REST API Design, Development & Management

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This deck is part of a online course on Summary of a course that covers the A to Z of RESTful API. More information.

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Summary of a course that covers the A to Z of RESTful API. More information.

RESTful API 101

Updated: Dec 27th, 2016

Application Programming Interface

A <u>user interface</u> to data and systems that is <u>consumed by applications</u> rather than humans

A well defined <u>contract</u> between provider and consumer

Contract = Structure of Request & Response XML

Why Developers started to prefer JSON over XML?
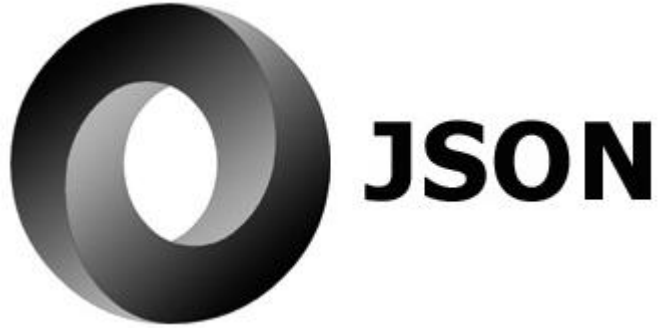
XML is heavy in terms of network traffic

Parsing of XML is CPU & Memory intensive

Slow performance of XML on browser front end not desired

Mobile devices battery performance reduced due to XML

Standards & versions of standards caused confusion and complexity

Java Script Object Notation

http://json.org launched in 2002

Google & Yahoo offered JSON/RPC in 2006
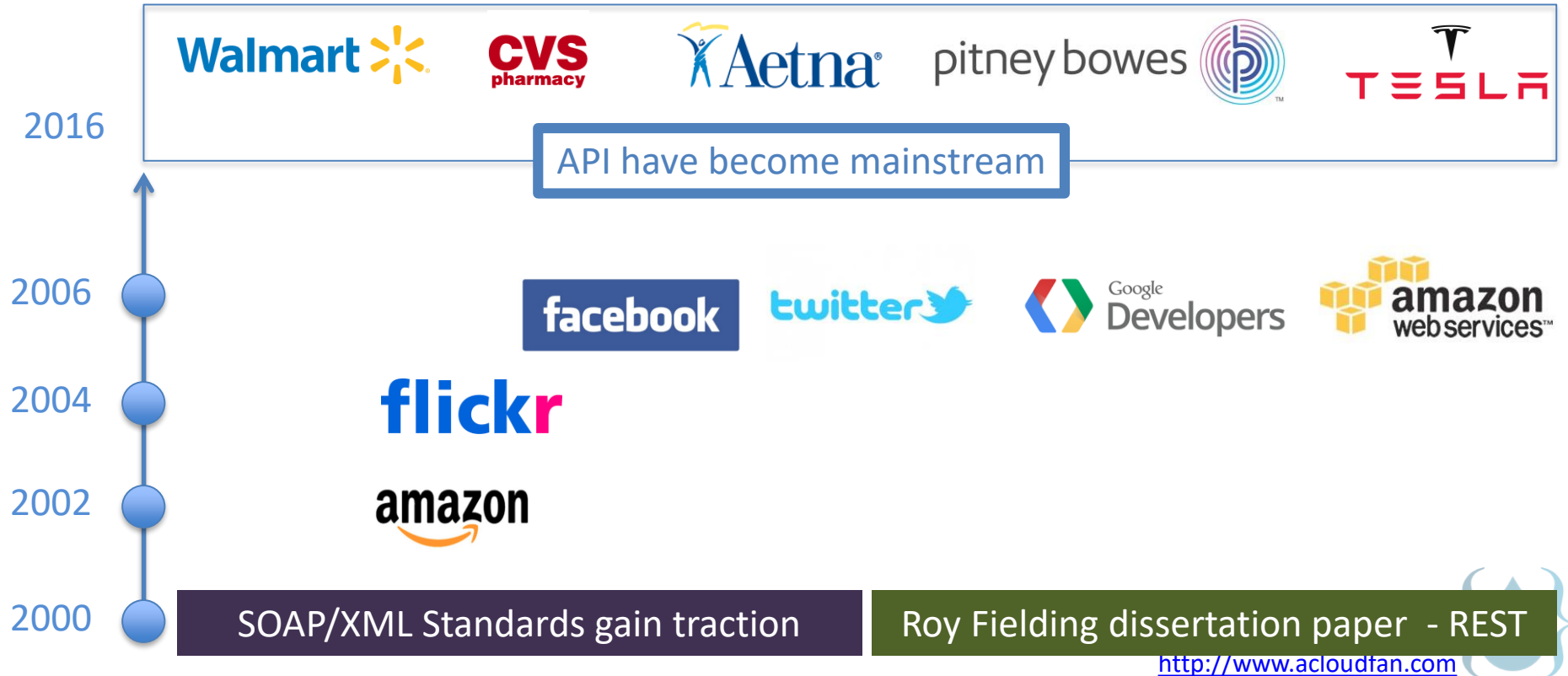
Representational State Transfer

History

Roy Fielding dissertation paper Year 2000

Described the REST Architectural Principles

API provides programmatic access to data & systems

2016 — Walmart, CVS pharmacy, Aetna, pitney bowes, TESLA

API have become mainstream

2006 — facebook, twitter, Google Developers, amazon web services

2004 — flickr

2002 — amazon

2000 — SOAP/XML Standards gain traction | Roy Fielding dissertation paper - REST

Summary

1. **XML-RPC & SOAP are API standards that use XML**

2. **With the rise of mobile & single page apps REST/JSON have gained popularity**

3. **Irrespective of the industry, companies are leveraging API**

Representational State
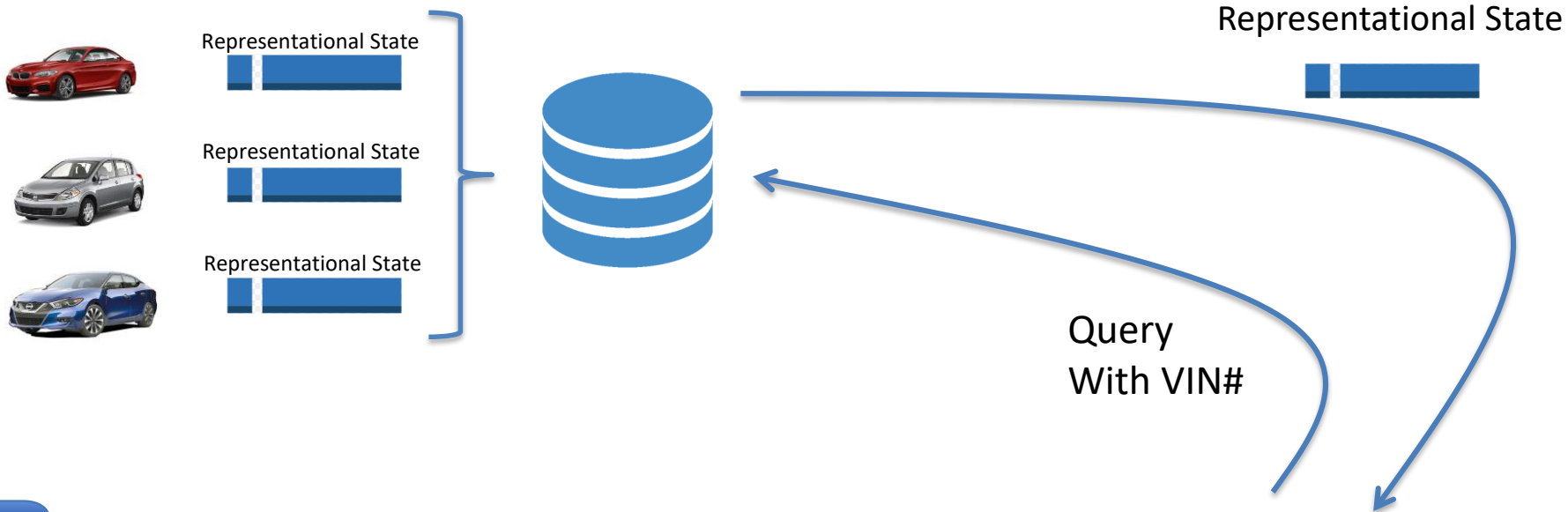# What makes an API RESTful?

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Representational State

Representational State

Representational State

Representational State

Query
With VIN#

Representational
State **T**ransfer

Car owner
tracking

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Data formats

Representational State

Row from Database

API

Logic

HTML

JPEG

PDF

XML

JSON

TXT
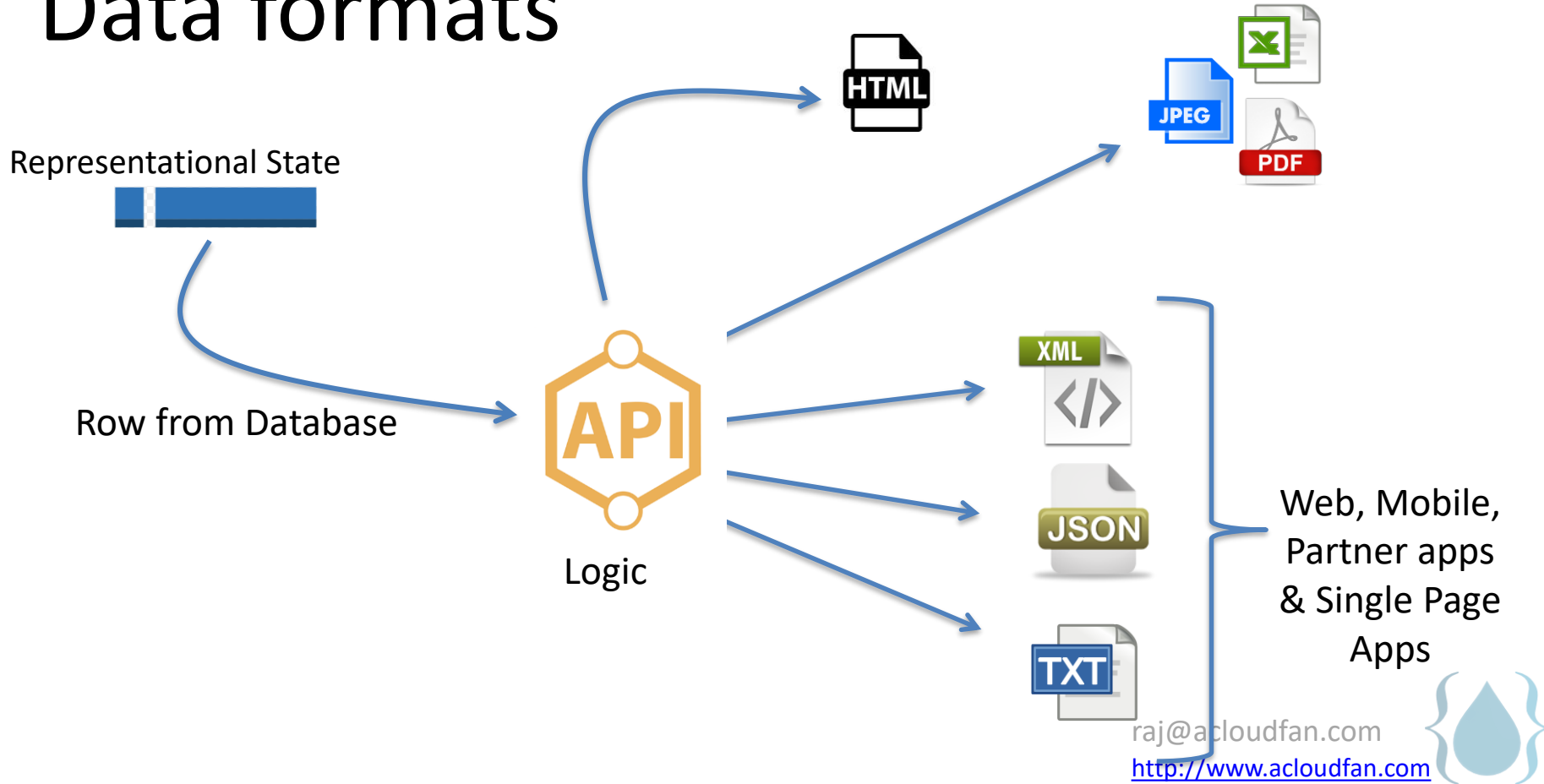
Web, Mobile, Partner apps & Single Page Apps

Summary

1. Resources are objects, things, entities such as car, bank a/c

2. Resources have representational state managed in backend

3. REST is NOT a standard but an architectural style

4. REST may use HTTP application protocol