Percona Server for MongoDB
Versus
MongoDB Enterprise Advance
Hello!

I am Barrett Chambers
I am a Senior Solutions Engineer at Percona
You can find me at @BarrettUNC or on LinkedIn
Agenda

Percona, LLC and MongoDB, Inc.
Percona Server for MongoDB Build Process

MongoDB Enterprise Advance versus Percona Server for MongoDB features:

○ Core Server
  ■ Authentication
  ■ Authorization
  ■ Encryption
  ■ Auditing

○ Operational Considerations
  ■ Backups
  ■ Automation
  ■ Monitoring and Alerting

● Cost Considerations
Percona LLC and MongoDB, Inc.
10gen software founded
10gen software develops MongoDB
10gen open sources MongoDB
10gen becomes MongoDB, Inc.
Percona Acquires Tokutek
Percona Server for MongoDB
Percona Xtrabackup (MySQL)
Percona Toolkit
Percona, LLC founded
Percona Server for MySQL

* these products are subscription or license-based
MongoDB, Inc. public on NASDAQ

MongoDB, Inc. acquires mLab

MongoDB, Inc. changes license to SSPL

MongoDB Enterprise Kubernetes Operator*

MongoDB, Inc. acquires Realm*

Percona Monitoring and Management

Percona Backup for MongoDB

Percona Kubernetes Operator for PSMDB

Percona Distribution for MongoDB

MongoDB Atlas*

MongoDB Compass

MongoDB, Inc. public on NASDAQ

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So Where Are We Now?

**Percona, LLC**
Keeping open source open for 15 years. Anyone, anywhere, should have free access to the software and tools necessary to turn their ideas into a viable business.

**MongoDB, Inc.**
We believe that making data easy to work with gives people the opportunity to free their genius and create something world-changing.
Percona Server for MongoDB Build Process
Percona Server for MongoDB Build Process

MongoDB Community Version
Start with the awesome MongoDB Community version
Percona Server for MongoDB Build Process

1. MongoDB Community Version
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2. Critical Bug Fixes
   Fix the bugs and make it super perform.
Percona Server for MongoDB Build Process

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   Make it more scalable, secure, and performant.
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   - Bring in the enterprise features companies need.
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   Test and package for everyone!
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   - Test and package for everyone!
Enterprise Features
### Authentication and Authorization

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percona Server for MongoDB</th>
<th>MongoDB Enterprise Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDAP Authentication</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>LDAP Authorization</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Kerberos</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>User Auditing</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>x509 Authentication</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Log Redaction</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>SNMP</td>
<td>🚫</td>
<td>✓</td>
</tr>
</tbody>
</table>
Additional Security Considerations

These features are available in MongoDB Community, Enterprise Advanced, and Percona Server for MongoDB

- Role-Based Access Control (RBAC)
  - Out-of-the-box roles
  - User-defined roles
- TLS/SSL Connections
- Schema Validation
# Storage Engines

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percona Server for MongoDB</th>
<th>MongoDB Enterprise Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>WiredTiger Engine</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>WiredTiger Hot Backup</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>WiredTiger Encryption</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>In-Memory Engine</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>
## Encryption

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percona Server for MongoDB</th>
<th>MongoDB Enterprise Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Key</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Hashicorp Vault Integration</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>KMIP</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>AWS KMS</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Client-side Field Level Encryption</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
## Backups

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percona Server for MongoDB &amp; Percona Backup for MongoDB</th>
<th>MongoDB Enterprise Advanced &amp; MongoDB Atlas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated</td>
<td><img src="https://example.com" alt="Percona" /></td>
<td><img src="https://example.com" alt="MongoDB" /></td>
</tr>
<tr>
<td>Sharded Cluster-Consistent PITR</td>
<td><img src="https://example.com" alt="Percona" /></td>
<td><img src="https://example.com" alt="MongoDB" /></td>
</tr>
<tr>
<td>Incremental</td>
<td><img src="https://example.com" alt="Percona" /></td>
<td><img src="https://example.com" alt="MongoDB" /></td>
</tr>
<tr>
<td>Cloud Backup</td>
<td><img src="https://example.com" alt="Percona" /></td>
<td><img src="https://example.com" alt="MongoDB" /></td>
</tr>
<tr>
<td>Snapshot</td>
<td><img src="https://example.com" alt="Percona" /></td>
<td><img src="https://example.com" alt="MongoDB" /></td>
</tr>
<tr>
<td>WiredTiger Hot Backup</td>
<td><img src="https://example.com" alt="Percona" /></td>
<td><img src="https://example.com" alt="MongoDB" /></td>
</tr>
<tr>
<td>Remote Backup Storage</td>
<td><img src="https://example.com" alt="Percona" /></td>
<td><img src="https://example.com" alt="MongoDB" /></td>
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</tbody>
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Backups
## Monitoring

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Query Analytics</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Performance Advisor</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Replica Set Metrics</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Cluster Metrics</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Real-Time Metrics</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>CPU/Disk/OS Metrics</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>
## Monitoring

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Alerting (With 3rd party Integrations)</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Extendible</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Customizable</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Agentless Option</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Same Deployment On-Prem or Cloud</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Deploy on AWS, GCP, and Azure</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Deploy on Other Cloud Providers</td>
<td>☑</td>
<td>☑</td>
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</tbody>
</table>
Percona Monitoring and Management
## Automation

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percona Kubernetes Operator for Percona Server for MongoDB</th>
<th>MongoDB Enterprise Advanced &amp; MongoDB Atlas</th>
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</thead>
<tbody>
<tr>
<td>GUI-based Automation</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Automated Cloud Provisioning</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Automated Cluster Provisioning</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Automated Upgrades</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Automated Backups</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Automated Recovery</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Automation

[Diagram showing the automation process involving Kubernetes API, Operator, DB Pods, CSI, and Configuration Resources.]
Cost Comparison
Assumptions for Cost Analysis

- MongoDB Atlas pricing retrieved from mongodb.com/pricing.
- Same vCPU, memory, storage used.
- No bundled or up-front cost-savings, only hourly used.
- 3-node cluster deployment.
- No other architectural components or I/O costs considered.
Most organizations will require commercial support which is not included in these costs.
Summary
Final Thoughts

- Choosing a database technology is a business decision as much as a technical one.
- Enterprise open source alternatives to MongoDB exist.
- Percona Server for MongoDB has many of the same features as MongoDB Enterprise without the license cost.
- Migration between MongoDB Enterprise and Percona Server for MongoDB is easy.
Thank You!

Barrett Chambers

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https://www.percona.com/blog/author/barrett-chambers/
THANK YOU!

PERcona
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