

# National PACS integration: Using XDS-I on the Spine.

Joseph Waller (Spine chief architect)

Michael Odling-Smee (Lead Messaging architect)

18<sup>th</sup> March 2010



## **Copyright**

© British Telecommunications plc 2010 Registered Office: 81 Newgate Street, London EC1A 7AJ

## **Confidentiality**

All information in this document is provided in confidence for the sole purpose of adjudication of the document and shall not be used for any other purpose and shall not be published or disclosed wholly or in part to any other party without BT's prior permission in writing and shall be held in safe custody. These obligations shall not apply to information which is published or becomes known legitimately from some source other than BT.

Many of the product, service and company names referred to in this document are trademarks or registered trademarks.

They are all hereby acknowledged.

## **Notice**

To the extent that this document contains any information concerning Clinical Safety (such term having its ordinary meaning until a specific definition may be agreed upon by NHS CFH and the Contractor) or any other information not specifically mandated by the Project Agreement, it is shared by the Contractor with NHS CFH on a voluntary, Confidential and 'without prejudice' basis for the purpose of informing NHS CFH and advancing mutual learning on the subject matter concerned.

# Document History

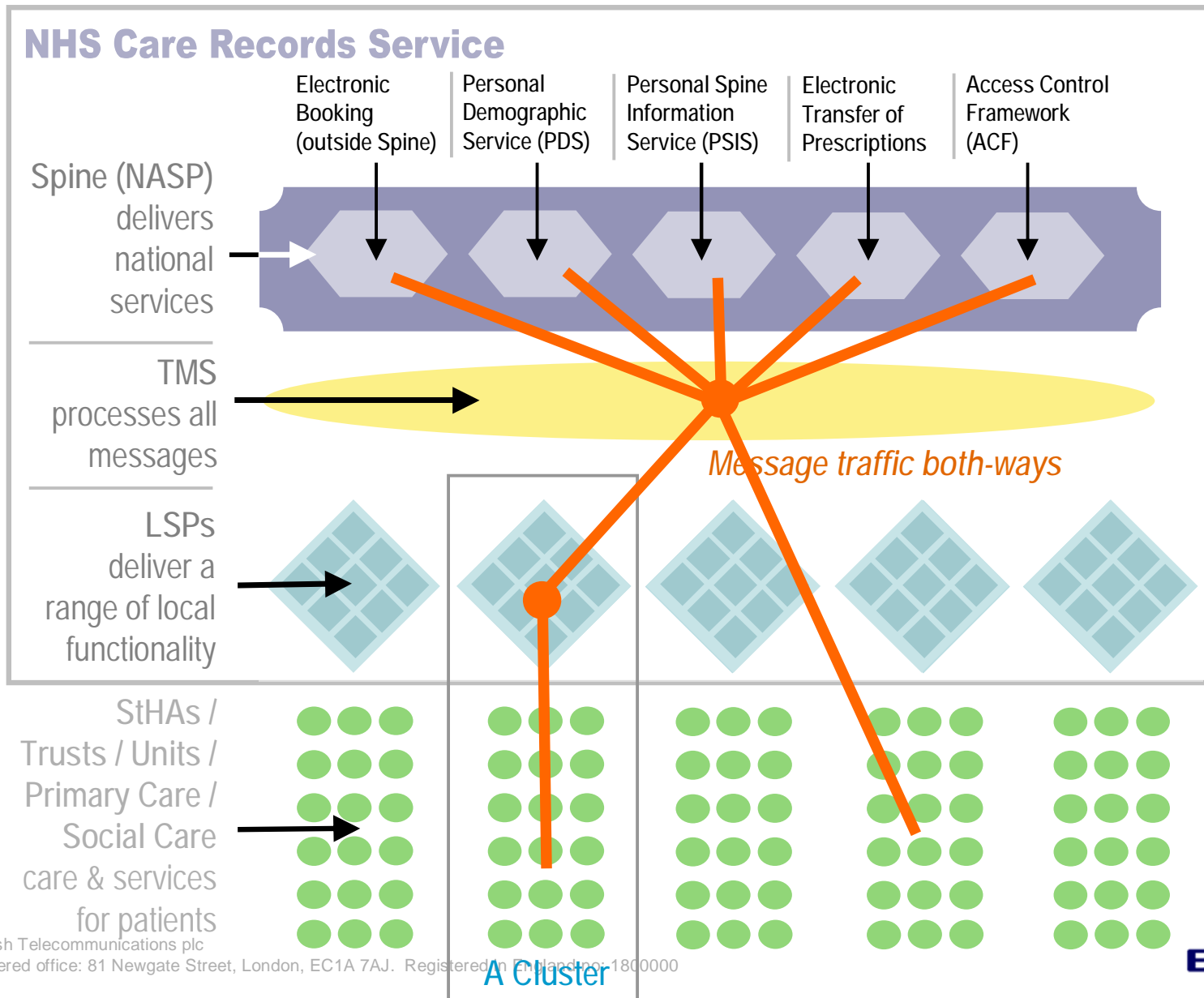
(not shown in presentation)

Version	Date	Author	Comments
1A	10.03.2010	Joseph Waller	Initial draft
1C	14.03.2010	Joseph Waller	Further to peer review
1D	22.03.2010	Joseph Waller	Prepared for distribution

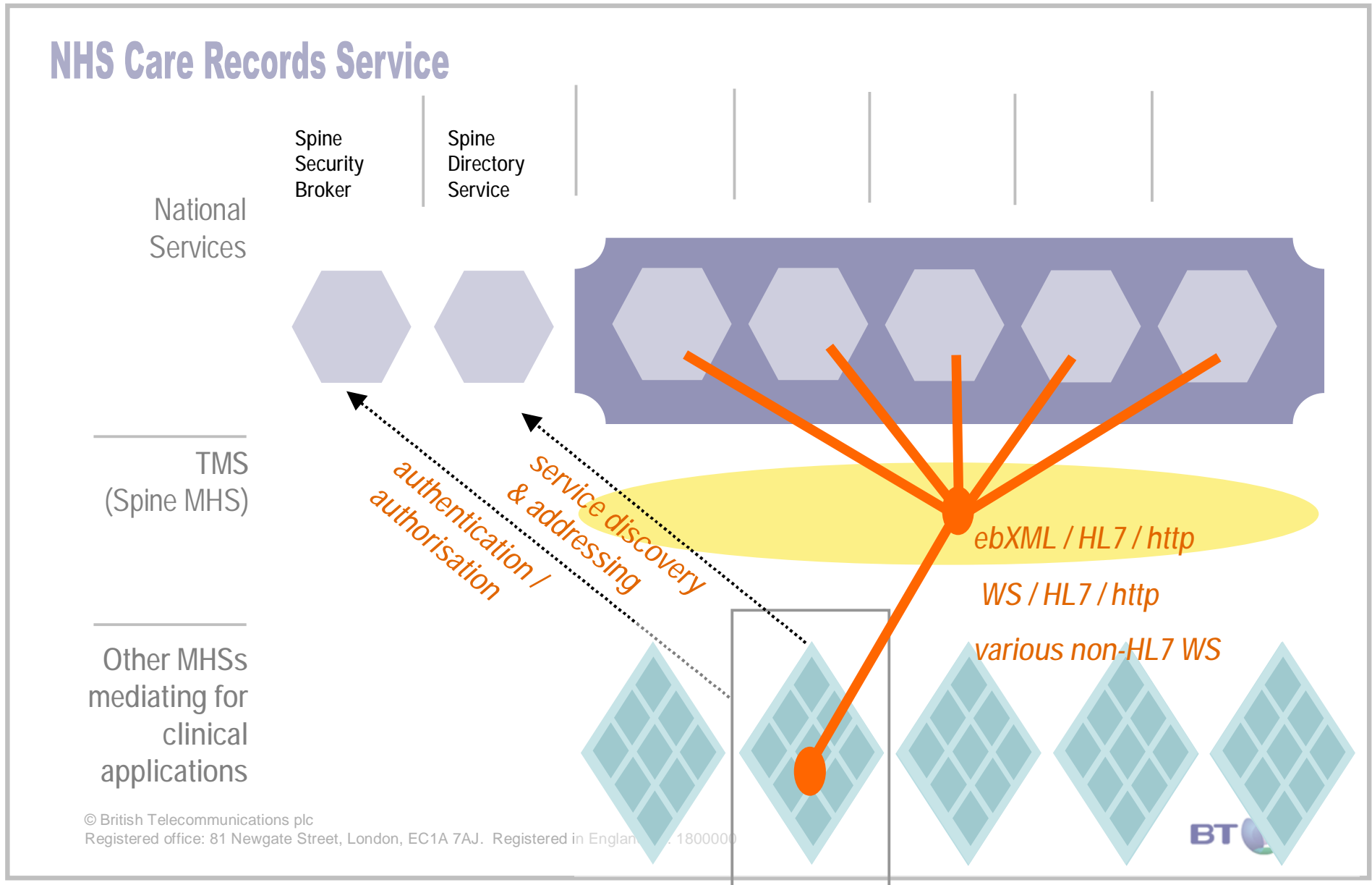
# Contents

- Background on Spine
- What we were asked to do...
- What was the approach...
  - Who was consulted...
- What we found...
  - What Spine can do now for images...
  - What XDS requires...
  - How much of XDS could Spine do?
- What are the gaps?

# How spine interacts with standard National Programme endpoints



# How spine interacts with standard National Programme endpoints



# Questions?



# What we were asked to do...

“How hard would it be for the Spine to support and XDS-I based solution?”

# What was the approach...

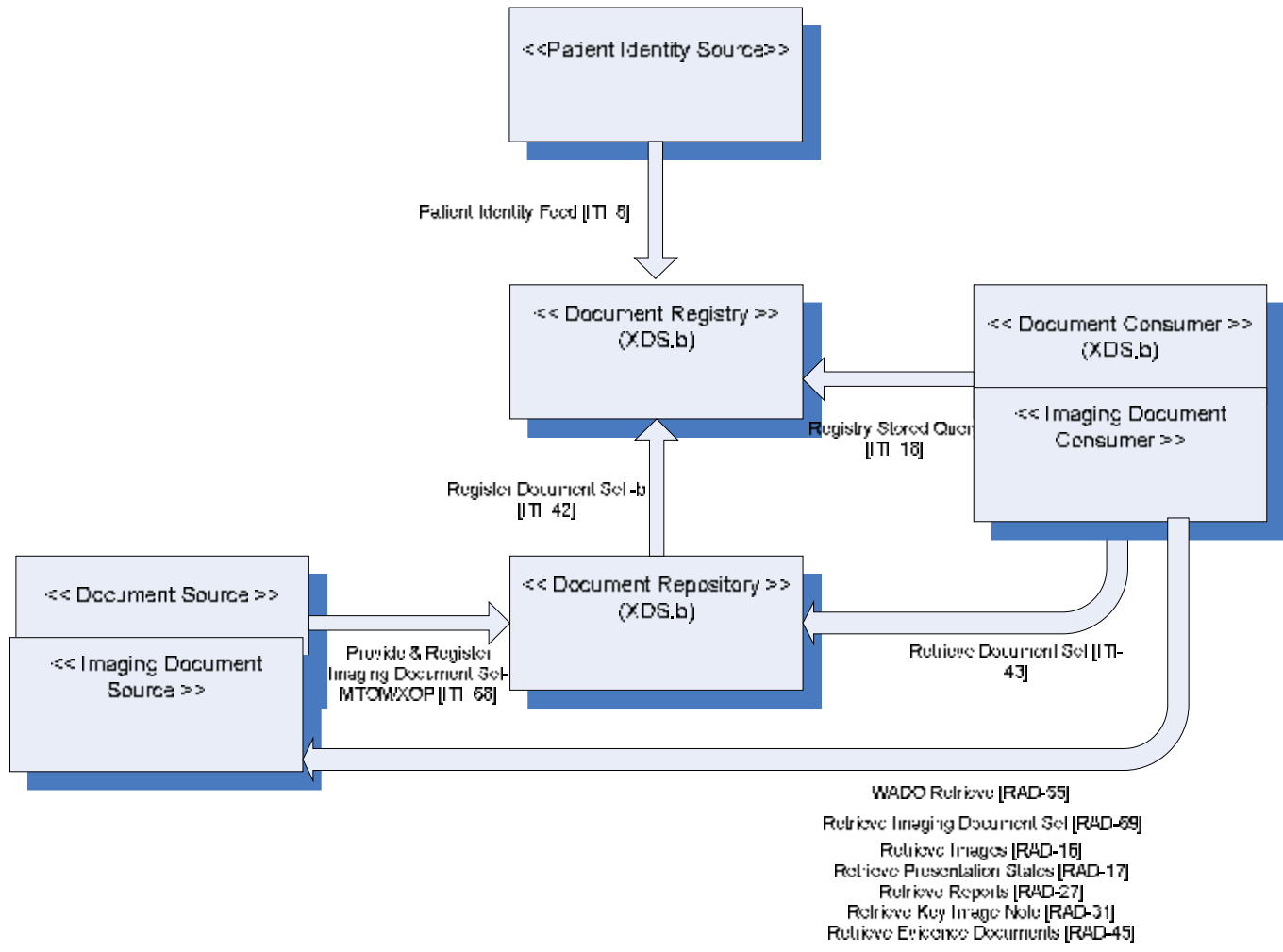
- Engaging with the IHE community
- Series of workshops with CFH and IHE experts
- Whitepaper

Dave Harvey (Medical Connections)	Bill Klaver (Initiate)
Malcolm Newbury (Guildfoss)	Tony Bowden (Initiate)
Rob Horn (AGFA)	Ann Wrightson (Wales, Informing Healthcare)
Marco Crispini (Cypher IT)	Richard Witty (Capgemini)
Harm-Jan Wessels (Forcare)	Shaun Fletcher (CFH)
Craig Brannan (Independent IHE consultant)	Andrew Wheeler (CFH)
Simon Gordon (BT Security)	Stuart Ian Herbert (Independent IHE consultant)
Matt Raynor (BT Security)	

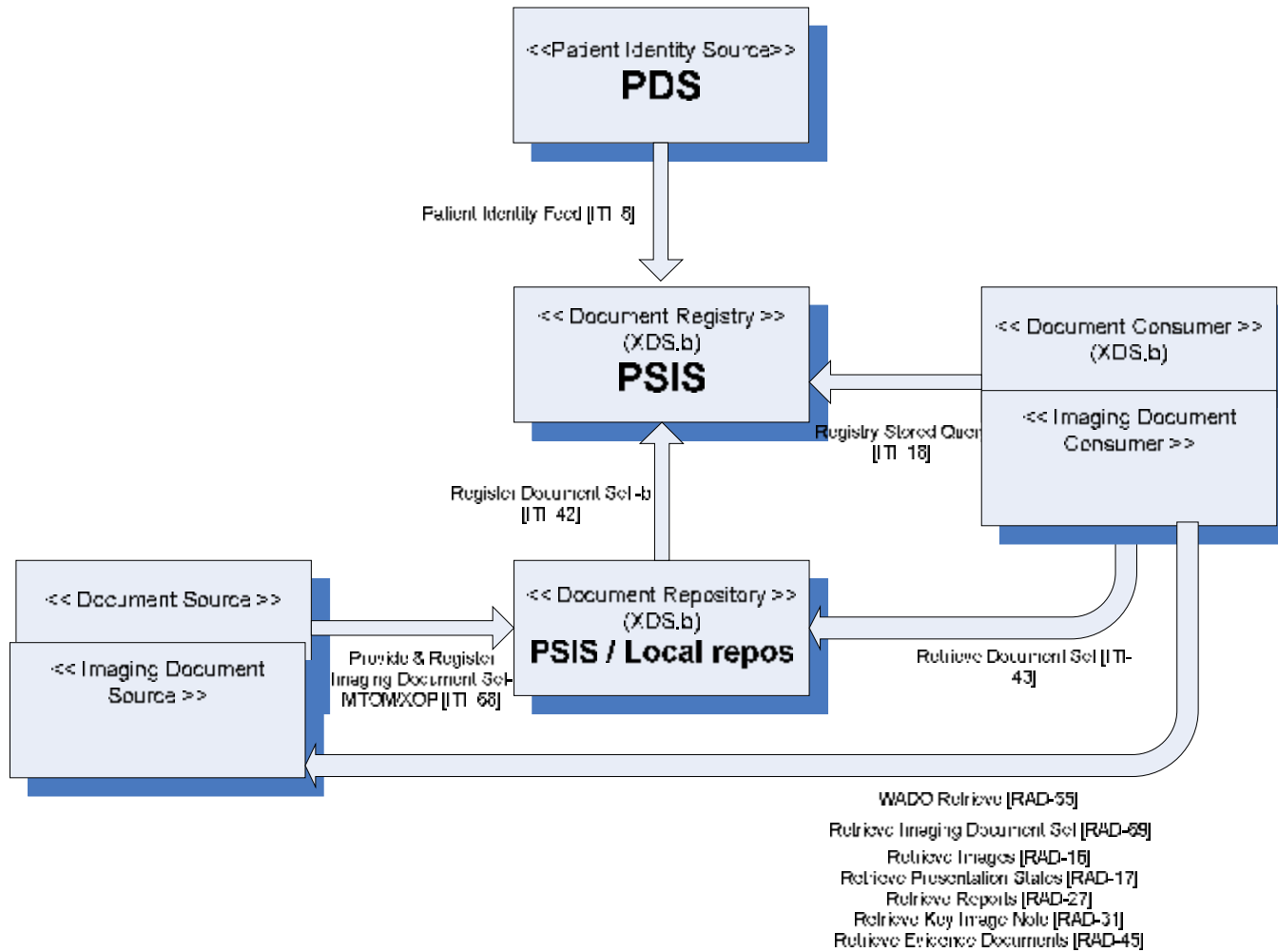
# What the Spine can do now for PACS

- Support for Diagnostic Image report
- PACS functionality working but not used beyond pilots
- Not really suitable for carrying reference to images so could not support XDS-I or XDSI-like functions.

# What does XDS-I require?



# Overlap with Spine subsystems?



# PSIS as a Registry

- PSIS stores documents
- Includes indexed meta data
- The PSIS and XDS information models have somewhere between **40-60%** overlap
- Submission sets
- Folders?

Mapping	XDS Document	XDS Submission Set	XDS Folder	Overall
---------	--------------	--------------------	------------	---------

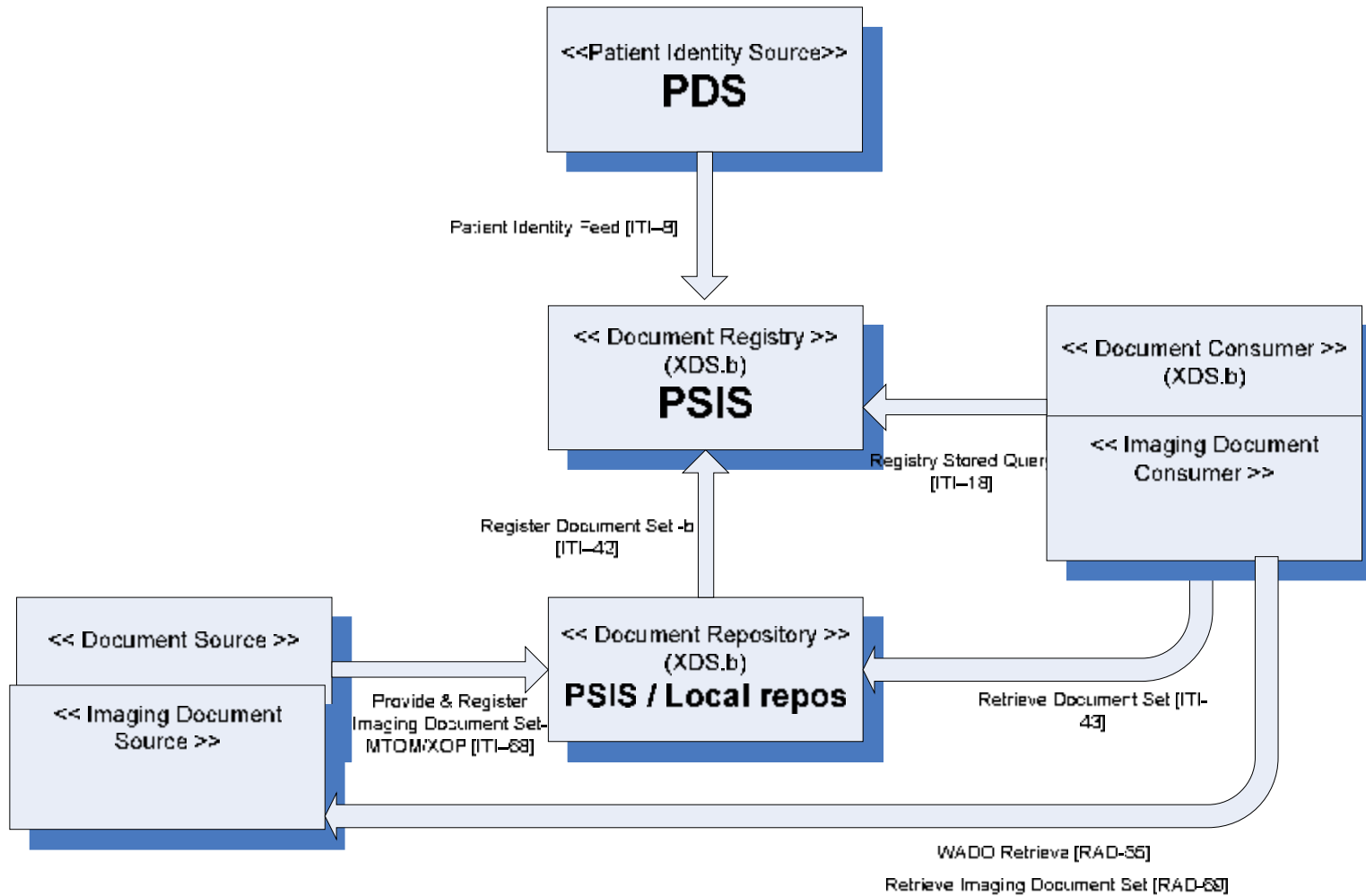
<b>Total Records</b>	41	18	11	70
<b>No mapping</b>	44%	44%	36%	43%
<b>Potential mapping</b>	15%	11%	18%	14%
<b>PSIS / XDS equivalence</b>	41%	44%	45%	43%

<b>Mandatory Elements</b>	23	10	8	41
<b>Mandatory Elements: No mapping</b>	39%	40%	38%	39%
<b>Mandatory Elements: Potential mapping</b>	22%	20%	25%	22%
<b>Mandatory Elements: PSIS / XDS equivalence</b>	39%	40%	38%	39%

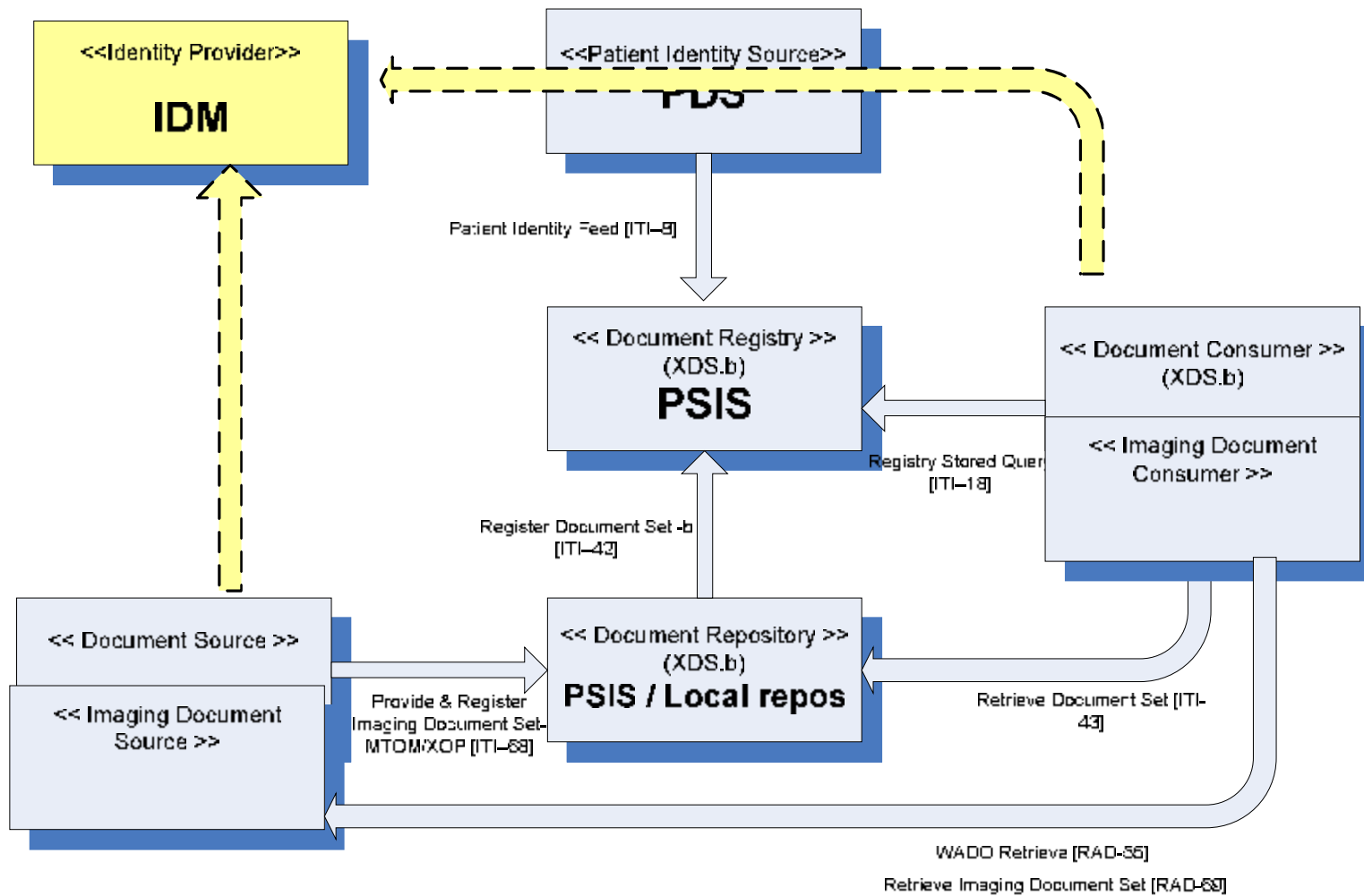
## Gaps summary

- IHE intentionally remains quiet on some aspects of implementation
- Some work ongoing
- Some areas different due to current national programme infrastructure
- Some areas additional for a nation wide affinity domain

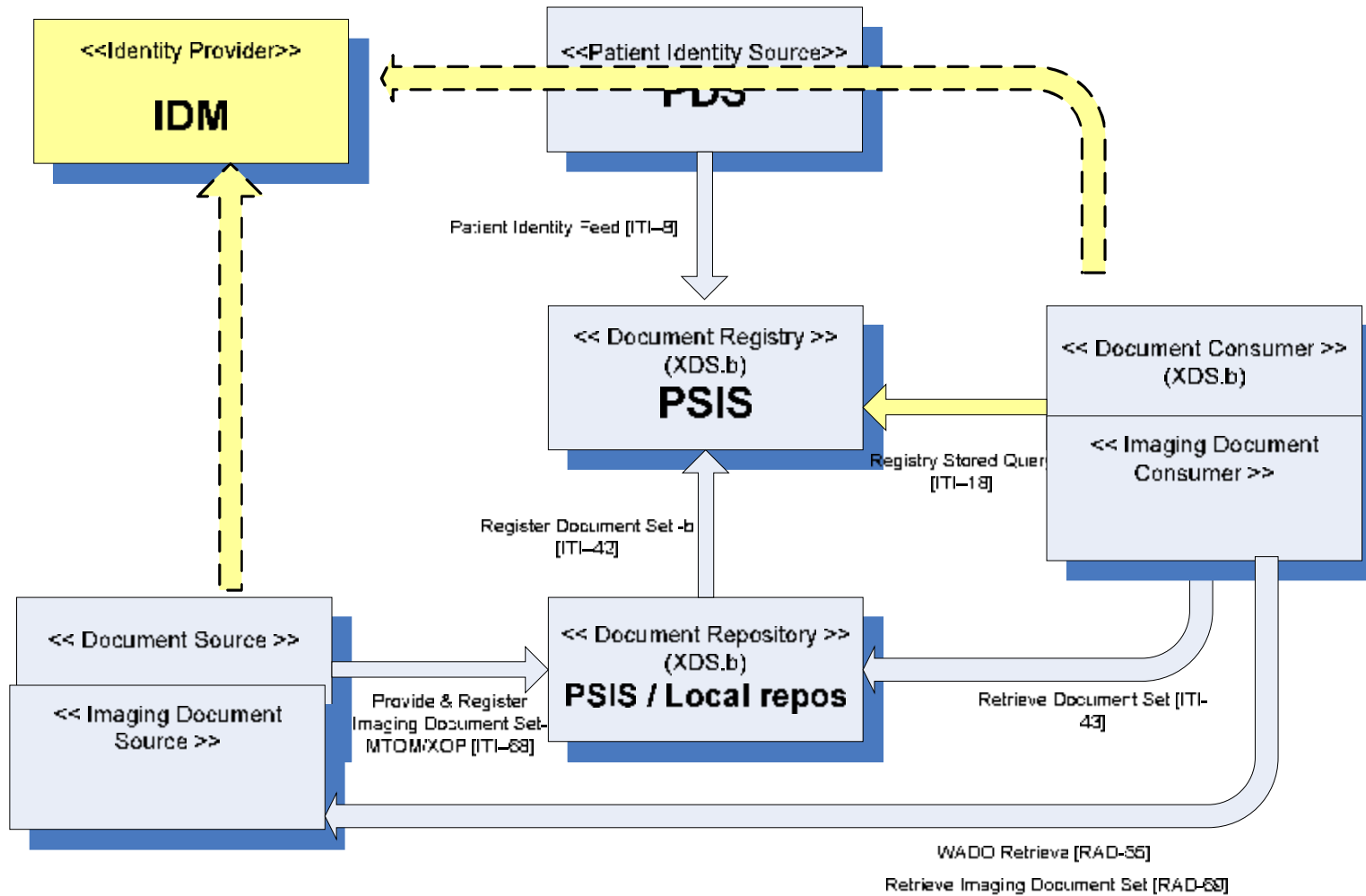
# Basic XDS picture: the user journey



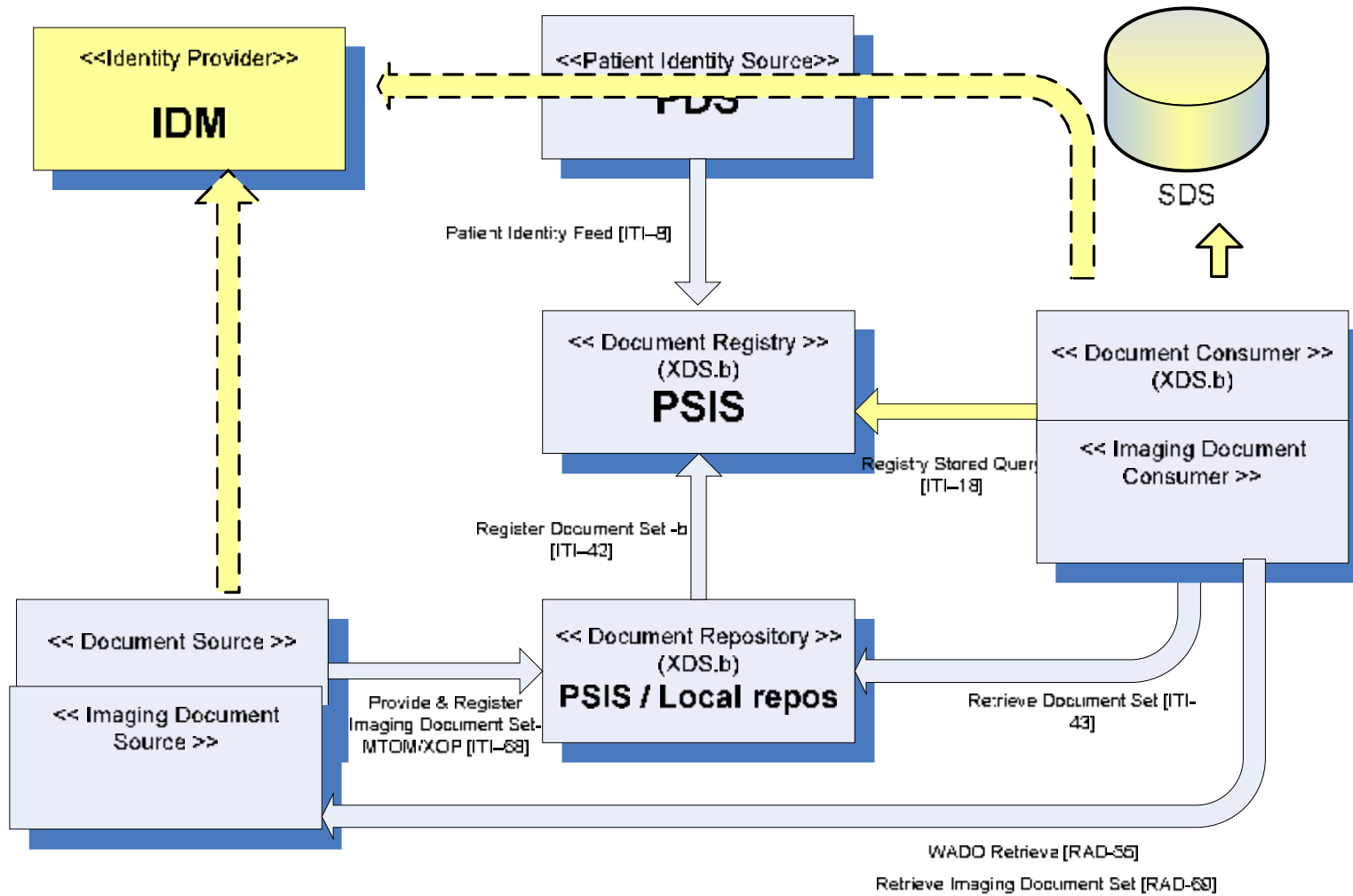
# Authenticate the user



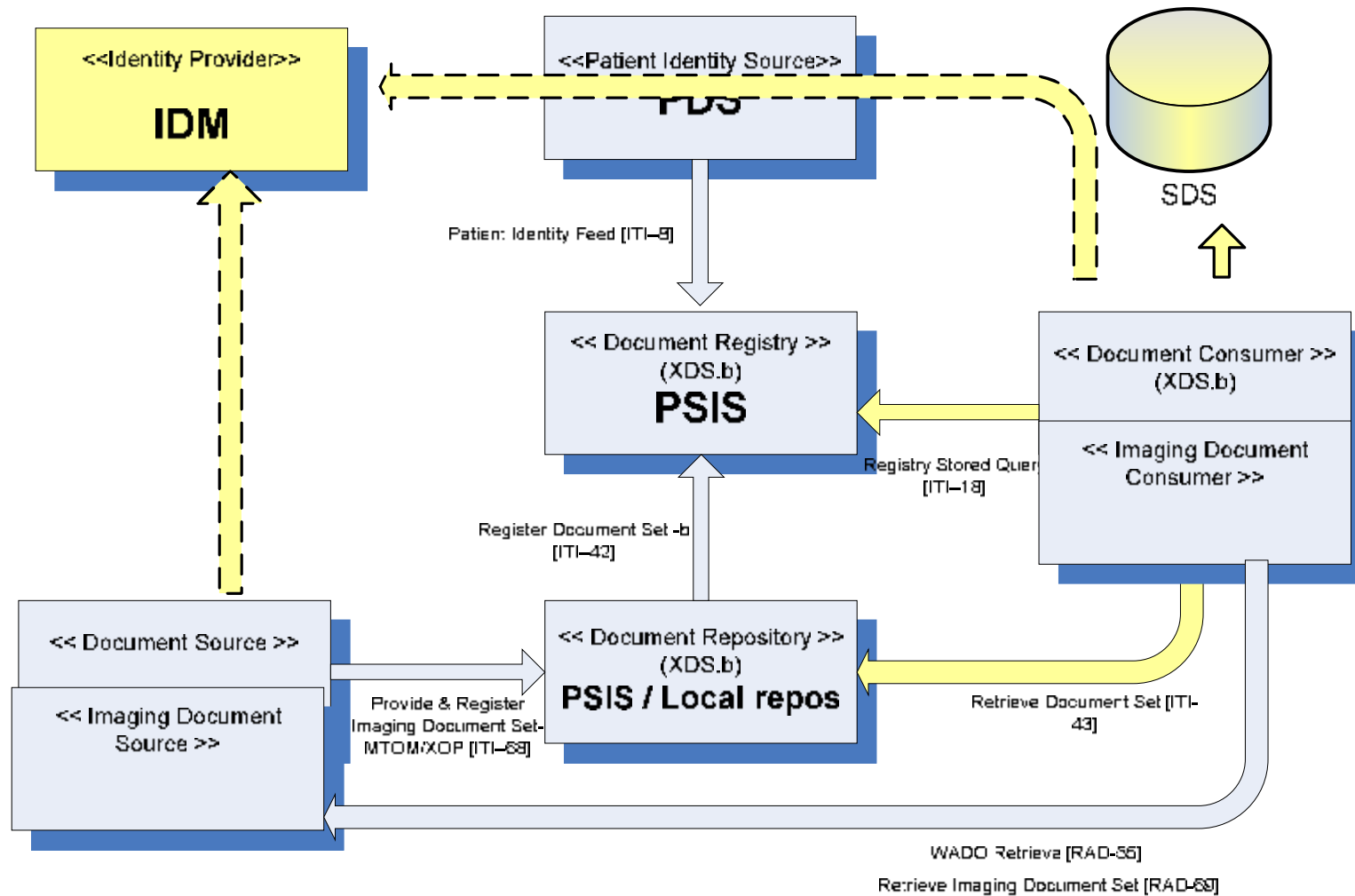
# Locate document using registry (with authorisation)



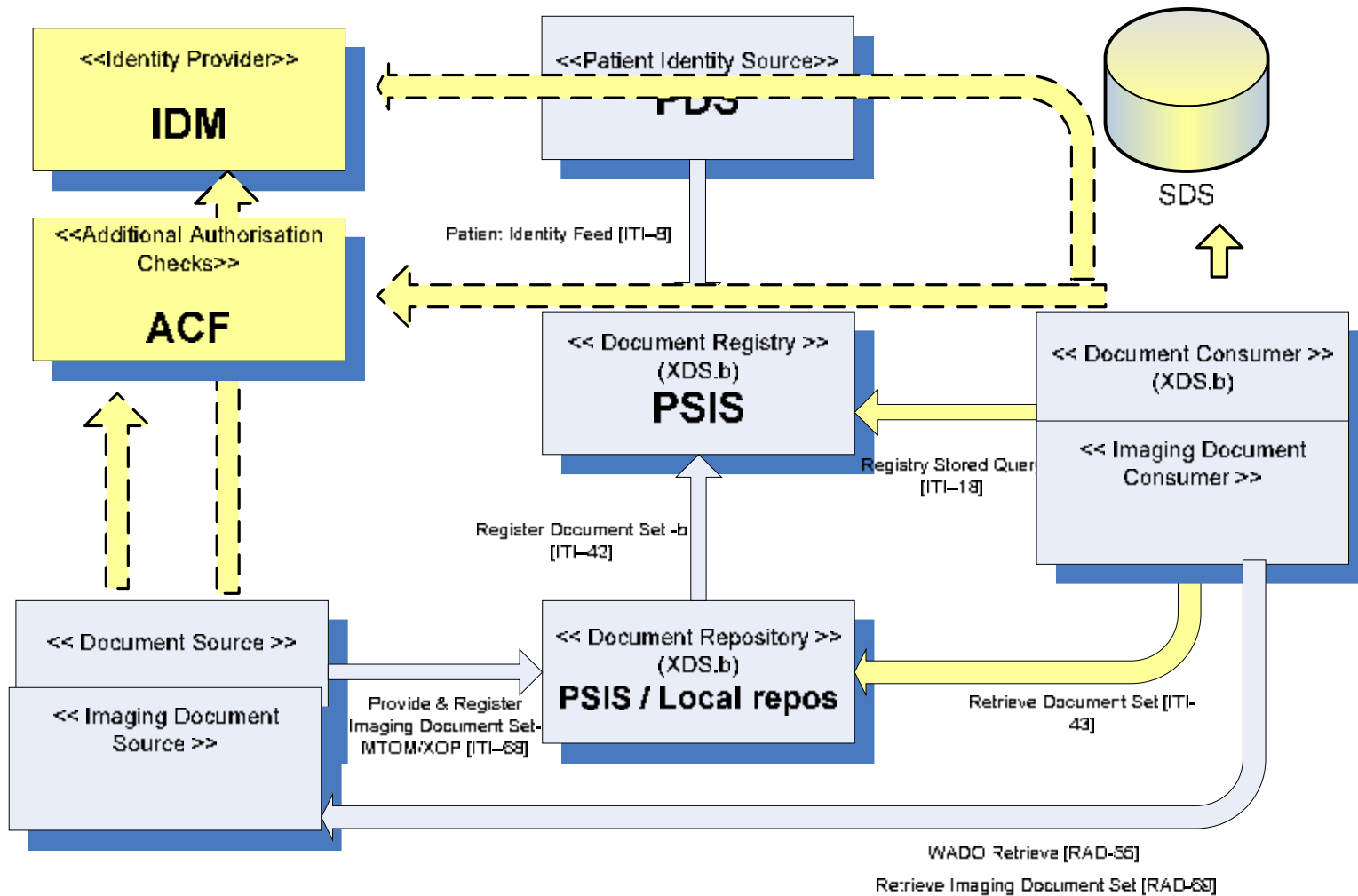
# Resolve repository location



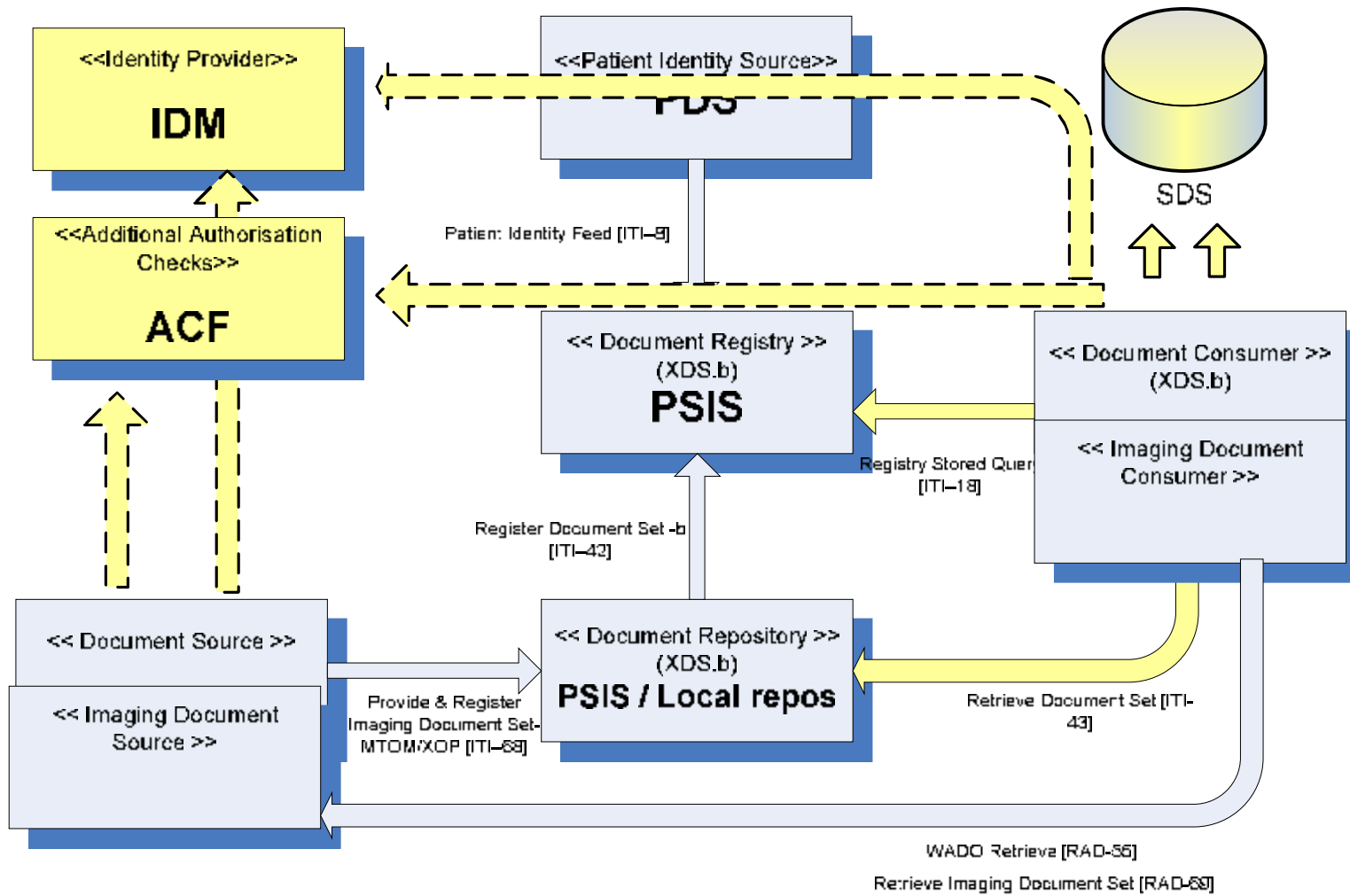
# Retrieve document from repository (with authorisation)



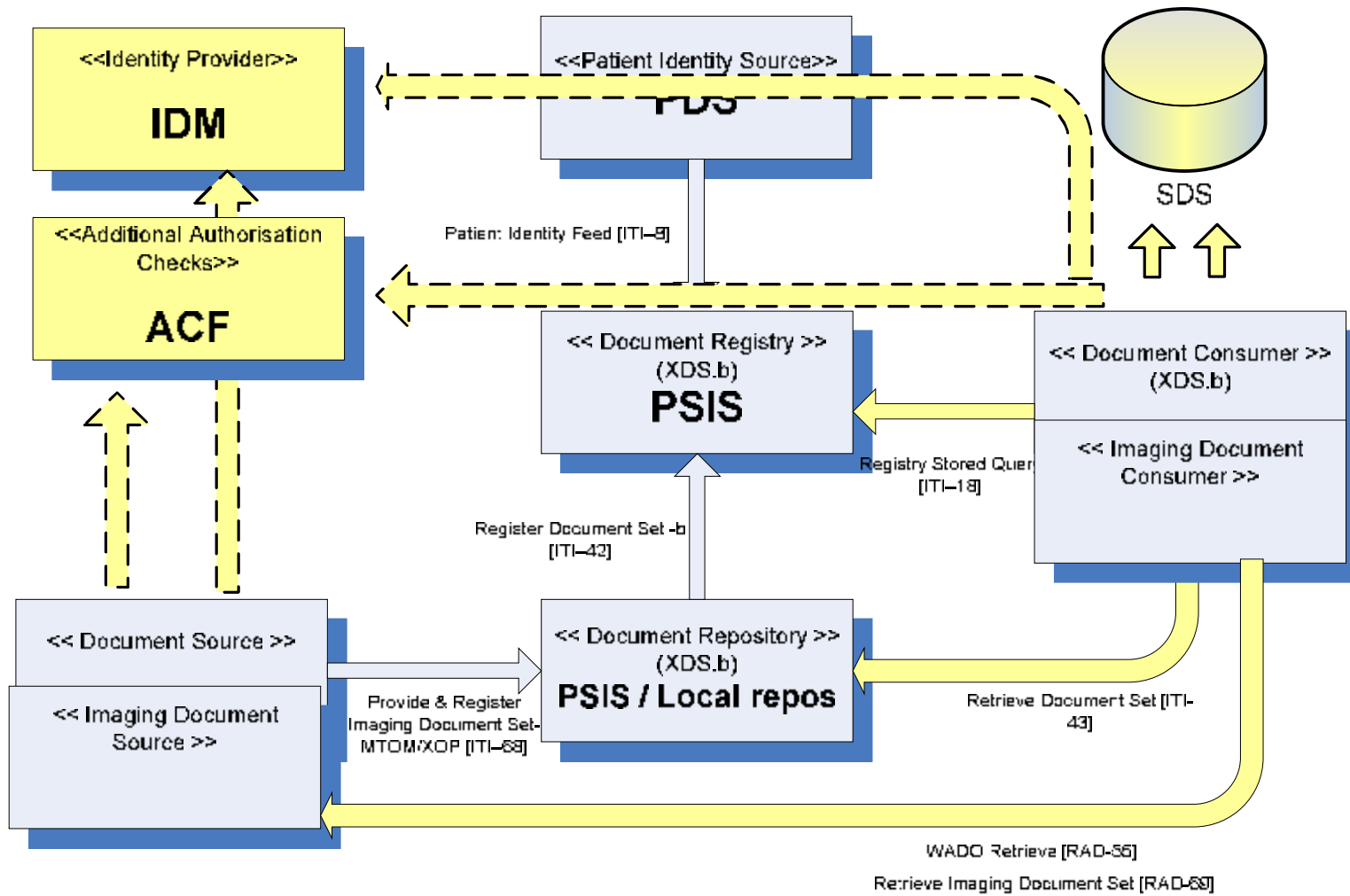
# Other security checks (for care record guarantee)



# Resolve image document source location



# Retrieve image document (with authorisation)



# Conclusions

- There remain challenges to the introduction of a national XDS-I implementation
  - IHE/XDS describes a framework
  - Significant areas still to be specified and built
  - Still maturing without universal supplier buy-in
- Spine provides a “general” fit
  - Maps to IHE functionality –“actors”
  - Can provide an answer to some of the “IHE gaps”
  - Would allow integration to current national solution
- Issues of scale remain
  - Business and technical



Bringing it all together