challenges – Various Data

3xx01

40xx05

credit tx

John

credit tx

Jakarta

name

34

5002xx

age

atm tx

Bangkok

location

visit

page01

visit

page12

possibly buy

complain

ABC Travel

tend to like

internet banking

movie

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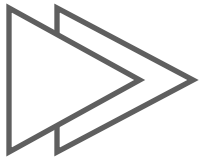
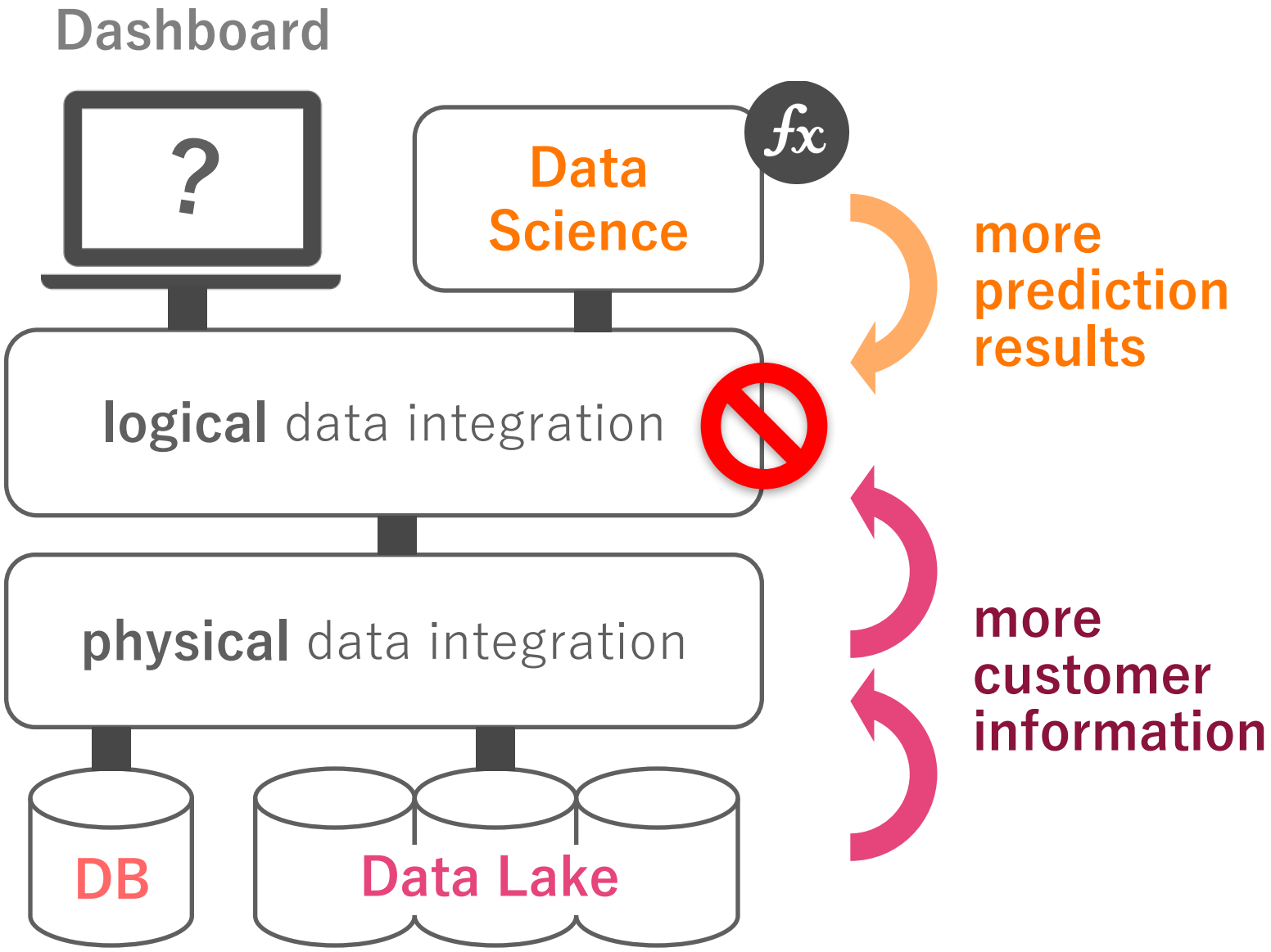
Challenges

?

You don't even know the infomation exists..

Data Collection





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Solutions

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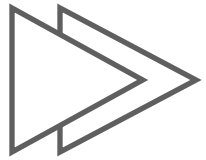
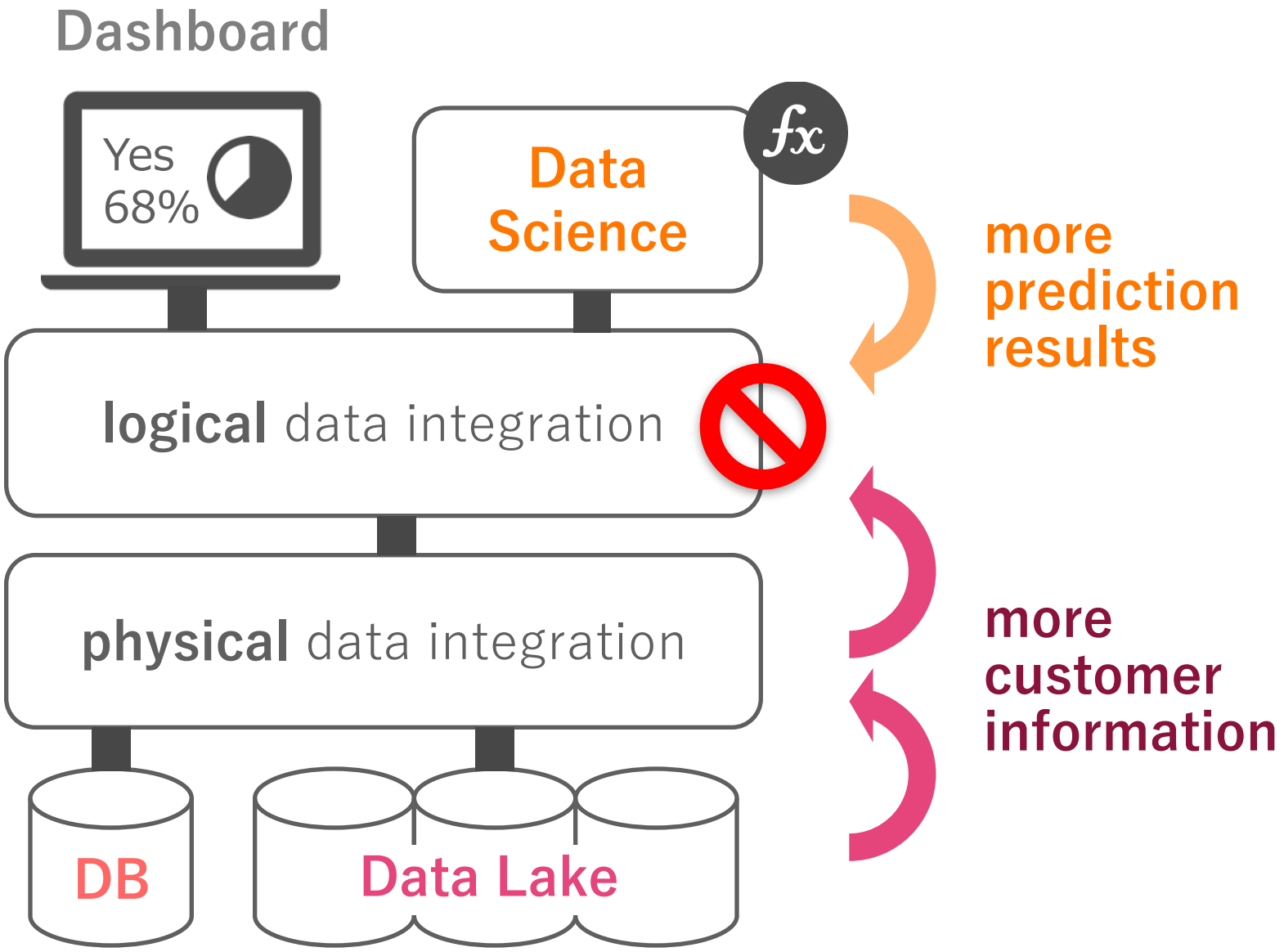
Solution

Oracle Big Data
Spatial and Graph

Data Collection





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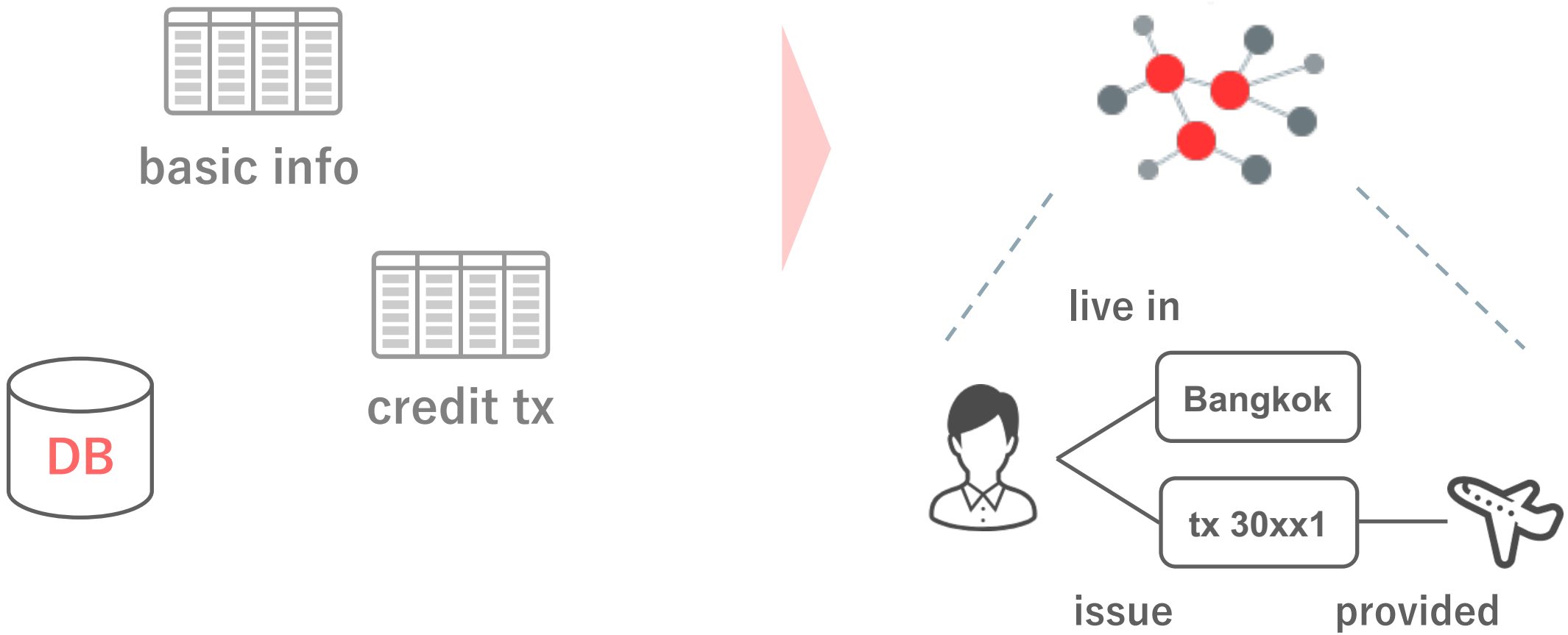
Demo – Database to Graph



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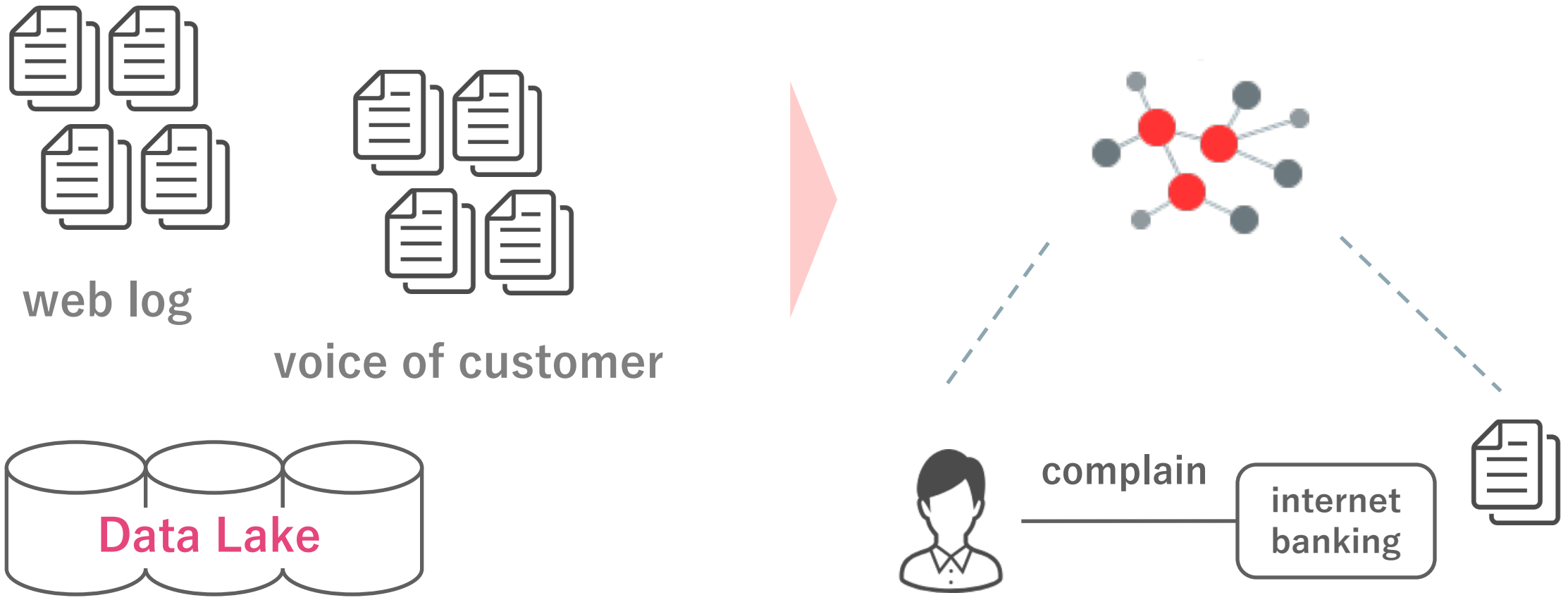
Demo – Data Lake to Graph



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Demo – Data Scinece to Graph

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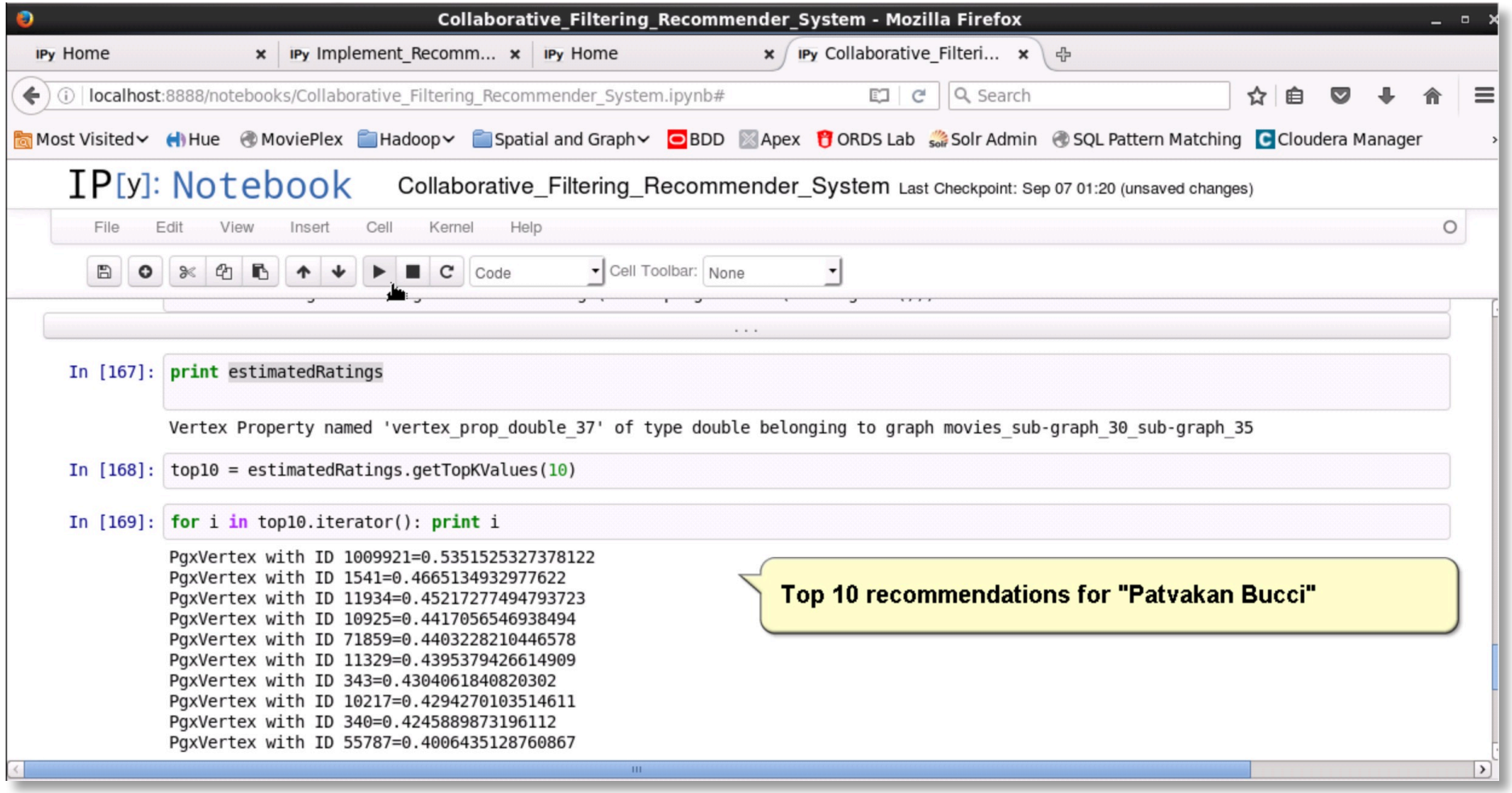
Demo – Data Scinece to Graph



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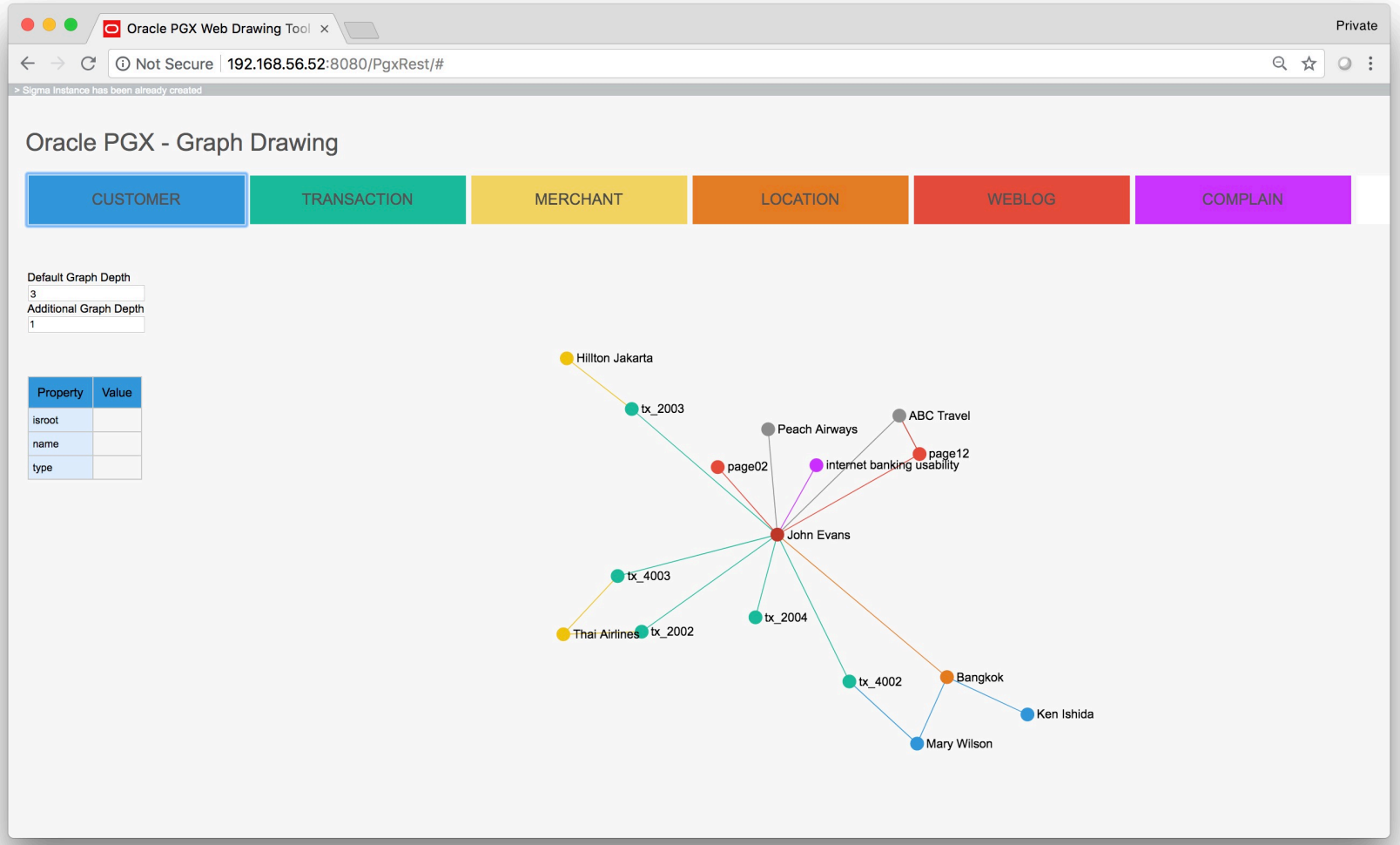
Demo – Graph Representation Example



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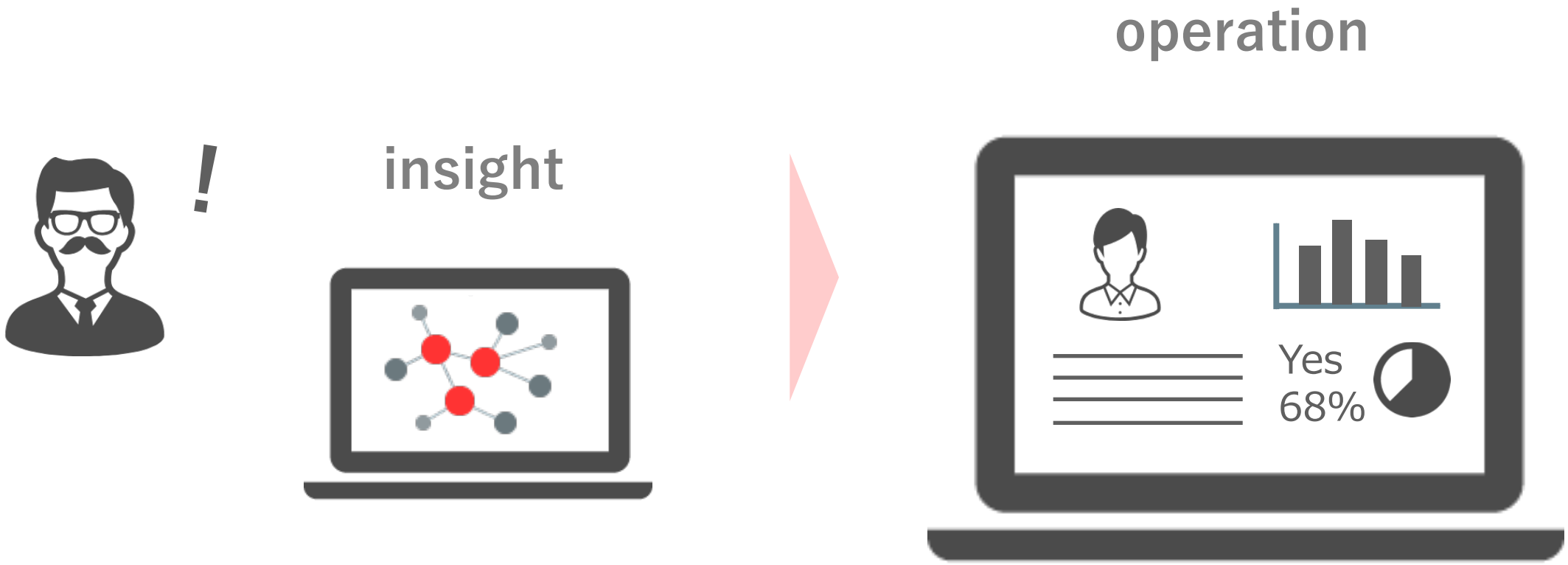
Customer 360° – Dashboard



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Use Cases

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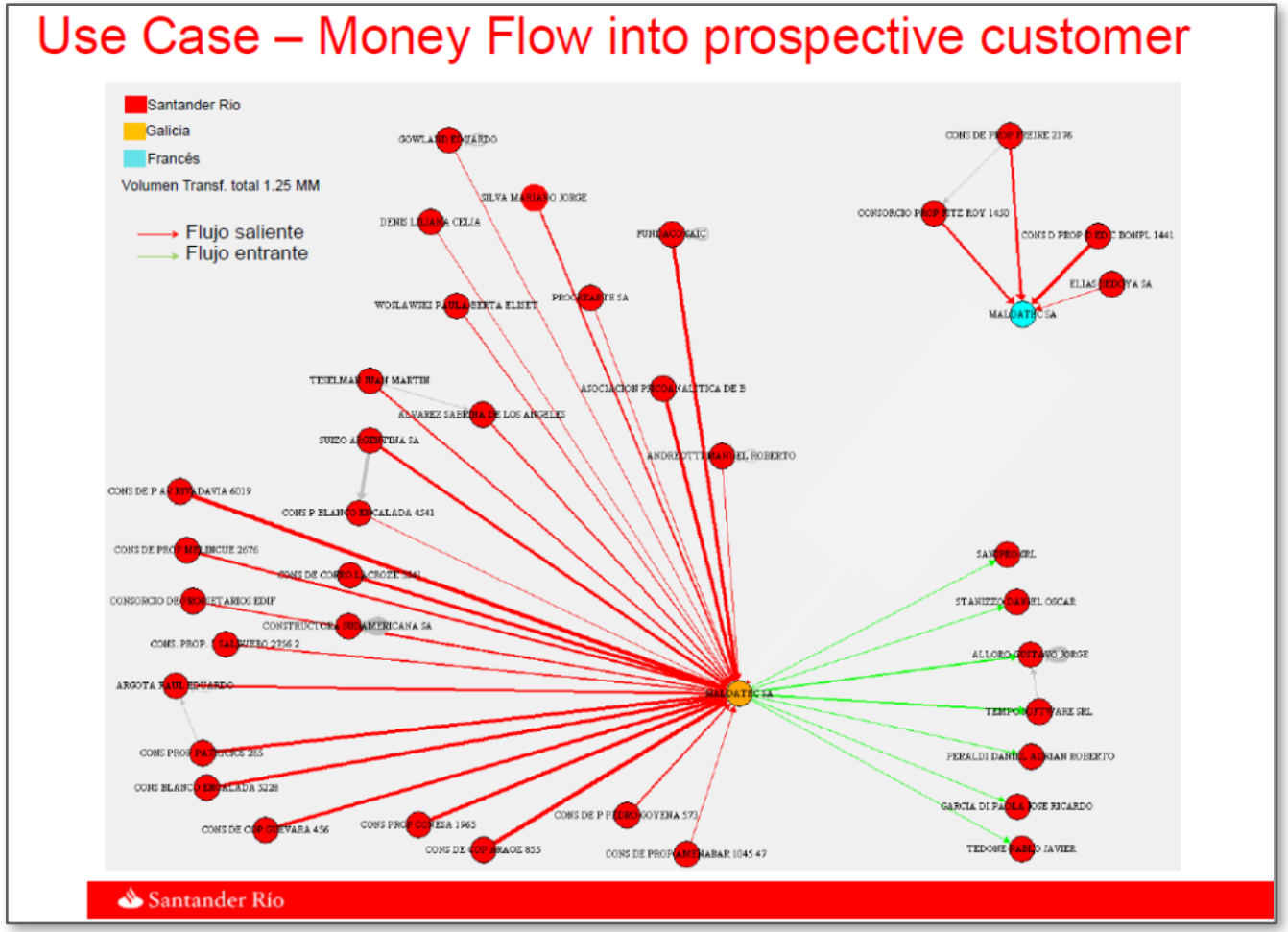
Use Case – Banco Santander Rio



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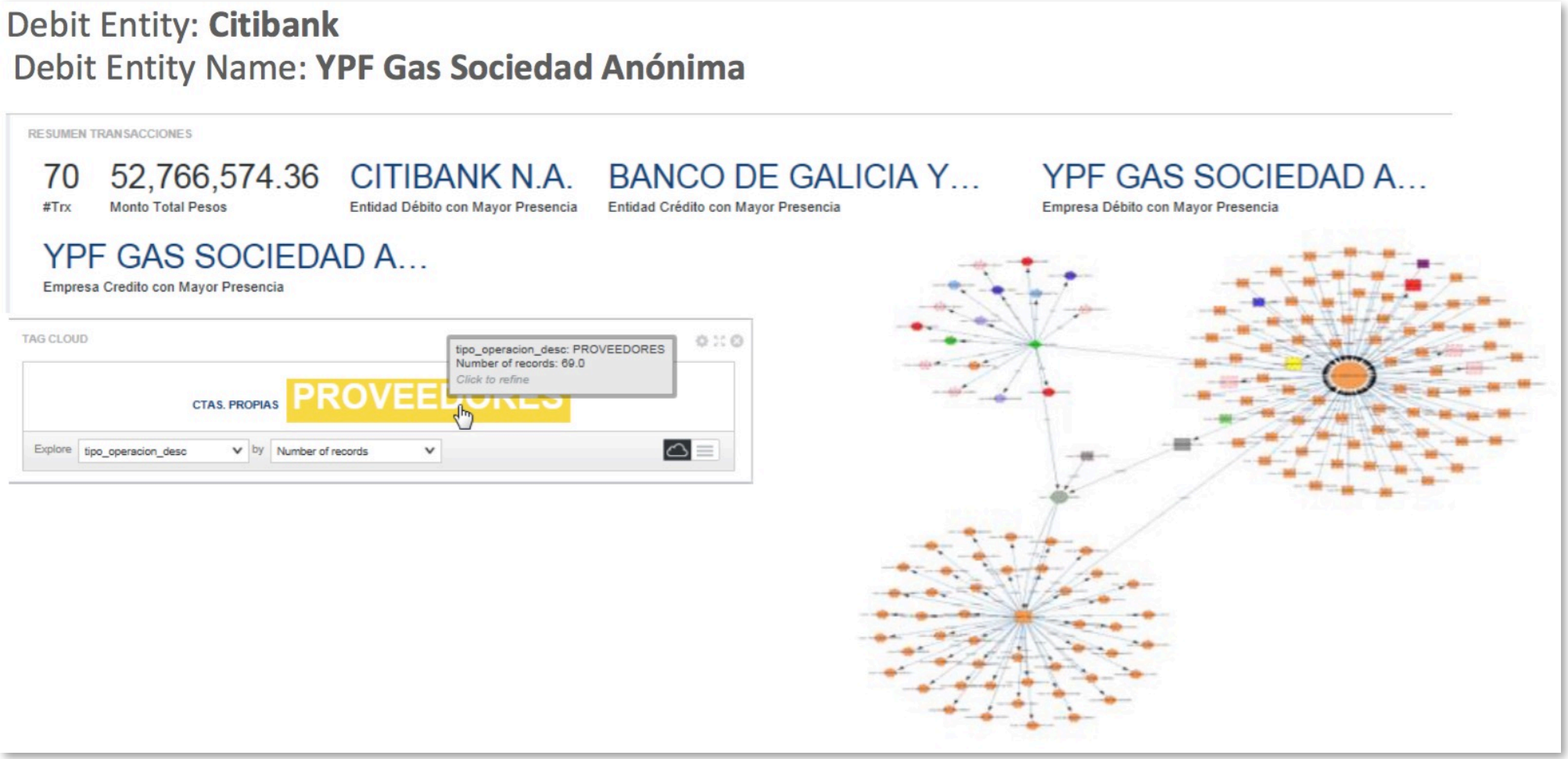
Use Case – Galicia Bank



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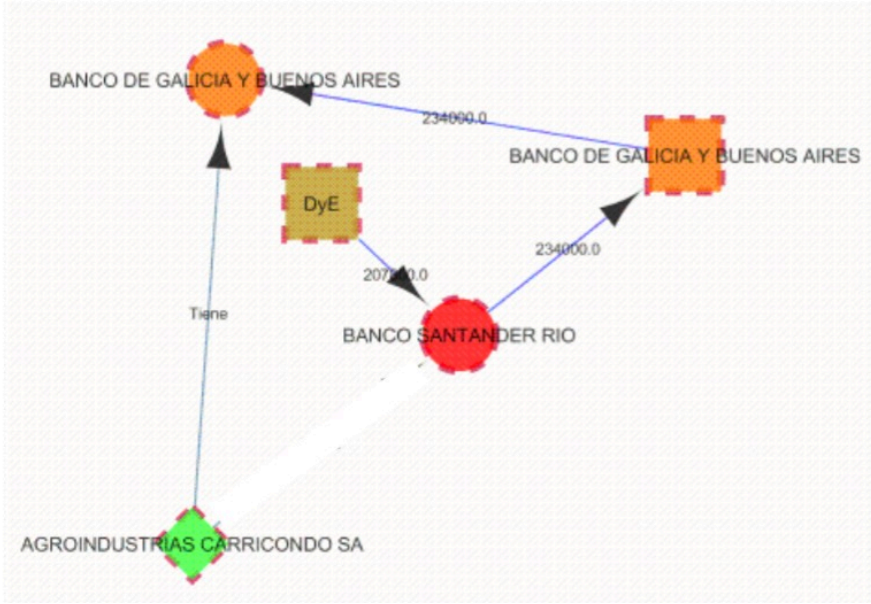
Use Case – Fraud Detection

```
(agrupador1 WITH tipo_nodo = 'AGRUPADOR' AND banco_destino = 'DyE')-[e2 WITH tipo_arco = 'AGRUPADOR - CUIT - ENTIDAD' and tipo_operacion = 'Deposito']->(cuenta1)-[e3 WITH tipo_arco = 'CUIT - ENTIDAD - AGRUPADOR']->(agrupador2 WITH tipo_nodo = 'AGRUPADOR' AND entidad_destino != '0072')-[e4 WITH tipo_arco = 'AGRUPADOR - CUIT - ENTIDAD']->(cuenta2 with tipo_nodo = 'CUIT - ENTIDAD' AND codigo_entidad != '0072')<-[e5 with tipo_arco = 'CUIT - CUIT - ENTIDAD']-(cuit)
```



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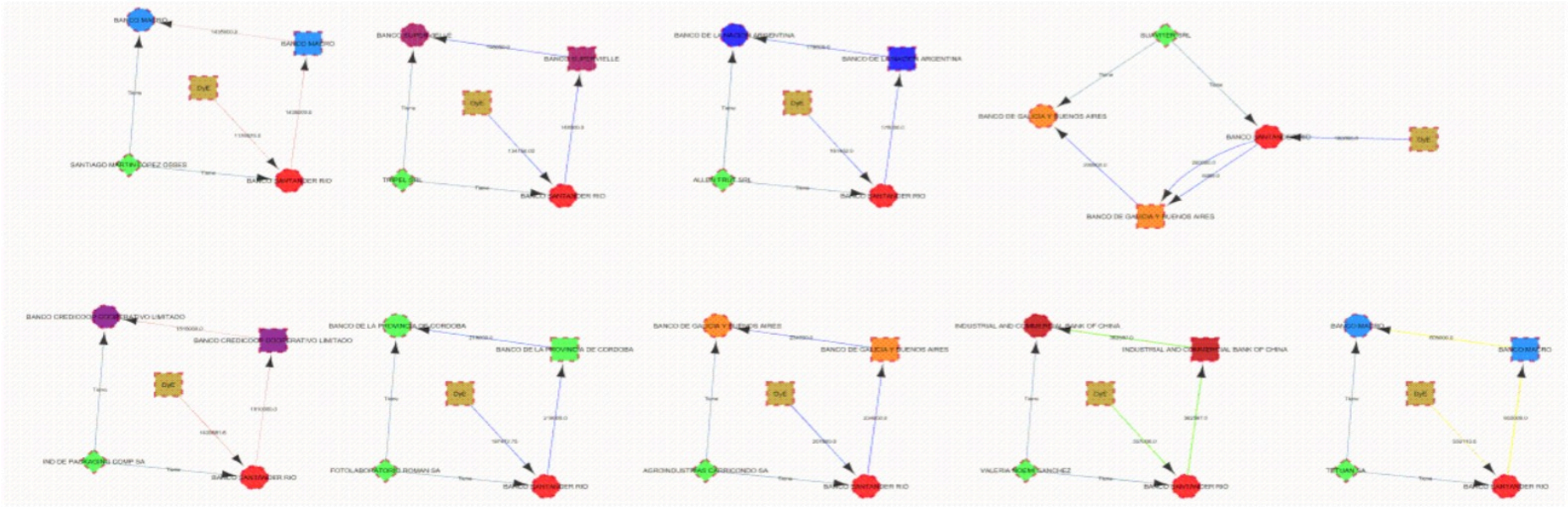
Use Case – Fraud Detection

```
SELECT cuit, e1, cuenta1, agrupador1, e2, e3, agrupador2, e4, cuenta2, e5
WHERE (cuit WITH tipo_nodo = 'CUIT' AND segmento = 'Pymes')-[e1 WITH tipo_arco = 'CUIT - CUIT - ENTIDAD']->(cuenta1 WITH tipo_nodo = 'CUIT - ENTIDAD' AND
codigo_entidad = '0072'),
(agrupador1 WITH tipo_nodo = 'AGRUPADOR' AND banco_destino = 'DyE')-[e2 WITH tipo_arco = 'AGRUPADOR - CUIT - ENTIDAD' and tipo_operacion = 'Deposito']->(cuenta1)-
[e3 WITH tipo_arco = 'CUIT - ENTIDAD - AGRUPADOR']->(agrupador2 WITH tipo_nodo = 'AGRUPADOR' AND entidad_destino != '0072')-[e4 WITH tipo_arco = 'AGRUPADOR - CUIT
- ENTIDAD']->(cuenta2 with tipo_nodo = 'CUIT - ENTIDAD' AND codigo_entidad != '0072')<-[e5 with tipo_arco = 'CUIT - CUIT - ENTIDAD']-(cuit),
(agrupador1.imp_recibido_ars) >= 0.8 * (e4.imp_emitido_ars),
(agrupador1.imp_recibido_ars) < (e4.imp_emitido_ars),
(agrupador1.imp_recibido_ars) >= 0.8 * (cuenta1.imp_recibido_ars)
ORDER BY agrupador1.imp_recibido_ars DESC limit 10
```



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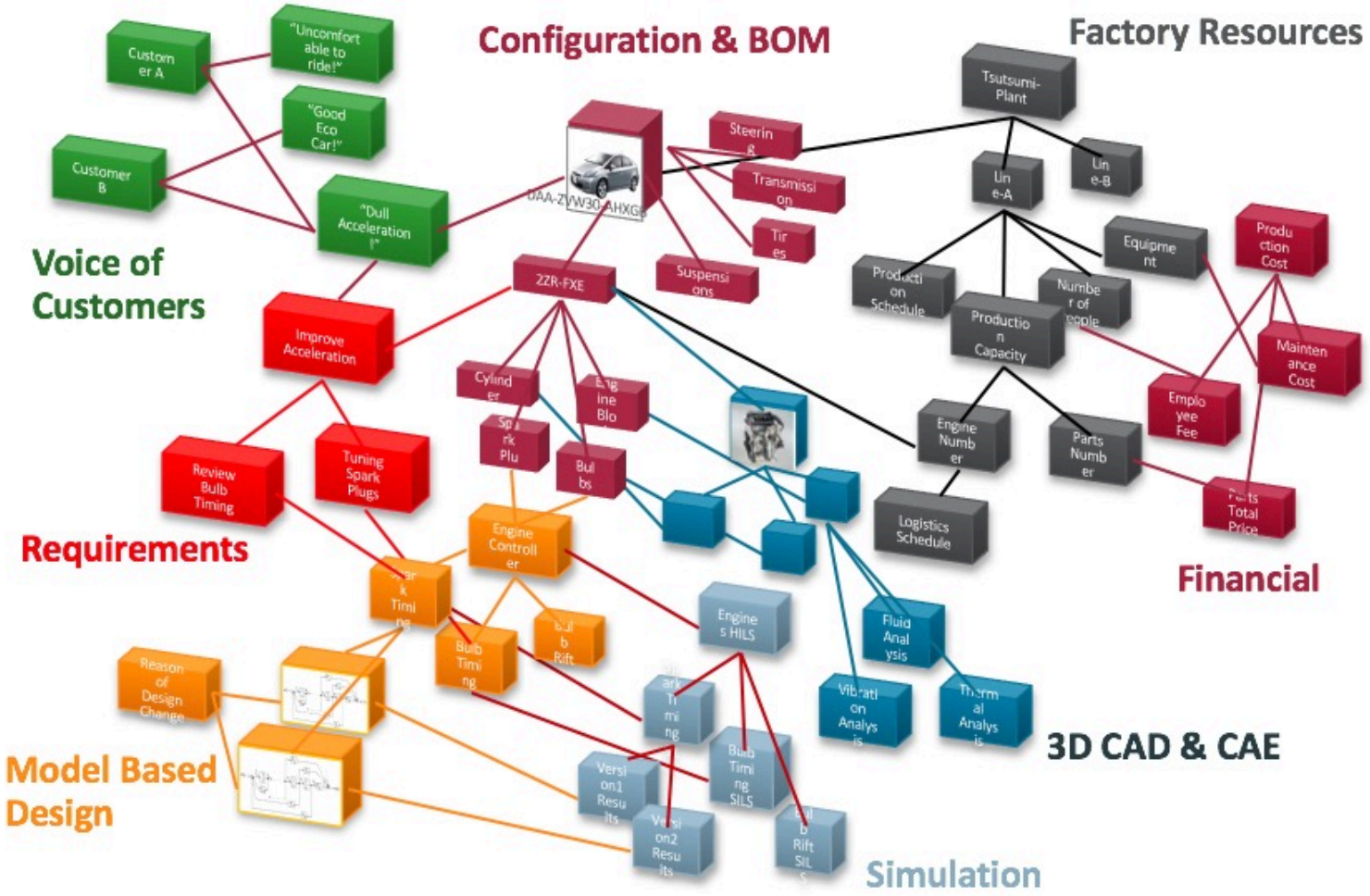
Use Case – Automotive



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Summary

- Customer 360 View is getting **more information**
  > Activity Log, Text information, Predicted results, …
- **Need to link information** otherwise you can't use it!
  > **Graph** is a new method to connect information
- Graph shows you **all available information** to help create **insights**
  > Dashboard can be build on the connected data
- New applications using **graph query and algorithms**
  > Fraud detection, link-based clustering, recommendation

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Integrated Cloud

Applications & Platform Services

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