

Rendering Technologies

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All about the data?

- “Rendering is out of scope” for XBRL v2.1
- Capture data accurately
- Give power to the consumer

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Rendering: the reality

- Consumption tools: chicken and egg
- Processes take time to evolve
- Rendering solutions are a necessity

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Possible approaches

1. Infer rendering semantics from taxonomy

US SEC Rendering Engine



2. Have the preparer provide their rendering too

Inline XBRL



3. Add rendering semantics to the taxonomy

Table Linkbase



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Approach 1: Infer from taxonomy

- Limited to data available
- Presentation linkbase was not designed for rendering
- Presentation and dimensional information must be combined from different sources

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Approach 1: Infer from taxonomy

- Results will be imperfect
- Attempts to control rendering can compromise real meta-data

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Approach 1: Infer from taxonomy

- A pragmatic solution
- Results will be imperfect
- Attempts to control rendering can compromise real meta-data

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Approach 2: Preparer-supplied rendering

- Inline XBRL born out of HMRC requirement to have tax inspectors and tax payers looking at the same thing

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Approach 2: Preparer-supplied rendering

- If a human readable rendering is required, don't throw one away and try to recreate another

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Approach 2: Inline XBRL

- Embed XBRL tagging information into HTML rendering
- XBRL can be extracted using standard transformation
- Makes the preparer's preferred rendering "interactive"

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Approach 2: Inline XBRL

- Demo

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Approach 2: Inline XBRL

- Preserves preparer's preferred rendering
- Can avoid need for extensions (through blind extensions)
- Requires preparer to provide both rendering and data

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Approach 3: Add rendering information to taxonomy

- Driven by projects with:
- Tabular data, with a potentially complex mix of dimensional “aspects”
- Standardised view of data

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Approach 3: Table Linkbase

- Table Linkbase defines tables...
- ... composed of axes ...
- ... composed of a tree of nodes

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Approach 3: Table Linkbase

X Axis

Y Axis

	X Axis					Total
	Widget A		Widget B			
	UK	US	ES	UK		
Trading Activities						
Basic Sales Revenue						
Cost of Goods Sold						

Red arrows indicate ranges of aspect values

This column constrains its cells by:
Product = Widget A
Geography = UK

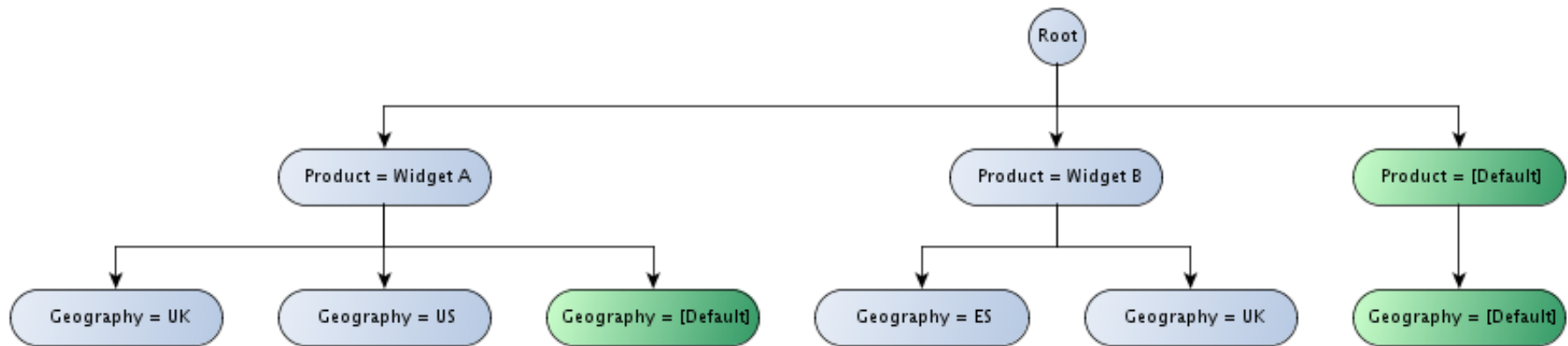
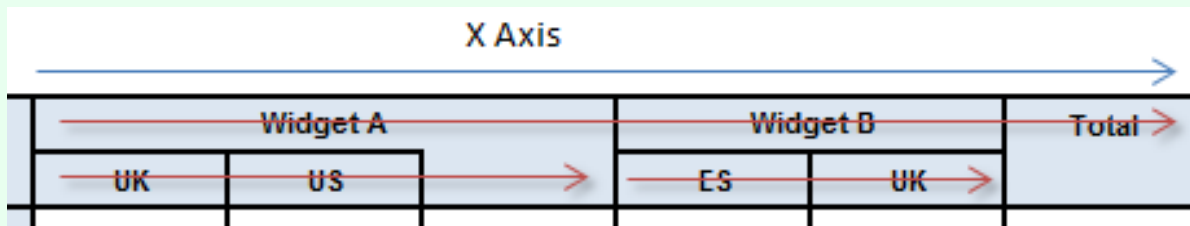
This column does not constrain its cells

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Approach 3: Table Linkbase



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Approach 3: Table Linkbase

- Trees may be composed statically (i.e. direct reference to concepts, dimensions)
- Dynamically based on DTS (e.g. presentation trees)
- Dynamically based on Instance (e.g. periods used in document)

Approach 3: Table Linkbase

- Standardised tabular structures for a taxonomy
- Details of how tables are to be rendered is limited
- May be used as a starting point for interactive dimensional renderings

Rendering approaches compared

- There's more than one way to “do” XBRL
- Different rendering approaches solving different problems

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Inline XBRL

- “Open” reporting
- Mixture of text and tables
- No standard template
- Desire to use preparer’s rendering

Table Linkbase

- “Closed” reporting
- Table-centric data
- Highly dimensional tables
- Regulator-defined rendering

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Application Profiles

- There's more than one way to “do” XBRL
- XBRL can solve many different problems
- ... but different approaches are required
- Need to identify “Application Profiles” and solve the same problem the same way

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Questions?

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