# Textual ETL – Opening Up New Worlds of Opportunity

## ABSTRACT------------------------------

For years computing has revolved around repetitive activities such as bank transactions, airlines reservations, and manufacturing processes. Recently it has been recognized that textual data is not being included in the decision making processes. There have been attempts at taking text and reshaping it into a form suitable for analytic processing. But text has so many forms that a fundamentally different approach is needed. This presentation is about textual ETL, the process that takes text, integrates text and produces the text in a form compatible with the analytical processes that already exist in the corporation.

## BIOGRAPHY------------------------------

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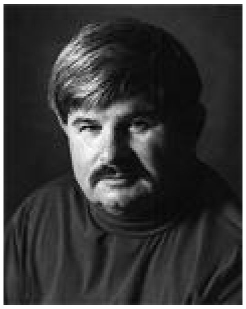
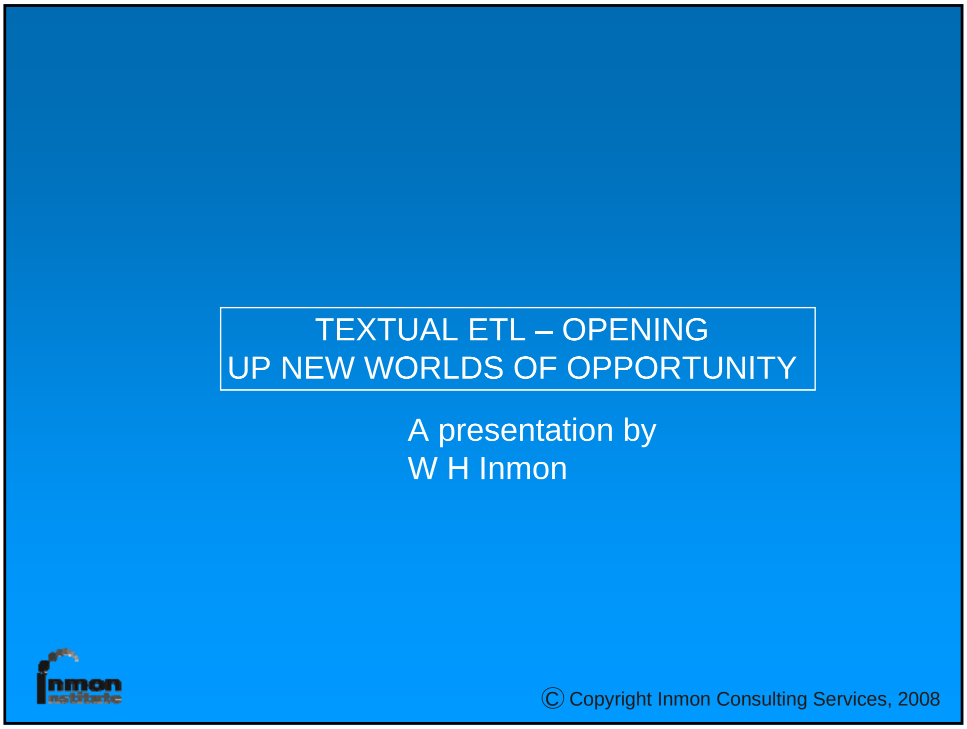


Bill Inmon, is recognized as the "father of the data warehouse" and co-creator of the "Corporate Information Factory." He has 35 years of experience in database technology management and data warehouse design. He is known globally for his seminars on developing data warehouses and has been a keynote speaker for every major computing association and many industry conferences, seminars, and tradeshows.

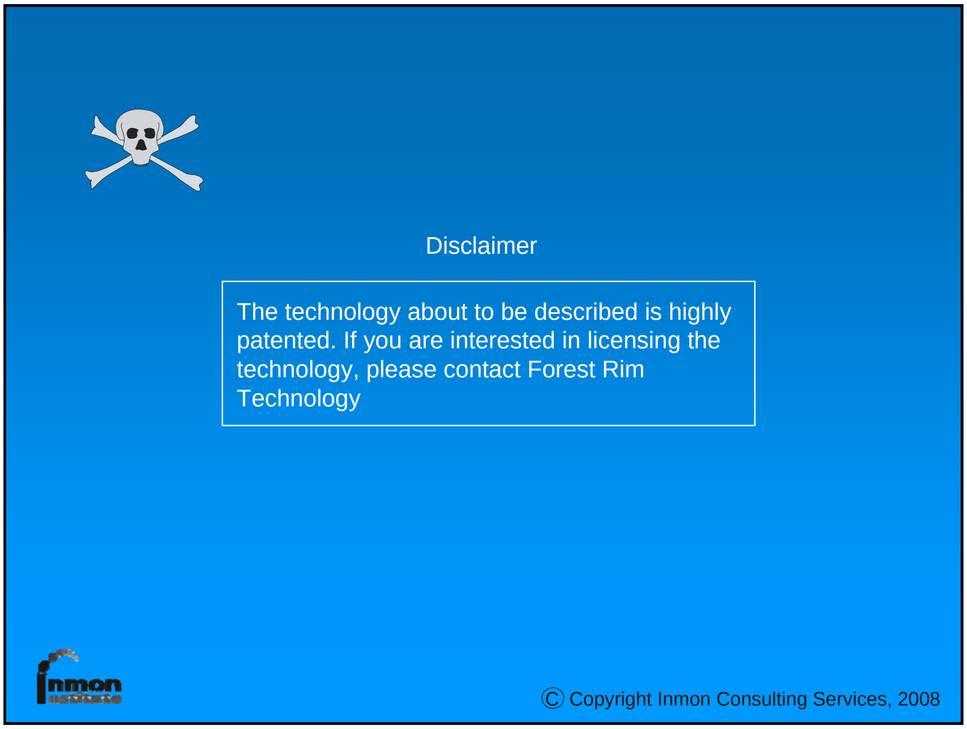
As an author, Bill has written about a variety of topics on the building, usage, and maintenance of the data warehouse and the Corporate Information Factory. He has written more than 650 articles, many of them have been published in major computer journals such as Datamation, ComputerWorld, and Byte Magazine. Bill is currently a columnist with Data Management Review, and has been since its inception. He has published 45 books; one sold over half a million copies, 21 have been book club selections with publishers such as Prentice-Hall, John Wiley, and QED.

Translations of various books have been done in Chinese, Dutch, French, German, Japanese, Korean, Portuguese, Russian, and Spanish.



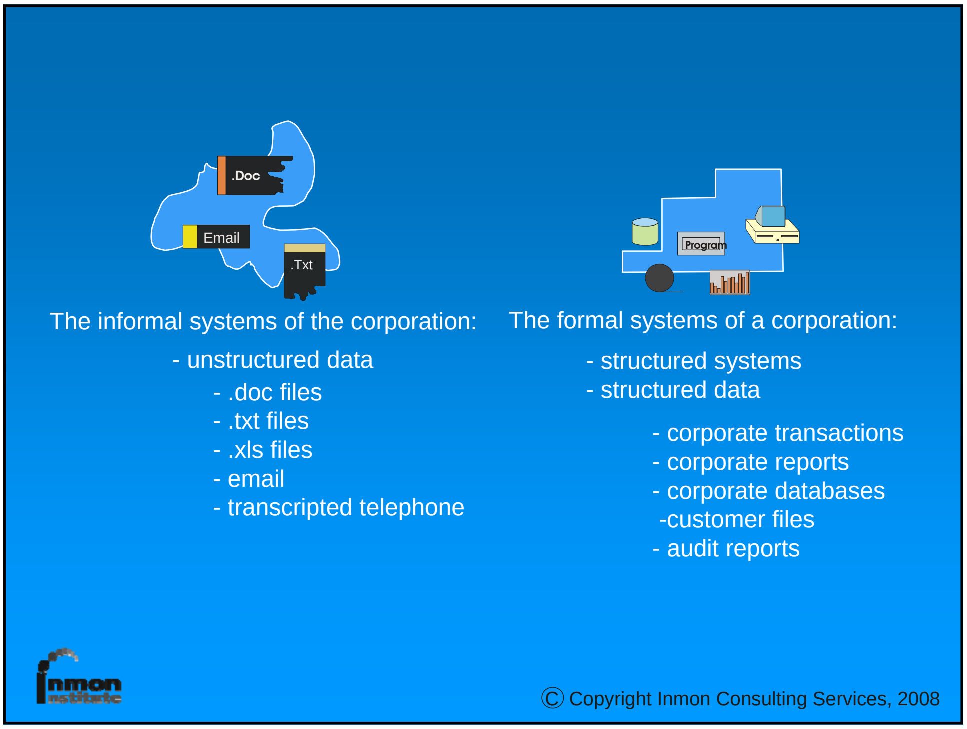
# TEXTUAL ETL – OPENING UP NEW WORLDS OF OPPORTUNITY

A presentation by
W H Inmon



Disclaimer

The technology about to be described is highly patented. If you are interested in licensing the technology, please contact Forest Rim Technology

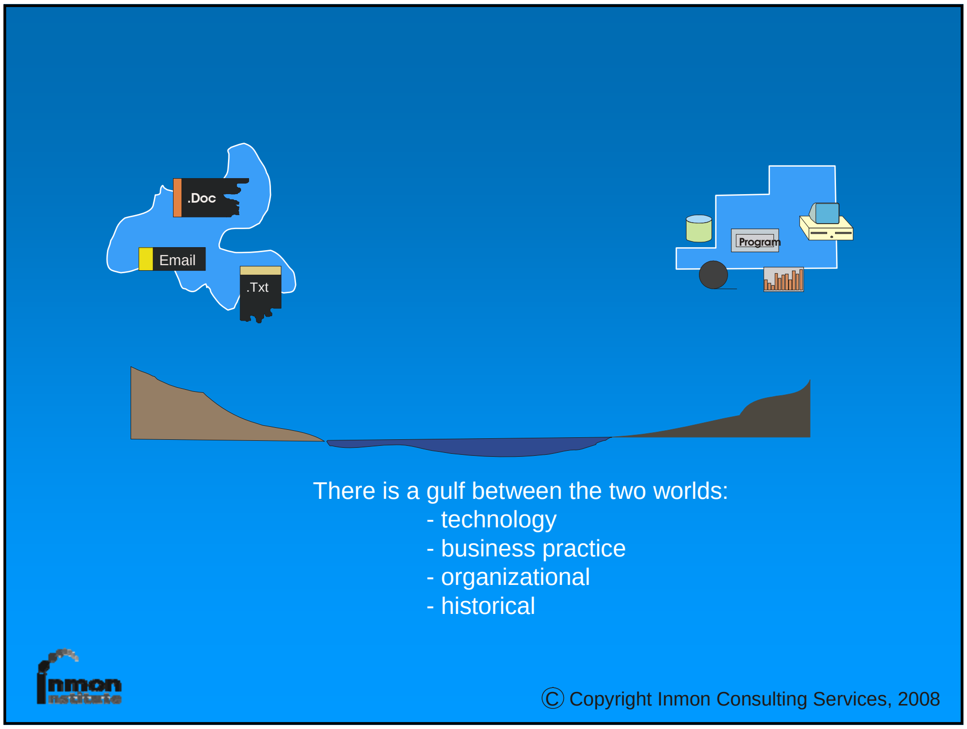


The informal systems of the corporation:

- unstructured data
  - .doc files
  - .txt files
  - .xls files
  - email
  - transcripted telephone

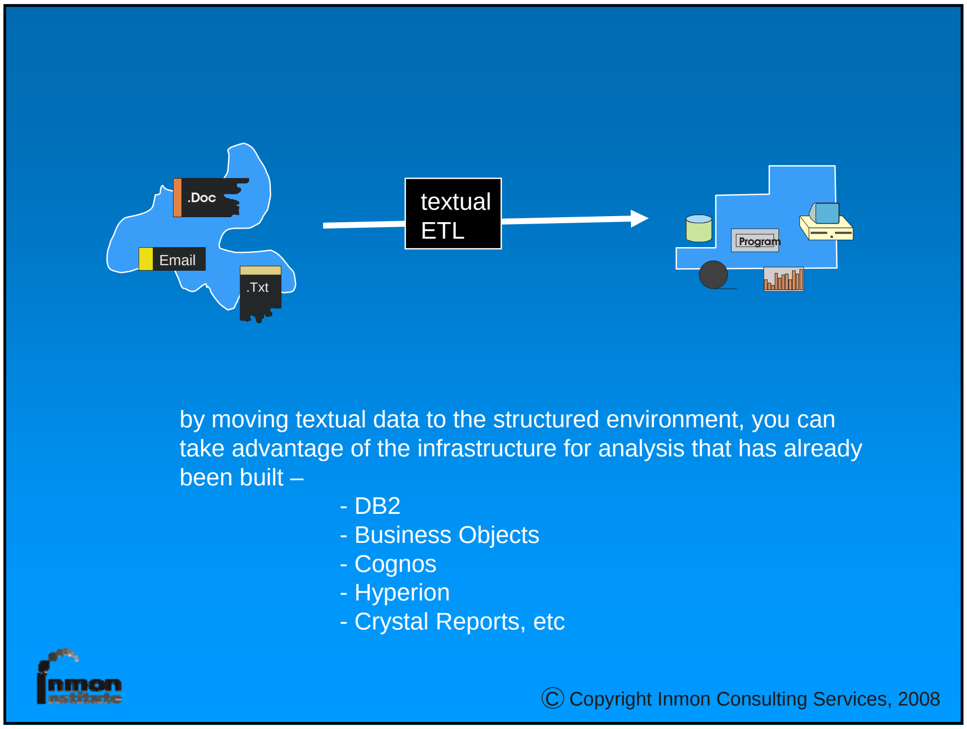
The formal systems of a corporation:

- structured systems
- structured data
  - corporate transactions
  - corporate reports
  - corporate databases
  - customer files
  - audit reports



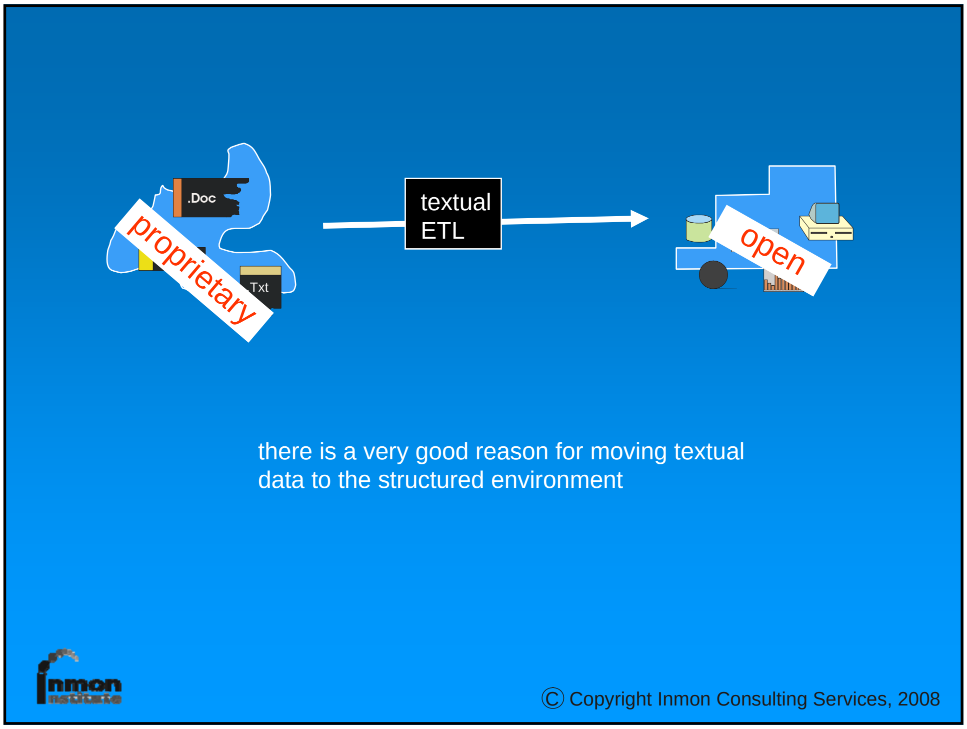
There is a gulf between the two worlds:

- technology
- business practice
- organizational
- historical

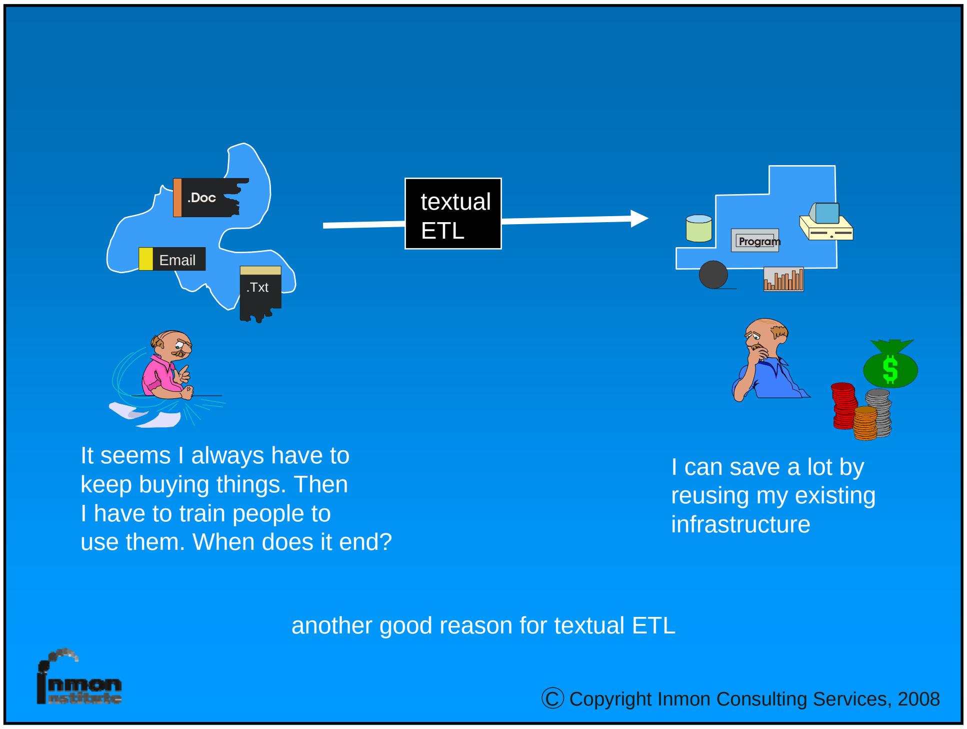


by moving textual data to the structured environment, you can take advantage of the infrastructure for analysis that has already been built –

- DB2
- Business Objects
- Cognos
- Hyperion
- Crystal Reports, etc



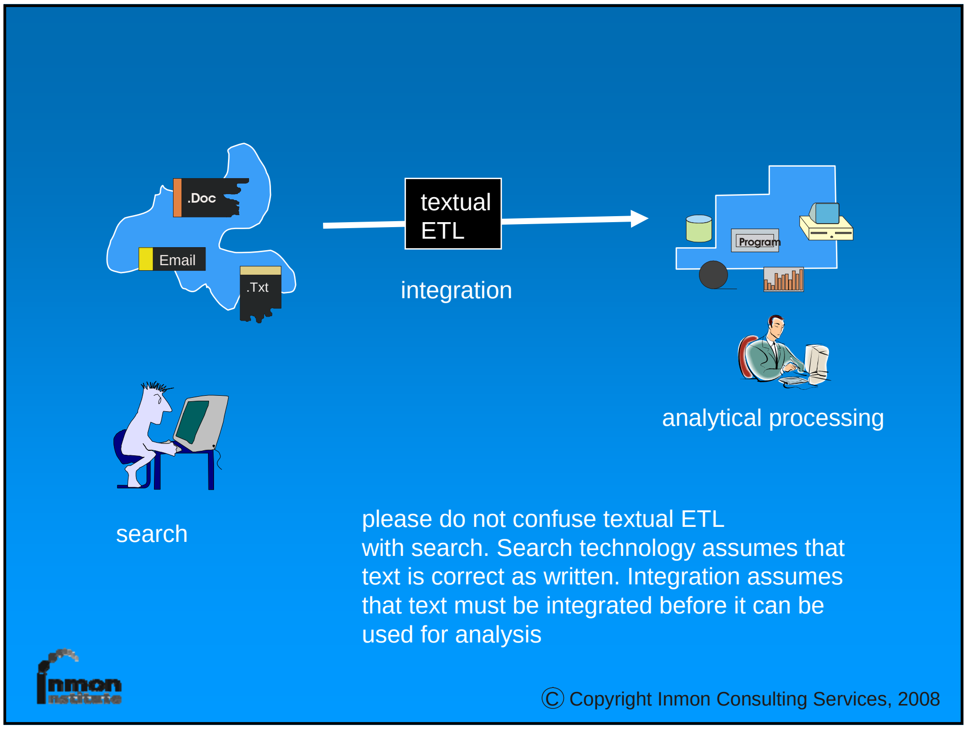
there is a very good reason for moving textual data to the structured environment



It seems I always have to keep buying things. Then I have to train people to use them. When does it end?

I can save a lot by reusing my existing infrastructure

another good reason for textual ETL

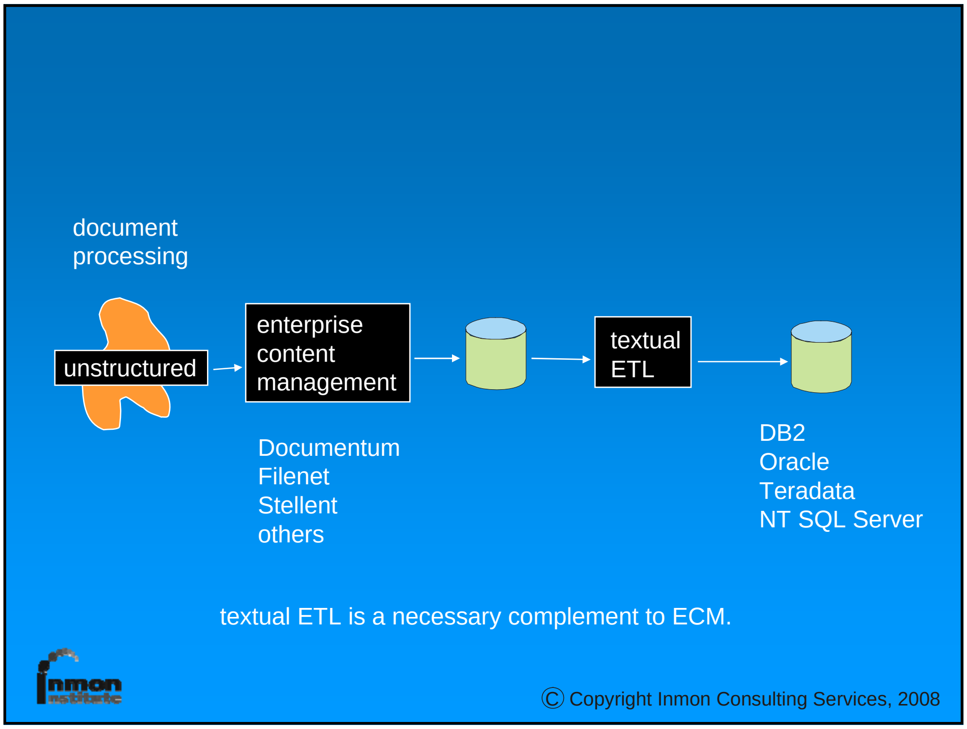


integration

analytical processing

search

please do not confuse textual ETL with search. Search technology assumes that text is correct as written. Integration assumes that text must be integrated before it can be used for analysis



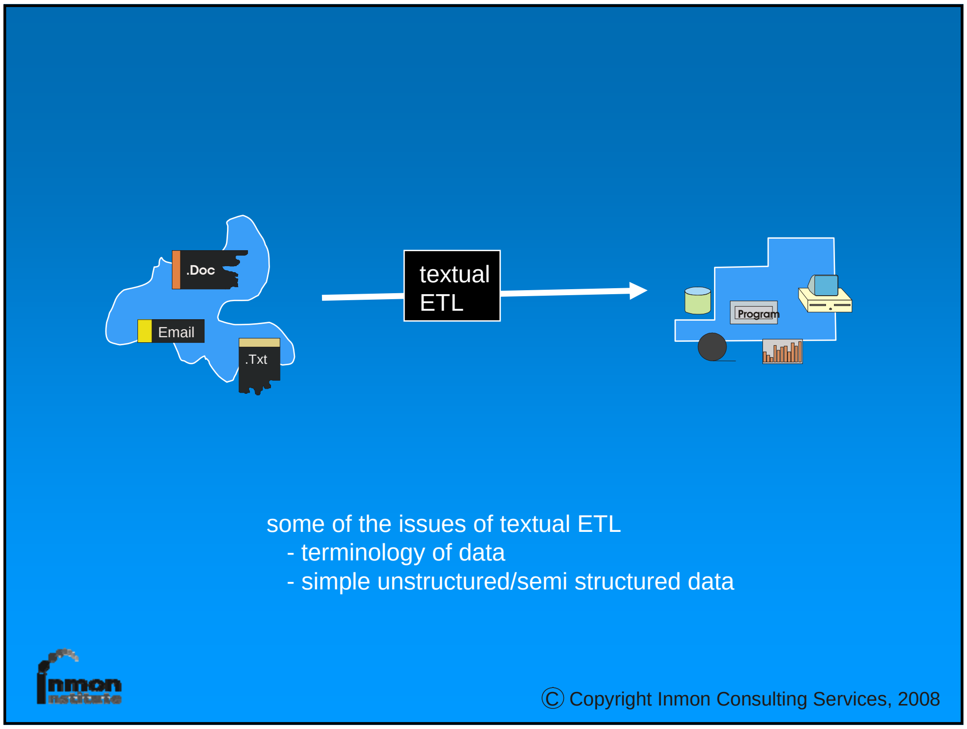
document processing

unstructured → enterprise content management → → textual ETL →

Documentum
Filenet
Stellent
others

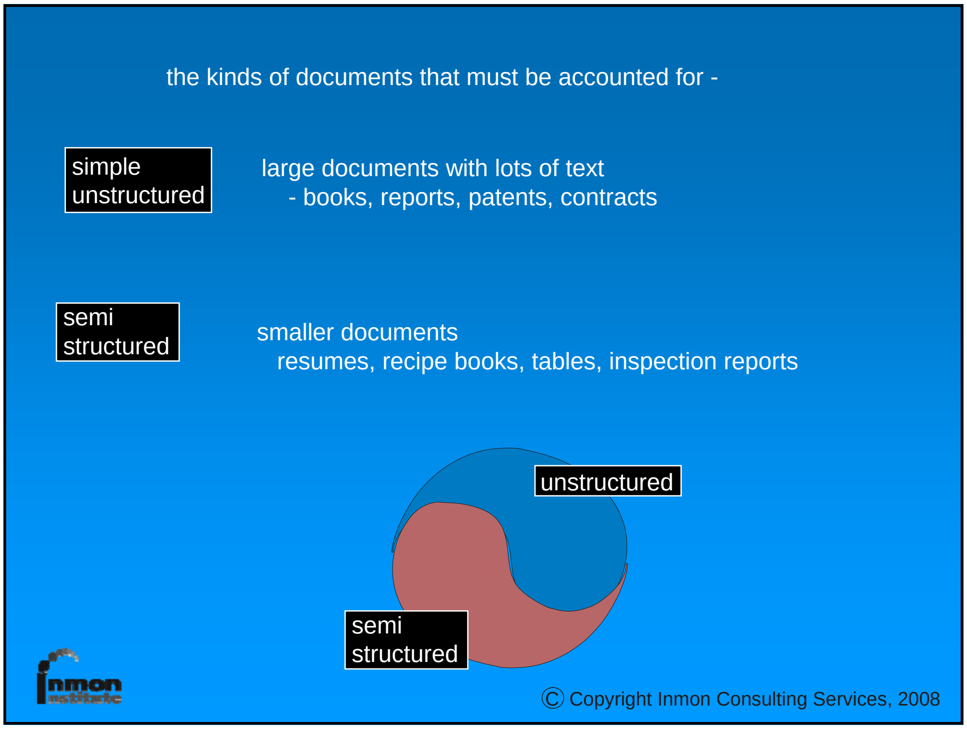
DB2
Oracle
Teradata
NT SQL Server

textual ETL is a necessary complement to ECM.



textual ETL

some of the issues of textual ETL
- terminology of data
- simple unstructured/semi structured data



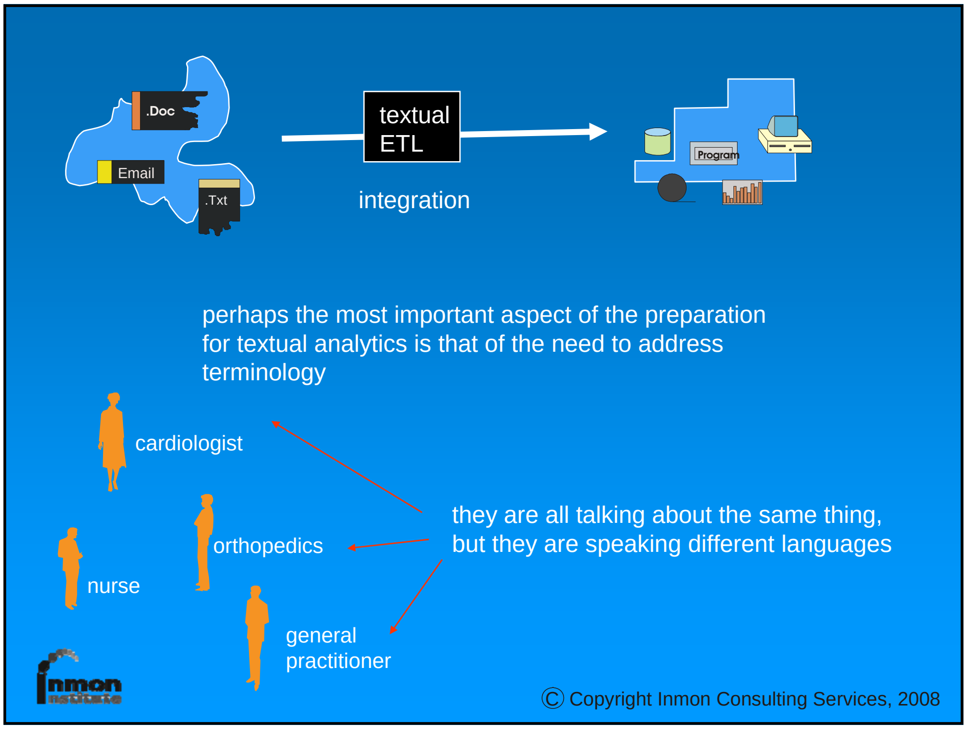
the kinds of documents that must be accounted for -

simple unstructured

large documents with lots of text
- books, reports, patents, contracts

semi structured

smaller documents
resumes, recipe books, tables, inspection reports

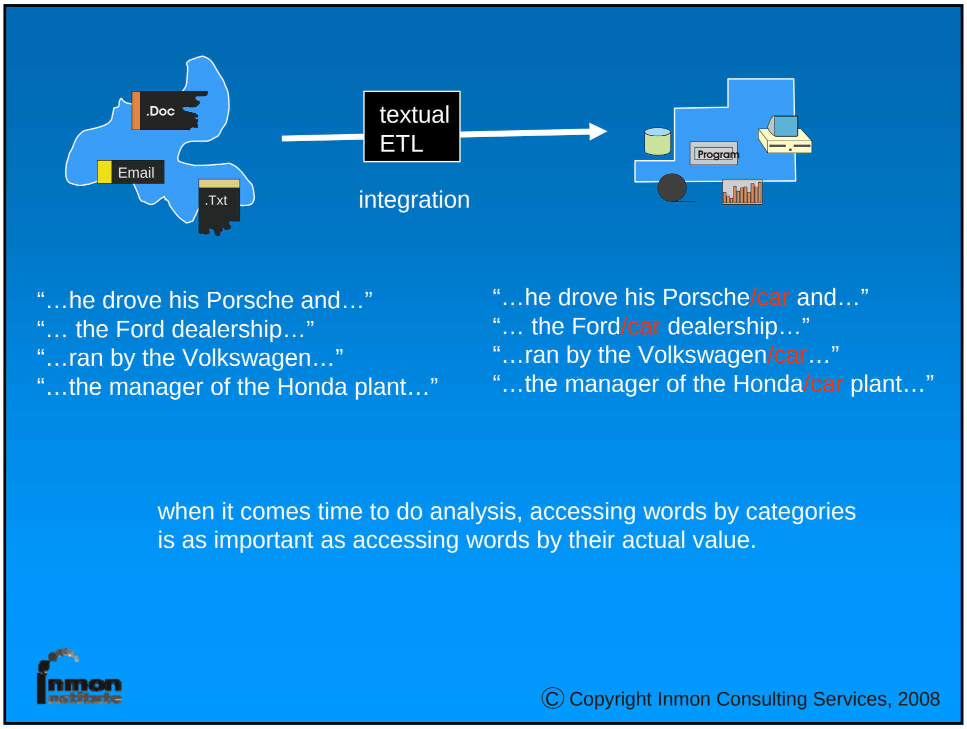


textual ETL

integration

perhaps the most important aspect of the preparation for textual analytics is that of the need to address terminology

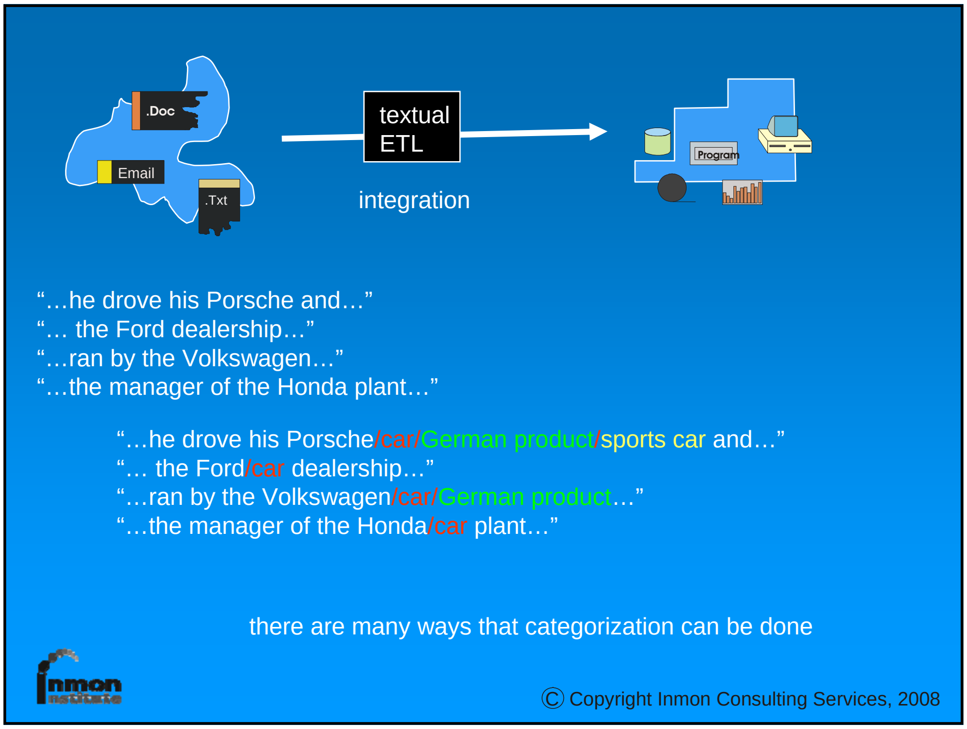
they are all talking about the same thing, but they are speaking different languages



"…he drove his Porsche and…"
"… the Ford dealership…"
"…ran by the Volkswagen…"
"…the manager of the Honda plant…"

"…he drove his Porsche/car and…"
"… the Ford/car dealership…"
"…ran by the Volkswagen/car…"
"…the manager of the Honda/car plant…"

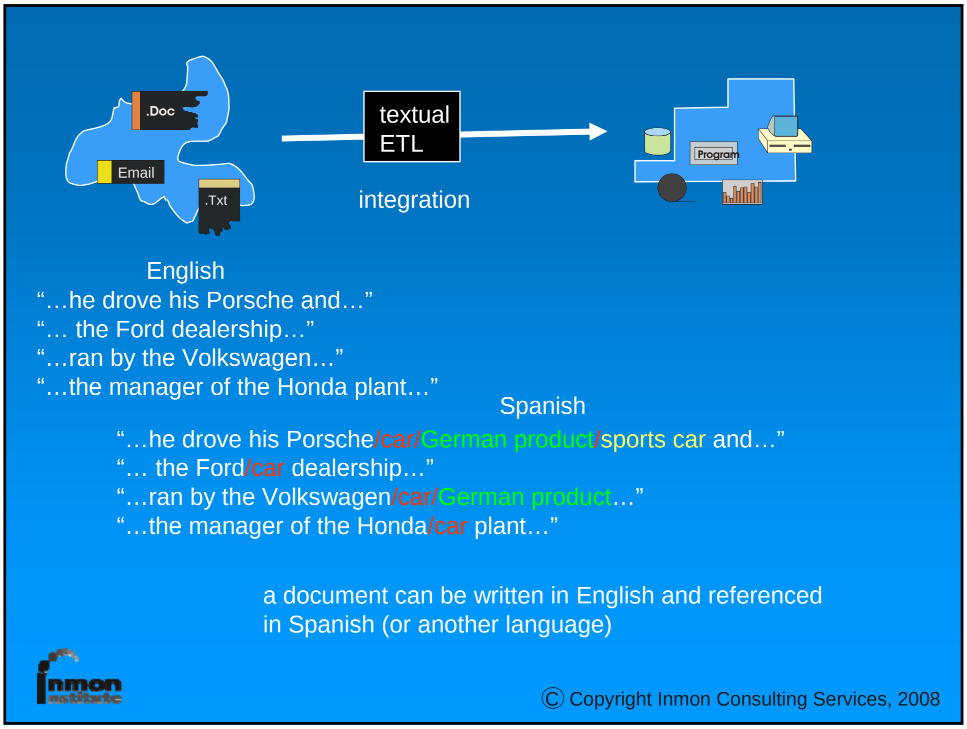
when it comes time to do analysis, accessing words by categories is as important as accessing words by their actual value.



"…he drove his Porsche and…"
"… the Ford dealership…"
"…ran by the Volkswagen…"
"…the manager of the Honda plant…"

"…he drove his Porsche/car/German product/sports car and…"
"… the Ford/car dealership…"
"…ran by the Volkswagen/car/German product…"
"…the manager of the Honda/car plant…"

there are many ways that categorization can be done



integration

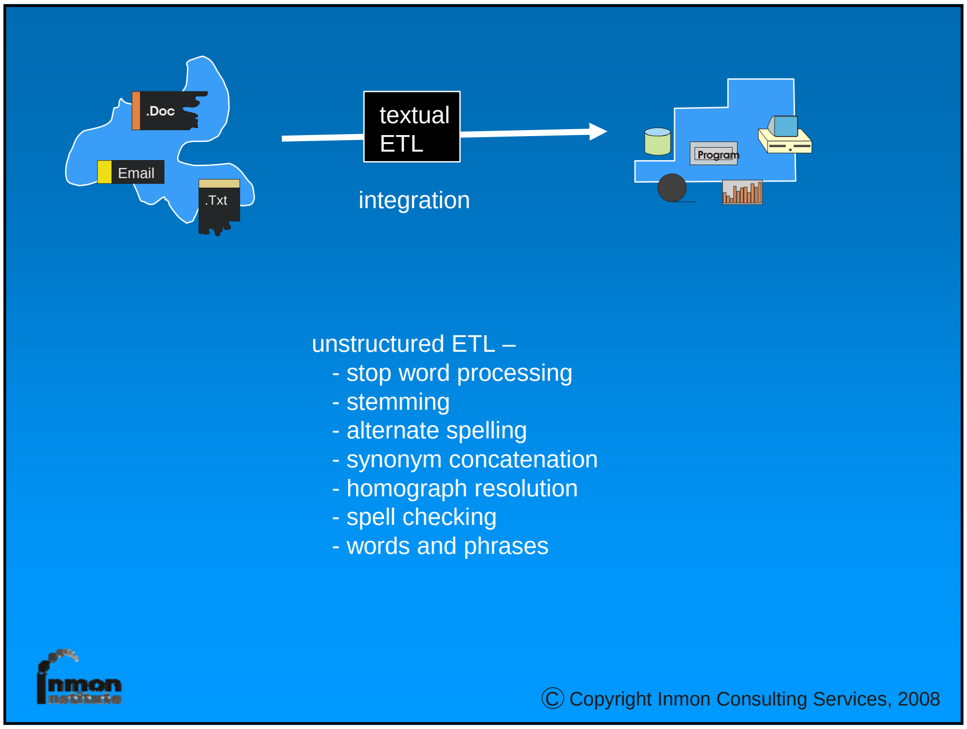
English

"…he drove his Porsche and…"
"… the Ford dealership…"
"…ran by the Volkswagen…"
"…the manager of the Honda plant…"

Spanish

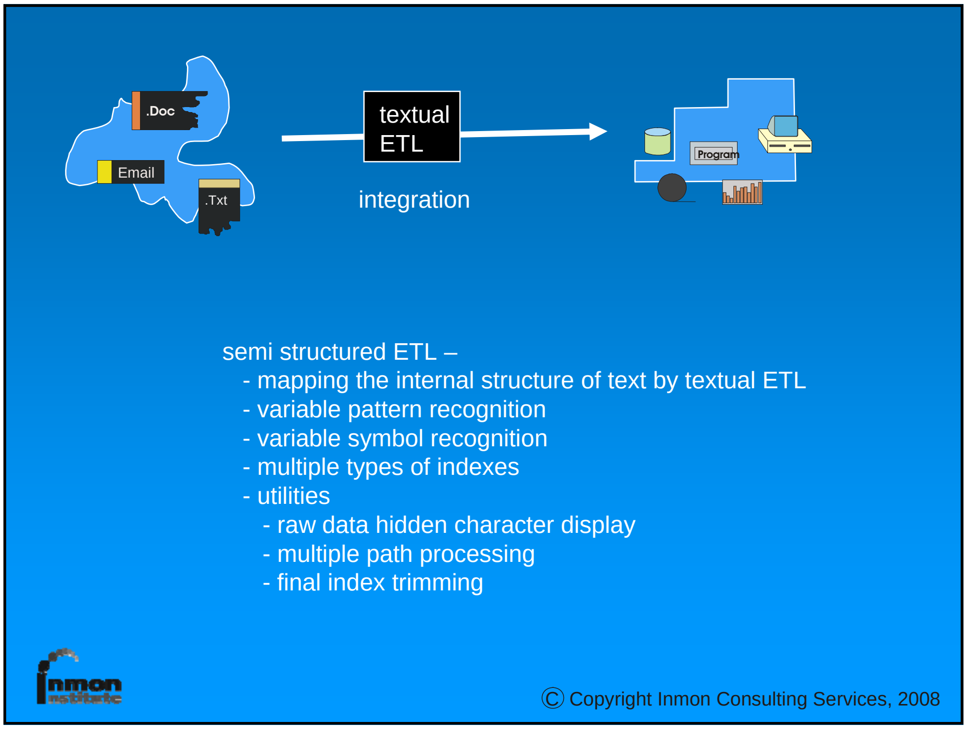
"…he drove his Porsche/car/German product/sports car and…"
"… the Ford/car dealership…"
"…ran by the Volkswagen/car/German product…"
"…the manager of the Honda/car plant…"

a document can be written in English and referenced in Spanish (or another language)



integration

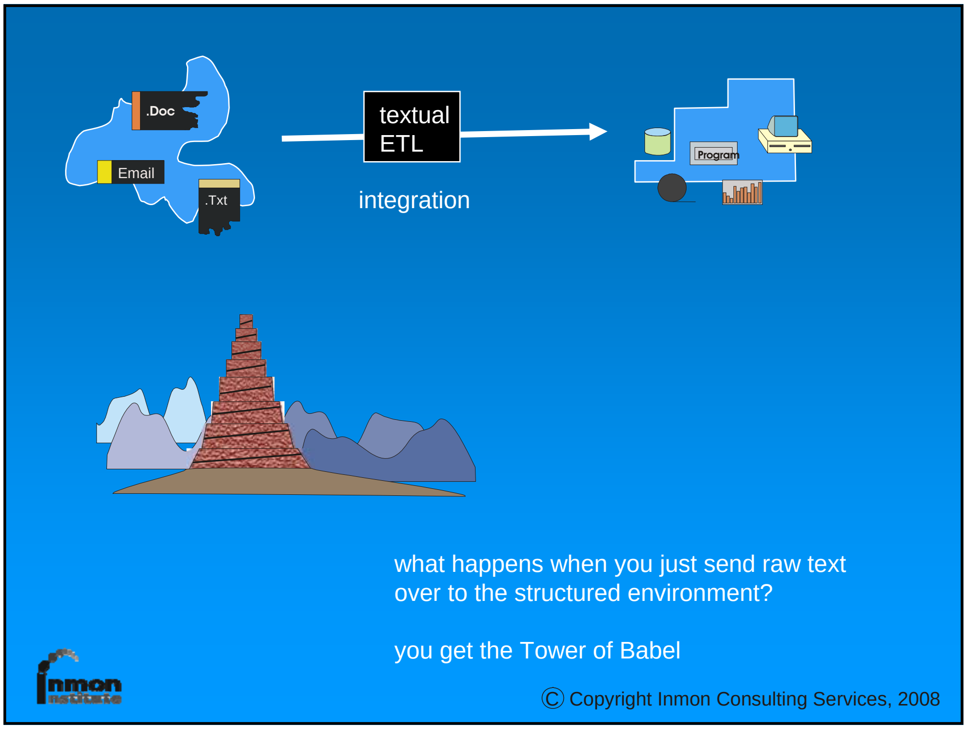
unstructured ETL –
- stop word processing
- stemming
- alternate spelling
- synonym concatenation
- homograph resolution
- spell checking
- words and phrases



textual ETL

integration

semi structured ETL –
- mapping the internal structure of text by textual ETL
- variable pattern recognition
- variable symbol recognition
- multiple types of indexes
- utilities
  - raw data hidden character display
  - multiple path processing
  - final index trimming

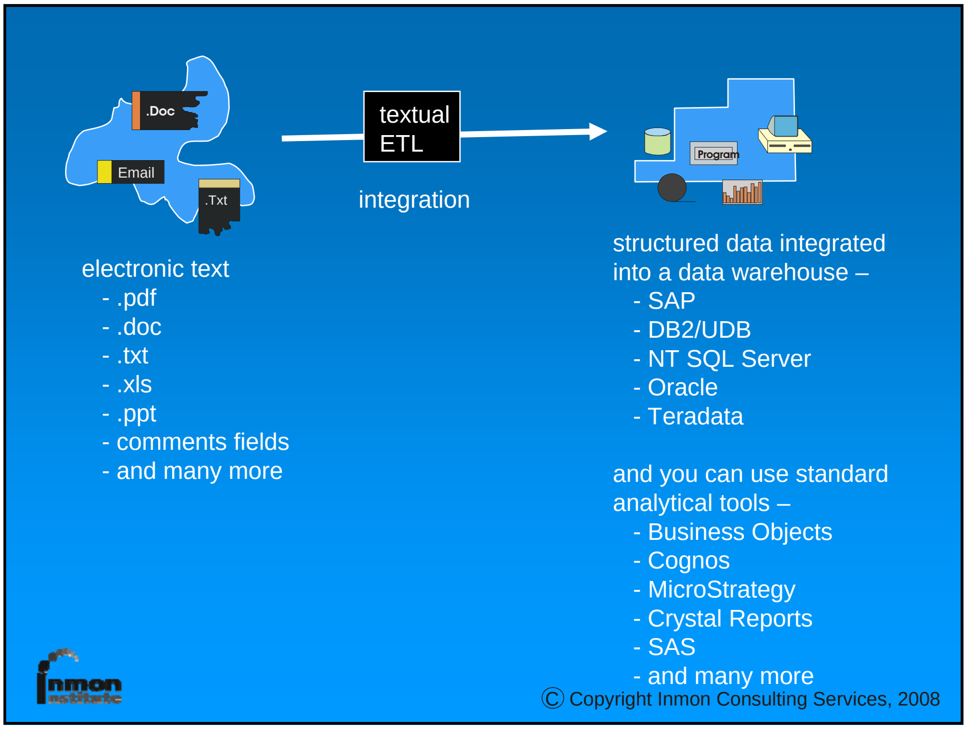


textual ETL

integration

what happens when you just send raw text over to the structured environment?

you get the Tower of Babel



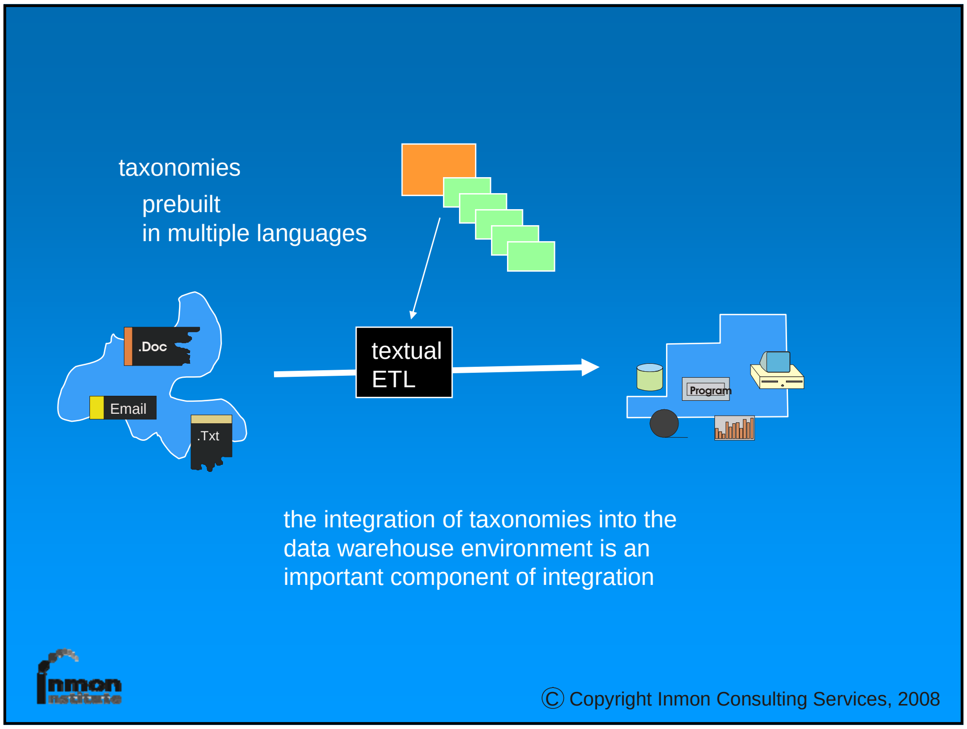
textual ETL

integration

electronic text
- .pdf
- .doc
- .txt
- .xls
- .ppt
- comments fields
- and many more

structured data integrated into a data warehouse –
- SAP
- DB2/UDB
- NT SQL Server
- Oracle
- Teradata

and you can use standard analytical tools –
- Business Objects
- Cognos
- MicroStrategy
- Crystal Reports
- SAS
- and many more

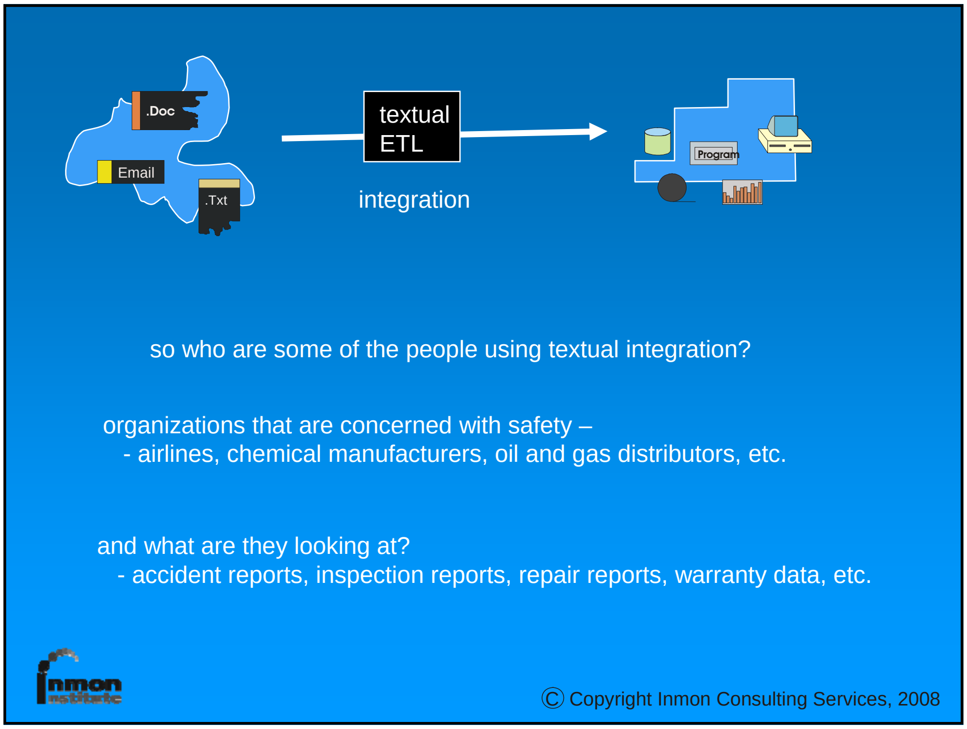


taxonomies

prebuilt
in multiple languages

textual ETL

the integration of taxonomies into the data warehouse environment is an important component of integration



.Doc

Email

.Txt

textual ETL

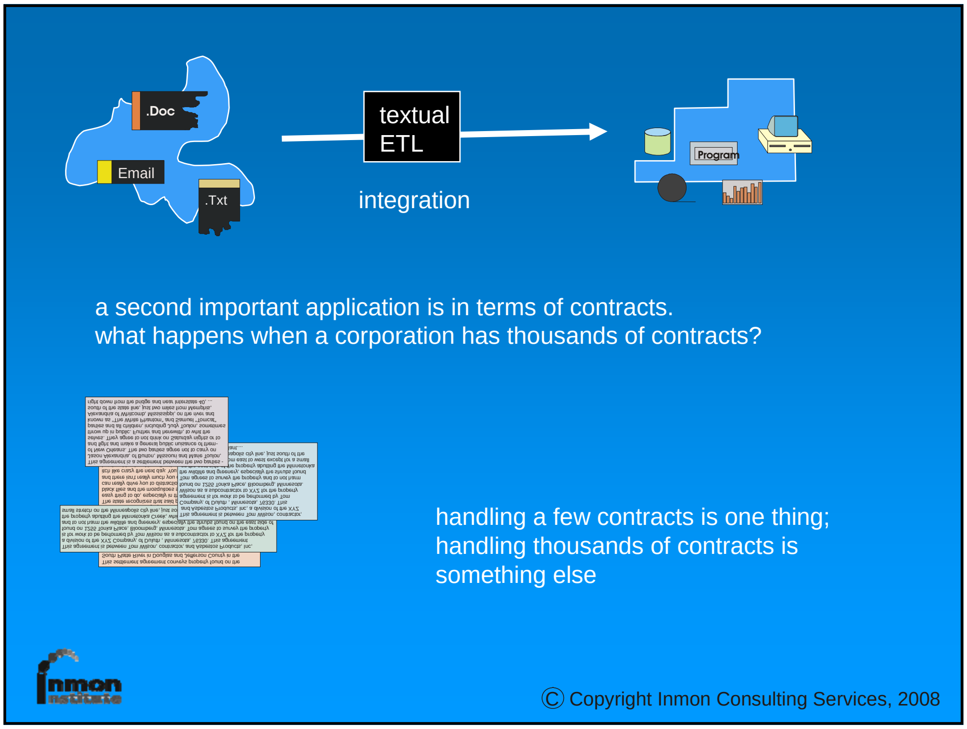
integration

Program

so who are some of the people using textual integration?

organizations that are concerned with safety –
- airlines, chemical manufacturers, oil and gas distributors, etc.

and what are they looking at?
- accident reports, inspection reports, repair reports, warranty data, etc.



.Doc

Email

.Txt

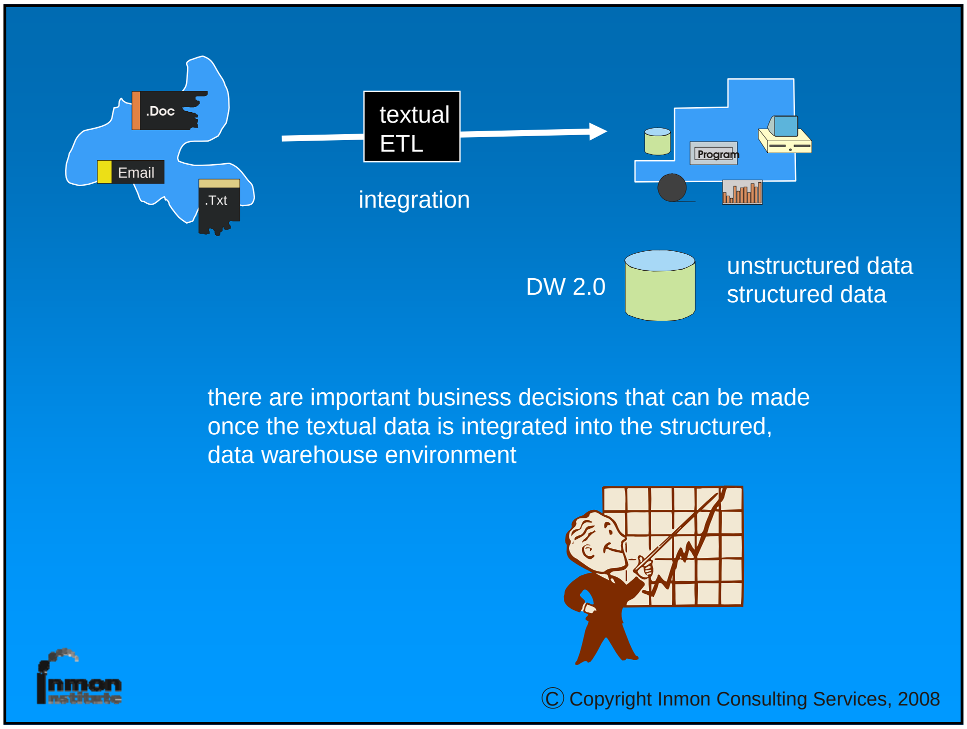
textual ETL

integration

Program

a second important application is in terms of contracts.
what happens when a corporation has thousands of contracts?

handling a few contracts is one thing;
handling thousands of contracts is
something else



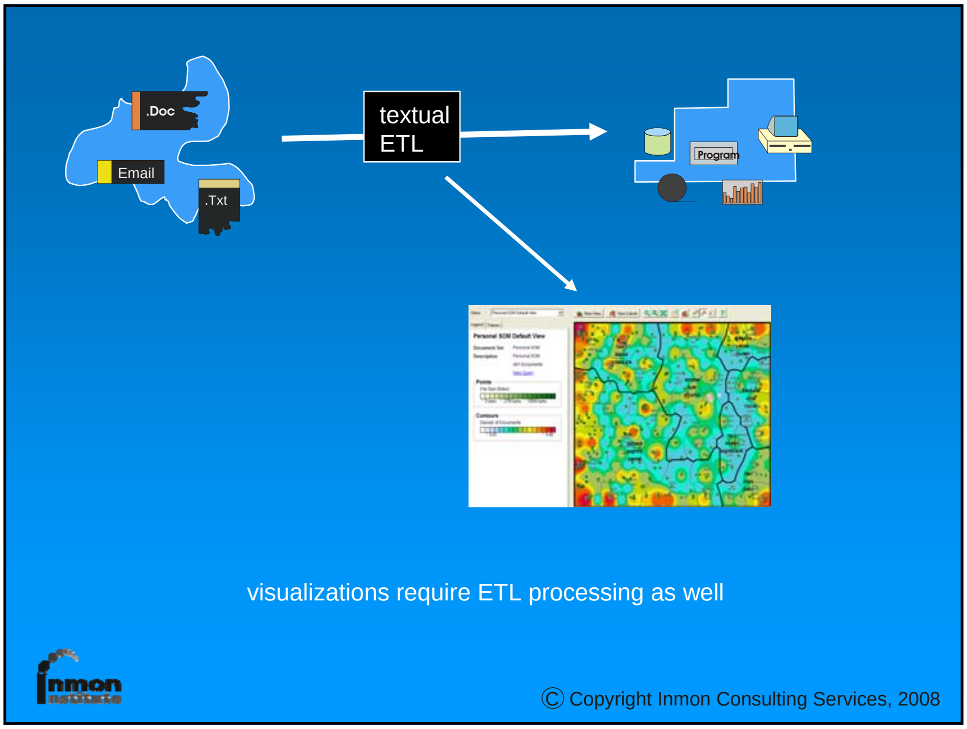
textual ETL

integration

DW 2.0

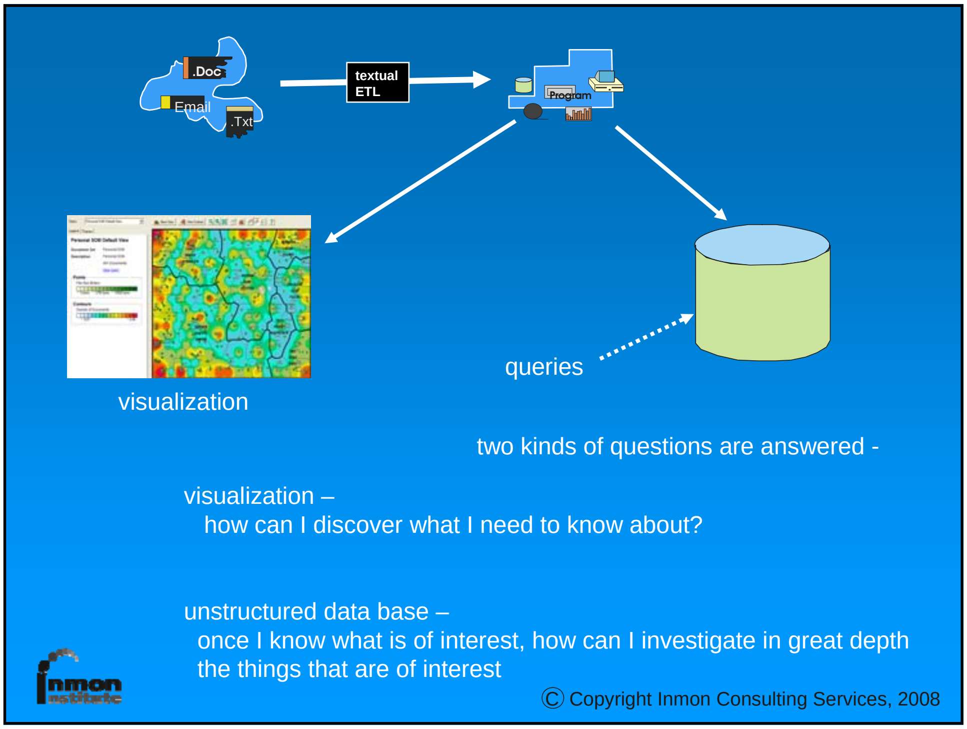
unstructured data
structured data

there are important business decisions that can be made once the textual data is integrated into the structured, data warehouse environment



textual ETL

visualizations require ETL processing as well



.Doc

Email

.Txt

textual ETL

Program

visualization

queries

two kinds of questions are answered -

visualization –
how can I discover what I need to know about?

unstructured data base –
once I know what is of interest, how can I investigate in great depth the things that are of interest