



Search strategies by an automated object and concept graph

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- [iQser will make search unnecessary: Relevant information is delivered automatically considering the context of the user
- [iQser will make the knowledge inside the float of data transparent.
- [iQser enables Web 3.0 and even Web 4.0: A ubiquitous web with semantically, interlinked objects.

Customer expectations



- [The quantity of digital information is growing. IDC 2008: 60% per year
- [Information is spread over different data sources, locations and organisations
- [Growing needs of
 - generating knowledge out of all available information
 - accessing the right information in a given context
 - getting new relevant information and connections automatically

Today's solution I: Full Text Search



- [Advantage: Easy to use, generally accepted
- [Disadvantage:
 - Quality of results depends on the selection of keyword.
 - Large list of documents as a result, which have to be evaluated
 - A document in the result set just contains a keyword, but may use the keyword in a different meaning than the user, who is searching
 - The result list doesn't consider the intention of the searcher
 - Each application has its own search feature

Today's solution II: Directory hierarchy



- [Advantage: Content like documents can be organized considering their meaning, context and applicability
- [Disadvantage:
 - A manual hierarchy has a fixed view on the content, but in practice the user needs different views like customers, projects and products.
 - One content is usually needed in several contexts. In this case the content is stored redundantly. Problem of editing the content occurs.
 - The hierarchy reflects the current state of knowledge. Some content can't be directed to any path in the directory tree.
 - Limitation of a directory to one type of content

iQser USP: Search with an object graph

- [Multiple, automatically created links between content objects establish a semantic, non-hierarchical graph. Links are caused by the meaning of the content.
 - All links are described by potentially multiple reasons
 - All links have a weight representing the relevancy of a content in context of another
- [The user needn't search. He just has to choose his focus of interest. The graph delivers all the related content.
 - Example: A project description is linked to the involved people, open tasks and related documents with research results.
 - An article is linked to the authors profile and other alike articles.

iQser USP: Search by using relations



- [The user can search in a context:
 - Which document, that is related to project x, contains the budget plan?
 - Which article is similar to the scientific paper x and contains the concepts y and z?
- [The user can make complex selections:
 - Which people have published a paper about the topic x, that has been presented at a conference, and are in contact to company y in any project?

Automatic analysis for the object graph

— [Syntax Analyzer

- looks, whether other objects contain the value of key-Attributes of a given content objects

— [Pattern Analyzer

- looks, whether a set of the significant concepts are at least partly similar to extracted concepts of another object.

— [Semantic Analyzer

- looks, whether objects are used in a sequence. A connection is created and after each repetition modified.

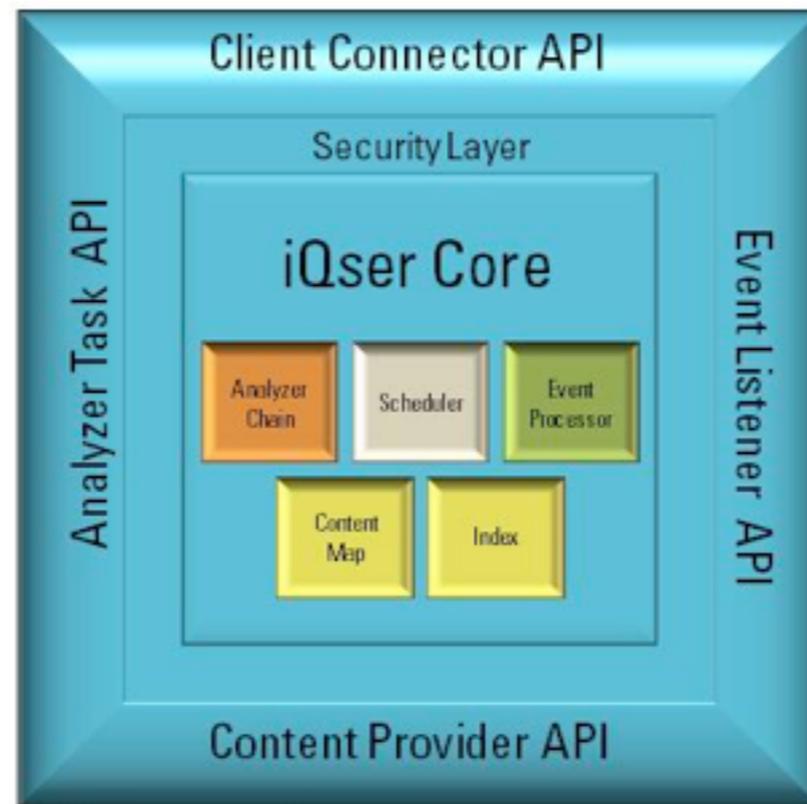
iQser USP 2: Search with a concept graph



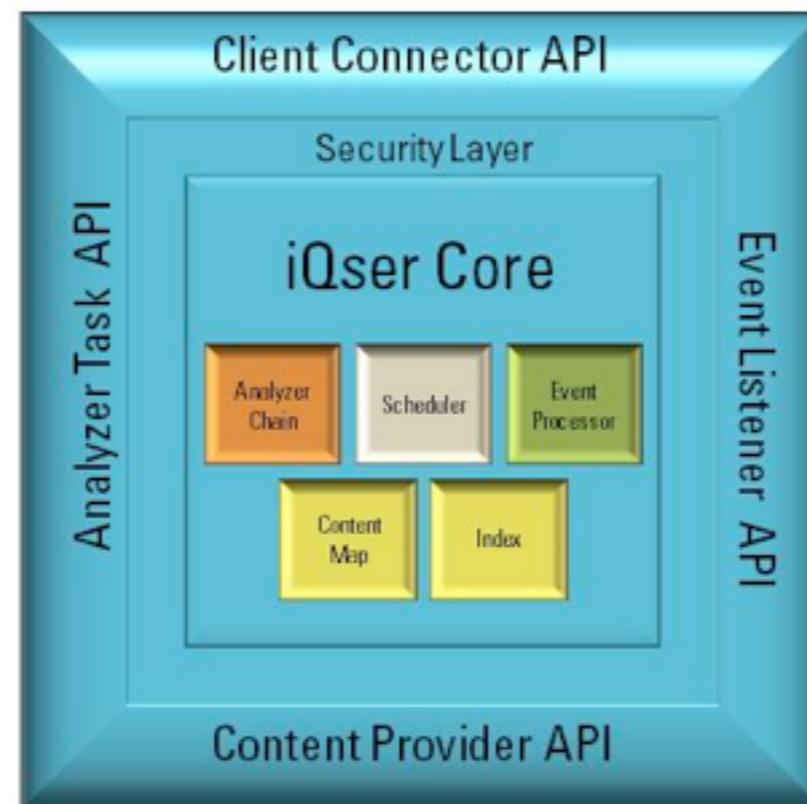
- [All significant concepts of a pool of unstructured data are extracted and interlinked to a concept graph.
 - An hierarchical concept tree can be calculated for the whole content pool or each search result.
- [The user gets an overview of the main concepts, which are representing a topic, and how these concepts are related to sub-topics, named entities or facts.
- [The concept tree can be used to select content like documents by choosing a path in the tree specifying the topic.

- [Single point of access of all types of content objects
 - Each type of structured and unstructured content from any source is bidirectional integrated by transforming the data into a generic content object and vice versa.
 - Each content object is semantically typed and described by attributes of a harmonized datamodel.
 - No data is stored redudantly.
- [Event driven architecture to react on changes in the content source or object graph.
- [API for any data source, additional analytics, client systems and business process engines.

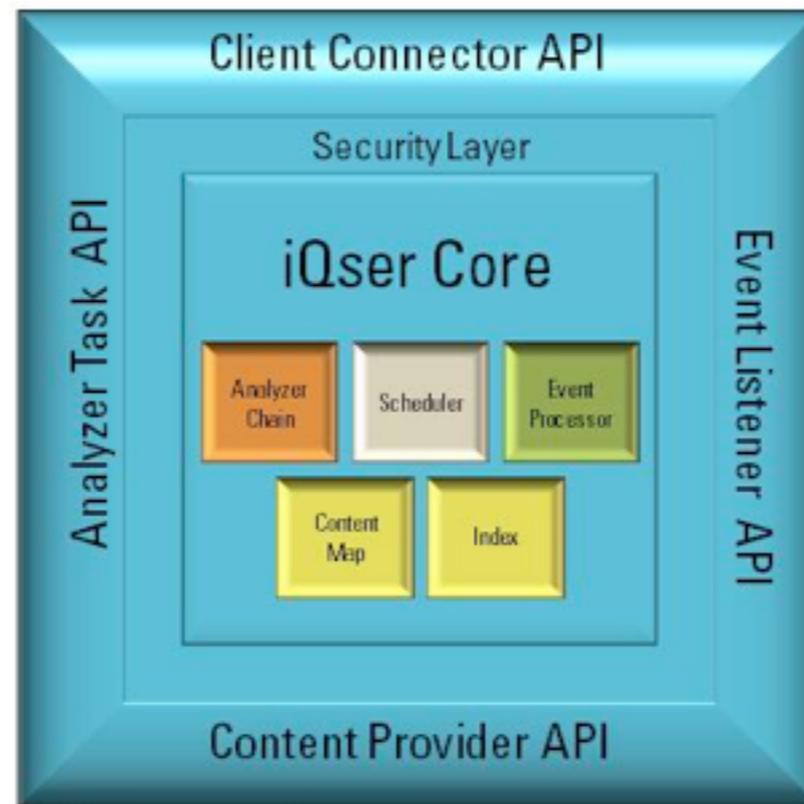
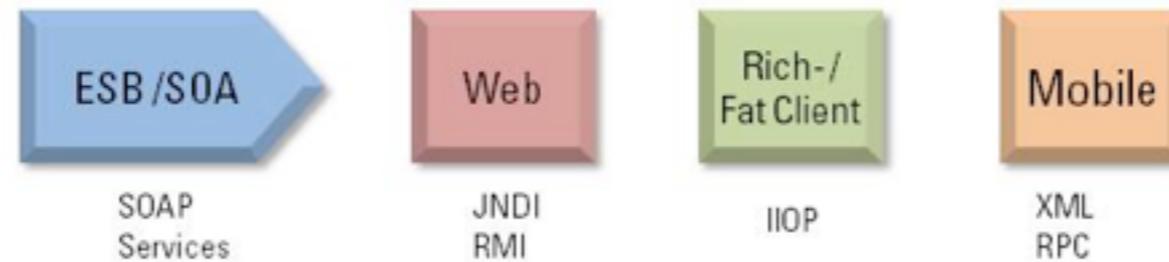
Architecture



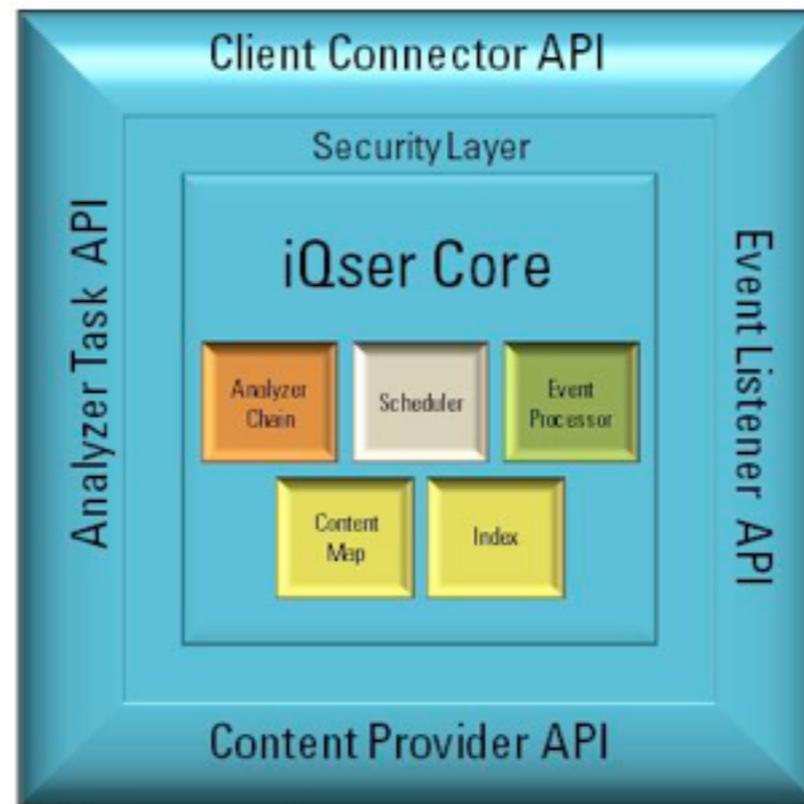
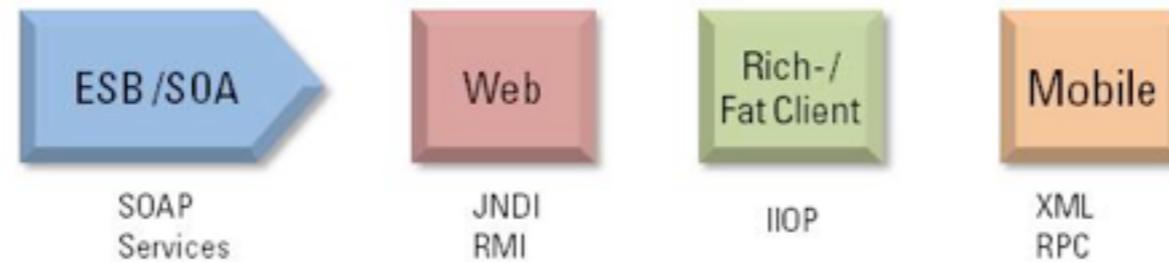
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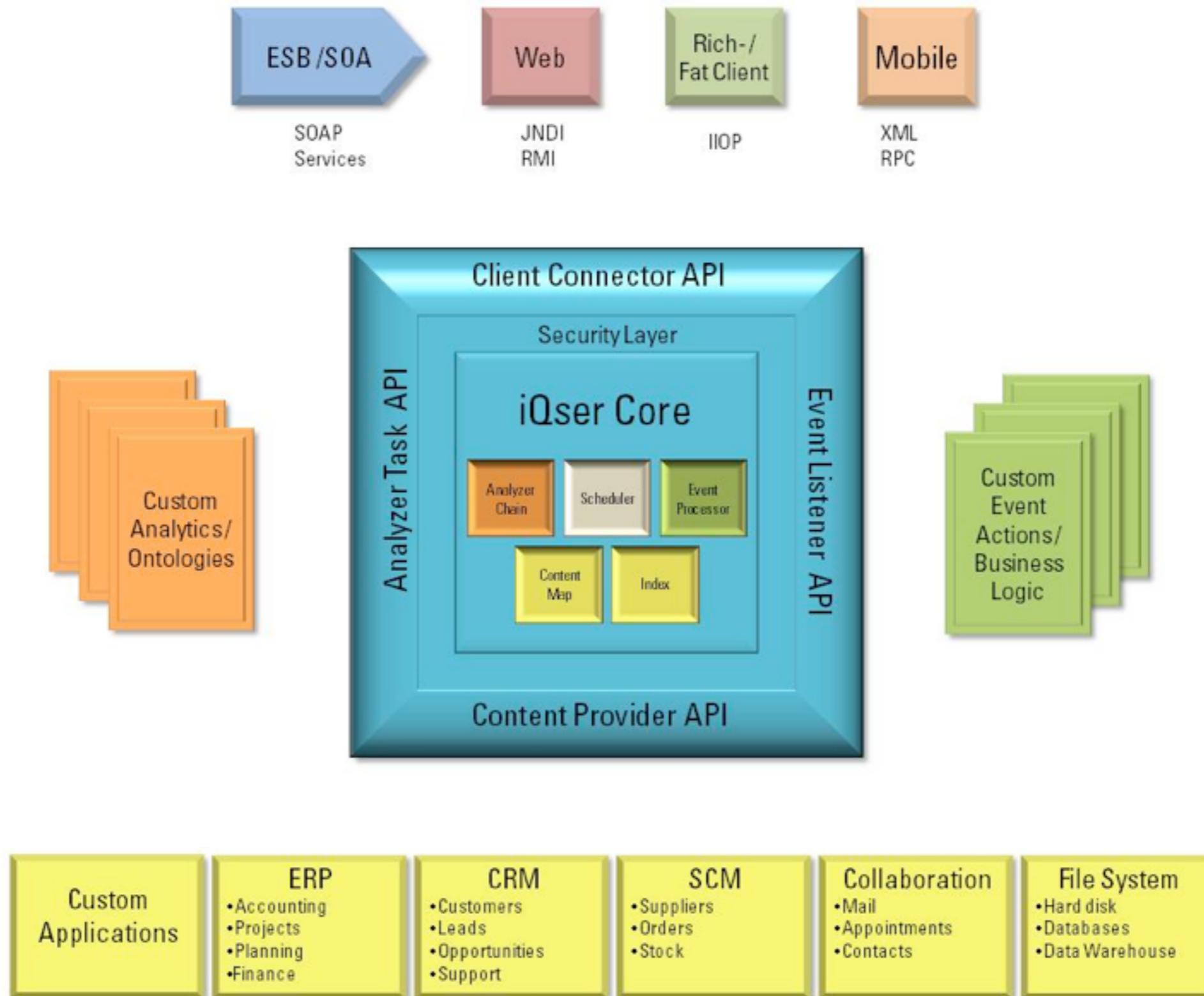
Architecture



Architecture



Architecture



Summary



- [Automatically delivered, relevant information in a given context
- [Exploring connections of content
- [Semantic Search capabilities
 - Search by semantic type and attributes
 - Search by a path in a concept graph
 - Search of objects in a specific context
- [Extracted knowledge by a concept graph

Customer Lifecycle Management



— [Opportunity

- Information is spread over different systems in different companies
- Lack of a 360° view of a customer.
- Customer retention by offering the right information, services and products

— [Features

- Semantic Integration of all content for a single point of information including search
- Information is delivered automatically for a chosen context
- Association of suitable products and services for a customers

— [Solution

- iQser GIN Server with automated semantic analysis for a content-graph.
- Unified Information Layer for easy access of information of different types and sources

— [Benefits

- Save time: No search is needed any more
- Higher customer retention
- Better suggestions for products and services
- Save money for easy integration and automized analysis

Automatic Market and Competitor Watch



— [Market and Demand

- High pressure by competitors and shorter product cycles.
- Data for market and competitor watch is spread over different sources.
- Identification of relevant information in the daily flood of information.

— [Function

- Komplex definition of topics that should be monitored.
- Automatic identification of relevant information.
- Active notifying of the right people, if there are new relevant information.

— [Solution

- The Middleware is integrating internal and external heterogenous sources for monitoring.
- an automatic analysis filters the relevant information and gives an overview by a concept-graph.

— [Benefit

- Current relevant information about the market and competitors.
- Saving time by integrating all the data and analysing this data automatically.



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