Invoices of the future… past

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Invoices of the future… past

▸ Mustangproject

▸ „Chief ZUGFeRD Amatuer"

About me

- Why „amatuer"?
  - add some false humility
  - do mistakes much quicker
  - cover my mistakes
  - be more transparent
  - be less elegant
  - do it better every time
- Why ZUGFeRD?
  - my itch
  - the data just belongs there

▸ About E-Invoices

- Distant past

- EDI

- Present

- PDFs,

- ZUGFeRD 10 (2 slides)

- Why XML?

- Procure to Pay

- Recent developments

→ 9 slides

▸ Future:

- EU,

- Germany

- XRechnung (2 Slides)

- ZUGFeRD 2

- Live demo

- Challenges

→ 7 slides

▸ Learnings

- · Open Standards (3 slides)
- · Challenges
- · Desiderata
- · Components
- · Validators
- · Predjudices (2 slides)
- → 9 slides

▸ Q&A

About

▸ About E-Invoices

- Distant past

- EDI

- Present

- PDFs

- ZUGFeRD 1.0 (2 Slides)

- Why XML?

- Procure to Pay

- Recent developments

→ 9 slides

Distant past

- EDI starts in the 1960s
- Invoice standardization in gemany starts ˜1977
- 2010/45/EU → VAT simplification law (Steuer-vereinfachungsgesetz) in 2011
- → paper became PDF
- now it's becoming XML

- A format defines
  - meaning
- A protocol defines a
  - sequence,
  - address,
  - chronology
  - communication
- EDI is both, e.g. EDIFACT over AS2
- Typical volume: 100 inv+/mo
- Contracts up to 40 pages

Present

- EDI was, is and will be allowed
- allowed not to print digital invoices
- allowed to digitize and dispose paper originals
- no more digital signature needed
- mutual consent may be given implied
- But: GoBD in Germany
  - revision safe archival
  - TOM to keep digital documents safe&secure
  - process documentation

PDF

Invoice text
e.g. OCR

Invoice image
e.g. scan

ZUGFeRD 1.0

Invoice content
in XML

Invoice text
e.g. OCR

Invoice image
e.g. scan

Status ZUGFeRD 1.0

- published in 2014
- by the FeRD of the AWV
- Customized UN/CEFACT XML
- 3 profiles
- Supporters include DATEV, SAP…
- B2B e.g. Storck, Würth, Deutsche Bahn
- B2C e.g. Hilti, EON, Conrad
- 7 supporters from 337 countries
- From Aareal Bank to ZS Computer Service

Why XML?

- Automatic recalculation of the invoice
- Semi-automatic payment
- ~~Automatic booking~~
- Procure to pay

Procure to pay (P2P)

- If there was an (offer and) order
- and the order and delivery are in your system
- And the invoice *references and matches*
- The invoice can be checked, paid and booked automatically

- Denmark introduced XML(UBL) invoices in 2005
- → Annual savings 100mio €

Recent developments

- 2008
  - Sweden
- 2010
  - Spain
  - Finland
- 2014
  - Austria
  - Italy
- 2009-2014 EU Legislation

Future

- ▸ Future:

  - EU,

  - Germany

  - XRechnung (2 Slides)

  - ZUGFeRD 2

  - Live demo

  - Challenges

  - → 7 Slides

- 2014/55 EU:
  - max 5 syntaxes
  - B2B
  - Nations decide
    - Range of minimum amounts
    - Whether to accept or require e-invoices
- EN16931: EDI, UBL or UN/CEFACT
- Core Invoice
- Additional national requirements in CIUS
- 2017-2020 Implementation

Germany

- German CIUS: XRechnung (UBL/UNCEFACT)
- E-Rechnungsgesetz+E-Rechnungsverordnung
  - Minimum amount: only 1,000 €
  - optional as of 11/2018 but
  - mandatory as of 11/2019
  - for all german B2G suppliers

XRechnung

Invoice content
in XML

Invoice content
in XML

ZUGFeRD 2.0

Invoice content
in XML

Invoice text
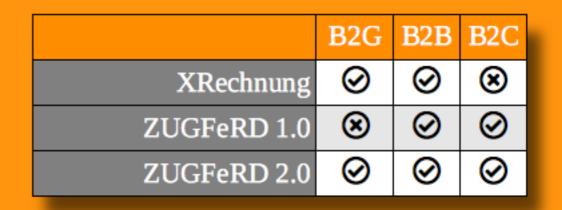e.g. OCR

Invoice image
e.g. scan

Status ZUGFeRD ~~1~~ 2

- ~~published in 2014~~
- by the FeRD of the AWV
- ~~Customized~~ UN/CEFACT XML
- ~~3~~ 5 profiles
- Supporters include DATEV, SAP…
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Status ZUGFeRD 2

- France adopted ZUGFeRD 2.0 as Factur-X 1.0
- EN16931 profile ^= XRechnung/UNCEFACT
- ongoing IP discussions
- ZF Open Source libraries and tools:
  - Factur/X Python,
  - Konik.io,
  - Mustangproject.org

	B2G	B2B	B2C
XRechnung	✓	✓	✗
ZUGFeRD 1.0	✗	✓	✓
ZUGFeRD 2.0	✓	✓	✓

Live

▸ Open ZF1

▸ Open ZF2

▸ Extract

▸ Combine

▸ Validate

Learnings

▶ Learnings
- Open Standards (3 slides)
- Challenges
- Desiderata
- Components
- Validators
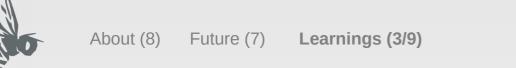- Predjudices (2 slides)
  - → 9 slides

▶ Q&A

European Interoperability Framework:
- Adopted and maintained by not-for-profit organization
- Available freely or at nominal charge
- IP royalty free
- No constraints on re-use

Open Standards: Examples

- UBL
- UN/CEFACT CII SCRDM Uncoupled 16B
- PDF
- PDF/A
- ZUGFeRD/Factur-X
- XRechnung
- OpenTrans

Open Standards: Organizations

	De jure	Standardization fees	Participation fees	Usage fees
DIN	✓	✓	✓	✓
CEN	✓	✓	✓	✓
ISO	✓	✓	✓	✓
OASIS	✗	✗	✓	✗
UN/CEFACT	✓	✗	✗	✗

Challenges

- 0 funding
- Few available basics: UN/CEFACT CII MUG
- Authoring tools for XML validation?
- Political discussions
- Fragmentation
- Decision for one format?

Desiderata

- No fragmentation
- Commitments
- Legislation rely on institutions, not initiatives
- „Reference validator"
- Open source Validator
- Not too strict validator
- Industry requirements
- Long term support: archival duties 10Y+

Components

- Open specification
- Open tools
  somewhat less expected
- Open validator
- Open corpus
- Tests of validators

Validators

- Validators
  - Gefeg DIN-ZUGFeRD Validation v1 for ZF1
  - Intarsys „Checker" v1 for ZF1
  - Konik.io validation component for ZF1
  - Intarsys „Checker" v2 for ZF1
  - Corpus

  - Gefeg DIN-ZUGFeRD Validation v2 for ZF2
  - ZUV for ZF1 and ZF2
  - ZUV=CEN Schematron+VeraPDF. btw.!

Potential predjudices 1/2

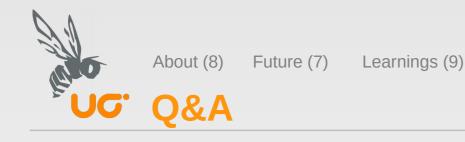- Einvoicing OSS only helps big enterprises who should be able to affort to pay
- The D in ZUGFeRD stands for Deutschland=Germany
- OSS: somebody for sure will fix it for free
- We should not embark in interim technologies
- My demands are helpful
- Standard XYZ is the best

Potential predjudices 2/2

- If we can't enforce support, we should not use it

  If there are errors in the software
- Somebody else will report it
- Somebody else will fix it
- Someone else will fix it better
- I could not even try myself
- The guy/girl who will fix it will somehow be compensated

Q&A

- Questions?
- jochen@zugferd.org
- „ZUGFeRD" Google group http://bit.ly/2PIxhVe