MongoDB, Document Databases, and the changing Data Landscape

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Why all this new stuff?

• New use cases with new “shapes” of data
  – Semi-structured, polymorphic, evolving structure, object-y structure

• New software development methodologies

• New hardware architectures have implications
Data model options these days

• Relational
  – Traditional
  – “NewSQL”

• Key-value

• Columnar / “BigTable style”

• Document (XML, JSON)

• Graph
“Dynamic Schema” notion is important

• Especially given agile development methodologies

• Dynamic vs static typing

int x = “abc”;
JSON has some nice properties for use in a database context

- Standards based, language independent way to store object style data
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- BSON ("binary json")
  - [www.bsonspec.org](http://www.bsonspec.org)
MongoDB Philosophy / Approach

• Don’t change things if they aren’t broken
• We like JSON and documents as a data model basis
• Features are good, as long as you don’t break horizontal scale-out
Example / Demo
Thank You

Q&A
Appendix things
## Case Study

**Single view of customer data (virtually impossible with RDBMS)**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Why MongoDB</th>
<th>Results</th>
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<tbody>
<tr>
<td>• 70+ disparate data sources (maintframe, RDBMS)</td>
<td>• Document model allows easy integration of diverse data sources</td>
<td>• Successful POC in 3 weeks; in production within 90 days</td>
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<td>• RDBMS could not support centralized data mgt and federation of info services</td>
<td>• Fast, easy scalability</td>
<td>• Single view of the customer (improved customer experience, improved sales)</td>
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<td>• Full query language</td>
<td>• 71% less expensive</td>
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<td>• Delivers high scalability, fast performance, and easy maintenance, while keeping support costs low</td>
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