

Who's watching your back?

Oyedata for OData Assessments

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Who Am I?

Principal Consultant with McAfee Foundstone

Security Research, Web Applications, Networks,
Mobile Applications.... And more

Tools (Oyedata, clipcaptcha, TesseractCap,
SSLSmart, and Internal)

Ruby, C#, Rails



OData Primer

What is OData?

Open Data Protocol (OData)

Query and Update Data over Web

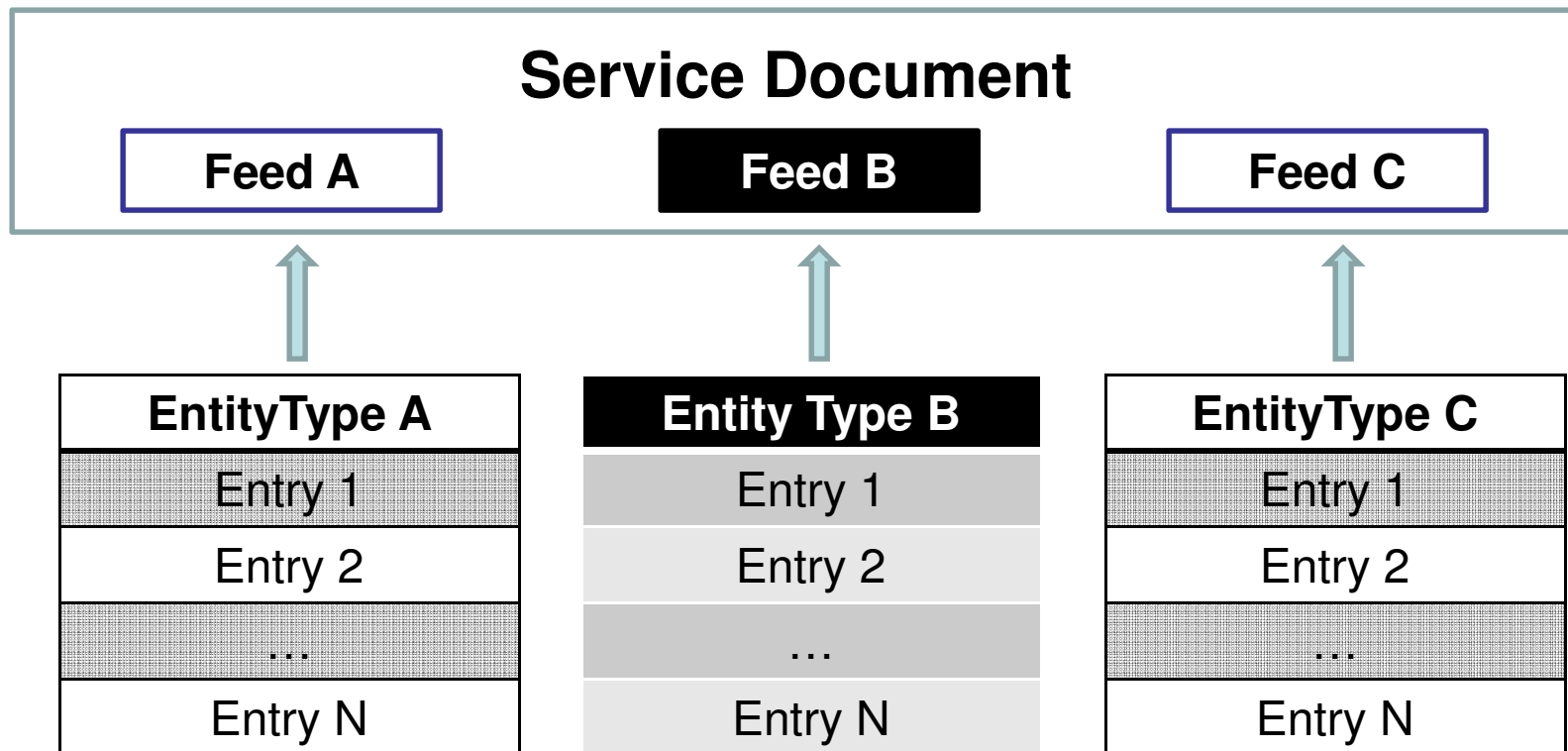
Resources identified using Uniform Resource Identifiers (URIs)

HTTP based RESTful data services

JDBC/ODBC for the Internet

Adopted by Microsoft, IBM, SAP etc...

Entity Types, Feeds and Service Document



Building Blocks

Properties (Primitives)

- Edm.Int32
- Edm.Binary
- Edm.DateTime etc...
- <Property>

Complex Type

- Group of related Properties
- Do not have keys
- <ComplexType>

Entity Types

Made up of Complex and/or Primitive Data Types

Entries are instances of Entity Types

One or more Keys (Properties) Identify Unique Entries

Navigation Property describes Links between Entries



Feeds

Collection of Typed Entries

An OData Service can have one or more Feeds

Service Document Lists all top-level Feeds

Service Document

Lists all Top Level Feeds

Available at Service Root URI

Discover Feeds and find their addresses

Append `/$metadata` to construct Service Metadata Document URI

Service Metadata Document

DNA of an OData service

Describes the Data Model of the OData Service

Conceptual Schema Description Language (CSDL) used to Describe the Data Model

Entity Types, Entity Type Relationship, Feeds, Service Operations etc...

Service Operations

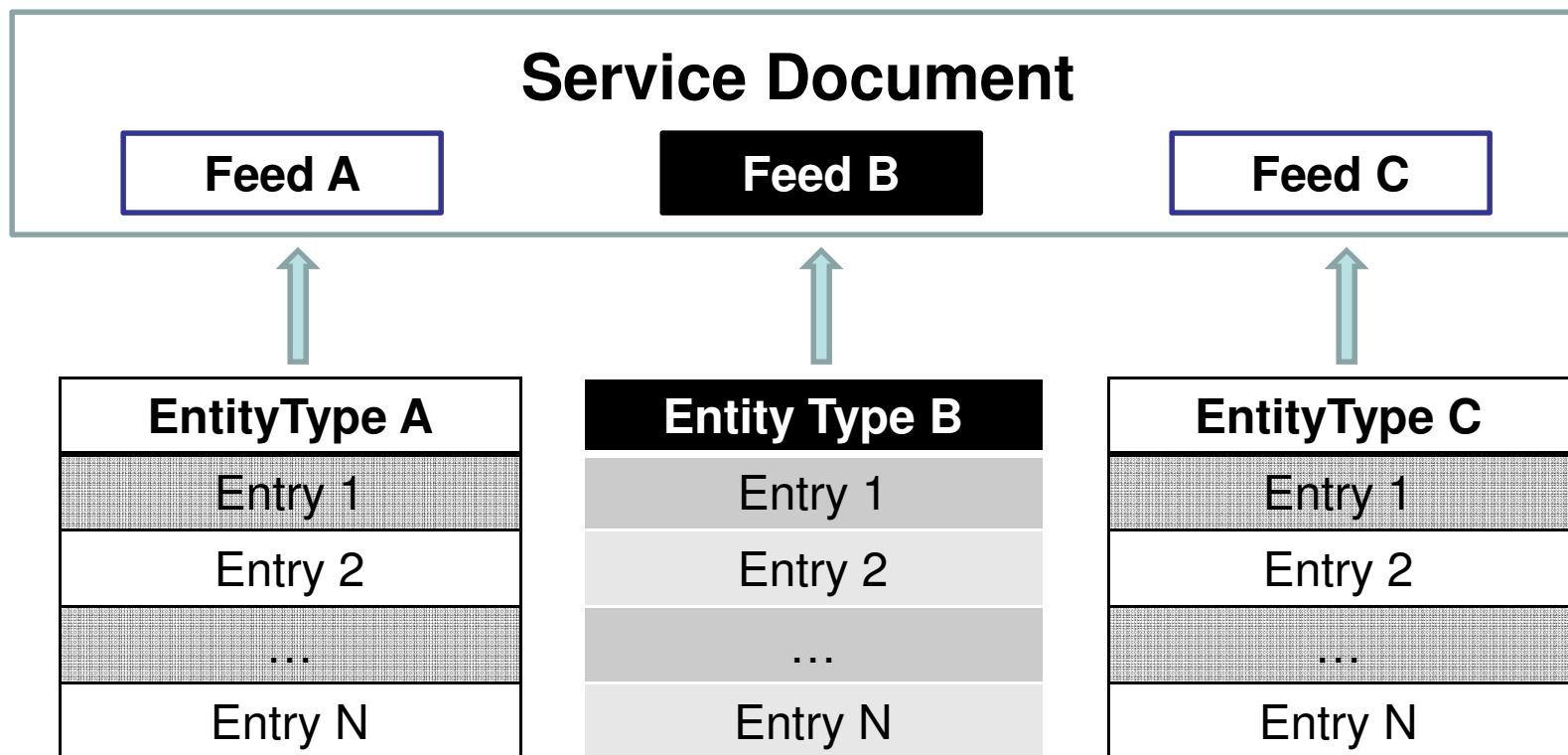
Custom functions written for specific operations

Remotely invoked

Accept Primitive Data via GET or POST

Return primitive types, complex types, feeds and even a void

Entity Types, Feeds and Service Document





Oyedata

Oyedata Introduction

First OData Assessment Tool

Limited OData Knowledge Required

Requires .NET Framework 4.0

Tested on Windows 7 and XP

<http://www.mcafee.com/us/downloads/free-tools/oyedata.aspx>

<http://www.foundstone.com> → Free Tools

Oyedata Features (1/2)

Intuitive GUI based tool written in C#.

Supports local and remote Service Metadata Documents.

Support for XML and JSON data formats.

Engage an OData service for manual testing.

Oyedata Features (2/2)

Data generator for EDMSimpleType test data generation.

Generate “Read URIs” till individual properties.

Generate and export attack templates in JSON and XML formats

Identifies Keys, Nullable and Non-Nullable Properties



Oyedata Demonstrations

Oyedata – The Road Ahead

XML and JSON syntax highlighting

Media Linked Entries

Batch request processing

Enhance update requests templates for individual Entry properties

And more... Stay tuned!





Thank You!

<http://www.mcafee.com/us/downloads/free-tools/oyedata.aspx>

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