

# Exchanging Parts Engineering Information through R&R (Registry & Repository)

2009/10/15

Steven Nomura

Advisor

RosettaNet Japan



# Agenda

1. Do you have such problems?
2. From establishment of WG and up to present
3. Items to be studied in WG
4. POC was done
5. Future plan



# 1. Do you have such problems?



# Problems in terms of exchanging Parts Engineering Information in general

## Each company has problems

### ■ Problems of Set-makers (Buyers)

- Take long time to capture Parts Engineering Information ,and accuracy is not good.
- Lots of manual operation due to paper and e-mail.
- Take long time to capture it or no data if Parts are delivered through trading company.
- It's hard to persuade Trading Partners to adopt EDI server (B2B Server).
- Need to get the information from 100% of supplier especially environmental information.

### ■ Problems of Suppliers

- Many companies don't have DB for Engineering Information ,then need resources and long time to input data.
- Buyers request supplier Engineering Information by different format.
- Difficult to invest B2B server due to ROI.
- Reproduce the information when old parts data is requested.



# RNJ members work together to solve the following problems

- **Need to input spec. data into CAD once we study new Parts.**
  - > Need to capture an electric data even if it is new Parts.
- **Want to capture Parts Engineering Information (Delivery spec., Environmental Information , CAD file for shape etc.) by electric means.**
  - > Want to get the capability to receive various Engineering Information electrically.
- **Cannot find end of life information and replace Parts information since they are scattered in a company.**
  - > Want to get the capability to search old Parts and new Parts, and compare across all of them.
- **It's hard to connect many TPs (Buyers) with B2B and also input Parts information**
  - > Want someone to gather all connection in one place with cheap solution.
- **No unification of requirements from buyers.**
  - > Want to unify the requirement from buyers.



## 2.From establishment of WG and up to present



# Establishment of exchanging Parts Engineering Information WG

## ■ Purpose

- To produce the specifications to exchange and reuse Parts Engineering Information.
- To make Buyer and Supplier business process more suitable and efficient by taking advantage of R&R which will be provided by solution provider.

## ■ Activities

- Preparation of establishment of WG (2007/6~2007/9)
- From WG establishment and up to now (2007/10~2009/9 meeting:24times)



# Organization chart of WG

**Exchanging Parts Engineering Information WG**

**Leader: MURATA (SONY)  
Sub Leader KOCHIYA (CANON)**

**Steering Committee**

**Items**

**Business Model**

**PN Matching Table**

**Infrastructure**

**Selection of Provider**

**Cad file for Parts shape**

**Simulation data**

**Environmental information**

**Support tool for data input**



## Output of WG

- **Overview of Registry and Repository (R&R) plan**
- **Requirement definition document for R&R ( Contents, Infrastructure, business)**
- **Study Service Provider to realize R&R**
- **Vision and milestone of R&R plan**
- **Study support tool for data input**



# Expected result

## Feature of this plan and expected result

- **Exchange electrical information by “1 to n”, “n to n” communication**  
Buyer companies hold information in common to reduce time and expense.  
Reuse the information which is stored R&R as electrical information.
- **Unification of requirement of set-maker s(Buyer)**  
Reduce Supplier’s resources by unification of Buyer’s requirement.
- **Take advantage of ISO/IEC 29500 Office Open XML and SaaS model**  
Study SaaS model as an infrastructure which we can use by small investment.  
Use Word or Excel based manual data input sheet to reduce complexity.

### <Expected result>

**Reduction of expense (Target:30% )  
in terms of Monozukuri(design to production)**



## 3. Items to be studied in WG



# Define discussion items and issues

**<Category>**

**<Items>**

**Content  
Spec.)**

**ECALS Parts Information (Parts**

**format**

**CAD file for shape :Data Specification/file**

**format**

**Simulation Data: Data Specification/file**

**Environmental information  
Enrich ECALS Dictionary  
PN Matching Table**

**Infrastructure**

**DB specification**

**Information Retrieval Specification  
Multi Messaging Service(MMS)  
Security**

**Business model**

**Business Model**

**Practical Story**

**Provider  
Selection**

**Requirement Definition Document  
How to select Service Provider**



# Parts Engineering Information to be exchanged

**Specification Data  
(ECALS)**

**Environmental  
Information  
(JAMP AIS, JGPSSI)**

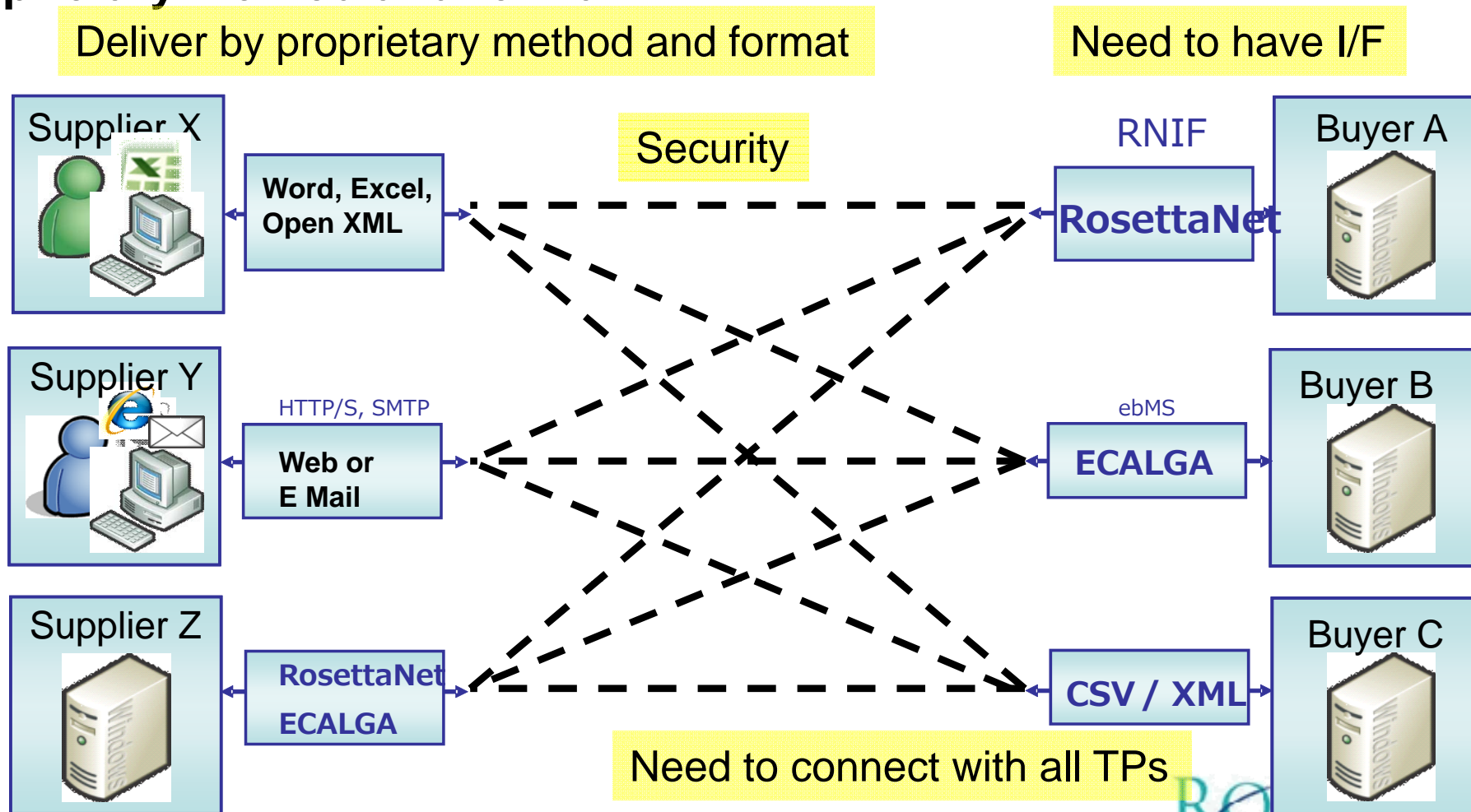
**CAD files for shape  
(DXF, STEP)**

**Simulation Data  
(SPICE, IBIS)**



# Current status of exchanging Parts Engineering Information in Japan

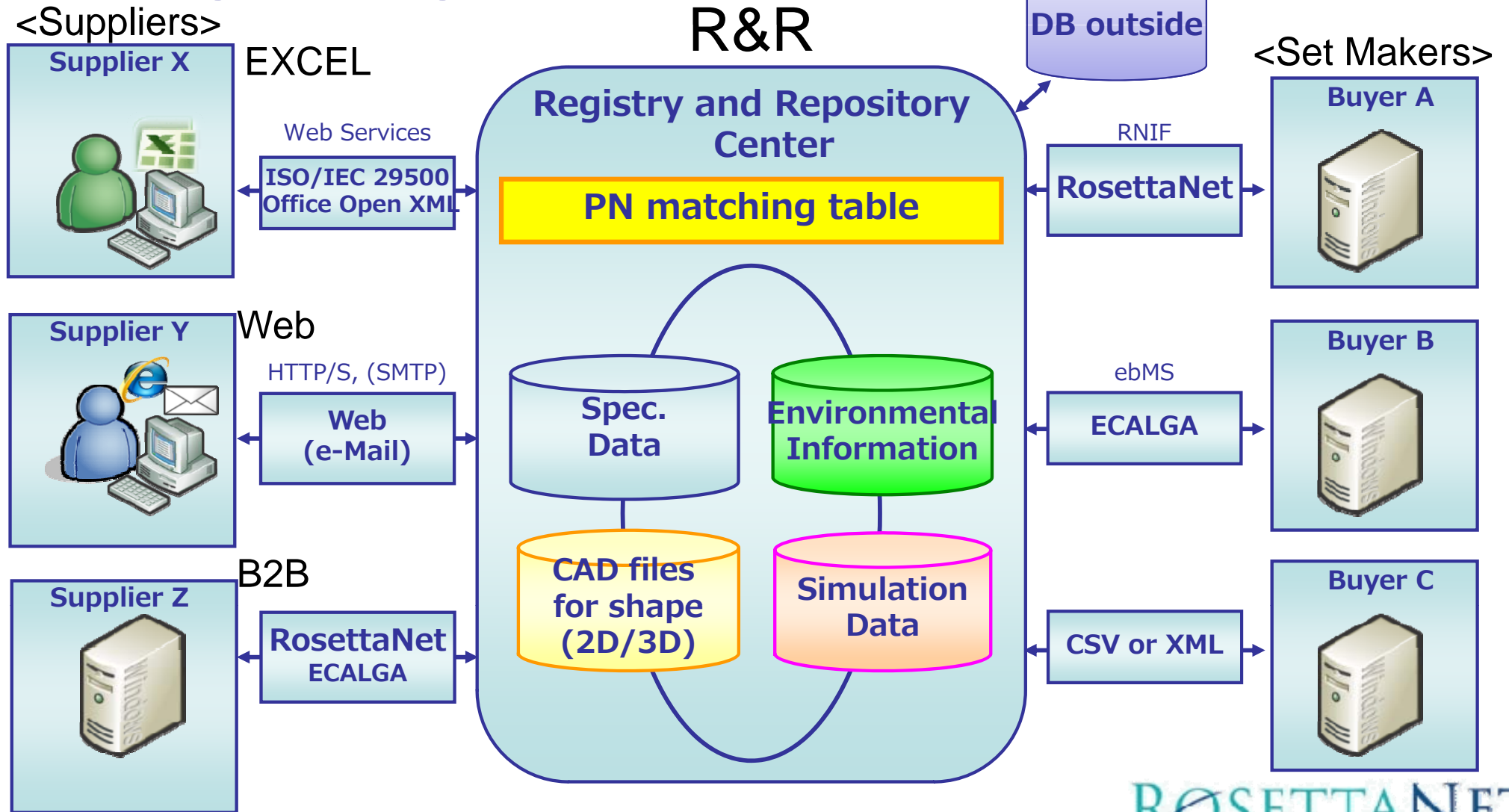
Exchanging Parts Engineering Information is done by each company's proprietary method and format.





# Infrastructure to be studied in WG

## Infrastructure for Exchanging Parts Engineering Information

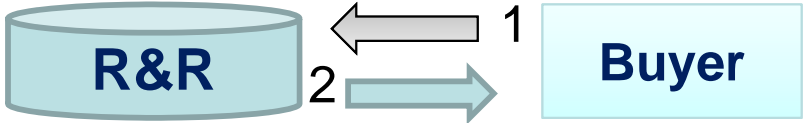




# Business Process for information exchange



**Request** : Buyer request R&R Parts Engineering Information



**Inquiry** : Buyer inquire supplier Parts Engineering Information which does not exist in R&R



**Sales Promotion** : Supplier send Buyer Parts sales promotion through R&R.





# Our basic thinking about business model

- **Buyers and Suppliers should pay for to get value.**
- **Service Provider to set the service fee. ( The fee should be minimal.)**
- **Provide Service Provider requirements from Buyer and Supplier, and the service fee will be proposed by Service Provider.**
- **Should use SaaS model for Small and Medium enterprise, and study using Office Open XML, Excel, Word and Pdf.**



# Supplier Issues and requirement

## <Requirement>

- **Unification of Buyer requirements**

## <Issues>

- **Manage Parts information which is no integration in the organization.**
- **Reduction of load for registration and application .  
(No unification of each company form.)**
- **How to get supplier's approval.  
(Buyer take a lead currently however supplier's approval must be necessary.)**



# Support tool for data input

Support tool utilization  
image



Excel 2003  
or  
Excel 2007

バージョン	リビジョン	作成日付	最終改訂日付	部品分類コード	製品分類名称	製品名	ファミリ名	品番(メーカー)
X_ED01	X_ED02	X_ED03	X_ED04	X_ED05	X_ED07	X_ED08	X_ED09	X_ED10
String	String	Date	Date	String	String	String	String	String
Value	Value	Value	Value	Value	Value	Value	Value	Value
6 001	01	2008/03/27	2008/03/27	X_JA709	パワ-MOSFET	10V駆動タイプNch MOSFET		MRS007AN
7 001	01	2008/07/08	2008/07/10	X_JA709	パワ-MOSFET	10V駆動タイプ Nch MOSFET		MRD0050N
8 001	01	2008/06/18	2008/06/18	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0070N
9 001	01	2008/07/24	2008/07/24	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0080N
10 001	01	2008/07/24	2008/07/24	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0100N
11 001	01	2008/06/18	2008/06/18	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0110N
12 001	01	2008/06/18	2008/06/18	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0125N
13 001	01	2008/07/24	2008/07/24	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0130N
14 001	01	2008/03/27	2008/03/27	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0045N
15 001	01	2008/06/18	2008/06/18	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0025P
16 001	03	2004/03/11	2007/05/26	X_JA709	パワ-MOSFET	4V駆動タイプ Pch MOS FET		MRR0040P
17 001	03	2004/03/11	2007/05/26	X_JA709	パワ-MOSFET	4V駆動タイプ Pch MOS FET		MRR0050P
18 001	01	2008/06/18	2008/06/18	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0055N
19 001	01	2008/06/18	2008/06/18	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0020N
20 001	01	2008/06/18	2008/06/18	X_JA709	パワ-MOSFET	4V駆動タイプNch MOSFET		MRR0025F
21 001	01	2008/06/28	2008/06/28	X_JA709	パワ-MOSFET	2.5V 駆動タイプ Nch MOSFET		MRL0055N
22 001	01	2008/06/18	2008/06/18	X_JA709	パワ-MOSFET	1.5V駆動タイプNch MOSFET		MRR0050N
23 001	01	2008/07/24	2008/07/24	X_JA709	パワ-MOSFET	1.5V駆動タイプNch MOSFET		MRR0040N

Support Tool  
for Data Input  
(Excel)

Registry and Repository  
(R&R) Center

<Web Services>

Registration  
Change



Down Load

Parts  
Spec. data  
Data Base

## Support tool for data input

- Use Excel to support for ECALS based data input
- Send data directly by Web Services
- Implement OBA (Office Business Applications)
- Correspond to ISO/IEC 29500 "Office Open XML" format



## 4. POC was done



# About Proof of concept

## ■ Purpose of POC

- **Verify Technical uncertain points**
- **Verify support tool for data input**
- **Confirm communication I/F between R&R and Buyer/Supplier.**
- **Verify business Scenarios**

## ■ Schedule

- **2 to 13 Mar,2009 : Actual testing**
- **16 to 27 Mar,2009: Evaluation**

## ■ participants

- **As Buyer side (6 companies)**
- **As Supplier Side (11 companies)**



# Evaluation of the POC

- The POC was well done with about 15,400 transactions exchange among Buyers and Suppliers.
- Evaluated the function of R&R Center which works well.
- Confirmed this R&R environment and Web Services interface are easy to set up at both ends.
- Recognized User Interface should be brushed up.
- Have confirmed each Business scenarios but we need to study what is efficient way to communicate within Supply Chain as actual business scenarios.



## 5. Future plan



# Activities of WG in 2009

## ■ Preparation for R&R partial operation

- Agreement of basic business model
- Solve Supplier issue and request collaboration
- Update service requirement for Service Provider selection

## ■ Expansion of handling Parts Engineering Information

- Study how to handle CAD file for shape and Environmental information and expand the Engineering Information to be exchanged.
- Verify the issue of exchanging simulation data and study how to handle it.

## ■ Co-operation with other standard body

- Discuss with RNG for global standardization.
- Co-operate with JEITA EC-Center to hold information in common.
- Co-operate with other standard body related to future vision.



# Master Schedule (~2011)

WG Activities  
2008

2009

2010

2011

SPEC

POC

Partial operation

Full operation

CAD files for shape

Define Data specification

Full operation

SPEC exchange worldwide

JAPN

Environmental Information

Establish TF

Full operation

Simulation Data

Examine JAMP GP I/F

Define Data specification

Full operation

International standardization

Establish PJ team

Co-ordination

World wide

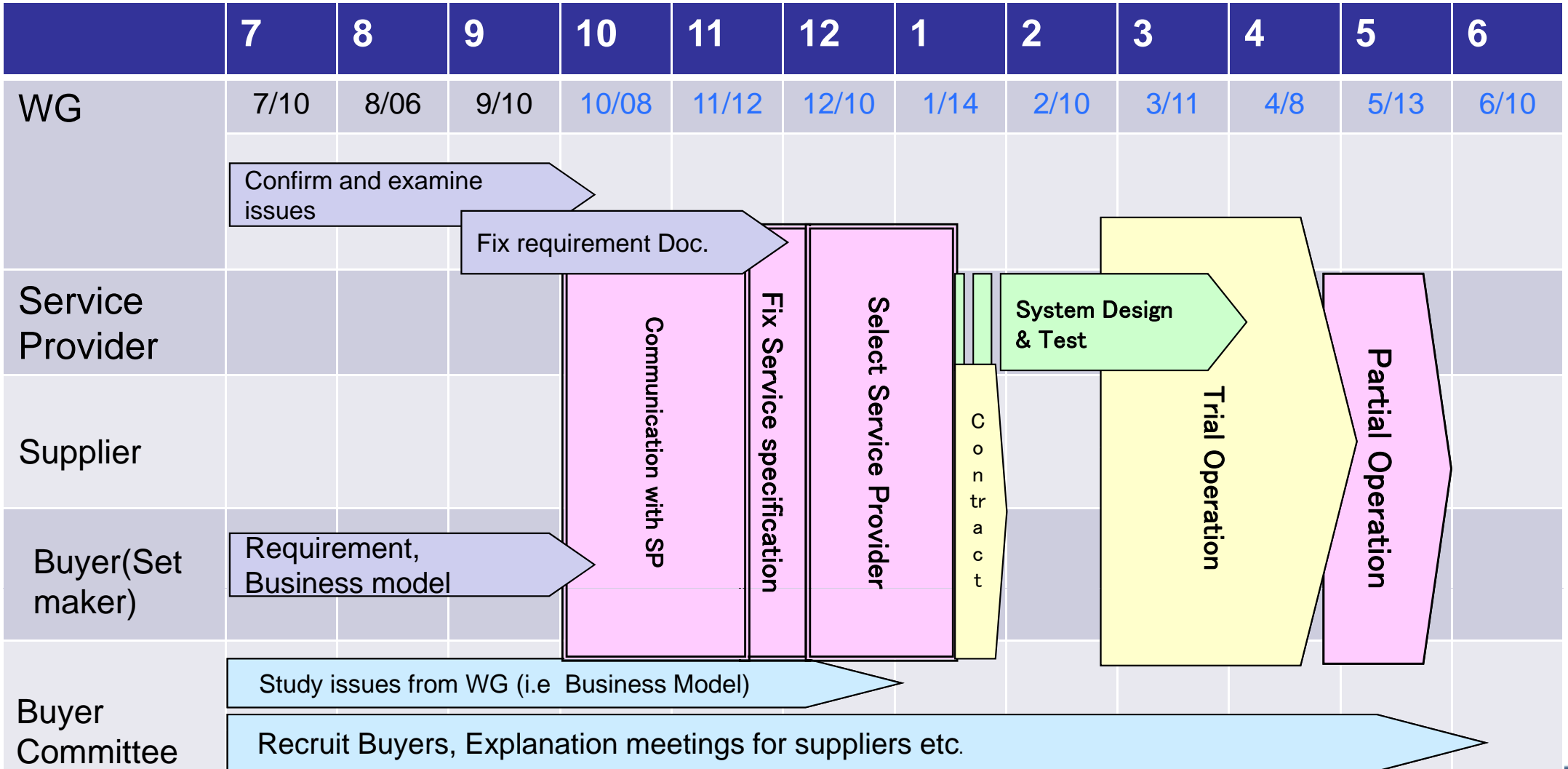


# Schedule

2009



2010





# Milestone toward global standardization

## ■ Phase1 (Mainly in Japan)

- Communication I/F and Business Process between R&R and Buyers/Suppliers.
- Support tool for data input

## ■ Phase2 (Mainly in Asia)

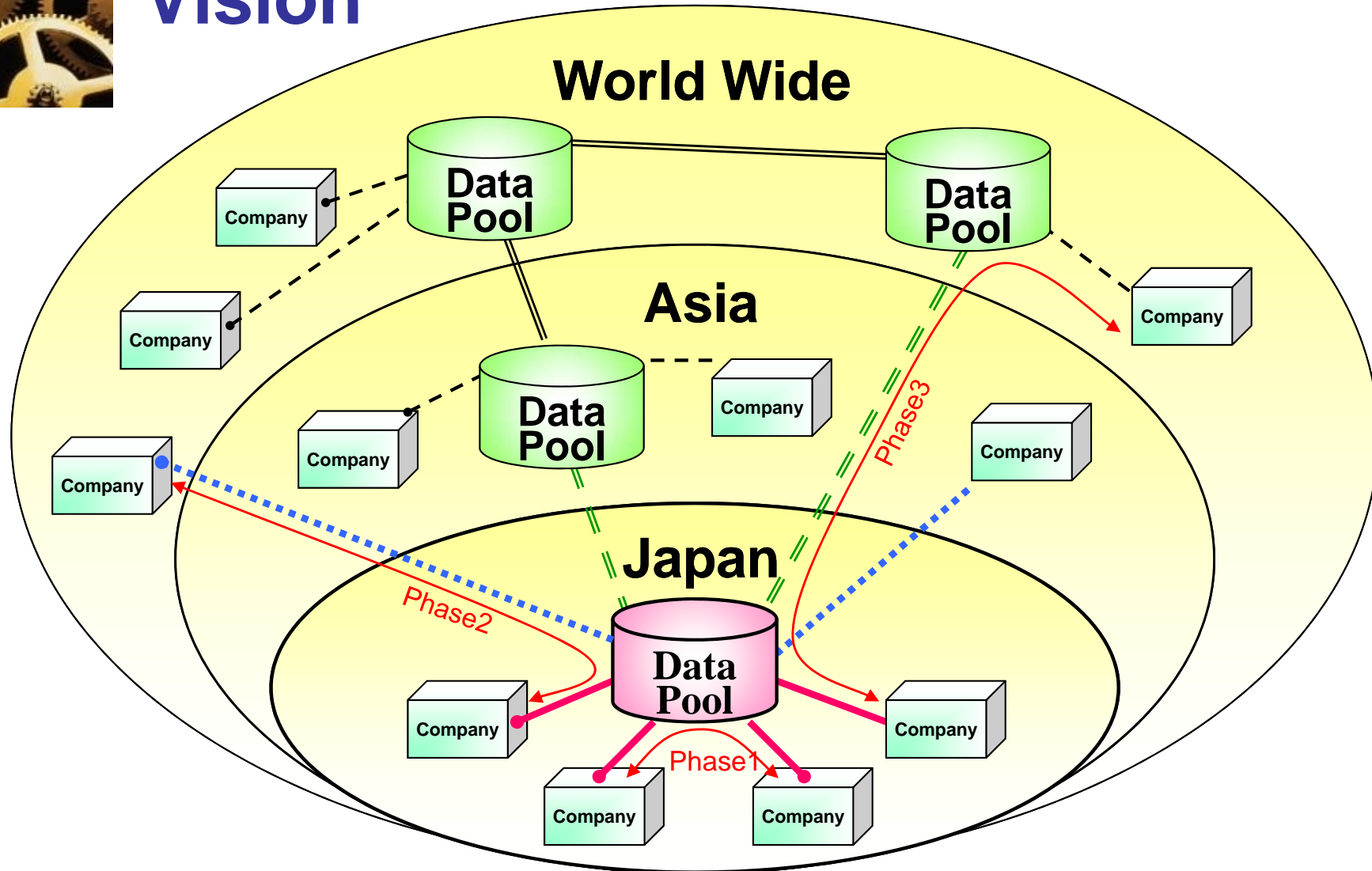
- Communication protocol and business process between Data Pools (between R&R in Japan and R&Rs in Asia)

## ■ Phase3 (Worldwide)

- Study business process for global standardization
- Study Milestone Program.



# Vision



- : Phase1...Exchange Information through Data Pool (R&R) in Japan only
- .....** : Phase2...Exchange Information with company outside Japan through R&R in Japan
- - -** : Phase3...Communication between worldwide Data Pools .



謝 謝

END

Thank you very much for your interest!  
If you have a question, feel free to contact  
[rnj-contact@rosettanel.gr.jp](mailto:rnj-contact@rosettanel.gr.jp)  
Shigenori. Nomura@rosettanel.gr.jp