KubeCon | CloudNativeCon

THE LINUX FOUNDATION OPEN SOURCE SUMMIT | AI_dev Open Source GenAI & ML Summit

China 2024

Build Interactive Monitoring

-- Prometheus AI Agent

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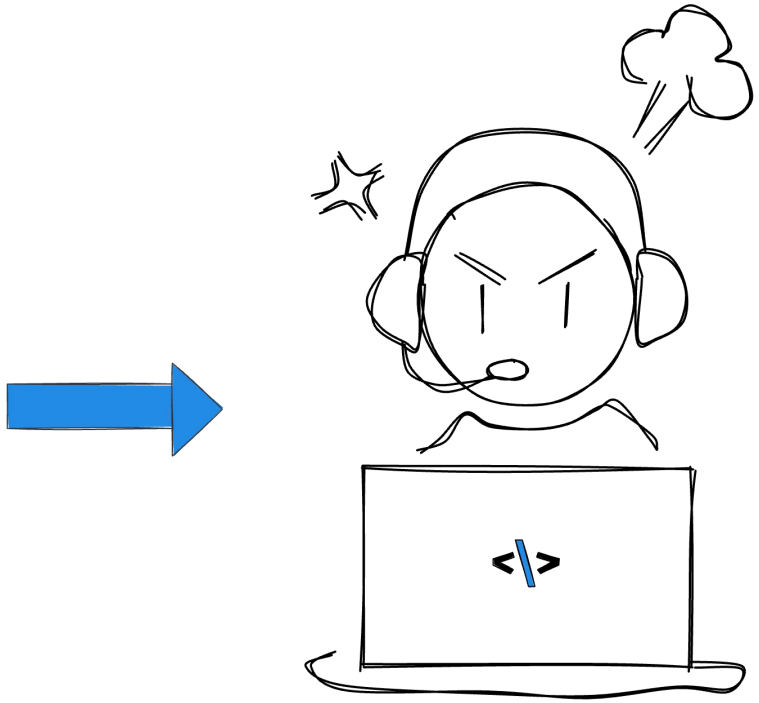
Current Situation

Question:

- What are the metrics for this instance resource?
  这个实例资源有哪些指标？
- How to write PromQL for this?
  如何写的PromQL？
- For this Alert / Event, which metrics should I check?
  这个告警 /事件，我应该去看哪些有效指标？
- How can I view the chart of related resources?
  如何查看关联资源的面板？
- Can it be viewed quickly on mobile devices?
  可以快捷移动端查看吗？

.....



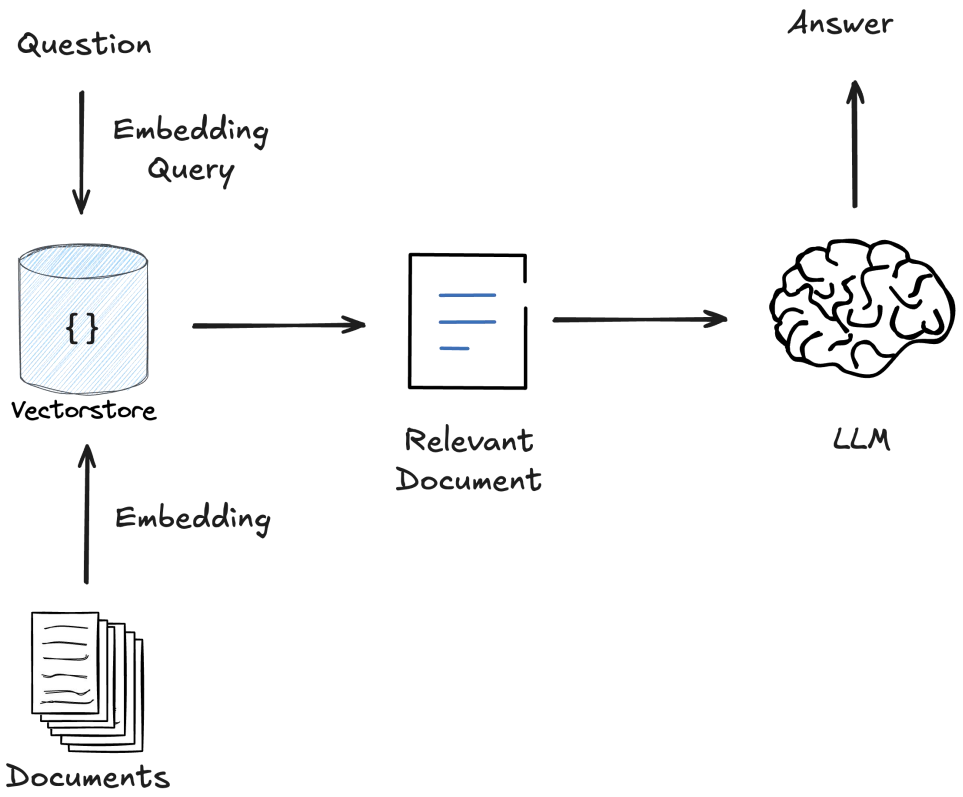
Can LLM solve these problems? bring a new interactive experience?

LLM能解决这些问题吗？能带来新的交互体验吗？

Explore

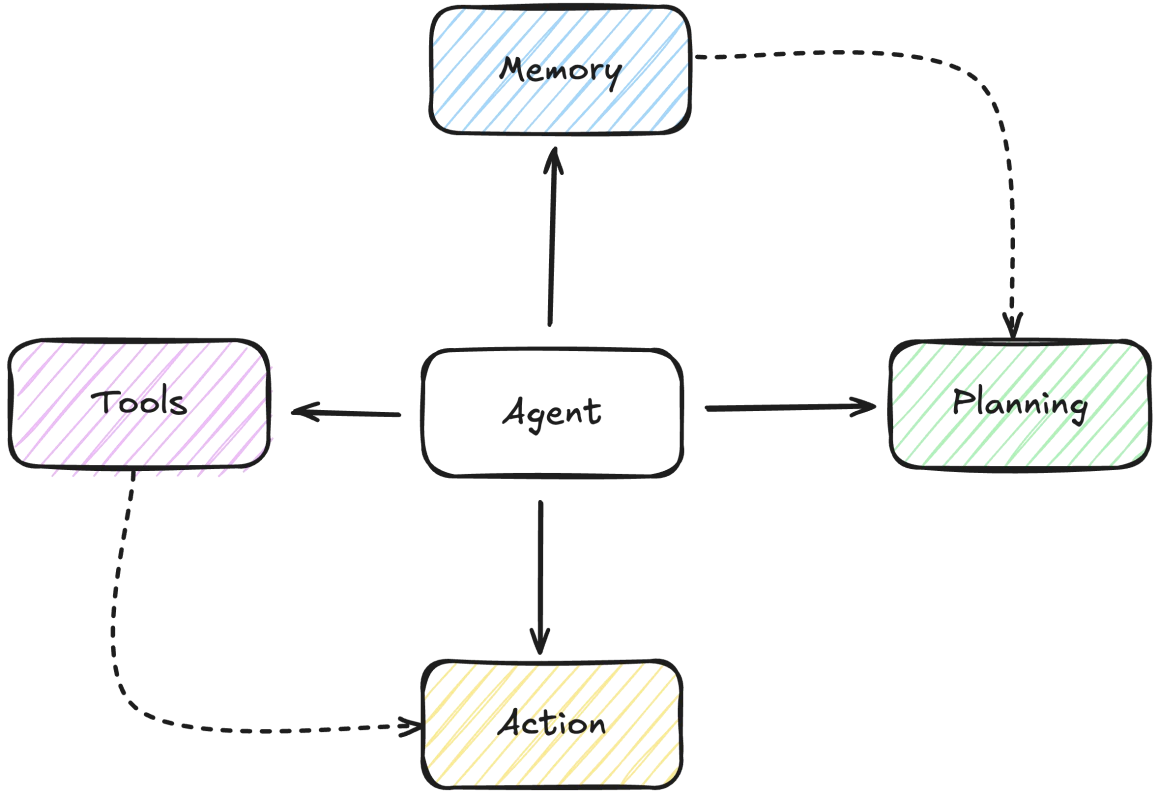
Text-to-PromQL

Retrieval Augmented Generation (RAG)



Like Human

AI Agent

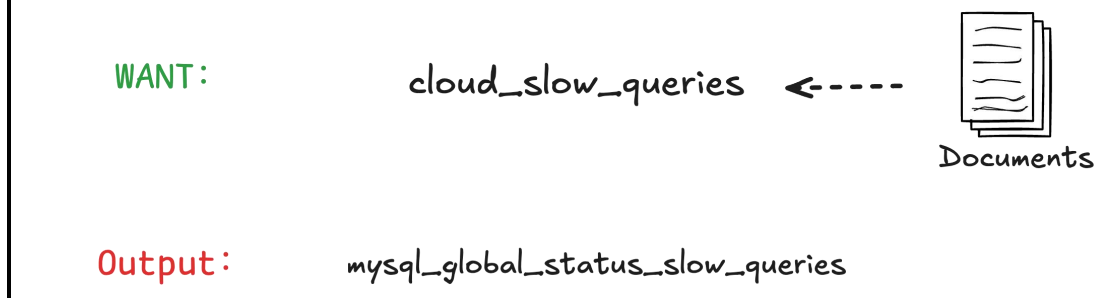


But LLM has its own ideas? (**Hallucination**)

但是大模型常常有它自己的想法?（**幻觉**）

- User questions are casual and ambiguous.
  用户的提问是随性的，模凌两可的
- Hallucinations occur, resulting in low accuracy and poor relevance.
  出现"幻觉"，结果准确性低，相关性差
- The Chat method is cumbersome.
  对答的方式很费劲
- Writing PromQL is just a means, not the end goal.
  写PromQL只是目标不是目的

```
100 -
avg_over_time(irate(node_cpu_seconds_total{resour
ce_name="hw-bj-zt-quickbi-0004", mode="idle"}
[1m])[2h:1m]) by
(instance,cmdb_id,resource_name)*100
```

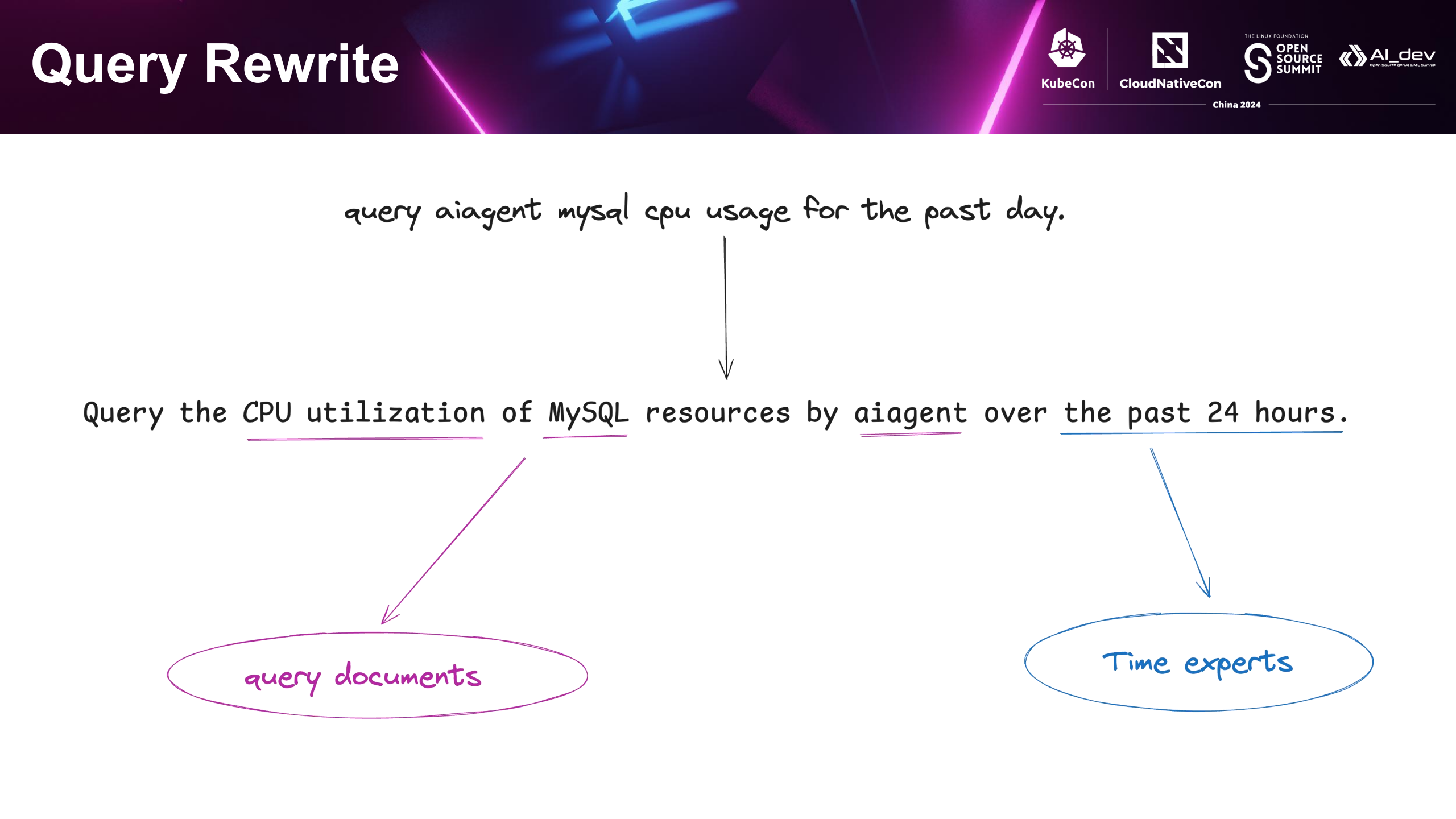


Thought

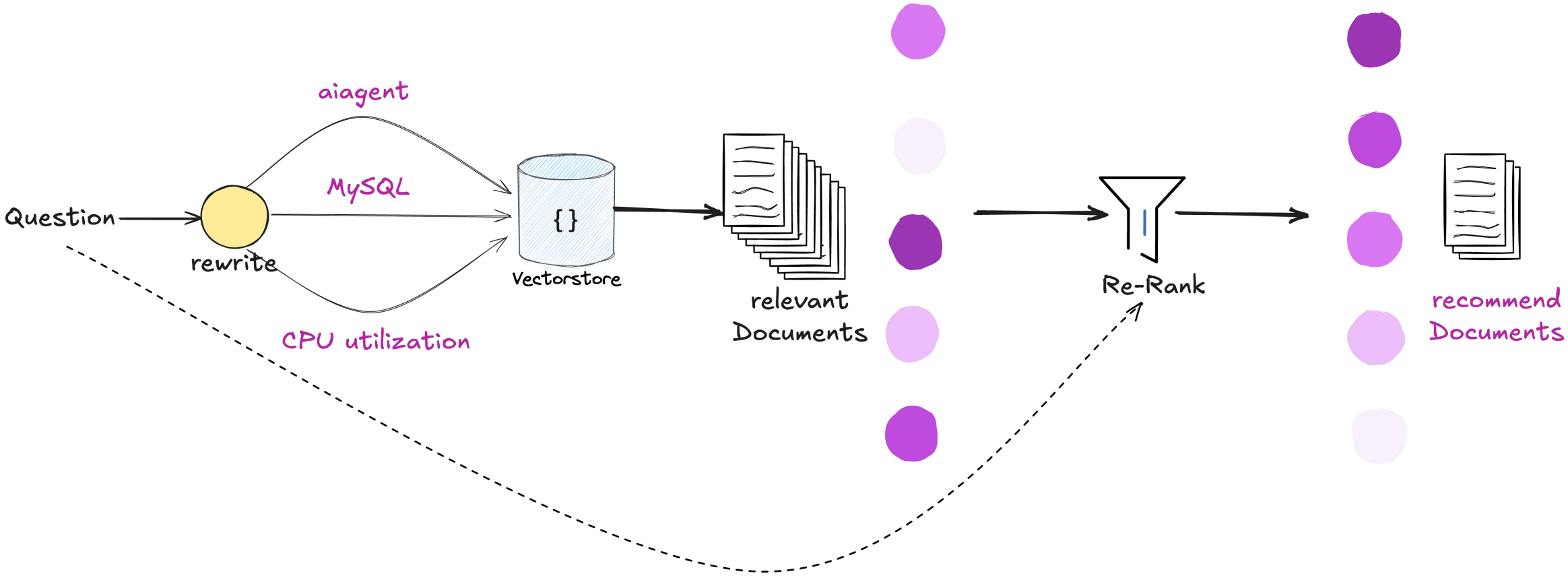
Me	AI Agent
Determine the query objective 确定查询目标	Query Rewrite
Search Google and look through communities 搜索谷歌、社区寻找	MultiRetriever and Re-Rank
Reference to write PromQL and execute query 参考编写PromQL，执行查询	LogsRetriever
When errors occur, analyze and adjust PromQL 遇到错误，分析，调整PromQL	ReAct Check And Generated PromQLs
View the results 查看结果	Create Chart

Query Rewrite

query aiagent mysql cpu usage for the past day.

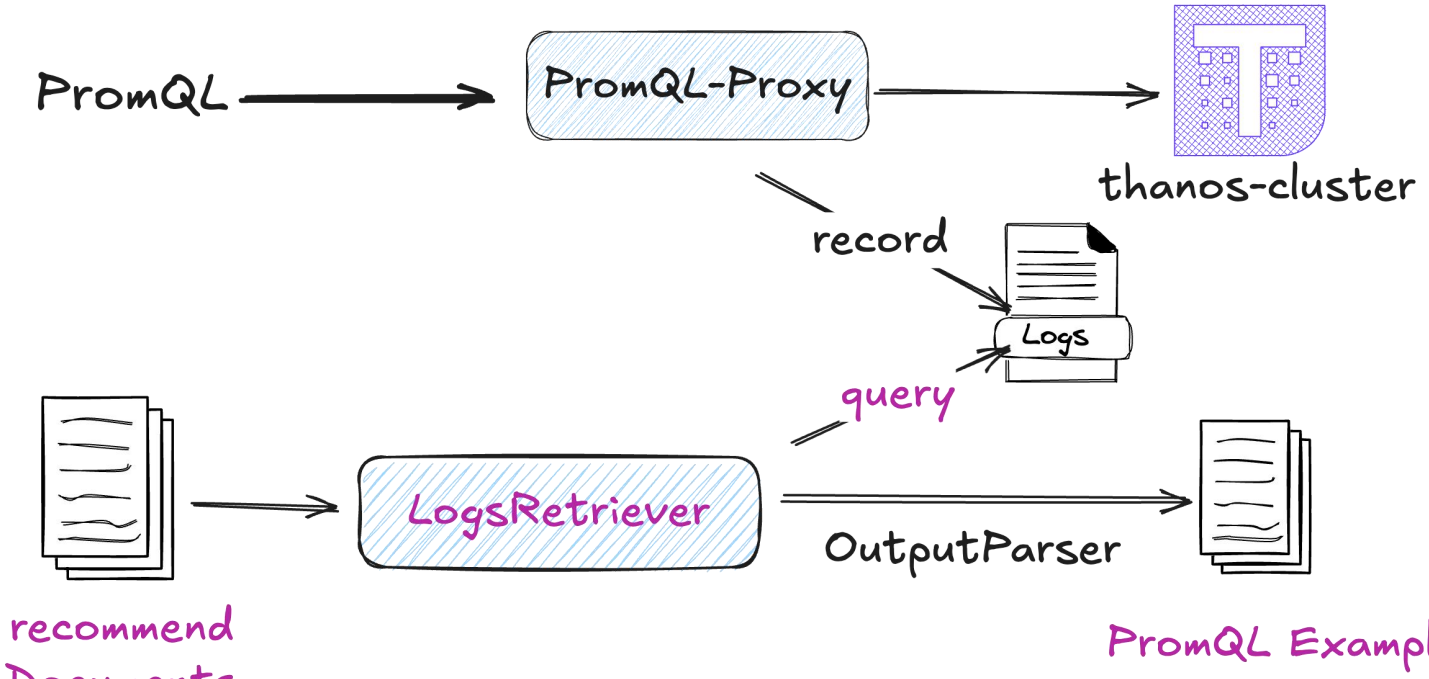


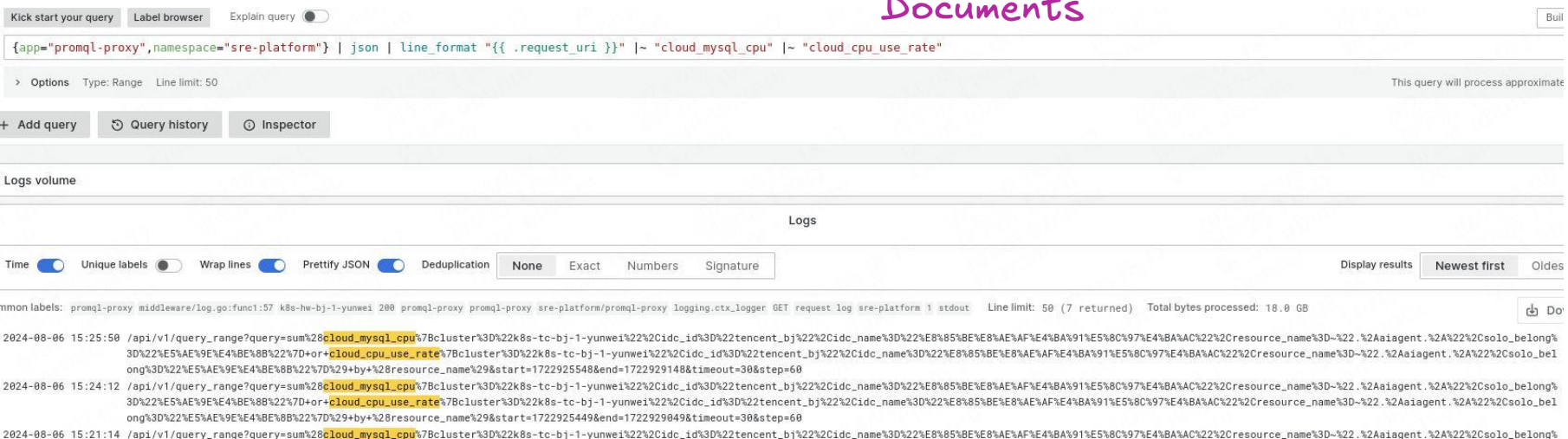
MultiRetriever and Re-Rank



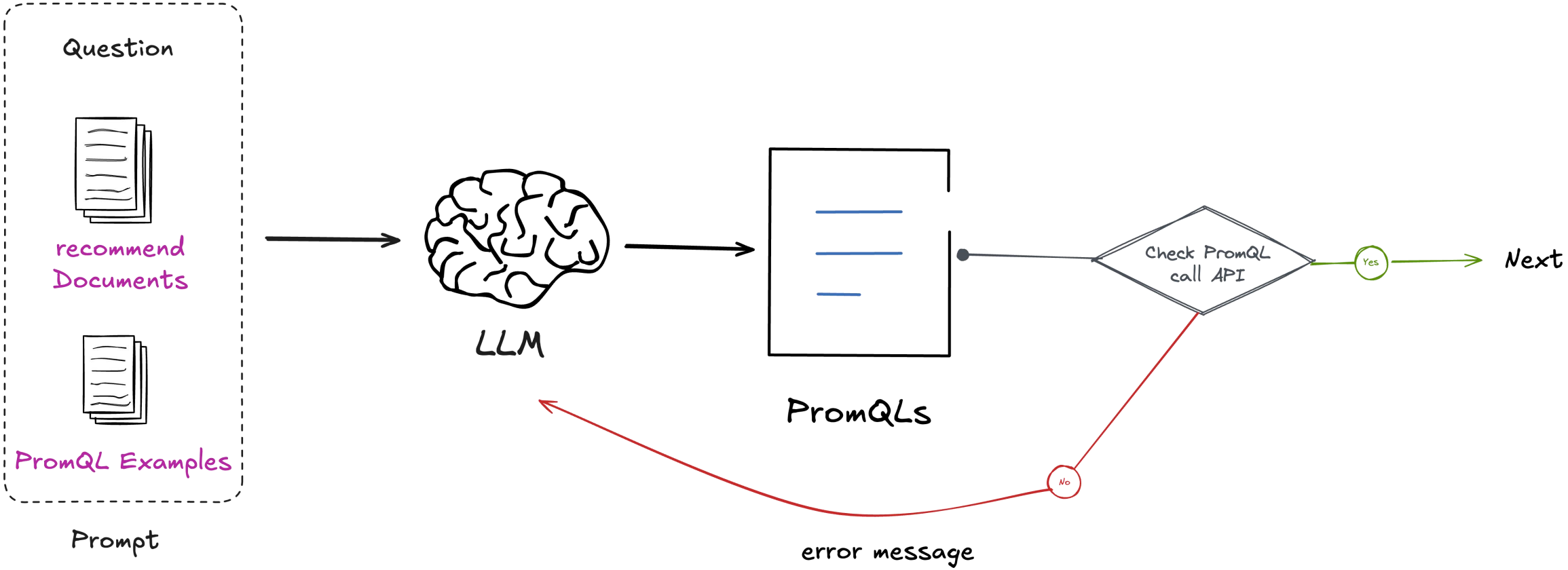
LogsRetriever

LLM needs examples.
Good Case

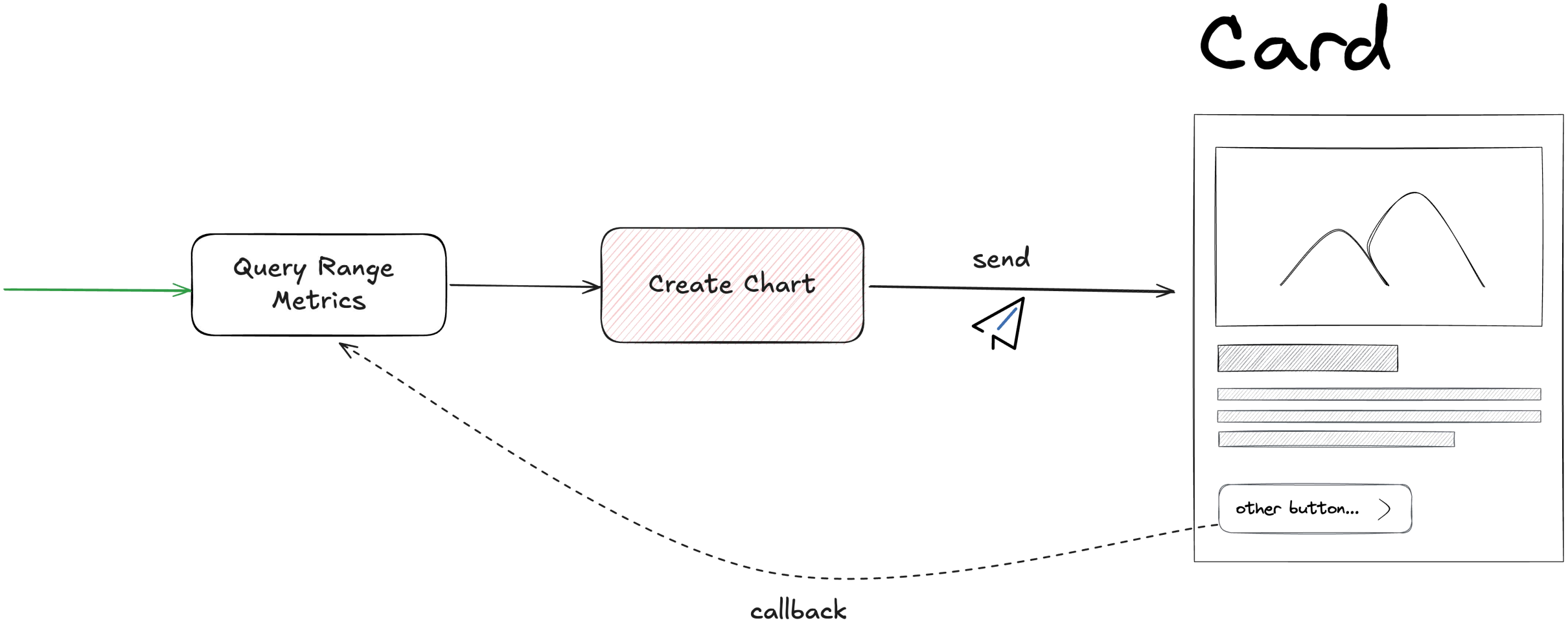




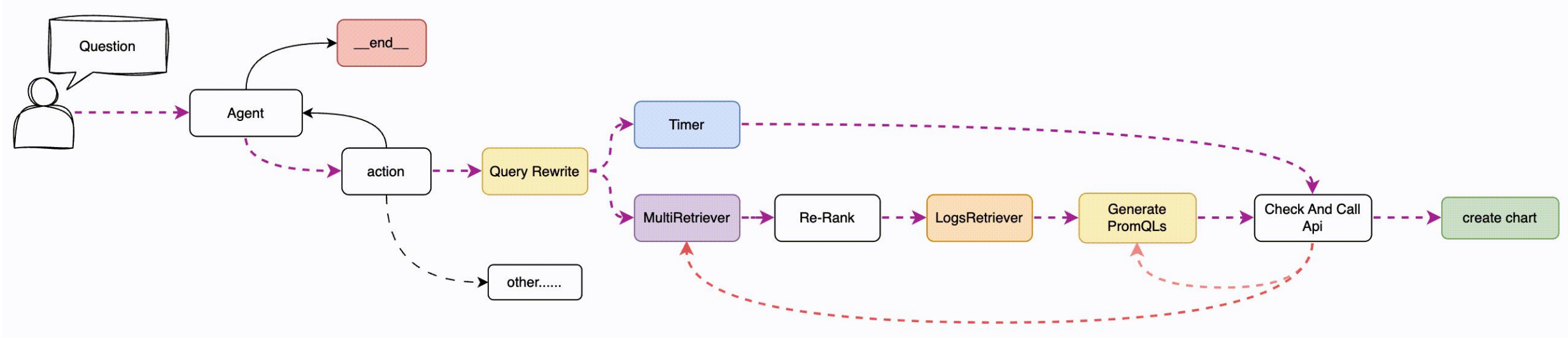
ReAct Check And Generated PromQLs



Create Chart



General


Question
__end__
Agent
action
Query Rewrite
Timer
MultiRetriever
Re-Rank
LogsRetriever
Generate PromQLs
Check And Call Api
create chart
other.....

Show Case

The End !