

```
<?xml version="1.0" #
<simpleType name="00
<restriction base
<xml version="1.0" voi
<simpleType name="ProductCategoryNum">
<xml version="1.0" standalone="yes">
```



**RIXML.org**

Research Information Exchange Markup Language



**JUST.**  
SYSTEMS

# RIXML + XBRL

*The challenges of integration*

5<sup>th</sup> December 2007

Andrew Ling, UBS Investment Bank

Diane Mueller, Justsystems

# Topics covered

- **Background**

- Definitions
- Challenges faced by institutional investors

- **Now**

- Where does RIXML fit?
- What's missing?

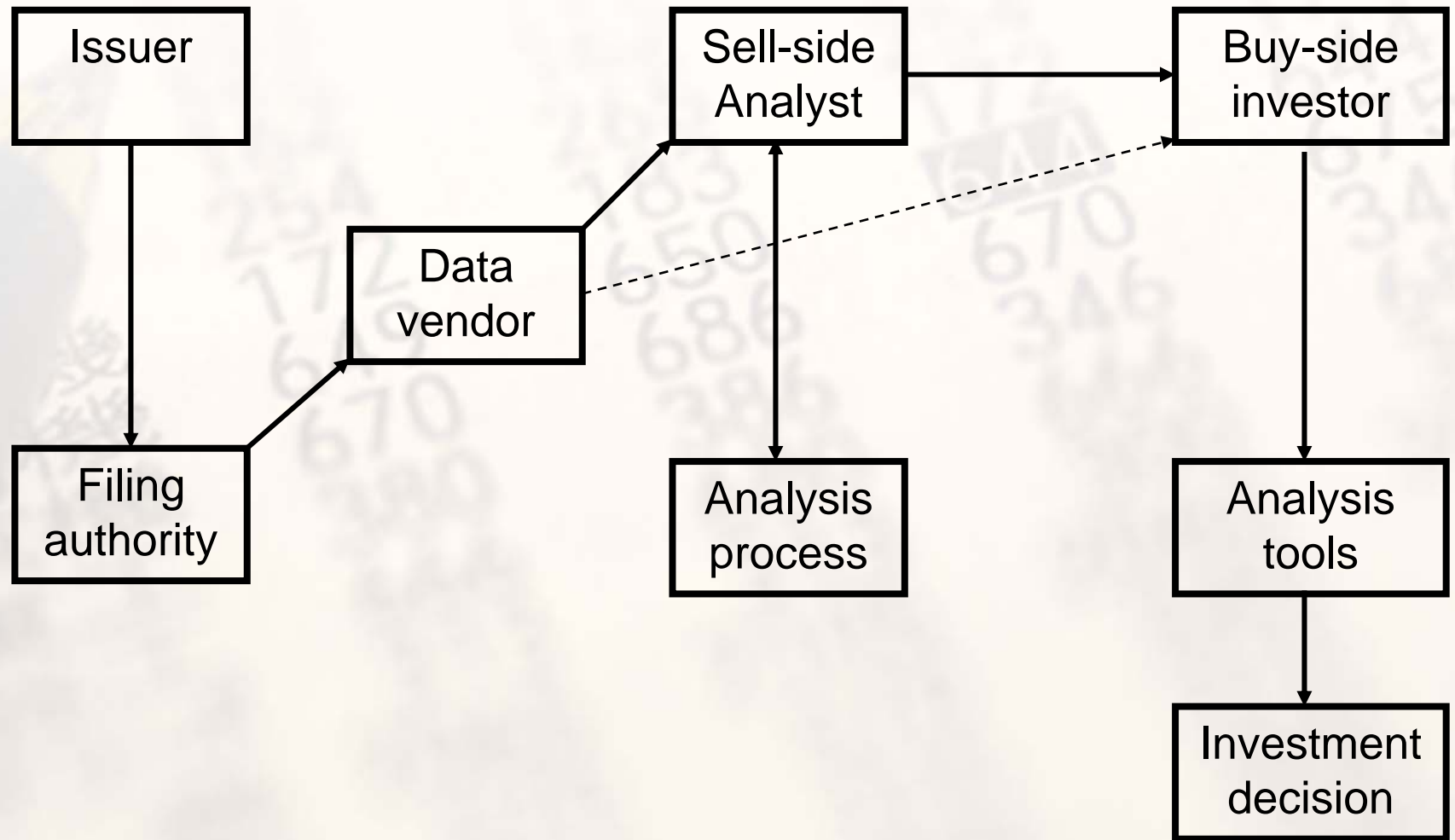
- **Looking forwards**

- Leveraging XBRL
- Best Practices for embedding XBRL

# Definitions

- **Data distribution “lite”**
  - Third party vendors dominate, because they aggregate data
- **Data distribution “heavy”**
  - Traditionally directly to client via spreadsheets
  - Quant investors take direct feeds into their own databases
- **Aggregation**
  - Data side-by-side, but ‘apples-to-apples’ comparison a problem
  - XML vocabularies are foundation for ideal of self-aggregation

# Information flow



# Challenges faced by institutional investors

- Finding information

- Institutional investors constantly face information overload:
- *'I'm totally overloaded with information coming at me from all directions. I need something to help me filter out all the irrelevant data, and let me find the actionable information.'*
- *'..but what can I do? I'm really worried that even if I do find some good way of filtering out the rubbish, I might miss a vital piece of news, or a good idea!'*

- Managing information

- Helps support a more efficient investment process
- Explicit metadata can really help organise information

# Challenges faced by institutional investors

- **Using information**

- Ideas come in many different forms – pairs trades; sector rotation strategies; macro bets.
- Idea execution is subject to constraints: asset allocation overlays liquidity constraints etc.

- **Recording what's been used**

- Institutional investors need to demonstrate their decision-making process, recording what inputs were used
- Interactive products leverage metadata to track what is being used, and exchange this information in a standard format

# Where does RIXML fit?

- **RIXML background**

- RIXML was conceived as a way of conveying, in a standard format, what a research document is about. To do this, every research document (usually a PDF file) is accompanied by an XML file, validated using the RIXML schema
- This approach lends itself well to assisting fund managers in searching for investment research topics across multiple publishers, by sector, by region, by company or by subject
- Since version 1.0 in 2001, RIXML has slowly gained adoption, and we now have evidence of how RIXML-enabled applications are being used

# Where does RIXML fit?

- **Bridge between prose and numbers**

- As RIXML is more widely adopted, we have found that screening and filtering can also be driven by quantitative data
- As a first step, RIXML allows basic financials, focused on forward-looking valuation, to be delivered in such a way that they can be easily indexed for searching

- **Link to XBRL**

- With RIXML 2.2, you can now link a research report to an XBRL instance document, which facilitates applications that make it easy to jump from what a company reported to what an analyst is forecasting

# Combining RIXML and XBRL

The screenshot shows the xfy Enterprise Client interface. The left sidebar contains a 'Templates' tree where 'UBS Template' is selected. The main workspace displays a form for 'UBS Investment Research'. The form includes a 'Select Company' dropdown, a title field '[Enter Title]', and an abstract section with '[Enter Abstract section title]' and '[Enter Abstract Body]'. A table of financial highlights is displayed, followed by sections for 'Global Equity Research', 'Trading data', and 'Balance sheet data'.

Highlights(US\$m)	12/04E	12/05E	12/06E	12/07E	12/08E
Revenues	NaN	NaN	NaN	NaN	NaN
EBIT(UBS)	NaN	NaN	NaN	NaN	NaN
Net income(UBS)	NaN	NaN	NaN	NaN	NaN
EPS(UBS,US\$)	NaN	NaN	NaN	NaN	NaN
Net DPS(UBS,US\$)	NaN	NaN	NaN	NaN	NaN
Profitability&Valuation	5-yr hist. av.	12/05E	12/06E	12/07E	12/08E

# Auto-populating Template from external sources

xfy Enterprise Client

File Edit View Insert XBRL XBRL Bookmarks Tools Help

- Add to Bookmarks
- Edit Bookmarks
- RDXML-UBS Template
- Retrieve trading data (external)
- Retrieve ratings (internal db)
- system.xvcd

UBS Investment Research

United Technologies Corp.

Reports Solid Third Quarter Earnings

- UTX reported Q3 EPS of \$0.99 (cons. \$0.96)
- UTX reported Q3 EPS of \$0.99, which includes a \$60 million pre-tax gain from the sale of a partnership interest and \$93 million in restructuring charges. Revenues grew 12% to \$12.2 billion, with organic growth of 8%. FCF was \$1.18 billion (118% of net income) in Q3.
- UTX raised its 2006 EPS guidance range to \$3.65-\$3.69
- UTX raised its 2006 EPS guidance to \$3.65-\$3.69 (cons. \$3.66), from \$3.55-\$3.65. Management's revised full year 2006 guidance implies a Q4 earnings forecast range of \$0.81-\$0.85 per share (cons. \$0.85). UTX expects full year FCF to equal to or exceed net income. For 2007, UTX expects EPS growth of 10%+, which implies EPS of \$4.02 at a minimum (cons. \$4.13).
- We are raising our 2006 and 2007 EPS estimates
- We are raising our 2006 EPS estimate to \$3.68, from \$3.65, primarily to reflect better-than-expected third quarter results. We are raising our 2007 EPS estimate to \$4.05, from \$4.00, primarily to reflect a higher base year in 2006.
- Valuation: We are raising our target price to \$69 per share
- We are raising our target price to \$69 per share (was \$65) to reflect our revised 2007 EPS estimate and a higher market multiple. Our revised target price reflects a 5%-10% premium (unchanged) to the market multiple on our revised 2007 earnings estimate, and excess cash of roughly \$3 per share. We maintain our Neutral 1 rating on UTX.

Highlights(US\$m)	12/04E	12/05E	12/06E	12/07E	12/08E
Revenues	37445	42725	47405	49902	NaN
EBIT(UBS)	4470	5182	6081	6542	NaN
Net income(UBS)	2788	3164	3704	4037	NaN

Global Equity Research

Americas  
Aerospace  
Rating **Hold**  
Current **US\$69.00**  
Prior: **US\$65.00**  
**US\$66.79**

Price target  
Price  
RIC: UTX.N BBG: UTX.US

2007-09-16T23:53:06Z

Trading data

52-wk. range	US\$66.79-49.95
Market cap.	US\$67.6bn
Shares o/s	1,011m
Free float	100%
Avg. daily volume('000)	2,524

Balance sheet data 12/06E

Shareholders' equity	US\$17.3bn
P/BV(UBS)	3.8x
Net cash(debt)	(US\$5.61bn)

Forecast returns

Forecast price appreciation	+3.3%
Forecast dividend yield	1.6%
Forecast stock return	+4.9%

# Adding XBRL into RIXML

The screenshot shows the xfy Enterprise Client interface. The main content area displays a report for United Technologies Corp. titled "Reports Solid Third Quarter". The report includes several bullet points and a table of highlights. An "Open" dialog box is overlaid on the report, showing a file explorer view of a folder named "2006". The file "utx-20061231.xml" is selected and highlighted with a red circle. The dialog box also shows the file name "utx-20061231.xml" and the file type "XML ファイル".

**UBS Investment Research**  
**United Technologies Corp.**

**Reports Solid Third Quarter**

- UTX reported Q3 EPS of \$0.99 (consolidated). UTX reported Q3 EPS of \$0.99, which includes \$93 million in restructuring charges. Revenue was \$3.1 billion (118% of net income) in Q3.
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**Equity Research**

Hold  
**Current**  
 US\$69.00  
 Prior:US\$65.00  
 US\$66.79

UTX:N BBG: UTX US

2007-09-16T23:53:06Z

**Key data**

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# Combining RIXML and XBRL

xyf Enterprise Client data.xml(\*)

file://C:/xyf-be1.6-2007-11-22/demo/rixml/data.xml

UBS

## United Technologies Corp.

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### Income Statement

(Amounts in millions except per share amounts)

	2006-10-01	2006-07-01	2005-10-01	2005-07-01	2006-01-01	2005-01-01	2006-01-01	2005-01-01
	2006-12-31	2006-09-30	2005-12-31	2005-09-30	2006-09-30	2005-09-30	2006-12-31	2005-12-31
Revenue - Total	12,787	12,163	11,261	10,905	35,042	31,464	47,829	42,725
Operating Income(Loss)	1,428	1,647	1,221	1,384	4,670	3,961	6,098	5,182
Net Income	865	996	626	821	2,867	2,443	3,732	3,069
Basic Earnings Per Share	0.89	1.02	0.64	0.83	2.92	2.46	3.81	3.11

Highlights(US\$m)	12/04E	12/05E	12/06E	12/07E	12/08E
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### Global Equity Research

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RIC: UTX:N BBG: UTX:US

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Forecast price appreciation +3.3%

Forecast dividend yield 1.6%

Forecast stock return +4.9%

### EPS(UBS,US\$)

	12/06E		12/05	
	From	To	Cons.	Actual
Q1E	0.76	0.76	0.76	0.64
Q2E	1.09	1.09	1.09	0.95

# The element: "XMLData"

```
- <rixml:XMLData xmlns:command="http://xmlns.xfy.com/command" xmlns:function="http://xmlns.xfy.com/function"
  xmlns:instruction="http://xmlns.xfy.com/instruction" xmlns:form="http://xmlns.xfy.com/form" xmlns:ctrl="http://xmlns.xfy.com/controls"
  xmlns="http://www.w3.org/1999/xhtml" xmlns:xhtml="http://www.w3.org/1999/xhtml" xmlns:tab="http://xmlns.xfy.com/tab"
  xmlns:frames="http://xmlns.xfy.com/frames" xmlns:event="http://xmlns.xfy.com/event" xmlns:rixml="http://www.rixml.org/2005/3/RIXML">
- <xbri:xbri xmlns:xbri="http://www.xbrl.org/2003/instance" xmlns:xbri_2="http://www.xbrl.org/2003/linkbase"
  xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:UTX="http://investors.utc.com/sec/" xmlns:usfr-
  seccert="http://www.xbrl.org/us/fr/rpt/seccert/2005-02-28" xmlns:usfr-mds="http://www.xbrl.org/us/fr/rpt/mda/2005-02-28" xmlns:usfr-
  ar="http://www.xbrl.org/us/fr/rpt/ar/2005-02-28" xmlns:usfr-pte="http://www.xbrl.org/us/fr/common/pte/2005-02-28" xmlns:usfr-
  ptr="http://www.xbrl.org/us/fr/common/ptr/2005-02-28" xmlns:iso4217="http://www.xbrl.org/2003/iso4217" xmlns:us-gaap-
  ci="http://www.xbrl.org/us/fr/gaap/ci/2005-02-28">
  <xbri_2:schemaRef xlink:href="utx-20061231.xsd" xlink:arccole="http://www.w3.org/1999/xlink/properties/linkbase" xlink:type="simple" />
- <xbri:context id="QTD_Mar2006">
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  <xbri:identifier scheme="http://www.sec.gov">0000101829</xbri:identifier>
  </xbri:entity>
- <xbri:period>
  <xbri:startDate>2006-01-01</xbri:startDate>
  <xbri:endDate>2006-03-31</xbri:endDate>
  </xbri:period>
  </xbri:context>
- <xbri:context id="As_of_Dec31_2005">
- <xbri:entity>
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  </xbri:entity>
- <xbri:period>
  <xbri:instant>2005-12-31</xbri:instant>
  </xbri:period>
</>
- <xt
-
-
</>
- <xt
- <xbri:entity>
  <xbri:identifier scheme="http://www.sec.gov">0000101829</xbri:identifier>
  </xbri:entity>
- <xbri:period>
```

**added to support in-lining an XBRL instance document  
as a RIXML resource**

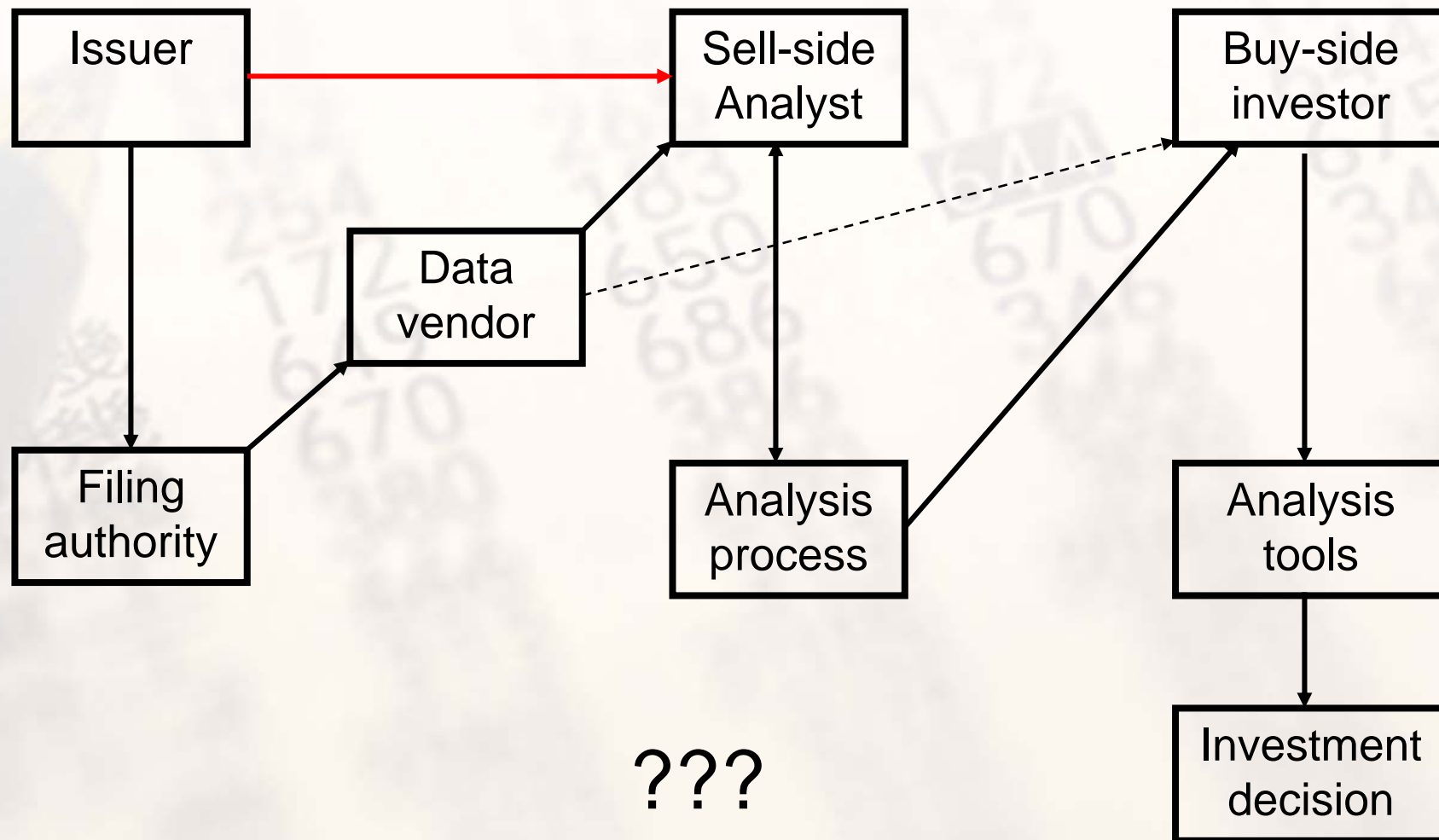
# Discoveries along the way

- The element: Research.Product.Content.Resource.XMLData
- Was added into RIXML 2.2 to support in-lining an XBRL instance document as a RIXML resource
- According to the relevant section (2.3) of the W3C XML specification (1.1), indicates that the name "XMLData" qualifies as "reserved".
- Every production release of RIXML is passed through at least two schema checker tools.
- Neither Altova XML-Spy and Schema Quality Checker from IBM AlphaWorks highlighted the XMLData element as a problem
- However, RIXML.org will address this point for remediation in our next release.

# The future – leveraging XBRL

- **More XBRL penetration**
  - Linking research reports, analyst data and company data needs more companies to publish accounts in XBRL format
  - Analysts need tools to allow use of XBRL in their daily workflow
- **Looking beyond the chart of accounts**
  - Focus needed on valuation measures relevant to investors
- **Self-aggregation vs. data providers**
  - Not all XBRL is created the same
  - Examine closely what value specialist data aggregators add

# What's missing?



# Leveraging XBRL

- What's missing?
- What's next?
- Best Practices: a proposal

# Contact

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