Principles of Analyzing Office Documents

Office Attacks

Macros

Features

Vulnerabilities

Document Analysis

Scripts

- VBA macros

Commands

Embedded files

Office Document Formats

Office Open XML Format

Zip archive containing XML

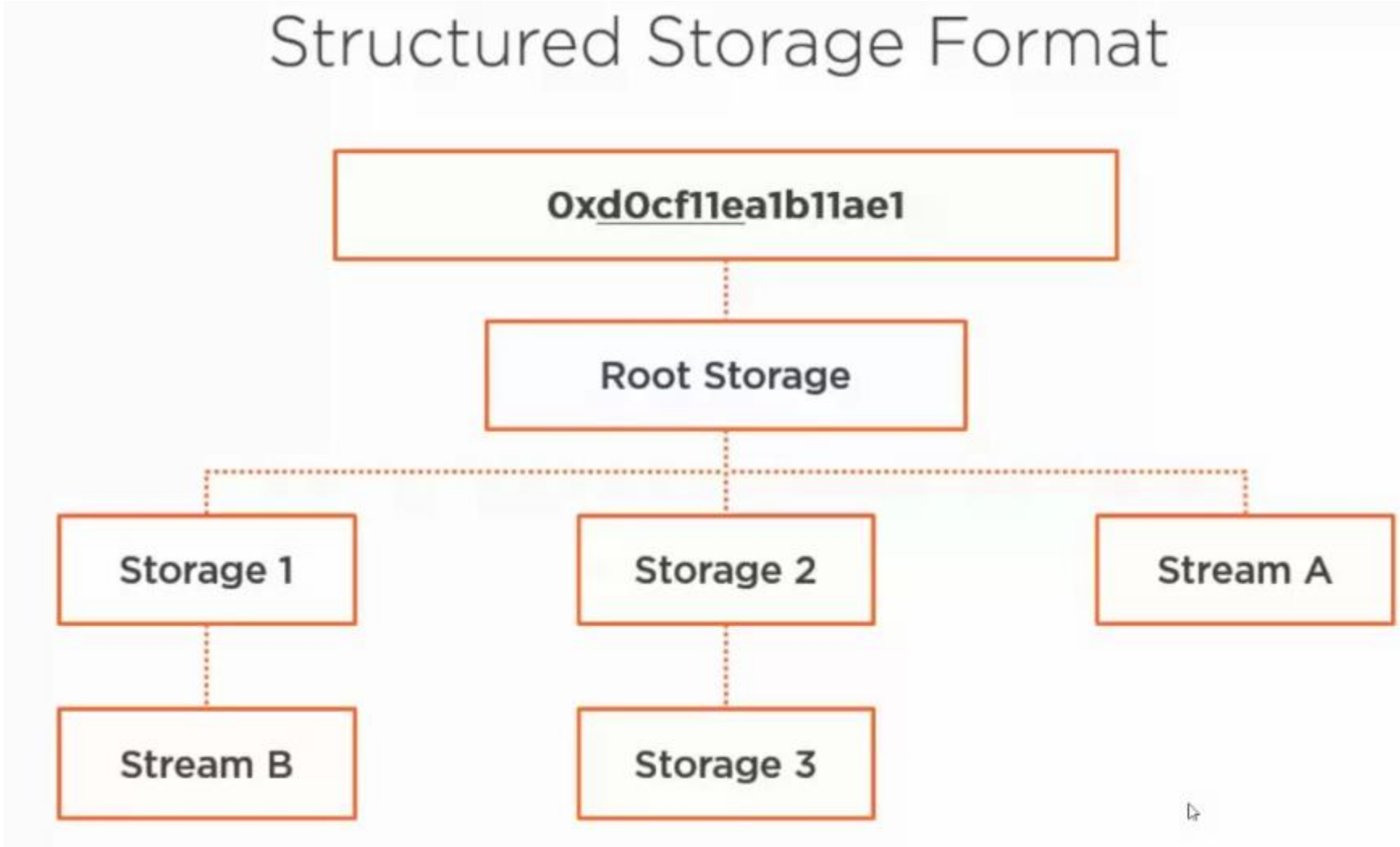
.docx, .docm

Structured Storage Format

Binary Format

.doc, .xls, .ppt

Structured Storage Format



oletools

olebrowse

- View and extract streams

oletimes

- Extract times

oleid

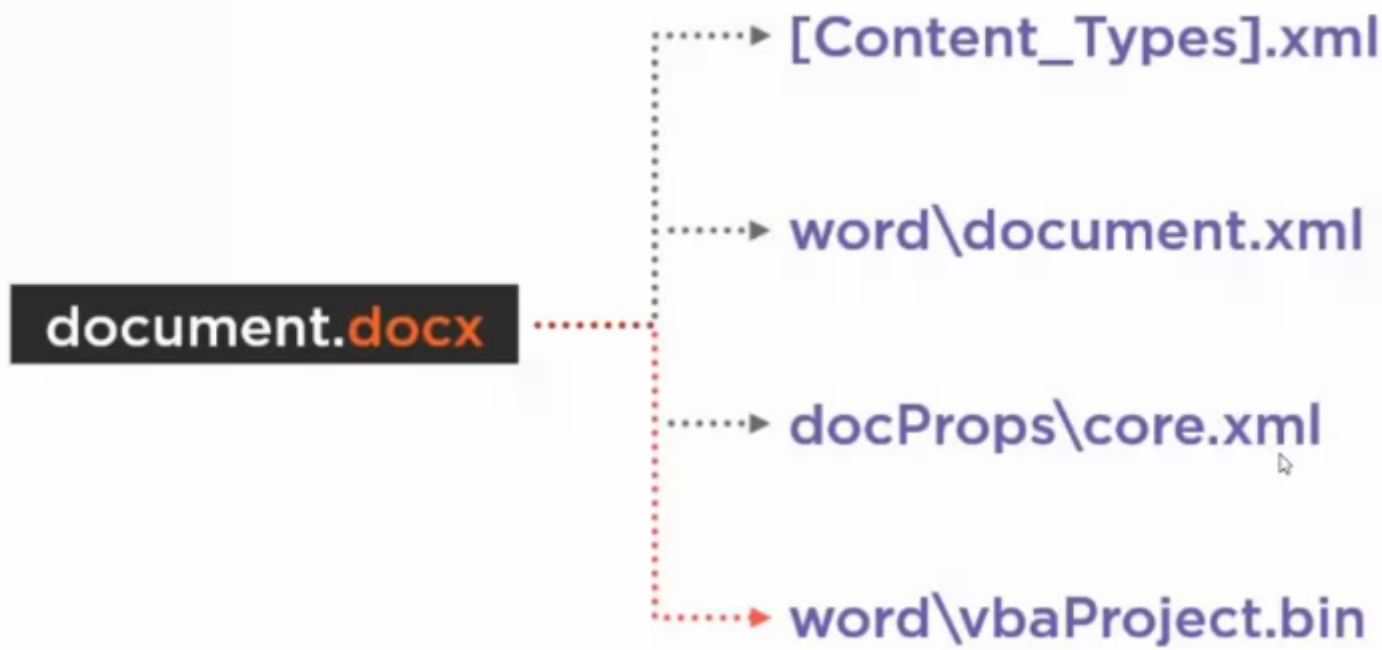
- Looks for malicious characteristics

olevba

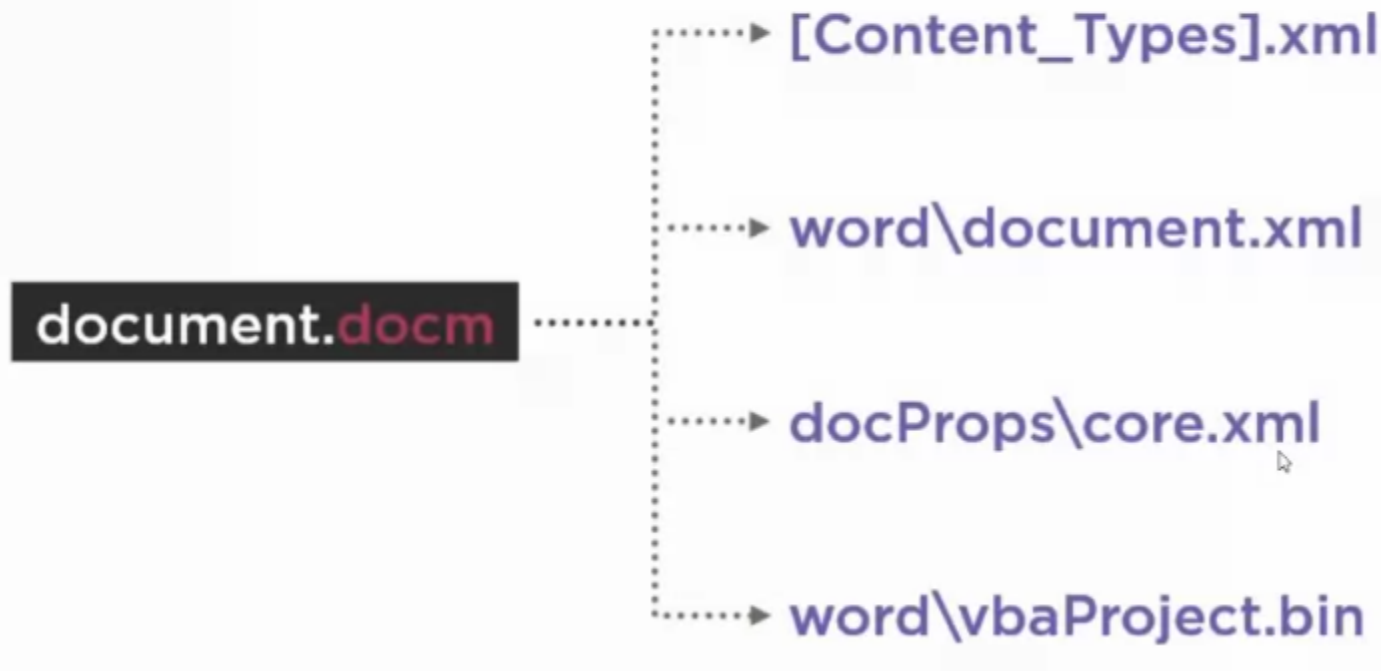
- Extract VBA scripts

https://www.decalage.info/python/oletools

Office Open XML Format



Office Open XML Format



Tools

Metadata

exiftool

Signature Detection

zipdump + yara

VBA

olevba

Workflow in Analyzing Office Documents

Determine the document type

- File identification tools

Search for malicious indicators

Extract and continue analysis

Thank you