Design and Implementation of National Spatial Data Clearinghouse for Iran

Dr.Ali.A.Alesheikh, Ehsan Mohammadi
KNT University of Technology

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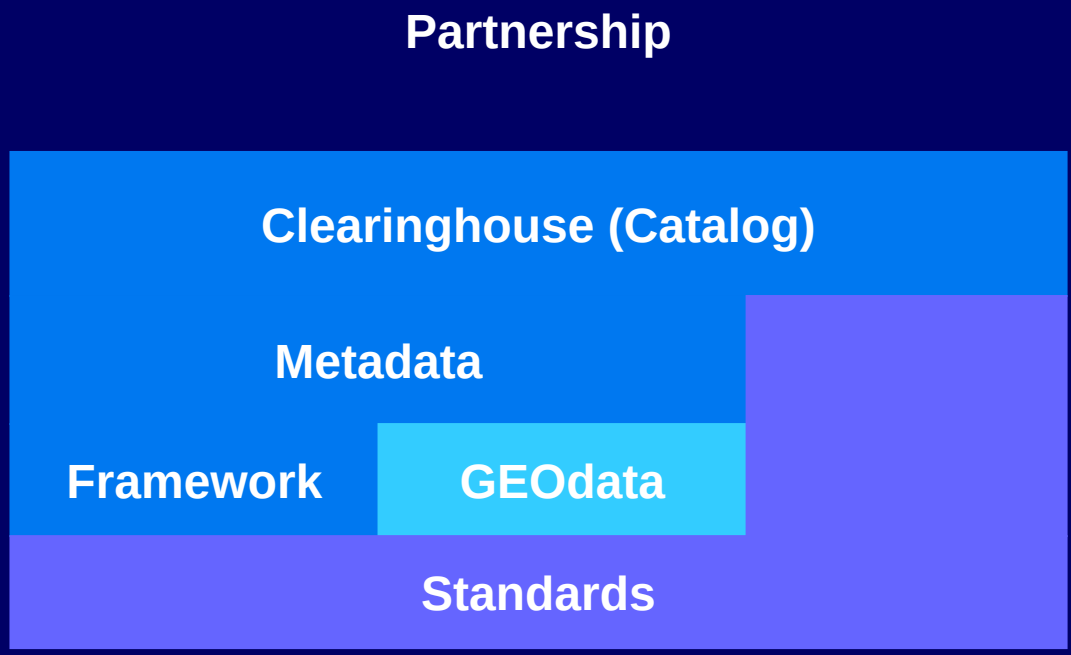
Logical Structure of SDI



What is Clearinghouse?

- Distributed service to locate geospatial data based on their characteristics expressed in metadata
- Clearinghouse allows one to pose a query of all or a portion of the community in a single session
- Like a spatial Google

Clearinghouse Requirements

- Distributed peer network of geospatial data producers and users.
- Key Components of a Clearinghouse Node:
  - Data Documentation (metadata)
  - Networking (Internet)
  - Serving, Searching, and Accessing Software
  - Server Machine to host Software and Data

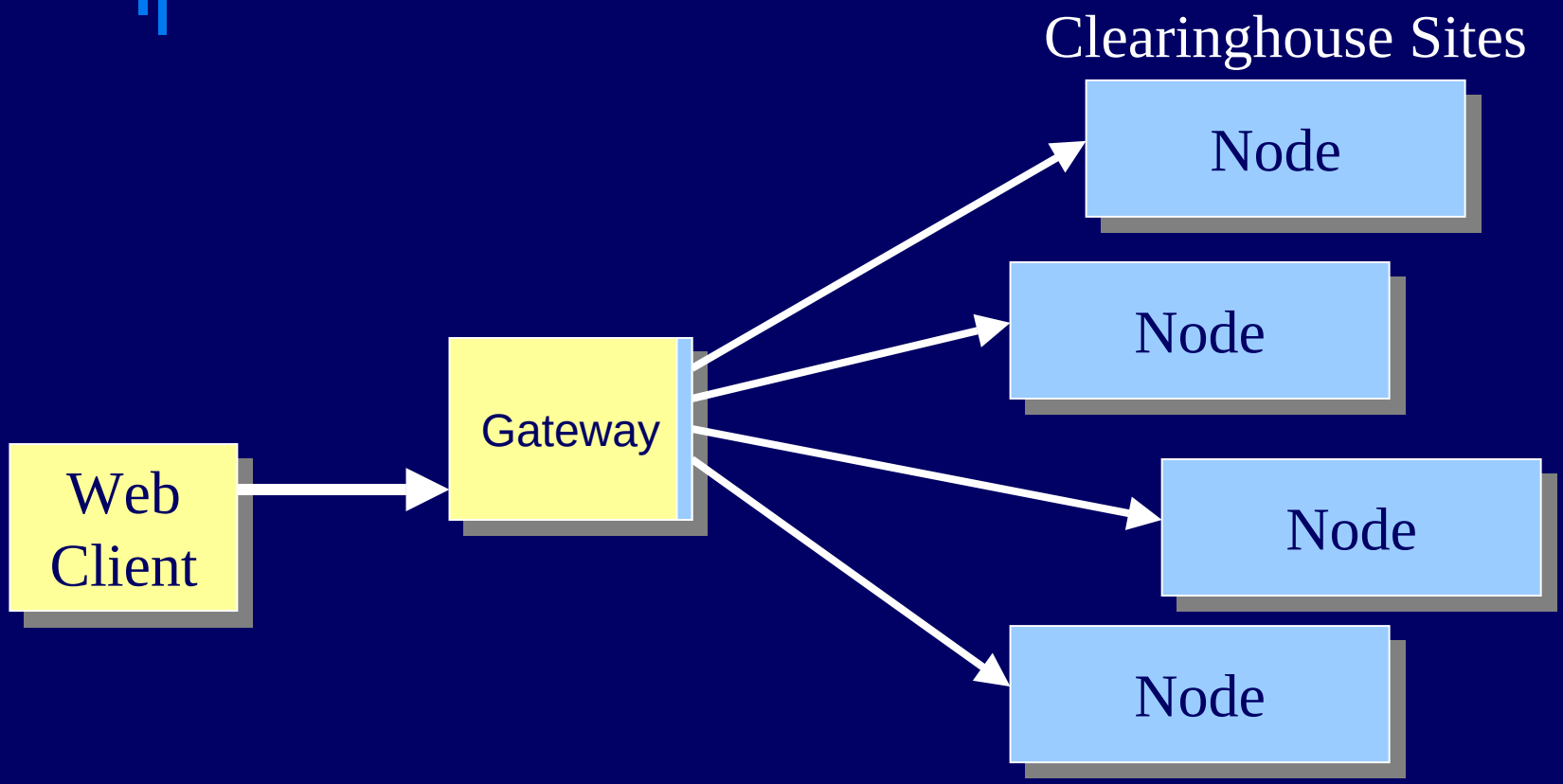
Why do Clearinghouse?

- Minimize duplication of effort in spatial data collection and processing
- Provide means to advertise data collection requirements, inventory, and quality
- Support documentation of basic spatial data sets for advised re-use for internal and external applications

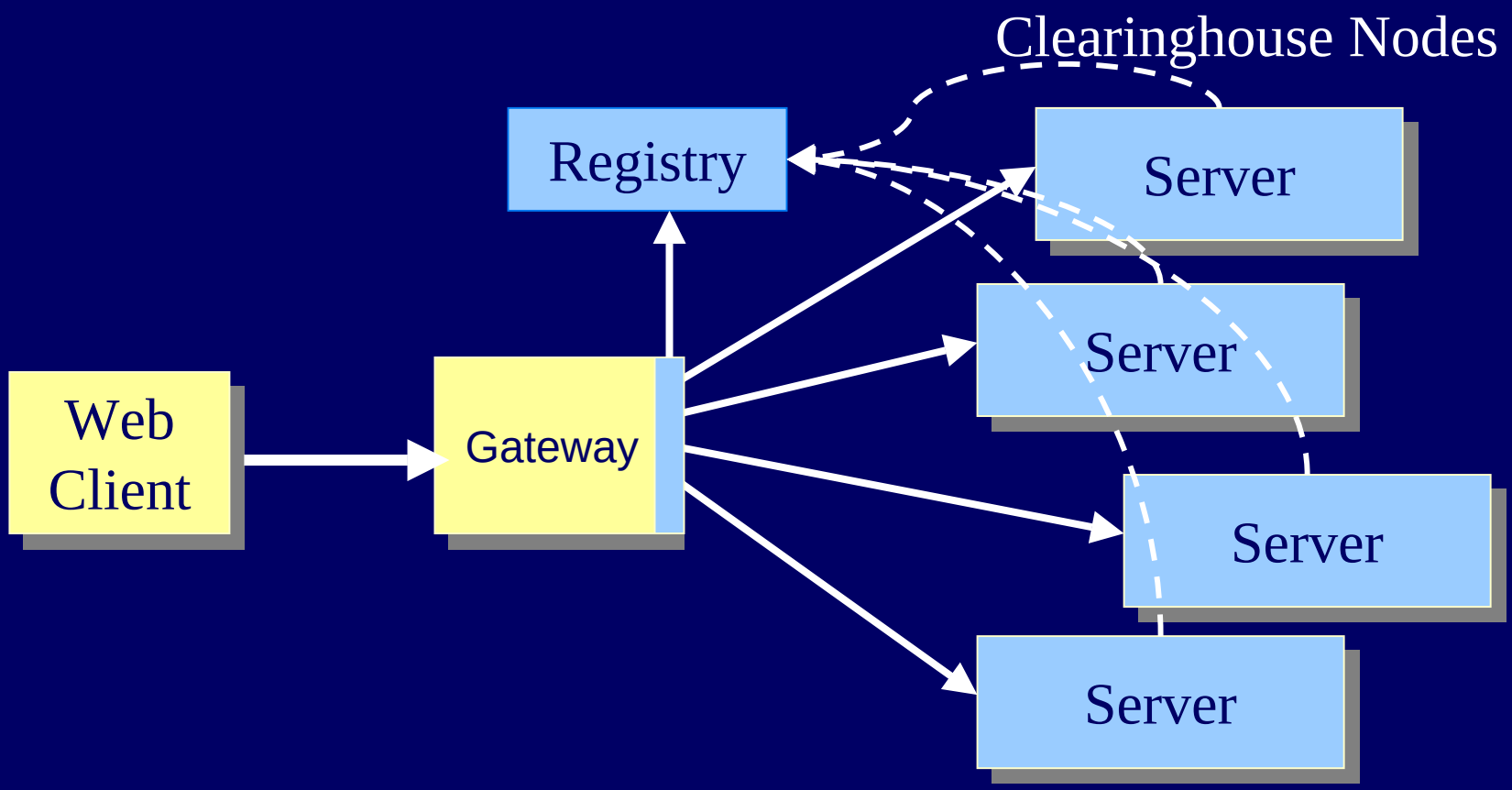
Why not use Web indexes?

- On-line indexes support mostly text search with limited support for concept search
- Search engines do not support fields or other data types by default (date, coordinate, other numeric)
- Some metadata collections are very large and are stored in RDBMS and are therefore not accessible as Web pages for indexing
- Near real-time data collections have dynamic content whereas search engines refresh their indexes on an infrequent basis

Essential Configuration

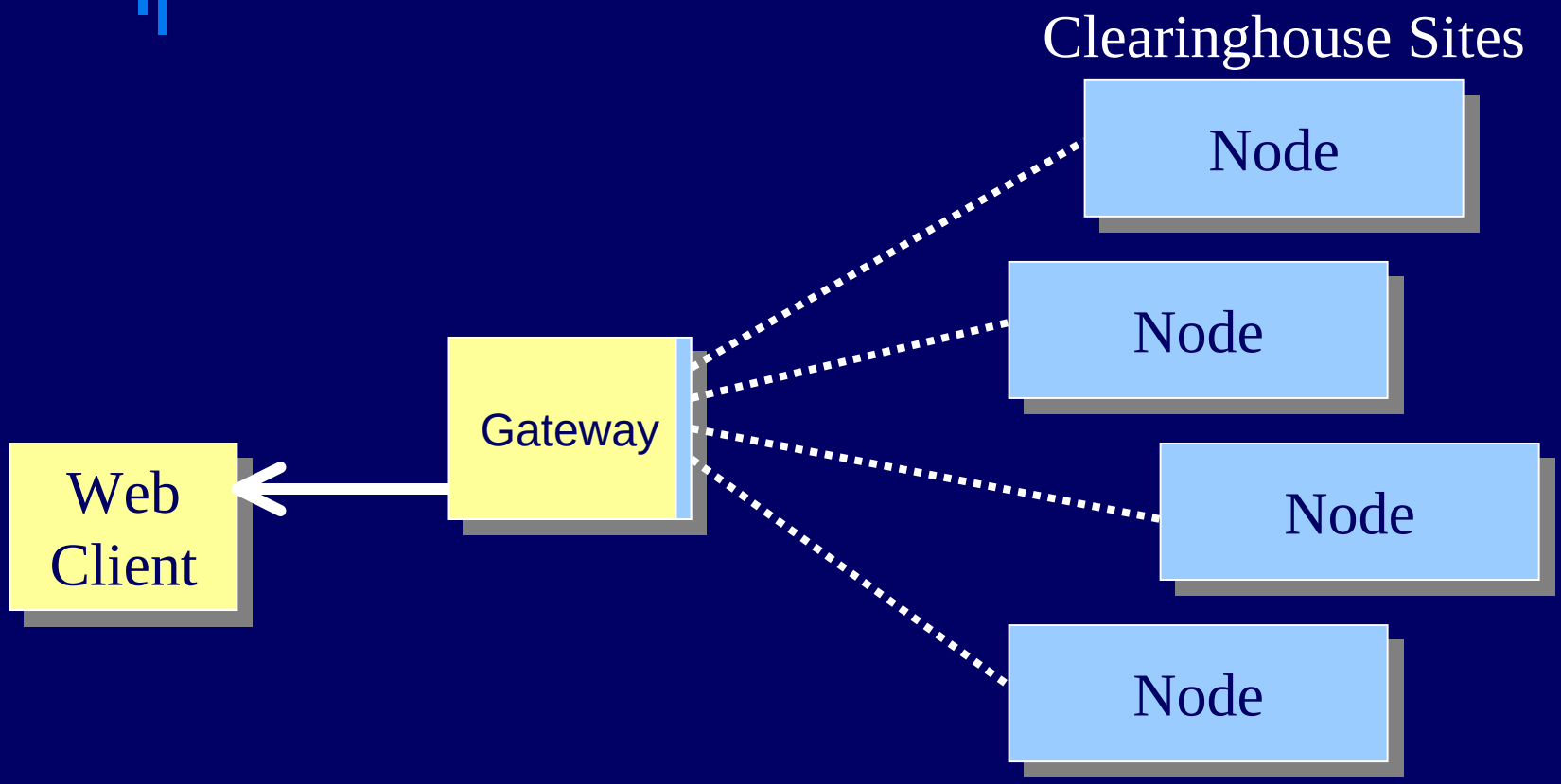


Clearinghouse with Registry

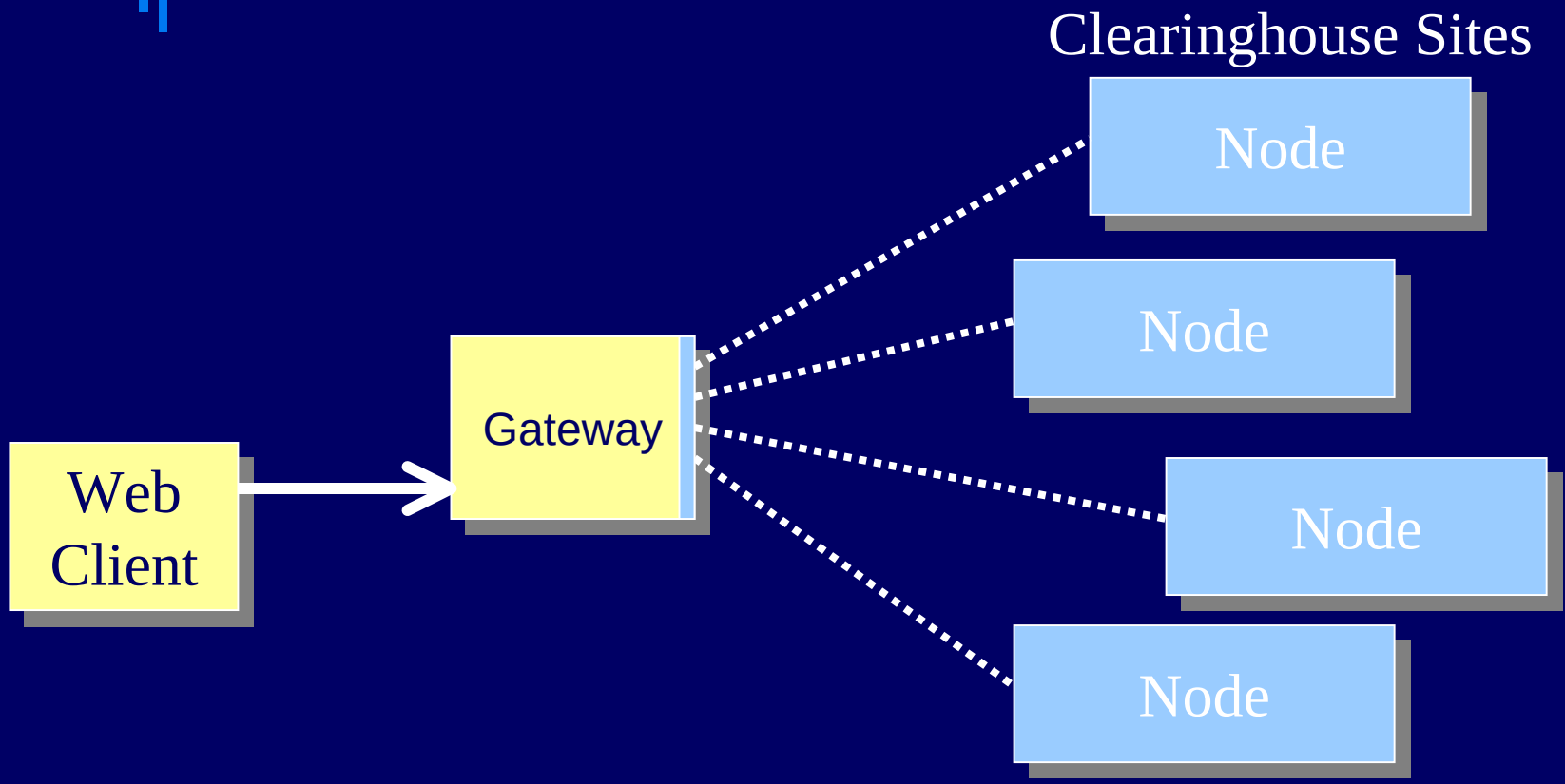


Registered active collections are placed in search form

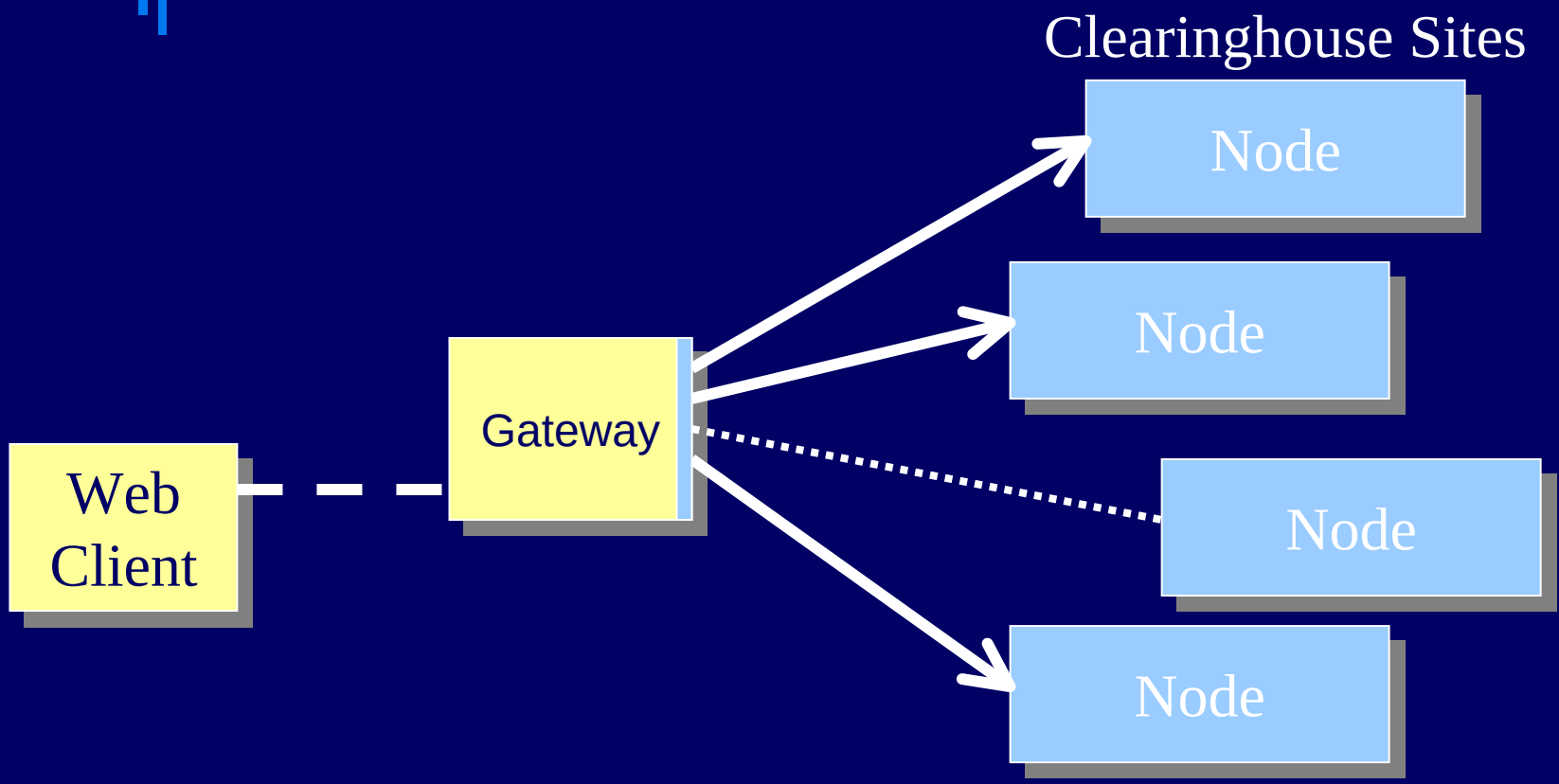
User downloads query form



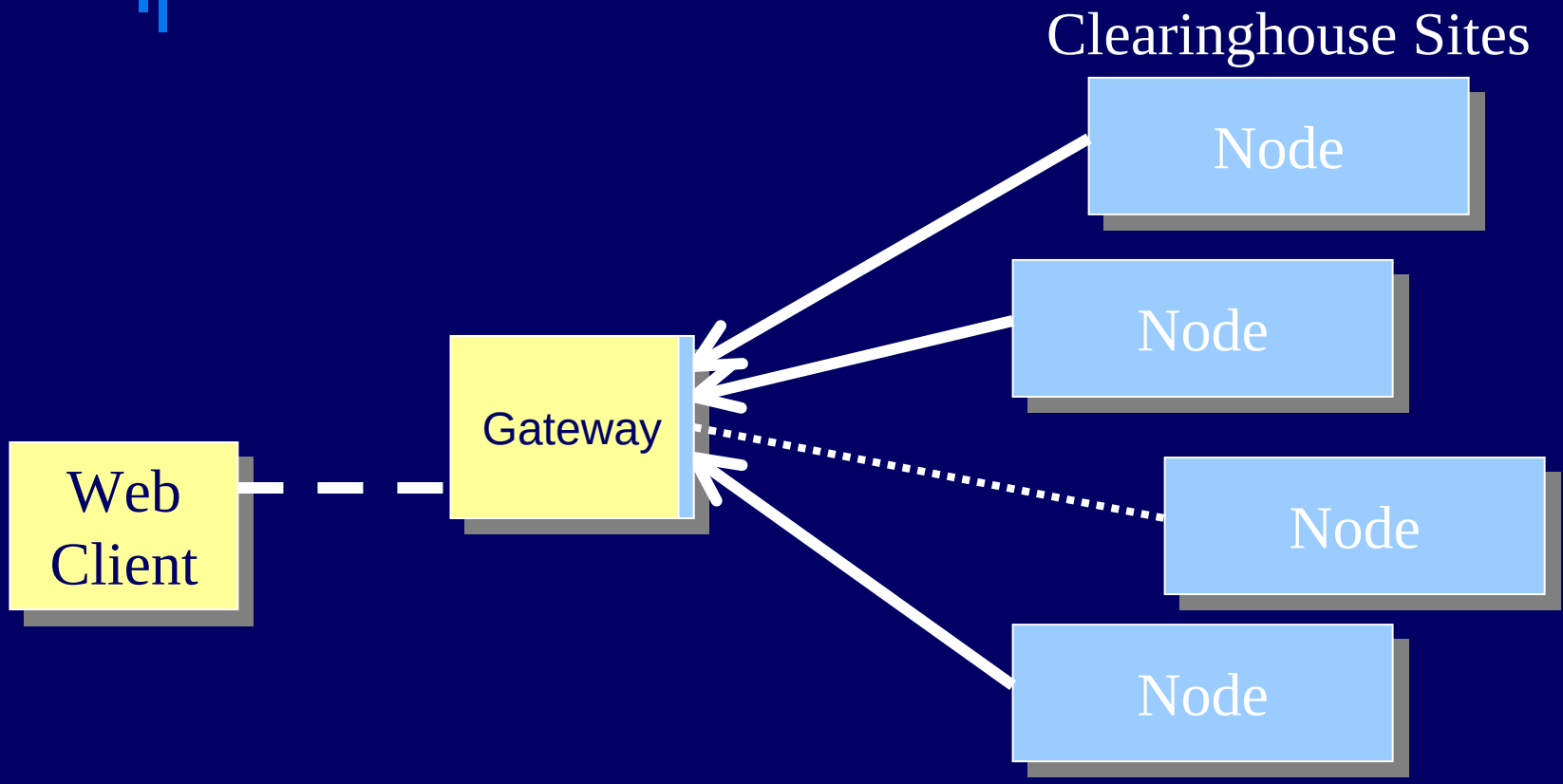
User sends query to web server



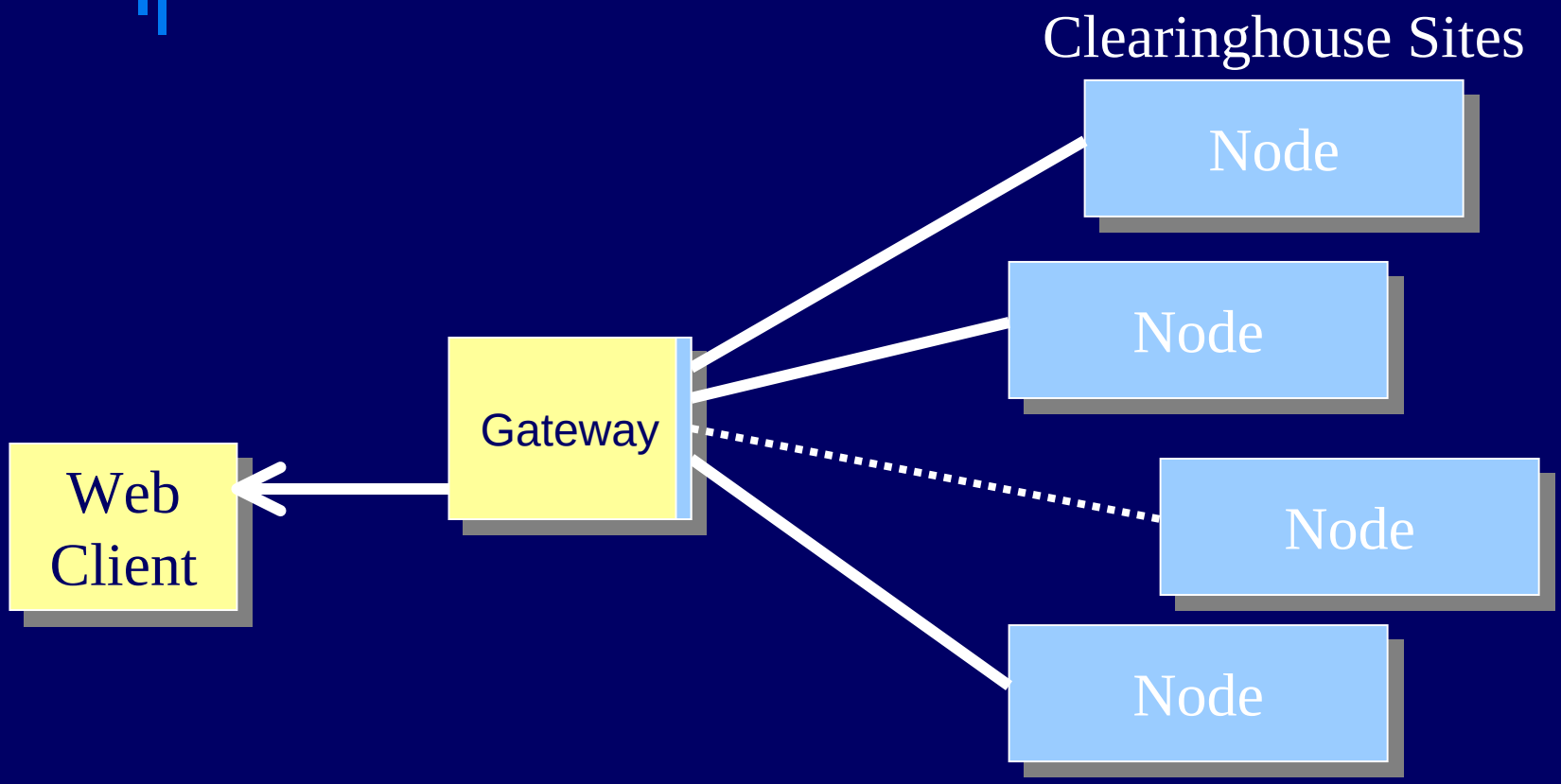
Gateway passes query to Clearinghouse Servers



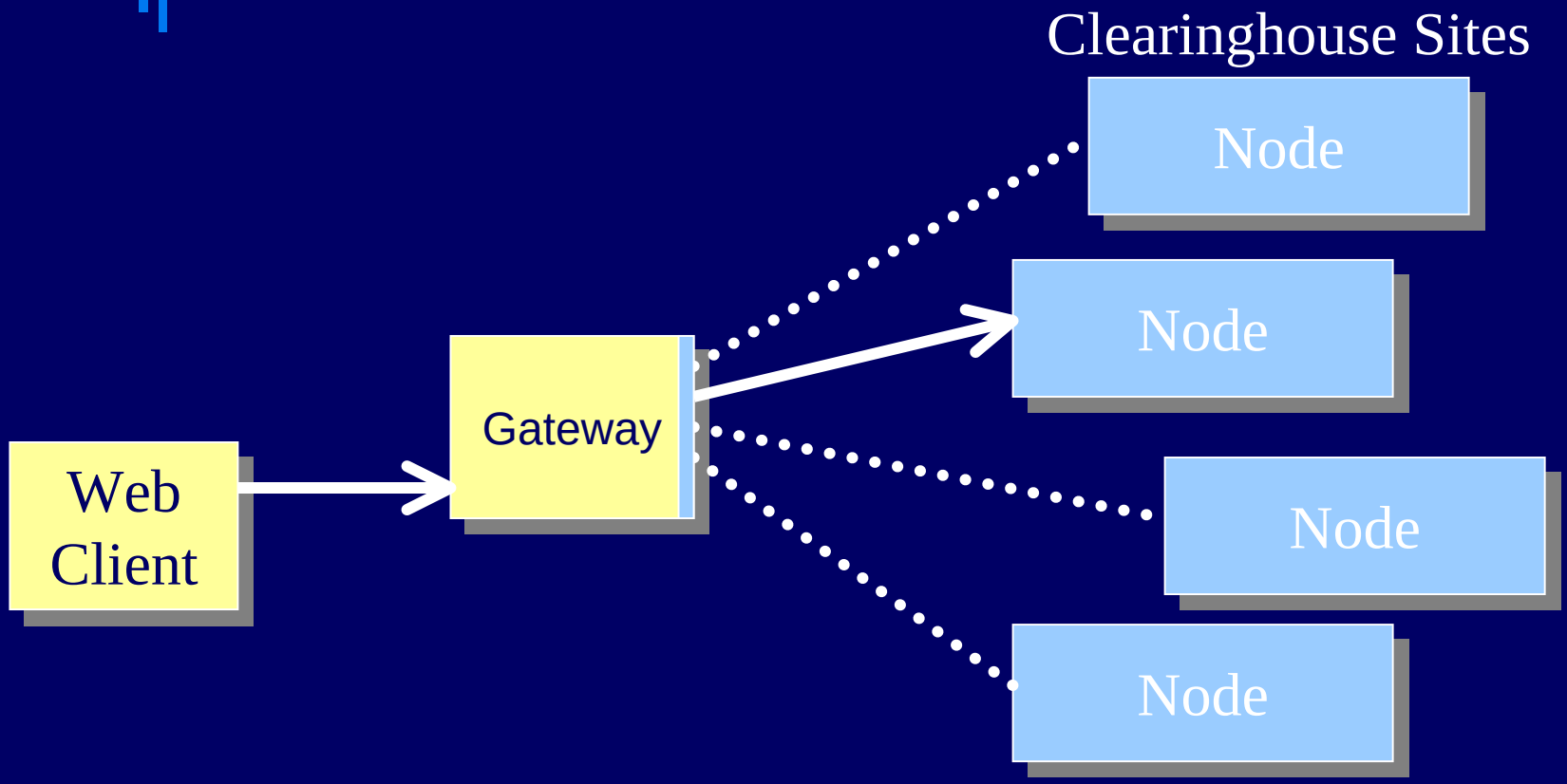
Gateway receives and collates response as list of “hits”



Client receives results summary as HTML by default



Client can request a specific metadata record for viewing

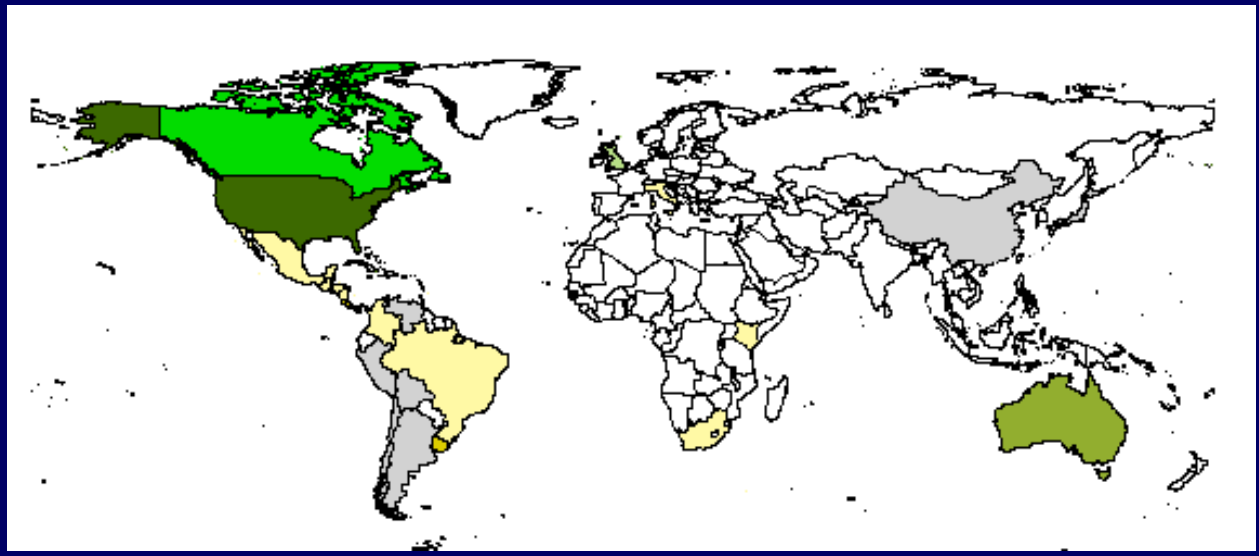


Search Criteria

- Geographic Coordinates
  - place names (coordinates actually built into list)
  - bounding rectangle coordinates
  - draw bounding box on interactive map
- Time
  - before, after and equal to
- Full / Field Text
  - full text
  - fielded search
- Data Sources
  - list of all registered nodes
  - complete or selected list

Clearinghouse Nodes Around the World

Updated: June 2002



Argentina:	1	Italy:	2
Australia:	19	Japan:	2
Barbados:	2	Jamaica:	1
Bolivia:	1	Kenya:	2
Brazil:	3	Mexico:	2
Canada:	17	Nicaragua:	2
Chile	1	Norway:	1
China:	1	Peru:	1
Colombia:	2	South Africa:	2
Costa Rica:	3	Switzerland:	1
Dominica:	1	Trinidad & Tobago:	1
Dominican Republic:	1	United Kingdom:	9
El Salvador:	2	United States:	182
Guatemala:	2	Uruguay:	3
Honduras:	2	Venezuela:	1

Development of Clearinghouse for Iran

- Information component
- Technology component
- Legislative component

Any Question?

Thanks a lot!