

Web Services for the Language Industry – The Interoperability Challenge –

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Today's Agenda

Intro

- *BPs in large distributed systems:
The SOA Case*

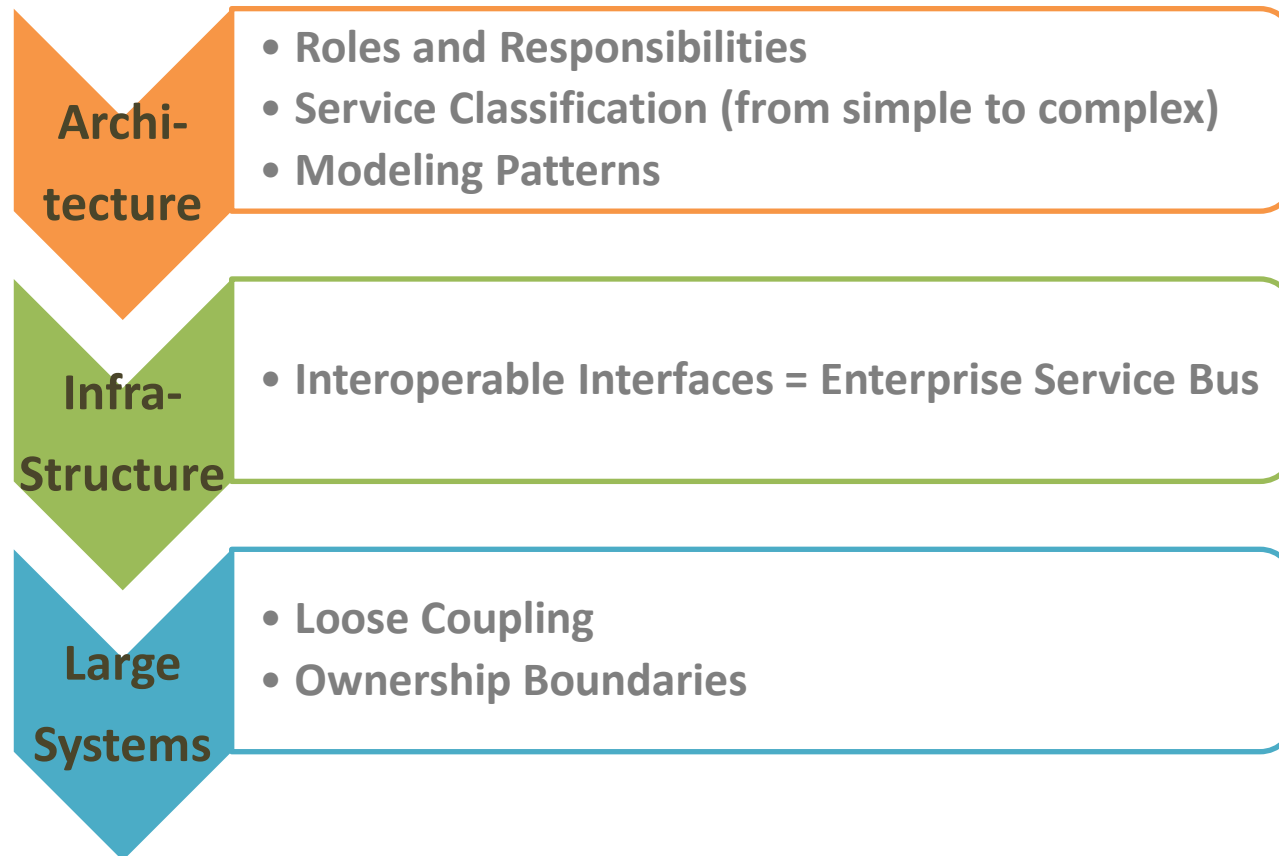
SOA in a Nutshell

- *SOA Basics*
- *SOA with Web Services*
- *Success Story Example*

Mapping

- *Services Scenario in L10n*
- *SOA vs. REST*
- *Some Recommendations*

SOA Basics



SOA with Web Services

Collection of Standards

Protocols – protocol-driven ESB

Interface Formats

WS “Gang of Five”

Collection of Standards

Protocols – protocol-driven ESB

Interface Formats

XML

HTTP

SOAP

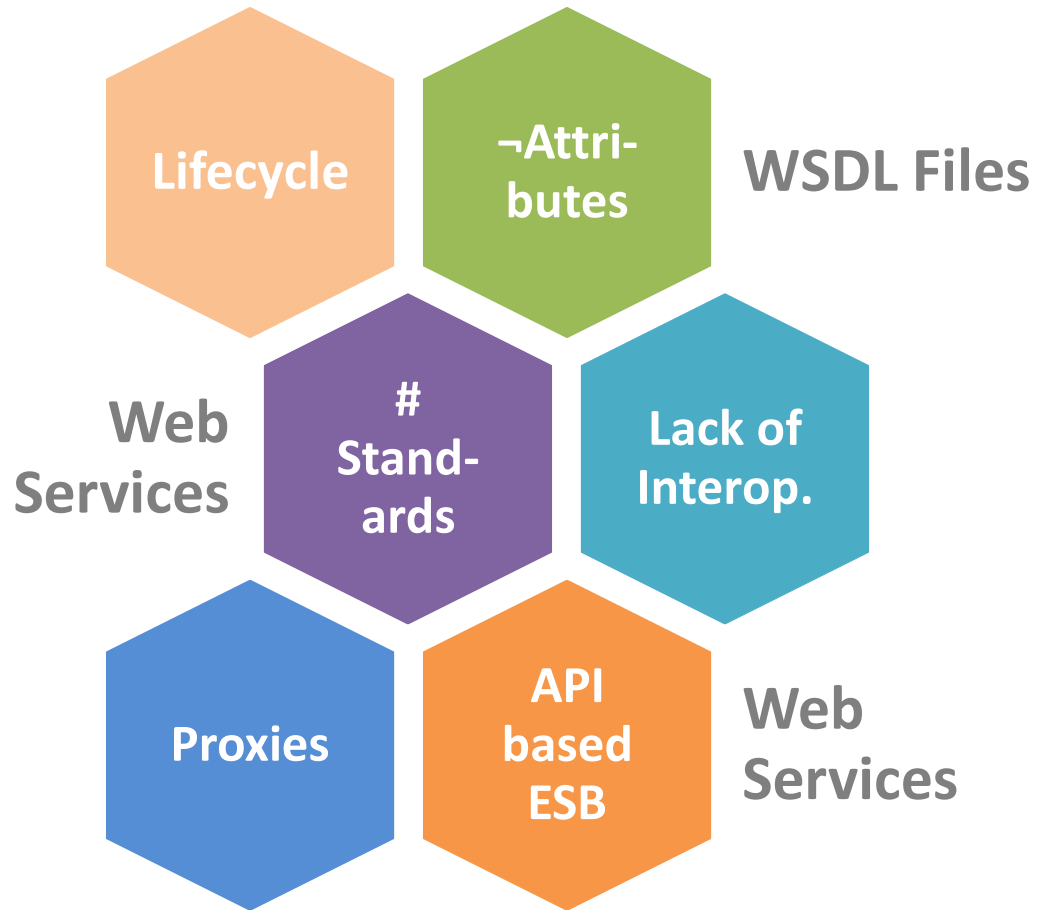
UDDI

WSDL

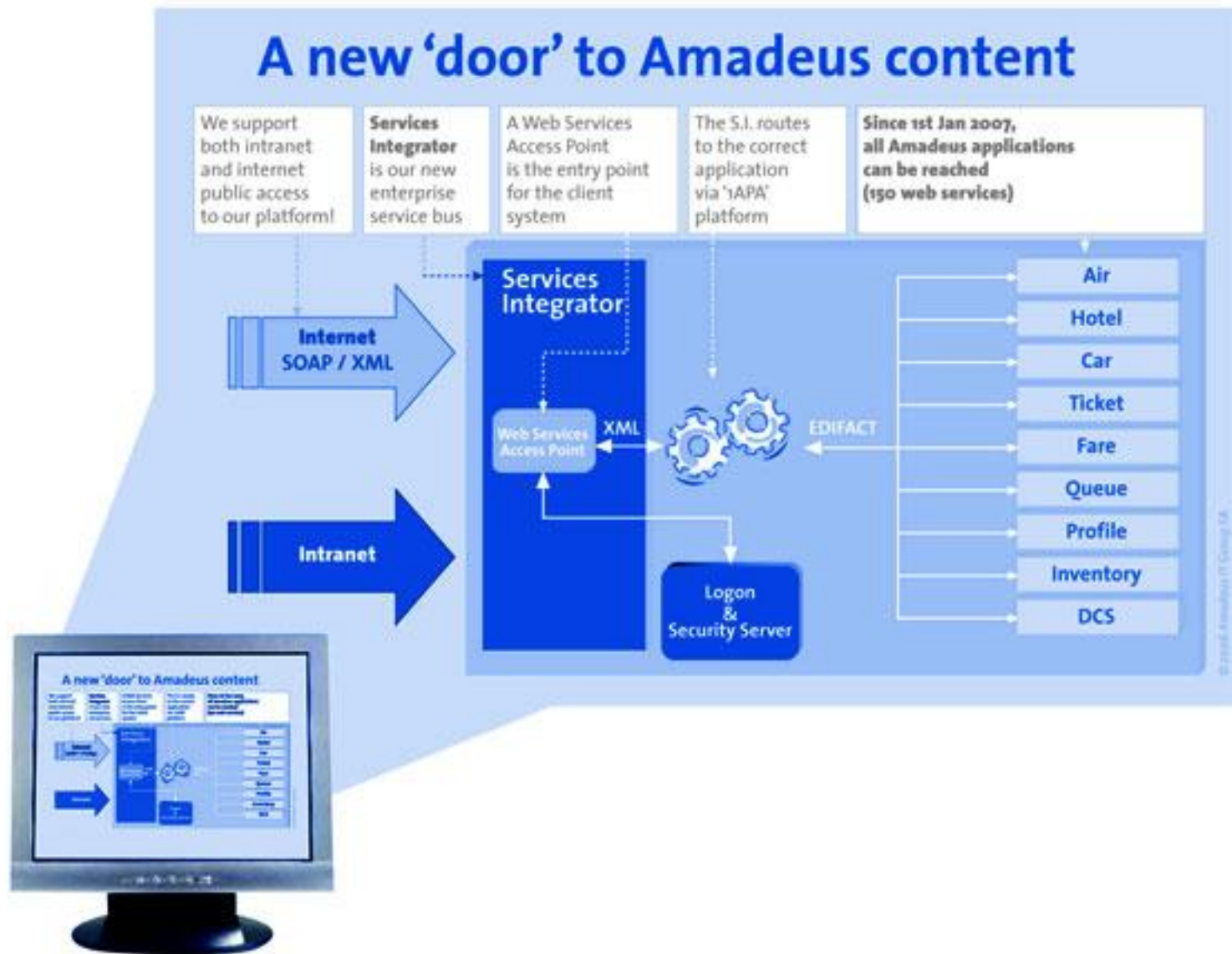
Signature

Binding & Deployment

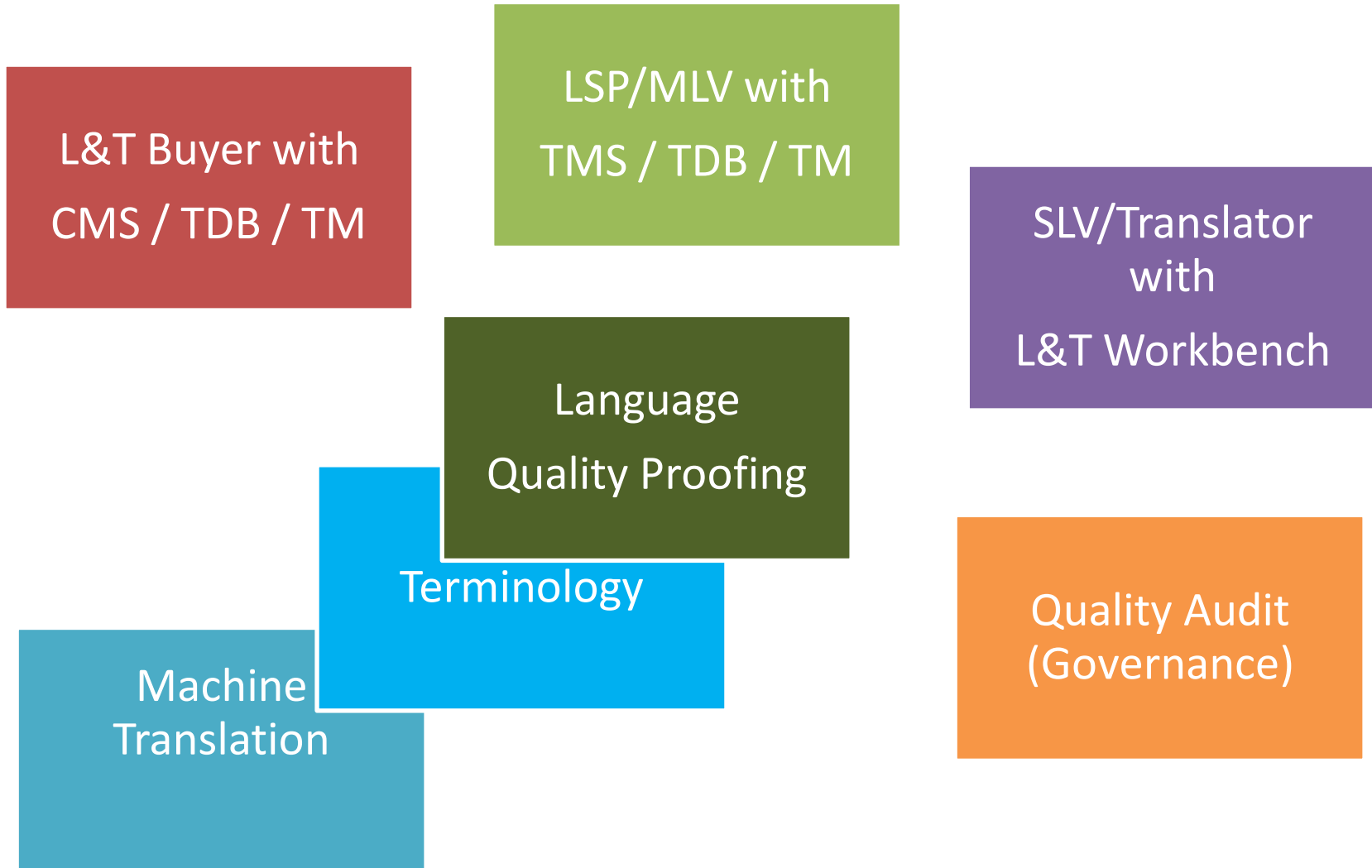
WS and WSDL Challenges



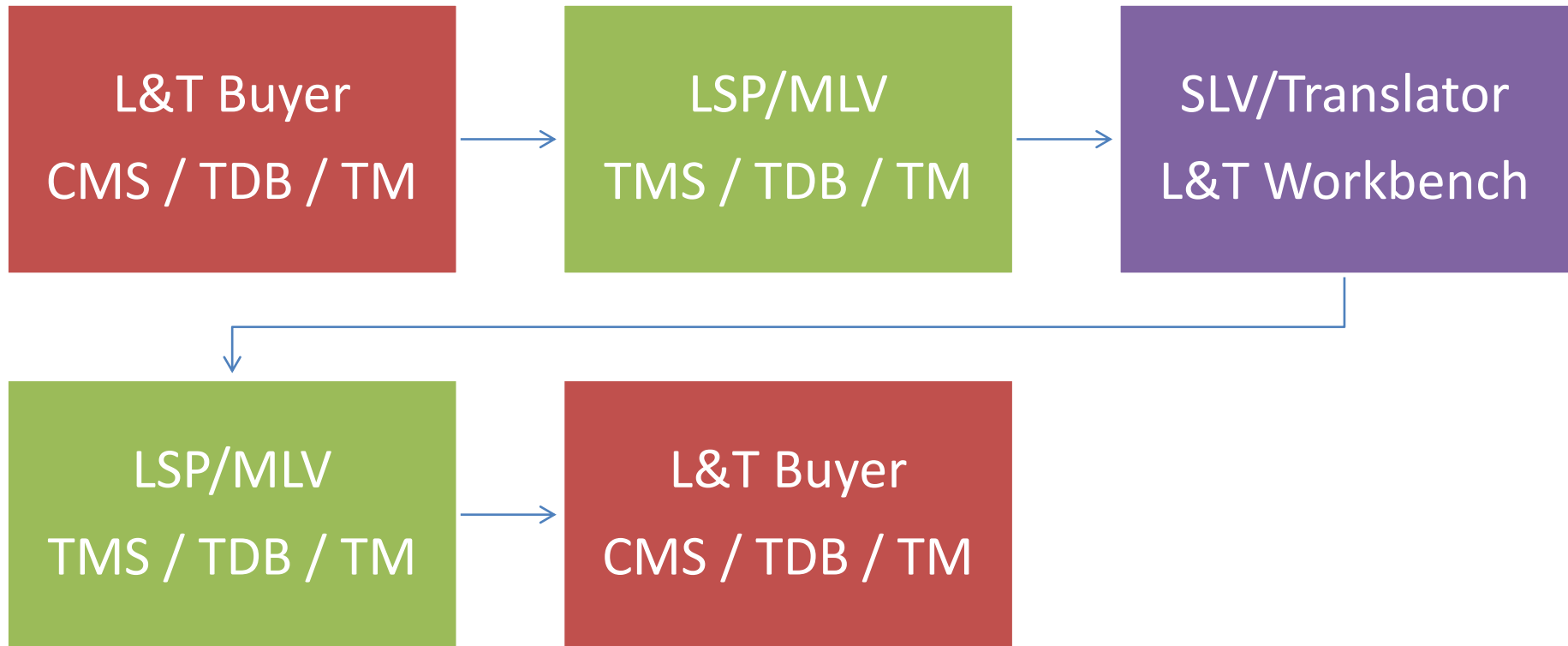
WS Success Example: Amadeus in Action

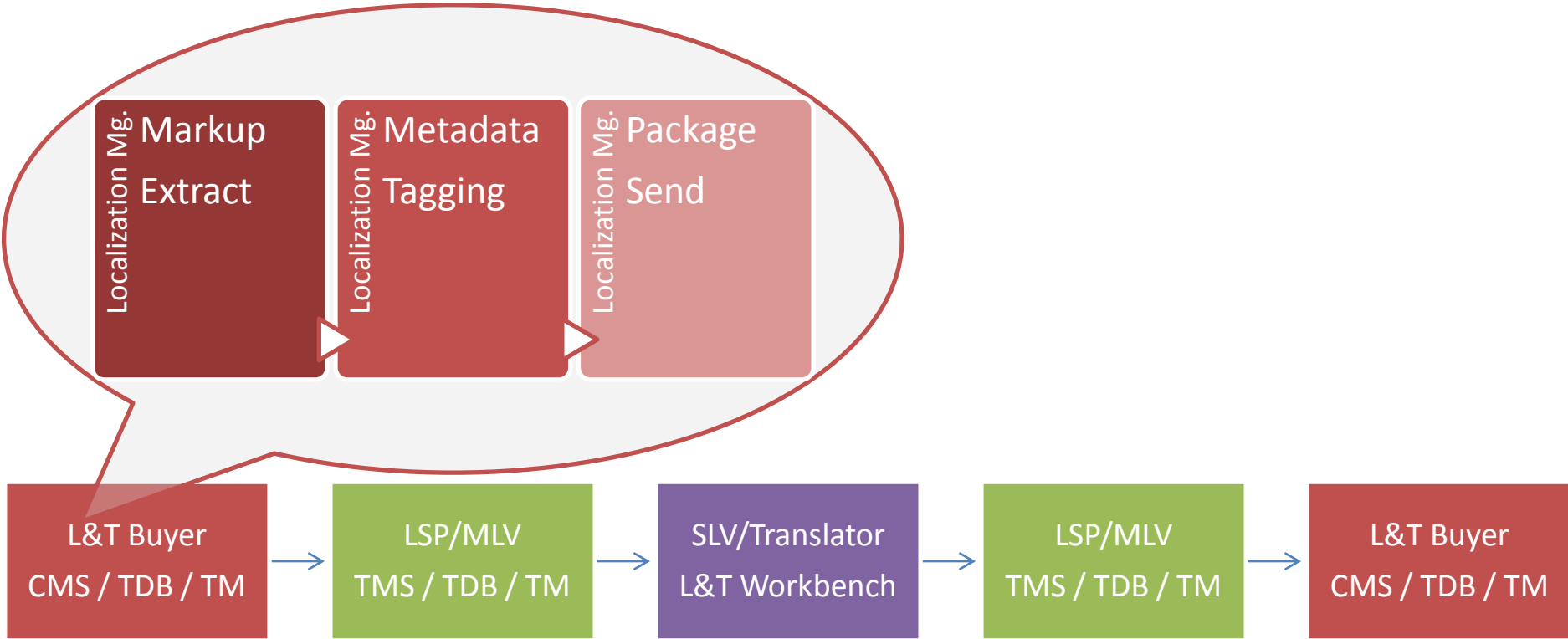


Distributed Systems Landscape in LI/LT

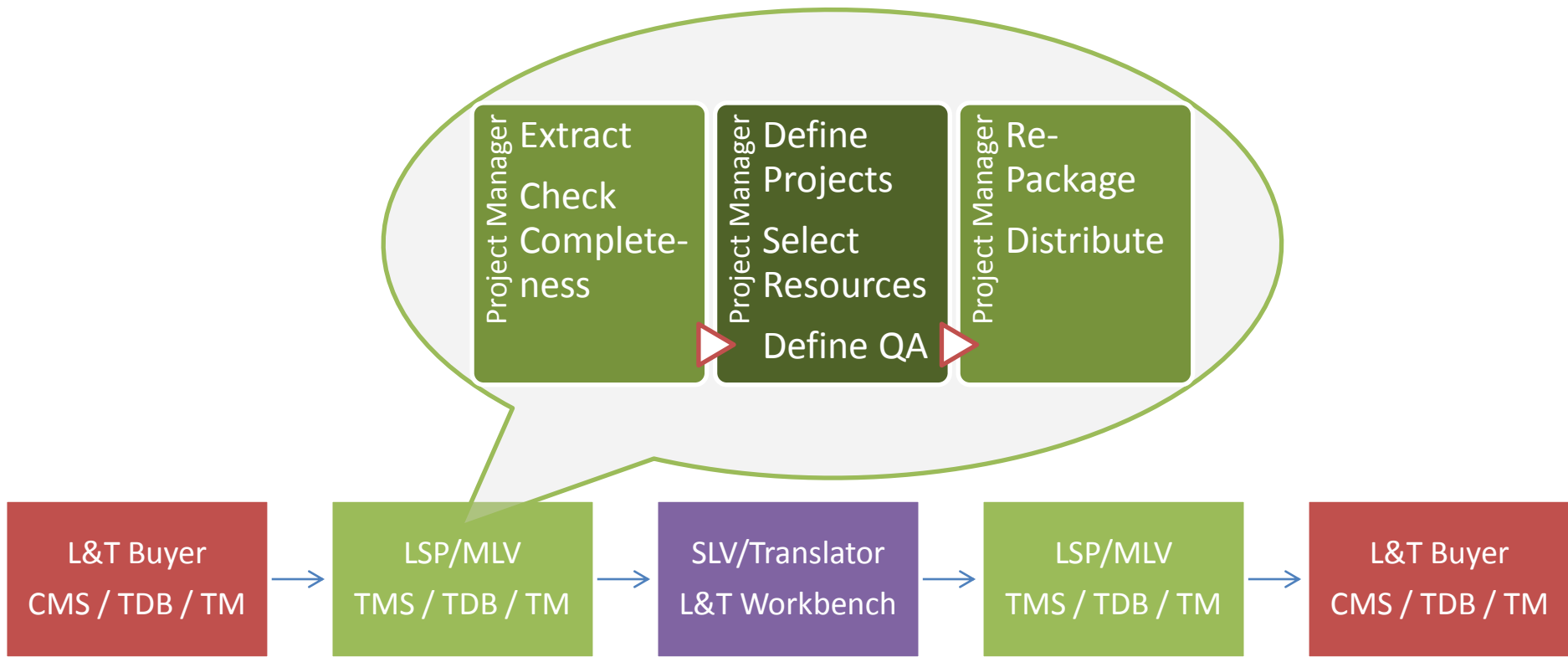


Roundtrip in a L10N Supply Chain

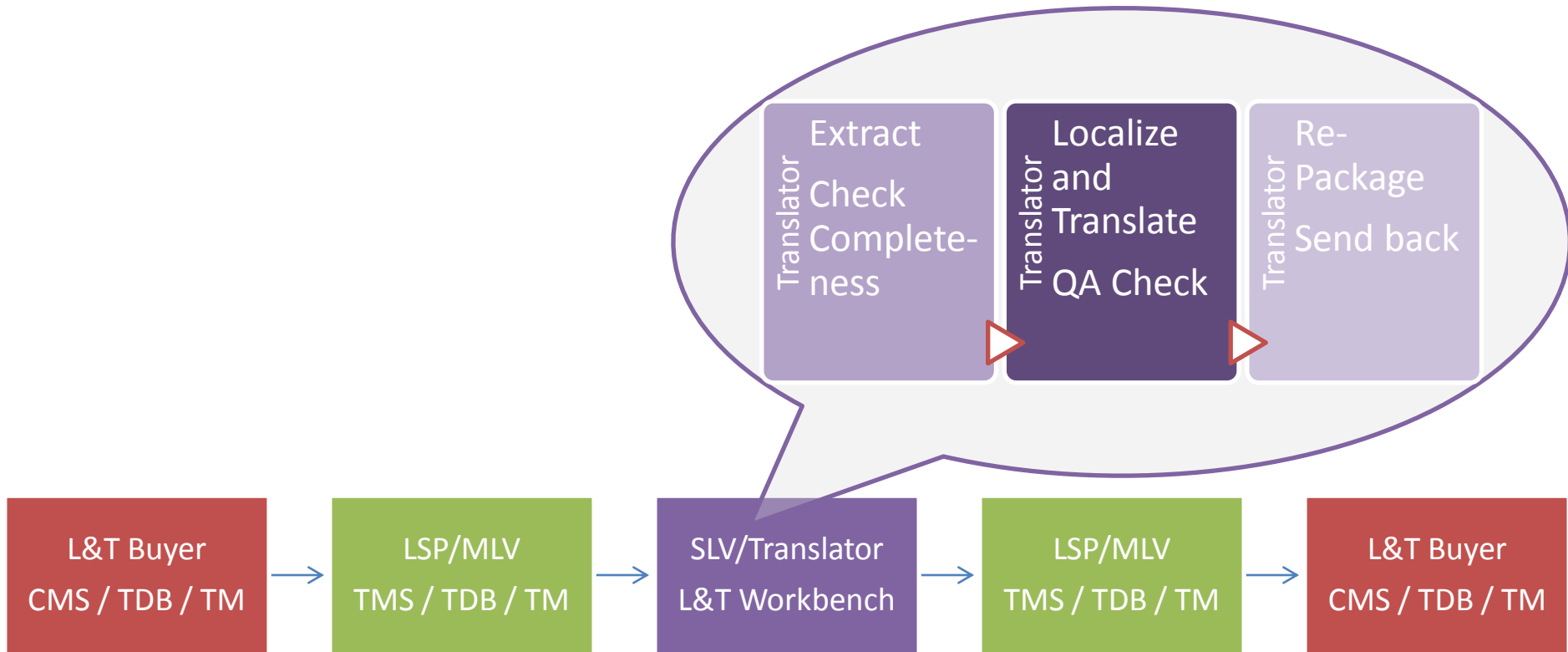




Localization and Translation Buyer

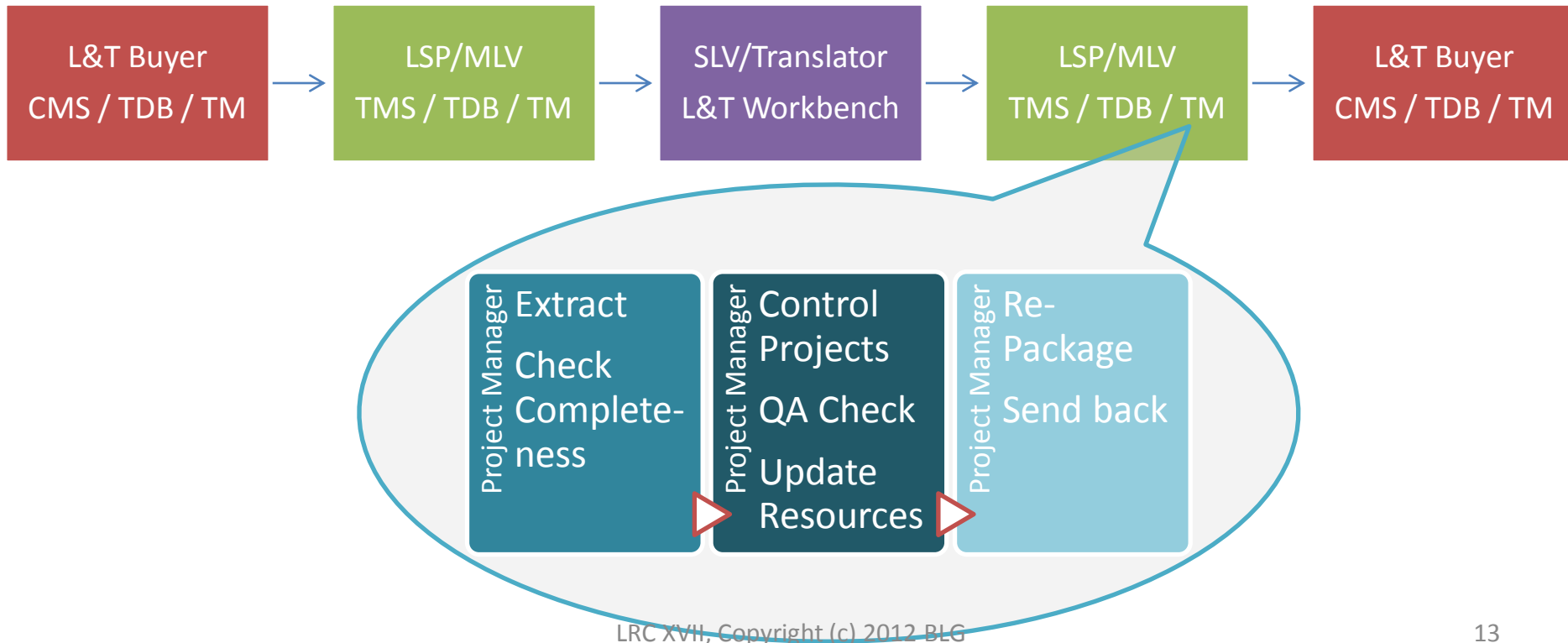


Localization and Translation Vendor

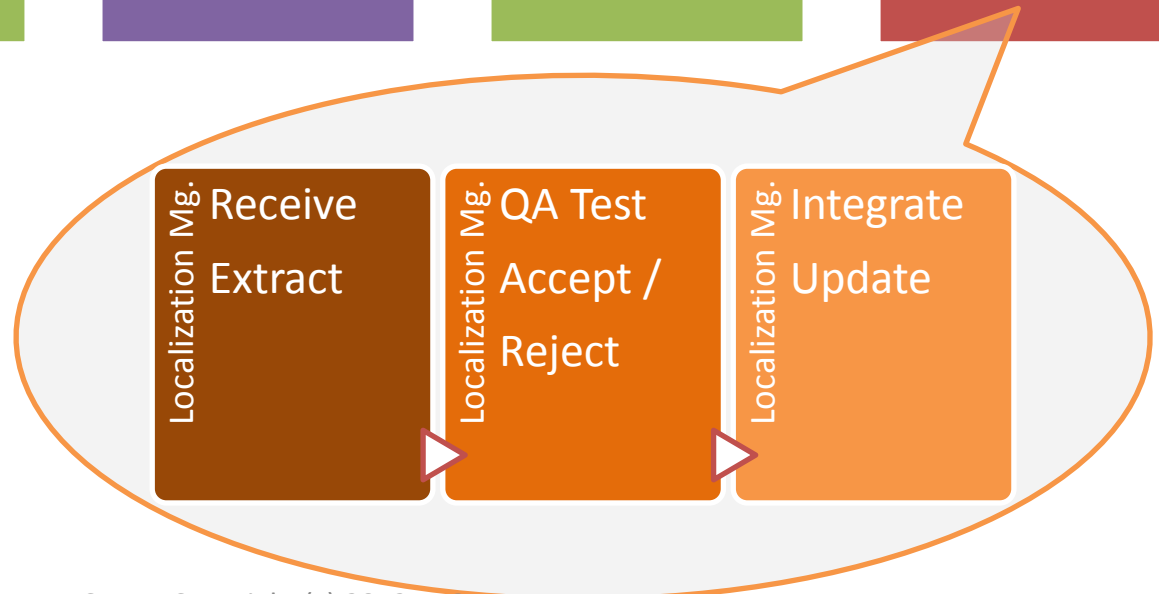
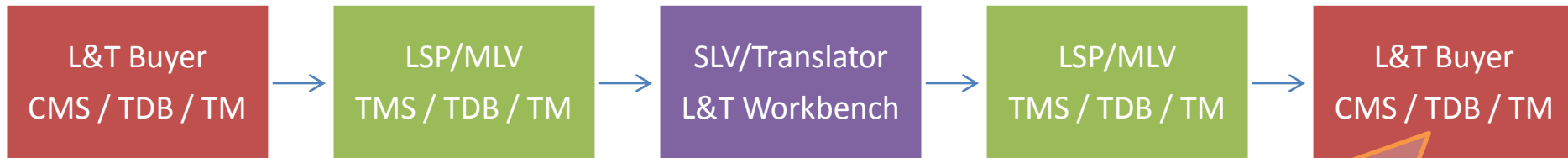


Freelance Translator

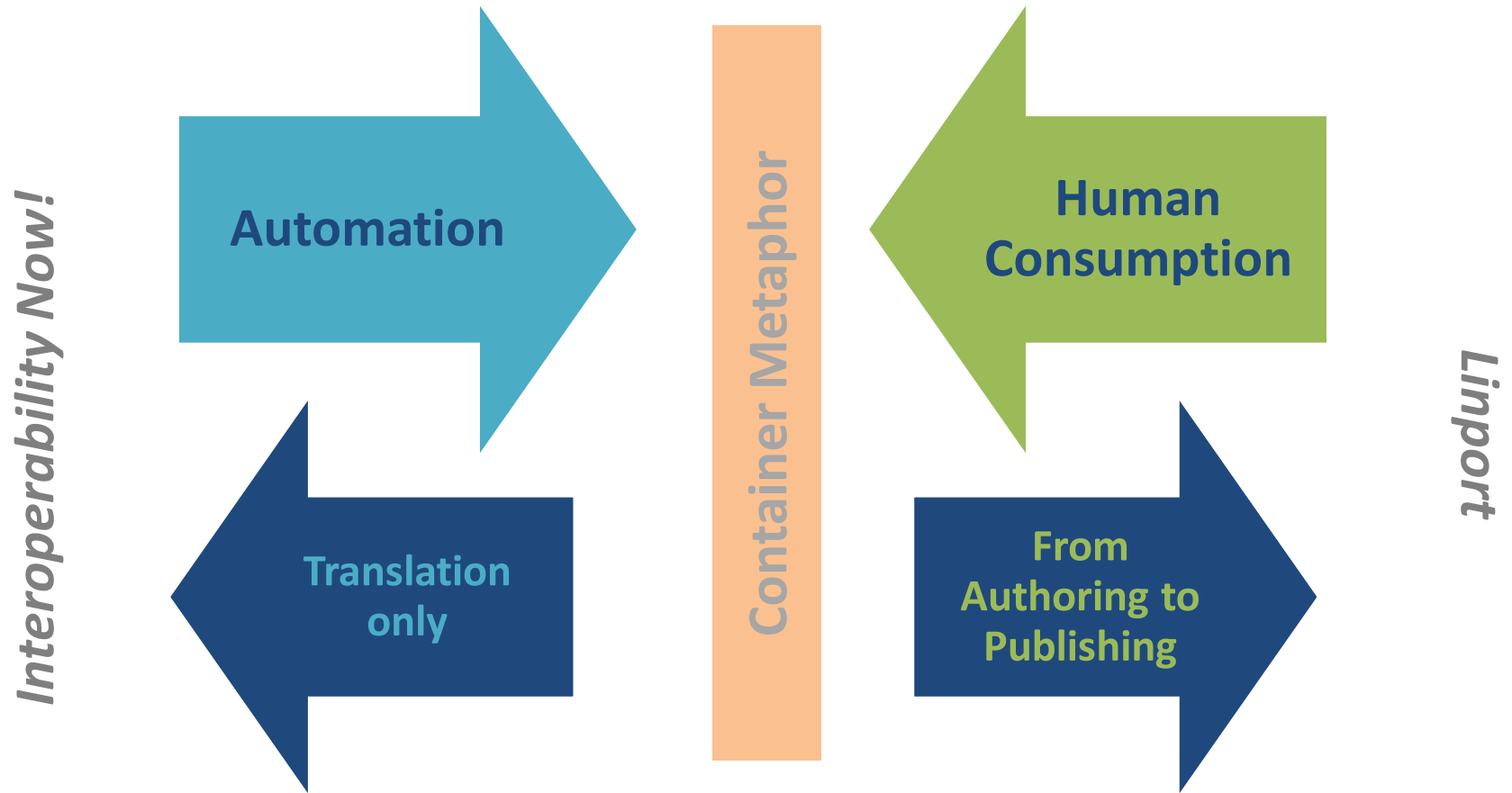
Way Back to L&T Vendor



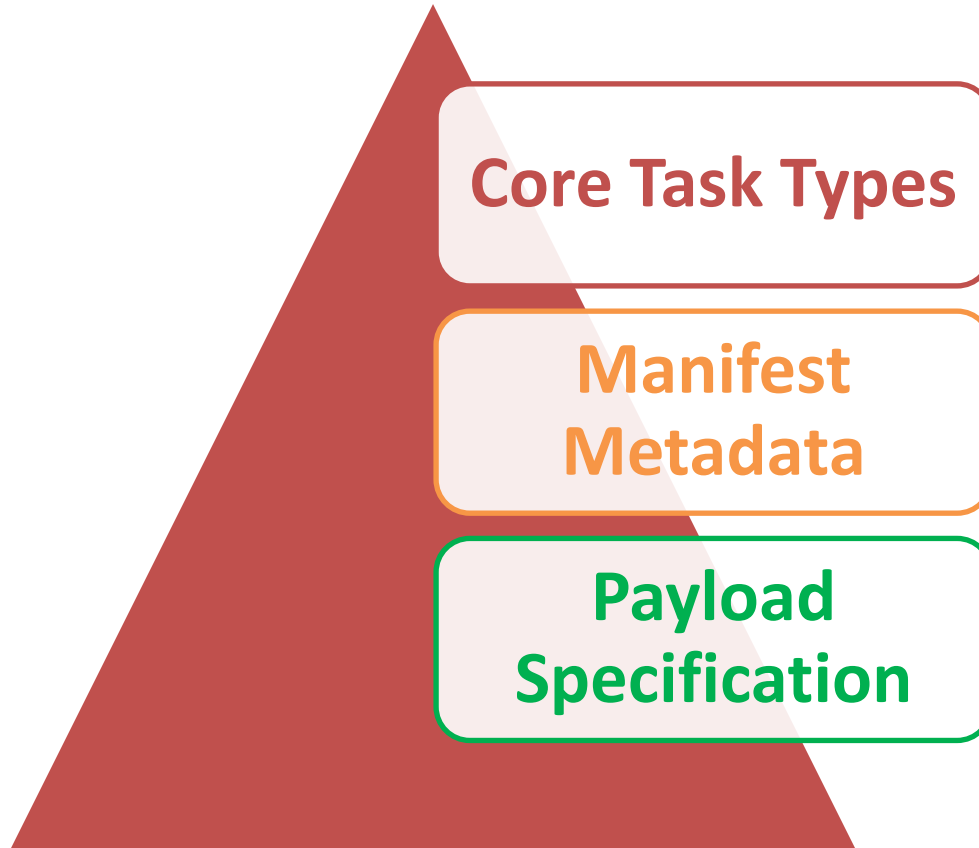
Way Back to L&T Buyer



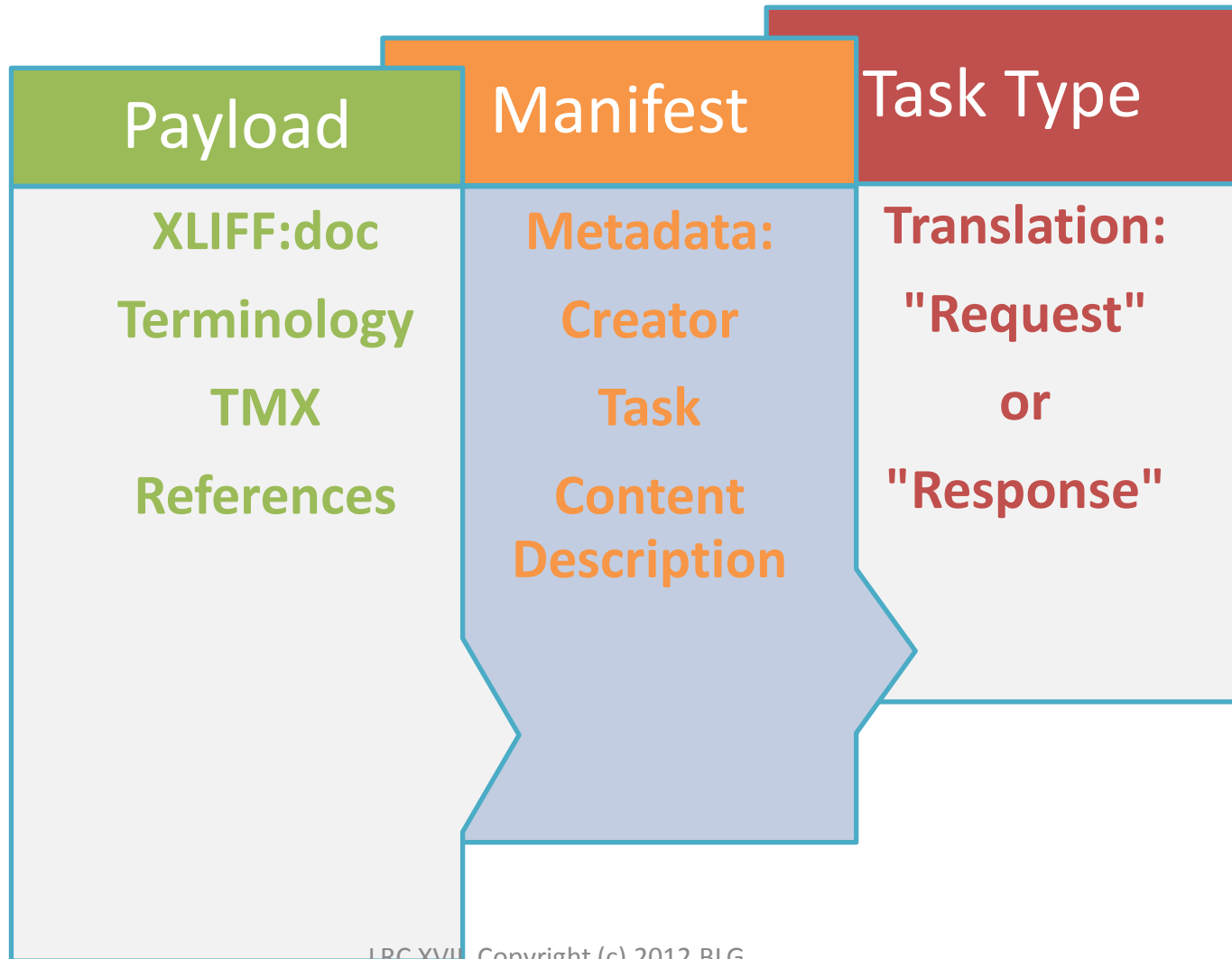
Towards a SOA/WS Solution



Translation Interoperability Protocol (TIP)



TIP Package (TIPP)



Task Types and Adherence / Compliance

- ❖ *Translate-Strict-Bitext*
- ❖ *Translate-Generic-Bitext*
- ❖ *Translate-Native-Format*
- ❖ *Prepare-Specification*

Basic TIPP

- *Payload Adherence*

TIPP Standard Task Type

- *Task Type Compliance*

```
<?xml version="1.0" encoding="UTF-8"?>
<TIPManifest xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
  xsi:noNamespaceSchemaLocation=http://interoperability-now.org/TIPP/schema/TIPManifest-1-4.xsd version="1.4">
  <GlobalDescriptor>
    <UniquePackageId>urn:uuid:12345-abc-6789-askjd-19193la-as9911</UniquePackageId>
    <PackageCreator>
      <Name>Welocalize</Name>
      <ID>http://w01.welocalize.com/globalsight</ID>
      <Update>2011-05-09T22:45:00Z</Update>
      <Tool>
        <ToolName>GlobalSight 9.0</ToolName>
        <ToolID>http://www.globalsight.com</ToolID>
        <ToolVersion>9.0</ToolVersion>
      </Tool>
    </PackageCreator>
    <TaskRequest>
      <Task>
        <TaskType>http://interoperability-now.org/TIPP/schema/tasks/v1/translate-strict-bitext</TaskType>
        <SourceLanguage>en-US</SourceLanguage>
        <TargetLanguage>fr-FR</TargetLanguage>
      </Task>
    </TaskRequest>
  </GlobalDescriptor>
  <PackageObjects> ... </PackageObjects>
</TIPManifest>
```



```

<?xml version="1.0" encoding="UTF-8"?>
<TIPManifest xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
  xsi:noNamespaceSchemaLocation=http://interoperability-now.org/TIPP/schema/TIPManifest-1-4.xsd version="1.4">
<GlobalDescriptor>
  ...
<TaskResponse>
  <Task>
    <TaskType>http://interoperability-now.org/TIPP/schema/tasks/v1/translate-strict-bitext</TaskType>
    <SourceLanguage>en-US</SourceLanguage>
    <TargetLanguage>fr-FR</TargetLanguage>
  </Task>
  <InResponseTo>
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  <ResponseMessage>Success</ResponseMessage>
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</GlobalDescriptor>

<PackageObjects> ... </PackageObjects>
  ...

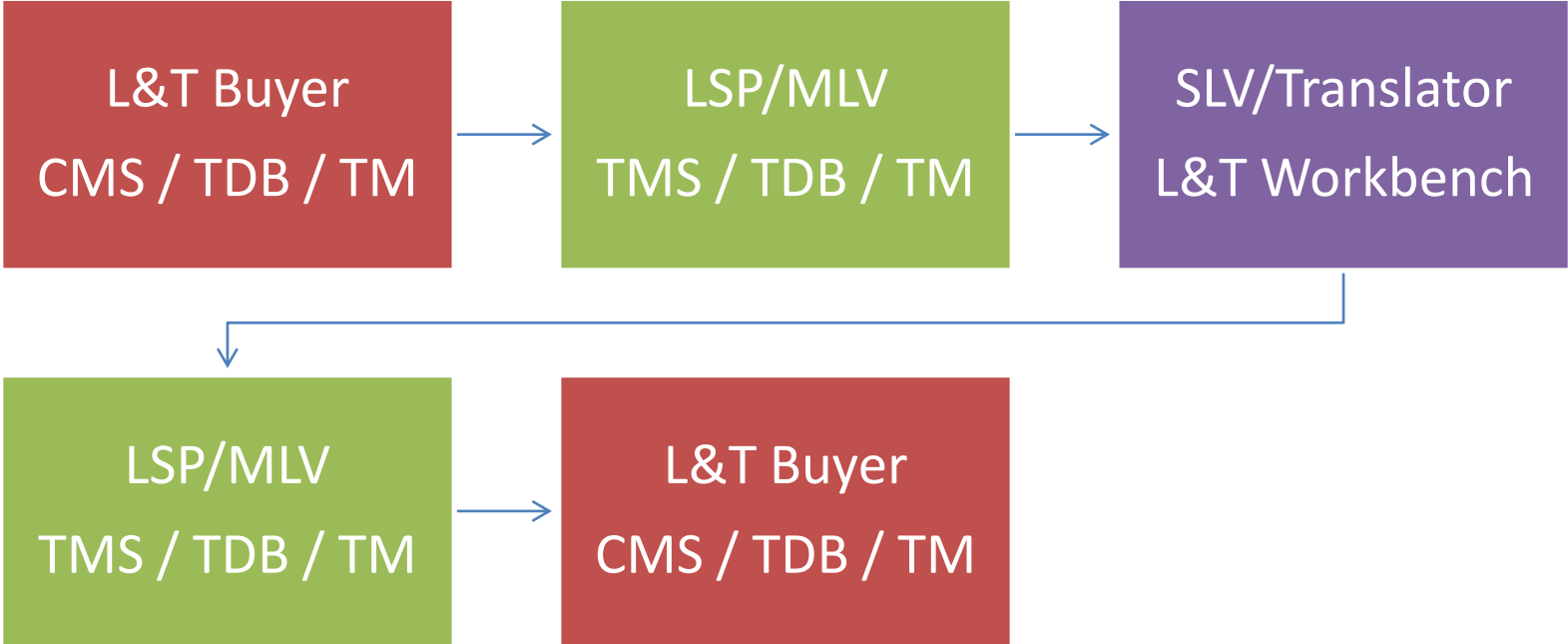
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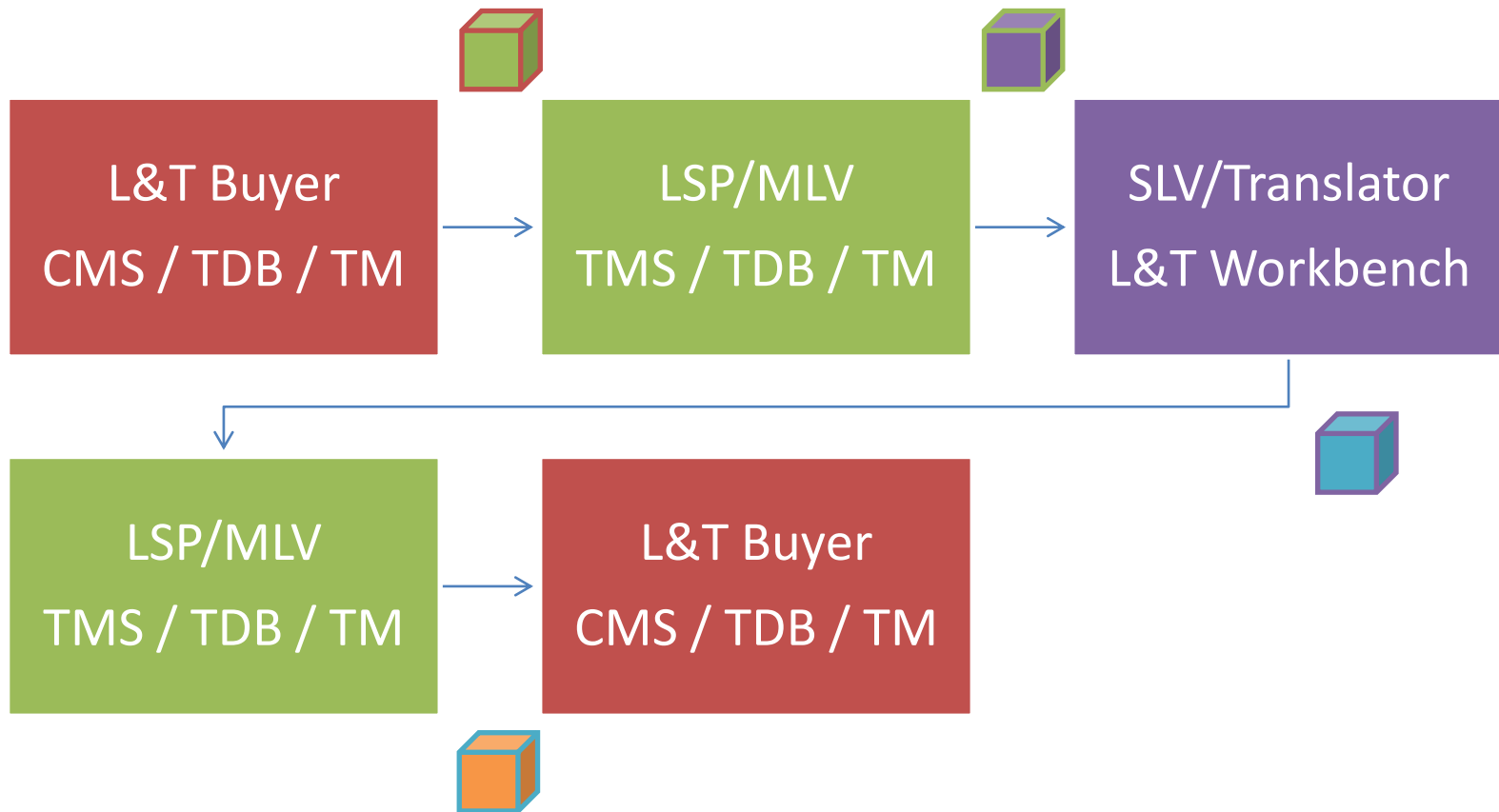


***TIPP Manifest:
"Response"***

(Virtual) Supply Chain with TJPPs



TJPP Delivery – Traveling “Containers”



Realization / Implementation incl. API Concerns

Service-Oriented Architecture WS (SOA-WS)

- **Focus on Processes**
- **SOAP and WSDL**

REpresentational State Transfer (REST)

- **Focus on Resources**
- **RESTful HTTP and Hypermedia**

Pro SOA-WS

Process Focus

- **Many-to-many provider/consumer scenario**
- **Stateless**
- **Limited audience**

SOAP and WSDL

- **Toolkit support hides complexity but SOAP is also language agnostic**
- **Seamless integration in corporate environments through ESB but requires heavy maintenance**
- **Best employed in environments that have a known language homogeneity and delivery time is absolutely critical**

Pro REST

Resource Focus

- **Many-to-many provider/consumer scenario**
- **Stateless**
- **Public audience**

RESTful HTTP and Hypermedia

- **Web Architecture and preferred by social networks and media (i.e. supports generic, publicly consumable services)**
- **Uniform interface including response codes and error handling**
- **Future integration points based on common verbs**

Critical for Both Approaches...

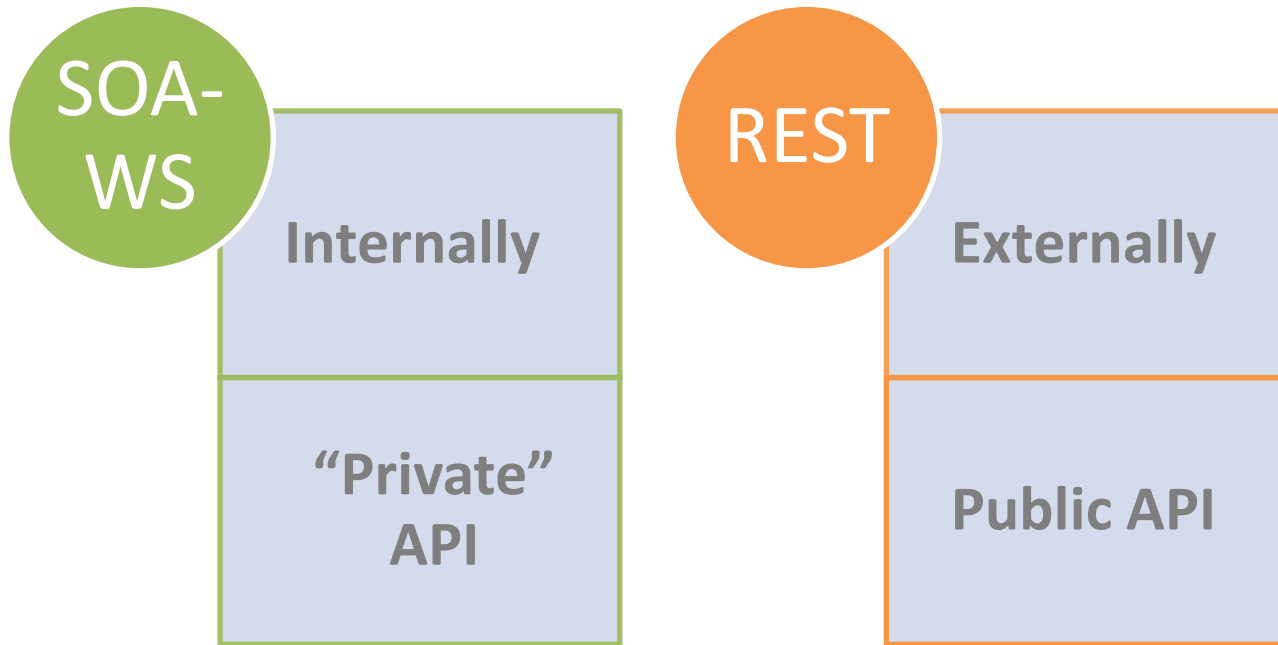
Versioning and Documentation

- **Version compatibility – never break existing consumer code, instead allow for version negotiation**
- **Maintain version management that includes alternative logic to mimic previous behavior**

Authentication

- **System`s access is different from user`s access (human factors)**
- **Credentials must be stored somewhere (stateless)**
- **Non-HTTP authentication violates constraints of REST style but a number of patterns for both have emerged like “request credentials”, “token authentication”, “request signing”, etc.**

General Recommendation



References

Linport Project

- <http://www.linport.org>
- akmtrg@byu.edu (Alan K. Melby)

Interoperability-Now!

- <http://www.interoperability-now.org>
- sca@ontram.com (Sven C. Andrä)

References \cont.

XLIFF:doc – Reference Guide, XSD, Samples, ...

- <http://code.google.com/p/interoperability-now/downloads/list>
- micah.j.bly@medtronic.com (Micah Bly)

TIP/TIPP – Specification, XSD, Samples, ...

- <http://code.google.com/p/interoperability-now/downloads/list>
- chase@spartanconsultinginc.com (Chase Tingley)

One more Thing...

Some “final” Good Practices...

Don't start management until you have many services.

Don't design all services first.

Don't provide the infrastructure first.

You need management support, and a budget for the long run.