LaPoste System
High Level Concept Design Document

Document Ref. IT201-ARC

Version: 1.3

Release 2

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Revision History

Version	Date	Author	Summary of Changes
X0.1	02.08.2017	Minh Tran	First initialized structure from standard template;
X0.2	07.09.2017	Minh Tran	Add disaster solution for release 2; Update message structure with one more field to identify the process step; Update business work flow

Approval

Name	Position	Signature	Date
Huy Truong	Software Manager	*(approved)*	
Thuat Bui	CTO		

Contents

1 Introduction

1.1 Scope of document

The purpose of this document is to provide a comprehensive architectural overview of the La Poste system, using a number of different architectural views to depict different aspects of the system. It is intended to capture and convey the significant architectural decisions which have been made on the system.

This document also provides a foundation for low-level design documents which are need for project implementation & deployment.

1.2 Target audience

This document is used for Software Architect, Software Developer, Solution Design, System Integration, System Deployment, IT Support to design, develop, implement, deploy and maintain the system.

1.3 Reference documents

#	Document name	Description
1	LAPOSTE IT VTN_Technical Specifications_20170118	

2 Project Proposal

2.1 Assumption

- POC is performed in one side only, either CT or ICT. So the POC system is placed only in one side. In case Production need support from other side, production has to perform cross-side working.
- Increasing volume per month
    - **October 2017**: 0 zip codes / day + 1.200 addresses / day
    - **November 2017**: 1.250 zip codes / day + 3.250 addresses / day
    - **December 2017**: 1.800 zip codes / day + 6.750 addresses / day
    - **January 2018**: 2.100 zip codes / day + 12.600 addresses / day
    - **February 2018**: 2.400 zip codes / day + 13.200 addresses / day
    - **March 2018**: 52.424 zip codes / day + 38.332 addresses / day
    - **April 2018**: 77.448 zip codes / day + 38.465 addresses / day
    - **May 2018**: 102.473 zip codes / day + 63.600 addresses / day
    - **June 2018**: 152.497 zip codes / day + 88.736 addresses / day
    - **July 2018**: 177.522 zip codes / day + 113.873 addresses / day
    - **August 2018**: 202.548 zip codes / day + 164.012 addresses / day
    - **September 2018**: 252.573 zip codes / day + 214.152 addresses / day
    - **October 2018**: 352.599 zip codes / day + 364.294 addresses / day
    - **November 2018**: 402.625 zip codes / day + 414.437 addresses / day
    - **December 2018**: 452.651 zip codes / day + 464.581 addresses / day
- Maximum archive of one month.
- Use of a lookup reference address provided by SPS FR.
- Images are cropped & rotated already.
- La Poste has component to call REST API exposed by SPS Vietnam.
- La Poste has component to expose the REST API to receive data from SPS Vietnam.

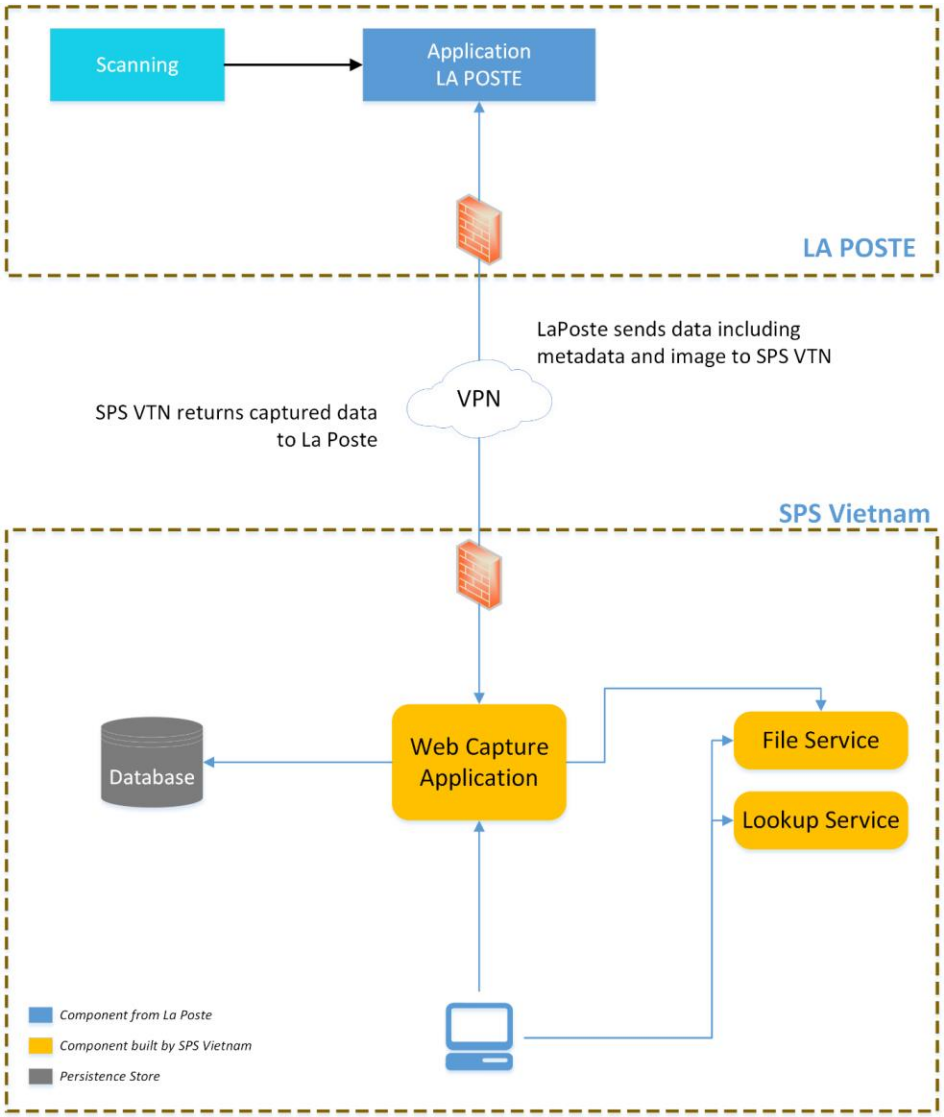
2.2 Development Milestone

	2017	2018		
Description	**Q4**	**Q1 - Q2**	**Q3**	**Q4**
Release 1 Fulfill for volume up to **179,550** documents/month • Web Application Capturing • Simple Lookup feature	Production			
Release 2 Fulfill for volume up to **3,819,679** documents/month • Lookup Service • OCR Service	Implement	Production		
Release 3 Fulfill for volume up to **8,430,880** documents/month • Apply CDIPP platform • Optimized for large volume • Increase STP rate		Implement	Production	
Release 4 Fulfill for volume up to **19,261,872** documents/month • Optimized for large volume • Increase productivity for operators			Implement	Production

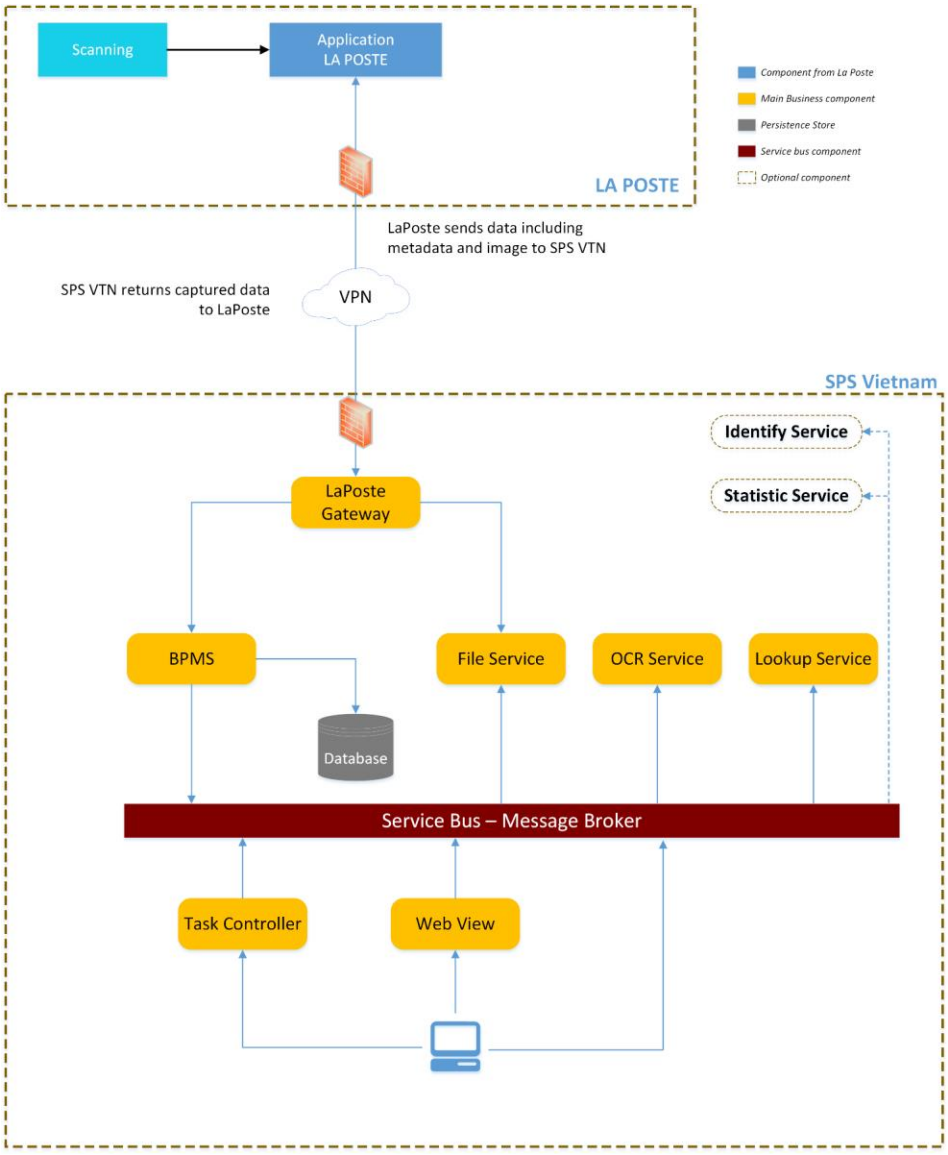
Commented [AAS1]: Please include Disaster & Recovery here
Please include the integration of the database from La Poste (to replace the one from SPS FR)

2.3 High-level design

2.3.1 High level design for release 1, 2



2.3.2 High level design for releases 3, 4

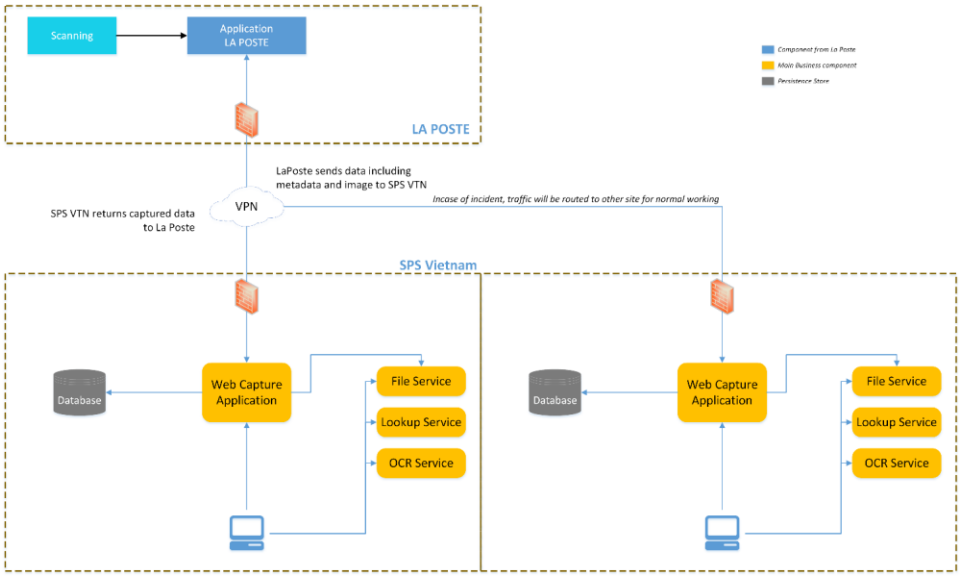


2.3.3 High level design with Disaster Recovery capability

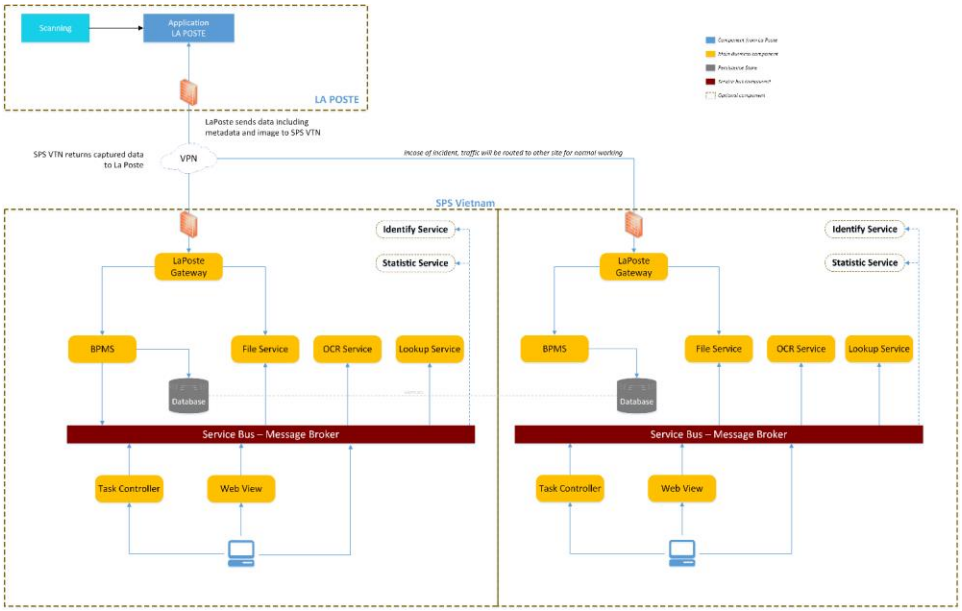
SPS currently have 2 working sides, ICT & CT. ICT works as the main side and CT works as a backup. In case we have any serious issue with one side (Internet connection, infrastructure problems, etc…) we can easily route all the traffic to the remain side and continue working.

Reminder: This means La Poste will have to create a second VPN

- **For release 2**



- **For release 3, 4**



2.4 Web Interfaces

2.4.1 La Poste transfers image and meta-data to SPS Vietnam

La Poste transfers image and meta-data to SPS Vietnam using following REST web service:

Method	URL
POST	https://gateway.sps.vn:8443/rawppi

Meta-data & image is included in HTTP request body as JSON object. The data model is described as follow:

Field Name	Data Type	Description
ppi_ident_code	String	Unique identifier per PPI
return_code	Integer	Ex : 0 : valid, 1 : image not readable, 2 :…
process_level	Integer	Indicate the process step Ex : 0 for zip process; 1 for full address process
zipcode	Integer	ZIP code

Commented [AAS2]: Please add a field in the table below (and all following) to identify the process to be followed: Zip code level or Full address level

city	String	City name
street	String	Name of street
street_number	String	House number
image	String	Image is encoded as base64 string
status_code	String	Status of receiving data. Ex: 0: successful, 2: unexpected error,…
status_text	String	Information about error when receiving raw data

Example:

Type	HTTP Code	Sample Body Value

Request		<pre>{
		"ppi_ident_code": "513100009000088700",
		"zipcode": null,
		"city": "",
		"street": "",
		"street_number": "",
		"return_code": 0,
		"process_level": 0,
		"image": "iVBORwSUhEUgAAANIAAAAzCAYAAAQN0lEQV..."
		}</pre>

Response	200	<pre>{
		"ppi_ident_code": "513100009000088700",
		"status_code": "0",
		"status_text": "OK"
		}</pre>

2.4.2 *SPS Vietnam returns captured data to La Poste*

SPS Vietnam calls REST web service to return captured data to La Poste. The REST API is as following:

Method	URL
POST	https://laposte.sps.fr:8443/capturedppi

Captured data is included in HTTP request body as JSON object. This API will be called ~~2 times~~1 time ~~-~~for each receipt to return the corresponding data regarding to the business steps:

- ~~The first time for returning the captured zip code~~
- ~~The second time to return the full captured data~~

Commented [AAS3]: Which means SPS VTN will receive potentially twice the same image: once for the process at Zip code level and once for the Full Address. We will use the extra field to identify what needs to be captured

For each call, the message body can be different with the same data model described as following:

Field Name	Data Type	Description
ppi_ident_code	String	Unique identifier per PPI

return_code	Integer	Ex : 0 : valid, 1 : image not readable, 2 :…
process_level	Integer	Ex : 0 for zip process; 1 for full address process
zipcode	Integer	ZIP code
city	String	City name
street	String	Name of street
street_number	String	House number
status_code	String	Status of receiving data. Ex: 0: successful, 2: unexpected error,…
status_text	String	Information about error when receiving data

Property value in body based on each method

Field Name	Return zip	Return captured data
ppi_ident_code	x	x
return_code	x	x
process_level	x	x
zipcode	x	x
city		x
street		x
street_number		x
image		

Note: properties marked with "x" are required to have value if it appears on the image

Example:

- Return captured zip code

Type	HTTP Code	Sample Body Value

Request		{
		"ppi_ident_code": "513100009000088700",
		"zipcode": 75007,
		"city": "",
		"street": "",
		"street_number": "",
		"return_code": 0,
		"process_level": 0,
		"image": ""
		}

Response	200	{
		"ppi_ident_code": "513100009000088700",
		"status_code": "0",
		"status_text": "OK"
		}

- Return full captured data

Type	HTTP Code	Sample Body Value

Request		<pre>{
		  "ppi_ident_code": "513100009000088700",
		  "zipcode": 75007,
		  "city": "PARIS",
		  "street": "AVENUE ANATOLE FRANCE",
		  "street_number": "5",
		  "return_code": 0,
		  "process_level": 0,
		  "image": ""
		}</pre>

Response	200	<pre>{
		  "ppi_ident_code": "513100009000088700",
		  "status_code": "0",
		  "status_text": "OK"
		}</pre>

2.5 General business work-flow