



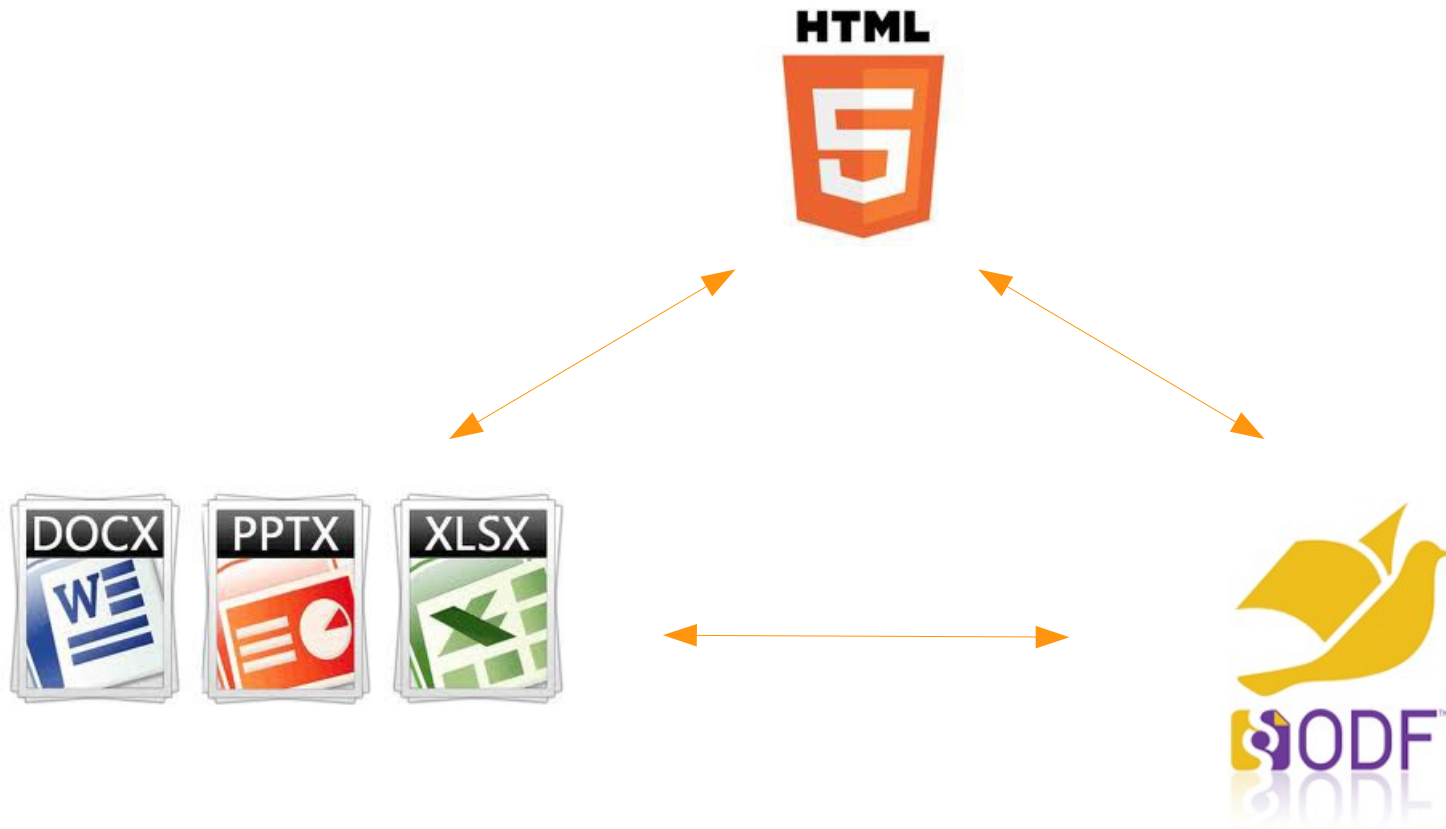
# Cross Document Format Collaboration

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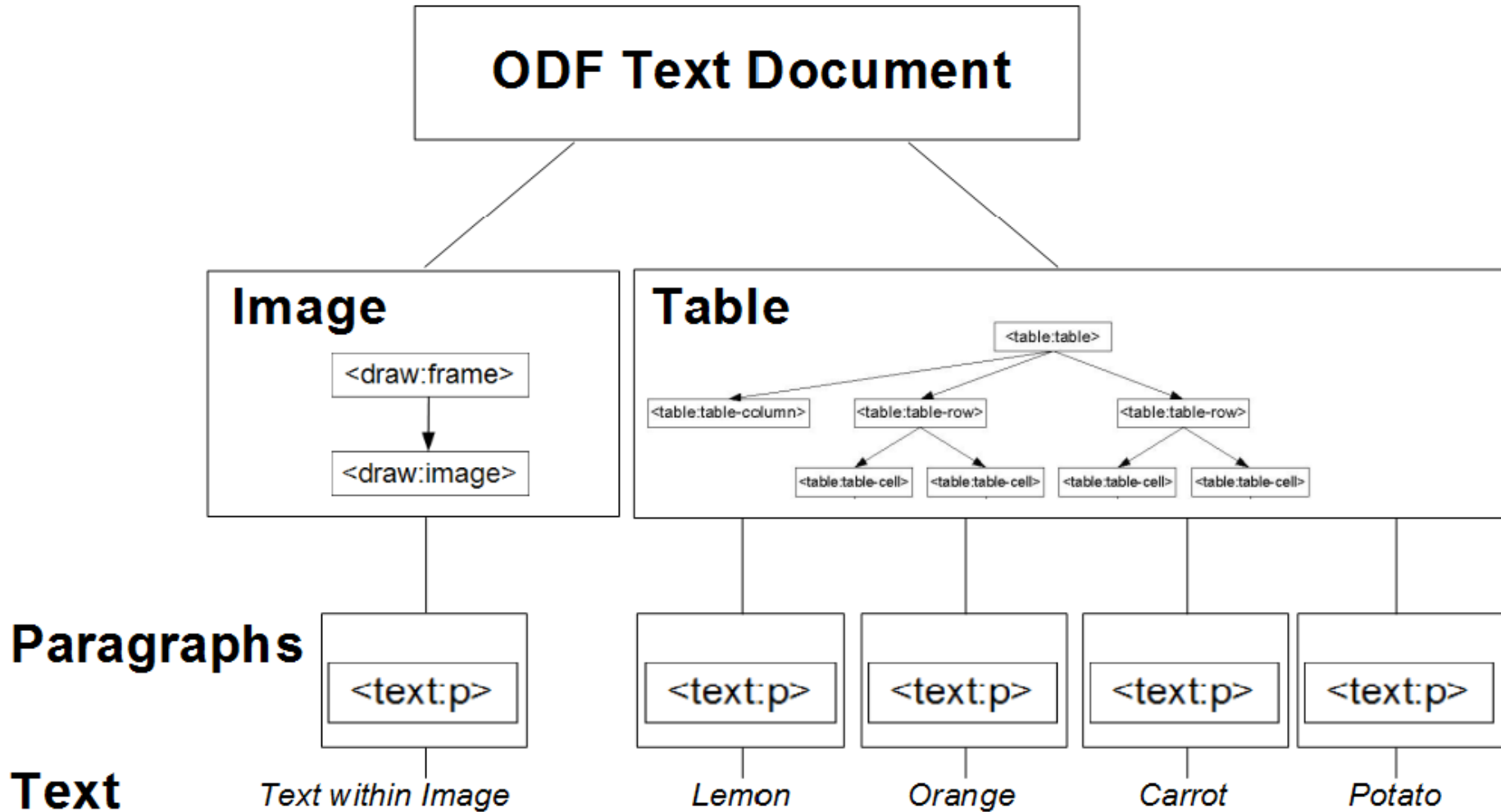
# The Problem

- Customer desires..
  - Editing documents in web browser
  - High featured documents
  - Change-Tracking
  - Real-Time editing

# The File Formats (Models)



# One Model to rule Them All...



# Dependencies of Changes

**Change Tracking  
Changes**

**Undo & Redo  
Changes**

**Collaboration  
Changes**

# Convention over Configuration

- Define XML change in specification
- Reuse Label of change (e.g. move table)
- Operation = Label with Parameters

# Sort it out

- The four Operation Types:
  - **Add**
  - **Delete**
  - **Move** (same item other place)
  - **Replace** (same place other item)

# An Operation

Status:

```
<add type="paragraph" position="/5">My work!</add>
```



# Two Operations

## Status - 1

```
<add type="paragraph" position="/5">My work!</add>
```

## Status - 2

```
<add type="paragraph" position="/2">NEW ITEM!</add>  
<add type="paragraph" position="/5">My work!</add>
```

# Time Traveling

## Start

```
<add type="paragraph" position="/2">NEW ITEM!</add>  
<add type="paragraph" position="/5">My work!</add>
```

## End

```
<add type="paragraph" position="/6">My work!</add>  
<add type="paragraph" position="/2">NEW ITEM!</add>
```



Moving  
operation  
through time

# Source Versioning == Doc Collaboration

