Interoperability in The European Library

'the devil is in the details'

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The European Library

➲**A *hybrid* portal**

– Different libraries demand different communication protocols to access their collections

– Overlapping techniques/protocols are used to connect from the portal to the different libraries and return results from the users queries to the browser

the techniques / protocols used

http://www.domain.com**?**operation=searchRetrieve**&**query=einstein

⮎**SRU** (**S**earch **R**etrieve via **U**rl)

– Default search/retrieve protocol
– SRU enabled libraries are queried directly using this protocol

the techniques / protocols used

➲ Z39.50

– Libraries with Z39.50 systems are queried through a Z39.50/SRU gateway:

- Central gateway (housed on our server)
- Local gateway (housed on remote server)

– Translates SRU requests to Z39.50 session

– Character-set conversions

– Provide on-the-fly addition of information to Z39.50 record (e.g. base URL for linking to records)
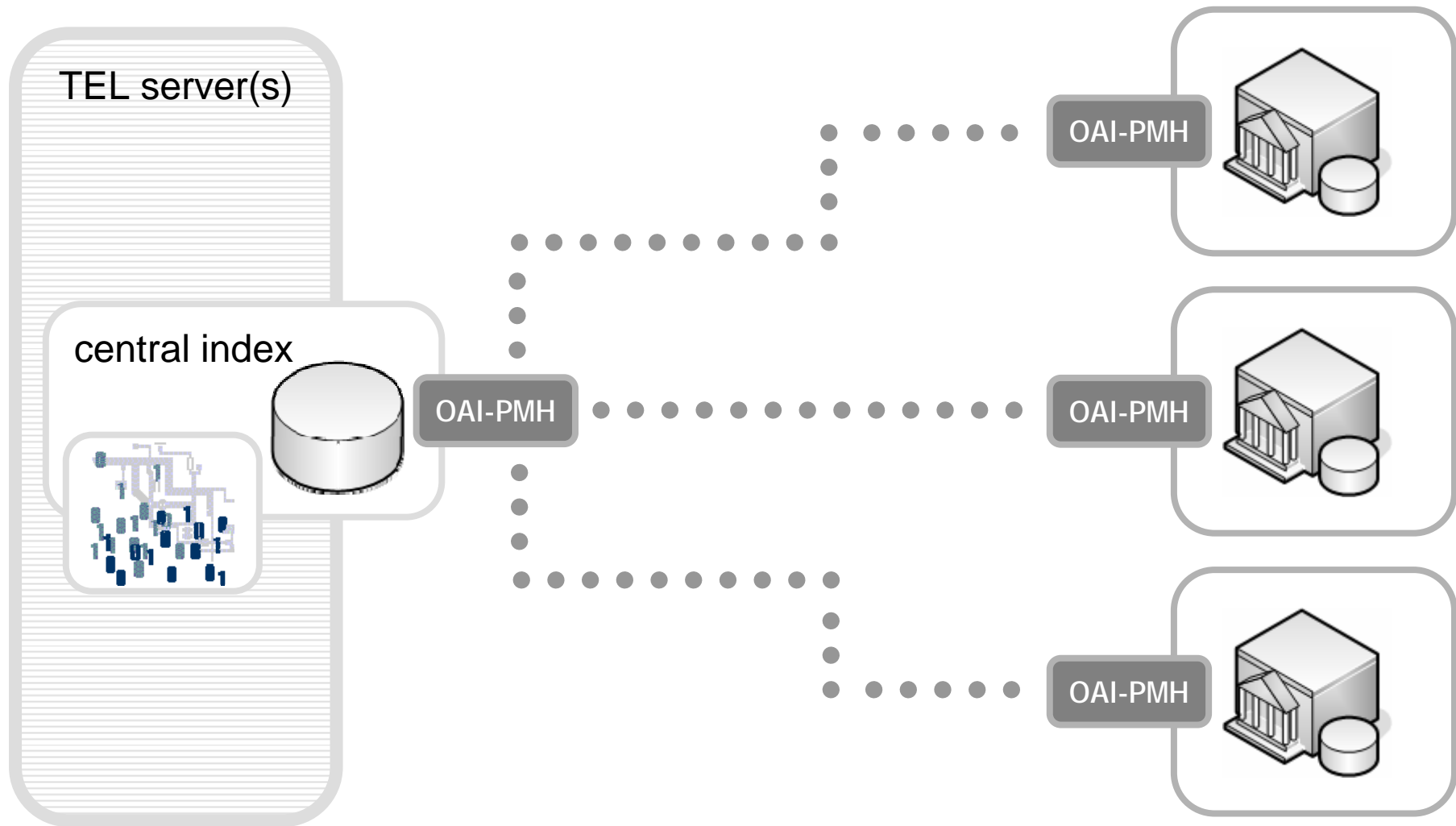
⮑AJAX (Asynchronous Javascript And Xml)

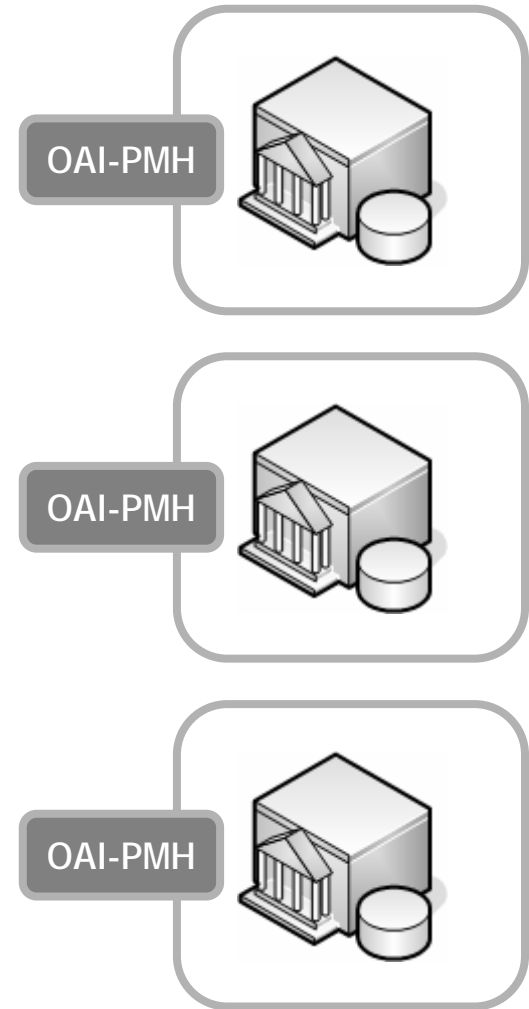- Allows for browser page to be updated with returned data from a query without reloading the page
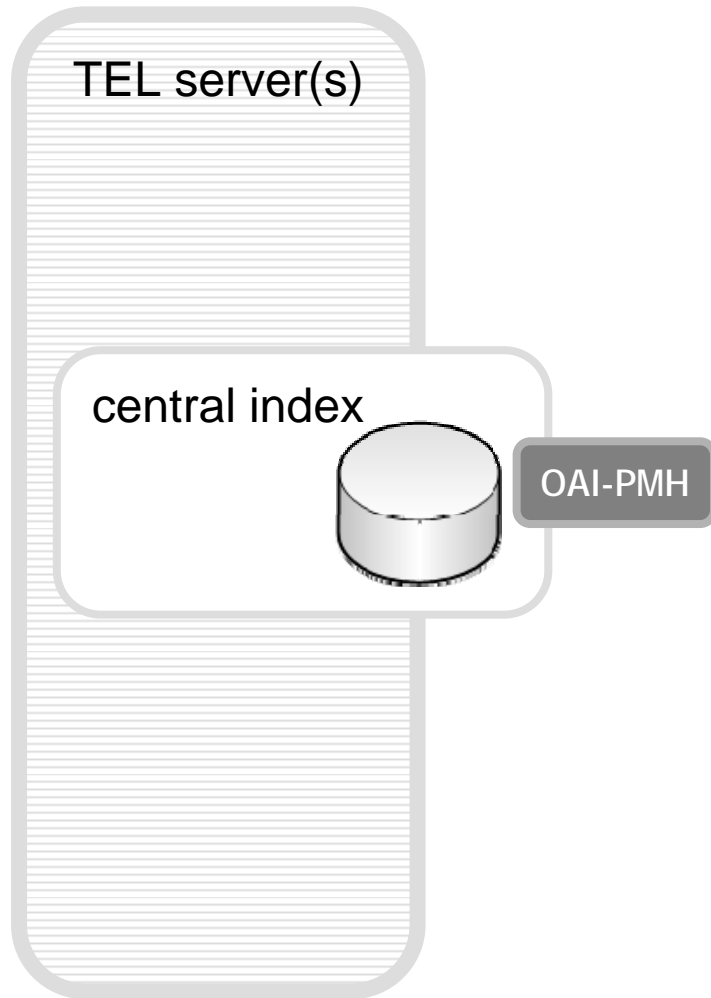- All searches are executed from within the browser and directed towards multiple targets using this technique
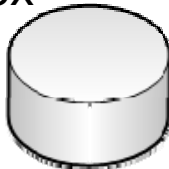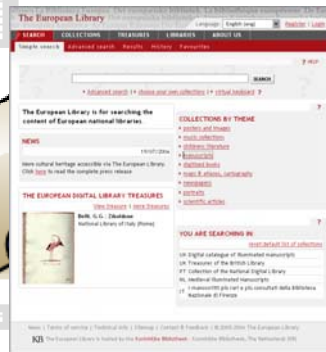
Harvesting via OAI-PMH
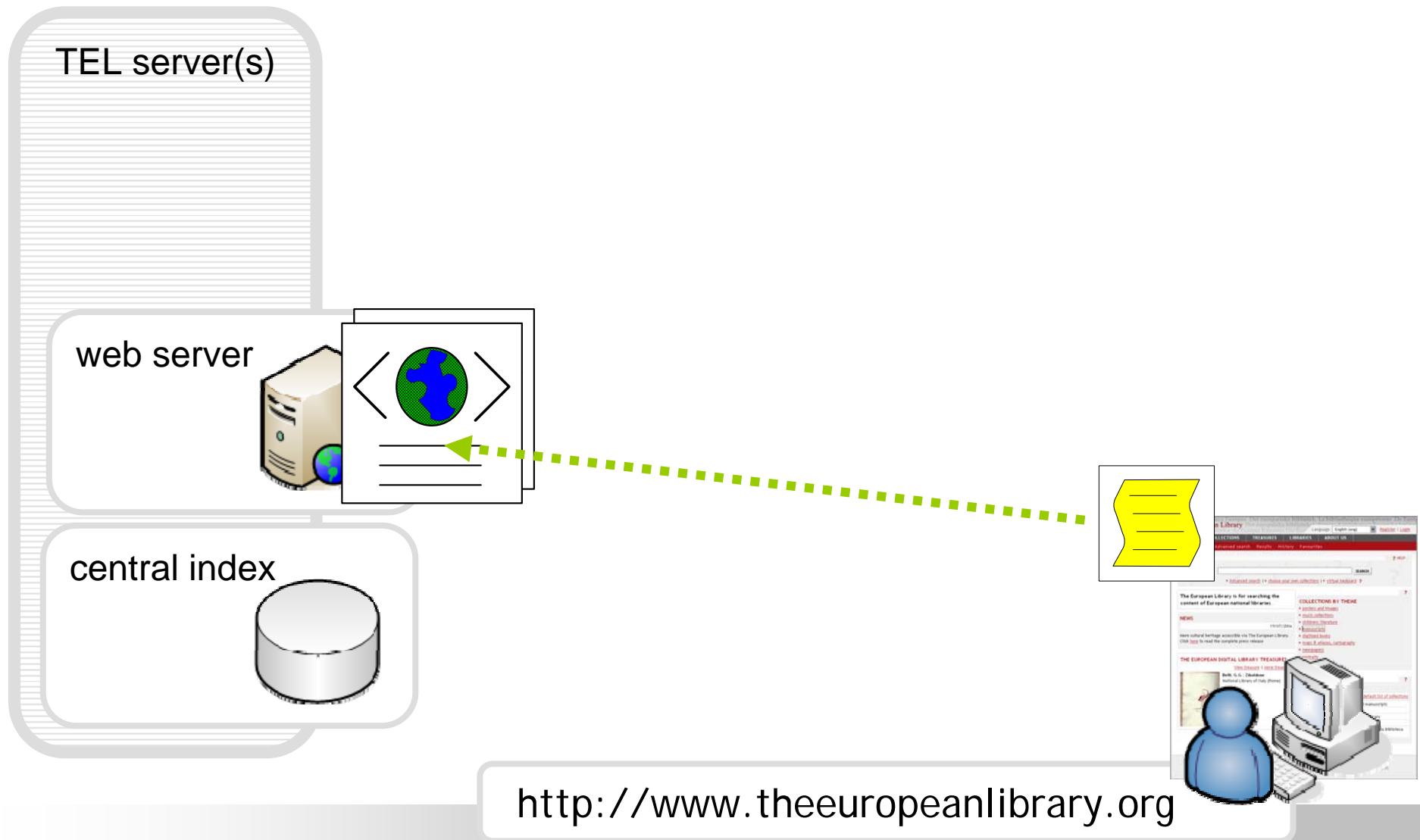
Harvesting via OAI-PMH

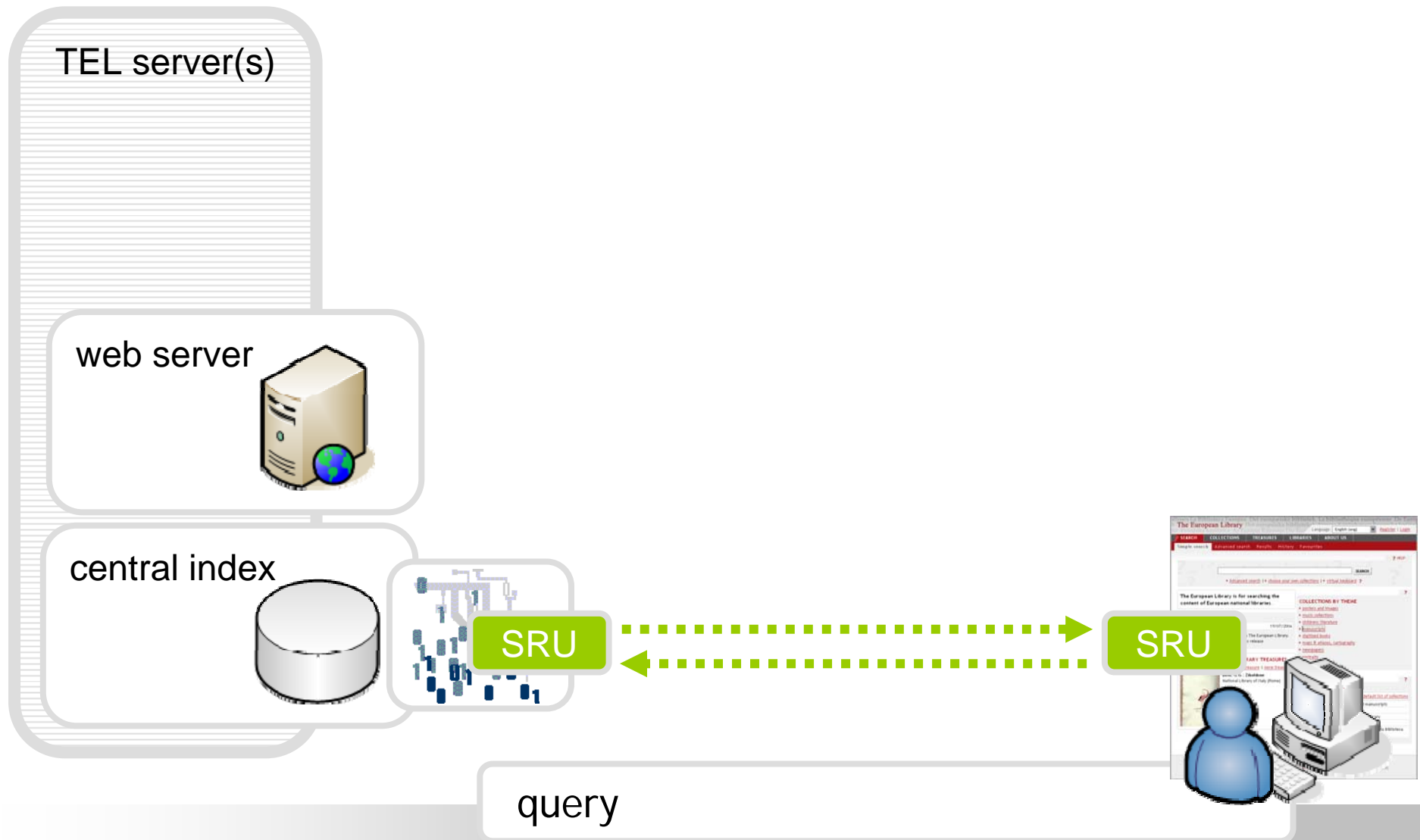# Loading the portal

TEL server(s)

web server

central index

http://www.theeuropeanlibrary.org

Loading translations and collections

TEL server(s)

web server

central index

http://www.theeuropeanlibrary.org

Search/retrieve – central index

TEL server(s)

web server

central index

SRU

SRU

query

Search/retrieve – SRU enabled library

TEL server(s)

web server

central index

SRU

SRU

query
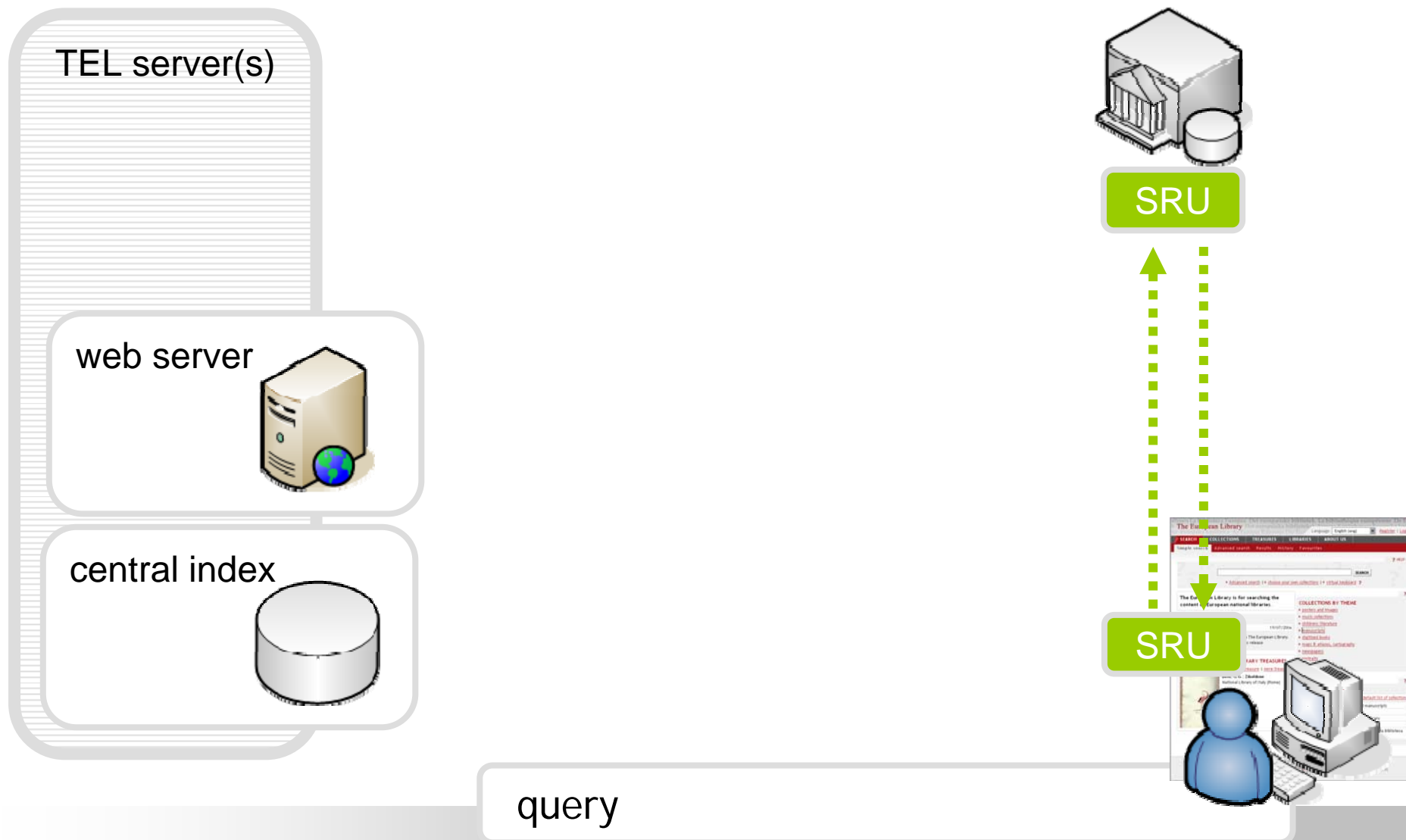
Search/retrieve – central gateway

TEL server(s)

central Z39.50 gateway

SRU

Z39.50

SRU

web server

central index

SRU

query
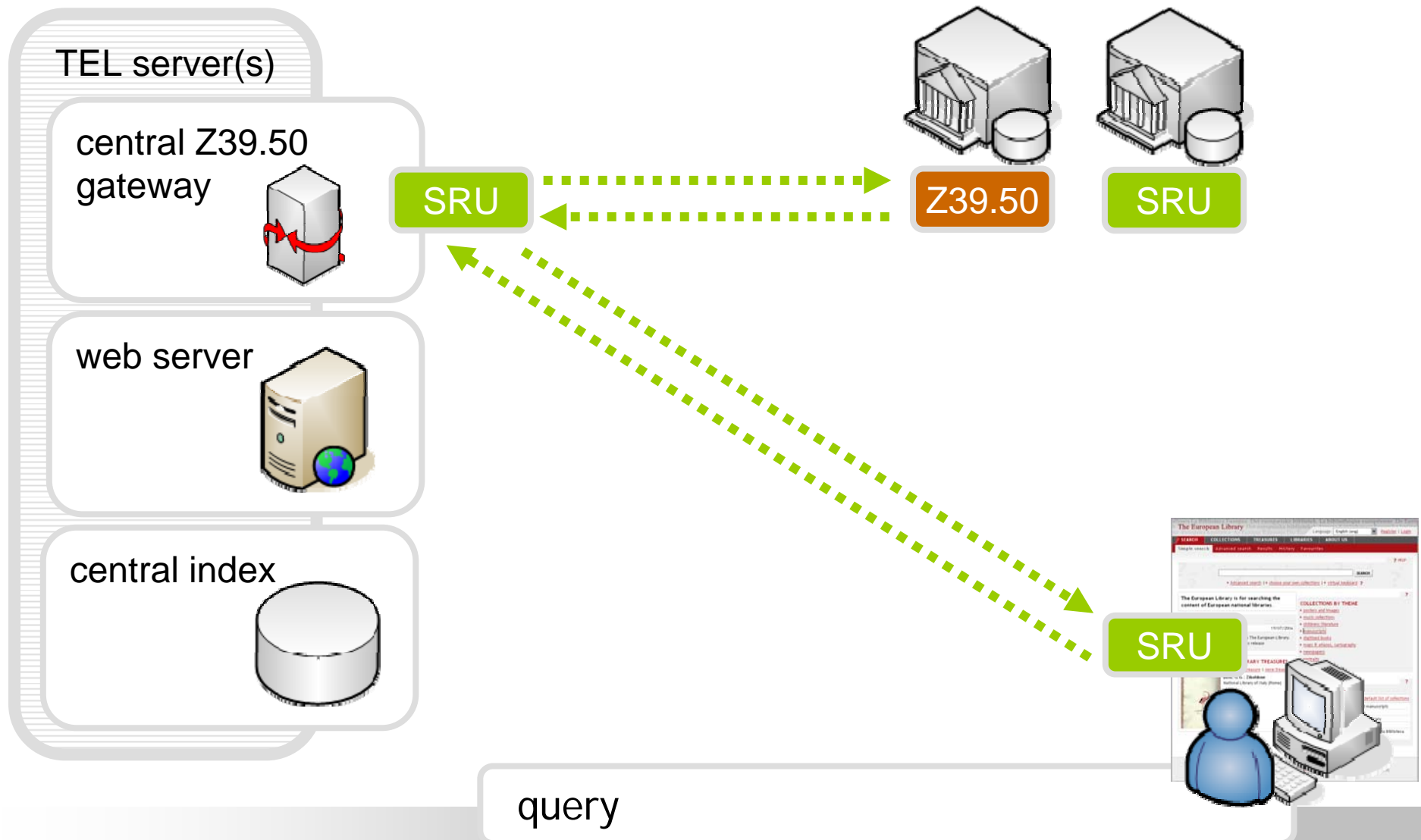
Search/retrieve – local gateway

TEL server(s)

central Z39.50 gateway

SRU

web server

central index

Z39.50

Z39.50

SRU

SRU

SRU

query
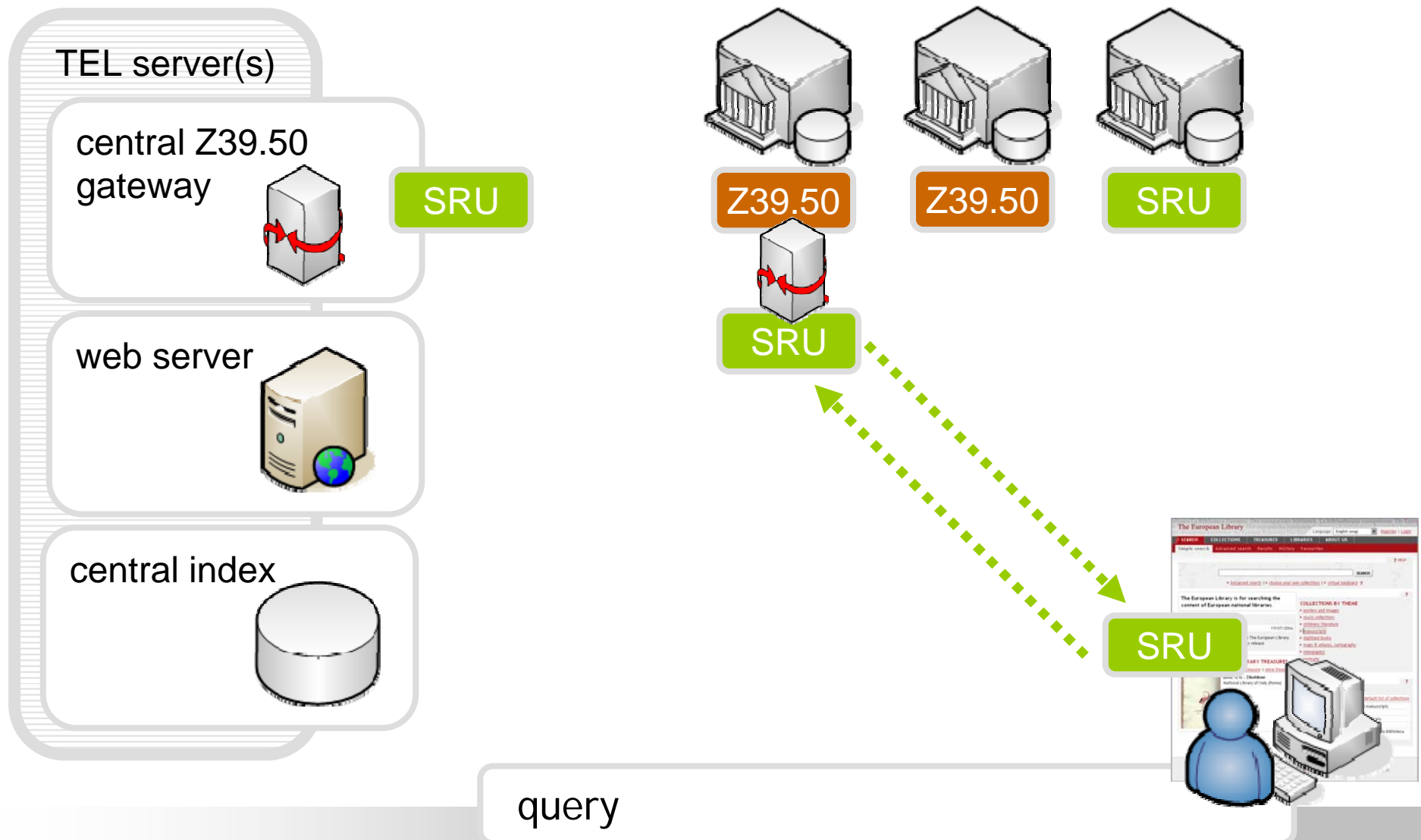
Search/retrieve – all at once!

TEL server(s)

central Z39.50 gateway

web server

central index

SRU

Z39.50

Z39.50

SRU

SRU

SRU

SRU

query

Distribution of protocols

21 Libraries

238 Collections   150 searchable   88 browse only
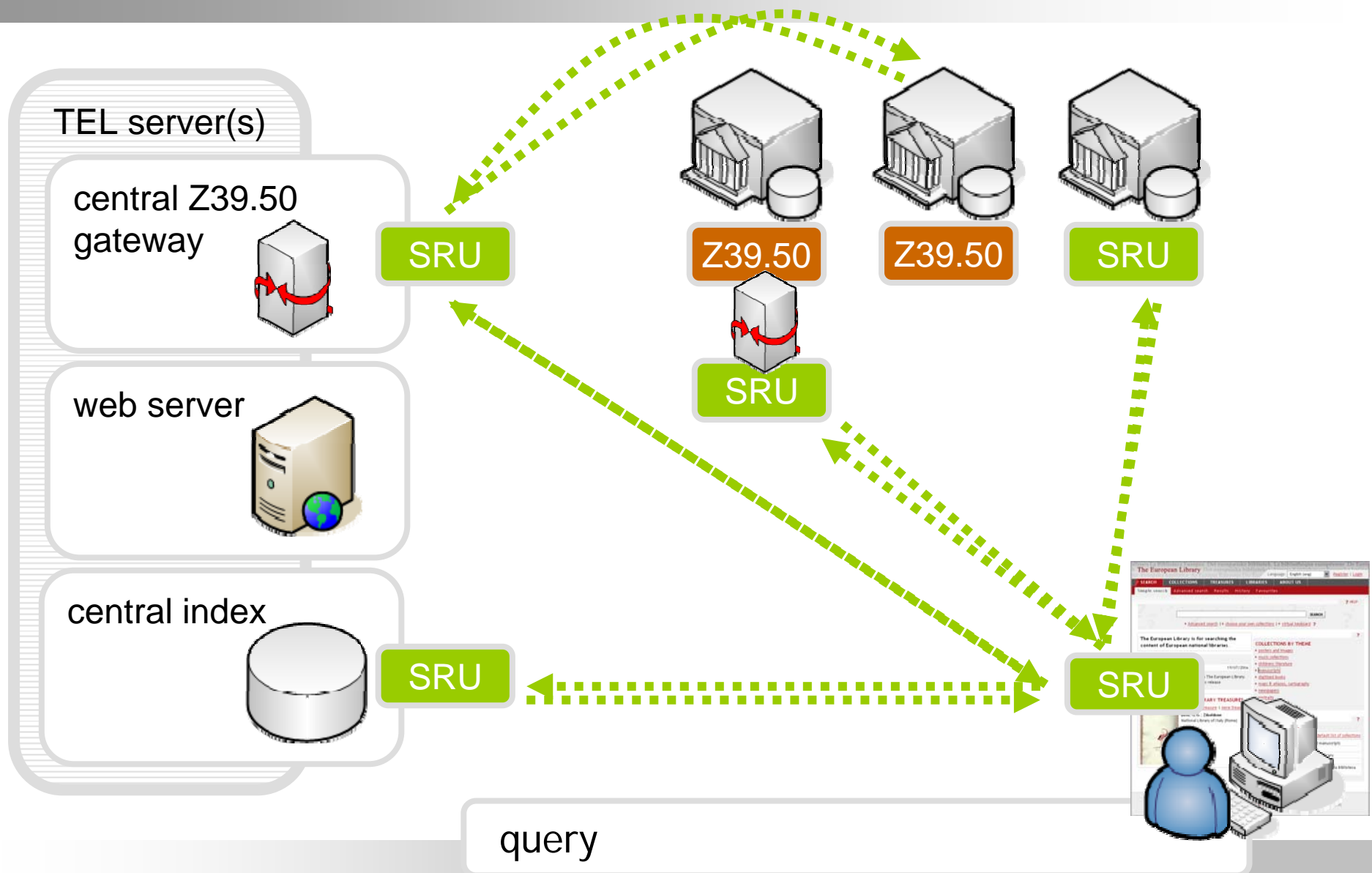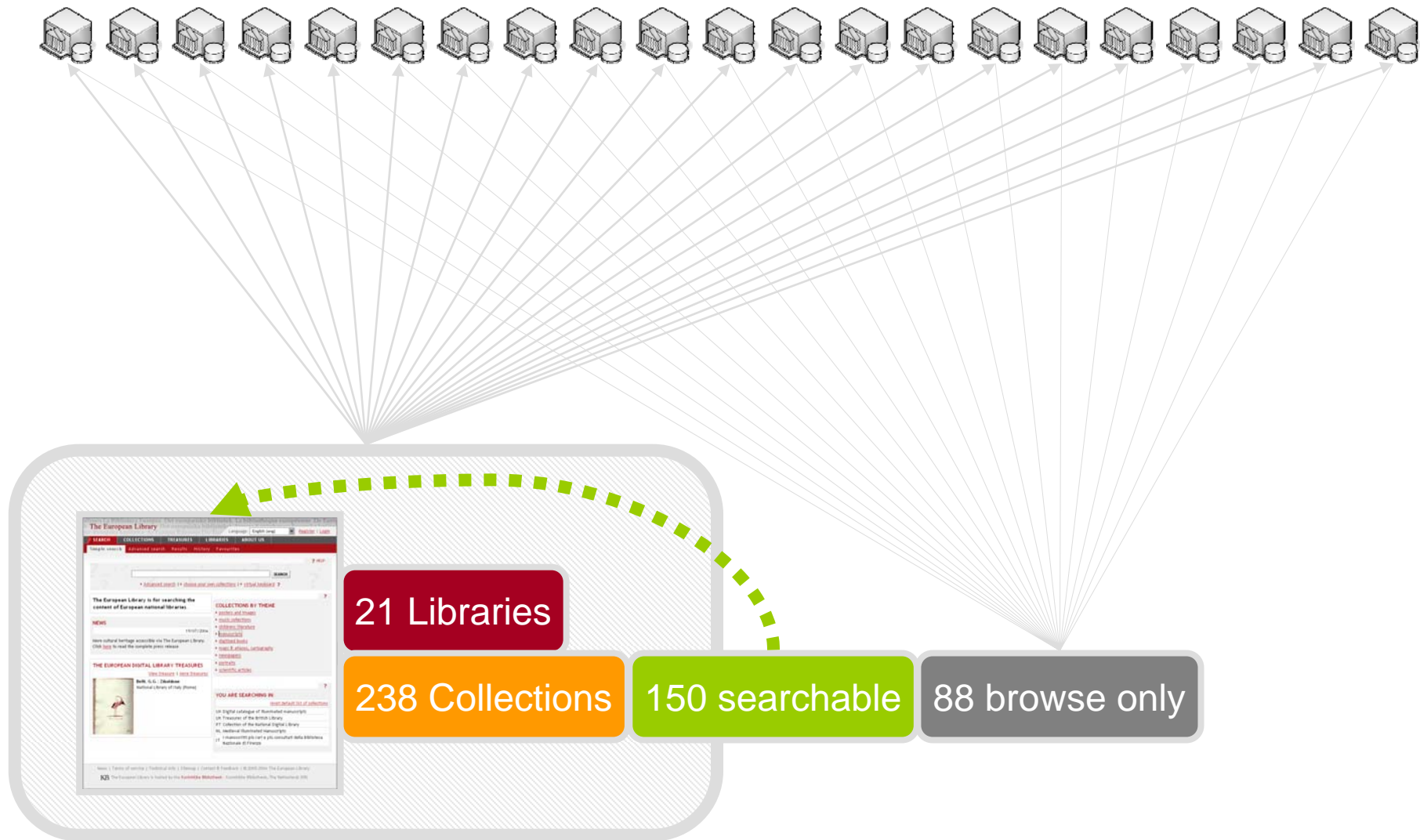
Distribution of protocols
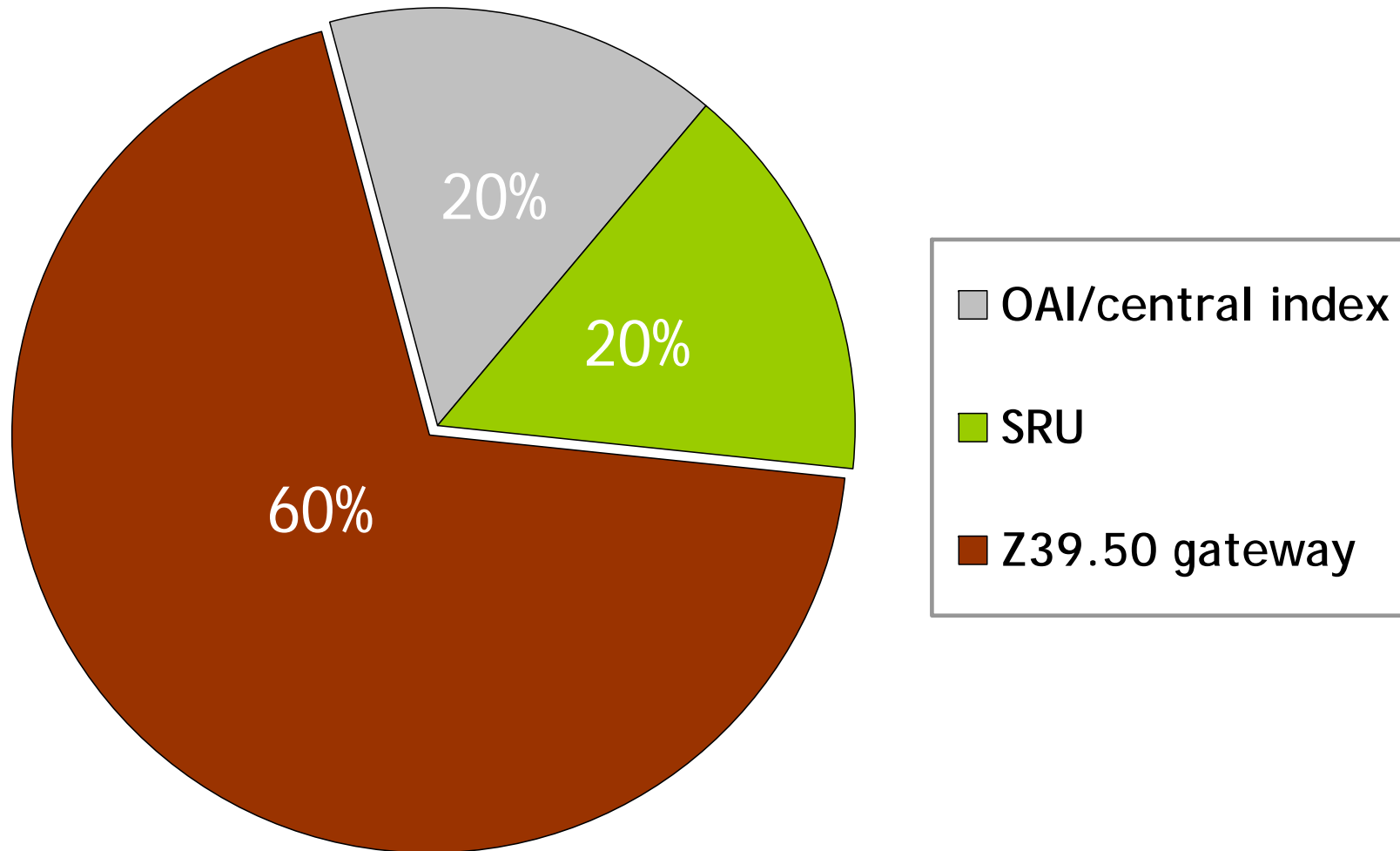
Different levels of Interoperability

➲ **Basic federated interoperability**

– TEL application profile for applications is the largest set of common metadata fields that trigger functionality in the portal

– Allows libraries with wide-ranging metadata formats (e.g. *MARC*) to be uniformly queried.

– Works fine for basic disclosure

– Portal interface translations, currently 21 languages are supported

Why is the devil in the details?

➲ There is almost no homogeneity in the ca. 250 collections in, for example:

- Metadata formats
- Subject headings
- Normalisation rules
- Cataloguing schemes
- Languages (ca 30 languages by the end 2007)
- Encoding schemes (additionally problems with composed and decomposed unicode characters)
- Etc.

Different levels of Interoperability

➲ Focus fields for more fine-grained interoperability in 2007 in the portal:

- Target adaptive normalisation

- better handling of composed vs. decomposed unicode glyphs

- better handling of target-specific non-unicode character encoding requirements

- Multi-lingual subject access

- Mapping of various cataloguing schemes to provide unified access for the user on record level

- Multi-lingual search in free text fields (from any to all)

➲ How?

– Collection specific or target aware Query construction?

Thank you !
www.theeuropeanlibrary.nl

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