

Data Level Assurance: a 10 Year Perspective

Eric E. Cohen

Co-founder, XBRL

Original coiner of phrase “Data Level Assurance”

Disclaimer

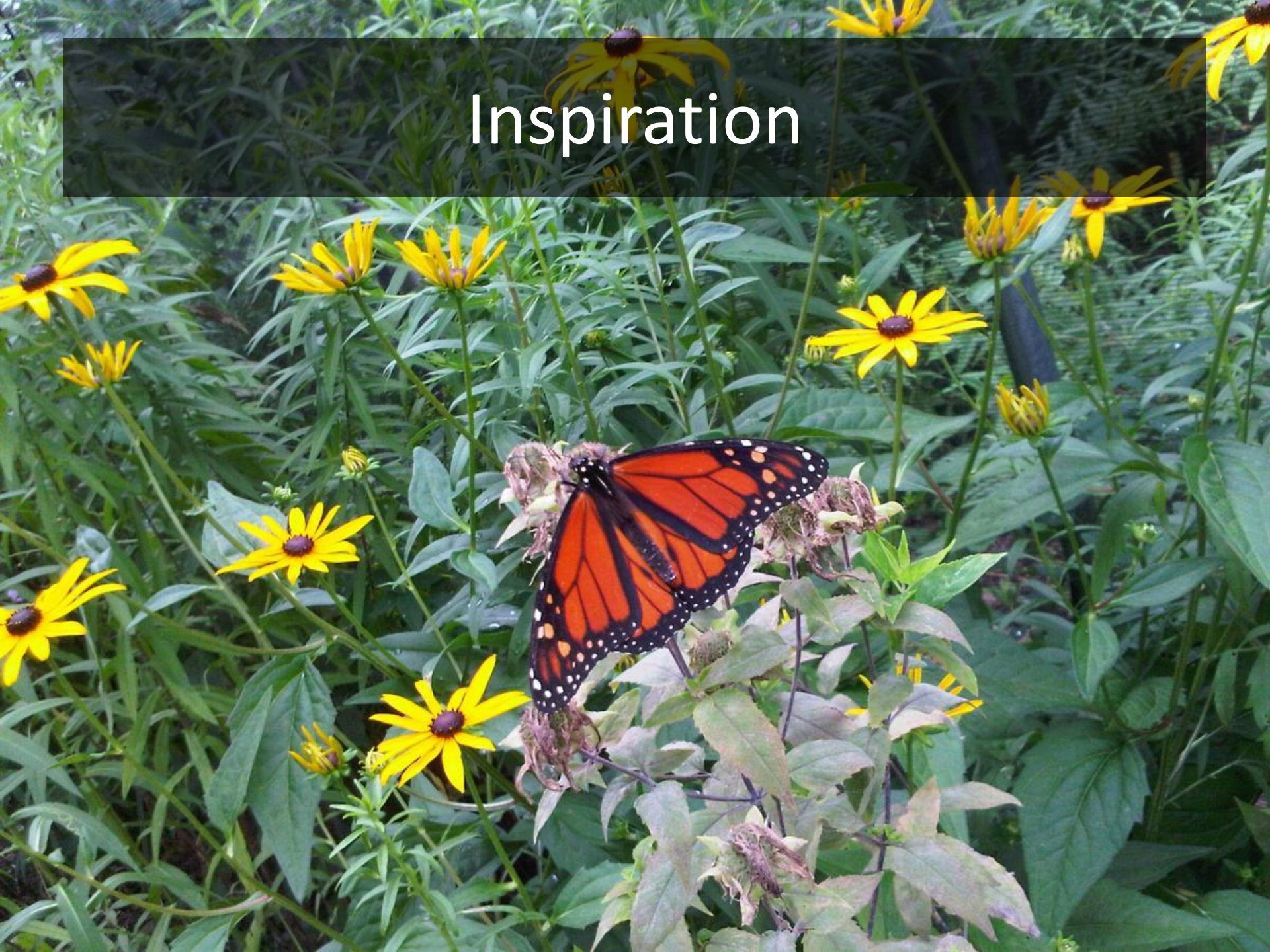
The following presentation does not reflect the opinions of my employer. Any opinions expressed are mine alone.

Origins of *Data Level Assurance*

- Inspiration
 - Highlighting what is – and what is not – covered by auditor's opinion on traditional financial statement
 - Not assurance on XBRL, but assurance with XBRL
- Initial Development
 - How can authentication technologies be leveraged to reduce existing and emerging risks, enable new service opportunities, and revolutionize the audit information supply chain – both on XBRL **AND** on traditional and future documents
- Market reinterpretation
 - Perception in marketplace
 - Studies and publications
- Assurance on XBRL
 - Considerations
 - Professional standards
- Progress, reassessment and where to go from here



Inspiration



In the Beginning ...

- There were already challenges
- The introductory paragraph of an auditors' report is difficult to parse
- The Internet introduced complexity for assurance on financial statements
 - “No borders”



Introductory <> Scope

INTRODUCTORY

We have audited the accompanying balance sheet of ABC Company, Inc. (the “Company”) as of December 31, 20XX and the related statements of income, retained earnings, and cash flows for the year then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

SCOPE...

OPINION

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 20XX, and the results of its operations and its cash flows for the year then ended in accordance with accounting principles generally accepted in (the country where the report is issued).

Paper Assurance

DATA

PRESENTATION

DOCUMENT

Notes

Report of Independent Accountant

We have audited the accompanying balance sheet of the ABC Company as of December 31, 20X1, and the related statements of income, and cash flows for the year then ended.

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audit.

...

The accompanying Notes to the Financial statements are an Integral part of these atatements

What's Covered?

- Read the introductory paragraph
- Utilize IOTTMCO technology
- Q.E.D.

The solution of which should be intuitively obvious to even the most casual observer

“Assurance on a Portion or Portions”?

Discussion Topic III: Auditor Assurance on Other Information Outside the Financial Statements

Another alternative to enhance the auditor's reporting model could be to require auditors to provide assurance on information outside the financial statements, such as management discussion and analysis (“MD&A”) or other information (for example, non-GAAP information or earnings releases). An auditor providing assurance on information outside of the financial statements could improve the quality, completeness, and reliability of such information, providing investors and other users of financial statements with a higher level of confidence in information about the company that is provided by management. Therefore, this additional reporting could make an audit and auditor reporting more relevant to investors and other users of financial statements. See Appendix C for an illustration of an attachment to a possible revised standard auditor's report on MD&A.

Questions

8. On what information should the auditor provide assurance (e.g., MD&A, earnings releases, non-GAAP information, or other matters)? Provide an explanation as to why.
9. If the auditor were to provide assurance on a portion or portions of the MD&A, what portion or portions would be most appropriate and why?
10. Would auditor reporting on a portion or portions of the MD&A affect the nature of MD&A disclosures? If so, how?
11. What are the potential benefits and shortcomings of implementing auditor assurance on other information outside the financial statements?

Internet Era

- Additional challenges
 - (1995 or so) mainstreaming of the Web
 - HTML blurs boundaries once explicit in bound documents
 - URLs may take you to a completely different world
- Possible tools
 - (2000) Advent of XBRL
 - Individually XML tagged pieces of data
 - Assembled together

E-Reporting and the Auditor



In March 1997^[1], the AITF issued its interpretation of AU 550 in the *Journal of Accountancy*, stating 'that electronic sites (including Internet sites) are a means of distributing information and are not "documents" as that term is used in SAS No. 8. Thus, auditors do not have an obligation pursuant to SAS No. 8, to read information in electronic sites or to consider the consistency of other information included in electronic sites with the original documents.'

^[1] http://www.aicpa.org/members/div/auditstd/opinion/apr97_3.htm

The interpretation is **TO THIS DAY** a PCAOB interim standard

<http://pcaobus.org/Standards/Auditing/Pages/AU9550.aspx>

1997, 2001

Auditors Not Responsible for EDGAR Filings

- AU 9550¹
 - 1997, revised 2001
 - CPAs are not responsible for electronic “information” (no barriers around the Internet)
 - “[A]uditors are not required by section 550 to read information contained in electronic sites, or to consider the consistency of other information (as that term is used in section 550) in electronic sites with the original documents” – including, explicitly, the SEC’s *EDGAR* system.

¹ <http://pcaobus.org/Standards/Auditing/Pages/AU9550.aspx>

EDAFITF*

- Electronic Dissemination of Audited Financial Information Task Force
 - **Task force established by the ASB in April 1997**
- The task force was constituted to consider issues concerning the electronic dissemination of audited financial statements and related auditors' reports, as well as other information that an accountant has reported on, in particular
 - (1) whether an accountant has an obligation to determine if his or her report and the information to which it relates will be disseminated electronically, and
 - (2) the accountant's responsibility for the electronic version of the information attested to and for other information that might be associated with that information.

1997

The chair of that committee, John L. Archambault, reported on its deliberations in *CPA Journal*, November 1999

Issue 1: What was the basis for the conclusion reached in Interpretation #4 to SAS No. 8, Other Information in Electronic Sites Containing Audited Financial Statements?

Discussion: On a given website, there may be **no clear boundaries** between the audited financial statements and other financial or nonfinancial information. Not only can a website include a substantial amount of information generated by the company (i.e., about products, employment, and nonfinancial data) but, through hyperlinks, it can also include information from outside sources. This information may also be continuously changing.

It is not only impractical, but almost impossible for an auditor to access all of the information that is on or linked to a client's website. This is analogous to the auditor attempting to access all of the client's internal information, reports, or documents and all external information about the client from other sources. Thus, under SAS No. 8, a website is not considered to be a "document" as that term is used in AU section 550, and an auditor is not required to read the information on a website or to consider whether it is consistent with information in original documents.

1999

Explicitly Mentions

- The World Wide Web area of the Internet
- An electronic bulletin board
- The Securities and Exchange Commission's **EDGAR system**
- Or similar electronic venues (hereinafter, "electronic sites").

Consideration of eDocuments is Not Unique to US

- Australia: AUS 1050
 - http://www.aarf.asn.au/docs/AGS1050_07-02.pdf
 - Discusses audit issues related to electronic reporting and guidance on dealing with the auditor's report in an electronic environment, pre-XBRL. They refer back to the paper financial statement if they are concerned about the integrity of the electronic one.
- New Zealand: ED/AGS-1003
 - Leveraged the Australian work
 - <http://www.icanz.co.nz/StaticContent/download/ags/edags1003.pdf>
- UK: APB Bulletin 2001/1
 - “The Electronic Publication of Auditor’s Reports”
 - The UK has allowed an auditor to provide services on online data even before XBRL.
 - http://www.frc.org.uk/images/uploaded/documents/Bull_01-01.pdf

Increasing Demand for Web and Trust

- New reporting model and demand
- Atomic information on web site, in press releases
- Demand for material disclosure items outside of periodic report
 - In my view, we need to supplement the static periodic disclosure model - that has long served investors well, but in today's world results in the delivery of information that is often *stale upon arrival*, and impenetrable to many of those who receive it. I believe we need to move toward a **dynamic model of current disclosure** of unquestionably material information.
 - <http://www.sec.gov/news/speech/spch523.htm>
 - Chairman Harvey L. Pitt, November 14, 2001

Advent of XBRL

- Standard for integrating the business reporting (and audit information) supply chain
- Tags data with agreed-upon or extended tags and associates business reporting facts with necessary metadata
- Discoverable, reusable, consumable

```
<us-gaap:InterestAndFeeIncomeOtherLoansHeldForSale contextRef="Duration_7_1_2011_To_9_30_2011" unitRef="Unit1" decimals="-3">1576000</us-gaap:InterestAndFeeIncomeOtherLoansHeldForSale>
```

```
<us-gaap:InterestExpense contextRef="Duration_1_1_2010_To_9_30_2010" unitRef="Unit1" decimals="-3">7293000</us-gaap:InterestExpense>
```

```
<us-gaap:InterestExpense contextRef="Duration_7_1_2010_To_9_30_2010" unitRef="Unit1" decimals="-3">2930000</us-gaap:InterestExpense>
```

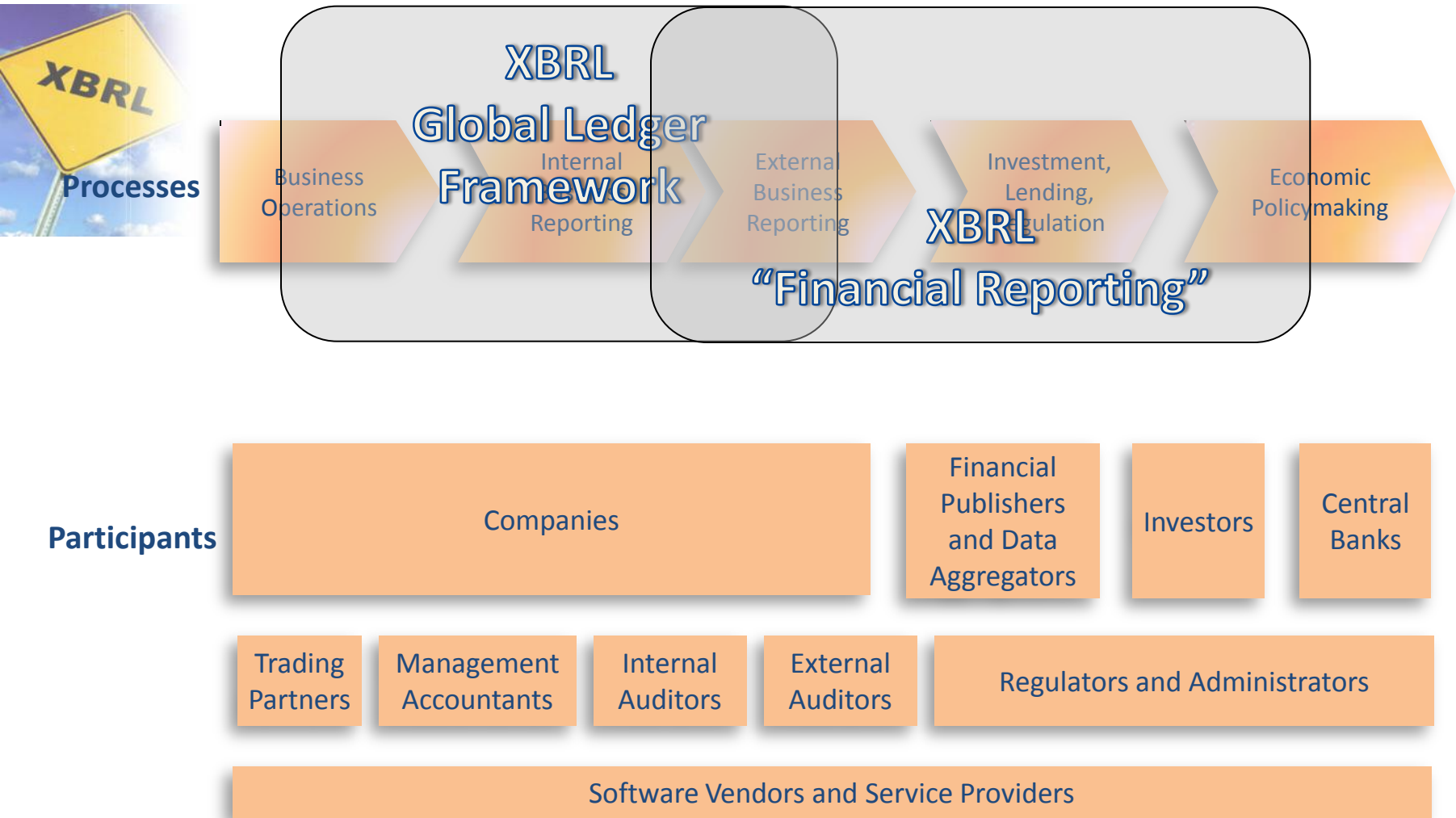
```
<us-gaap:InterestExpense contextRef="Duration_1_1_2011_To_9_30_2011" unitRef="Unit1" decimals="-3">10836000</us-gaap:InterestExpense>
```

```
<us-gaap:InterestExpense contextRef="Duration_7_1_2011_To_9_30_2011" unitRef="Unit1" decimals="-3">3716000</us-gaap:InterestExpense>
```

```
<us-gaap:InterestIncomeExpenseNet contextRef="Duration_1_1_2010_To_9_30_2010" unitRef="Unit1" decimals="-3">14459000</us-gaap:InterestIncomeExpenseNet>
```

```
<us-gaap:InterestIncomeExpenseNet contextRef="Duration_7_1_2010_To_9_30_2010" unitRef="Unit1" decimals="-3">5501000</us-gaap:InterestIncomeExpenseNet>
```

Business Reporting Supply Chain



First Considerations at AAA National Conference in Philadelphia (August 2000)

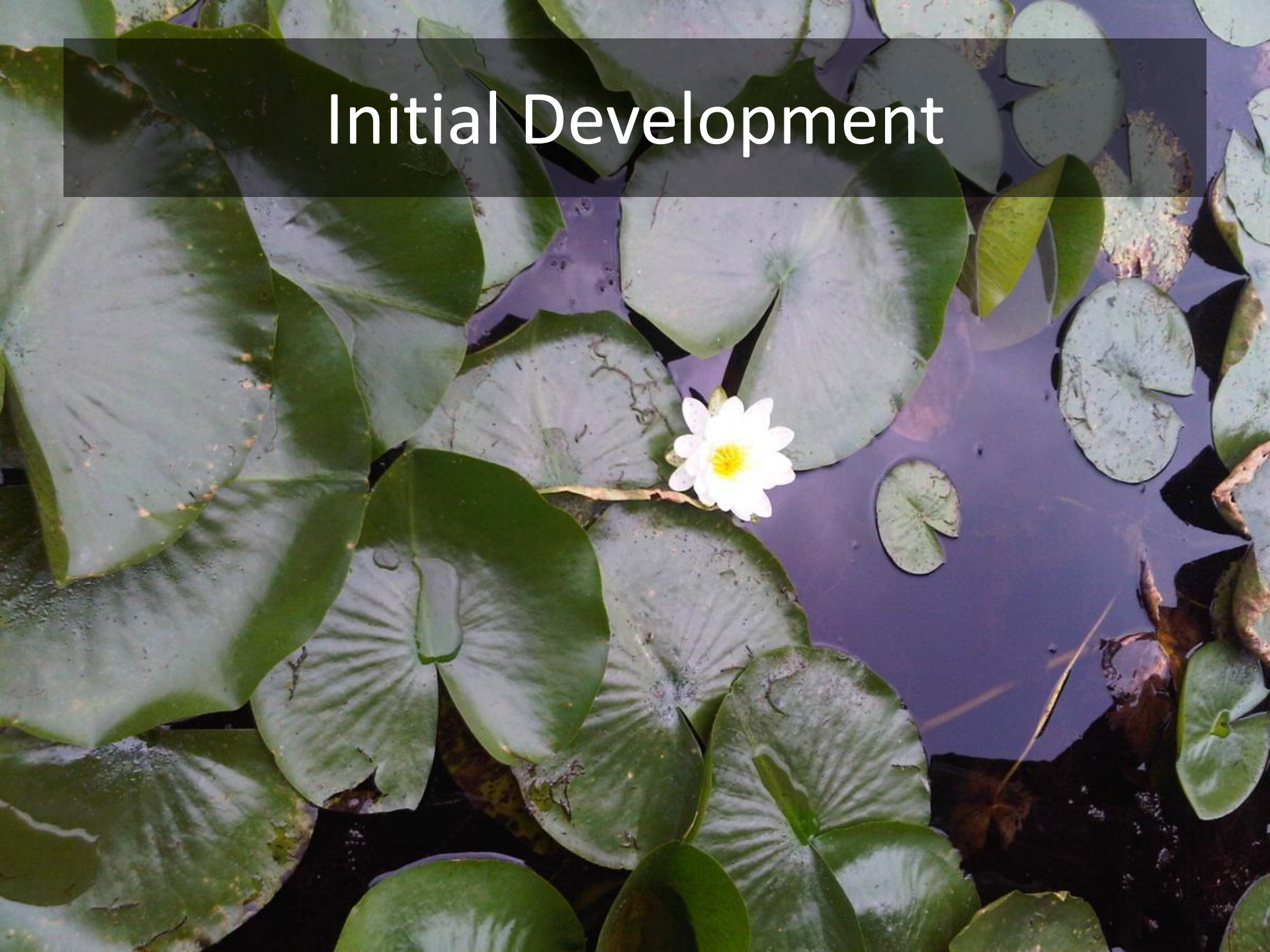
- Does XML (and the promise of XBRL) offer the opportunity to implicitly – or even better, explicitly – paint borders around information ...
- Through security technologies, can it let the auditor identify, without modifying management's report, what is – and what is not – covered by assurance ...
- And., in essence, “paint” the indication of assurance at the “data level”, as opposed to the document level for clear contrast



Distinctives

- Auditor-, rather than management-, applied
 - Separate management's assertions from auditor's opinion
- Secured through appropriate authentication technologies
 - Provide a means to verify signatures
- Standards-based

Initial Development



Development of XML Security Standards

www.w3.org/TR/xmlenc-core/

Most Visited Getting Started Latest Headlines Customize Links Origin... Customize Links myKcurve Original

section 4.2.1], the `<xenc:XMLNamespacePrefix>` [XML-NS, section 2] and defaulting. Additionally, the entity `<xenc;` is defined so as to provide short-hand identifiers for UF `/xmlenc#Element"`.

This specification makes use of the XML

```
xmlns:ds='http://www.w3.org/2000
```

URIs [URI] MUST abide by the [XML-Sc etc.).

1.4 Acknowledgements

The contributions of the following Workin

- Joseph Ashwood
- Simon Blake-Wilson, Certicom
- Frank D. Cavallito, BEA Systems
- Eric Cohen, PricewaterhouseCoo
- Blair Dillaway, Microsoft (Author)
- Blake Dournaee, RSA Security
- Donald Eastlake, Motorola (Editor)

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IT Security & Network Security News

Researchers Crack XML Encryption Mechanism, Propose New Standard

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By: Fahmida Y. Rashid
2011-10-24
Article Rating: ★★★★★ / 5

[There are 0 user comments on this IT Security & Network Security News & Reviews story.](#)

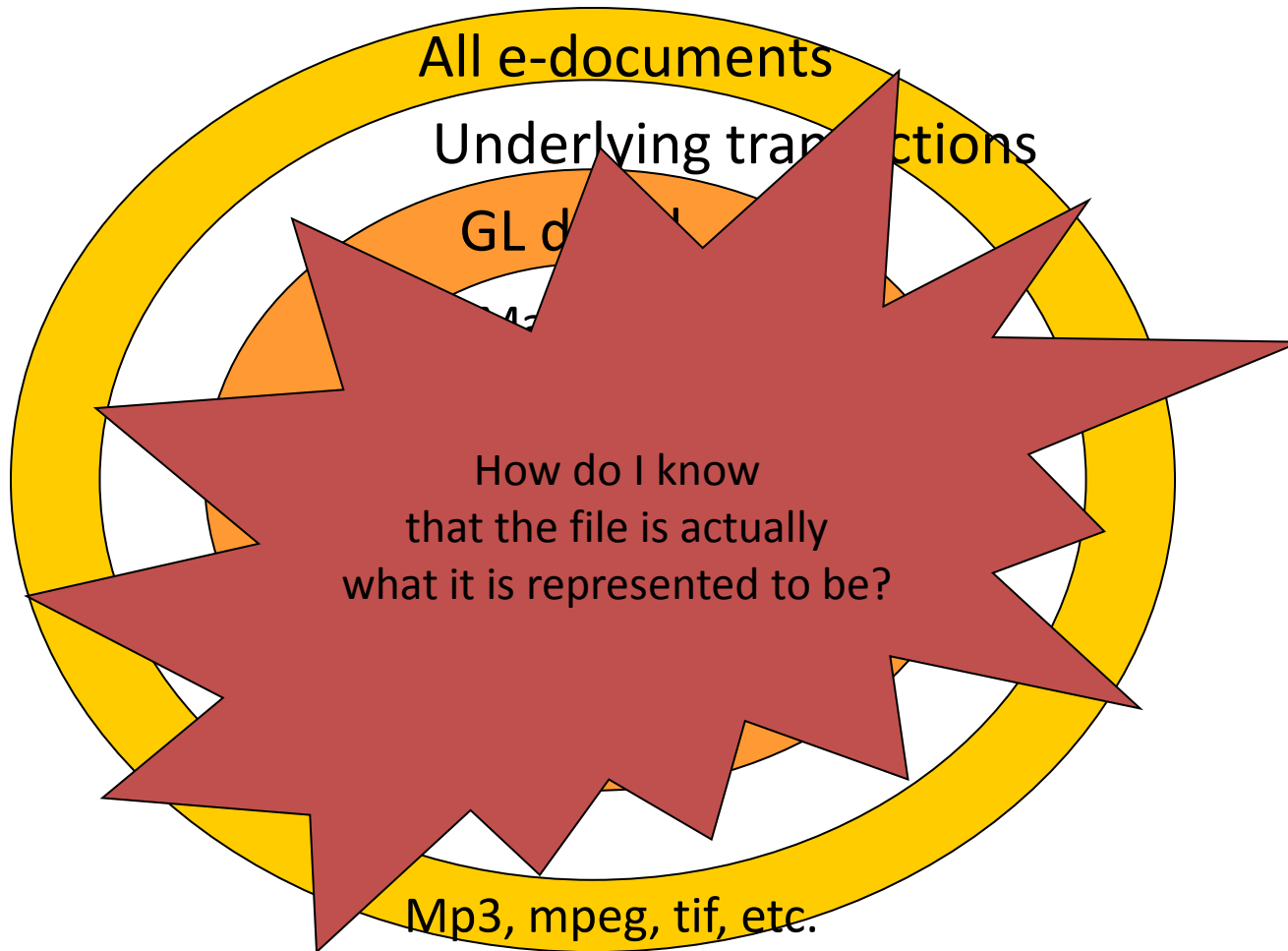
A flaw in XML Encryption leaves major Web services vulnerable to potential attack unless Apache, Red Hat, IBM, Microsoft and other major XML framework providers adopt a new standard.

Security researchers have cracked the major XML framework used to encrypt data in major Web applications.

Rate This Article:

Poor ○ ○ ○ ○ ○ Best

Paper-paradigm Report → e-Document



Presentation
Tagging

Summarization

Allocations

Reclassification

Accounting

Trx

Recognition

Do tags
match
presentation?

Does tags'
content match
detail?

Controls
surrounding
taxonomies,
linkbases

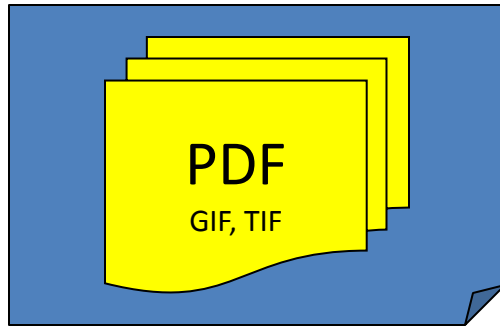
Is file/stream
authentic and
authorized?

Is all
necessary content and
context included?

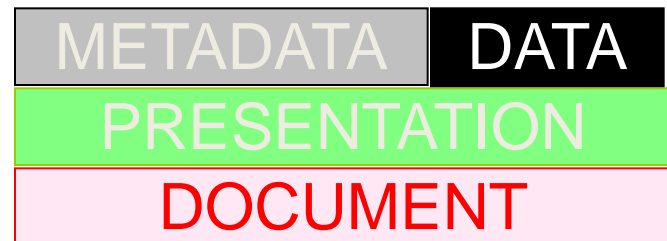
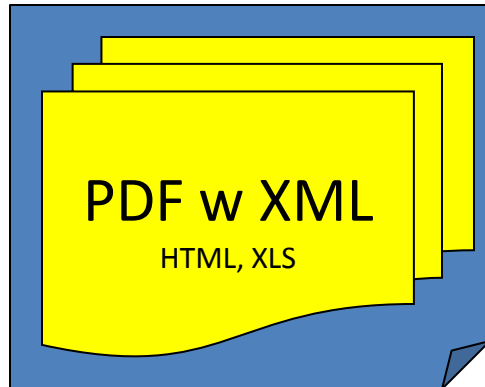
Encapsulation

File Assurance

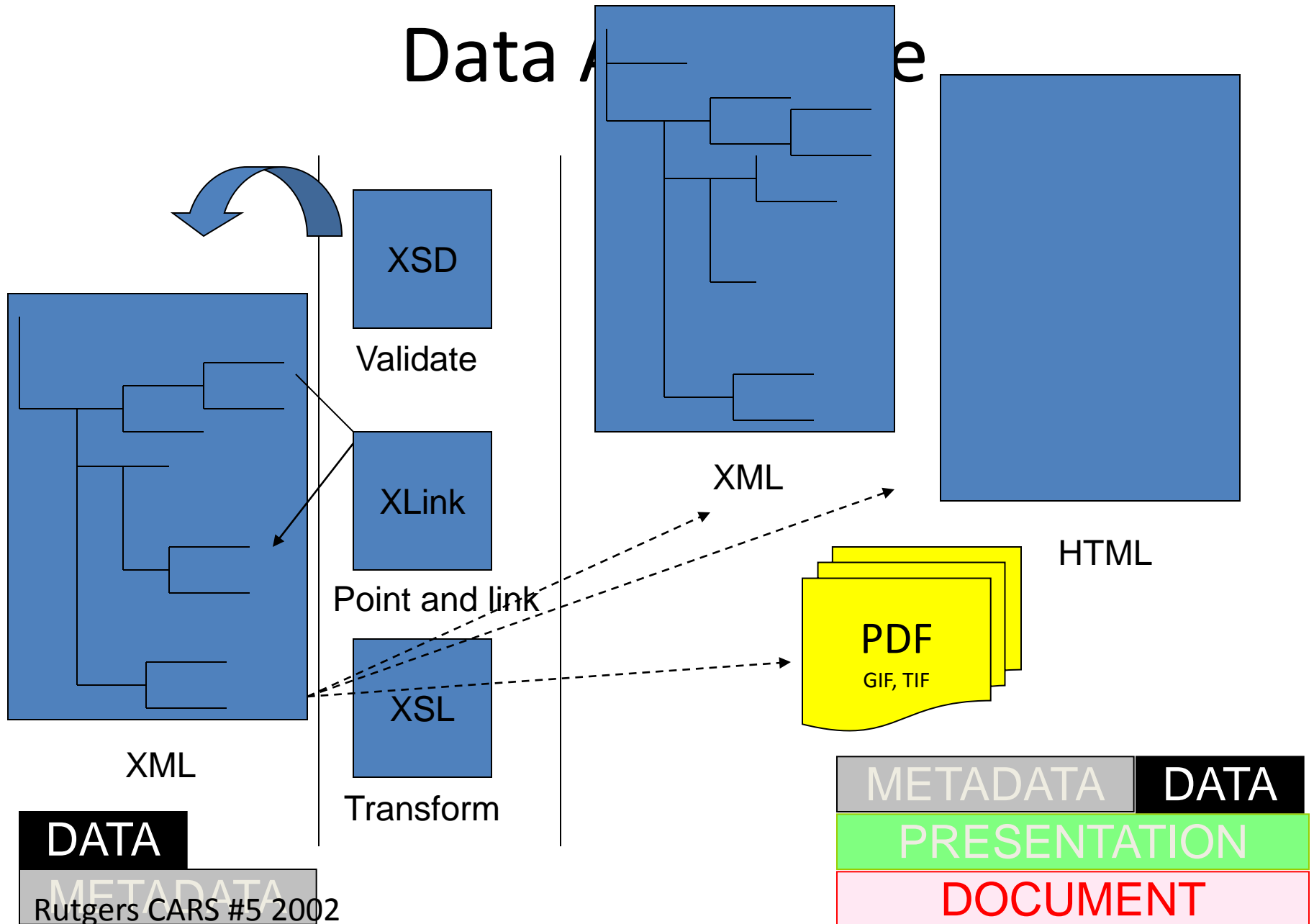
Dumb Document



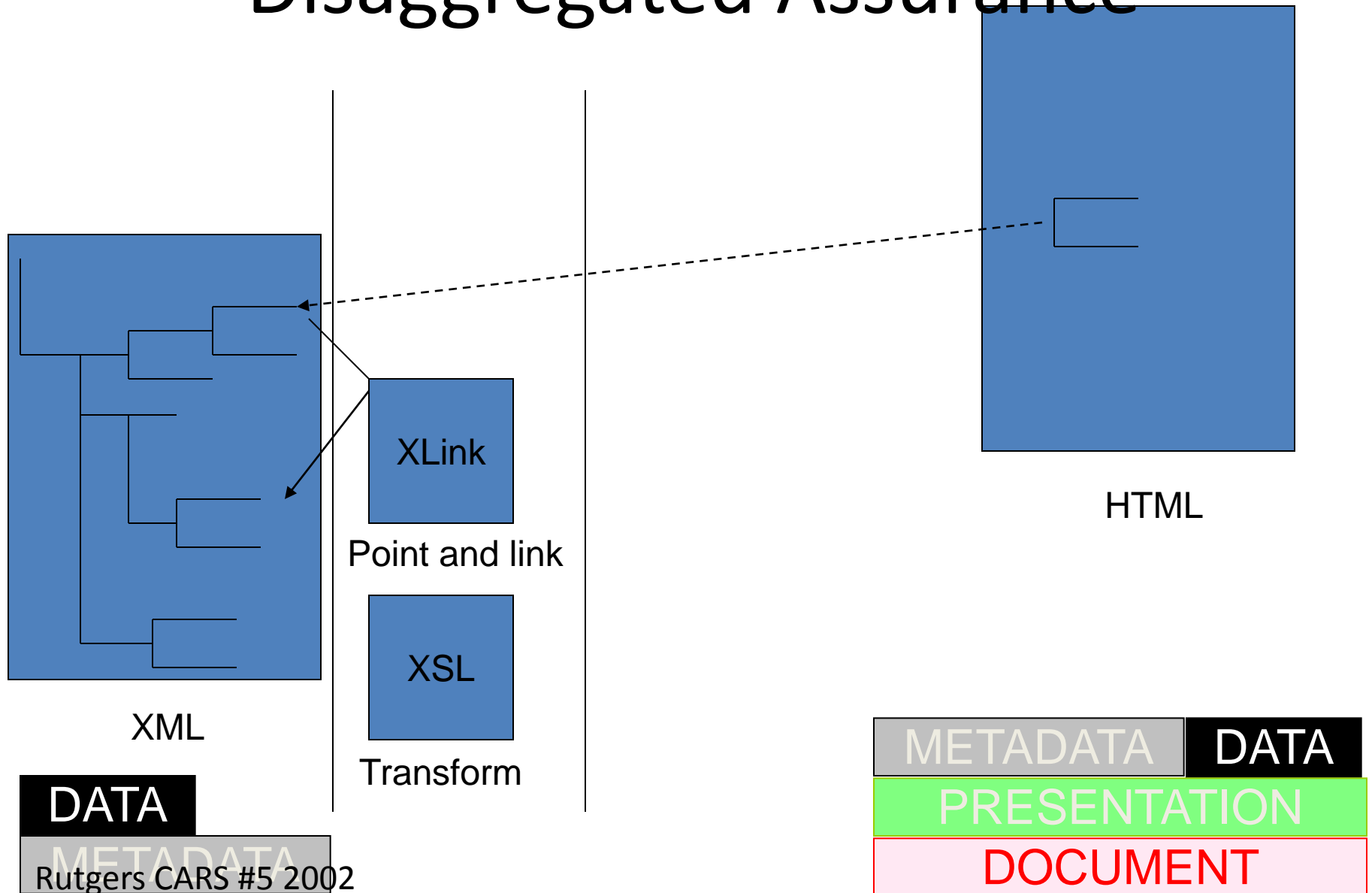
Smarter Document



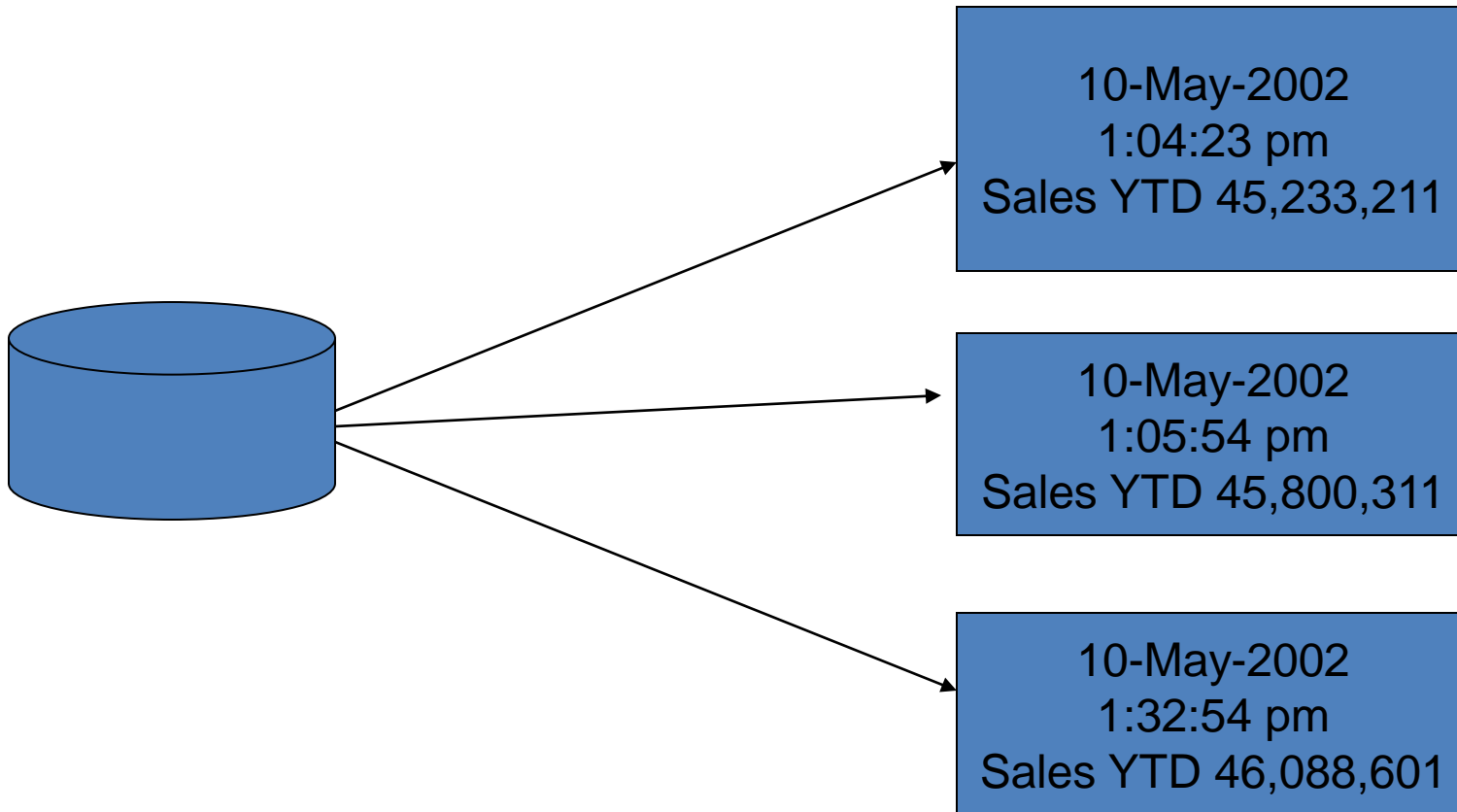
Data Architecture



Disaggregated Assurance

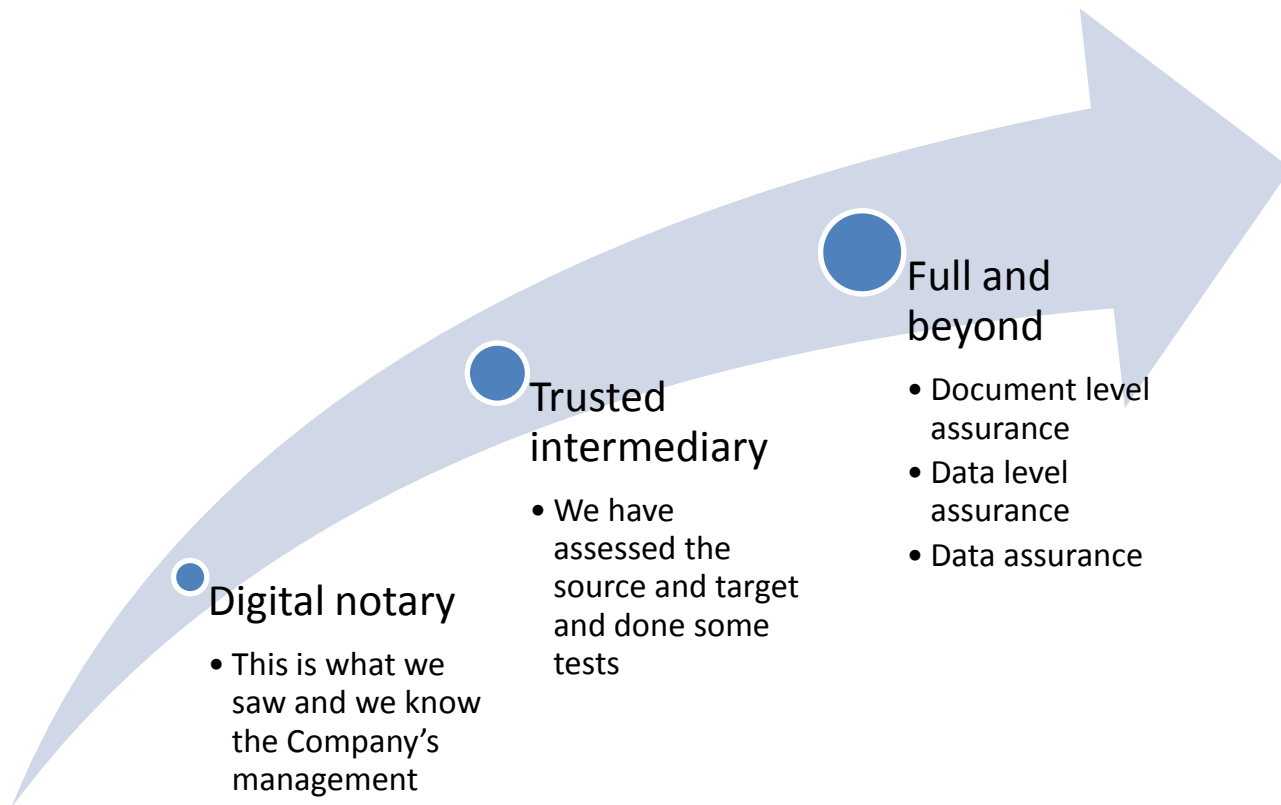


Real-time Assurance

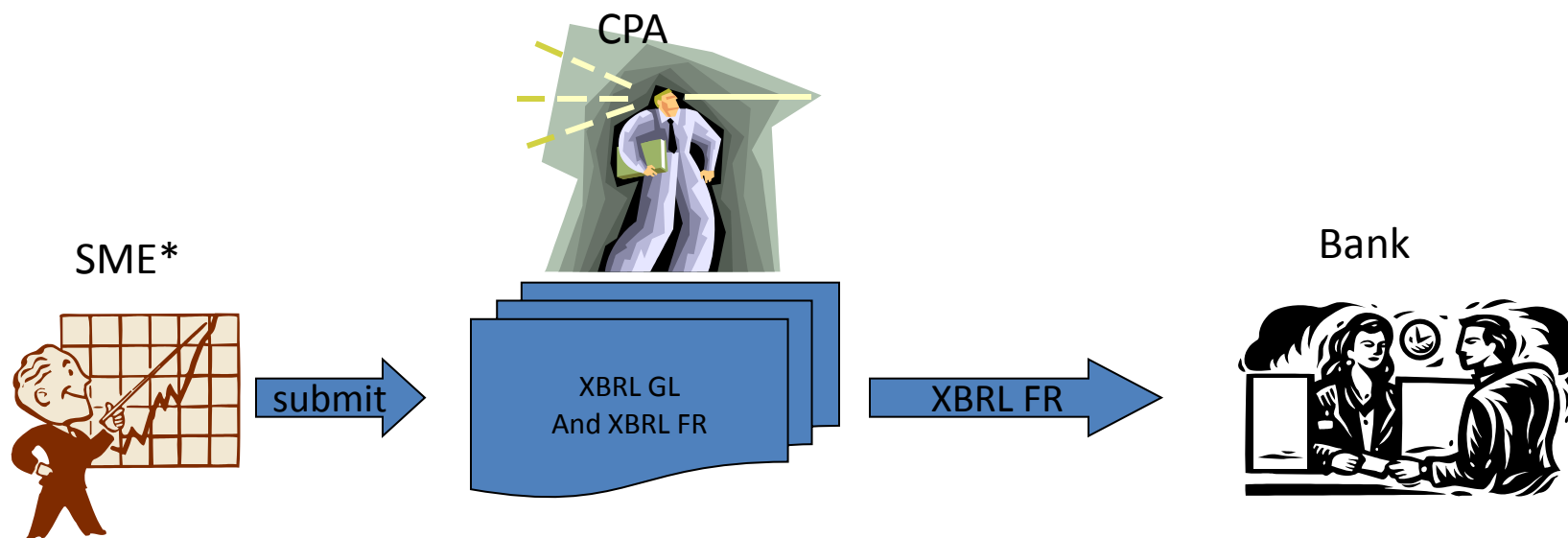


Additional Considerations

- What were the potential boundaries of things we could do with XML signature technology?



Use Case: Small Business Tag Services



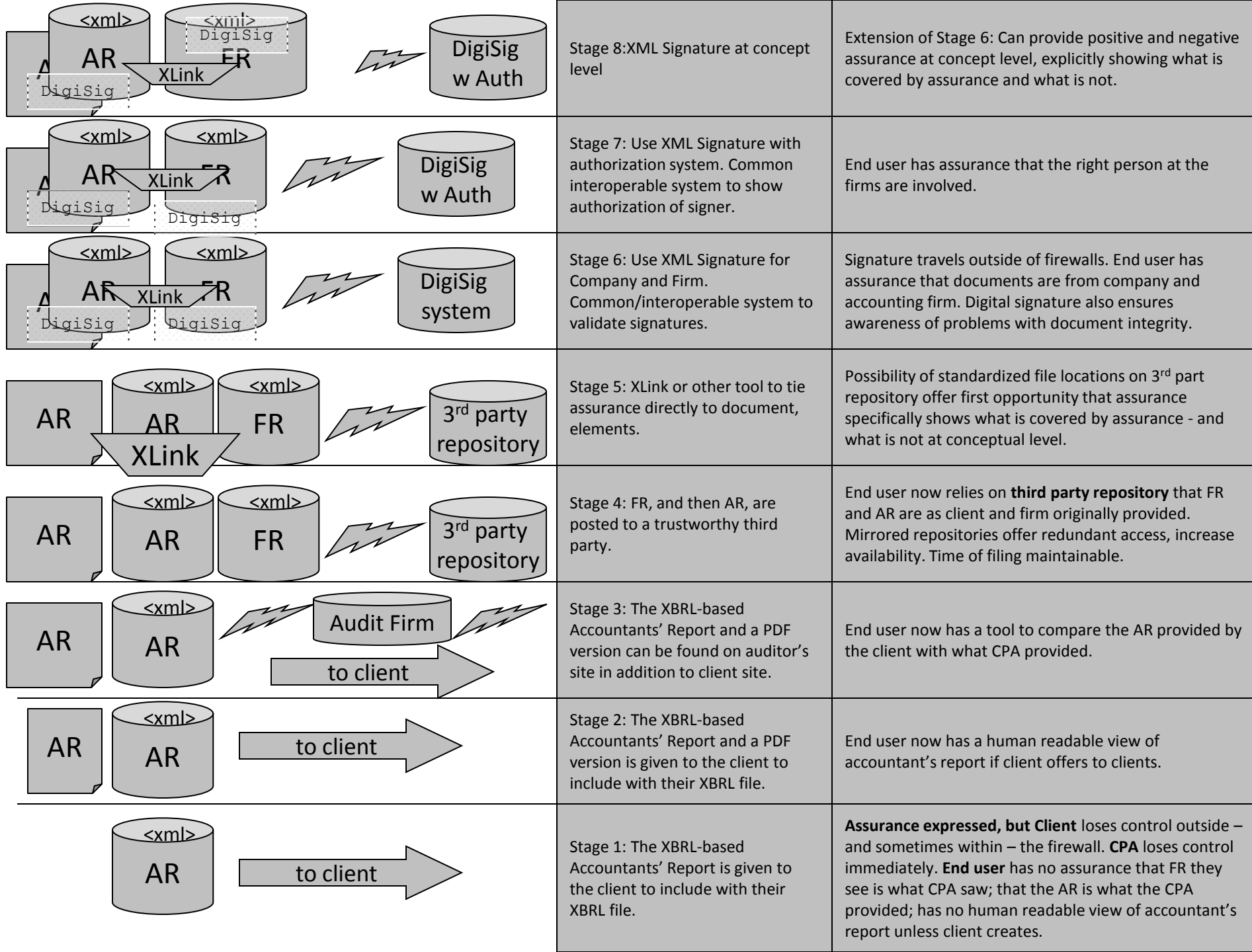
Is this originally from the SME or properly authorized by them?
Are new accounts properly tagged?
Have old accounts been changed?
Is file internally consistent?

*SME = Small and Medium Enterprises

What Is Data Level Assurance?

- **NOT** *necessarily* assurance on the underlying supportive data
- **NOT** *necessarily* assurance on the underlying systems
- **NOT** *necessarily* something the profession is jumping to embrace
- **NOT** *necessarily* something we will be able to easily explain to the marketplace and manage expectations

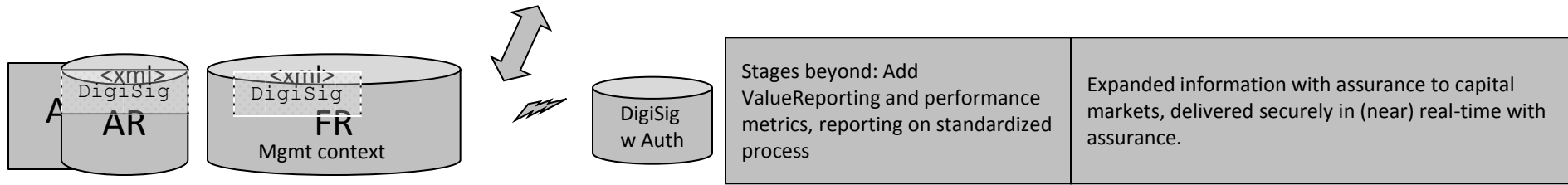
Communicating Assurance



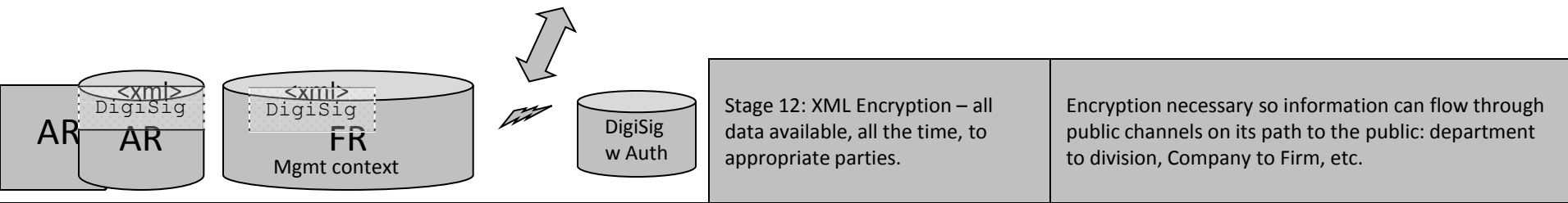
and beyond ...

Standardized Web Services-based interfaces, agreement on APIs ...

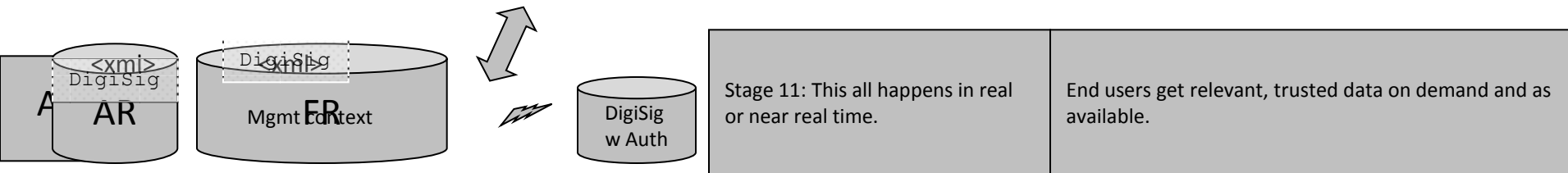
<sales>3903</sales> ... <CustomerSatisfaction>High</CustomerSatisfaction> ... <indictments>0</indictments>



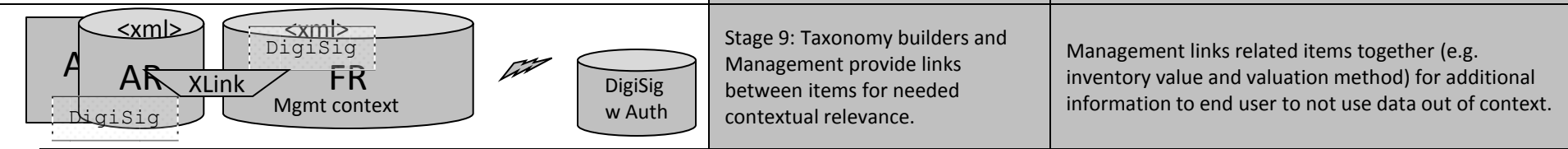
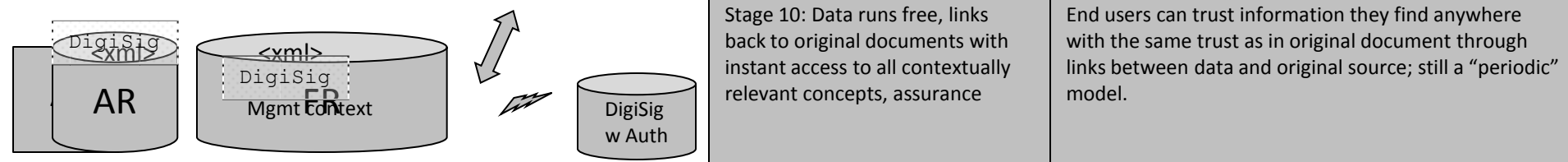
#\$%^\$ %^&*^% ^&*(&^



<sales numericContext="c202">3703</sales>.. <sales numericContext="c201">3451</sales>.. <sales numericContext="c200">2043



<sales numericContext="c1">3451</sales>



Fool-proof Agreed-Upon User Interface

The image shows a web browser window with the URL `http://assuredfinancials.iasc.org.uk`. The page content includes a search bar with the text "Search for: XYZ Corp. financials", a title "Financials for XYZ Corp", and several links: "Balance Sheet" (red), "Income Statement" (red), "MD&A" (blue), and "More info at www.xyzmgmtinfo.com" (blue). At the bottom, a signature check shows "Company" with a green dot and "CPA" with a yellow dot. A key at the bottom reads: "Key: Assurance provided No assurance provided".

Callout boxes provide additional context:

- Best practices** (top right)
- Why Yellow?** (middle right): e.g., firm checks ok; signer is not on file ...
- or coding** (middle right): her tool to highlight whether
- assurance is provided.** (middle right)
- Digital signature check:** green is clear, yellow is questionable, red is bad. (bottom right)

Presented to Profession, May 2001

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DRAFT Minutes

Procès-verbal

DATE: July 16, 2001

COMMITTEE:

CICA Assurance Services Development Board

AICPA Assurance Services Executive Committee

MEETING DATE(S):

May 29-30, 2001

:

LOCATION/LIEU:

CICA Offices, Toronto, Ontario, Canada

CHAIRPERSONS:

Doug McPhie, Susan Rucker



Presented at WCA, to CICA/AICPA ASEC

2. Data Centric Environment

Eric Cohen, Mike Willis (both of PwC) and Zach Coffin (KPMG) discussed the possibility of enhancing the role of the CA/CPA in the business reporting supply chain. They described the evolution of a data centric environment, including the role of XML and XBRL, and potential opportunities for the profession that might require immediate action. In their call to action they asked that ASDB/ASEC:

- Make this topic a high priority

- Develop and circulate a business plan

- Assemble a team and the resources to be responsible

- Dedicate / hire the appropriate resources specifically responsible for standards and solutions in this area.

The presenters noted that conditions, such as misrepresentation of information on the web, reactive penalties, absence of ways to find out if information is true, present near term service opportunities including:

- Assurance that 'tags' are properly applied

- Data level assurance

- Digital signatures

- Encryption issues

Questions put to the board include

- What should ASDB/ASEC's role be?

- How do we bubble up ideas?

- Should issues related to the data centric environment be dealt with by a different committee/task force at the AICPA / CICA?

Collaboration with Miklos

Maturity of **Data Level Assurance** concept



What Is Data Level Assurance?

- New statements providing **variable** comfort that
 - Appropriate authorization and authentication is assured
 - Reader has necessary context for understanding data item(s)
 - No obvious inconsistencies between tags and textual items (machine and human readable identification) exists
 - Content of tag and tag of content make sense
 - Appropriate controls between instances and referred-to schemas are in place
- And technology that makes that assurance portable after transformation of the original data item

Nature of Assurance

- In data level assurance, redefined
 - Analytical review
 - Substantive testing
 - Data level testing
 - Internal control evaluation
 - A new model of risk assessment
 - Materiality as a threshold of error
 - Tradeoffs of costs and assurance obtained
 - Collecting and weighting of evidence
 - Subsequent events



$$DT=f(DLA,PK,OF)$$

- DT = Data Trust
- DLA = Data Level Assurance (f(DA,DQ,MA,MQ,TA,TQ,OA,OQ))
- DA=Data Assurance
- DQ=Data Quality
- MA=Metadata Assurance
- MQ=Metadata Quality
- TA=Taxonomy/ontology Assurance
- TQ=Taxonomy/ontology Quality
- OA=Organization Assurance
- OQ=Organization Quality
- PK=Prior Knowledge/Experience
- OF=Other Factors - opinion, environment, emotional

$$P(h | D) = \frac{P(D | h)P(h)}{P(D)}$$



Future Assurance: present shock?

Eric E. Cohen

XBRL Technical Lead, PwC

Miklos A. Vasarhelyi

KPMG Professor, Rutgers University; Technical consultant, AT&T Laboratories

Dec. 2-4, 2001

Business of E-Business Conference in Phoenix, Arizona.

PwC/Bryant University Monograph (2003)

Trust and Data Assurances in Capital Markets: The Role of Technology Solutions

- **The Implications of Economic Theories and Data Level Assurance Services: Research Opportunities**
 - *Eric E. Cohen (PricewaterhouseCoopers), Barbara Lamberton (University of Hartford), and Saeed Roohani (Bryant College)*

http://www.xbrleducation.com/pubs/PWC_Book.pdf

Data level assurance is to provide variable comfort (opinion statement) that

- Appropriate authorization and authentication is assured – authorized data from reliable source
- Reader has necessary context for understanding data item(s) – is the data meaningful to the reader
- No obvious inconsistencies between tags and textual items (machine and human-readable identification) exists
- Content of tag and tag of content make sense
- Appropriate controls between instances and referred-to schemas are in place

And technology that makes that assurance is portable after transformation of the original data item.

(Source: Eric E. Cohen, Data Level Assurance, IMA Annual Conference, June 25, 2002)

What If?

The market could get hints, glimmers, possibilities ... right from the horse's mouth - with risk information.

Or, a fact could be pulled from the audited financials, reported separately in a press release, but maintain all of its context and “audit-ness”?



Quick off the mark: traders at the Chicago Mercantile Exchange react to a Federal Reserve interest rate decision in December. Getty Images

Thirst for data sees markets react to the price of a coffee

The cost of houses, hamburgers and Starbucks' tall lattes all play their part in a world where seconds mean millions. Jennifer Hughes reports

One Friday last month, traders around the world leapt for their telephones following an unexpectedly sharp drop in US consumer

gan survey findings last month is now the subject of an FBI investigation. The inquiry, announced last week, is thought to center on

scare-mongering," says Paul Bednarczyk, a strategist at the 4Cast consultancy.

Consumer confidence figures came into market vogue in 2001 after Alan Greenspan, chairman of the US Federal Reserve, explained two interest rate cuts in less than a month by referring to

Bank of England is currently focused on developments in house prices.

This hunger for any data that measures whatever aspect of the economy appears to precede policy-makers has not gone unnoticed by publicity-seekers.

The UK housing market,

The

with
rec
shau
year
down
rishi
year
hit
by 1
Sept
expe
inte
E
post
part
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curr
this
that
run
year
abo
this
and
rest
Ti
Briti
sam
off a
to lo
full
too

Syn
Erie
tech
bed
But
Syn
ma



Future Reporting



Data
assurance



Data level
assurance



Continuous
auditing



Market Reinterpretation

A problem has been detected and windows has been shut down to prevent damage to your computer.

DRIVER_IRQL_NOT_LESS_OR_EQUAL

If this is the first time you've seen this stop error screen, restart your computer. If this screen appears again, follow these steps:

Check to make sure any new hardware or software is properly installed. If this is a new installation, ask your hardware or software manufacturer for any windows updates you might need.

If problems continue, disable or remove any newly installed hardware or software. Disable BIOS memory options such as caching or shadowing. If you need to use Safe Mode to remove or disable components, restart your computer, press F8 to select Advanced startup options, and then select Safe Mode.

Technical information:

*** STOP: 0x000000D1 (0x0000000000000010, 0x0000000000000002, 0x0000000000000000, 0x0000000000000000) ***

*** ndfs.sys - Address FFFFFF880014D95D6 base at FFFFFF880014AB000, DateStamp 4a5bC184 ***

Collecting data for crash dump ...
Initializing disk for crash dump ...
Beginning dump of physical memory
Writing physical memory to disk

Audit Profession Response

- FUD
 - Will the market think we have given up on **materiality** and **taken as a whole**? After all, you are calling it **data level** assurance
- Professional efforts – focus on assurance ON XBRL
 - AICPA
 - Interpretation that XBRL files ARE a document
 - PCAOB Staff Q&A
 - AICPA Statement of Position 09-1 and Agreed-Upon Procedures
 - AICPA Exposure Draft on Principles and Criteria for XBRL
 - Lots of white flags
 - UK – it's not relevant to HMRC, no big reason to be concerned
 - IAASB efforts

Is This Data Level Assurance?

- Focus on assurance on XBRL
- Not using XBRL for assurance or comfort
- Is providing comfort that the XBRL is a faithful representation of a traditional ASCII/HTML document “data level assurance”, in any sense of the phrase?
- Has the concept been lost?

IFA Reference

In short, since data in XBRL format can be presented in different ways and data elements can be approached or processed separately from other data, the fundamental issue relates to “document-level” assurance versus “data-level” assurance.

Related to this issue is the question of the level of assurance that is needed, what would audit-level assurance (if that is possible) cost, and would users be willing to accept that cost for the benefits obtained? And regulators, stock exchanges and intermediaries must reflect further upon the assurance required. The answer may depend on their view as to whether financial information in XBRL format should not only be permitted – but *required* – when financial information is filed with them. [As an observation, given recent experience with the implementation of Sarbanes-Oxley, the question of value for money needs to be carefully considered.]

Ian Ball, www.ifac.org/sites/default/files/news/files/iball-xbri-automation.doc

XBRL, AUTOMATION, AND ENHANCING THE CREDIBILITY OF FINANCIAL REPORTING AND AUDITING

Chief Executive, International Federation of Accountants

14th Annual XBRL International Conference

Philadelphia, USA - December 4, 2006

CICA Research Study

Principal Author, Gerald Trites, FCA, CISA

However, in the case of data level assurance, the systems approach may take on an increased importance. As stated by the CEOs of the major global audit firms, —The future of auditing in such an environment lies in the need to verify that the process by which company-specific information is collected, sorted and reported is reliable and the information presented is relevant for decision making .

One potentially important tool in achieving data level assurance is continuous audit.

What is needed for Data Level Assurance engagements is a set of specific Trust Service standards (e.g., DataTrust) that would focus on the data and provide the assurance that the data has been prepared in accordance with established principles.

Because of the difficulty of determining materiality for data level assurance engagements, there is a good case for disclosure of materiality in data level assurance reports. Readers of data level assurance reports would be at a disadvantage because they would have difficulty knowing what standard of materiality was used in the assurance engagement.

Assurance on XBRL



SEC

No required auditor involvement in preparation and submission under 33-9002, but:

“As the technology associated with interactive data improves, issuers may integrate interactive data technology into their business information processing, and such integration may have implications regarding internal control over financial reporting no different than any other controls or procedures related to the preparation of financial statements. If this integration occurs, the preparation of financial statements may become interdependent with the interactive data tagging process and an issuer and its auditor should evaluate these changes in the context of their reporting on internal control over financial reporting.”

Can We Provide Assurance on XBRL?

- AICPA began the discussion
 - http://www.aicpa.org/Research/Standards/AuditAttest/DownloadableDocuments/AT-00101_9.pdf
 - Section 5. Attest Engagements on Financial Information Included in eXtensible Business Reporting Language Instance Documents
- PCAOB adopted the conclusion for the VFP
 - PCAOB Staff Q&A for Voluntary Filing Program
 - <http://pcaobus.org/Standards/QandA/05-25-2005.pdf>

Can We Provide Assurance on XBRL?

- SEC rule (33-9002) in regard to AT-101
 - “We note that issuers can obtain third-party assurance under the PCAOB Interim Attestation Standard—AT sec. 101, Attest Engagements on interactive data, and can start and stop obtaining assurance whenever they choose”
- AICPA Statement of Position 09-1
 - Performing Agreed-Upon Procedures Engagements That Address the Completeness, Accuracy, or Consistency of XBRL-Tagged Data



Can We Provide Assurance on XBRL?

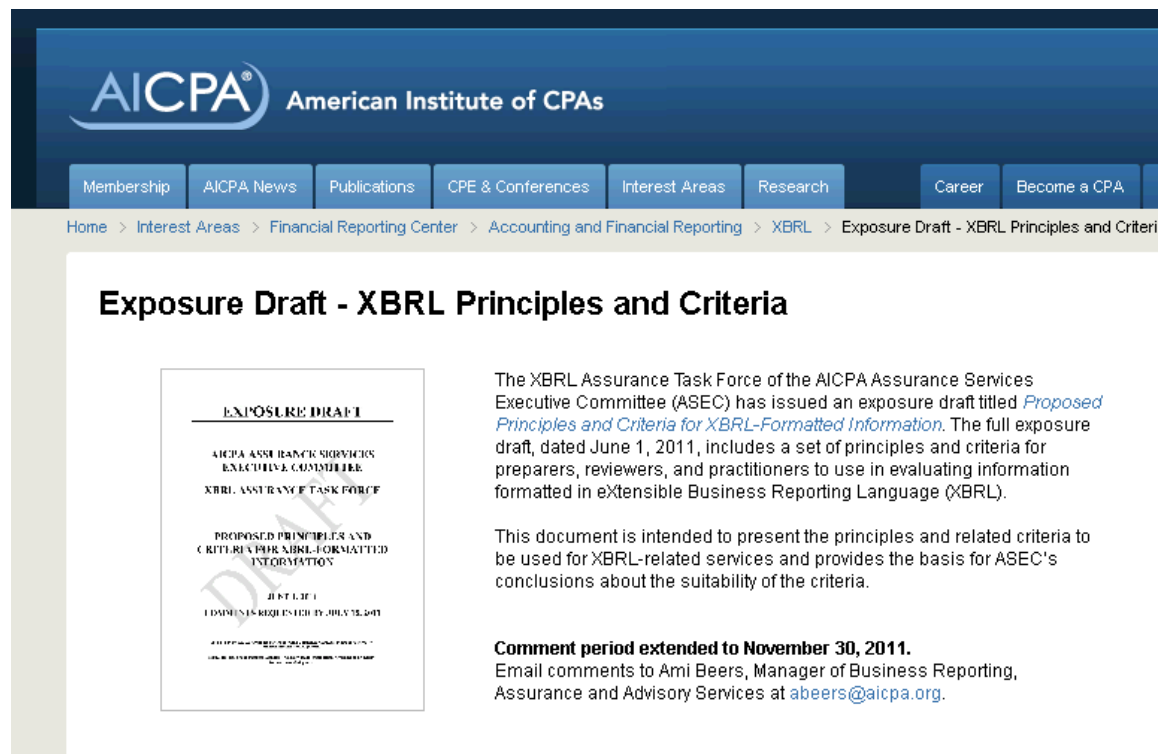
- *Proposed Principles and Criteria for XBRL-Formatted Information*
 - <http://www.aicpa.org/interestareas/frc/accountingfinancialreporting/xbrl/pages/exposedraft-xbrlprinciplesandcriteria.aspx>
- CAQ Alert 2009-55
 - http://thecaq.org/members/alerts/CAQAlert2009_55_06012009.pdf

Assurance on XBRL

- AUPs
 - Delivered to many
 - Not publicly exposed
- AT-101
 - Delivered to a handful of companies under the Voluntary Filing Program
- Outside of the US, under ISAE 3000
 - XII Assurance Working Group
 - Delivered by EY NL to Deloitte NL

AICPA Principles and Criteria

- Focus on XBRL representation of existing originating document



The screenshot shows the AICPA website with a blue header containing the AICPA logo and the text 'American Institute of CPAs'. Below the header is a navigation bar with links: Membership, AICPA News, Publications, CPE & Conferences, Interest Areas, Research, Career, and Become a CPA. A breadcrumb trail reads: Home > Interest Areas > Financial Reporting Center > Accounting and Financial Reporting > XBRL > Exposure Draft - XBRL Principles and Criteria. The main heading is 'Exposure Draft - XBRL Principles and Criteria'. On the left is a thumbnail of the exposure draft document cover, which includes the text: 'EXPOSURE DRAFT', 'AICPA ASSURANCE SERVICES EXECUTIVE COMMITTEE', 'XBRL ASSURANCE TASK FORCE', 'PROPOSED PRINCIPLES AND CRITERIA FOR XBRL-FORMATTED INFORMATION', 'JUNE 1, 2011', and 'COMMENTS REQUESTED BY JULY 15, 2011'. On the right, the text states: 'The XBRL Assurance Task Force of the AICPA Assurance Services Executive Committee (ASEC) has issued an exposure draft titled *Proposed Principles and Criteria for XBRL-Formatted Information*. The full exposure draft, dated June 1, 2011, includes a set of principles and criteria for preparers, reviewers, and practitioners to use in evaluating information formatted in eXtensible Business Reporting Language (XBRL). This document is intended to present the principles and related criteria to be used for XBRL-related services and provides the basis for ASEC's conclusions about the suitability of the criteria.' Below this, it says: 'Comment period extended to November 30, 2011. Email comments to Ami Beers, Manager of Business Reporting, Assurance and Advisory Services at abeers@aicpa.org.'

Guidance Note on Certification of XBRL Financial Statements



Mandatory auditor involvement
in mandatory filings to MCA

The Institute of Chartered Accountants of India

(Set up by an Act of Parliament)

New Delhi

Certify, Verify, Доверять, но проверять?

Certificate - Form 23ACA-XBRL (Profit and Loss Account)

It is hereby certified that I have verified the above particulars (including attachment(s)) from the audited financial statements of

..... and that all required attachment(s) have been completely attached to this form. It is further certified that the attached XBRL document(s) fairly present, in all material respects, the audited financial statements of the company, in accordance with the XBRL taxonomy as notified under Companies (Filing of documents and forms in eXtensible Business Reporting Language) Rules, 2011.

The guidance provided in this Guidance Note enables the chartered accountant (the practitioner) to issue a certificate in the format as envisaged vide Form No. 23AC-XBRL and 23ACA-XBRL. In addition, however, Appendix F to the Guidance Note also contains an illustrative format of a certificate. Practitioners undertaking engagements to certify XBRL financial statements other than as envisaged under Form 23AC-XBRL and Form 23ACA-XBRL may consider drawing guidance on the form and content of such certificate from the illustrative format given in the Appendix F in case they decide to issue such a certificate in terms of the Engagement Letter.

.55 The accountants should refrain from commenting on certain matters in a comfort letter. Except as indicated in the next sentence, they should comment

AU §634.52

Letters for Underwriters

only with respect to information (a) that is expressed in dollars (or per derived from such dollar amounts) and that has been obtained from accounting records that are subject to the entity's controls over financial reporting; or (b) that has been derived directly from such accounting records by analysis or computation. The accountants may also comment on quantitative information that has been obtained from an accounting record if the information is subject to the same controls over financial reporting as the dollar amounts. The accountants should not comment on matters merely because they happen to be present and are capable of reading, counting, measuring, or performing other functions that might be applicable. Examples of matters that, unless subjected to the entity's controls over financial reporting (which is not ordinarily the case), should not be commented on by the accountants include the square footage of facilities, number of employees (except as related to a given payroll period), and backlog information.³² The accountants should not comment on tables, statistics, and other financial information relating to an unaudited period unless (a) they have performed an audit of the client's financial statements for a period including or immediately prior to the unaudited period or have completed an audit for a later period or (b) they have otherwise obtained knowledge of the client's



2years!

Underwriters

Tick mark comfort only ...

Weakest Link(s)?



- No digital signature framework ... yet ⁽¹⁾

National Strategy for Trusted Identities in Cyberspace



- Paper-paradigm reliance, repository reliance
- Professional standards mired on paper
- Management not making public their responsibility
- Virtually no public association
 - Audit opinion on XBRL still mired in paper

⁽¹⁾ <http://www.nist.gov/nstic/about-nstic.html>

It Takes A Profession

- Tagging trust
 - XML Signature for authentication and integrity
 - Agreement among participants in the information chain so usage is consistent, interchangeable
 - Development and acceptance of standards, including redefining ...

Progress, Reassessment and Where to Go from Here



Has the Need Gone Away?

- New statements providing **variable** comfort that
 - Appropriate authorization and authentication is assured
 - Reader has necessary context for understanding data item(s)
 - No obvious inconsistencies between tags and textual items (machine and human readable identification) exists
 - Content of tag and tag of content make sense
 - Appropriate controls between instances and referred-to schemas are in place
- And technology that makes that assurance portable after transformation of the original data item

Achievements?

New statements providing variable comfort that	White flag Recent discussions that black and white is better
Appropriate authorization and authentication is assured	AICPA Digital Signature Working Group established in 2011 ⁽¹⁾
Reader has necessary context for understanding data item(s)	Concept-to-concept linking of FN linkbase
No obvious inconsistencies between tags and textual items (machine and human readable identification) exists	Rendering issues Inline XBRL Table Linkbase, Rendering Linkbase
Content of tag and tag of content make sense	SOP 09-1 Principles and Criteria
Appropriate controls between instances and referred-to schemas are in place	Repository-based
And technology that makes that assurance portable after transformation of the original data item	(1)

10 Years Later

- Proliferation of global XBRL mandates
 - US CDR, European Bankers (EBA)
 - EIOPA and Solvency II
 - SEC financials, risk-return, NRSROs, extractive industries
 - Tax regulators: HMRC (Inline XBRL)
 - Chile, China, Israel, Japan, Netherlands, Singapore, South Africa ...
- Standard Business Reporting
- DATA Act and similar efforts

10 Years Later

- XBRL data is being *used/relied upon*
 - As *supplementary* format, used in analytics
 - As *primary* format, serving as the only vehicle for communicating information
- XBRL data is being “*assured*”
 - Agreed-upon procedure engagements
 - Assurance under SEC Voluntary Filing Program
 - [ISAE 3000 guidance](#) from XBRL Assurance Working Group (November 2006)
 - ICAI guidance and MCA mandate

10 Years Later

- Market still considering whether a move BACK to HTML (with XBRL artefacts) is the right answer
- Not WYSIWYG but
- WYSPWHLWNTLWEEIWYG

10 Years Later

- XBRL is supplementing the document of record in many regimes
- XBRL is replacing/becoming the document of record in an increasing number of regimes
- Assurance on XBRL is being mandated in an increasing number of regimes
- DLAs timing still a few years out?
- DLA still and increasingly necessary



Questions?



Data Level Assurance

Appendices

Continuous Auditing/Reporting Facilitators



Low cost process and technology



Minimal time for processing/preparing data for auditing purposes (data reusability)



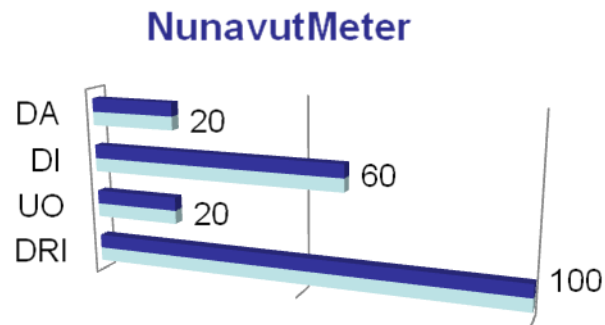
Minimal learning curve (information system, user interfaces)



Easy remote accessibility

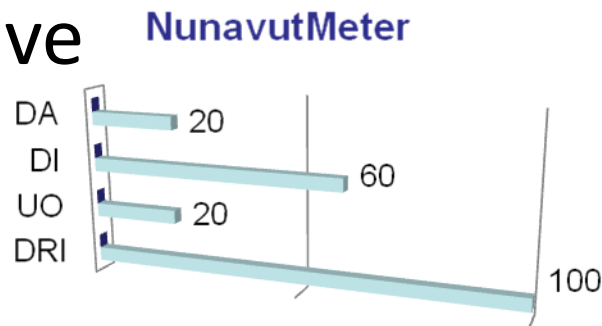
NunavutMeter

Dimension	Drivers	Weight
DA - Data Availability	XML and Web services	20
DI - Data Interactivity	Shared data dictionaries, XBRL, XBRL GL	60
UO - User Optimization	Standards-aware UI, Google OneBox	20
DRI - Data Reusability Index		100



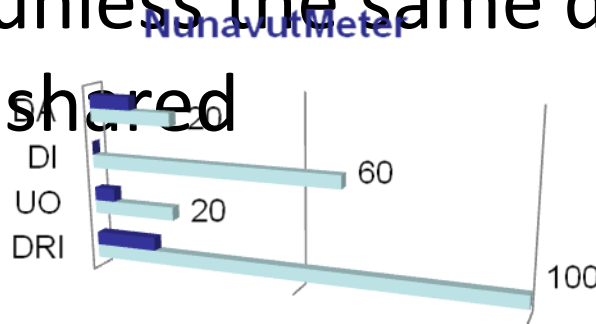
1 – No reusability

- “Everybody retypes everything”
- Data interchange between different applications and/or modules within the information system is highly labor-intensive
- Data aggregation/mining is highly labor-intensive



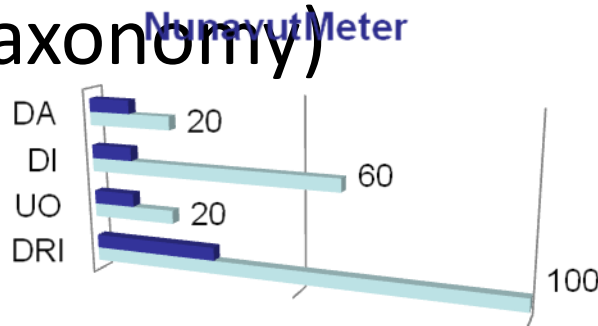
2 – Format Reusability

- All data represented with XML
- Agreement on date and numeric formats, validation capabilities, many other benefits for human and machine exchange
- No agreement on the meaning of the data: only technical reusability is achieved, unless the same data dictionary is shared



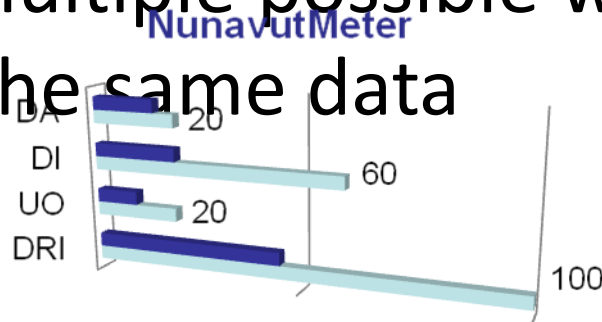
3 – Specification Reusability

- All data represented with XBRL
- Business rules packaged with the data itself and defined in a standard way
- Better than XML for business data, but still implies sharing the same dictionary (taxonomy)



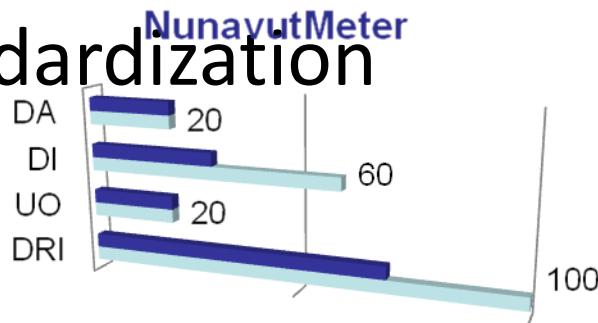
4 – Structural Reusability – Common Vocabulary

- All data represented with XBRL GL
- Two different agreements:
 - Semantic
 - Technical
- XBRL GL's flexibility means that there are multiple possible ways to represent the same data



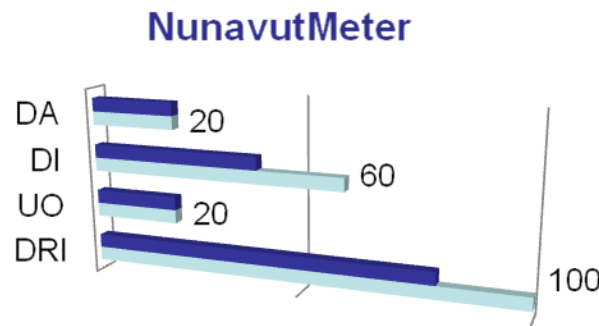
5 – Structural Reusability – Common Grammar

- XBRL GL instances are represented the same way
- Agreement on how to use XBRL GL's representational power in a consistent way building best practice profiles and templates that add an additional layer of standardization



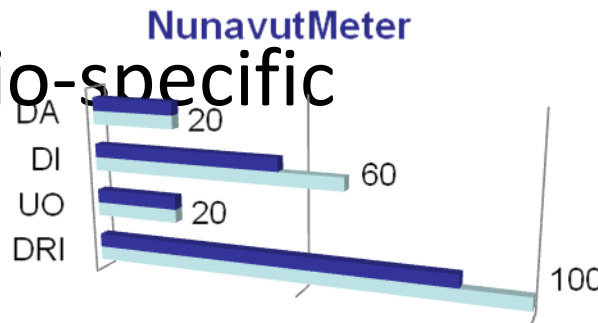
6- Mapping Reusability

- Company code sets are mapped externally
- Supports the consolidation process and aids analysis



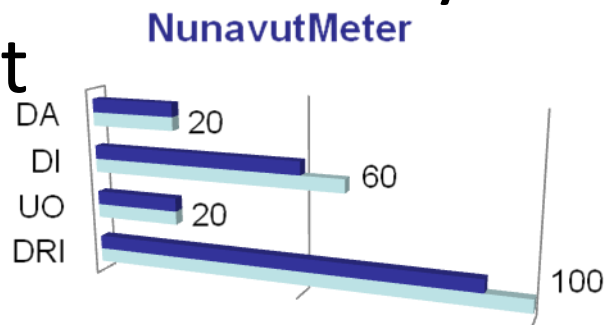
7 – Semantic Reusability

- Establishment and use of XBRL reporting taxonomies with XBRL GL
- Linking accounts and data-entry lines with the standardized code lists of an XBRL taxonomy the meaning of the account or data-entry line becomes obvious
- Multiple scenario-specific taxonomies



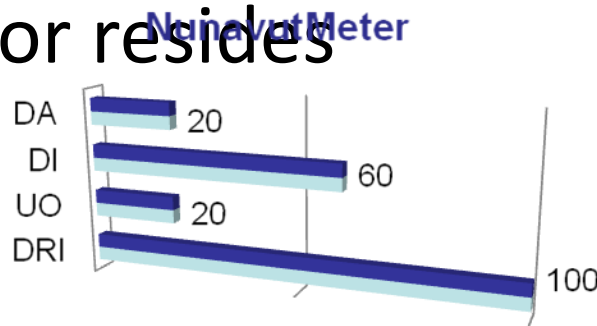
8 – Code Reusability

- Common code sets used across instances everywhere
- Reduces or eliminates the need for external mappings
- Data become increasingly independent from the system producing it



9 – Ultimate Reusability

- Data is fully independent of systems
- It is impossible and unnecessary to figure out the source system where the data was generated or resides

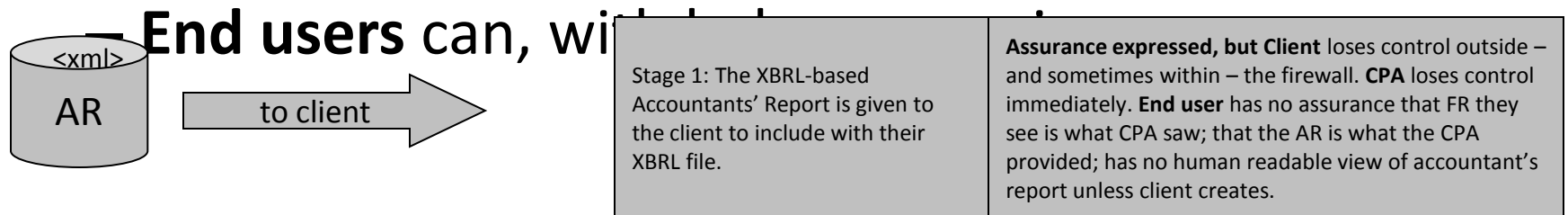


12 Stages and PAIN, Security Foundations

- Privacy (Stage 12)
- Authentication (Stages 3, 4, 7)
- Authorization (Stage 7)
- Access (Stage 4)
- Availability (Stage 4)
- Integrity of data (Stage 6)
- Non-repudiation (Stages 4,6,7)
- Time Stamping (Stage 4)

Stage 1: Getting Started

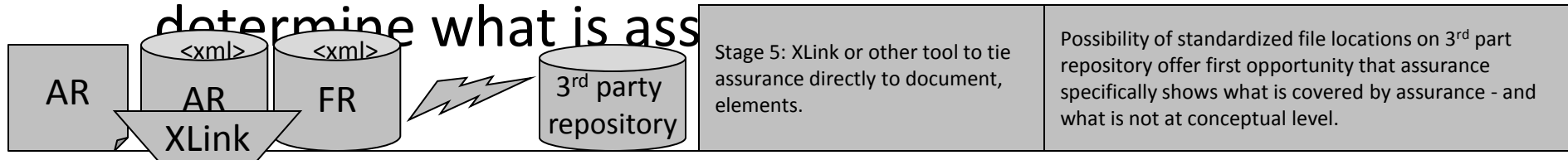
- Description
 - An Accountant's Report for the XBRL file is given to the Company by the Firm, much like today's report, except in XBRL.
- Benefit
 - **Company** can publish assurance on XBRL
 - **Firm** can provide assurance on XBRL



Stage 5: T3P - Independently Maintained, Linked

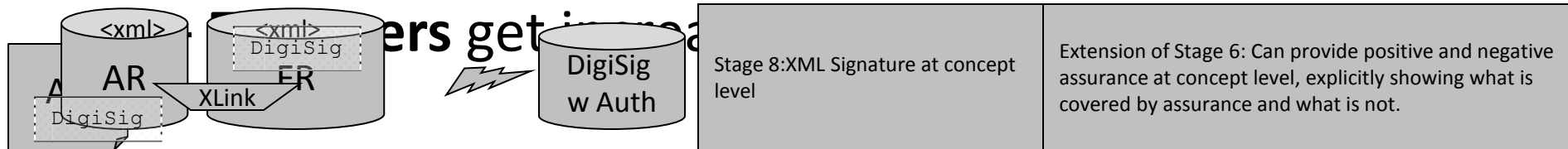
- Description
 - Reports are controlled by Trusted 3rd Party
 - Standardized locations allow links from AR to FR
- Benefit
 - **Company** not solely responsible for reporting, can prove items filed on time
 - **Firm** can highlight what is assured and what does NOT get covered by assurance
 - **End users** can find information, more quickly

determine what is assured



Stage 8: Specific Signatures

- Description
 - Firm signs individual concepts.
- Benefit
 - **Company** can begin to implement signatures internally for accountability.
 - **Firm** has extended control over how its assurance is applied.



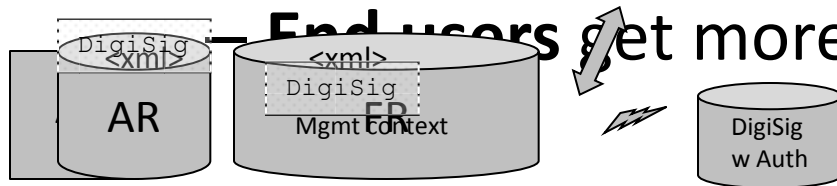
Stage 10: Data Never Loses Touch With Home

- Description
 - Underlying technology links concepts reported elsewhere with original published FR, AR
- Benefit
 - **Company** can put out proxies, PR with original assurance

– **Firm** meets additional needs of market

– **End users** get more

<sales numericContext="c1">3451</sales>



Stage 10: Data runs free, links back to original documents with instant access to all contextually relevant concepts, assurance

End users can trust information they find anywhere with the same trust as in original document through links between data and original source; still a “periodic” model.

Notes on Stages (1-5)

Note:

AR = Accountants' Report

FR = Financial Statement

Stage	Benefit	Weakness	Question
1	First step mirrors today's approach – here is the Accountant's Report, use it according to contractual agreement.	Many, including, no “authorized” copy of anything, no real control by anyone within or without firewall, client-site based Offers no real guidance to End user that they are seeing what Firm saw; end user cannot read XBRL AR anyway.	Should XBRL AR be included in paper FR? Would agreement on standardized file locations on Corp web site (eg, /IR/AR/FY2003/) help?
2	Adds a somewhat official view of the XBRL accountants report. Report now readable.	Adds little to deal with weaknesses	
3	Post copies of XBRL and PDF AR to Firm web site. End user can compare Firm and Client versions.	Adds little to deal with weaknesses. Adds responsibility for Firm to maintain.	Can we begin charging end user or service when they are pinging our site?
4	Trusted 3 rd parties host FR and AR. Begins path toward authorized copy at standard location	See discussion slide “Trusted 3 rd Party”	
5	Pointers between AR and FR highlight what is and is not covered by assurance.	Firm still has no control of expanded assurance tool.	Open discussions on topic of tuple or linkbase for context

Notes on Stages (6-11)

Stage	Benefit	Weakness	Question
6	Add XML Signature at document level for data integrity, authentication	Powerful but new technology, requires interoperable collaborative effort.	Can it be done using existing vendors, such as Verisign, or will it require new solutions?
7	Add authorization capability so consumer knows whether signature is from authorized signer.	As above – now will require directory/repository of authorized signers/submitters.	
8	Adds XML Signature at data level.	Need to figure out how to encompass element, context, namespaces, etc. under signature. Adds new issues related to individual items standing on their own.	
9	Core concepts in report link to all necessary information to be fully contextually relevant.	Major additional new responsibilities on management to communicate.	Could be introduced earlier.
10	Information transformed still links back to original published sources, allowing Sales, Earnings per share, for example, to go in Press Release but carry assurance information to consumer.		
11	Information is published and assured in real or near-real time (continuous reporting, continuous assurance).		

Notes on Stages 12-and beyond

Stage	Benefit	Weakness	Question
12	XML Encryption allows selective unfolding of information to appropriate parties, keeps information secret.		Could be introduced earlier.
14	Additional measures, such as ValueReporting, makes reporting more relevant.		Could be introduced earlier.
and beyond ...	Standardized, Web Services-based queries and operations, neural networks, intelligent agents, expert systems		

Assuror

- Costs and benefits to the assuror of new documents and new assurance
- New assurance will be
 - Evolutionary
 - Transitional solutions
 - Highlight not only that which IS assured, but that which IS NOT
- Levels
 - Notary - extended value
 - Expert appraiser
 - Independent party with access to internal systems

Level 1: Digital Notary

- Is this file actually from the organization?
 - Timing
 - Version
- If so, has it been changed?
- Was it appropriately authorized?
- If not, does it represent what they have represented?
- Pennar v Fortune 500 ... a fine case!

Level 2: Expert Appraiser

- If both digital (XBRL) and analog (HTML, PDF) are presented together, do they correlate?
- Do the numbers make sense?
- Are they internally consistent (within the document/file)
 - Cash, net income, retained earnings ...
- Are they consistent with prior periods?
- Are they consistent with outside benchmarks?
 - Street
 - Estimates
 - Usenet rumors?

Level 3: 3rd Party Independent

- Is this file a representation of a known presentation/hard copy?
 - Is it a representation of an existing document (10k, financial statement, EDGAR filing?)
 - If so, is it complete?
 - If not, what's missing?
 - Is it accurate?
- Something new?
 - If it is something new, do I have everything I need (all context necessary) to make judgments?
 - Inventory method with inventory
 - Opinion type with valuation of assets
 - Units of measure (USD, AUD)
- Does it match underlying data (XBRL GL)