



Data Security – Data Masking

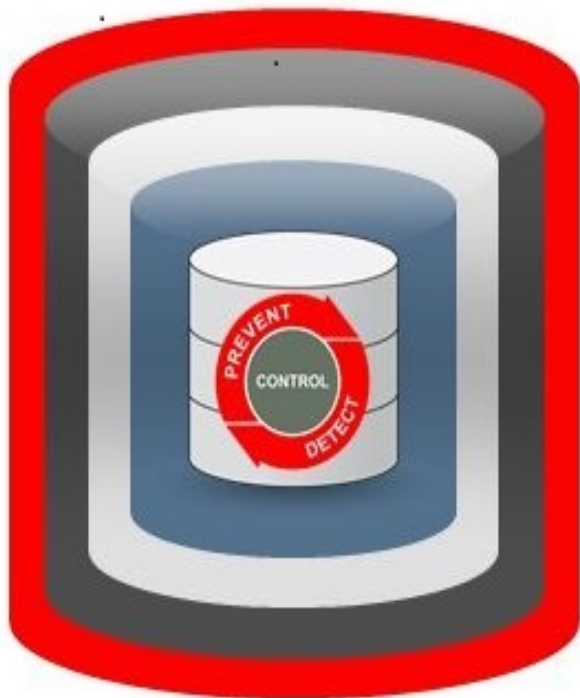
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Background..

- Anonymizing personal data in UAT / Staging environments to address Personal Data Protection Act (PDPA) recommendation.
- In-house application / program for data masking.

Data Security



Monitoring and Blocking

- Oracle Database Firewall

Auditing and Tracking

- Oracle Audit Vault
- Oracle Total Recall

Access Control

- Oracle Database Vault
- Oracle Label Security

Encryption and Masking

- Oracle Advanced Security
- Oracle Secure Backup
- Oracle Data Masking



Data Masking ?

- What

Act of anonymizing personal data to create new legible data which retains the data's properties such as its width, type and format.

- Why

To protect personal data in UAT / Staging environments when the data is used for testing by users.

3rd Party Software for Data Masking

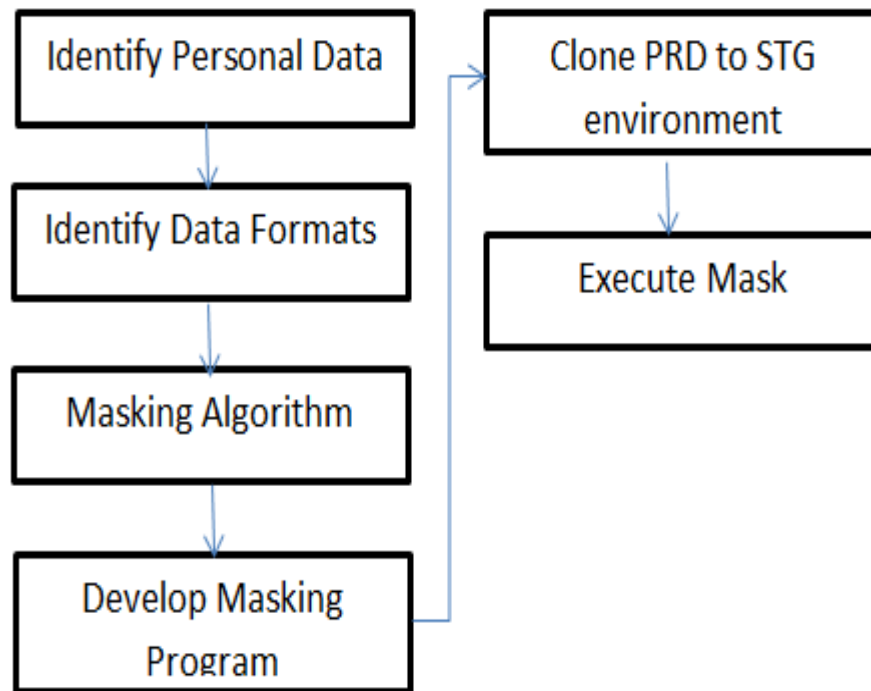
- Explored 3rd party data masking software (So ..)
- Each software has its own pros and cons.
- Software is too expensive.



In-house program for Data Masking

- Developed in-house program.
- Personal information can be replaced with realistic values.
- Allow production data to be safely used for non-production purpose like UAT, System Integration testing, migration testing etc..

Masking Steps



- First time data porting/masking to follow all steps.

- Subsequent porting/masking to follow last **two** steps.



Challenges

- What defines sensitive information?
- How is it referenced?
- Coordinating with different teams.
- Masking process needs to have acceptable performance and reliability.



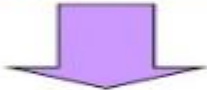
Benefits

- Define once; Execute multiple times.
- Masking program ownership.
- ICT savings.
- Reducing risk and compliance with IT security policies.
- Masking algorithm can be enhanced based on security requirement.

Sample Data

LAST_NAME	SSN	SALARY
AGUILAR	203-33-3234	40,000
BENSON	323-22-2943	60,000
D' SOUZA	989-22-2403	80,000
FIORANO	093-44-3823	45,000

Data before masking



LAST_NAME	SSN	SALARY
ANSKEKSL	111-23-1111	40,000
BKJHHEIEDK	111-34-1345	60,000
KDDEHLHESA	111-97-2749	80,000
FPENZXIEK	111-49-3849	45,000

Data after masking



Questions

