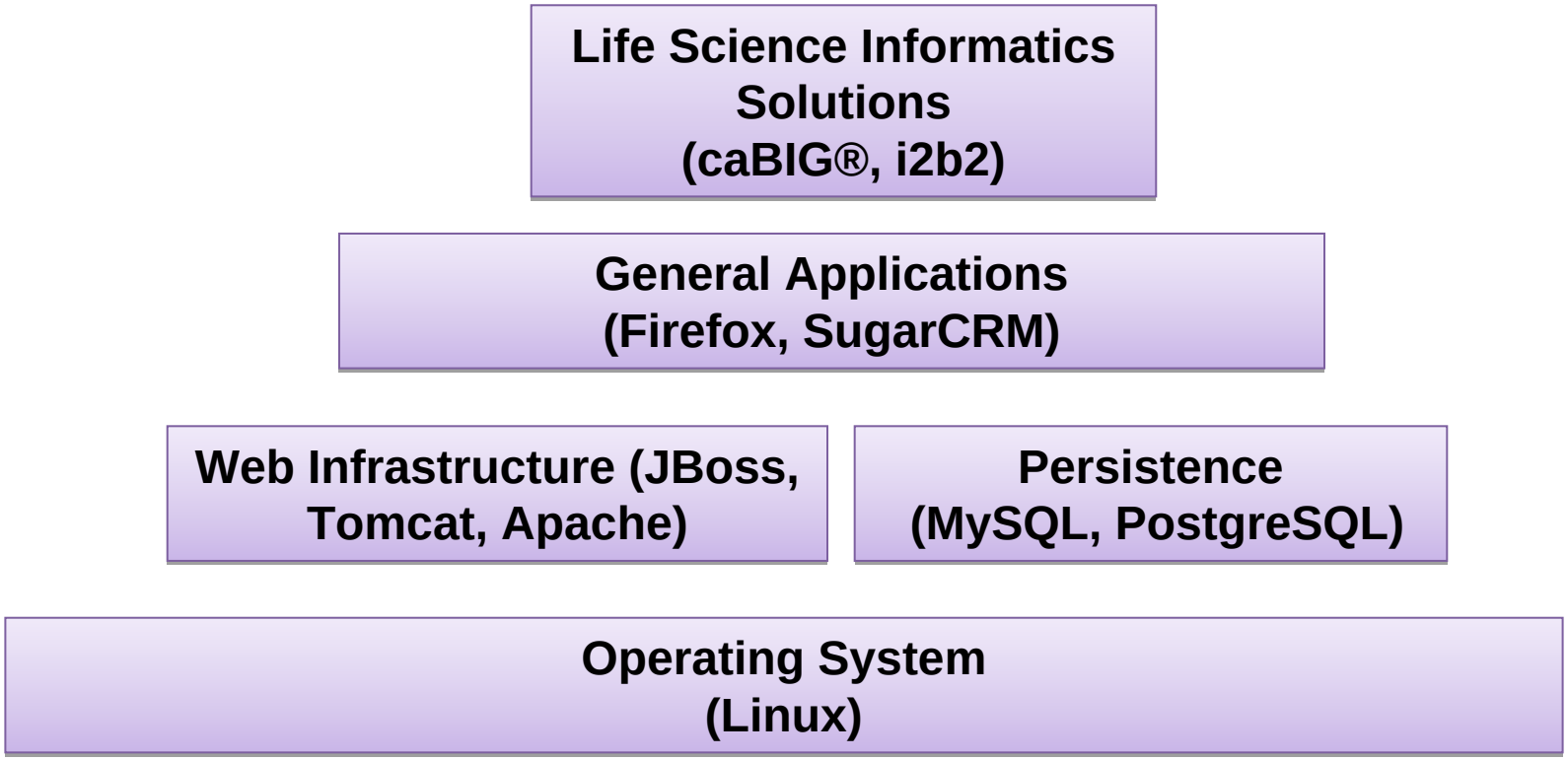
Leveraging caBIG® - New Collaborative Models in Science and Business

Bio-IT World April 13, 2011

5AM | SOLUTIONS

Open Source Audience Pulse



Where we see caBIG® principles advancing business

- **Open Access**
  - caBIG perspective begins with this end in mind – the data in a system is more valuable when available to other systems
- **Open Source**
  - Most business friendly source licensing encouraging choice – modify, wholesale not just the code but all the artifacts
- **Open Development**
  - caBIG® follows this to a tee - latest code always available, no login, free of charge, via anonymous checkout
- **Federation**
  - Data is intended to be combined from multiple sources, supporting the ability to deal with issues like provenance, security and interface design

Where we employ caBIG® and Open Source

- Ivy Genomics Based Medicine
- In Silico Research Center of Excellence
- GWAS Solution Example
- Biolocator

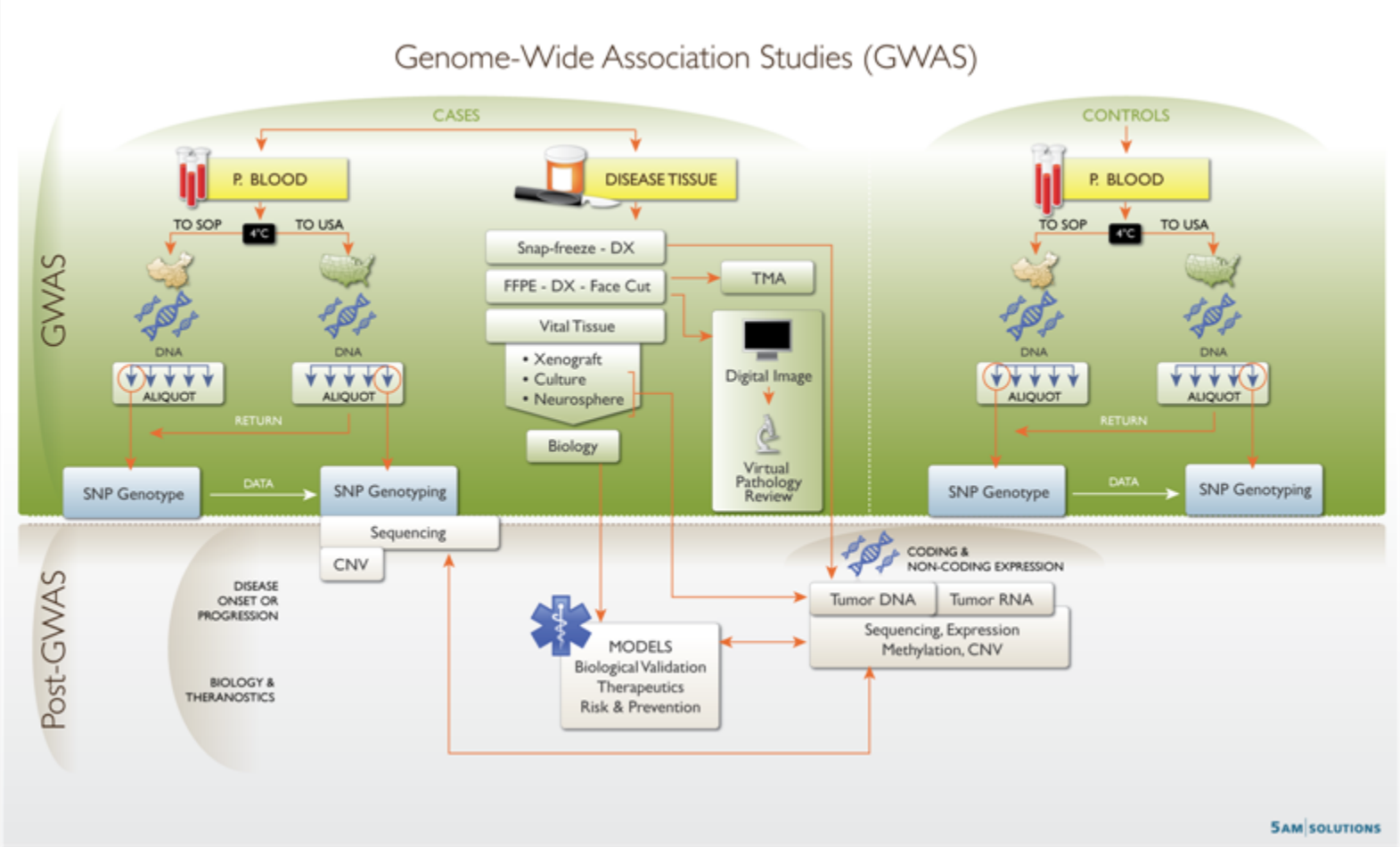
Ivy Genomics Based Medicine

- **Last year Dr. Michael Berens of TGen spoke about the Ivy Genomics Based Medicine Project**
  - We built a light web app to coordinate the 9 vivariums, the central pharmacy, basic reporting and analysis and sample tracking
  - Orchestrated the workflow to directly share the xenograft annotation and molecular data with caArray using EBI's mage-tab
  - Software costs: 6.6% - value was the focus, get it done was the cause

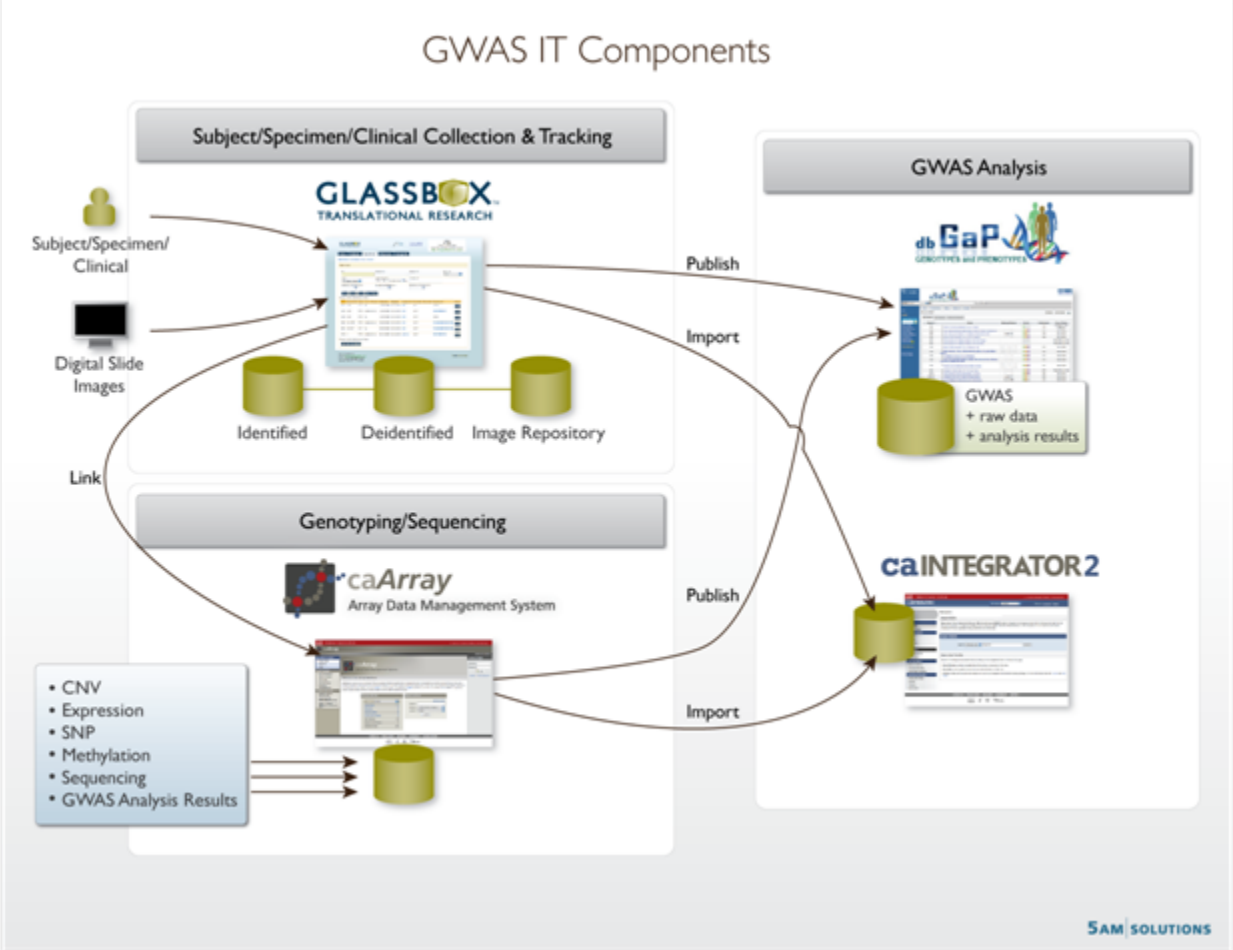
Insilico Research Center of Excellence

- **Building upon data organized by the Ivy Study – we moved to support Insilico based discovery**
  - Compare xenograft genomic profiles with TCGA Expression and Copy Number Data Sets
  - Beginning to compare methylation and microRNA
  - Use those results to guide treatment selection for new GBM patients in the most precise way possible using the test bed of xenograft data
- **Added a significant component –**
  - caBIO – convenient aggregation of genomic annotation and functional annotation

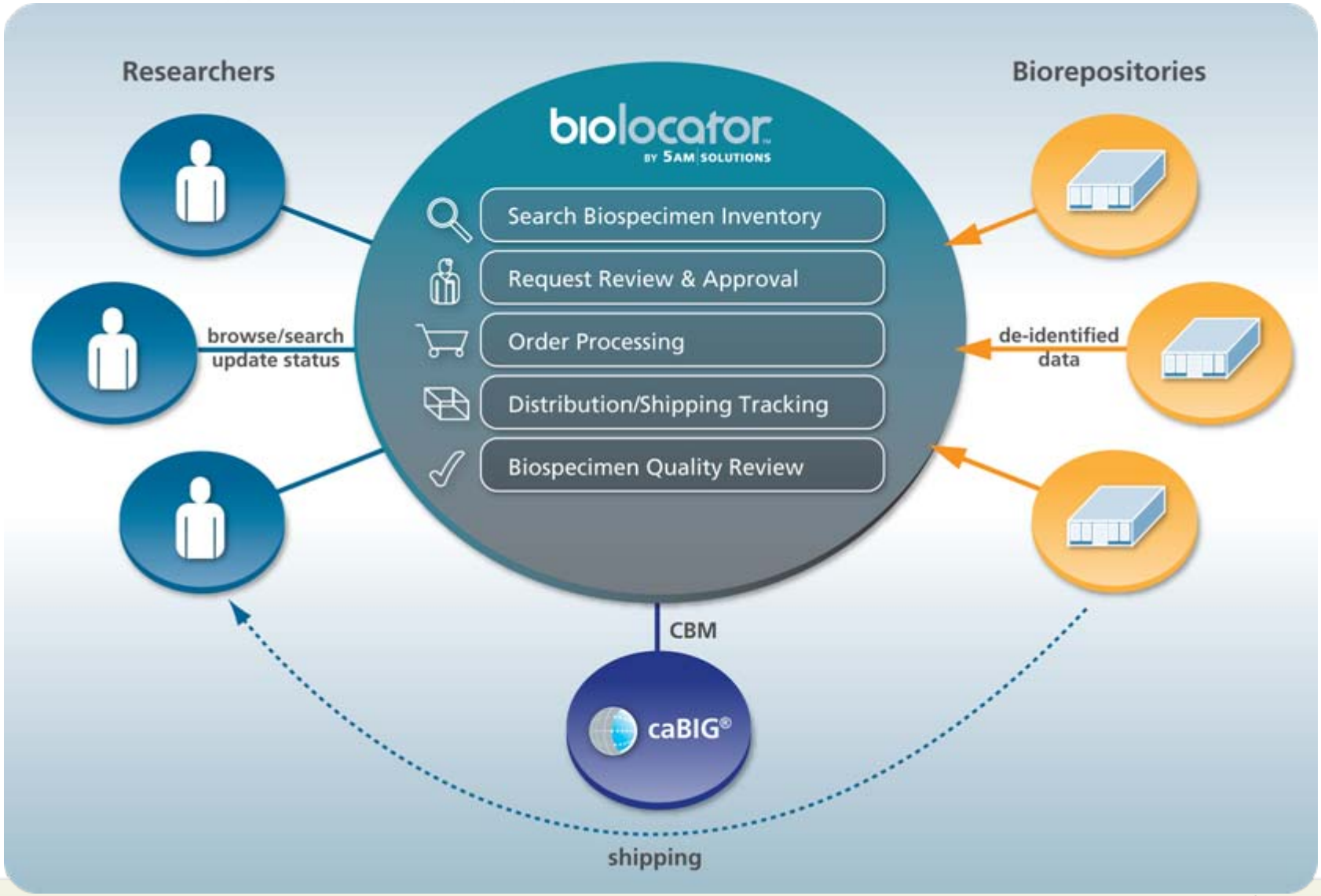
When designing a big science initiative



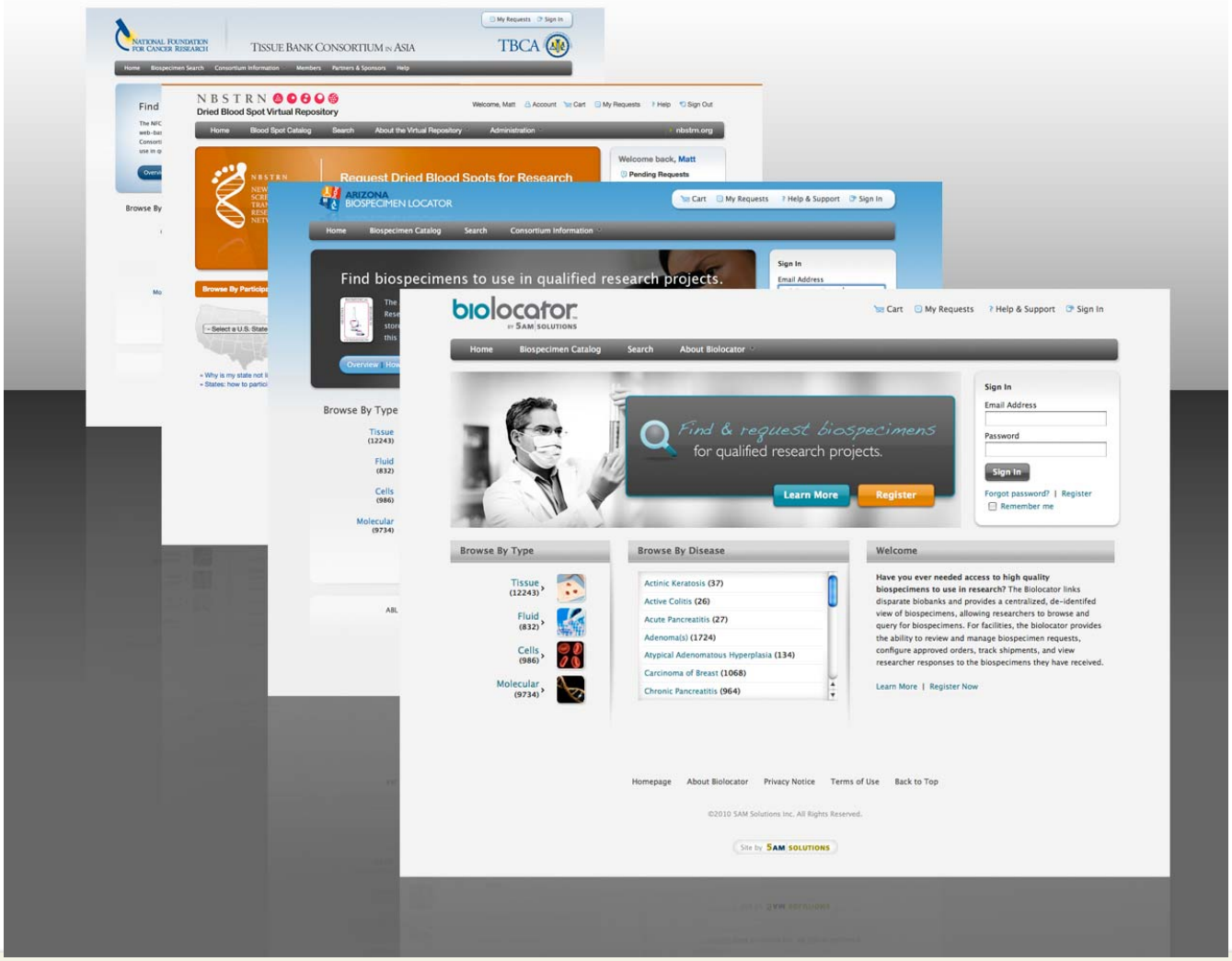
We could create a reliable solution (which scored well)



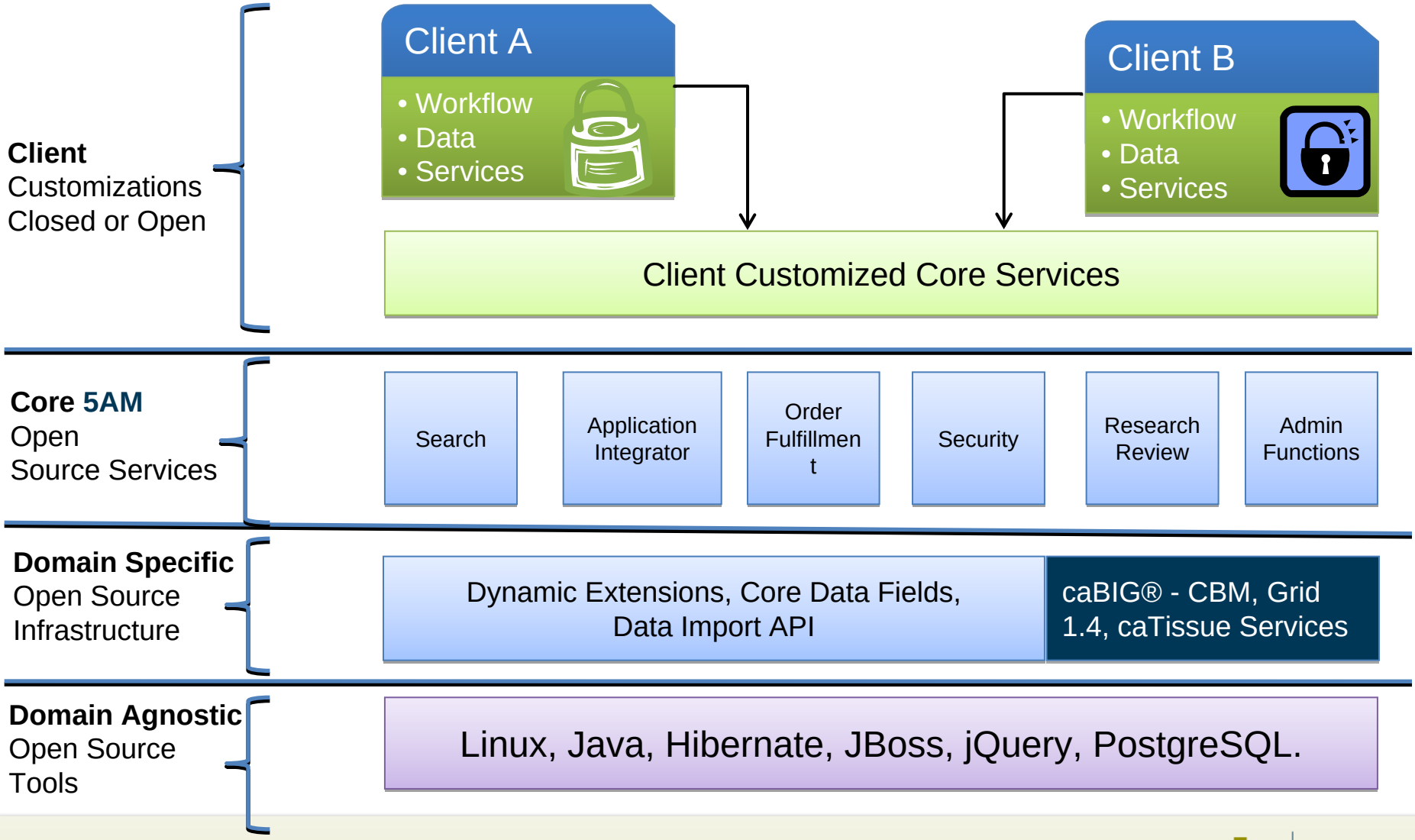
Meeting Novel Requirements



Employed multiple times with reciprocal value



Under the hood: caBIG® empowers new models



Thank you

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