Health Check

Overview:

Spanning essential elements of CockroachDB deployment, the Health Check package from Cockroach Labs meticulously covers platform and sizing review, operational readiness, and application architecture review of a single production cluster for a specified database. Subject to the matrix at the end of this offering document, the Health Check package includes the following actions:

- **Platform HealthCheck:** This review ensures platform configurations—whether on-premises or in the cloud, including virtual machines, containers, and bare metal—comply with best practice guidelines and rules of thumb for sizing and provisioning. It thoroughly examines the accuracy and suitability of infrastructure configurations across diverse deployment environments and cluster nodes, ensuring adherence to best practices.

- **Operational Review:** Tailored for IT operations staff, this review is designed to equip your team with the foundational skills necessary to effectively manage a CockroachDB cluster. We will conduct an assessment of your alerting and monitoring systems, and log management practices, offering advice to strengthen these critical areas. Additionally, we will provide guidance on developing a 'Starter CockroachDB Runbook' that includes three operational topics chosen by your team, such as cluster repaving, CockroachDB upgrades, and adding new nodes to the cluster.

- **Application Data Architecture Review:** This overview conducts a scan of your application architecture and cluster topology in relation to the specified CockroachDB database. We will assess your workload, schema, projected data growth, and batch processing strategies to ensure they meet best practices for optimal performance. This scan will help us identify key opportunities for better integration with CockroachDB and highlight areas that might benefit from further exploration.

This package is recommended as an essential step before production rollout, with periodic follow-ups every 6-12 months to proactively address configuration issues across hardware, operating systems, and database clusters, aimed at reducing

operational risks and maximizing the business value of your CockroachDB deployment.

Scope:

The Health Check package is designed to evaluate the health of a single production cluster for a specified database. Our approach begins with a kickoff meeting to establish clear objectives, discuss the process, and lay the foundation for effective collaboration. This initial meeting is vital for aligning our team with your specific needs and expectations. Post-kickoff, we will walk through a detailed questionnaire to gather detailed insights into your environment and requirements. We further enhance this data collection by employing specialized tools, enabling us to gain deep insights into the intricacies of your CockroachDB deployment.

To ensure a detailed understanding of your CockroachDB deployment, we will conduct one or more discovery calls. These discussions are instrumental in tailoring our operational readiness review to your unique operational topics. Our approach includes a high-level application architecture review, focusing on efficient and targeted evaluation, as well as the use of our specialized data collection and analysis tools to complete the Health Check Summary.

The process culminates with a presentation of our findings to your team. This stage involves strategic discussions, ensuring that you are informed and involved.

Duration:

This engagement is estimated at 2-4 weeks over the course of a maximum of 30 days (elapsed time) with a CockroachDB expert.

Once the discovery sessions have concluded, the final stages of the Health Check Package, including the preparation and delivery of your Health Check Summary and the concluding call, are typically scheduled within 2 weeks.

Deliverable(s):

- **Health Check Summary:** A detailed report providing findings and actionable recommendations based on the analysis conducted during the Health Check engagement. The report will cover all critical aspects evaluated, including platform sizing and provisioning, operational readiness, application architecture, and other identified areas of concern or improvement.

- **Health Check Summary Review Session:** The engagement will conclude with a meeting to review and discuss the findings in the Health Check Summary. This call provides an opportunity for your team to ask questions, seek clarifications, and understand the recommendations in depth, ensuring a clear and mutual understanding of the next steps and action plans.

Prerequisites:

Your team members are expected to have taken the appropriate Cockroach University courses and have a working knowledge of SQL and CRDB fundamentals. Cockroach Labs will require participation of team member(s) to complete the Health Check questionnaire.

The following should be ready by the engagement kickoff meeting:

- **Access to Your Environment:** Provide appropriate access to your particular environment under assessment. In cases where such access is not feasible, you are expected to run the necessary tools and provide the output for analysis.
- **Tool Installation and Execution:** Your participating team members must be capable of installing and running data capture scripts, either independently or with assistance from Cockroach Labs professionals, if such access is provided. Either such access or screen-sharing sessions are required to facilitate the use of our assessment tools, such as the SQL CLI and DBconsole.
- **Completion of the Health Check Questionnaire:** Upon completing the kickoff meeting, you are responsible for filling out the Health Check questionnaire, which is crucial for gathering insights into your operational readiness, application architecture, and provisioning needs.

Tooling:

- **Roachdiag Script** - Health check and support script to capture relevant BIOS-, OS- and user-level info
- **Debug.zip** - Debug information from all nodes in your cluster
- **Timeseries data dump** - CockroachDB stores metrics data in its own internal time series database, captured during both peak and non-peak periods

Health Check Matrix for Self-Hosted vs Cloud

Scope	Self-Hosted	Cloud
Review Current Infrastructure Sizing and Adaptability to Future Growth Forecasts	✔	✔
Platform Health Check		
• Capture and Analyze Hardware Configuration and Environmental Settings	✔	**N/A**
• Ensure Hardware/System Configuration Consistency Across Nodes/AZs/Regions	✔	**N/A**
• Ensure Adherence to Deployment Best Practices Across Platforms like AWS EC2, Google GCP, Microsoft Azure, and VMware	✔	**N/A**
• Evaluate Non-Default Cluster Settings	✔	✔
Operational Review		
• Alerting and Monitoring Systems Overview	✔	✔
• Log Management and Analysis	✔	✔
• Develop or enhance the CRDB Starter Runbook, focussing on essential routine operations	✔	**N/A**
• Review for Job Failures and Stalled Jobs	✔	✔
• Review Upgrade Readiness	✔	**N/A**
• Assess Cluster Resilience (Survival Goals and Tolerated Failure Domains)	✔	✔
• Investigate Server, Network, and CRDB metrics at peak and non-peak load levels	✔	✔

● Server-level security for self-hosted; Cloud-specific security measures for Cockroach cloud	✔	✔
● Evaluate how a Cloud Customer uses features like Maintenance Windows, folders, etc.	**N/A**	✔
Application Data Architecture Review		
● Brief assessment of database schema, workload, and performance alignment with CRDB	✔	✔
● Workload Governance Assessment	✔	✔
● High-Level Ecosystem Integration Review	✔	✔
● Evaluate management of application connections; resilience to failures (re-tries, failovers)	✔	✔
● Examine interoperations between production, staging, and development environments.	✔	✔
● Review Disaster Recovery and High Availability Strategies in the App-Database Stack	✔	✔