# MongoDB

[ <https://www.mongodb.com/docs/> ; <https://www.mongodb.com/community/forums/> ; <https://www.mongodb.com/blog> ]

### MAIN REQUIREMENTS:

1. Would the simple GUI of the MVAHC system be transferable to the RDBMS? [ease of use; customisation ]
   1. If yes, how easily [especially by a digital immigrant]? (using a scale or rating of 1 - 10 : with reason(s))
2. What about the back-out requirements? (ie, Are the back-out features (UI) simple and transferable?)[version control; resilience (ease of (use) implementation of ACID transactions) ability to undo securely and easily; customization ]
   1. If yes, how easily?(using a scale or rating of 1 - 10 : with reason(s))
   2. How ACID are the implementations/ solutions/backout transactions?
3. Can the (functions) macros’ transactions be replicated in the database transactions? [integration; ease of use; customisation; resilience (ease of implementation of ACID transactions) ]
   1. If yes, how and how easily?(using a scale or rating of 1 - 10 : with reason(s))
   2. How ACID is the implementation/ solutions/macros’ transactions?
4. Is the datastore easy to see and manipulate directly? [ease of maintenance; customisation]
5. Would this work on a laptop, tablet and phone? [ mobile access; ]
6. What are the backup and restore facilities available and how easy are they to use?
7. Are the features above offered by the database product offered within the acceptable price range (5000 USD per year, 416 USD per month)? [cost; ]

### OTHER REQUIREMENTS:

1. What are the reporting capabilities of the database product?
2. What are the scalability features offered by the database product?
3. How much support is available for users of the database product and how responsive is it?
4. What other features of/for resilience does the database product offer besides backup and restore : fail over to a replica, monitoring and alerting, security measures; version control; …
5. What features can be integrated into the database product and how easy, secure and seamless is the set-up?
6. How does the features above (under OTHER REQUIREMENTS) affect the cost of the database product?

I*NTERPRETATION OF THE GROUPINGS OF SOME OF THE REQUIREMENTS*

* EASE OF MAINTENANCE: { Ease Of Backup And Restores, Ease Customisation Of Datastore; Availability Of Support; Ease Of Customisation and Integration)}
* RESILIENCE: {Backup and Restores; Security; Replicability or redundancy; Monitoring, Alerting and Error handling features; Version Control; Other Failover and disaster recovery plans; }

## EASE OF USE

| 1. Would the simple GUI of the MVAHC system be transferable to the RDBMS? [ease of use; customisation ]    1. NO:       1. Because MongoDb doesn’t support the schema of the MVAHC system, a relational DBMS.    2. YES:       1. Because MongoDb’s “App Services ”‘ feature allows for building(hence customizable) and deploying apps (in which case can be simplified(its GUI) like in the MVAHC system). An added advantage is that this feature is serverless. 2. What about the back-out requirements? (ie, Are the back-out features (UI) simple and transferable?)    1. NO:       1. MongoDB does not support undo and redo operations. 3. Can the (functions) macros’ transactions be replicated in the database transactions? [integration; ease of use; customisation; resilience (ease of implementation of ACID transactions) ]    1. NO:       1. MongoDB has built in ACID transactions capacity since version 4.0 but in a single mongoDB database. Expanding this for complex operations involving multiple databases requires third party integrations and technical expertise.   <https://www.mongodb.com/docs/manual/core/transactions/> | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs MongoDB | Vs Airtable | Vs | Vs | Vs |
| MVAHC is easier to use |  |  |  |  |  |

## EASE OF BACKUP and RESTORE

| MongoDB offers a variety of backup and restore options including some to the following to choose from depending on one’s needs and use case.:   1. Mongodump and mongorestore [Back Up and Restore with MongoDB Tools](https://www.mongodb.com/docs/manual/tutorial/backup-and-restore-tools/) 2. Filesystem snapshots <https://www.mongodb.com/docs/manual/tutorial/backup-with-filesystem-snapshots/> 3. Cloud backup solutions(MongoDB Atlas ) which can be [the most convenient]    1. continuous/automated backup    2. Manually triggered / on-demand snapshots backup   <https://www.mongodb.com/docs/atlas/backup-restore-cluster/> | | | | | |
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| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
| Better than MVAHC. |  |  |  |  |  |

## EASE OF MAINTENANCE

| 1. Is the datastore easy to see and manipulate directly? [ease of maintenance; customisation]    1. NO:       1. Datastores in MongoDB aren't directly visible or manipulable in the traditional sense because they are held in JSON-like structures called collections which can only be visualized and manipulated with tools like MongoDB Compass GUI or CLI.   **:**<https://www.mongodb.com/docs/> ; <https://www.mongodb.com/docs/manual/tutorial/query-documents/> | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
| MVAHC is easier to maintain |  |  |  |  |  |

## COST

| 1. Are the features above (under MAIN REQUIREMENTS) offered by the database product offered within the acceptable price range (5000 USD per year, 416 USD per month)? [cost; ]    1. UNCERTAIN:       1. . 2. How does the features above (under OTHER REQUIREMENTS) affect the cost of the database product?    1. UNCERTAIN:   The following factors influence how to estimate your MongoDB costs, consider:   * **Deployment Model:** Self-hosted or MongoDB Atlas? * **Resource Requirements:** Expected data volume, anticipated workload. * **Required Features:** Backup needs, auto-scaling, etc. * **Support Level:** Free resources or paid support plan?   <https://www.mongodb.com/pricing>  If service requirements for the MVAHC system are such that they won’t exceed the limits below, the price can be drastically reduced. | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
| … |  |  |  |  |  |

## MOBILE ACCESSIBILITY

| 1. Would this work on a laptop, tablet and phone? [ mobile access; ]    1. YES & NO:       1. **Direct Mobile Access:** No, MongoDB is not directly accessible through a mobile app for end-users.       2. **Mobile App Development:** Yes, MongoDB can be used as the backend for mobile applications through development tools and APIs.   <https://www.mongodb.com/solutions/use-cases/mobile> ; | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
| Almost the same. |  |  |  |  |  |

## RESILIENCE: [REPLICABILITY; VERSION CONTROL; SECURITY; …]

| 1. What other features of/for resilience does the database product offer besides backup and restore/recovery : fail over to a replica, monitoring and alerting, security measures; version control; …    1. MongoDB offers the following resilience features:       1. Replication onto secondary servers: <https://www.mongodb.com/docs/manual/replication/>       2. Sharding [has a steep learning curve] [Sharding - MongoDB Manual v7.0](https://www.mongodb.com/docs/manual/sharding/) | | | | | |
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| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
|  |  |  |  |  |  |

## EASE OF REPORTING

| 1. What are the reporting capabilities ofMongoDB?    1. MongoDB does not have extensive reporting features unless integrated with third party solutions like BI or Tableau. Basic reporting like aggregation through filtering and grouping is what is available for reporting.   <https://www.mongodb.com/resources/basics/cloud-explained/business-intelligence-bi-tools> | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
| … |  |  |  |  |  |

## SUPPORT

| 1. How much support is available for users of MongoDB and how responsive is it?    1. Support available for MongoDB include       1. Free: MongoDb manual <https://www.mongodb.com/docs/> , and the mongoDb community forum <https://www.mongodb.com/community/forums/>       2. Paid support: <https://www.mongodb.com/services/support/atlas-support-plans> | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
| Better than MVAHC. |  |  |  |  |  |

## INTEGRATION

| 1. Integrations for programming languages 2. Cloud integrations for based deployments 3. BI tools for visualization and reporting 4. APis and other third party services   <https://www.mongodb.com/docs/atlas/partner-integrations/> | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
|  |  |  |  |  |  |

## SCALABILITY

| 1. What are the scalability features offered by MongoDB?    1. MongoDb scales very well and hence is suitable for very large datasets hence typically deployed for data warehousing: in data growth, as well as user access.   <https://www.mongodb.com/resources/basics/scaling>  <https://www.mongodb.com/resources/products/capabilities/scalability-with-mongodb-atlas>  <https://www.mongodb.com/resources/basics/horizontal-vs-vertical-scaling> | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs | Vs | Vs | Vs | Vs |
| Better than M VAHC |  |  |  |  |  |

## CUSTOMIZATION

| MongoDB’s customisation features center mainly around security and data optimisation and tuning. Again, the App Services feature allows for building and deploying applications that access the data in the Data Services feature, which can be done to meet the peculiar needs of the user. <https://www.mongodb.com/docs/> ; <https://www.mongodb.com/products/tools/compass> | | | | | |
| --- | --- | --- | --- | --- | --- |
| Vs MVAHC | Vs | vs | Vs | Vs | Vs |
| More difficult to customise than the MVAHC system. |  |  |  |  |  |