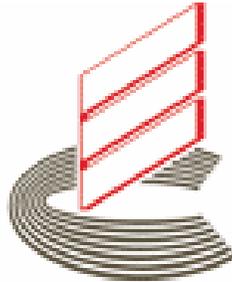
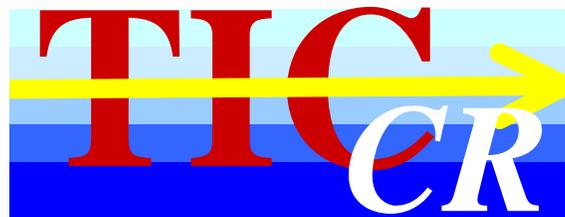


Original text in French by EDIFICAS and Ordre des Experts Comptables (France)



Conseil Supérieur de l'Ordre  
des Experts-Comptables



*Communication and Information  
Technology in Accounting and Reporting  
A Conceptual Metamodel*



<b>COPYRIGHT STATEMENT</b> .....	<b>4</b>
<b>INTRODUCTION</b> .....	<b>5</b>
<b>INTRODUCTION</b> .....	<b>5</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>6</b>
<b>1. PAPERLESS ACCOUNTING</b> .....	<b>9</b>
1.1    COMPUTERIZED ACCOUNTING IS PAPERLESS BY NATURE .....	9
1.2    THE NEEDS OF AUDITORS .....	13
1.3    THE NEW STANDARDS ARE HERE.....	13
1.4    TOWARDS COMPATIBILITY.....	14
1.5    USER GUIDES ARE BEING PREPARED AND COMPLIANCE CERTIFICATES ARE BEING ISSUED ...	14
1.6    STANDARDS INTENDED TO BE INTERNATIONAL.....	15
<b>2. ORGANIZATION OF THE ACCOUNTING SYSTEM</b> .....	<b>16</b>
2.1    ORGANIZATION OF THE ACCOUNTING SYSTEM OF SMALL AND MEDIUM-SIZED ENTITIES .....	16
2.11    Link with the other application subsystems of the information system.....	17
2.12    Links with the entity's databases .....	18
2.13    Data and information flow and groupware .....	22
2.14    Archiving information.....	26
2.2    ORGANIZATION OF THE ACCOUNTING SYSTEM OF LARGE AND MEDIUM-SIZED ENTITIES .....	31
2.21    Using the Web as a repository.....	31
2.22    Application hosting (ASP).....	35
2.3    COMMUNICATING COMPUTERIZED DATA .....	37
2.31    The communication function.....	37
2.32    Linkage with the accounting subsystem.....	39
2.33    Data conversion.....	40
2.34    Electronic signatures .....	40
<b>3. IT ACCOUNTING STANDARDS AND CONCEPTS</b> .....	<b>42</b>
3.1    BASIC IT ACCOUNTING STANDARDS .....	42
3.11    The accounting file.....	43
3.12    Accounting entries .....	45
3.13    The Accounting Token.....	52
3.14    The entity's chart of accounts.....	59
3.15    Journal.....	61
3.16    Document identification.....	62
3.2    DATA NOMENCLATURE (TAXONOMY) .....	64
3.21    Example of a French metadata application.....	65
3.3    AGGREGATION (MAPPING) PLANS .....	67
3.4    FINANCIAL REPORTING AND OTHER RELATED STATEMENTS.....	67
3.41    Accounting information .....	67
3.42    Definition of the message header.....	67
<b>4. USING EDIFACT – AN EXAMPLE</b> .....	<b>67</b>
<b>5. USING XML - AN EXAMPLE</b> .....	<b>67</b>

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# INTRODUCTION

The chief problem arising in a conceptual study of accounting and financial reporting comes from the techniques used that are in a state of flux. While change becomes a systematic and constant state of affairs in information technology, it is particularly striking and chaotic since the simultaneous coming of age of the Internet as a communications network and of XML for dealing with data and documents. Although the two techniques explained here (the Internet and markup language) date back about 30 years, their use is just now becoming widespread, bringing a lot of inevitable changes and adaptations of information systems.

Accounting is caught up in this phenomenon. Its basic concepts have not changed that much, but the techniques it uses have advanced significantly and, since the advent of computers, have consistently followed the evolution of IT. Accounting and information technology go hand in hand, a kind of marriage of convenience.

Widespread access to computer systems has led a slow revolution reaching even into the home. The process has not changed, however: it is still analyze, design, development, testing and implementation. Skipping one of these steps is a guaranteed pitfall.

Accounting is lifeless if not confronted with commercial, economic, fiscal, social and legal imperatives, if not subject to constraints imposed by society and economic entities.

Further, and the world of e-commerce is just waking up to this fact, accounting is the only comprehensible international standard using only one unit of measurement, i.e. money. It is also the sole source of information for meeting a posteriori control requirements. It is even the entity's "custodian of proof", the sole traceability tie that links the economic activity of an entity with information communication toward public authorities and other business partners. Hence it has become important for the French accounting profession, working closely with those who define the rules and those who apply them, to rethink computerized accounting while maintaining total independence in respect of hardware implementation. This is what this document is all about.

## **Michel LESOURD**

*Deputy Director of IT  
Research for the Accounting Profession,  
Conseil supérieur of the  
Ordre des experts-comptables, France  
General Delegate EDIFICAS France  
Vice-Chairman EDIFRANCE  
Vice-Chairman TBG12 UN/CEFACT*

## **Robert LEMENSE**

*Member of the Board  
of EDIFICAS Belgium  
Chairman TBG12 UN/CEFACT*

# EXECUTIVE SUMMARY

This report summarizes the findings of research conducted by the Conseil supérieur of the Ordre des experts-comptables and the Edificas association in France since 1989, in Europe since 1991 and at international level (United Nations) since 1996.

These findings are on the cutting edge of accounting today in relation to developments in e-commerce and its implications for the computerization of entities' accounting operations. This report is based on projects organized and carried out by public accountants in conjunction with IT experts and specialists in e-commerce and remote data transmission.

Many applications are now being used in several European countries. The recent trend towards Internet-based techniques seems to have a wide appeal, but the real practicability of such techniques for accounting professionals has yet to be demonstrated.

Many conclusions may be derived from what has been done so far, i.e. the projects, experiments and applications in France and Europe over the past fifteen years:

- French public accountants are aware of the major stakes tied to e-commerce, of the risks associated with this revolution for their profession and of the opening of new market opportunities.
- The organizational model followed by Edificas and proposed in this report is based on the underlying and universal principles of accounting and auditing, freed of the national constraints related to bookkeeping.
- The “bottom-up” (total quality) approach retained is wholly in line with the underlying principles: it is possible to move from detail to aggregate and aggregate to detail without having to modify the databases.
- Accounting now rests on a combination of accounting and IT techniques; the relationship between computer service firms (software developers or service bureaus) and professional accounting bodies is becoming more cooperative, with these firms specifically designing applications tailored to the needs expressed by accounting bodies.
- The bridging of IT and accounting techniques is neither new nor unusual. Service providers have long wished for some kind of seal of approval to be issued by professional accounting organizations. The first step in this direction was the

development of a certificate of compliance to the EDIFACT<sup>1</sup> standards (developed by Edificas) or CS-OEC<sup>2</sup> recommendations, issued by public accountants or auditors for files imported and exported by accounting packages in France.

- In accounting, as in any other discipline, electronic data transmission is pointless unless the data can be run directly on the recipient's computer applications. This is especially true in the case of accounting derived data intended for government authorities responsible for tax, social or statistical matters; it is also true when an entity itself sends its data to these public administrations, or sends all or part of its accounts to its public accountant, auditor or statutory auditor, or receives similar data from one of its business partners (suppliers, banks, etc.).
- E-commerce cannot disregard the requirements developed by government authorities for electronic document transmission and storage without putting its very survival at risk.
- In this context, the relationship between public accountants and public administrations is bound to develop significantly. Increasingly, public administrations want, or will want, to receive information from businesses electronically instead of on paper, a medium which is traditionally expensive, hard to process, time- and space-consuming. IT implementations have led to a sharp increase in the productivity of public collection agencies (for instance, 400% improvement in the collection of VAT returns in Belgium, potential elimination of 2,600 administrative positions in France, etc.).
- Public administrations are no longer the only ones who control the content of administrative documents. They must establish a positive dialogue with entities and their representatives (i.e. public accountants for most entities in France and other current members of the European Union) as well as with service providers so as to limit requests basically to data contained in databases, particularly accounting databases; this is especially true for the codes identifying the data and corresponding metadata.
- Remote data transmission is not an end in itself for public accountants. It must also cost less to produce and send data electronically than to use traditional methods. This is the win-win approach.
- Operational applications have shown, for a medium-sized French firm, potential gross cost reductions of up to 75% to 90% as compared to paper-based methods. These reductions will be partly offset, however, by the emergence of new

---

<sup>1</sup> EDIFACT: "Electronic Data Interchange For Administration Commerce and Transport". ISO Standard 9735; data elements and messages directories developed under the umbrella of UN-ECE (Economic Commission for Europe of the United Nations)

<sup>2</sup> Conseil supérieur of the Ordre des experts-comptables, France

organizations requiring more computer support, as in the case of electronic document workflows tracing steps such as “data to be prepared for transmission,” “data extracted,” “data checked,” “document/message to be created,” “document/message ready to send,” “document/message sent,” “acknowledgement of receipt received,” and possibly “data sent to client.” This series of steps is not exhaustive.

- Documents prepared by a public accounting firm usually bear the accountant’s signature with or without another signature. The French digital signature procedure for use with public administrations, banks and the Commission des Opérations de Bourse is currently being adapted in cooperation with the French accounting profession.
- In many cases, it is imperative to authenticate a signature and attest to the signatory’s status. The French accounting profession has considered implementing a public key infrastructure with a view to recognizing an accountant’s digital signature.
- Applying the Edificas standards to the electronic archiving of accounting files will reduce the number of problems associated with a posteriori control by auditors, reconfigurations, changes of software packages, and even mergers of businesses with incompatible accounting systems.
- A methodology guide based on these concepts has defined good practices for third-party archivers of computerized accounting data.
- Assessments now underway show that the Edificas standards may be applied to new Internet-based languages such as XML.
- The Edificas standards undoubtedly form an excellent basis for implementing the Internet-Ledger concept.

# 1. PAPERLESS ACCOUNTING

Accounting and the resulting information may be viewed as products “manufactured” by the accounting services used by the entity. These products are usually manufactured internally in the largest entities and in most small and medium-sized businesses and institutions. In others, their preparation is made externally and normally entrusted to public accounting firms.

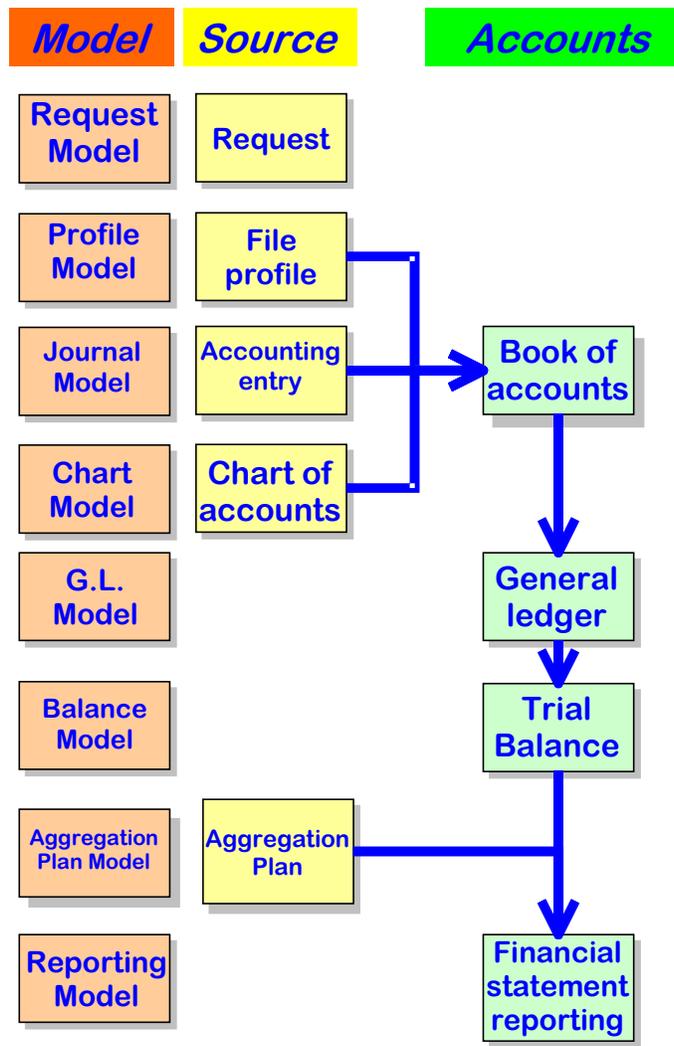
Manufacturing an “accounting product” means managing inventories of data to be processed “in tight flow” so as to deliver quality “just-in-time” information to business partners. In this sense, it is a highly effective tool that can identify, classify, locate or measure the entity’s activities, thereby obtaining the many and varied figures intended for public administrations and agencies of one kind or another. Quite often, accounting services overlap with administrative services, the separation between the two being tenuous.

## 1.1 Computerized accounting is paperless by nature

On an organizational level, accounting calls on a set of rules and procedures designed to meet a number of objectives:

- pool data in order to analyze, classify and archive it and produce the entity’s accounts;
- determine the entity’s results;
- check these results against target objectives in an analytical and/or budgetary framework;
- comply with legislation (commercial, tax, social, statistical, customs, etc.) by providing the elements required for compliance checks;
- report all or part of the entity’s results to its partners according to IAS/IFRS standard
- provide information to financial analysts in a standard format reusable by off the shelf software.

To this end, accounting applies a procedure which may be considered universal. This procedure is shown below:



**Accounting flow process**

Several documents and books are integral part of the accounting sequence; however not all are mandatory. Some are tacit (e.g. the "Request" might be verbal) and others are compulsory (e.g. the journal)

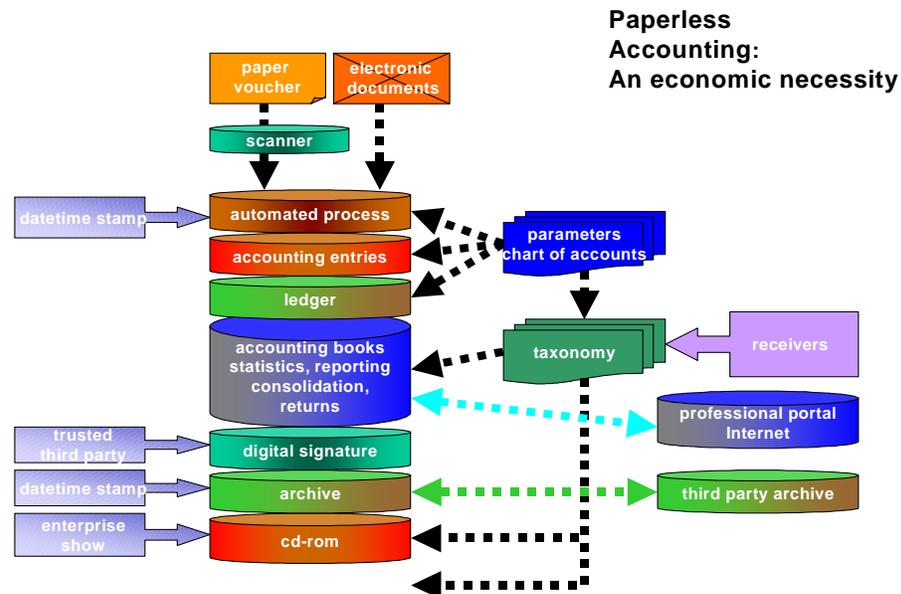
In any EDI partnership a REQUEST that describes the expected document is generally required prior to its sending. Period concerned, analytical section or account series are accounting characteristics that specifically tell the recipient what (information) to provide.

Accounting of any entity is produced according to a corresponding organisation. It implies a software package can be differently used from an entity to another, accordingly to resources dedicated (personnel, equipment) and goals the management is pursuing (financial analysis, comparison, budgetary management, etc.)

Thus, the models supra are all parts of the accounting procedure guidelines that not only explain the organisation, but also every security and control means. However, they happen to have different names: "configuration" or "accounting parameters" is sometimes used instead of "profile model". Anyway, both intend to inform the recipient and determine which data to retrieve from accounting data base.

All the models corresponding to the Journal, the Chart of Accounts, Ledger and Trial Balance are certainly well known. It is not that true for the "Aggregation plan" model that can be somewhat strange. It is a kind of parallel chart or interface, mapping the accounts of the trial balance with the corresponding information on documents to provide to third parties (inside or outside the entity). This model is often linked to rules that enable calculation of aggregated information from accounting (elementary) data. From the "Aggregation plan", accounting is able to provide all sorts of financial documents: yearly statements, taxation and social returns, statistics, reporting, IAS/IFRS, financial analysis, etc. This is a short abstract of the immense capability of accounting to supply information.

When information technology is used, accounting is quasi-always entirely paperless. Data is collected from either upstream data strings (billing, supply chain, production, payroll, etc.), from scanner or keyboard entries. The following figure shows how financial statements and other documents can be produced from a fully paperless chain



The original accounts are located in the computer's memory (mass storage device, hard disk, diskette, tape, etc.) or stored externally on digital media with a third party archiver. It is often copied back onto paper for use by the internal accounting department or for internal or external auditors.

This figure emphasizes the following six points :

- a widely automated link between all the phases including the controls,
- fully paperless,
- date and time stamp requested at some steps : e.g. data capture, entries validation, statement outputs, archive, etc.,
- knowledge of the taxonomy attached to the instance document as specified and recognised by the recipient (e.g. taxation authority) or to fulfill specific obligations (e.g. IAS/IFRS),
- intervention of archive trusted third party to make accounting data permanently workable that means to be sheltered from IT storage devices technological advancement,
- use of new communication facilities (CD or Internet) to distribute financial information.

## 1.2 The needs of auditors

For audit purposes, however, internal and external auditors increasingly want direct access to computer files to speed up their work, simplify cross-checking and be as close as possible to the source of the original stored data. The current trend is to digitize all files and offer query options. The information highway is a reality and accounting is in the fast lane.

## 1.3 The new standards are here

Once this reality was recognised, it became urgent for all the actors to acknowledge and settle on common understanding rules: accounting profession (which had to express its needs and constraints), accounting software developers and designers (which had to accept them), electronic document archivers to mutually agree on data communication and storage standards and all those in charge of some kind of control (auditors, statutory auditors, internal and external inspection team, etc.).

These standards go down in accounting history as they finally enable communication between accounting programs that are not designed originally to be interoperable. They propel us from the processing age to the entirely separate world of the information age.

To this end, five standards have been defined in the EDIFACT world and two more are being planned.

<b>Details</b>	<b>Entry Model</b>	Accounting entries in journals
	<b>General Ledger Model</b>	Accounting entries forming one or more statements of account
<b>Synthesis</b>	<b>Trial Balance Model</b>	General, subsidiary, cost or budgetary accounts forming a specific trial balance
	<b>Reporting Model</b>	Accounting statements constituting one or more financial, analysis, return or reporting documents
<b>Parameters</b>	<b>Chart of Accounts Model</b>	General, subsidiary, cost or budgetary accounts used to encode the accounting entries
	<b>Aggregation Plan Model</b>	Accounting parameters used to generate accounting statements based on the chart of accounts

*EDIFACT models created for the accounting field*

Opting for a language not restricted to the fields of accounting or information technology, and thus independent of the standards used by service providers, promotes dialogue between users (and their requirements) and programmers (and their constraints).

The Trial Balance, Chart of Accounts, Accounting Entries, Annual Accounts (reporting, administrative returns or management file) and General Ledger standards were developed after several years of research by EDIFICAS, in cooperation with European accountants, computer specialists and auditors and validated at United Nations level. These standards simplify the process of importing or exporting accounting files from one computerized accounting system to another, regardless of which operating system or computerized accounting system is used.

## **1.4 Towards compatibility**

The accounting profession was confronted with incompatibility issues due to frivolous or upgrade-driven file format changes, incomplete or inadequate file descriptions, and different operating systems (MAC OS, Windows, Linux, etc.).

With the EDIFICAS standards, these problems are being overcome. Service providers no longer set the conditions for system-to-system communication of trial balances or entries, for instance. They must now meet specifications defined within the framework of the standards.

## **1.5 User guides are being prepared and compliance certificates are being issued**

To simplify the work of computer specialists who develop or upgrade computerized accounting applications, implementation guidelines for the models listed above have been developed in France to cover specific needs, including:

- transferring accounting information between digital systems (cash registers, weighing devices, etc) and the accounting system;
- transferring accounting information between entities and auditors;
- transferring accounting information between parent corporations and subsidiaries;
- transferring accounting data to independent archivers;
- transferring accounting statistics;
- filing electronic tax and employer returns with public administrations;
- reporting to financial agencies;
- etc.

Since the end of 1999, certificates of compliance have been issued to software designers who meet the above-mentioned standards. These certificates serve three purposes:

- they ensure that the IT teams have properly assimilated the language to be used: ANSI X12, TRADACOM, EDIFACT, XML, etc.;
- they ensure that files based on these standards and sent electronically are in strict compliance with the user guides; and
- conversely, they ensure that any files received can be directly incorporated into the applications.

## **1.6 Standards intended to be international**

To date, these standards have been developed in an international perspective. They are intended to become fully recognized standards in France (AFNOR), Europe (CEN) and eventually the world (ISO).

## 2. ORGANIZATION OF THE ACCOUNTING SYSTEM

As in any venture, the following basic factors have to be considered in the development of systems:

- organization and management (scenarios and traceability)
- human resources requirements
- technical requirements
- processing and operating sites
- timeliness of actions (just-in-time).

If any one of these factors is overlooked, the system is likely to turn out flawed or incomplete and there are bound to be surprises when it is implemented.

Moreover, as with any system, it is important to consider the system as a whole, not just a “window” onto one part of the organization (think big, start small). Otherwise, there are sure to be snags when joining uncomplementary system components, or even rejections due to subsystem incompatibility.

Also it is worth differentiating two types of organizations: the small and medium-sized entities whose accounting systems are usually designed for internal use only; the large and medium-sized entities requiring a system that combines internal and external use. Here the concepts of groups and inter-entity services emerge.

Depending on their structure, “medium-sized” entities may belong to either type of organization (as may a small minority of small entities).

### 2.1 Organization of the accounting system of small and medium-sized entities

Generally, in an organization where the human resources, technical resources and processing sites are located under one roof, the main problems arising in an

accounting system are concentrated in system organization and management, particularly as regards transaction traceability and just-in-time operation.

In this type of organization, attention is focused on the following points:

- links with the other application subsystems of the entity's information system
- links with the entity's databases
- data and information flow and groupware
- information archiving.

## **2.11 Link with the other application subsystems of the information system**

First, it should be borne in mind that although accounting is the end point of financial flows, it is also the starting point of various legal obligations, particularly tax-related obligations. This means that non-accounting data must be associated with the accounting entries.

In an entity's information system, many subsystems are directly or indirectly associated with the accounting subsystem. Although we will not attempt to draw up a comprehensive list, the following subsystems may be mentioned:

- Purchasing subsystem: sometimes in coordination with the Commercial subsystem, for the acquisition of goods, supplies and services; the Purchasing subsystem may record and send information to the Accounting subsystem with or without payments.
- Production subsystem: in coordination with the Purchasing and Commercial subsystems, for the management of inflows and outflows of goods, supplies and services.
- Analytical subsystem: this subsystem may be located upstream or downstream of the General accounting subsystem, with or without the same periodicity;
- Cashflow subsystem: in coordination with the Loans and Borrowings and Securities subsystems;
- Commercial subsystem: in coordination with the Purchasing and Commercial subsystems, for the assignment of goods, supplies and services;
- Leasing subsystem: in coordination with the Capital Assets and Off-Balance Sheet Liabilities subsystems, for the receipt or granting of leases;

- Loans and Borrowings subsystem: in coordination with the Capital Assets and Off-Balance Sheet Liabilities subsystems, for the receipt or granting of loans or borrowings;
- Payroll and Personnel subsystem;
- Securities subsystem;
- Consolidation subsystem;
- Annual Accounts and Tax Return Preparation subsystem, if this subsystem is not integrated with the Accounting subsystem;
- Tax Computation and Control subsystem, if this subsystem is not integrated with the Accounting subsystem;
- Budget subsystem;
- etc.

The main difficulty in processing separate databases in subsystems is that ongoing control must be set up between two databases that contain identical information stemming from different subsystems. An obvious example is that of dealing with class 2 capital assets<sup>1</sup> in the Accounting subsystem and in the Capital Assets subsystem. The problem intensifies if software from different developers is being used.

If automatic matching is not possible, the user's work needs to be simplified.

In some subsystems, matching may be automated if internal or international standards are used. EDIFACT, for example, proposes standards for transactions of every kind, including accounting transactions. These standards enable transmission between information systems or application subsystems, without manual intervention.

## **2.12 Links with the entity's databases**

Harmonizing the data requested from entities and using procedures supported by international standards, combined with the implementation of adequate software functions and access to simple remote transmission protocols, stimulate the use of electronic data transmission by entities.

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<sup>1</sup> referring to the French chart of account (Plan Comptable) coding system

The implementation of a computerized procedure may be based on a repository of administrative data called the Economic Data Base, or EDB. The content of this database is described in Section 3.2.

A report, a tax or employer's return, statistical survey, consolidation, etc., each represent a set of information to be provided, attached to a single document (questionnaire) used to identify the questions and supply the answers. For the sake of clarity, we have opted for the general term "electronic form."

The appropriate answer to each request for information is:

- the result of a calculation using data directly available in an information subsystem such as Payroll, Accounting, Inventory, etc.
- the result of a calculation using the EDB
- a combination of these two procedures
- unavailable data keyed in manually.

Bridging between the aggregate information requested by the recipient user and the data elements used to calculate it is provided by a metadata. A metadata is a set of data and elements from which a software agent or programmed function can produce information. Each piece of information can be directly calculated from the metadata which supplies the aggregation method, such as the account sequence(s) to be considered, the period during which the entries enter into the calculation, whether amounts are debits or credits, the arithmetic operators, etc. Metadata for any information stored in the EDB defines other data, such as the granularity level, the updating schedule and procedure, its lifespan in the EDB, etc. (see section 3.2 for details on the content of a standard set of metadata).

The EDB is constructed in such a way that each question is matched with an answer recognized by a label identifying the name of the information, the metadata providing the data elements required to produce the answer, the source of this data, the calculation formula and the link with the electronic answer form (including the label of the code assigned to the information by the recipient).

A label coding system ensures that each answer is unique and unequivocal, playing a role similar to that of bar codes on goods.

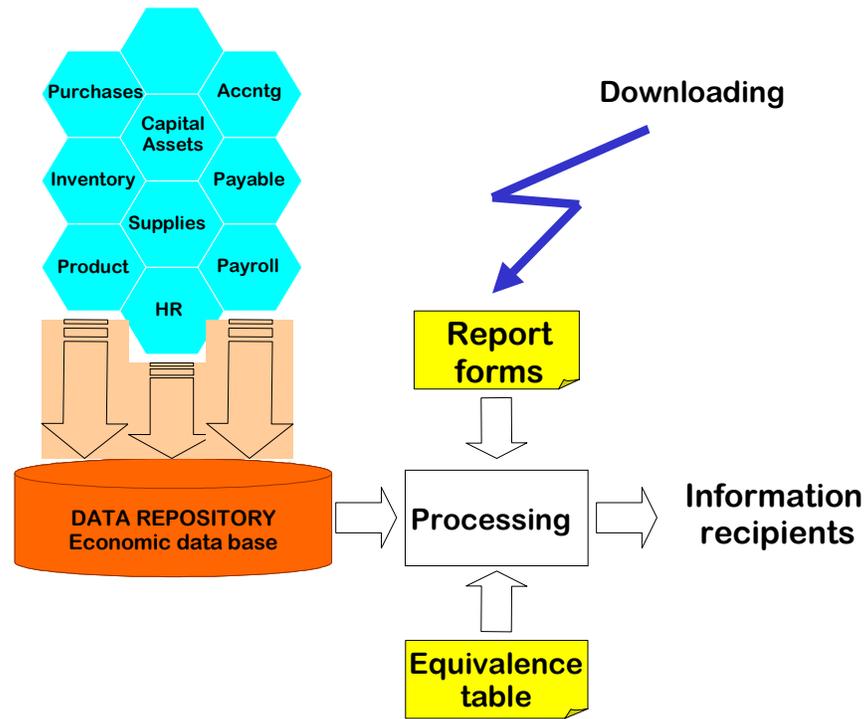
A table of correspondence cross-references the answer to the electronic form(s) requiring the information.

For each electronic form, the cross-referencing makes it possible to take account of the recipient's coding system and keep the coding systems separate.

Thus, the EDB is a repository of economic data available in one of an entity's information subsystems, at a basic or aggregate level.

It is premised on the following concepts:

- the use of one or more nomenclatures identifying and indexing the information collected by the authorities, business partners and the entity for its own purposes,



*Use of an EDB for form production*

- The implementation of EDB management and maintenance procedures :
  - the model or template of each form or report to be completed, its timetable and the information needed to send it electronically to the recipient
  - the link between the identifier of each piece of information on the form requested by the recipient and the identifier of the EDB data used to produce the requested information
  - the calculation rule associated with the identifier of each piece of information on the form which is used to produce automatically or key in the requested information
  - the software agents that auto-update the EDB
  - data capture procedures not available in the entity's information subsystems.

An EDB's features and operating conditions are defined as a set of tools and techniques used to capture as an electronic record, classify, manage, store, retrieve, calculate, format and send the information required to file electronic reports, returns or answers to questionnaires, using computer applications within the normal scope of the entity's operations.

An EDB is basically a concept that establishes the relationship between the entity's information system and the various reports it must issue or produce to meet, for example, its reporting or consolidation requirements.

The EDB is fed by upstream software packages such as purchase management, inventory management, production management, payroll, capital asset management, accounting, etc. It is thus independent of the management packages.

Accordingly, it is imperative that the issuer and the recipient user have the same understanding of the content of the collected data in terms of how it should be produced, its identification procedure, the structure of the electronic message corresponding to the document and the transmission protocol.

Using an equivalence table, the data required to complete the form (or report) is extracted from the EDB, the form or report is filled in and then sent to the recipient. The equivalence table is constantly updated using the forms or reports to be produced and the data nomenclatures (taxonomy) supplied by the recipients.

## **2.13 Data and information flow and groupware**

### **2.131 New accounting functions and obligations**

Accounting subsystems evolve by incorporating new functions and, quite often, by being integrated into larger subsystems:

- Electronic data and document management
- Automated workflow management
- Groupware, GroupWeb and teleworking.

These new functions may also be classified as having communication, coordination and cooperation features. In effect, software is used to communicate, plan and coordinate tasks.

These new functions significantly change working habits by introducing a form of “industrialization” or “taylorization” of data production into the service industry. The division of labour intensifies along with a concern for performance and security.

These new functions respond to legal requirements regarding accounting organization, as well as to the expectations of auditors.

### **2.132 Electronic data and document management (EDDM)**

EDDM is a set of tools and techniques for classifying, managing, viewing, editing, printing and storing documents in their original format using computer applications. It encompasses many applications and tools:

- Management of documents of all types (administrative, business, technical, etc.)
- Documentation management
- Character recognition system associated with spellcheckers
- Full text search
- Acquisition or conversion of paper documents to electronic images
- Archiving on various peripherals (CD ROM, hard disk, etc.),
- User access to paper or on-screen documents.

EDDM can work within accounting subsystems in a way that is easy for the user to understand. A company can contemplate setting up a system—possibly making use of optical character recognition—whereby as soon as a document contains data to be incorporated in the Accounting subsystem, a computerized accounting coding is applied, combined with automatic cross-referencing of the document.

Some examples of the usefulness of links between vouchers and entries include:

- linking of accounting entries related to business transaction processing, all the way from purchase order to invoice
- cross-referencing of software purchase invoices sent by e-mail
- indexing of the word processing file containing a company's bylaws with the accounts (or an accounting entry) in order to display, simultaneously or on request, a base document and its corresponding accounting entry.

These examples show the distinct origin of files from different sources (text, image, image-document, sound, printing spool, program call or emulation, e-mail, etc.).

EDDM is used to implement rules and procedures for making documents secure. It manages the document's life cycle step by step from creation, to validation, approval, distribution and filing. These steps determine the document's traceability and hence the reliability of the recorded information. EDDM also offers many search, sort and file options, instant access to base documents and enhanced control productivity.

### **2.133 Automated workflow management**

Automated workflow management is defined as the automation of data processing procedures.

Automated workflow management centralizes the set of processing rules applied within its sphere of activity and controls the flow of automated processes. Workflow is used not only to send information to users, but also to break down, plan and control the execution of tasks. It introduces security, simplification and fluidity into document flowcharts.

Workflow has many uses in accounting processing, including:

- breaking down an accounting subsystem's functions into basic modules
- assigning each module to specific human resources
- neutralizing the effects of distance between various sites

- controlling just-in-time in order to enhance accounting information
- organizing downstream internal or external controls
- facilitating reorganizations in cases of procedure modifications
- etc.

Automating processing procedures increases the effectiveness of controls. Workflow heightens the auditor's understanding of the entity's general environment and internal control system, and is a powerful and reliable tool for voucher controls.

Workflow tools may be independent of the software they trigger. There are three possibilities:

- the accounting model is grafted onto the workflow software, which directly triggers functions of the accounting package
- the accounting model is organized into basic electronic components and the workflow software triggers only those components
- the accounting model fully incorporates the workflow process.

In each case, the modules must be based on a set of standards.

### **2.134 Groupware, groupweb, teleworking**

Groupware may be defined as a set of programs used to exchange data within a working group. It generally includes an electronic messaging system and electronic data and document management, and is incorporated in a workflow software.

The possibility of accessing groupware information via the Web leads to the groupweb concept (see Section 2.2).

Teleworking involves performing tasks at home or on the road thanks to the possibility of remotely communicating and transmitting any type of document by computer. Service providers apply the same techniques to provide teleservice. With the growth of the Web, the concepts of teleworking and teleservice are now part of an increasingly communicative work environment.

Accounting has been affected by these changes and remote accounting applications can make use of these techniques. Company documents may, for instance, be stored on an Internet server so that the public accounting firm has access to the information. The documents are indexed and entered in the books,

making it possible for the company to consult the accounting data and indexed documents.

Many tasks can be integrated in this way, including:

- Month-end, quarterly, pre-inventory or year-end closing
- Year-end inventory (information and document gathering, etc.),
- Quarterly statements
- Budgetary tracking
- Consolidation
- Archiving a file
- Integration of bank statement entries into the accounting system by following a series of pre-defined steps.

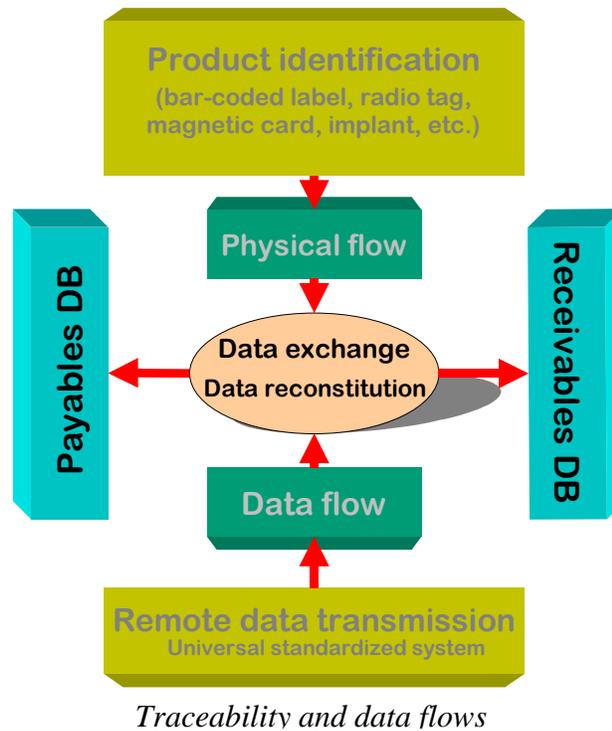
### **2.135 Traceability**

For purposes of traceability, defined by AFNOR as “the ability to find the history, use or location of an item or activity, or similar items or activities, using a registered identification,” the system must ensure similarity of action between the flow of data and the physical flow of goods. In other words, does the invoice dated December 30 actually correspond to a flow of goods prior to December 31? This example illustrates just one small aspect of traceability. There are many others.

In a totally paperless system, physical flow and data flow are completely separate from one another.

To establish permanent linkage between these autonomous flows, and between entities that are operationally and legally independent, coordination may be applied to three areas:

- The possibility of establishing a link at any time between the physical flow and the data flow which is logically associated with it but progresses at its own pace according to the needs of the partners involved;



- The multilayered (equivocal) standardization of identifiers in a non-uniform (non homogeneous) environment;
- The standardization of query and response procedures.

Traceability involves large volumes of data generated by entity-specific procedures. From a practical point of view, it is more economical to store the data wherever it was initially generated and consult it there rather than systematically transferring it, since it will be used in only a small number of cases.

Traceability is important to an entity's credibility : it is a quality label that helps build partner loyalty.

## 2.14 Archiving information

At the end of the data processing chain, archiving has always been treated with a distinct lack of interest, whatever the working methods of the entity's administrative service may be. Even though past data constitutes the memory of the entity, indifference for the archiving function seems to grow proportionately to the volume of data to be stored.

Today's entities are producing more and more information and therefore need tools to systematize and streamline data, and quickly retrieve archived documents. Information technology provides the only means to do this.

Also, archives are now spread all over the entity's information system, even as at the same time the need for quick data retrieval intensifies. This new need is as important as the archiving itself since, ultimately, the entity no longer discriminates among inactive, semi-active and active archives: **all data must be available for consultation online as quickly as possible.**

Another constraint, which is not new but should be kept in mind, is the entity's legal obligation to submit its archives for control purposes (statutory audit, judicial review, internal or external audit, etc).

Archiving must take all these constraints into account, including the traditional concepts of security and continuity, to protect entities against service providers that go out of business and thus stop providing *after-sales service*, software upgrades which may be incompatible with lower versions, and even new information systems with conflicting operating systems.

“In this sense, archiving is a by-product of the information system meant to fulfill the following functions:

- speedy retrieval;
- availability;
- possible reprocessing of data.

New needs have emerged, primarily in the area of communication: the data must be reliable, properly stored and usable by a number of people within the entity.”<sup>2</sup>

Entities are increasingly turning to electronic archiving because:

- they simply want to store data and improve file management, or
- the source document was always paperless, or
- they are legally bound to keep certain electronic documents on file.

Some paper documents may be “dematerialized,” i.e. turned into electronic documents, for example invoices scanned to collect all the information, a handwritten book of accounts entered in a computer, etc.

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2 Thesis, Isabelle GUILLOU.

The absence of a legal distinction between “unmaterialized data,” where there never was a paper document, and “dematerialized documents,” where initial paper documents existed, has implications for the rules of evidence.

For “*unmaterialized data*,” which seems to exist in a legal vacuum, technical methods must be used to legally validate the entire transaction, both in terms of authentication and evidence, and of control (“Centre certificateur, authentification, preuve et contrôle,” Alain BENSOUSSAN, November 10, 1995 symposium on IT, telematics and evidence). From a legal standpoint, the use of telecommunications-based data exchange signifies the absence of one of the pillars of the Latin legal system: the paper trail.

This absence must be offset by a true legal validation mechanism, set out in a specific contract between users of electronic data exchange. Such will be the purpose of the interentity exchange agreement, which must first clarify the position of unmaterialized data in respect of legal formalism and the rules of evidence.

The second purpose of the exchange agreement will be to indicate which documents will be transferred electronically and to stipulate how, in terms of evidence, potential litigation over the content of the dematerialized documents exchanged will be settled.

To handle issues of evidence, the parties will appoint an independent third party empowered not by law but by the parties themselves. This third party involvement should clearly improve the quality of evidence.

For the time being, calling on an independent third party is the surest way of demonstrating one’s good faith. This is currently the only possible solution for entities that generate documents from their own information systems, sometimes even without vouchers being provided by outside entities.

The involvement of a third-party “witness” or “independent third party” could also be retained, in the current state of positive law, for unmaterialized data in the sector under discussion here.

Studies that are meant to be used as a basis for a major international research project have been conducted in Canada on preserving the integrity of electronic archives. Interestingly, the initial conclusions of these studies suggest that the best way to guarantee the integrity of electronically archived documents is to:

- assign the responsibility for the reliability of electronic documents to the organization that produces them, and
- assign the responsibility for their authenticity to the organization that stores them.

To conclude, it appears that:

- the producer of information could be the entity or its public accountant,
- the storer of information could be either the public accountant or a third party if the public accountant is the producer of information,
- an IT subcontractor (to the producer of information) should not act as the storer.

Because paperless archives can be *manipulated*, moving them to an independent archiver with a code of conduct prohibiting file manipulation of any kind provides a guarantee and security which the courts and arbitrators can assess.

Four cases have been observed in France:

	<b>Unmaterialized data</b>	<b>Dematerialized document</b>
<b>Independent archiver</b>	Code of conduct <b>4</b>	Code of conduct Compliance with civil, commercial and tax codes <b>2</b>
<b>No independent archiver</b>	<b>3</b> Paperless legal transaction = legal vacuum	<b>1</b> Compliance with civil, commercial and tax codes

1. **Dematerialized document and there is no independent archiver:** this frequently occurs today. The provisions of the civil, commercial and tax codes concerning evidence should be complied with (implicit retention of the original document in civil and commercial matters, retention of the dematerialized document for the first three years in tax matters).
2. **Dematerialized document and there is an independent archiver:** the dematerialized document can be used as evidence because the archives are sufficiently secure and cannot be modified by the producer-holders.
3. **Unmaterialized data and there is no independent archiver:** this case, frequent in accounting, has apparently not been legislated.

4. **Unmaterialized data and there is an independent archiver:** the unmaterialized data may be used as evidence because the archives are sufficiently secure and can no longer be modified by the producer-holders.

## 2.2 Organization of the accounting system of large and medium-sized entities

After discussing the accounting systems of small and medium-sized entities, we now turn to large and medium-sized entities, which must also cope with the multiplicity of interentity relationships and with numerous processing sites.

Considering how quickly entities merge, split up, combine their sales or production units, etc., it will come as no surprise that accounting subsystems, and IT subsystems, are seldom homogeneous. Hence it is becoming increasingly essential to standardize computerized accounting data.

### 2.21 Using the Web as a repository

One solution is to pool interentity accounts to avoid storing or archiving redundant documents among entities or business partners involved in e-commerce, and to eliminate the corresponding accounting entries. This objective is increasingly attainable thanks to the Internet.

The possibility of broadening the concept to cover third-party accounting is already being studied in North America and by major ERP (Enterprise Resources Planning) software package developers. Projects underway include PTR (Public Transaction Repository) projects. WebLedger, a project initiated in 1999, is based on the concept of bookkeeping by Internet-based service providers (business service providers or BSPs for instance).

The provider may offer all or some of the following services:

- business document routing: quotation, purchase order, order confirmation, delivery slip, invoice, draft, customs documents, etc. and the corresponding acknowledgements of receipt, between third parties, including payments and the corresponding acknowledgements of receipt;
- date and time stamping of business documents;
- expense authorization and electronic signature checks;
- business document archiving;
- archiving of third parties' accounting entries generated automatically or provided by one of the parties to the transaction and corresponding acknowledgements of receipt;

- archiving of accounting entries for corresponding payments generated automatically or provided by financial institutions at the time of the financial transaction and corresponding statements of account;
- the chart of accounts, bookkeeping and the archiving of these documents;
- etc.

### *The WebLedger concept*

WebLedger is designed to host and manage electronic business transactions, from ordering to invoicing. This standalone application similar to a “logbook” is complete in itself and may branch off in two directions, as explained below.

A business transaction is the realization of a buyer’s intention to purchase a product or service offered by a vendor. Countless models have analyzed the process, from the call for tenders to delivery and invoicing. Clearly, the source of the accounting record is found in the data shared by the parties.

Every step following the purchase order—order confirmation, notice of delivery, acknowledgement of receipt, etc.—, generates information exchanged between buyer and vendor in mirror mode. Every sale recorded by the vendor is also recorded as a purchase by the buyer. This dual entry of the same data is replaced by a “logbook” or transaction log on a Web site which both parties can access together or separately for updating and consulting purposes.

This kind of workflow consists in various tables which, for each order, enable each partner to find out how the transaction is progressing and which steps have already been completed by the other.

A first table lists the general data known to the parties. It contains the buyer’s and vendor’s respective codes or identifiers, the reference and date of the order for each partner. Presumably, in most cases the partners will not use the same business service provider, so the table will also include the address of the partner’s Web page, i.e. [www.partner/order/](http://www.partner/order/), perhaps in the form of a hyperlink.

This first table points the way to a second which lists the rows that make up the purchase order.

Aside from the usual data, such as the item’s reference code, unit price and quantity ordered, each row contains various fields to be filled in by each party in turn after each intermediate step has been completed.

Thus, the supplier may fill in the following fields: acknowledgement of receipt of the order, shipping date, quantities shipped for each item, before-tax amount, amount of tax, invoicing date for each item, invoice number and date, etc.

The buyer will gradually fill in the fields for order confirmation, acknowledgement of receipt, bank payment date and amount of payment authorization, etc.

### ***Applications of the traceability concepts***

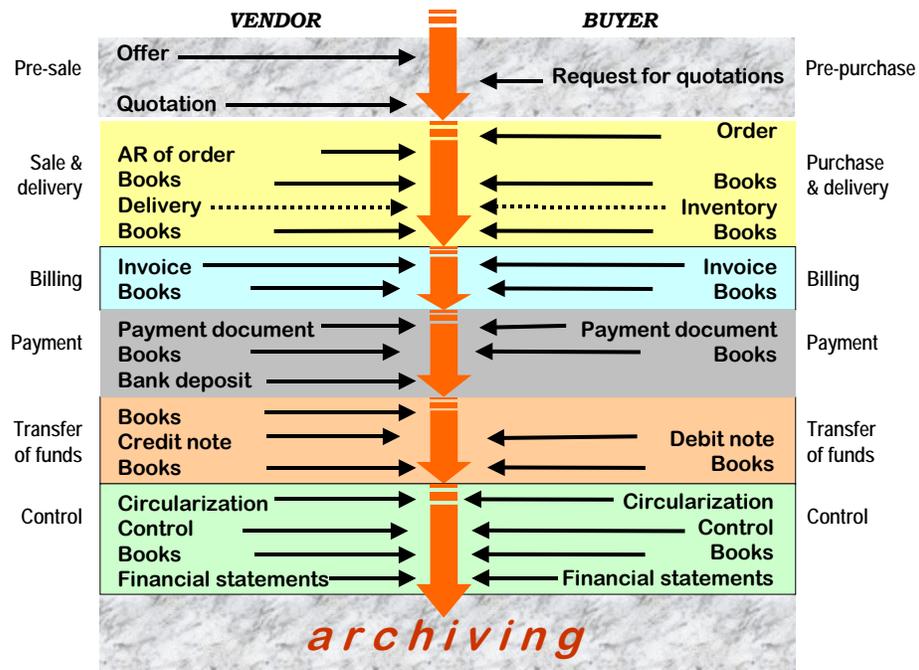
This first component of the concept is part of the eBIS-XML initiative conducted by BASDA (Business and Accounting Software Developers' Association). This first part of the concept has been incorporated in whole or in part in the offerings of major ERP software developers like SAP or Oracle Financials, particularly in the products offered through ASPs on their Internet sites. The information is ubiquitous, meaning that it is available at or from a number of locations simultaneously. This condition is easy to achieve if both partners use the same service provider, applications or hosted services.

### ***The WebLedger concept: from purchase order to financial statements***

Accounting is one of 27 fields identified by the Citibank Global Cash & Trade project as being directly affected by the supply cycle.

A software package easily links up its different modules, particularly the accounting subsets. This is not so easy, however, if the parties to the transaction (at least two and up to n) use mutually incompatible accounting systems.

The research conducted by EDIFICAS over the past decade clearly finds its application here. It should be noted that accounting entry standardization was one of EDIFICAS's first areas of investigation.



Source - Michel Lesourd - UN-EWG Paris - 03-00

Entries generated at each stage of the purchase cycle

By adding the Webjournal to the WebLedger, the chain can be completed all the way to financial statements. The standardized entry simplifies the activation of accounts through one or more special journals dedicated to each stage of the supply cycle. The standardized entry is the smallest common denominator serving as a bridge between different software packages, whether hosted by a BSP<sup>3</sup> or an ASP, or whether the accounting system is run internally or outsourced to a public accounting firm.

The data used to generate entries automatically is shown in the tables referred to above. This data includes, among others, the supplier account number in the customer's books and, conversely, the client account number in the supplier's list of accounts. Each row of items includes the investment account number or purchase account number associated with the product or service purchased, as well as the tax account(s) and the percentage and allocation of deductibility in the buyer's accounts; concurrently, these same rows of items will contain data identifying the sales and tax accounts in the vendor's books.

<sup>3</sup> BSP : Business Service Provider: this is a niche concept very similar to ASP.

The journals may be automatically sent by the business service provider to the customer's computer (push) where they are queued for processing by the accounting subsystem, or they may be stored on the WebLedger site until they are downloaded by the user (pull), who is either the entity or the public accounting firm. In either case, the entity or firm uses a standalone accounting subsystem.

This structure is similar to that of integrated management systems where each subsystem upstream from accounting prepares the entries and feeds data into the accounts.

Accounting through ASPs (Application Service Providers) is starting to emerge as an alternative. Here, the accounting system is based on simple indexes and pointers to all rows owned by the entity on various host sites, public transaction warehouses and WebLedger sites, as well as the encryption keys to read them.

WebLedger is not possible in France at present, primarily for tax reasons. However, it is technically feasible and all the required components are available. Whether cooperation among service providers can be achieved is unknown at this time. It might be achieved if a major Internet player happened to get involved or if service providers set up a union to manage their profession and establish communication standards.

No more time-consuming backup copies to make, accounts available online for the entity and its public accountant, access from anywhere in the world, no more software upgrades to buy and install, no more disk space problems to manage—in a nutshell,

Accounting will continue to absorb e-commerce techniques, which may spell the end of standalone software packages in entities and public accounting firms (see <http://www.gldialtone.com/exploration.htm>).

## **2.22 Application hosting (ASP)**

The market offerings of management application providers now include a wide range of tools that can be used directly or indirectly. Entities have two alternatives:

- invest in the required hardware and software,
- outsource all or some of their applications to an outside service provider. It is now current practice to use a service bureau, a public accounting firm, etc.

A new trend emerged in 1999, fueled by many players in the IT industry: the ASP model.

ASPs offer a range of partial or complete, horizontal or vertical (trade oriented) solutions. The solution may be limited to application hosting, or it may cover every aspect of processing, including communications management. This new kind of service, far from being limited to online application leasing, focuses on specific rights of use.

Users will call on an ASP to outsource all or part of their processing. They may do so for organizational, technical or financial reasons. In the last case, using ASPs for expensive but seldom used applications may provide a new opportunity for service providers and a very practical solution for entities.

The contractual allocation of tasks between the ASP and the entity requires an ongoing communication between subsystems housed within the entity and those which are leased. A whole system of standards applies here too.

## 2.3 Communicating computerized data

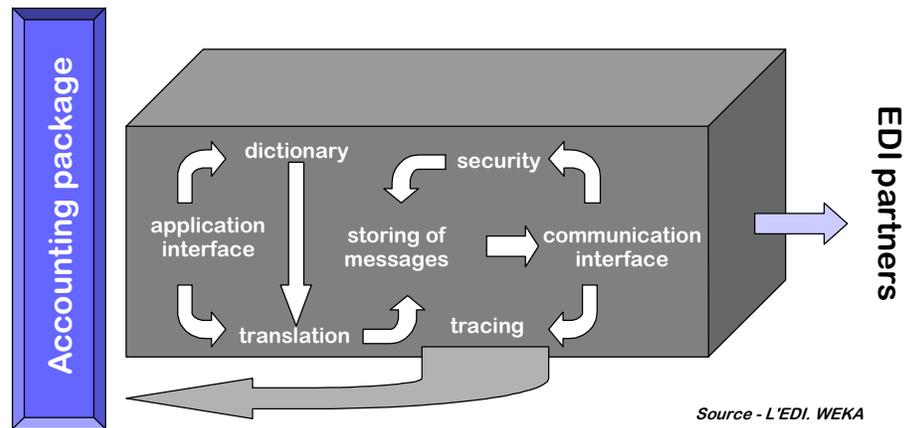
Accounting systems have always compiled data from the entity's subsystems to provide partners with aggregate information.

### 2.31 The communication function

This data may be communicated electronically for the following accounting purposes:

- outgoing data for:
  - tax returns filed with income tax centres and public and private payroll tax collectors ( guilds, for instance)
  - individual and consolidated financial statements, statistical statements, etc.
  - documents to be issued by the recipient, particularly tax-related documents (VAT), payroll related documents (pay slips), (teleprinting) or documents for consultation or control purposes (statements of account, working papers, etc.)
  - accounting archives;
- incoming data for:
  - bank transactions (statements of account),
  - the entity's "internal" transactions (Commercial subsystem, Payroll subsystem, Production subsystem, Inventory subsystem, Fixed Assets subsystem, etc.),
  - transactions from IP (Intranet, Extranet and Internet) or other kinds of networks (X400, CFT, etc.): WebLedger, non-client/server decentralized input, etc.,
  - teleworking transactions (decentralized input or production);
- internal and external messaging;
- etc.

If the accounting subsystem includes an EDI function for any of the above areas, several components have to be taken into account as shown in the following diagram:



*Issuance of information from an accounting package*

The various components must convert information from the accounting subsystem into messages and vice-versa, manage standards found in the dictionaries, manage messages sent and received and store them, trace messages and ensure their security, and transfer messages to EDI partners.

These components may be combined in a function incorporated into the accounting subsystem, in a standalone package on the same system or in a specialized platform. In all cases, to ensure user-friendliness, tools for piloting and controlling the communication components must be integrated into the accounting subsystem to avoid data constantly flowing back and forth between the accounting and the telecommunications component and to optimize control.

## 2.32 Linkage with the accounting subsystem

It is important for users to be able to determine the status of their transmissions when the accounting subsystem sends data to trading partners. While it may be relatively simple to manage a small number of messages manually, it is difficult, if not impossible, to ensure quality control when there are a great many. Fortunately, there are several tools available so that users can track message flow and pinpoint the stage at which a message was rejected. The following summarizes the steps at which a document may generally be tracked.

### *Steps in the Transmission of a Message*

1. The message is sent by the application,
2. It comes under the control of the converter, and
3. Is translated without error, or
4. Is translated with errors.
5. The message is then prepared for teletransmission, and
6. Is sent to the addressee's messaging system, where
7. It is then read, and
8. It comes under the control of the addressee's application.

*Source: L'EDI. WEKA*

The French standards association, AFNOR, has defined a series of security/internal control needs (e.g., proof of successful and unsuccessful processing operations) and recommended technological solutions. The following is a summary:

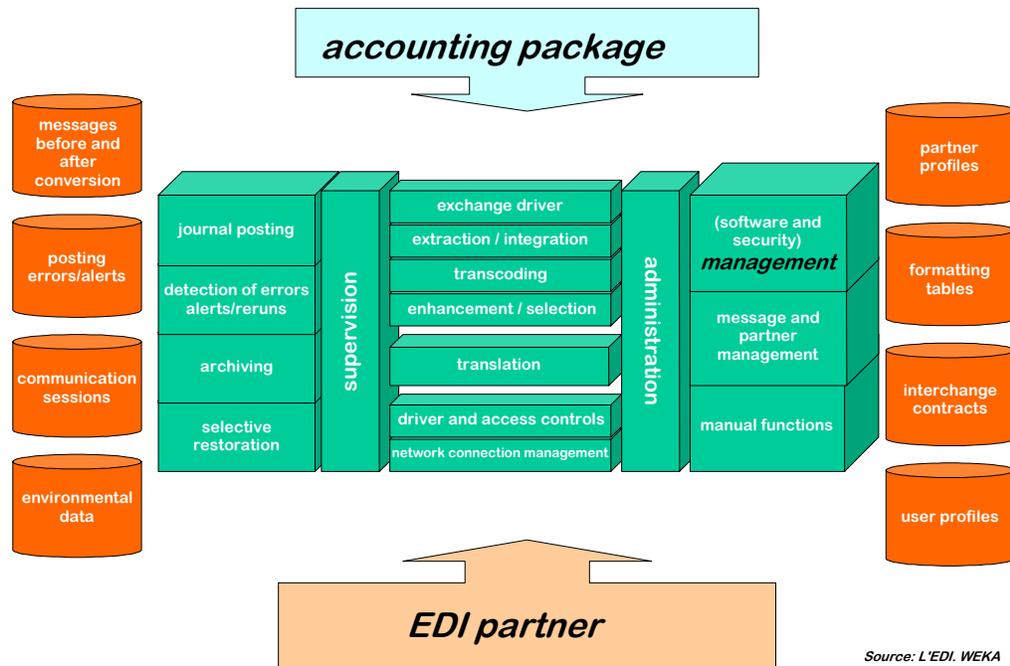
	<i>Need</i>	<i>Technological Solution</i>	<i>Comments</i>
1	Sender clearance	Identification, authentication, authorization	Authentication elements
2	EDI partner clearance	Identification, authentication, authorization	Authentication elements
3	Proof of an attempted transmission		When a required transmission could not be made on time
4	Proof of transmission	Acknowledgement of issuance	
5	Proof of an attempted delivery		When a transmission could not be finalized
6	Proof of delivery to an EDI partner	Acknowledgement of receipt	The trading partner certifies that all exchange conditions have been met and that the security elements (encryption, etc.) have been activated.
7	Commitment of the issuer towards the EDI partner as to the information issued	Issuer non-repudiation	The issuer cannot reverse the information issued
8	Acknowledgement by the EDI partner of the information received and that the exchange conditions have been complied with.	EDI partner non-repudiation	The EDI partner cannot reverse the information issued
9	Detection of changes in the data exchanged	Integrity	Both parties are involved in this control function
10	Assurance that confidentiality has been maintained during the exchange	Confidentiality	Both parties are involved in this control function
11	Method to keep track of the timing of transactions	Time stamping	Must be established by contract

### 2.33 Data conversion

The conversion of data into documents and vice versa is the next important step after the linkage with the accounting subsystem. Normally, when a native file (or file generated directly by the accounting subsystem) is not involved, data issued by the application must first pass through a converter (or translator, in EDIFACT terminology, or parser, in XML terminology).

The conversion transforms the data format by changing from a customized to a standardized format or vice versa. Direct generation of a standardized format is highly inadvisable since problems can occur when there are changes such as the introduction of new partners, new versions of the standards or messages, or legislative amendments. Conversion avoids any problems by imposing application/standard independence.

While we will not go into the criteria involved in the selection of converters, it is highly useful to keep the above discussion in mind when choosing other types of converters.



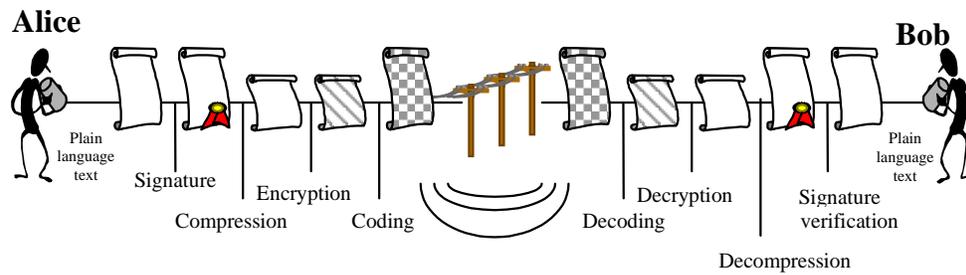
### 2.34 Electronic signatures

As its name implies, an *electronic signature* or *digital signature* is the equivalent of a signature on an electronic document. It allows users to indicate their approval of the document's contents, their status or position, the authenticity of the document, its non-repudiation, and its integrity. It is important not to confuse this

use of the term “electronic signature” with that used in the field of electronic security.

Regardless of how the “seal of approval” attached to a message is called, care should be taken in its interpretation to avoid any confusion later on. Each electronic signature relates to a set of specific functions:

- Message security. This electronic signature relates to security, allowing the verification of authentication, integrity and non-repudiation. It is the equivalent of a “registered letter with proof of receipt” and can be delegated to an assistant or to the organization’s internal messaging system;
- Message confidentiality. This electronic signature relates to the encryption of the contents (e.g., name-linked or sensitive data) of a document included in a message so as to deny access in case of interception;
- Commitment to the contents of a message. This electronic signature is the association of a signatory’s name with a position. For example, a tax reporting form will have several signatures, including that of the public accountant who has provided the assurance services and that of the CEO (who is the sole authorised to do so) binding the organization as to the contents of the document;



*Steps Used to Ensure a Message is Secure*

Even though they make use of essentially the same algorithms, each of these signatures need to be independent. They are the apex of a series of operations that should be incorporated into the accounting package. The exchange between Alice and Bob above illustrates this process (signature, compression, encryption and coding).

To summarize, the signature, whether it be written or electronic, is an integral part of a document. It’s a matter of information quality and security.

# 3. IT ACCOUNTING STANDARDS AND CONCEPTS

As noted in previous chapters, the aggregate financial data compiled by an accounting subsystem should not be disseminated unless the entire subsystem has been previously analyzed and standardized. The following is a simplified summary of a study conducted a decade or so ago by EDIFICAS. As there have been no significant changes that would require a modification of the model, the model is considered to be still valid. It should be noted that this model has a European dimension, several countries having participated in finalizing the standards.

The model is based on a report which shows a convergence of practices. The documents of the entity, whatever they are, are systematically dematerialized when they are not yet in a digital format. Accounting then follows a full immaterial process with the consequence that there is no longer neither clear original versus copy, nor amount carried forward from book to book, etc.

## 3.1 Basic IT accounting standards

While not discussed in detail, the following elements are presented below:

- the accounting entry,
- the chart of accounts, and
- the trial balance.

To distribute these components, a unique envelope was defined containing the data necessary to the flow of information within internal and external networks.

### 3.11 The accounting file

The " storage <sup>1</sup>" of the accounting entries is often carried out by file corresponding (although without obligation) with civil accounting periods. It is thus necessary to identify the entity concerned, the person or the department having produced that " storage ", the accounting data itself, the file type or organisation, the software package used and some accounting parameters.

The definition of each information appears in front of its name.

Id.	Information name	Definition
<b>Accounting File</b>		
<b>Identification of the entity processed</b>		
73	Organisation Name	full identification of the entity being either a person or a company.
74	Organisation Short Name	shortened identification of the entity (whether it does exist) being either a person or a company.
75	Organisation Social Classification Code	social category code of the entity being either a person or a company.
76	Organisation Legal Classification Code	legal classification code of the entity being either a person or a company.
77	Organisation Identifier	national identification code of the entity being either a person or a company.
78	Person Characteristic Code	person name category code when self employed.
79	Person Salutation	salutation identification for a self employed person.
80	Organisation Location Address	Address of the entity.
<b>Identification of a person or a department</b>		
81	Person File Issuance Name	Name of the person or department who has issued the file
82	Person File Issuance Function	Function identification of the person or department who has created the file.

<sup>1</sup> Storage corresponds either to a filing, or with a rescue, or with a temporary storage for recovery ult 3rd riure.

83	Communication Preference	Preferred communication mode of the person or department that created the file.
84	Communication Communication Number	Communication number of the person or department that created the file.
85	Account Identifier	identification of the account of the person or the company at a financial organisation.
86	Account organisation Name	Name of the financial organisation of the person or the company.
<b>Identification of the accounting of the entity</b>		
87	Accounting Method Identification	identification of the accounting method in use.
88	Accounting Chart Accounts Identification	identification of the chart of accounts in use.
89	Accounting Currency Identification	identification of the currency in use in the accounting.
90	Accounting Year Period Identification	identification of the period of the accounting year.
91	Fiscal Year Period Identification	identification of the period related to fiscal year.
<b>Information related to the processed file</b>		
92	Monetary Checksum	monetary checksum of the file.
93	Currency Monetary Checksum	identification of the currency of monetary checksum.
108	Quantity Checksum	quantity checksum of the processed file.
94	DateTime File Issuance	date and time of preparation of the processed file.
95	File Reference Identification	reference identification of the processed file .
96	date/time of the accounting period	date and time identification of the accounting period of the processed file
97	Acknowledgement Requested	Acknowledgement request code.
98	date/heure de création du fichier	identification of the date and time of creation of the file.
114	nature of the file	identification code of the nature of the file that indicates it is a provisional or a test file.
<b>Software used</b>		
109	Source <u>or</u> Destination Software Identification	Identification of the source or destination software.
99	Software Name	name of the software that created the processed file.
100	Software Version Identification	version number of the software that created the processed file.

101	Software Revision Identification	revision number of the software that created the processed file.
102	Software Editor Name	Editor's name of the software that created the processed file.
103	Software LastUpdate Date	Date of the last update of the software that created the processed file.
<b>Chart of accounts used</b>		
104	Accounts Chart Reference	reference of the chart of accounts used.
105	Accounts Chart Version	version of the chart of accounts used.
106	Accounts Chart Revision	revision of number the chart of accounts used.
107	Accounts Chart Use Date	chart of accounts usage start date .
<b>Miscellaneous information</b>		
110	File Information	free information attached to processed file

### 3.12 Accounting entries

The accounting entry is the lowest common denominator of all accounting systems. An **accounting entry** is a group of automated accounting records relating to a given event. An **automated accounting record** is a part of an **accounting entry** which includes logically interrelated data specifying, for a single amount, its value date, source, appropriation account, debit or credit value and references to voucher and supporting documentation.

Each automated accounting record contains the following data. The event does not necessarily provide all the elementary accounting data at the trigger time; the information is enriched as it progresses into the IT system.

Id.	Information name	Definition
<b>Accounting Entry</b>		
<b>Information related to the voucher that is source of the Accounting Entry (-ies)</b>		
1	Accounting Document Classification	identification and specification that characterise an object or document that is intended to be an accounting voucher.
2	Accounting Document Reference Internal	reference number of an accounting voucher stamped at receipt by an internal department or a service.
3	Accounting Document Reference Source	reference number originally stamped on the document by the originator of an accounting voucher such as a supplier, a bank or any external partner of the entity.
4	Accounting Document Originator Creation Date	date originally stamped on the document by the originator of an accounting voucher such as a supplier, a bank or any external partner of the entity.
5	Accounting Document Receipt Date	date stamped on an accounting voucher at receipt by an internal department or a service.
8	Accounting Document Location	location of the accounting voucher in a service, archive file, etc.
9	Accounting Document Comment	explicit comment relating to the accounting voucher.
10	Accounting Document Receipt Acknowledgement	identification of the internal department, division, service, etc. of the entity that first acknowledged receipt of the accounting voucher.
<b>Common elements to all entry Lines that are part of the same Accounting Entry</b>		
134	<b>Accounting Journal Code</b>	<b>identification of the journal (coded) in which the entries are recorded.</b>
6	Accounting Entry Category	identification of the kind of entries recorded.
7	Accounting Entry Status	identification of the status of the entry in the accounting process.
13	Accounting Entry Reversal Date	the date on which the entry must be reversed.
14	Accounting Entry Validation Date	the date on which the entry is validated by a person in charge and as a result becomes permanent or indelible.
15	<b>Accounting Entry Comment Text</b>	<b>explicit comment explaining the entry.</b>
16	Accounting Entry Comment Code	code identifying a comment that enables automated processing by computer assisted audit tools.

17	Accounting Entry Further Comment Text	complementary explicit comment to explain the entry.
19	Accounting Entry Unbalanced Code	identification (coded) of an entry that is not yet balanced.
<b>Identification of an entry line</b>		
20	Accounting Entry Line Tier	identification of the tier of the entry line to arrange the order of an accounting level prior to another; e.g. financial accounting upstream from cost accounting, budgetary accounting upstream from cost accounting, etc.
21	Accounting Entry Line Category	identification of the category of the journal.
22	Accounting Entry Line Elimination Code	entry line to eliminate automatically in case of consolidation.
23	Accounting Entry Line Sequence Number	automatic and sequential number allotted to the line of the entry in a journal by the accounting system.
24	Accounting Entry Line Folio Number	page number of a manual journal (or possibly automated) for a period under consideration.
25	Accounting Entry Line Folio Line Number	identification of the sequence number of the line within a folio related to the entry line.
26		<b>NB - Either the single element "<i>Line Sequence Number</i>" or the pair "<i>Folio Number</i>" + "<i>Folio Line Number</i>" is compulsory</b>
<b>Elements related to an entry Line</b>		
27	Accounting Entry Line System Input Date	identification of the system date on which the event was captured into the accounting system.
28	Accounting Entry Line Value Date	<b>the essential date to define the period to which this entry line pertains : this date can be either the creation date of the voucher, the receipt date of the voucher within the entity or the manual input keying date of the whole accounting entry.</b>
29	Accounting Entry Line Source Category	identification of the input source of the entry line.
30	Accounting Entry Line Account Identification	<b>identification of account(s) digits from the chart of accounts as practised by the entity: main account, sub-account, cost, budgetary, etc. Usually the identification of an account is completed with a full or abbreviated name, a currency and a reference code to the category of chart of accounts.</b>
32	Accounting Entry Line Debit/Credit Code	unique identification of a code Debit or Credit related to the entry line. .
33	Accounting Entry Line Amount Sign	<b>single identification of the positive or negative sign of the amount(s) of the entry line. Combined with the debit / credit code, it makes it possible to obtain four positions for an amount (debit + / - , credit + / -) to detect flows that do not correspond to financial flows (for example, regularization of accounts), in order to facilitate financial analyses.</b>

34	<b>Accounting Entry Line Accounting Currency Amount</b>	identification of the amount expressed in the usual currency of the concerned account; this amount corresponds to the computer entry line and is unique by accounting entry line.
35	<b>Accounting Entry Line Accounting Currency Code</b>	identification of the currency of the account (coded).
36	Accounting Entry Line Origin Currency Amount	identification of the amount in source currency as expressed on the voucher; this amount corresponds to the computer entry line; it is unique by accounting entry line; it supplements the accounting usual currency amount and reminds the initial conditions of a transaction.
37	Accounting Entry Line Origin Currency Code	identification of the source currency of the voucher (coded).
40	Accounting Entry Line Tax Category Code	identification of the category of tax relating to the entry line.
58	Accounting Entry Line Tax Basis Amount	identification of the basis amount for tax calculation related to the entry line.
59	Accounting Entry Line Tax Rate	identification of the tax rate related to the entry line.
18	Accounting Entry Line Comment Text	explicit comment explaining the entry line.

### Elements for control

41	Accounting Entry Line Matching	identification of the alphameric character(s) reference matching the amount of this line with one or more amounts of opposed sign posted in the same account of the accounting of the same entity.
42	Accounting Entry Line Ticking	identification of the alphameric character(s) reference ticking the amount of this line in the accounting of the entity with one or more amounts posted in one or several other accounts of the accounting of the same entity or in one or several accounts of accountings of a different entity.

### Elements of an entry line related to payment

43	Accounting Entry Line Due Date	the date of accepted or foreseeable payment.
44	Accounting Entry Line Financial Value Date	the date of financial value, the date when the voucher is recorded at the financial organization or at concerned third party.
45	Accounting Entry Line Payment Organisation	identification of the bank(s) and account(s) to be used for payment.
135	Accounting Entry Line Payment Details	identification of the payment details.
136	Accounting Entry Line Payment Guarantee	identification of the guarantees for deferred payment or not
137	Accounting Entry Line Payment Means	identification of the payment means.
138	Accounting Entry Line Payment Channel	identification of the channel used for the payment.
139	Accounting Entry Line Payment Terms	identification of the terms of payments.
140	Accounting Entry Line Payment Day	identification of the day or moment of the payment.
141	Accounting Entry Line Payment Periodicity	identification of the temporal linkage at the time of the payment.
142	Accounting Entry Line Payment Periodicity Category	identification of the periodicity category of payment.
143	Accounting Entry Line Payment Periods Number	identification of the number of periods for complete payment.

38	Accounting Entry Line Origin Currency Amount	identification of the amount in source currency as expressed on the voucher; this amount corresponds to the computer entry line; it is unique by accounting entry line; it supplements the accounting usual currency amount and reminds the initial conditions of a transaction.
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39	Accounting Entry Line Origin Currency Code	identification of the source currency of the voucher (coded).
<b>Further accounting elements</b>		
49	Accounting Entry Line Quantity	the quantity attached to an amount e.g. unit value for an acquisition of immobilization, etc
50	Accounting Entry Line Quantity Unit	identification of the unit used (coded): km, kg, quantity of currencies, liter, etc
51	Accounting Entry Line Subscription Comment	explicit text comment relating to the accounting voucher explaining the subscription in terms of expense or income.
60	Accounting Entry Line Subscription Start Date	the date defining the beginning of the periodical repetition for subscription of expense or income.
61	Accounting Entry Line Subscription End Date	the date defining the end of the periodical repetition for subscription of expense or income..
62	Accounting Entry Line Subscription Repetition Total	the total number of the periodical repetition for subscription of expense or income.
63	Accounting Entry Line Subscription Repetition Remaining	the number of remaining periodical repetitions for subscription of expense or income.
64	Accounting Entry Line Subscription Repetition Periodicity	the periodicity of subscription (day, week, month, quarter, etc.) corresponding to the total or remaining number of repetitions to apply.
52	Accounting Entry Line Job	identification of a job, a phase of work or function attached to the entry line.
53	Accounting Entry Line Distribution Key	a reference to a formula table for sharing out of cost, budgetary, breaking down, etc. .
<b>Elements related to fixed assets</b>		
54	Accounting Entry Line Fiscally Admitted Depreciation Duration	the fiscal life time duration of the depreciation applicable according to national legislation.
147	Accounting Entry Line Fiscally Admitted Life Time Measurement Unit	the fiscally admitted life time measurement unit applicable to the depreciation.
65	Accounting Entry Line Economic Value Depreciation Duration	the economic life time duration of the depreciation applicable according to national legislation.
148	Accounting Entry Line Economic Life Time Measurement Unit	the economic life time measurement unit applicable to the depreciation.
66	Accounting Entry Line Fair Value Depreciation Duration	the fair value life time duration applicable to the depreciation according to IAS/IFRS standards.
149	Accounting Entry Line Fair Value Life Time Measure-	the fair value life time measurement unit applicable to the depreciation.

	ment Unit	
67	Accounting Entry Line Depreciation Method	depreciation method applicable to the acquired asset, equipment or goods e.g. straight line, accelerated, diminishing balance method, etc.
68	Accounting Entry Line Depreciation Basis Value Amount	the basis amount for amortization calculation to apply in the currency of the account, when the amount to depreciate differs from the amount of acquisition in this same currency.
69	Accounting Entry Line Depreciation Basis Value Currency	the currency related to the basis amount for amortization to consider in the currency of the account.
70	Accounting Entry Line Depreciation Residual Value Amount	the residual value that will remain non redeemable (e.g. value of resale) of the acquired asset, equipment or goods.
71	Accounting Entry Line Depreciation Residual Value Currency	the currency related to the non redeemable residual value of the acquired asset, equipment or goods.
55	Accounting Entry Line Depreciation Start Date	the date from which the depreciation of the asset or equipment acquired actually starts.
150	Accounting Entry Line Depreciated Asset End Life Destruction Cost Amount	the estimated amount of cost related to the destruction at the end of its life of the asset or equipment to depreciate.
159	Accounting Entry Line Depreciated Asset End Life Destruction Cost Currency	the currency related to the cost of destruction
151	Accounting Entry Line Annual Maintenance Cost Amount	the estimated amount of cost related to annual maintenance of the asset or equipment to depreciate.
160	Accounting Entry Line Annual Maintenance Cost Currency	the currency related to the cost of annual maintenance
152	Accounting Entry Line Annual Production Volume	the annual production volume relating to the asset or equipment to depreciate.
153	Accounting Entry Line Discount Rate	the discount rate used for defined depreciation calculation formula.
154	Accounting Entry Line Revaluation Rate	the revaluation rate used for defined depreciation calculation formula.
155	Accounting Entry Line Arithmetic Progression Ratio	the arithmetic progression ratio used for defined depreciation calculation formula.
156	Accounting Entry Line Geometric Progression Ratio	the geometric progression ratio used for defined depreciation calculation formula.
157	Accounting Entry Line Annual Working Hours Volume	the annual working hours volume used for defined depreciation calculation formula.
158	Accounting Entry Line Depreciation Basis Tax Allow-	the tax allowance basis used for defined depreciation calculation formula.

	ance Amount	
161	Accounting Entry Line Depreciation Basis Tax Allowance Currency	the currency related to the tax allowance basis amount.
<b>Elements related to entry line changes</b>		
56	Accounting Entry Line Last Change Date	the date of the last modification before validation of the entry line carried out by a responsible department or service.
57	Accounting Entry Line Last Change Author	the department or service author of the last modification before validation of the entry line .

These accounting records are sequenced for remote transmission either in originating journal order or account number order. They must also be stratified so as to take into account the type of sequencing agreed upon by the interchange partners.

A few specifics relating to some of the accounting records' basic data are discussed below.

### **3.13 The Accounting Token**

The accounting token is directly derived from the format of the accounting entry (see 3.12); starting from the existing information flow (e.g. supply chain) the accounting token enables automated preparation of accounting entry following the economic event happening within the entity.

Side effects of the accounting token will be found among improvement of internal control, closer co-operation between the different directions or functions of the entity, stronger embedding of accounting in the business process and a decisive step toward real time accounts and last but not least, effective reduction of administrative burden.

In the past ten years the EDI(-FACT) relationship between a buyer and a seller at each step in the progression of the commercial transaction was analysed in depth; the business model was completed with relations with their respective other partners in matters of transport, insurance and invoice settlement.

Business seldom took care of accounting flows; accounting needs were simply omitted in this first analysis and was a source of inaccuracies and discrepancies between core business and accounting functions.

Finalised in 2002, ebXML redefined thoroughly the general choreography of the commercial transaction based upon behaviour expected from each partner.

The accounting tokens intended to supplement the original analysis.

The model evoked above as an example (see the WebLedger concept: from order up to accounts) draws the normal interleaving of accounting to each tier of the supply chain and highlights the mechanism of entries creation in the progression course of event; the accounting entry is here strictly parallel and almost simultaneous to goods or services flow.

The content of an accounting token is context related and at the same time symmetrical depending on whether it aims at accounts of the buyer or the seller; it is constantly evolving in immediate connection with the progression of the execution of process from which it results; it is then supplemented with accounting data elements to insert relevant entry (-ies) into the accounting chain

#### **A. In the buyer / the seller accounting books**

The "accounting token" includes all the elements necessary to produce entries from the order (at least starting from its acceptance by both partners), the receipt of the invoice and its payment.

Where accounts are concerned the following elements are given as an example:

- identification of the account payable/ account receivable in the accounting of the buyer / seller
- purchase/sales account or accounts whether it is necessary to differentiate them by article line,
- the tax deductible or tax to pay account(s),
- the possible discounts or reduction account(s),
- tangible assets accounts when applicable by the buyer,
- depreciation of tangible assets accounts when applicable by the buyer
- Invoices to receive / invoices to produce accounts,
- the account corresponding to the financial organization for settlement of the bill.
- for one or more of these accounts, one or more cost or budgetary accounts,
- etc

#### **B Successive steps of the model**

1. The purchase order

- the **buyer** already traces the commitment which results in a posting on "out of balance" category accounts and possibly in budgetary account(s)
  - **the seller** is not yet concerned.
2. The order confirmation / acknowledgement
    - **the buyer's side:** no new entry if commitment was booked at the same time than the order was sent; if not, the commitment is posted now as described at step (1);
    - **the seller's side:** to trace the commitment for sales which results in a posting on "out of balance" accounts category and possibly in budgetary account(s)
  3. Physical receipt / delivery of the goods or service
    - **the buyer** traces physical receipt with posting on purchase accounts and "invoices to receive"; at the same time posting traces cancellation of purchase commitment;
    - **the seller** traces physical delivery with posting on "invoices to produce" and sales accounts; at the same time posting traces cancellation of sales commitment;
  4. Sending / receipt of invoice
    - **the buyer:** traces receipt of the bill with posting on "invoices to receive"; and payable accounts;
    - **the seller** traces sending of the bill with posting on receivable and "invoices to produce" accounts;
  5. Sending / receipt payment order
    - **the buyer** sending of payment order (or emission of cheque or another payment means) and posting into accounts;
    - **the seller** receipt of payment means (e.g. cheque, bill of exchange, ...) or another mode of payment) and posting into accounts; .
  6. Receipt of the bank credit advice / debit advice and posting into accounts;

That said, the accounting token is supposed to include a few or many of the following elements, that are all part of the accounting entry or entry line details; the accounting token can be a separate subset of it available to whom it may concern.

Id.	Information name	Definition
<b>Accounting Token</b>		
<b>Information related to the voucher that is source of the Accounting Entry (-ies)</b>		

1	Accounting Document Classification	identification and specification that characterise an object or document that is intended to be an accounting voucher.
2	Accounting Document Reference Internal	reference number of an accounting voucher stamped at receipt by an internal department or a service.
3	Accounting Document Reference Source	reference number originally stamped on the document by the originator of an accounting voucher such as a supplier, a bank or any external partner of the entity.
4	Accounting Document Originator Creation Date	date originally stamped on the document by the originator of an accounting voucher such as a supplier, a bank or any external partner of the entity.
5	Accounting Document Receipt Date	date stamped on an accounting voucher at receipt by an internal department or a service.
8	Accounting Document Location	location of the accounting voucher in a service, archive file, etc.
9	Accounting Document Comment	explicit comment relating to the accounting voucher.
10	Accounting Document Receipt Acknowledgement	identification of the internal department, division, service, etc. of the entity that first acknowledged receipt of the accounting voucher.

### Common elements to all entry Lines that are part of the same Accounting Entry

134	<b>Accounting Journal Code</b>	<b>identification of the journal (coded) in which the entries are recorded.</b>
6	Accounting Entry Category	identification of the kind of entries recorded.
7	Accounting Entry Status	identification of the status of the entry in the accounting process.
15	<b>Accounting Entry Comment Text</b>	<b>explicit comment explaining the entry.</b>
16	Accounting Entry Comment Code	code identifying a comment that enables automated processing by computer assisted audit tools.
17	Accounting Entry Further Comment Text	complementary explicit comment to explain the entry.

### Elements of the entry Line

#### Identification of the entry Line

20	Accounting Entry Line Tier	identification of the tier of the entry line to arrange the order of an accounting level prior to another; e.g. financial accounting upstream from cost accounting, budgetary accounting upstream from cost accounting, etc.
21	Accounting Entry Line Category	identification of the category of the journal.
22	Accounting Entry Line Elimination Code	entry line to eliminate automatically in case of consolidation.
23	Accounting Entry Line Sequence Number	automatic and sequential number allotted to the line of the entry in a journal by the accounting system.

<b>Information related to the entry Line</b>		
28	Accounting Entry Line Value Date	the essential date to define the period to which this entry line pertains : this date can be either the creation date of the voucher, the receipt date of the voucher within the entity or the manual input keying date of the whole accounting entry.
30	Accounting Entry Line Account Identification	identification of account(s) digits from the chart of accounts as practised by the entity: main account, sub-account, cost, budgetary, etc. Usually the identification of an account is completed with a full or abbreviated name, a currency and a reference code to the category of chart of accounts.
32	Accounting Entry Line Debit/Credit Code	unique identification of a code Debit or Credit related to the entry line. .
33	Accounting Entry Line Amount Sign	single identification of the positive or negative sign of the amount(s) of the entry line. Combined with the debit / credit code, it makes it possible to obtain four positions for an amount (debit + / - , credit + / -) to detect flows that do not correspond to financial flows (for example, regularization of accounts), in order to facilitate financial analyses.
34	Accounting Entry Line Accounting Currency Amount	identification of the amount expressed in the usual currency of the concerned account; this amount corresponds to the computer entry line and is unique by accounting entry line.
35	Accounting Entry Line Accounting Currency Code	identification of the currency of the account (coded).
36	Accounting Entry Line Origin Currency Amount	identification of the amount in source currency as expressed on the voucher; this amount corresponds to the computer entry line; it is unique by accounting entry line; it supplements the accounting usual currency amount and reminds the initial conditions of a transaction.
37	Accounting Entry Line Origin Currency Code	identification of the source currency of the voucher (coded).
40	Accounting Entry Line Tax Category Code	identification of the category of tax relating to the entry line.
58	Accounting Entry Line Tax Basis Amount	identification of the basis amount for tax calculation related to the entry line.
59	Accounting Entry Line Tax Rate	identification of the tax rate related to the entry line.
18	Accounting Entry Line Comment Text	explicit comment explaining the entry line.
<b>Information related to payment</b>		
43	Accounting Entry Line Due Date	the date of accepted or foreseeable payment.
44	Accounting Entry Line Financial Value Date	the date of financial value, the date when the voucher is recorded at the financial organization or at concerned third party.
45	Accounting Entry Line Payment Organisation	identification of the bank(s) and account(s) to be used for payment.
135	Accounting Entry Line Pay-	identification of the payment details.

	ment Details	
136	Accounting Entry Line Payment Guarantee	identification of the guarantees for deferred payment or not
137	Accounting Entry Line Payment Means	identification of the payment means.
138	Accounting Entry Line Payment Channel	identification of the channel used for the payment.
139	Accounting Entry Line Payment Terms	identification of the terms of payments.
140	Accounting Entry Line Payment Day	identification of the day or moment of the payment.
141	Accounting Entry Line Payment Periodicity	identification of the temporal linkage at the time of the payment.
142	Accounting Entry Line Payment Periodicity Category	identification of the periodicity category of payment.
143	Accounting Entry Line Payment Periods Number	identification of the number of periods for complete payment.
38	Accounting Entry Line Origin Currency Amount	identification of the amount in source currency as expressed on the voucher; this amount corresponds to the computer entry line; it is unique by accounting entry line; it supplements the accounting usual currency amount and reminds the initial conditions of a transaction.
39	Accounting Entry Line Origin Currency Code	identification of the source currency of the voucher (coded).

### ***Futher accounting related Information***

49	Accounting Entry Line Quantity	the quantity attached to an amount e.g. unit value for an acquisition of immobilization, etc
50	Accounting Entry Line Quantity Unit	identification of the unit used (coded): km, kg, quantity of currencies, liter, etc
51	Accounting Entry Line Subscription Comment	explicit text comment relating to the accounting voucher explaining the subscription in terms of expense or income.
60	Accounting Entry Line Subscription Start Date	the date defining the beginning of the periodical repetition for subscription of expense or income.
61	Accounting Entry Line Subscription End Date	the date defining the end of the periodical repetition for subscription of expense or income..
62	Accounting Entry Line Subscription Repetition Total	the total number of the periodical repetition for subscription of expense or income.
63	Accounting Entry Line Subscription Repetition Remaining	the number of remaining periodical repetitions for subscription of expense or income.
64	Accounting Entry Line Subscription Repetition Periodic-	the periodicity of subscription (day, week, month, quarter, etc.) corresponding to the total or remaining number of repetitions to apply.

	ity	
52	Accounting Entry Line Job	identification of a job, a phase of work or function attached to the entry line.
53	Accounting Entry Line Distribution Key	a reference to a formula table for sharing out of cost, budgetary, breaking down, etc. .
<b>Fixed Assets Information</b>		
65	Accounting Entry Line Economic Value Depreciation Duration	the economic life time duration of the depreciation applicable according to national legislation.
148	Accounting Entry Line Economic Life Time Measurement Unit	the economic life time measurement unit applicable to the depreciation (ref UN/ECE recommendation 20).
68	Accounting Entry Line Depreciation Basis Value Amount	the basis amount for amortization calculation to apply in the currency of the account, when the amount to depreciate differs from the amount of acquisition in this same currency.
69	Accounting Entry Line Depreciation Basis Value Currency	the currency related to the basis amount for amortization to consider in the currency of the account.
70	Accounting Entry Line Depreciation Residual Value Amount	the residual value that will remain non redeemable (e.g. value of resale) of the acquired asset, equipment or goods.
71	Accounting Entry Line Depreciation Residual Value Currency	the currency related to the non redeemable residual value of the acquired asset, equipment or goods.
55	Accounting Entry Line Depreciation Start Date	the date from which the depreciation of the asset or equipment acquired actually starts.
150	Accounting Entry Line Depreciated Asset End Life Destruction Cost Amount	the estimated amount of cost related to the destruction at the end of its life of the asset or equipment to depreciate.
159	Accounting Entry Line Depreciated Asset End Life Destruction Cost Currency	the currency related to the cost of destruction
151	Accounting Entry Line Annual Maintenance Cost Amount	the estimated amount of cost related to annual maintenance of the asset or equipment to depreciate.
160	Accounting Entry Line Annual Maintenance Cost Currency	the currency related to the cost of annual maintenance
152	Accounting Entry Line Annual Production Volume	the annual production volume relating to the asset or equipment to depreciate.
157	Accounting Entry Line Annual Working Hours Volume	the annual working hours volume used for defined depreciation calculation formula.



111	Accounting Account Chart Reference	reference identification of the standard chart of accounts of the French Conseil National de la Comptabilité from which the chart of accounts used by the entity is derived
112	Accounting Account Currency	identification of the currency usually used with this account.
113	Accounting Account Chart Categorisation	category of the chart of accounts.
<b>Account identification</b>		
30	Accounting Account Identification	<b>identification of account(s) digits from the chart of accounts as practised by the entity: main account, sub-account, cost, budgetary, etc. Usually the identification of an account is completed with a full or abbreviated name, a currency and a reference code to the category of chart of accounts.</b>
115	Accounting Account Category	identification of the category of the account that indicates whether it is a main or a subsidiary account.
116	Accounting Account Full Name	the complete name of the account.
117	Accounting Account Abbreviated Name	the name of the account shortened on 20 characters.
118	Accounting Account Opening Date	the date when the account was initially opened.
119	Accounting Account Closing Date	the date when the account has been definitively closed.
120	Accounting Account Creation Responsible	the person, service or department that created the account.
121	Accounting Account Closing Responsible	the person, service or department that closed definitively the account.
122	Accounting Account Last Debit Entry Responsible	the person, service or department at the origin of the last debit entry on the account.
123	Accounting Account Last Credit Entry Responsible	the person, service or department at the origin of the last credit entry on the account.
124	Accounting Account Last Credit Entry Date	the date of the last debit entry on the account.
125	date last movement credit from the account	the date of the last credit entry on the account.
126	Accounting Account NGCSF Reference	identification of the reference corresponding to an NGCSF aggregated information
127	Accounting Account Tax Reference	identification of the reference corresponding to an taxation aggregated information
31	Accounting Account IAS/IFRS Reference	identification of the reference corresponding to an IAS/IFRS aggregated information

128	Accounting Account VAT Tax Rate	identification of VAT tax rate normally attached to this account
<b>Miscellaneous Information</b>		
129	Accounting Account Financial Institutions	Identification of the financial institution(s) related to this account.
130	Accounting Account Payment methods	Identification of the payment methods usually used with this account.
131	Accounting Account Accountant Incharge	the name of the accountant usually in charge of this account.
132	Accounting Account Accountant Communication Mode	the communication mode of the accountant usually in charge of this account.
133	Accounting Account Accountant Communication Number	the communication number of the accountant usually in charge of this account.

### 3.15 Journal

The journal in the accounting domain is the document, electronic or not, that logs accounting entries input. Entities are used to sort the entries with respect to family of journal to separate sales from purchases, treasury, payroll, etc. and within each family to make clear distinction between e.g. new vehicles and used ones, bank A from bank B, from petty cash, etc.

Each journal will contain most of the following elements:

Id.	Information name	Definition
<b>Journal</b>		
134	Accounting Journal Code	identification of the journal (coded) in which the entries are recorded.
11	Accounting Journal Name	name of the journal in which the entries are recorded.
12	Accounting Journal Category	category of journal: purchases, sales, treasury, payroll, miscellaneous, etc.
144	Journal Latest Accounting Period Closed	latest accounting period closed of this journal
145	Journal Latest Closing Period Date	date on which the latest closing of a period did happen for this journal.

146	Journal Latest Closing Period Responsible	identification of the person / service that processed the latest closing of a period of this journal.
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### 3.16 Document identification

In order to ensure a proper routing from sender to addressee, each document/message must be identified beforehand.

After having specified the following information:

- syntax used (UNOA, B, C table in Edifact, Version number in XMLetc.),
- identification of sender and receiver,
- creation time stamping of document/message on message header,
- control reference between sender and receiver (issued serially to each sender/receiver grouping for control purposes),
- receiver's reference or password, if required,
- identification of application used,
- document/message processing priority code,
- request for an acknowledgement of receipt,
- identification of the interchange contract or partnership agreement protocol, and
- test indicator,

the document/message should distinguish between the various standard document types by specifying both the type of document and version (or revision) number, then attach to the transmitted file, the:

- date of manual preparation of the document/message,
- dates of the accounting period involved,
- identification of the accounting software used (name, software company, version used to generate the document/message),
- currencies related to the document/message i.e., currency in which the file is kept (local currency and pivot currency), reporting currency and exchange rates,
- name and address of the sender, receiver and of the accounting file as well as its national identification number (if applicable),
- references of sender and receiver's files,

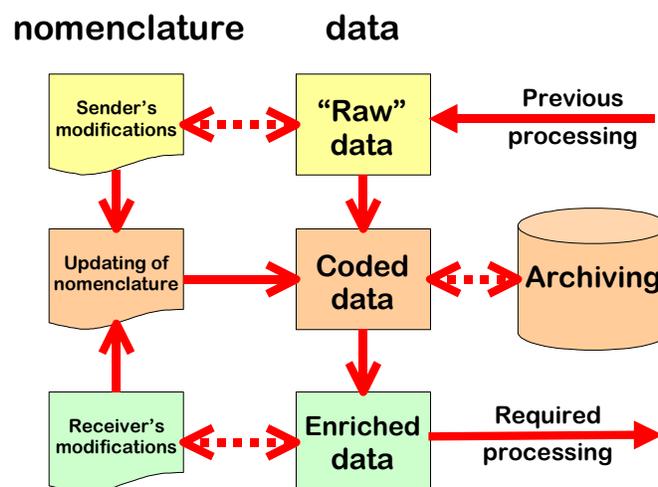
- Document/message request number,
- Contact person's name, address and status (e.g., accountant, auditor, sales manager),
- identification of the communication medium (e.g., telephone, fax, e-mail, X400) and the related number/address.

## 3.2 Data nomenclature (taxonomy)

As discussed in section 2.12 (Links with the entity's databases), the computer application has the difficult task of collecting and compiling detailed data, either for internal (e.g., statistical) or for external purposes. This task becomes especially difficult when preparing data for external users because of the wide variety of information needs. The application must also cope with the complexities of keeping a database up to date within a dynamic environment (e.g., constant modifications to the grouping parameters). Hence, to conserve as much flexibility as possible, it is necessary to isolate the nomenclature used by the application from the computer applications themselves.

Thus:

- when data is sent or received, the sender and receiver can modify the data's parameters without interfering with those of the application that will receive it, as long as the modification does not change the effect of the data. Should there be a change, a new identification is necessary; or
- the application can modify its coding system without having to inform senders and receivers.



*Nomenclature and data management should be isolated from each other.*

By separating nomenclature and data management, parameters may be adapted quickly without necessarily being subject to constraints. Thus, in France, the current system has successfully weathered seven years of amendments to financial legislation without the need to modify either documents/messages or databases

and has coped with the advent of remote filing with more government agencies, each with its own coding systems.

The coding relating to the application must follow a strict model so as to curb any differences within time and space.

### 3.21 Example of a French metadata application

The list of data presented hereafter was created using the concepts discussed above:

This is List of information number 01 (based on the *Nouveau plan comptable national 1999*, i.e. the French 1999 New National Accounting Code), used to deliver financial information documents/messages of entities filing information with different public or private bodies. The details of the coding system of 15 alphanumeric characters are as follows:

N	AA	A	AAA	NN	A	NN	AAA	Coding System
N								Type of information (see table)
	AA							Information category (see table)
		A						Level of information (see table)
			AAA					Identification, in alphanumerical order, of entities or subsidiaries (see comments)
				NN				Identification, in numerical order, of composite information (see table)
					A			Status of information (see table)
						NN		Identification, in numerical order, of "basic" information (see table)
							AAA	Unitary detail of basic information (see comments)

The tables used to code the basic information are as follows:

#### *Type of information*

Coded using **1 numeric character**:

- 0 = Accounting information
- 1 to 9 = Statistical information

### *Information category*

Coded using **2 alphabetic characters**:

- CA Capital
- EC Exchange gain or loss
- EM Loans
- EN Commitments
- FI Financial accounts
- IA Advance payments, capital assets
- IC Capital assets sold
- IE Construction work in progress
- IM Capital assets
- PR Provisions for liabilities and charges
- PV Holding gains
- RE Reserves
- RR Profit/loss for period - carryforward
- ST Inventory
- SU Grants
- TI Third parties
- WA Activities
- WC Account detail
- WE Businesses making or receiving contributions
- WI Details of items sold

### *Level of information*

Coded using **1 alphanumeric character**:

- C Consolidation
- E Foreign subsidiary
- F French subsidiary
- L Affiliated company
- N Non-affiliated company
- P Company

### *Alphanumerical identification of entities or subsidiaries*

Coded using **3 alphanumeric characters**:

- 000 The data provided does not have lower level details (the normal situation)

- *ZZZ* The data provided is the accumulation of lower level details

### *Status of information*

Coded using **1 alphanumeric character**:

- A Value of accumulated amortizations
- B Value of leases
- C Value of transfers or contributions
- D Miscellaneous values
- E Value of special revaluation allowances
- F Value of tax transactions on amortization
- G Revenues
- H Number of hours
- I Capital asset values
- L Text
- N Nominal value
- P Value of provisions
- Q Quantity
- R Expenses
- S Number of salaried employees
- V Monetary values

### *Unitary detail of basic information*

Coded using **3 alphanumeric characters**:

- 000 The data provided does not have any unitary details (normal situation)
- *ZZZ* The data provided is an accumulation of unitary details

### *Identification, in numerical order, of “composite” information*

Coded using **2 numeric characters**. See equity account example below.

### *Identification, in numerical order, of “basic” information*

Coded using **2 numeric characters**. See equity account example below.

### *Application examples*

Revaluation of amortization taken in previous periods on office supplies, furniture and computer equipment 0 IM P 000 35 A 01 000

Non-accounting amortization corresponding to effectively used investment tax credits, defined by the laws of 1966, 1968 and 1975 0 IM P 000 00 F 37 000

Dividends cashed during the fiscal year (subsidiary or equity interest) relating to subsidiary 102 0 TI E 102 17 D 11 000

Shares acquired during the fiscal year (58th transaction of subsidiary 218) 0 CA C 218 01 Q 31 058

### *Equity account application*

0		Accounting information
	CA	<b>CAPITAL</b>
	A	Level of information (see table)
	AAA	Identification, in alphanumerical order, of companies or subsidiaries (from 000 to ZZZ)
	01	Paid-up share capital
	02	Called up share capital (non-paid-up)
	03	Uncalled share capital
	V	Values
	01	Beginning of period
	02	Cash subscriptions
	03	Contributions received by the investee company
	04	Capitalization of reserves
	05	Capitalization of carried forward net income
	06	Capitalization of net income
	67	Redemption or amortization
	99	End of the period
	D	Miscellaneous values
	01	Premiums/discounts on issues during the period
	02	Contributions made by the investing company
	03	Capital called up during the period
	04	Capital called up and paid up during the period
	Q	Quantities
	31	Number of common shares issued during the period
	32	Number of redeemable shares issued during the period
	33	Number of non-voting preferred shares issued during the period
	34	Number of other preferred shares issued during the period
	35	Number of shares in partnerships or cooperatives issued during the period

	36	Number of investment certificates issued during the period
	61	Number of common shares retired during the period
	62	Number of redeemed shares retired during the period
	63	Number of non-voting preferred shares retired during the period
	64	Number of other preferred shares retired during the period
	65	Number of shares in partnerships or cooperatives retired during the period
	66	Number of investment certificates retired during the period
	91	Number of common shares at period-end
	92	Number of redeemable shares at period-end
	93	Number of non-voting preferred shares at period-end
	94	Number of other preferred shares at period-end
	95	Number of shares in partnerships or cooperatives at period-end
	96	Number of investment certificates at period-end
N		Nominal value
	91	Common shares
	92	Redeemed shares
	93	Non-voting preferred shares
	94	Other preferred shares
	95	Shares in partnerships or cooperatives
	96	Investment certificates
	AAA	Unitary detail of the basic data (from 000 to ZZZ)

**Please note that these codes are also used in the documents/messages.**

*Example of information being applied to a specific data sheet*

The next two data examples appear in the French NGCSF<sup>2</sup> database.

<b>Data sheet</b>		10/08/00 Page 1	
N.G.C.S.F. reference	OACP000ZZP99000		
Short name	Amort. Prov.		
Data name	Amortizations and provisions		
Created	10/02/94		
Updated	21/11/96		
<b>DESCRIPTION</b>			
Definition	Amortization for depreciation results in an irreversible reduction of the carrying value of capital assets.		
Details			
Ledger account(s)	39 / 49 / 59		
<b>ORIGIN</b>			
Type	Law		
Details			
	Code de commerce		
	Plan comptable général 1999		
	Code général des impôts		
<b>TYPE OF DATA</b>			
Structure	Item		
Nature	Numeric – Monetary		
Frequency	Annual		
<b>DOCUMENTS IMPACTED</b>	01BQ2033A	in 2033-A	field BQ Segment MOA
	01CK2050	in 2050	field CK Segment MOA
	01CM2144	in 2144N	field CM Segment MOA
	01CKCA	in CABI	field CK Segment MOA
0 ----->	Accounting information		
AC ----->	Current assets		
P ----->	Entity		
000 ----->	The entity itself		
ZZ ----->	Total		
P ----->	Values of provisions		
99 ----->	End of period		
000 >	Additional details		

2 NGCSF: *Nomenclature Générale Comptable Sociale et Fiscale* (general nomenclature for accounting, social and tax purposes).

<b>Data sheet</b>		10/08/00 Page 1	
N.G.C.S.F. reference	OCAP00002D30000		
Short name	Cap app non v lié		
Data name	Affiliates' unpaid subscribed called-up capital		
Created	10/02/94		
Updated	28/11/96		
<b>DESCRIPTION</b>			
Definition	The entities of the group have not yet paid the subscribed called-up capital.		
Details			
Ledger account(s)	101		
<b>ORIGIN</b>			
Type	Law		
Details	Code de commerce Plan comptable général 1999		
<b>TYPE OF DATA</b>			
Structure	Item		
Nature	Numeric – Monetary		
Frequency	Annual		
<b>DOCUMENTS IMPACTED</b>	01AICA10	in CA10	field AI Segment MOA
0 ----->	Accounting information		
CA ----->	Capital		
P ----->	Entity		
000 ----->	The entity itself		
02 ----->	Unpaid called-up share capital		
D ----->	Miscellaneous values		
30 ----->	Affiliates		
000 >	Additional details		

### 3.3 Aggregation (mapping) plans

Aggregation (mapping) plans are popular solutions to three types of needs – the need to maintain up-to-date information (such as data transmitted between service providers and their clients), the need for two entities to use the same document, and the need to obtain aggregated data from an aggregation of ledger account elements (e.g., financial accounting, subsidiary, cost accounting, budgetary accounting). Aggregation plans can be used to:

- file mandatory reports (e.g., tax, social, statistical),
- transmit documents required as part of a contract or agreement (e.g., reporting, consolidation), and
- send descriptions of financial statements so that they may be read easily later

The term “mapping plan” refers to an accounting document which describes relationships between data received, stored and to be provided. There can be many mapping plans, for example:

- between a general combination plan showing all the accounts of the G/L and their allocation to a trial balance account,
- between an aggregation plan generated by the trial balance and the annual financial statements, monthly reporting, tax returns, or annual statistics, and
- between an aggregation plan generated by the trial balance and a screen display on a Web site.

The document/message that conveys the aggregation plan should include the following information:

<b>Identification of the document</b>	
Aggregated Document Code	Code identification of the aggregated document sthat requires a mapping plan
Aggregated Document Name	Name identification of the aggregated document sthat requires a mapping plan
<b>information of aggregation source</b>	
Accounting Entry Line Account Identification	identification of account(s) digits from the chart of accounts as practised by the entity: main account, sub-account, cost, budgetary, etc. Usually the identification of an account is completed with a full or abbreviated name, a currency and a reference code to the category of chart of accounts.
Data Update Date and Im-	Critical dates – last data update and date on which the data can be taken into

Implementation dates	account.
Description, Note, Legal references and Synonyms	Information which helps assess the quality of the data
Accounting Entry Line Debit/Credit Code	unique identification of a code Debit or Credit related to the entry line.
Accounting Entry Line Amount Sign	single identification of the positive or negative sign of the amount(s) of the entry line. Combined with the debit / credit code, it makes it possible to obtain four positions for an amount (debit + / - , credit + / -) to detect flows that do not correspond to financial flows (for example, regularization of accounts), in order to facilitate financial analyses.
Accounting Entry Line Accounting Currency Amount	the amount expressed in the usual currency of the concerned account; this amount corresponds to the computer entry line and is unique by accounting entry line. .
Accounting Entry Line Accounting Currency Code	identification of the currency of the account (coded)..
Accounting Entry Line Origin Currency Amount	the amount in source currency as expressed on the voucher; this amount corresponds to the computer entry line; it is unique by accounting entry line; it supplements the accounting usual currency amount and reminds the initial conditions of a transaction.
Accounting Entry Line Origin Currency Code	identification of the source currency of the voucher (coded)..
<b>Identification of target aggregation</b>	
Accounting Entry Line Account Identification	identification of account(s) digits from the chart of accounts as practised by the entity: main account, sub-account, cost, budgetary, etc. Usually the identification of an account is completed with a full or abbreviated name, a currency and a reference code to the category of chart of accounts.
Accounting Entry Line Value Date and Accounting Entry Line Last Update	identification of critical dates such as last update of the entry line and the date the entry line is incorporated into account.
Description, Note, Legal references and Synonyms	Information which helps assess the quality of the data
Accounting Entry Line Debit/Credit Code	unique identification of a code Debit or Credit related to the entry line.
Accounting Entry Line Amount Sign	single identification of the positive or negative sign of the amount(s) of the entry line. Combined with the debit / credit code, it makes it possible to obtain four positions for an amount (debit + / - , credit + / -) to detect flows that do not correspond to financial flows (for example, regularization of accounts), in order to facilitate financial analyses.
Accounting Entry Line Accounting Currency Amount	the amount expressed in the usual currency of the concerned account; this amount corresponds to the computer entry line and is unique by accounting entry line. .
Accounting Entry Line Accounting Currency Code	identification of the currency of the account (coded)..

Accounting Entry Line Origin Currency Amount	the amount in source currency as expressed on the voucher; this amount corresponds to the computer entry line; it is unique by accounting entry line; it supplements the accounting usual currency amount and reminds the initial conditions of a transaction.
<b>Arithmetical and boolean operands</b>	
Arithmetical Boolean Operands	identification of arithmetic operands (+-x; $\sqrt{\Delta\Sigma}$ ) or boolean (AND OR NOT) necessary for calculation of the aggregate information
Source Accounting Entry Consideration Period	Period to be taken into account for the source information to be aggregated.

The parameter's qualifier should specify the accounting function concerned, for example:

- Ledger account      ACA
- Accounting journal    ACJ
- Aggregated data      ACI

It is also recommended to use a (coded) parameter format to ensure the contents of the parameter data are read correctly.

The parameter format should allow a distinction to be made between the following:

- B    Accounts beginning with N°.
- C    Accounts payable only
- D    Accounts receivable only
- E    Accounts finishing with N°.
- F    Range of accounts (from N°. ... to N°. ...)
- I    Accounts that include a character string in account N°.
- J    Accounts that include a character string in a range of accounts (from N°. ... to N°....)
- M    Only positive account payable balances
- N    Only negative account payable balances
- P    Only positive account receivable balances
- Q    Only negative account receivable balances
- R    Excluding accounts beginning with N°. ...
- S    Excluding accounts in the range of N°. ... to N°. ...
- T    Excluding accounts ending with N°.

- X All positive accounts (financial flows)
- Y All negative accounts (financial non-flows)
- Z All accounts

This document allows for the automation of transactions between sender and receiver, especially when dealing with the problem of updating tables.

### 3.4 Financial reporting and other related statements

Reporting, whether financial, statistical, tax, social or other, requires a fairly consistent approach, including:

- verification of the updating of tables and databases for report production or reception,
- selection of type of report needed,
- report processing, quality checking before transmission, possible electronic signature, possible encryption (confidentiality),
- transmission of selected report,
- archiving of report issued, and
- management of acknowledgements of receipt (checking, follow-up if not received, archiving).

Particular care should be taken as to the dissemination of reports since reports may be used in different ways by addressees, for example:

- receipt, control (encryption, signature), acknowledgement of receipt and archiving only (Documentation management),
- receipt, control (encryption, signature), acknowledgement of receipt, archiving, processing in specific application strings, etc.,
- receipt, control (encryption, signature), acknowledgement of receipt, archiving, screen display for public use, etc.,
- receipt, control (encryption, signature), acknowledgement of receipt, archiving, routing towards other users, etc.

It is therefore crucial to separate the reporting process from that of the use of the reports themselves.

Furthermore, it should be noted that automated reports are not read directly (i.e., as transmitted) by users. The report first undergoes a translation process within the computer system (to provide a readable document/message). It is therefore unnecessary to go to the trouble of labelling data in plain language in the document/message. Instead, it is best to reduce file size as much as possible by making full use of coding tables. In addition, the use of coding tables eliminates problems due to the use of different languages.

To satisfy the needs of all who are involved – user-senders, computer specialists who write the applications, user-receivers, auditors, and so on – it is necessary to

use general, all-purpose documents/messages to transmit the hundreds of thousands of documents that are produced worldwide today.

Automation is a fitting solution as it provides for the direct transmission of data while doing away with paper. The approach to automation tested in a number of European countries over the last several years is based upon the concepts discussed previously, such as:

- the use of data code tables (defined jointly by senders and receivers). These tables are expected to be translated into several languages, including English, Spanish and German,
- the use of a unique document/message (as container) regardless of the report to be transmitted,
- equivalence (mapping) tables make it unnecessary for senders and receivers to conform to a unique data code table,
- new documents can be integrated simply by updating the data code tables, and
- an international authority in the industry supervises the tables and the document/message.

### **3.41 Accounting information**

An entity's accounting information can be seen as a piece of information or event brought to the attention of a person (either public or private, or a public body) that includes a reference, a date, an hour, a period, a text, a name and address, a quantity, an accounting/administrative characteristic, a percentage, the legal status of an organization, or an amount in accordance with either commercial, financial, accounting, legal, social, or tax relationships or in accordance with legislative measures or statutes.

The documents/messages issued by an entity are based upon a predefined index. Each value in the index corresponds to a piece of information listed in the tables.

The accounting information contains the following:

Information Sequencing	The sequential number of the data appearing in the document/message
Nomenclature index	The number of the data in a nomenclature
Data Reference	Specifies a feature of the requested data
Data - Amount	Specifies a feature of the requested data
Data text	Specifies a feature of the requested data
Data – date	Specifies a feature of the requested data
Data – quantity	Specifies a feature of the requested data
Data – currency	Specifies a feature of the requested data
Data – percentage	Specifies a feature of the requested data
Data – ledger account	Specifies a feature of the requested data
Data – contact	Specifies a feature of the requested data
Data – characteristics	Specifies a feature of the requested data

### *Information sequencing*

The information to be remotely transmitted can be either “simple” or “composite” (i.e., made up of a variety of data, such as a text associated with two amounts which, together, form a homogenous whole).

With the addition of each new information item, the sequencing increases by one unit. Thus, a sequential number exists within the document/message.

In the case of simple information (a single piece of data being required), the index consults the nomenclature directly to obtain the definition.

**Example:** sequence 000187, index 0IMP00035A01000 (187<sup>th</sup> data element of the document/message relating to “Revaluation of amortization

taken in previous periods on office supplies, furniture and computer equipment.”

In the case of composite information, the sequencing retains the same value for all the data, each being individually indexed to the nomenclature making up the composite information.

**Example:** sequence **000188**, index **0IMP00035L01000** (Name required), then sequence **000188**, index **0IMP00035A01000** (Balance at the beginning of the period), then sequence **000188**, index **0IMP00035A02000** (Acquisition during the period), etc.

If the document/message includes a table incorporating some or all of the composite information, the sequencing increases by one unit with each change of “line.”

**Example:** sequence **001021**, index **0CAC00078L11000** (Wording required for Alain’s contribution), then another sequence **001021**, index **0CAC00078N11000** (Value required for Alain’s contribution), then sequence **001022**, index **0CAC00078L11000** (Wording required for Bertrand’s contribution), then another sequence **001022**, index **0CAC00078N11000** (Value required for Bertrand’s contribution), the sequence **001023**, index **0CAC00078L11000** (Wording required for Claude’s contribution), the another sequence **001023**, index **0CAC00078N11000** (Value required for Claude’s contribution), and so on.

This Sequencing/Index combination has been used to remotely transmit this kind of information in France since 1994 (approximately 300 different forms and 9,000 different types of information).

### *Nomenclature index*

Specifying the nomenclature index in the header of the document/message makes it possible to qualify an information. See above for index reference combined with sequencing.

## **3.42 Definition of the message header**

It is important to take extra care with the header because of the potential for extensive rerouting of the document/message.

The following should be included in the header of the document/message (in the following order) :

- date of manual preparation of the document/message,
- dates of accounting period covered by the report,
- identification of the accounting software used (e.g., software name, software developer, version number),
- currencies used, e.g., local and pivot bookkeeping currencies, reporting currency, conversion rates.
- name and address of the sender, the receivers and the accounting file as well as national identification numbers (if applicable),
- billing name and address of service provider,
- sender and receiver file references,
- document/message request number,
- contact person's name, address and status (e.g., accountant, auditor, sales manager),
- identification of the communication medium (e.g., telephone, fax, e-mail, X400) and the number/address,
- number and version number of the index list attached to the document/message,
- currency used throughout the document/message.

## 4. USING EDIFACT – AN EXAMPLE

INFENT model studied and used by the EDIFICAS Association (extracts).

```
UNA:+,? '
UNB+UNOC:3+32788110000103:5:TXXXXXXXXX+Code_conf_emetteur+000809:1700
+00080917001900+++++CAB-PED0100'
UNG+INFENT+NON_SECURISE_NON_SIGNE+EDI_TDFC+000809:1700+1+UN+D:97B:FD
0101'
UNH+00001+INFENT:D:97B:UN:FD0101'
BGM+IDF:71:211'
DTM+242:20000809:102'
RFF+ZZ2:CEGID'
RFF+ZZ3:TDI:0:9.9A'
RFF+ZZ4:AGREMENT'
NAD+DT+31950367800041:100:107++SA PHOSYN:BP 6+58 BIS RUE GAMBET-
TA+FLEURANCE++32500'
NAD+FR+32788110000103:100:107++CEC_EDI_TDFC:SA SOFIREN+156 Bd des
Brotteaux+LYON++69006+FR'
NAD+MS+32788110000103:100:107++SA SOFIREN::::ZZ1+156 Bd des Brot-
teaux+LYON++69006+FR'
RFF+ACD:00582'
NAD+MR+6900502:100:ZZ1++Relais Cegid Test+123, Avenue Barthélémy
Buyer+LYON++69005'
NAD+HP+++DGI_EDI_TDFC:CRI DE NEVERS::::ZZ1+test pour EDI
TDFC+NEVERS'
RFF+ZZ1:420050130556977'
CCI+++TAR:LIS:211'
CAV+AR:TAR:211'
SEQ++000001'
IND++F-IDENTIF 0000000000CBDTM'
DTM+ZZZ:19991231:102'
SEQ++000002'
IND++F-IDENTIF 0000000000CDDTM'
DTM+ZZZ:20191231:102'
SEQ++000003'
IND++F-IDENTIF 0000000000CCDTM'
DTM+ZZZ:12:802'
SEQ++000004'
IND++F-IDENTIF 0000000000CEDTM'
DTM+ZZZ:12:802'
SEQ++000005'
IND++F-IDENTIF 0000000000BACCI'
CCI+++TCF:LIS:211'
CAV+BI:TCF:211'
SEQ++000006'
IND++F-IDENTIF 0000000000BBCCI'
CCI+++TRF:LIS:211'
CAV+RS:TRF:211'
SEQ++000007'
```

IND++F-IDENTIF 0000000000BECCI '  
CCI+++TAP:LIS:211 '  
CAV+PDP:TAP:211 '  
SEQ++000008 '  
IND++F-IDENTIF 0000000000BFCCI '  
CCI+++TDP:LIS:211 '  
CAV+NOR:TDP:211 '  
SEQ++000009 '  
IND++F-IDENTIF 0000000000BCCCI '  
CCI+++TBS:LIS:211 '  
CAV+IR:TBS:211 '  
SEQ++000010 '  
IND++F-IDENTIF 0000000000DACUX '  
CUX+2:FRF '  
SEQ++000011 '  
IND++F-IDENTIF 0000000000AANAD '  
NAD+ZZZ+31950367800041:100:ZZZ++SA PHOSYN:BP 6+58 BIS RUE GAMBET-  
TA+FLEURANCE++32500 '  
CTA+ZZZ+:Mr Pierre Dupré '  
COM+0176329645:TE '  
SEQ++000012 '  
IND++F-IDENTIF 0000000000ABRFF '  
RFF+ZZZ:515L '  
SEQ++000013 '  
IND++2033A 0000000000AAMOA '  
MOA+ZZZ:60000,00 '  
SEQ++000014 '  
IND++2033A 0000000000BAMOA '  
MOA+ZZZ:30000,00 '  
...  
SEQ++000160 '  
IND++2033C 0000000001KAFTX '  
FTX+ZZZ+++Presse hydraulique '  
SEQ++000161 '  
IND++2033C 0000000002LAMOA '  
MOA+ZZZ:89000,00 '  
...  
SEQ++000165 '  
IND++2033C 0000000002KAFTX '  
FTX+ZZZ+++Fourgonnette '  
SEQ++000166 '  
IND++2033D 0000000000AEMOA '  
MOA+ZZZ:18948,00 '  
...  
SEQ++000171 '  
IND++2033D 0000000000DHMOA '  
MOA+ZZZ:10685,20 '  
SEQ++000172 '  
IND++CA17PROREC0000000001ABMOA '  
MOA+ZZZ:30396,00 '  
SEQ++000173 '  
IND++CA17PROREC0000000001AAFTX '  
FTX+ZZZ+++Clients fact a etabl '  
SEQ++000174 '  
IND++CA17PROREC0000000002ABMOA '  
MOA+ZZZ:16166,00 '  
...  
SEQ++000178 '  
IND++CA18CHAPAY0000000001ABMOA '

MOA+ZZZ:109,00'  
 SEQ++000179'  
 IND++CA18CHAPAY0000000001AAFTX'  
 FTX+ZZZ+++Banques interets courus'  
 ...  
 SEQ++000199'  
 IND++CA19CHAREP0000000001AAFTX'  
 FTX+ZZZ+++Frais d?'augmentation capital'  
 ...  
 SEQ++000201'  
 IND++CA20CHAAVA0000000001ACMOA'  
 MOA+ZZZ:33268,00'  
 ...  
 SEQ++000203'  
 IND++CA20CHAAVA0000000001AAFTX'  
 FTX+ZZZ+++CHARGES CONSTAT.D?'AVANCE'  
 SEQ++000204'  
 IND++ANNEXLIB010000000001 AFTX'  
 FTX+ZZZ+++Commentaire.....'  
 SEQ++000205'  
 IND++ANNEXLIB010000000002 AFTX'  
 FTX+ZZZ+++Commentaire.....'  
 SEQ++000206'  
 IND++2031 0000000000ABFTX'  
 FTX+ZZZ+++PRODUITS PHYTOSANITAIRES'  
 SEQ++000207'  
 IND++2031 0000000000CAMOA'  
 MOA+ZZZ:636461,19'  
 ...  
 SEQ++000211'  
 IND++2031 0000000000BMNAD'  
 NAD+ZZZ+++PHOSYN+45Ballée des Alouettes+Firminy++42100'  
 CTA+ZZZ+:M Duchemol'  
 COM+0230343536:TE'  
 SEQ++000212'  
 IND++2031 0000000000DCNAD'  
 NAD+ZZZ+++M Dumond+12True des bastides+Annecy++74000'  
 CTA+ZZZ+:...'  
 COM+0474983318:TE'  
 ...  
 SEQ++000231'  
 IND++2067 0000000000PDMOA'  
 MOA+ZZZ:0,00::ZZ1'  
 SEQ++000232'  
 IND++ATTESTATAA0000000000AANAD'  
 SEQ++000233'  
 IND++ATTESTATAA0000000000EANAD'  
 NAD+ZZZ+101670:100:ZZZ++ALSACE+11, Avenue de la Forêt  
 Noire+Strasbourg Cedex++67084'  
 CTA+ZZZ+:Mme Braun'  
 COM+0388456020:TE'  
 ...  
 SEQ++000241'  
 IND++ATTESTATAA0000000000DBCCI'  
 CCI+++TON:LIS:211'  
 CAV+OUI:TON:211'  
 UNT+759+00001'  
 UNE+1+1'  
 UNZ+1+00080917001900'





# 5. USING XML - AN EXAMPLE

## Modèle DTD Model étudié par l'association EDIFICAS

```
<?xml version="1.3" encoding="UTF-8"?>
<!-- edited with XMLSPY v5 (http://www.xmlspy.com) by Lesourd (CS-OEC) -->
<!-- edited with XML Spy v4.3 (http://www.xmlspy.com) by Lesourd Michel (CS-OEC) -->
<xs:schema targetNamespace="http://www.edificas.org/namespace" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="http://www.edificas.org/namespace" element-
FormDefault="qualified" attributeFormDefault="unqualified" version="1.15">
  <xs:include schemaLocation="EDIFICAS_ComplexType.xsd"/>
  <xs:element name="ENTREPRISE_INFORMATION">
    <xs:annotation>
      <xs:documentation>Root element</xs:documentation>
    </xs:annotation>
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Routing">
          <xs:annotation>
            <xs:documentation>Group of elements defining message routing process to identify interchange partners;
              Note: some or all elements could be managed by protocol (e.g. SOAP)
              For this reason, perhaps a part of this set of data are not considered.</xs:documentation>
            <xs:documentation>Group of elements defining routing process (some of all elements could be managed by protocol (e.g. SOAP)</xs:documentation>
          </xs:annotation>
          <xs:complexType>
            <xs:sequence>
              <xs:element name="RelatedParty" maxOccurs="unbounded">
                <xs:annotation>
                  <xs:documentation>An information to provide party related to exchange message. e.g. Sender, Recipient, Router, Entity, Sub Entity, Col-
                    lection Center, Representative Sender, Invocing, Service Operator, etc.</xs:documentation>
                <xs:documentation>Group of elements defining routing process (some of all elements could be managed by protocol (e.g.
                  SOAP)</xs:documentation>
                </xs:annotation>
```

```

<xs:complexType>
  <xs:sequence>
    <xs:element name="IdentityId" type="IdentityId"/>
    <xs:element name="PartyQualifierId" type="ReferenceCodeType">
      <xs:annotation>
        <xs:documentation>Code giving specific meaning to a party.
          e.g. MS = Issuer of a document and/or sender of a message.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="PartyReferenceId" type="ReferenceCodeType" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>Code identifying a reference attached to a party of an electronic exchange. </xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="BankingAccountCode" type="FinancialAccountHolderType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="InformationFile">
  <xs:annotation>
    <xs:documentation>Group of elements providing enterprise information details.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element name="EntityId">
        <xs:annotation>
          <xs:documentation>An information identifying the type of enterprise information which is transmitted and provide its identification number.
            </xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:complexType>
        <xs:sequence>
          <xs:element name="ReferenceId" maxOccurs="unbounded">
            <xs:annotation>
              <xs:documentation>To indicate references concerning the document. </xs:documentation>
            </xs:annotation>
          </xs:element>
        </xs:sequence>
      </xs:complexType>
    </xs:sequence>
  </xs:complexType>
</xs:element>

```

```

<xs:choice>
  <xs:element name="DocumentName" type="ReferenceCodeType">
    <xs:annotation>
      <xs:documentation>To identify:
        - the name of the document
        - each occurrence of a document between partners.</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="TypeMessage">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="Code" type="ReferenceCodeType" minOccurs="2" maxOccurs="2">
          <xs:annotation>
            <xs:documentation source="http://unece.org/cefact/ ">To identify :
              - the message type
              - the control agency
              CodeListIdentification mandatory.
            </xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="MessageVersionNumber" type="xs:string">
          <xs:annotation>
            <xs:documentation>e.g. UNCL 01.A element 1056 Version identifier</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="MessageRevisionNumber" type="xs:string" minOccurs="0">
          <xs:annotation>
            <xs:documentation>To indicate the code of Software revision.
              e.g. UNCL 01.A element 1058 Release identifier or element 1060 Revision identifier
            </xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:choice>
<xs:sequence minOccurs="0" maxOccurs="unbounded">
  <xs:element name="Code" type="ReferenceCodeType" minOccurs="0">
    <xs:annotation>
      <xs:documentation source="http://unece.org/cefact/ ">To indicate e.g. :

```

- the number and the step of the used scenario,
- the reference code of the previous message,
- the internal reference sender
- the social return type
- etc.

```

</xs:documentation>
</xs:annotation>
</xs:element>
</xs:sequence>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="DatePeriodId" type="DatePeriodType" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>To indicate e.g. the preparation date of the file, or the start and/or the end dates for an accounting period,
    return is sent, etc.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="TimeId" type="TimeType" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>To indicate e.g. the preparation hour of the file, or the start and/or the end hours for an accounting period,
    cial return is sent, etc.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="ReceiptAcknowledgementId" type="ReferenceCodeType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>To indicate the type of acknowledgements of receipt.
    e.g. UN-EDIFACT element 4343.
    0 = no Acknowledgement of receipt
    1 = Acknowledgement of receipt
    2 = Paper Edition
    3 = Acknowledgement of receipt and Paper Edition</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="UsedListId" type="ReferenceCodeType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>An information identifying the number of the list of information or taxonomie that is transmitted and provide
    its identification number.
    e.g. UN-EDIFACT element 1153.</xs:documentation>
  </xs:annotation>

```

the period to which social

the period to which so

its identification number.

sage.</xs:documentation>

```
</xs:element>
<xs:element name="FileDescriptionId" type="FreeTextType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Text for Enterprise Information File description.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="FileSoftwareId" type="AccountingFileSoftwareIdType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Is required for some e-filing to public authorities</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="FeaturesId" type="CharacteristicType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Is required to provide accounting, fiscal, social or legal characteristics of the enterprise information mes-
    </xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="CurrencyId" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Currency that is used in this Enterprise Information file</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element name="Detail" type="CurrencyDetailType" maxOccurs="2">
        <xs:annotation>
          <xs:documentation>see ebXML CC 000136
            Currency. Exchange. Details:
            Source. Currency. Code (000137)
            Target. Currency. Code (000138)
            Base. Currency. Code (000139)
            Currency Exchange. Rate (000120)
            Source Currency. Scale. Value (000140)
            Target Currency. Scale. Value (000141)
            Exchange. Rate. Date Time (000142)
          </xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="RateValue" type="xs:string" minOccurs="0">
        <xs:annotation>
          <xs:documentation>To specify the rate at which one specified currency is expressed in another specified currency.

```

```

        </xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="ExchangeRateCurrencyMarketID" type="ReferenceCodeType" minOccurs="0">
      <xs:annotation>
        <xs:documentation>To identify an exchange rate currency market.
          e.g. UNCL 01.A element 6341 Exchange rate currency market identifier abstract:
            AAA Paris exchange
            CAN Toronto exchange
            FRA Frankfurt exchange
            LNF London exchange, first closing
            LNS London exchange, second closing
            NYC New York exchange
            ZUR Zurich exchange
          </xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="EntityAndSubEntityId" maxOccurs="unbounded">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="SequenceNumber" type="ReferenceCodeType">
        <xs:annotation>
          <xs:documentation>An information identifying the number of the sequence of Sub Entity information which is transmitted and
            provide its identification number. e.g. P = Entity; S = Sub-entity</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="ExpectedInformationId" maxOccurs="unbounded">
        <xs:annotation>
          <xs:documentation>A group providing the expected information related to the enterprise. The index value contained in the
            index determines preted.</xs:documentation>
          how information in the subordinate segments in the same group, should be inter-
        </xs:annotation>
      </xs:complexType>
    </xs:sequence>
  </xs:complexType>
</xs:sequence>

```

with elementary or com

ber. </xs:documentation>

tion. </xs:documentation>

core component  
information.

```
<xs:element name="Sequenceld" type="ReferenceCodeType">
  <xs:annotation>
    <xs:documentation>An information providing the sequential number of the provided information in the message.
      An information providing the sequential number to identify information with respect to its membership relation
      plex information.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="DeclarationOccurrenceId" type="xs:string" minOccurs="0">
  <xs:annotation>
    <xs:documentation>An information to identify each declaration having the same ID by a sequential num-
ber.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="IndexId">
  <xs:annotation>
    <xs:documentation>An information to identify a relevant index.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element name="CodedId" type="ReferenceCodeType">
        <xs:annotation>
          <xs:documentation>An information providing the value of index.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="NatureId" minOccurs="0">
        <xs:annotation>
          <xs:documentation>An information providing the nature of below expected informa-
tion.</xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
  <xs:choice>
    <xs:element name="URICoreComponentValue" type="xs:string">
      <xs:annotation>
        <xs:documentation>To indicate the address where to find the alternative structure of the
        corresponding to the value of each nature of below
        information.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:choice>
  <xs:element name="Code" type="ReferenceCodeType">
```

```

        <xs:annotation>
          <xs:documentation>To indicate the nature of below information, e.g.:
            ReferenceInformationId
            AmountInformationId
            FreeTextInformationId
            etc.
          </xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:choice>
  </xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="RowValue" type="xs:string" minOccurs="0">
  <xs:annotation>
    <xs:documentation>An information providing the row completing the information index to include the repetability of
      same information.
    </xs:documentation>
  </xs:annotation>
</xs:element>
<xs:choice>
  <xs:element name="ReferencId" type="ReferenceCodeType">
    <xs:annotation>
      <xs:documentation>An information to provide reference related to information specified in the index. e.g. In-
        voice number.
    </xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="AmountId" type="MonetaryAmountType">
    <xs:annotation>
      <xs:documentation>An information to provide amount related to information specified in the index.
        e.g. Asset. ebXML Amount Class:
        A number of monetary units specified in a currency where the unit of currency is explicit or it may be im-
        plied.
    </xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:element name="FreeTextId" type="FreeTextType">

```

index.

```
<xs:annotation>
  <xs:documentation>An information to provide text related to information specified in the index.
    e.g. Explanation of provision.</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element name="DatePeriodId" type="DatePeriodType">
  <xs:annotation>
    <xs:documentation>An information to provide date or time or period related to information specified in the
      e.g. Event date.</xs:documentation>
  </xs:annotation>
</xs:element>
```

index.

```
<xs:element name="TimeId" type="TimeType">
  <xs:annotation>
    <xs:documentation>An information to provide date or time or period related to information specified in the
      e.g. Event date.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="QuantityId" type="QuantityDetailsType">
  <xs:annotation>
    <xs:documentation>An information to provide quantity related to information specified in the index.
      e.g. Staffing number.
      Quantity information in a transaction, qualified when relevant.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="CurrencyId" type="CurrencyDetailType">
  <xs:annotation>
    <xs:documentation>An information to provide currency related to information specified in the index.
      e.g. EUR/USD exchange rate.
      see ebXML CC 000136
      Currency. Exchange. Details:
      Source. Currency. Code (000137)
      Target. Currency. Code (000138)
      Base. Currency. Code (000139)
      Currency Exchange. Rate (000120)
      Source Currency. Scale. Value (000140)
      Target Currency. Scale. Value (000141)
      Exchange. Rate. Date Time (000142)
    </xs:documentation>
  </xs:annotation>
</xs:element>
```

```

        </xs:annotation>
    </xs:element>
    <xs:element name="PercentageId" type="PercentageType">
        <xs:annotation>
            <xs:documentation>An information to provide percentage related to information specified in the index.
                e.g. Interest rate.</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="BankingAccountId" type="FinancialAccountHolderType">
        <xs:annotation>
            <xs:documentation>An information to provide account holder related to information specified in the index.
                e.g. Bank account number.</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="AccountingAccountId" type="AccountingAccountType">
        <xs:annotation>
            <xs:documentation>An information to provide account related to information specified in the index.
                e.g. Provision Account Number.</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="IdentityId" type="IdentityId">
        <xs:annotation>
            <xs:documentation>An information to provide party related to information specified in the index.
                e.g.</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="FeaturesId" type="CharacteristicType">
        <xs:annotation>
            <xs:documentation>An information to provide accounting, fiscal, social or legal characteristics of the enterprise
                information specified in the index.</xs:documentation>
        </xs:annotation>
    </xs:element>
    <xs:element name="ObjectID" type="ObjectType">
        <xs:annotation>
            <xs:documentation>An information to identify object (file) of the enterprise related to information specified in
                the index.
        </xs:documentation>
        </xs:annotation>
    </xs:element>
</xs:choice>

```

related to

the index.

```

        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="PaymentFile" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>Group of elements providing information on payment.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:sequence>
      <xs:element name="SequencId" type="ReferenceCodeType">
        <xs:annotation>
          <xs:documentation>An information providing the sequential number of the provided information in the message.
            An information providing the sequential number to identify information with respect to its membership relation with elementary or com-

```

plex information.

```

          </xs:documentation>
        </xs:annotation>
      </xs:element>
    <xs:element name="DeclarationOccurrenceId" type="xs:string" minOccurs="0">
      <xs:annotation>
        <xs:documentation>An information to identify each declaration having the same ID by a sequential number.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="IndexId">
      <xs:annotation>
        <xs:documentation>An information to identify a relevant index.</xs:documentation>
      </xs:annotation>
    </xs:complexType>
    <xs:sequence>
      <xs:element name="CodedId" type="ReferenceCodeType">
        <xs:annotation>
          <xs:documentation>An information providing the value of index.</xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="NatureId" minOccurs="0">

```

sponding to the value of

```
<xs:annotation>
  <xs:documentation>An information providing the nature of below expected information.</xs:documentation>
</xs:annotation>
<xs:complexType>
  <xs:choice>
    <xs:element name="URICoreComponentValue" type="xs:string">
      <xs:annotation>
        <xs:documentation>To indicate the address where to find the alternative structure of the core component corre-
          each nature of below information.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Code" type="ReferenceCodeType">
      <xs:annotation>
        <xs:documentation>To indicate the nature of below information, e.g.:
          ReferenceInformationId
          AmountInformationId
          FreeTextInformationId
          etc.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:choice>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="RowValue" type="xs:string" minOccurs="0">
  <xs:annotation>
    <xs:documentation>An information providing the row completing the information index to include the repetability of same informa-
      tion.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:choice>
  <xs:element name="DetailPayment">
    <xs:annotation>
      <xs:documentation>To indicate terms of payment.</xs:documentation>
    </xs:annotation>
  <xs:complexType>
    <xs:sequence minOccurs="0">
      <xs:element name="FinancialInstitution">
```

```

<xs:annotation>
  <xs:documentation>see ebXML 000010 Financial Account. Details
    Financial Account. Identifier (000077)
    Financial Account. Name (000078)
    Financial Account. Country. Code (000080)
    Financial Account. Currency. Code (000081)
    Financial Account Product. Type. Identifier (000084)
    Financial Account Nickname. Name (000085)
    group elements 3194+3433 required for automated processing at banks
    alternative: group 3432+3434+3207
    Both groups better;
    Otherwise automated process impossible What about INP+GIS Balance of payments ?</xs:documentation>
</xs:annotation>
<xs:complexType>
  <xs:sequence>
    <xs:element name="AccountHolderId" type="FinancialAccountHolderType"/>
    <xs:element name="FinancialInstitutionId" type="FinancialInstitutionIdType" minOccurs="0"/>
    <xs:element name="Country" type="ReferenceCodeType" minOccurs="0">
      <xs:annotation>
        <xs:documentation>To indicate e.g. FRANCE or e.g.CA, DE, IE, FR, IT, NO, US, etc.
        </xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="PartyFunctionCode" type="ReferenceCodeType" minOccurs="0">
      <xs:annotation>
        <xs:documentation>e.g. UNCL 01.A element 3035
        Party function code qualifier
        abstract:
        .../...
        AO Account of
        AP Accepting party
        AQ Approved consignor
        AR Authorized exporter
        AS Account servicing financial institution
        AZ Issuing bank
        B1 Contact bank 1
        B2 Contact bank 2
        BA Booking agent
        BB Buyer's bank
        BC Negotiating bank
      </xs:documentation>
    </xs:annotation>
  </xs:sequence>
</xs:complexType>

```

```

        BD Documentary credit reimbursing bank
        BE Beneficiary
        BF Beneficiary's bank
        .../...</xs:documentation>
    </xs:annotation>
</xs:element>
<xs:element name="CommunicationId" minOccurs="0" maxOccurs="unbounded">
    <xs:annotation>
        <xs:documentation>see ebXML core components catalogue for (000050)
        Communication Number. Details
        Communication. Type. Code (000052)
        Communication. Mode. Code (000053)
        Communication. Identifier (000055)
        Telephone. Country. Identifier (000057)
        Telephone area. Identifier (000058)
        Telephone Subscriber. Identifier (000059)
        Telephone Extension. Identifier (000060)
        Communication number of a department or a person to whom communication should be directed: SITA,
        Defense Switched Network, WWW, Telefax, Telex, X400, Pager, GEIS, etc.
    </xs:annotation>
    <xs:documentation>see ebXML core components catalogue for (000050)
    ebXML Code Class: A character string that represents a member of a set of values
    e.g. uncl.01A element 3155 Communication Address Code Qualifier
    abstract:
    AF U.S. Defense Switched Network,
    AG U.S. federal telecommunications system,
    AH World Wide Web,
    EI EDI transmission,
    EM Electronic mail,
    FT File transfer access method,
    FX Telefax,
    SW S.W.I.F.T.
    etc.</xs:documentation>
    </xs:annotation>
    <xs:complexType>
        <xs:sequence>
            <xs:element name="Value" type="xs:string"/>
            <xs:element name="Code" type="ReferenceCodeType" minOccurs="0"/>
        </xs:sequence>
    </xs:complexType>
    </xs:element>
</xs:sequence>

```

ARINC, ATI mailbox, US

```

</xs:complexType>
</xs:element>
<xs:element name="TermsBasis" type="ReferenceCodeType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>e.g. UNCL 01.A element 4279
      Payment terms type code qualifier
      abstract:
      1 Basic
      2 End of month
      3 Fixed date
      4 Deferred
      5 Discount not applicable
      6 Mixed
      7 Extended
      8 Basic discount offered
      9 Proximo
      10 Instant
      .../...
      69 Discount with prompt pay
      70 Discount with advance payment
      71 Certified cheque
      72 Cash against documents
      73 Bill of exchange
      74 Progressive discount
      75 Lump sum
      76 Fixed fee
      ZZZ Mutually defined
    </xs:documentation>
  </xs:annotation>
</xs:element>

```

XBRL: Payment Method</xs:documentation>

```

</xs:annotation>
</xs:element>
<xs:element name="PaymentMeansId" type="ReferenceCodeType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>To specify the payment terms basis.
      e.g.
      20 Cheque
      21 Banker's draft
      22 Certified banker's draft
      23 Bank cheque (issued by a banking or similar establishment)
    </xs:documentation>
  </xs:annotation>
</xs:element>

```

```

24 Bill of exchange awaiting acceptance
25 Certified cheque
26 Local cheque
31 Debit transfer
44 Accepted bill of exchange
48 Bank card</xs:documentation>
</xs:annotation>
</xs:element>
<xs:element name="PaymentInstruction" type="ReferenceCodeType" minOccurs="0">
<xs:annotation>
<xs:documentation>e.g. UNCL 01.A element 2475 Time reference code
abstract:
1 Date of order
2 Date of confirmation
3 Date of contract
4 Date of signature of contract
5 Date of invoice
6 Date of credit note
7 Date of present document
8 Date of confirmation of order received
9 Date invoice received
11 Date credit note received
12 Date present document received
.../...
72 Payment date
73 Draft(s) at ... days sight
74 Draft(s) at ... days date
75 Draft(s) at ... days after date of issuance of transport document(s)
76 Draft(s) at ... days after date of presentation of documents
77 Specified draft date
78 Customs clearance date (import)
79 Customs clearance date (export)
80 Date of salary payment
81 Date of shipment as evidenced by the transport document(s)
82 Payment due date </xs:documentation>
</xs:annotation>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>

```

```

<xs:element name="MonetaryAmount" type="MonetaryAmountType">
  <xs:annotation>
    <xs:documentation>ebXML Amount Class:
      A number of monetary units specified in a currency where the unit of currency is explicit or it may be implied.</xs:documentation>
    </xs:annotation>
  </xs:element>
<xs:element name="DatePeriodId" type="DatePeriodType">
  <xs:annotation>
    <xs:documentation>To indicate due date for a payment.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="TimeId" type="TimeType">
  <xs:annotation>
    <xs:documentation>To indicate due time for a payment.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="QuantityId" type="QuantityDetailsType">
  <xs:annotation>
    <xs:documentation>An information to provide quantity related to virement.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="CurrencyId" type="CurrencyDetailType">
  <xs:annotation>
    <xs:documentation>An information to provide currency linked to above amount.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="ReferenceId" type="ReferenceCodeType">
  <xs:annotation>
    <xs:documentation>An information to provide reference related to the payment.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="IdentityId" type="IdentityId">
  <xs:annotation>
    <xs:documentation>An information to provide party related to information specified in the index.
      e.g.</xs:documentation>
  </xs:annotation>
</xs:element>
<xs:element name="FeaturesId" type="CharacteristicType">
  <xs:annotation>
    <xs:documentation>An information to provide choice of payment mode such as TLRA, check, virement, cash.</xs:documentation>
  </xs:annotation>

```

```
</xs:annotation>  
</xs:element>  
</xs:choice>  
</xs:sequence>  
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