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# Review of the OMA DRM V2 ODRL Profile

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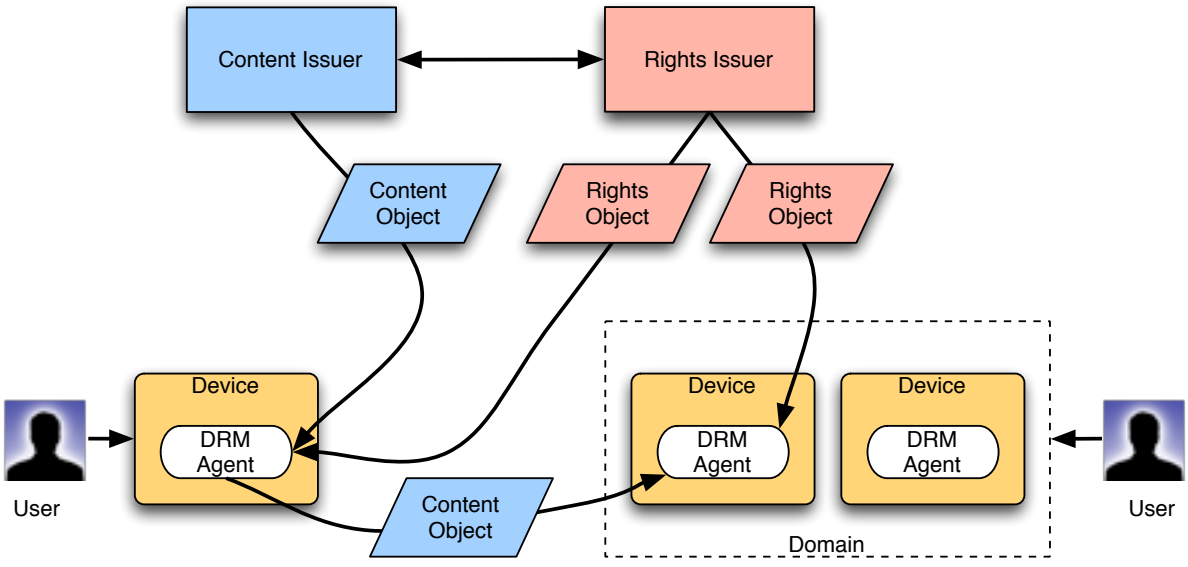
# OMA 2.0 Architecture



# OMA DRM Profile

| | Permissions | Constraints |
|---|---|---|
| Version 1.0 | Play | Count |
| | Display | Datetime |
| | Execute | Interval |
| | Print | |
| Version 2.0 | Export (ext) | Timed-count (ext) |
| | | Accumulated |
| | | Individual |
| | | System (ext) |

# Count Element

- Required a “time delay” before decrementing count
- Created a new element <timed-count>
- Other options
  - create a new attribute “timer”
  - use inbuilt “type” attribute
- What is the best option?
- Also limited new constraint to a number of permissions (time-based media)
  - But can use it with “Display” ?
- Lesson: Explicit limits of Constraints to set of Permissions

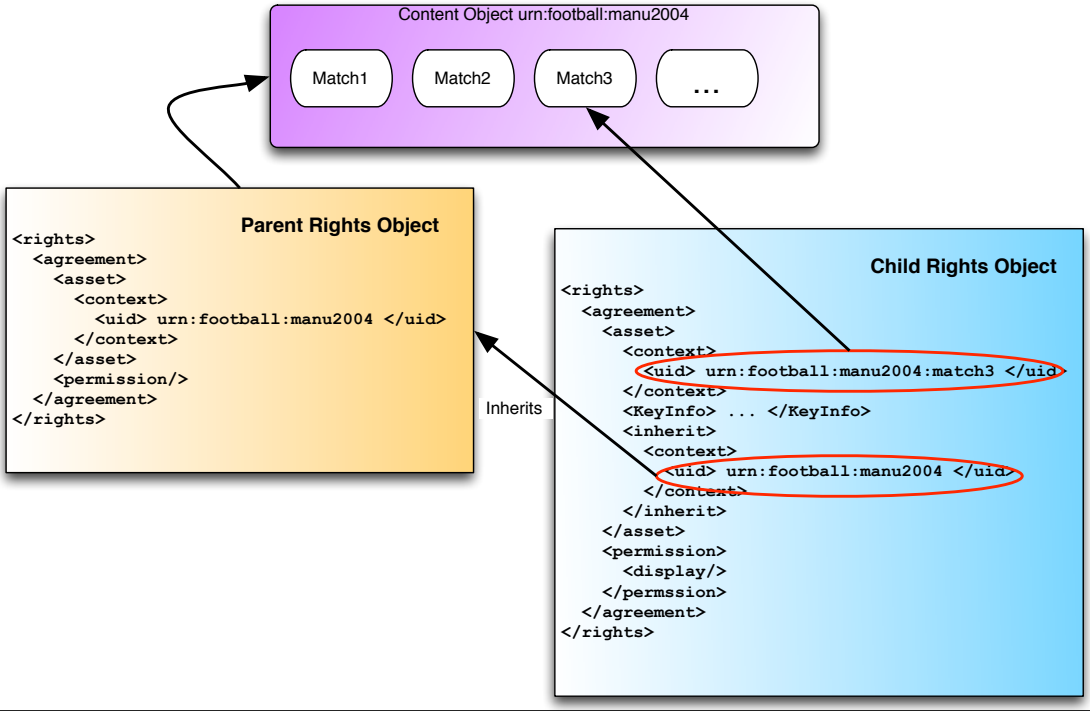
# Export Element

- Allow content to be exported to other DRM systems
- Two modes supported: move, copy
- Must specify the <system> constraint
- Created new element <export>
- Other options:
  - reuse inbuilt <move> and <duplicate> elements
  - same semantics
- What is the best option?

# System Element

- A constraint used by the Export element to specify the targeted system
- Created a new element <system>
- Other options (existing elements
  - <cpu> <hardware> <software>
- But there are many aspects to an export
  - the device AND the platform
- For example
  - export to an iPod (both)
  - export to Real Helix (platform)

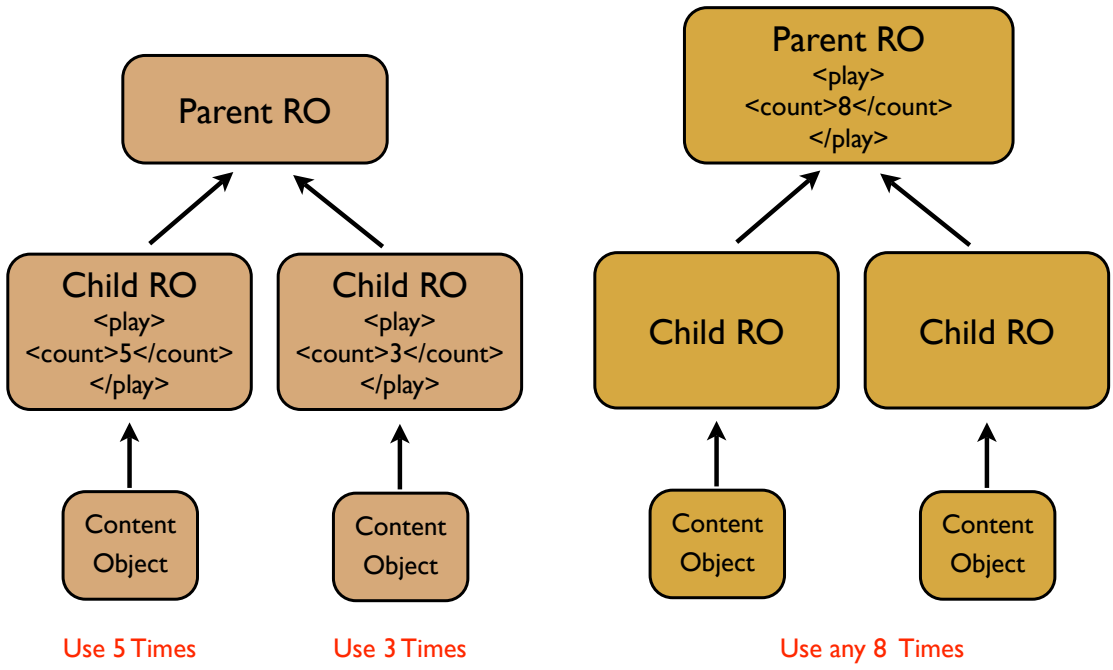
# Inheritance Model




# Inheritance Model

- Used for "subscription" services
- Original requirement was to support generic Object-Oriented style inheritance
- Overloads the UID element
  - Parent RO will not have any KeyInfo element
- Issues
  - Where should actual rights be (in parent/child)?
  - What happens to the current state of the rights?
    - ODRL 1.1 is silent on inheriting the state

# Inheritance Model




# Overriding Semantics

- Count constraint applies in TOTAL to all UID of Systems in an Export
  - Normally, the count would apply to each
- Can express the former by using the Container model and specify a “or” relationship
  - <container type="ex-or">
- Extra processing required to support container model
- What is the best option?

# Grace Period

- Accumulated and Interval both should be stopped 'as soon as possible' after the value has elapsed
- Some potential to allow a "grace period"
- Can this be generalised  for other elements?
  - timed-count
- A general "grace" timer

# Privacy Issue

- OMA DRM Content can be forwarded to others
  - superdistribution
- This is tracked at the system level not the REL
- Hence is not part of the Agreement with the end user
- Can lead to abuse and not optimal given all the public issues with privacy
- Should use the <tracked> Requirement

# Missing

- Rights Holder information
- Payment information
- For interoperable DRM, need to capture more of the "transaction space"
  - capture all the ecommerce and rights info
- Domain "sharing"
  - Should be in the REL

# Broadcast

- Current discussions to support Broadcast content in OMA DRM
- Defining a "Broadcast Rights Object"
- Additions to the REL Profile
  - <token-based> constraint
  - Device receives tokens (from multiple RI) and uses them to consume content
- Three sub elements required
  - token-constraint-type (eg count, accumulated)
  - token-unit - unit of the specified constraint
  - tokens-consumed - tokens consumed per token unit

# Broadcast Example

```
<permission>
  <play>
    <constraint>
      <oma:token-based>
        <oma:token-constraint>count</>
        <oma:token-unit>1</>
        <oma:tokens-consumed>2</>
      </>
    </>
  </>
```

# Broadcast

- Is “token-based” consumption a Constraint or a Requirement?
  - (Duty in V2)

```
<play>
  <requirement>
    <peruse>
      <oma...metering...>
    </peruse>
  </requirement>
</play>
```

# Upcoming...

- Import
  - mirror of export
  - REL mapping?
- Gifting content
  - via “gift certificates”
  - odrl <give> permission?
- Derived Rights Objects
  - user selects subset of RO (to move it)

# Summary

- OMA DRM V2 Profile is a great learning experience for ODRL Initiative
- Real-world requirements
- Use as input into V2.0
- OMA REL Profile should include all “terms and conditions” of the agreement in the REL (not system)
  - be clear and explicit
  - enables interoperability across platforms
- Need greater input and communications between the two organisations
  - Formal Liaison