



Internship Program on The Corporate Actions Taxonomy

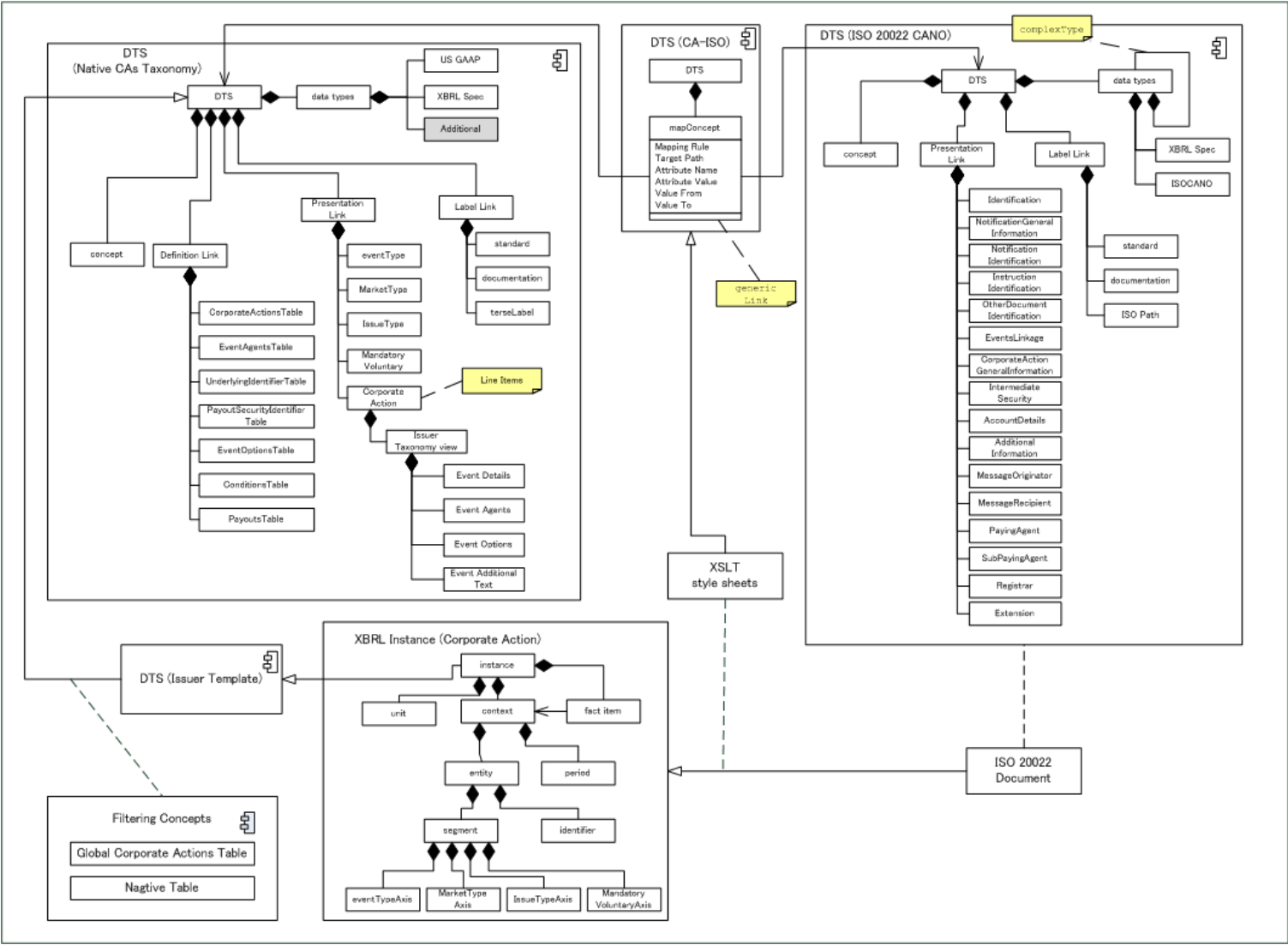
July 28, 2009

*Taku Hasegawa, IT Consultant
NTT DATA Corporation
XBRL Technology Workshop & Summit
Santa Clara, California*

Results of Internship

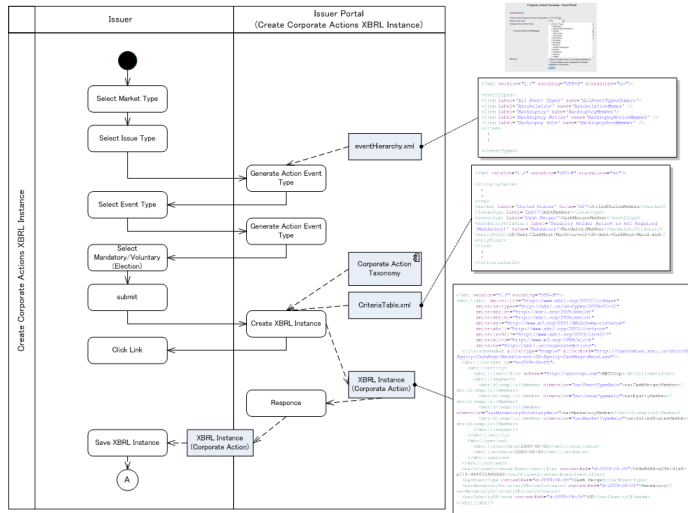
- Reverse Modeling and Structure Analysis
 - Taxonomy Architecture diagram:1
 - UML class diagram:1
 - UML activity diagram:4
- Pointed out possible deficiencies
 - Native Corporate Action
 - Structure Problem:1 (Cash Dividend)
 - Inadequate label setting:104 (missing, duplicate, inadequate)
 - ISO 20022
 - Inadequate label setting: 23 (missing, duplicate)
- Created Sample Instance
 - Cash Merger with Choice: 1
 - Cash Dividend: 1
- Summarized Explanation Document
 - Document for Intermediate Practitioner: 1 (shown in later slide)

Deliverables: UML Class Diagram

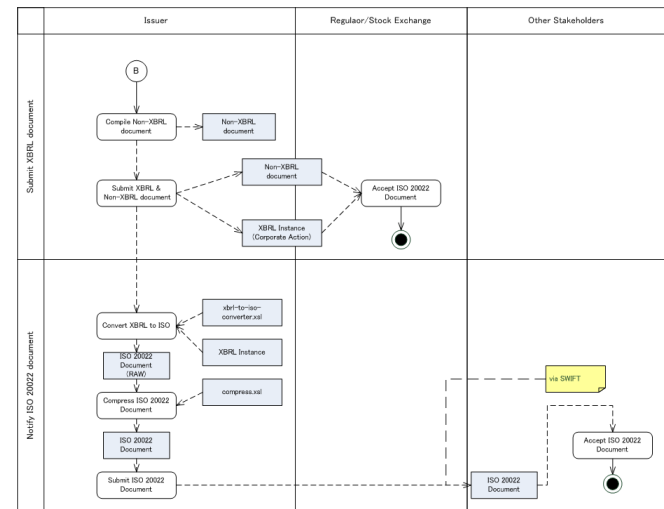
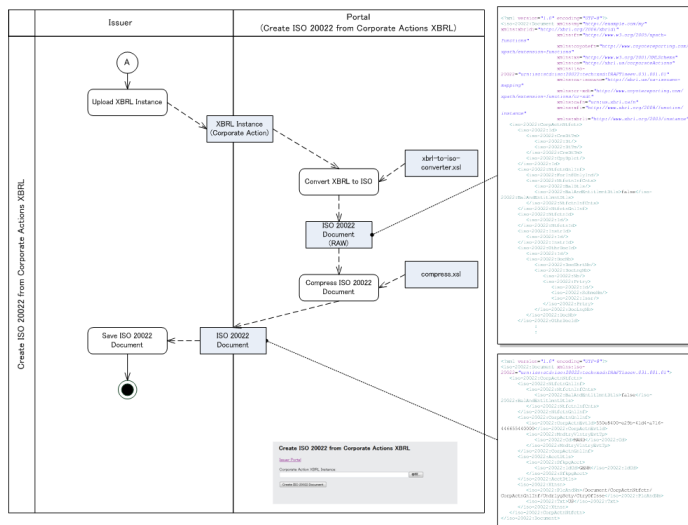
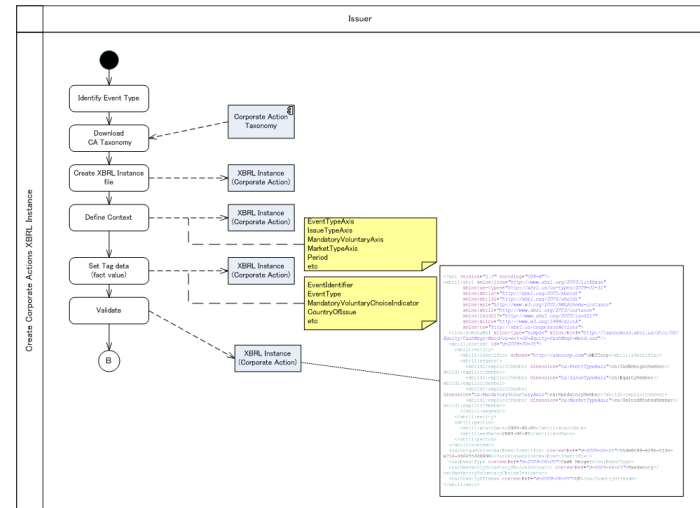


Deliverables: UML Activity Diagram

assumption of Issuer Portal function



anticipated process



*Corporate Actions Taxonomy
Explanation Document
for Intermediate Practitioner*

Outline

■ Overview

- Scope of the Corporate Actions Taxonomy
- Anticipated process
- Benefit

■ Architecture

- Corporate Actions Taxonomy (Whole)
- DTS (Native Corporate Actions)
- DTS (ISO 20022)
- DTS (CA-ISO mapping)

■ Mapping

- Simple case
- 'Value To' and 'Value From' case
- No 'Value From' case
- 'Attribute Value' with function case

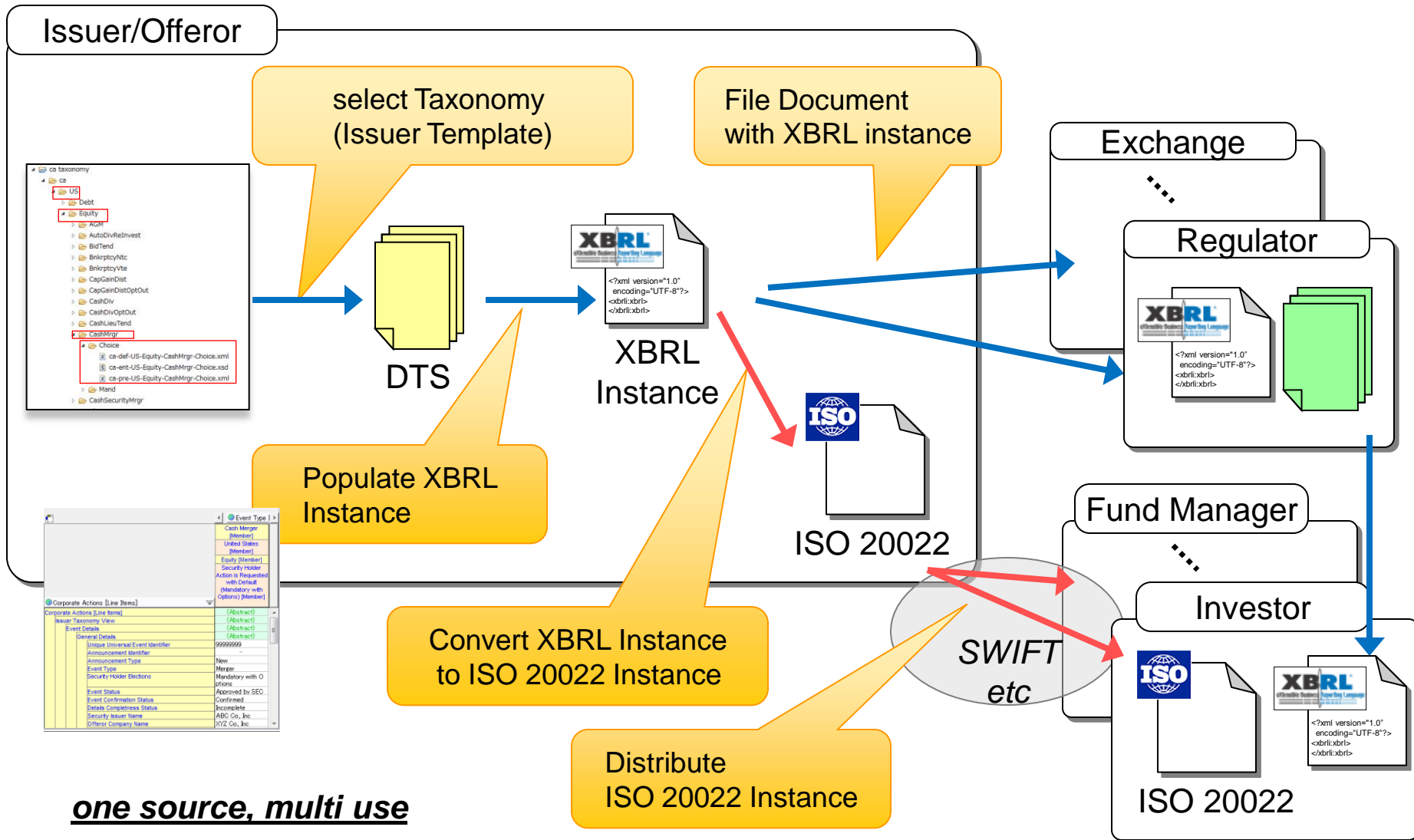
Scope of the Corporate Actions Taxonomy

- Represents
 - Corporate Action events
 - e.g. merger, tender offer, cash dividend, etc (80 over events)

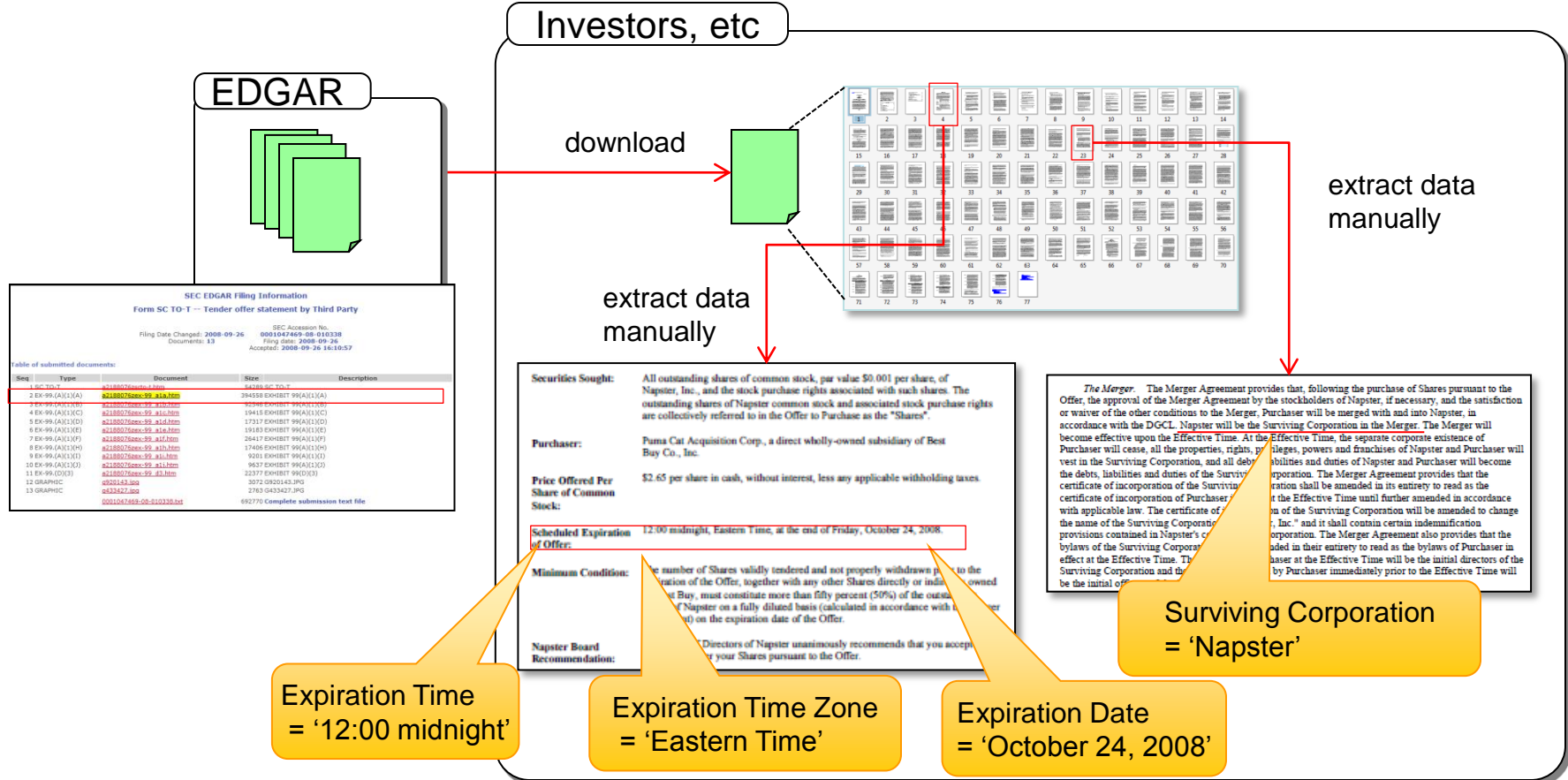
- The content of the taxonomy is based on:
 - DTC/GCA Model
 - SWIFT 20022 Data Dictionary
 - Industry Workgroups: SIFMA, AMF, SMPG, and Market Data

- Harnesses specification
 - XBRL Specification
 - XBRL Dimensions
 - Generic Link

Anticipated Process

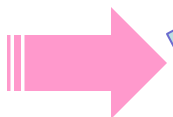


Benefit: Data Extraction Method



Current

Manual, Labor intensive



CAs Taxonomy

Machine readable

Benefit: Definition of Term

Brown & Brown Inc - Quarterly Cash Dividend
 171 words
 22 July 2009
 13:33
 Market News Publishing
 MNEWSP
 English
 Copyright 2009 Market News Publishing Inc. All Rights Reserved

BROWN & BROWN INC ("BRO-N") - Quarterly Cash Dividend Brown & Brown, Inc. to-day announced that the Board of Directors has declared a **regular quarterly cash dividend of \$.075 per share**. The dividend is payable on August 19, 2009, to shareholders of record on August 12, 2009.

Brown & Brown, Inc. subsidiaries offer a broad range of insurance and reinsurance and services, as well as risk management, third-party administrative health care, and Medicare set-aside services and providing service to business, public entity, individual and professional association clients nationwide, the

8881 Vancouver: (604)689-1101 Fax: (604)689-1106
 0920200501FAC0920201786-10331520090722
 TEL: (386) 239-7250 Cory T. Wa Chief Financial Officer

dividend per share = '\$0.75'

US currency (USD)

McKesson Declares Quarterly Dividend July 22, 2009
 176 words
 22 July 2009
 13:47
 Business Wire
 BWR
 English
 (c) 2009 Business Wire. All Rights Reserved.
 SAN FRANCISCO - (BUSINESS WIRE) - The Board of Directors of McKesson Corporation (NYSE:MCK) at its meeting today declared a **regular dividend of twelve cents per share on the Common Stock**, payable on October 1, 2009, to stockholders of record September 1, 2009.
 McKesson Corporation, currently ranked 15th on the FORTUNE 500, is a healthcare services and information technology company dedicated to helping its customers improve quality healthcare by reducing costs, streamlining processes and improving the quality and safety of patient care. McKesson has been in continuous operation for more than 175 years, making it the longest operating company in healthcare today. Over the

more information, visit www.mckesson.com.
 McKesson Corporation Ann Schrank, 415-983-7153 Vice President, Investor Relations
 Document BWR000002 722e57m008kf

dividend per share = 'twelve cents'

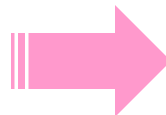
US cent? New Zealand cent?, Hong Kong cent? , etc

Current

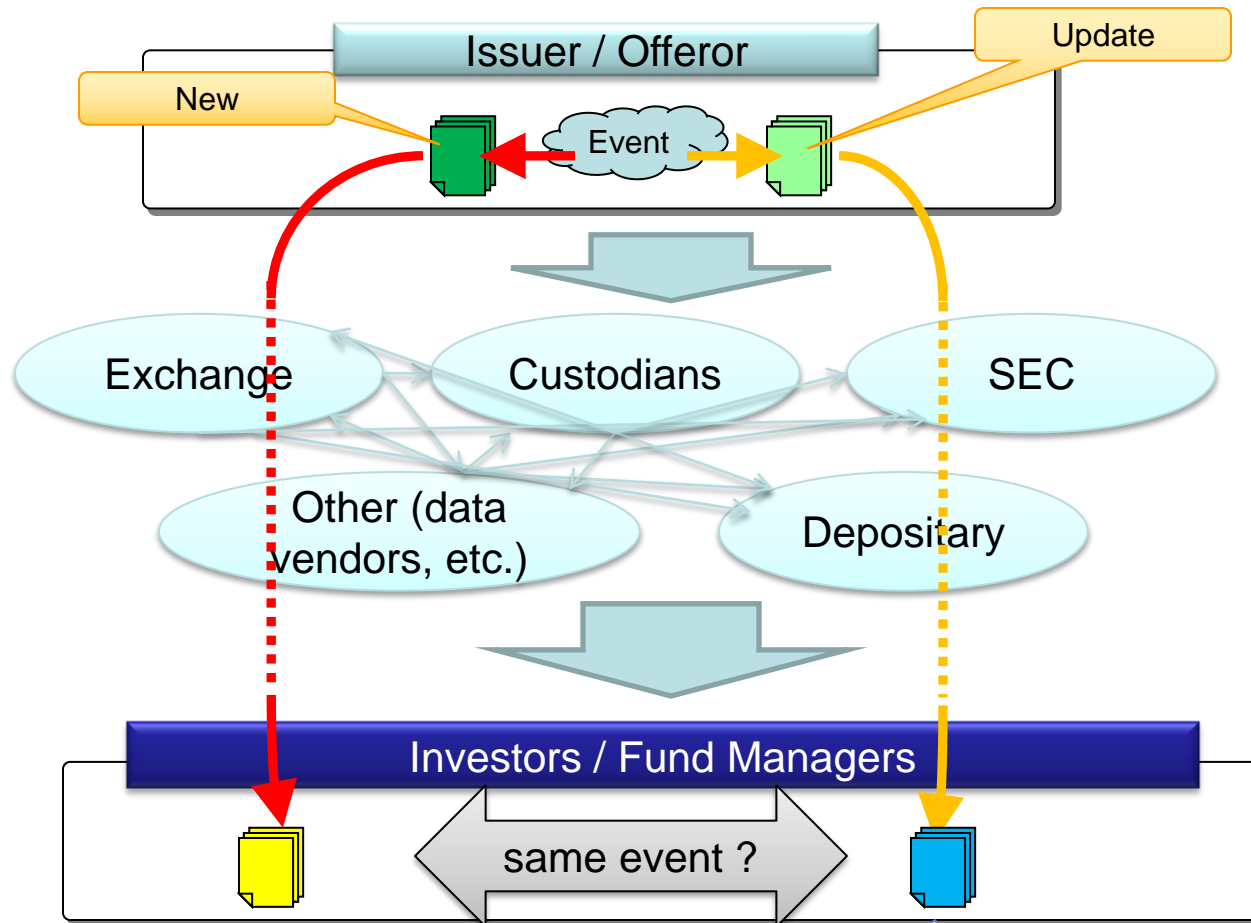
Ambiguous

CAs Taxonomy

Strictly defined



Benefit: Event Identification



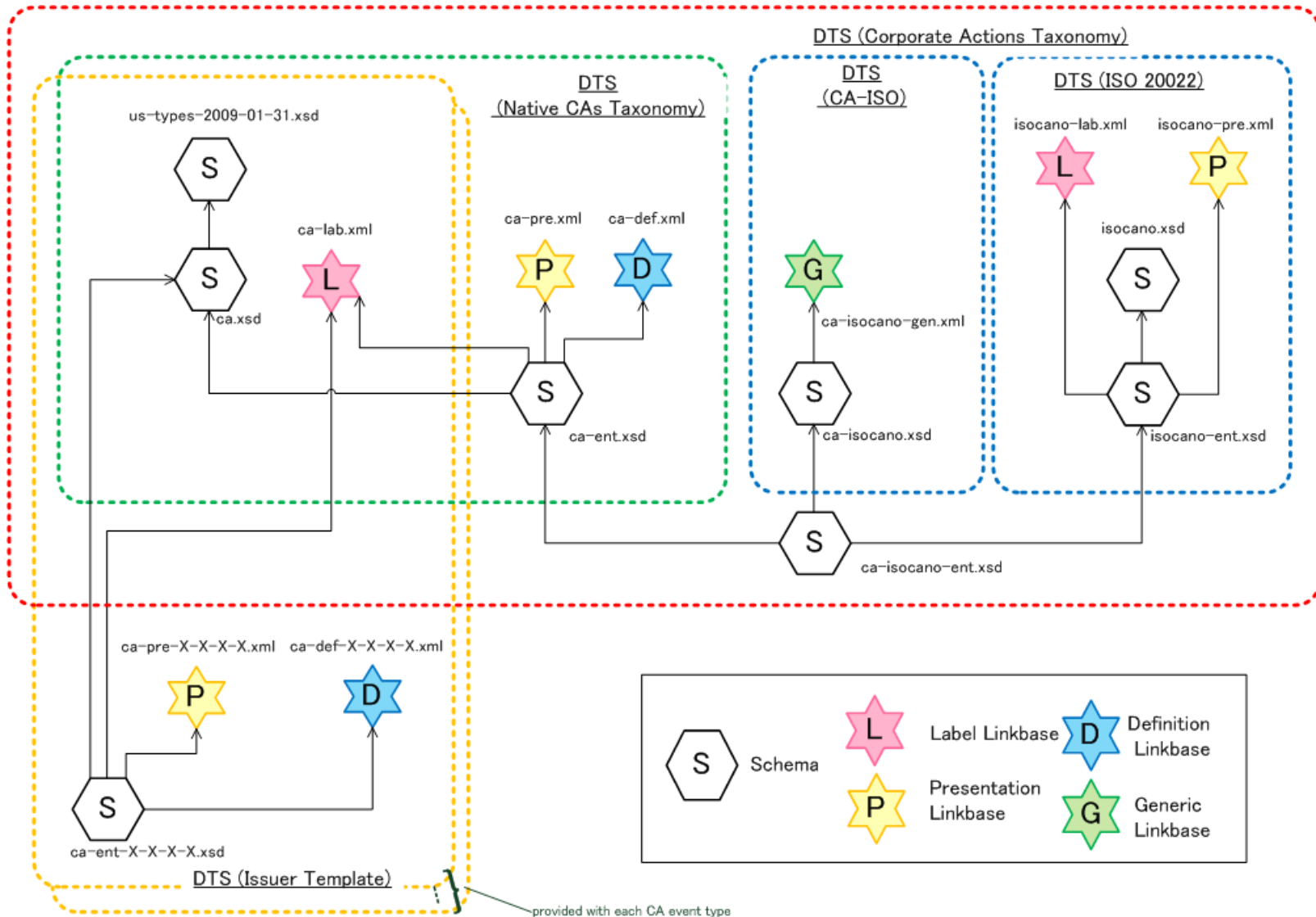
Current

By content centric, Error-prone

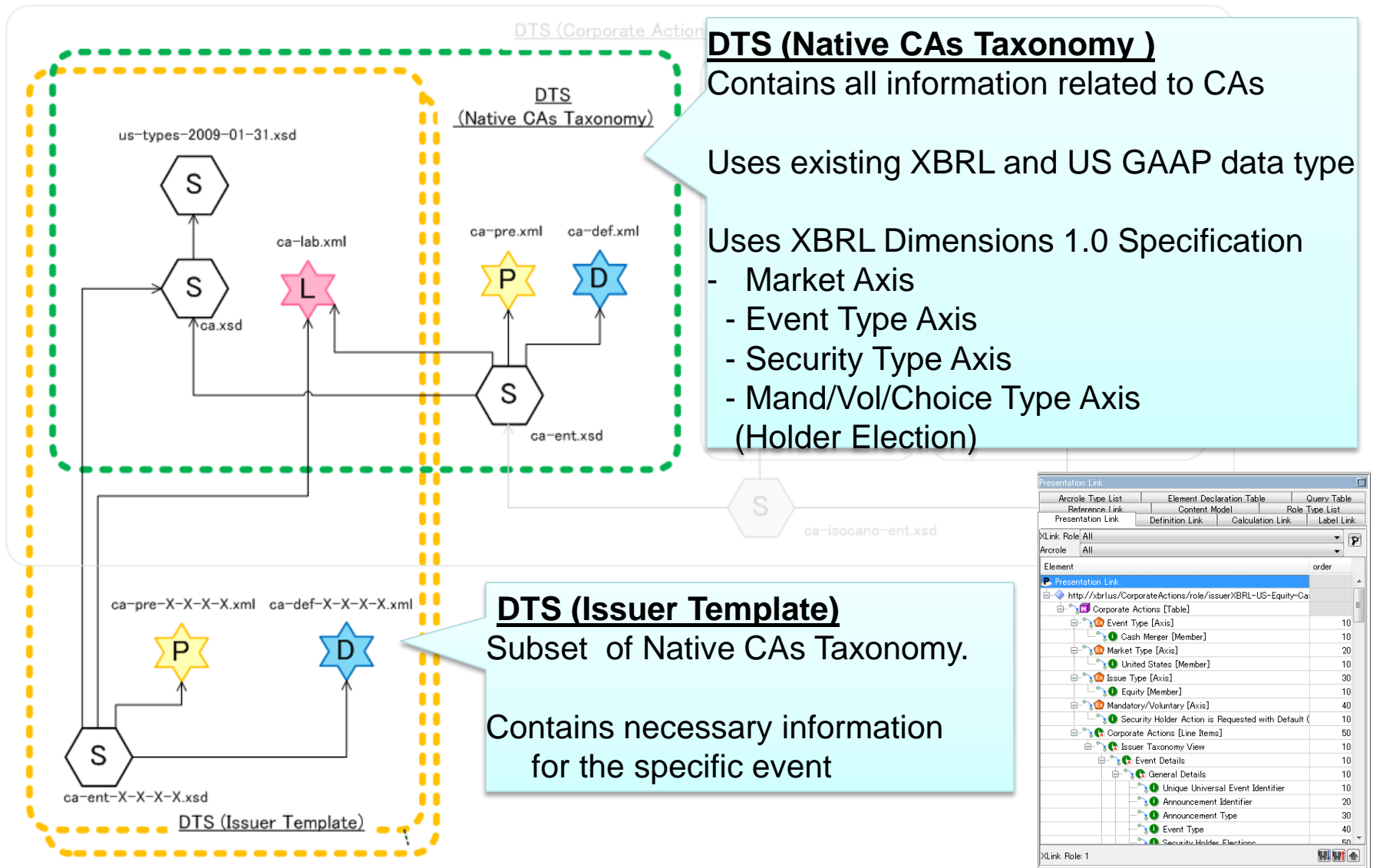
CAs Taxonomy

By strictly universal ID

Corporate Actions Taxonomy (Whole)



DTS (Native Corporate Actions)



DTS (Native CAs Taxonomy)

Contains all information related to CAs

Uses existing XBRL and US GAAP data type

Uses XBRL Dimensions 1.0 Specification

- Market Axis
- Event Type Axis
- Security Type Axis
- Mand/Vol/Choice Type Axis (Holder Election)

DTS (Issuer Template)

Subset of Native CAs Taxonomy.

Contains necessary information for the specific event

Reference Link	Element Declaration Table	Query Table
Presentation Link	Content Model	Role Type List
Definition Link	Calculation Link	Label Link
XLink Role: All		
Arcrole: All		
Element		
order		
Presentation Link		
Http://xbrlus/CorporateActions/role/issuerXBRL-US-Equity-Ca		
Corporate Actions [Table]		
Event Type [Axis]		
Cash Merger [Member]		
Market Type [Axis]		
United States [Member]		
Issue Type [Axis]		
Equity [Member]		
Mandatory/Voluntary [Axis]		
Security Holder Action is Requested with Default (
Corporate Actions [Line Items]		
Issuer Taxonomy View		
Event Details		
General Details		
Unique Universal Event Identifier		
Announcement Identifier		
Announcement Type		
Event Type		
Security Holder Elections		
50		
XLink Role: 1		

DTS (ISO 20022)

DTS (Corporate Actions Taxonomy)

us-types-2009-01-31.xsd



DTS
(Native CAs Taxonomy)

DTS
(CA-ISO)

DTS (ISO 20022)

isocano-lab.xml

isocano-pre.xml



isocano.xsd



isocano-ent.xsd

DTS (ISO 20022)

Represents the concepts in the ISO 20022 standard

Contains Standard label, documentation and 'ISO Path' labels

e.g.) **isocano_CtrctSz**

Standard Label = "ContractSize"

documentation = "Ratio or multiplying factor used to convert one contract into a financial instrument quantity."

isopath = "CorpActnNtfctn:CorpActnOptnDtls:SciesMvmntDtls:SctyDtls:CtrctSz"

isopath = "CorpActnNtfctn:CorpActnGnlInf:UndrlygScty:CtrctSz"

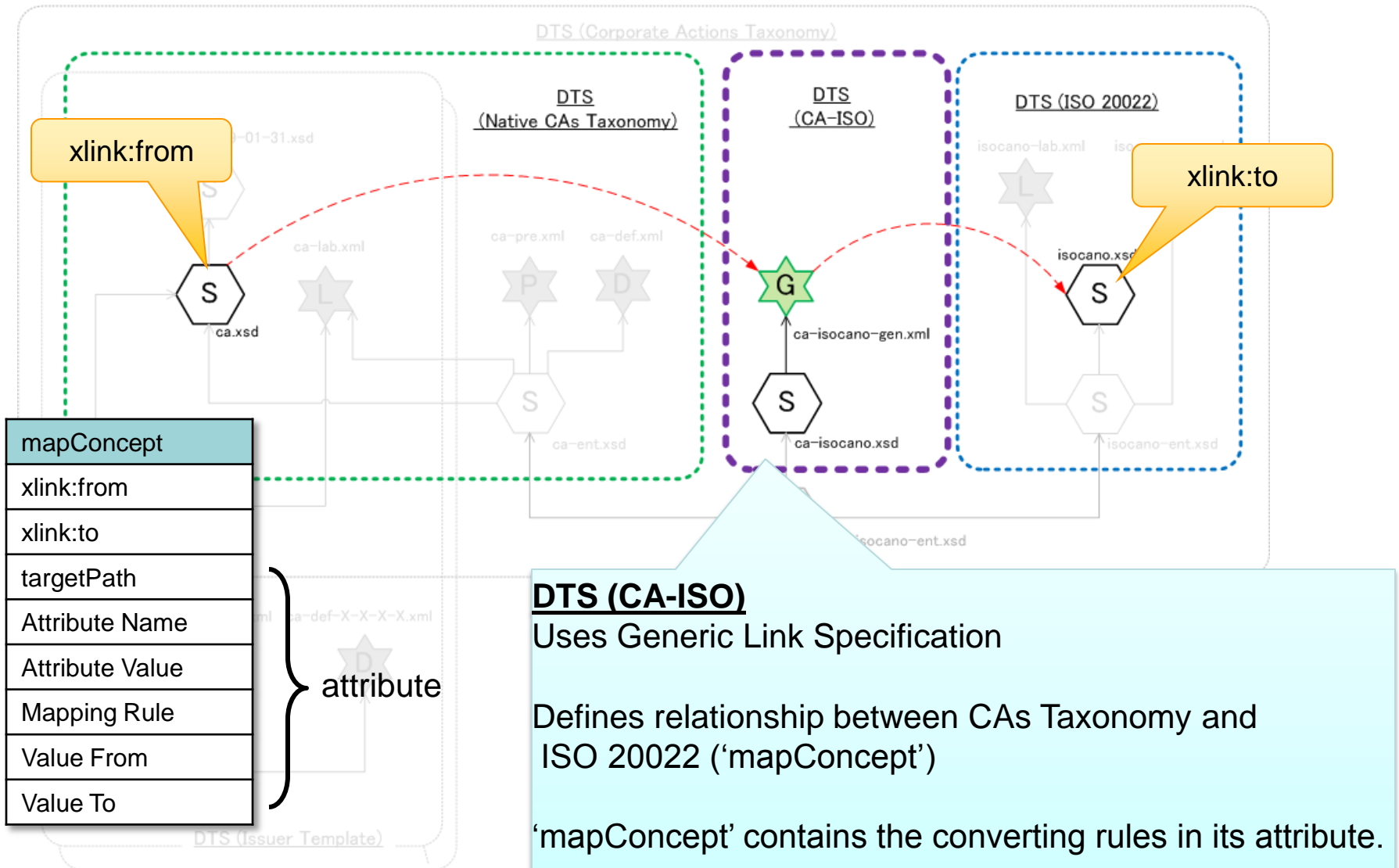
```
<iso-20022:Document>
<iso-20022:CorpActnNtfctn
<iso-20022:CorpActnGnlInf>
<iso-20022:UndrlygScty>
<iso-20022:CtrctSz>
```



ca-ent-X-X-X-X.xsd

DTS (Issuer Template)

DTS (CA-ISO mapping)



Simple case

XBRL Instance

```
<xbrli:unit id="USD">
  <xbrli:measure>iso4217:USD</xbrli:measure>
</xbrli:unit>
<ca:AnnouncementDate contextRef="Context_1">2009-07-27</ca:AnnouncementDate>
```

mapConcept

xlink:from	loc_ca_AnnouncementDate
xlink:to	loc_isocano_Dt
targetPath	CorpActnNtfctn:CorpActnDtIs:DtDtIs:AnncmntDt:Dt:Dt
Attribute Name	
Attribute Value	
Mapping Rule	
Value From	
Value To	

ISO 2002 instance

```
<iso-2002:Document xmlns:iso-2002="urn:iso:std:iso:2002:tech:xsd:DRAFT1seev.031.001.01">
  <iso-2002:CorpActnNtfctn>
    <iso-2002:CorpActnDtIs>
      <iso-2002:DtDtIs>
        <iso-2002:AnncmntDt>
          <iso-2002:Dt>
            <iso-2002:Dt>2009-07-27</iso-2002:Dt>
          ...
        </iso-2002:AnncmntDt>
      </iso-2002:DtDtIs>
    </iso-2002:CorpActnDtIs>
  </iso-2002:CorpActnNtfctn>
```

'Value To' and 'Value From' case

XBRL Instance

```
<xbrli:unit id="USD">
  <xbrli:measure>iso4217:USD</xbrli:measure>
</xbrli:unit>
<ca:AnnouncementType contextRef="Context_1">New</ca:AnnouncementType>
```

mapConcept

xlink:from	loc_ca_AnnouncementType
xlink:to	loc_isocano_NtfctnTp1
targetPath	CorpActnNtfctn:NtfctnGnlInf:NtfctnTp
Attribute Name	
Attribute Value	
Mapping Rule	
Value From	New
Value To	NEWM

Mapping of Enumerations

Value From	Value To
Cancelation	
New	NEWM
Replacement	REPL
Reminder	RMDR

ISO 2002 instance

```
<iso-2002:Document xmlns:iso-2002="urn:iso:std:iso:2002:tech:xsd:DRAFT1seev.031.001.01">
  <iso-2002:CorpActnNtfctn>
    <iso-2002:NtfctnGnlInf>
      <iso-2002:NtfctnTp>NEWM</iso-2002:NtfctnTp>
    </iso-2002:NtfctnGnlInf>
  </iso-2002:CorpActnNtfctn>
</iso-2002:Document>
```

No 'Value From' case

ignore

XBRL Instance

```
<xbrli:unit id="USD">
  <xbrli:measure>iso4217:USD</xbrli:measure>
</xbrli:unit>
<ca:PayoutAmount decimals="0" contextRef="Context_1" unitRef="USD">10450000</ca:PayoutAmount>
```

mapConcept

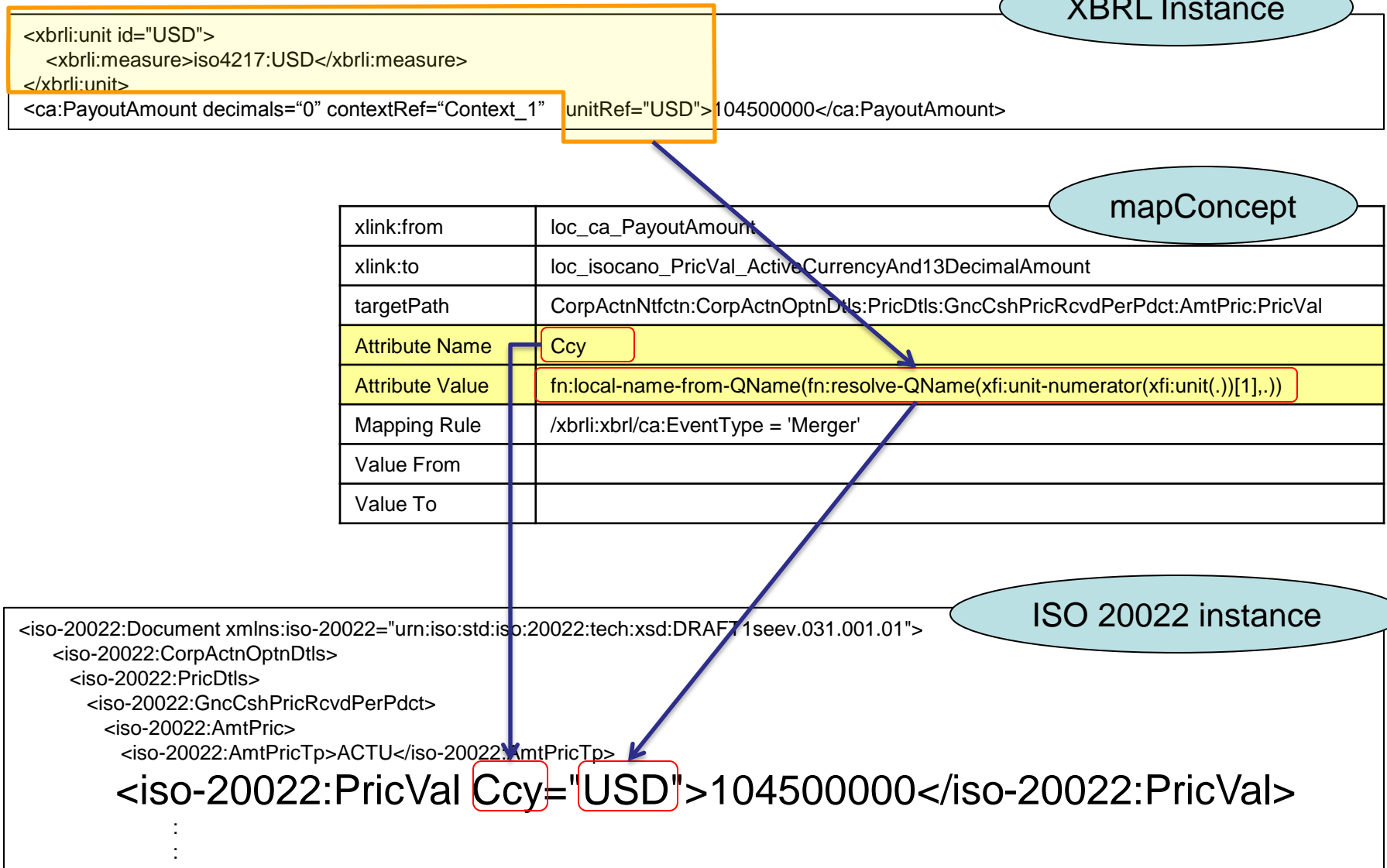
xlink:from	loc_ca_PayoutAmount
xlink:to	loc_isocano_AmtPricTp_AmountPriceType1Code
targetPath	CorpActnNtfctn:CorpActnOptnDtIs:PricDtIs:GncCshPricRcvdPerPdct:AmtPric:AmtPricTp
Attribute Name	
Attribute Value	
Mapping Rule	/xbrli:xbrl/ca:EventType = 'Merger'
Value From	
Value To	ACTU

blank

ISO 2002 instance

```
<iso-2002:Document xmlns:iso-2002="urn:iso:std:iso:2002:tech:xsd:DRAFT1seev.031.001.01">
  <iso-2002:CorpActnOptnDtIs>
    <iso-2002:PricDtIs>
      <iso-2002:GncCshPricRcvdPerPdct>
        <iso-2002:AmtPric>
          <iso-2002:AmtPricTp>ACTU</iso-2002:AmtPricTp>
          ...
        </iso-2002:AmtPric>
      </iso-2002:GncCshPricRcvdPerPdct>
    </iso-2002:PricDtIs>
  </iso-2002:CorpActnOptnDtIs>
</iso-2002:Document>
```

'Attribute Value' with function case



Disclaimer

- The views I expressed in this presentation is my own and not necessarily those of my company, or of XBRL US, or of any other institutions.
- All information is derived from a draft version of the Corporate Actions Taxonomy, and is subject to change overtime.

Thank you for your attention.

For Further Information:

hasegawatk@nttdata.co.jp