INTELLIGENT INFRASTRUCTURE ALERTS

Sponsored by

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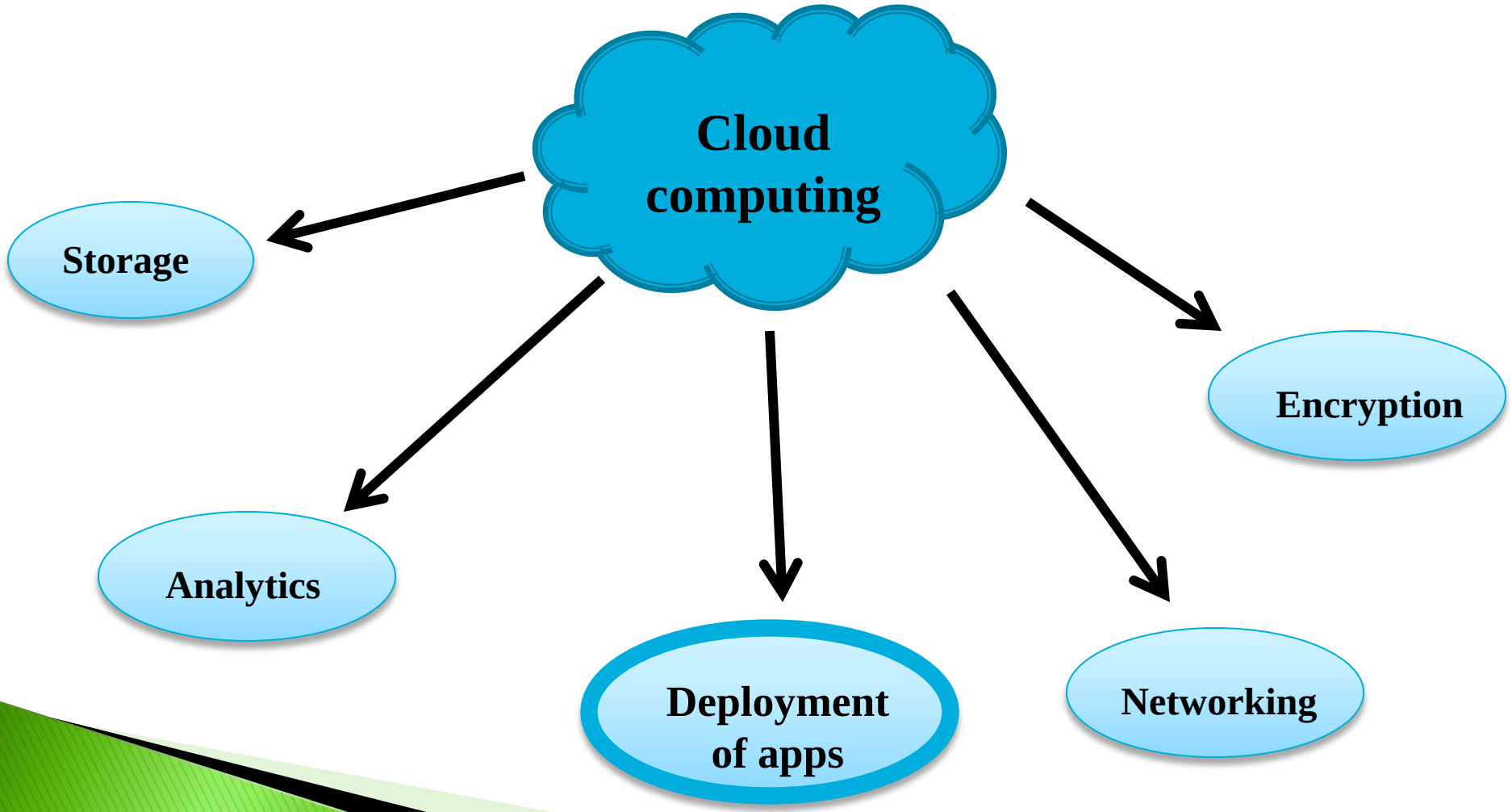
AGENDA

- Introduction
- Brief Overview
- Hardware and Software Requirements
- Modules
- Conclusion and Future Scope
- References

INTRODUCTION

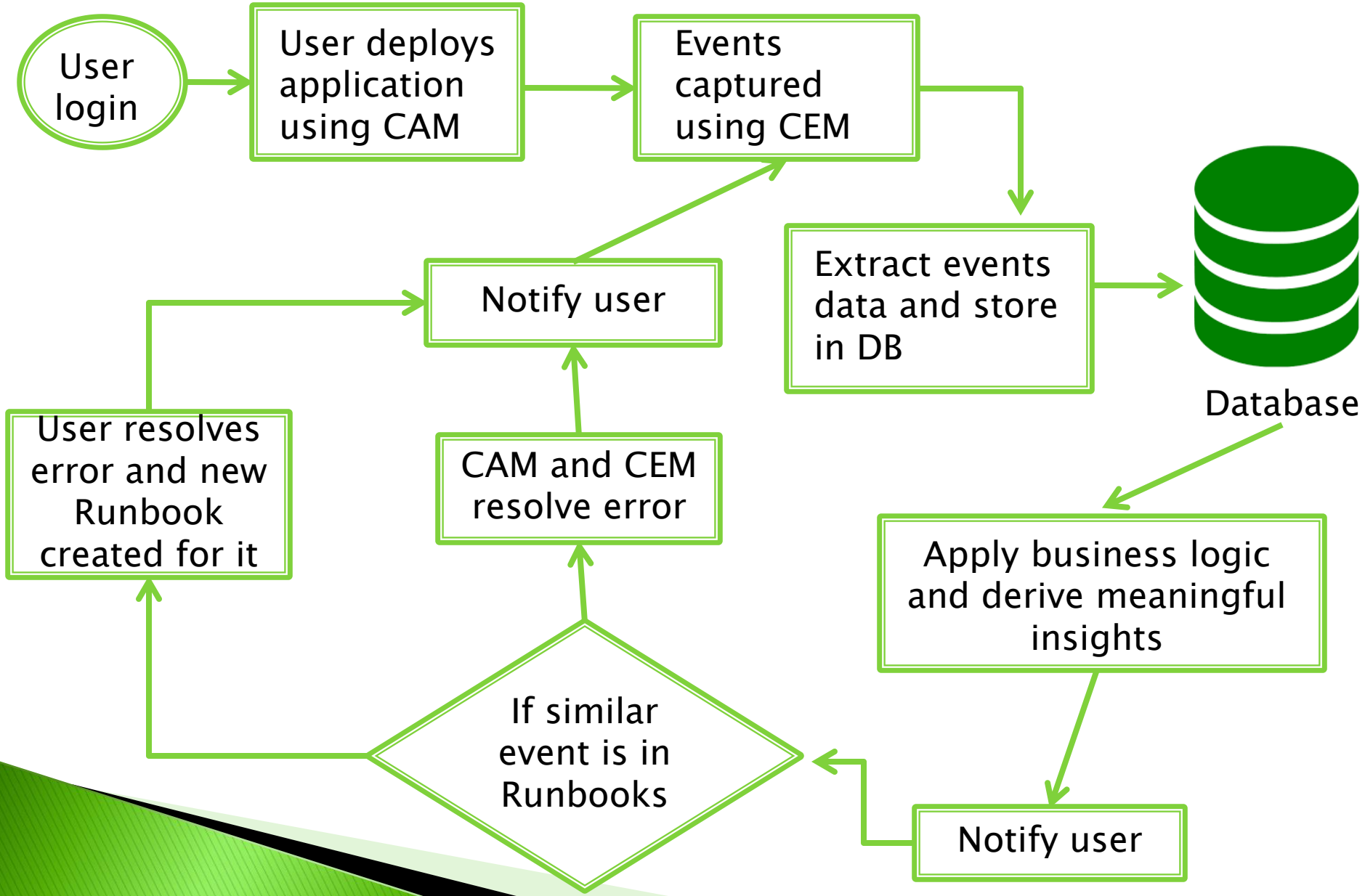


INTRODUCTION

Problem : Post-deployment reporting of failures and/or events for applications on cloud

- Deploying micro-services and VM's across cloud providers
- End-to-end automation
- Multiple issues may be encountered
- Capturing them using IBM Cloud Event Management
- Communicating the health status back to the user via chatbot

BRIEF OVERVIEW



TECHNOLOGIES

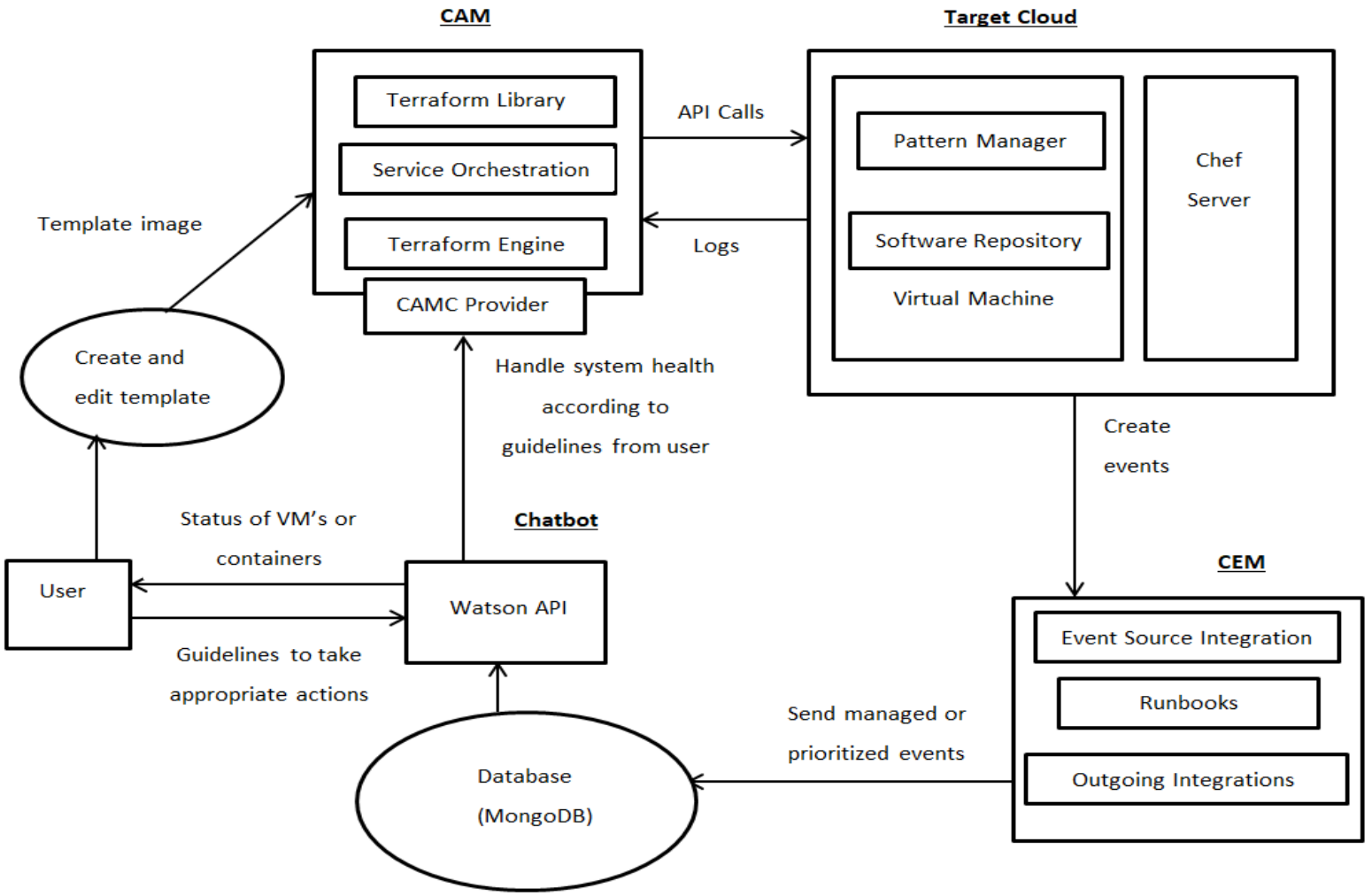
kubernetes

docker

mongoDB®

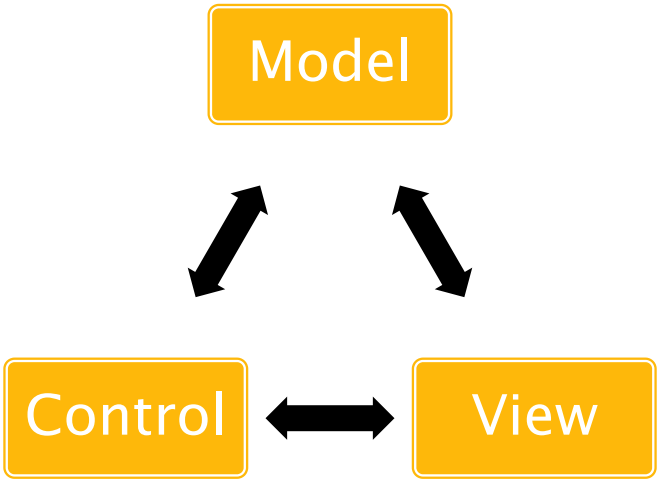
JavaScript

ARCHITECTURE



ARCHITECTURE

- MVC pattern

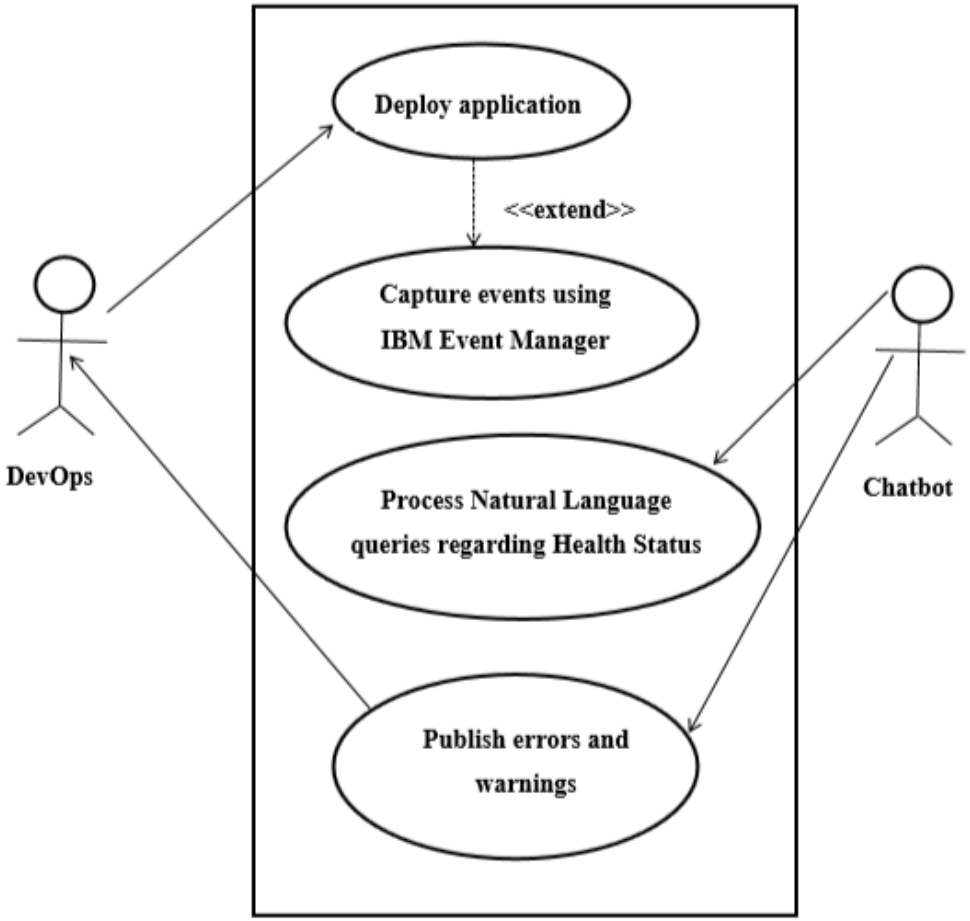


- Model – data-related logic
- View – UI logic of the application
- Controller – interface between Model and View
  – process all the business logic

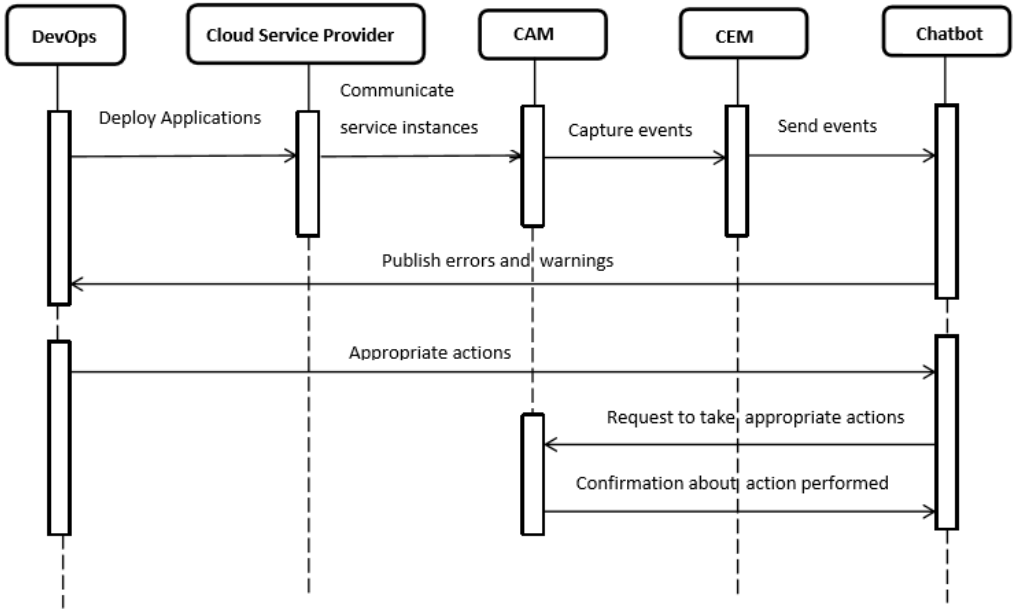
HARDWARE AND SOFTWARE REQUIREMENTS

- Hardware – Intel® Xeon(R) CPU E5- 2620 0 @ 2.00 GHz x 24
- Disk size – 589 GB
- Operating System – Ubuntu 16.04
- Databases – MongoDB
- Cloud – IBM Cloud Private
- APIs –
  - IBM Watson
  - REST (Representational State Transfer)
- Software –
  - Docker
  - Kubernetes
  - JavaScript
  - NodeJS

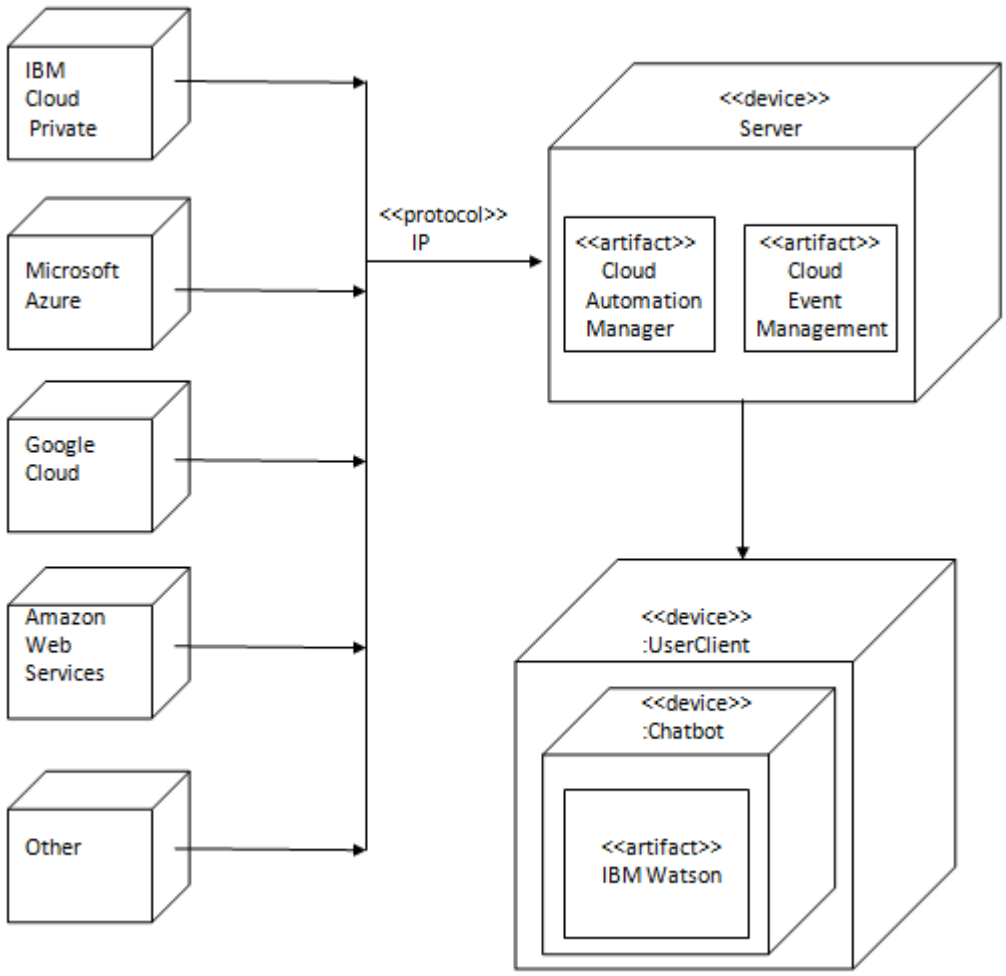
USECASE DIAGRAM



SEQUENCE DIAGRAM



DEPLOYMENT DIAGRAM

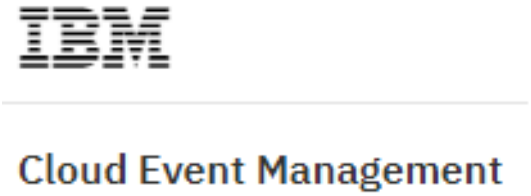


MODULES

Module 1 : Capturing events

- Maintenance of the application after deployment
- Identifying events occurred.
- Events like
  - Crashing of containers
  - Low storage
  - Thrashing
- Capturing events using IBM Cloud Event Manager.

What is **IBM Cloud Event Management**?



- Solution to capturing events
- Correlates events into prioritized incident views
- Quick and effective
- Prioritization criteria is set by the user

Module 2: Storing and processing data collected

- Extracting the events data
- Data is stored in MongoDB
- Business logic is applied
- Provides meaningful insights for the user

What is **MongoDB**?

- NoSQL database
- Cross-platform
- Document-oriented database
- Scales horizontally using sharding
- Map-reduce can be used for batch processing of data and aggregation operations

Module 3: Communicating captured events

- Analyzing text data
- Extracting entities, concepts, keywords
- Convey the health status of the VM's and containers
- Publishing errors and warnings to the user
- Chatbot using IBM Watson

What is **IBM Watson**?

- Simple and easy to user interface
- Connects to messaging channels
- Recommends what to train
- Can provide complex responses

FEATURES

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Can work for application on any cloud provider

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Shows users how multiple events are related

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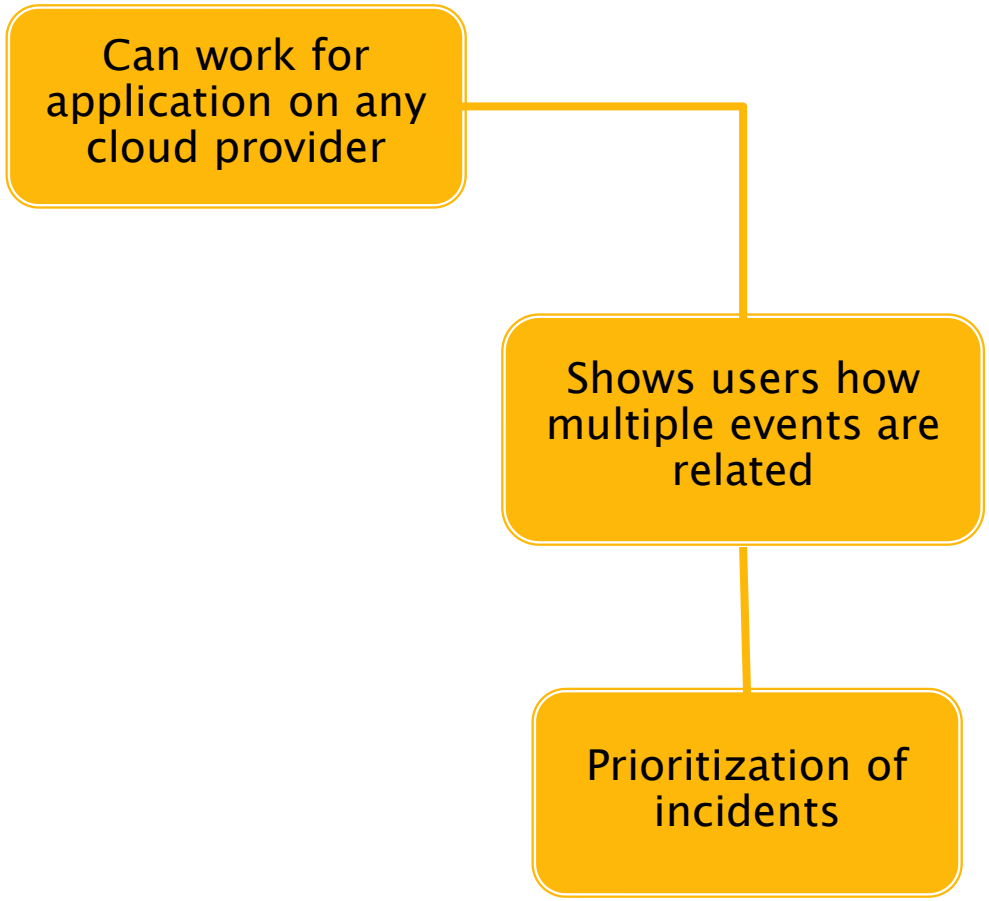
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Prioritization of incidents

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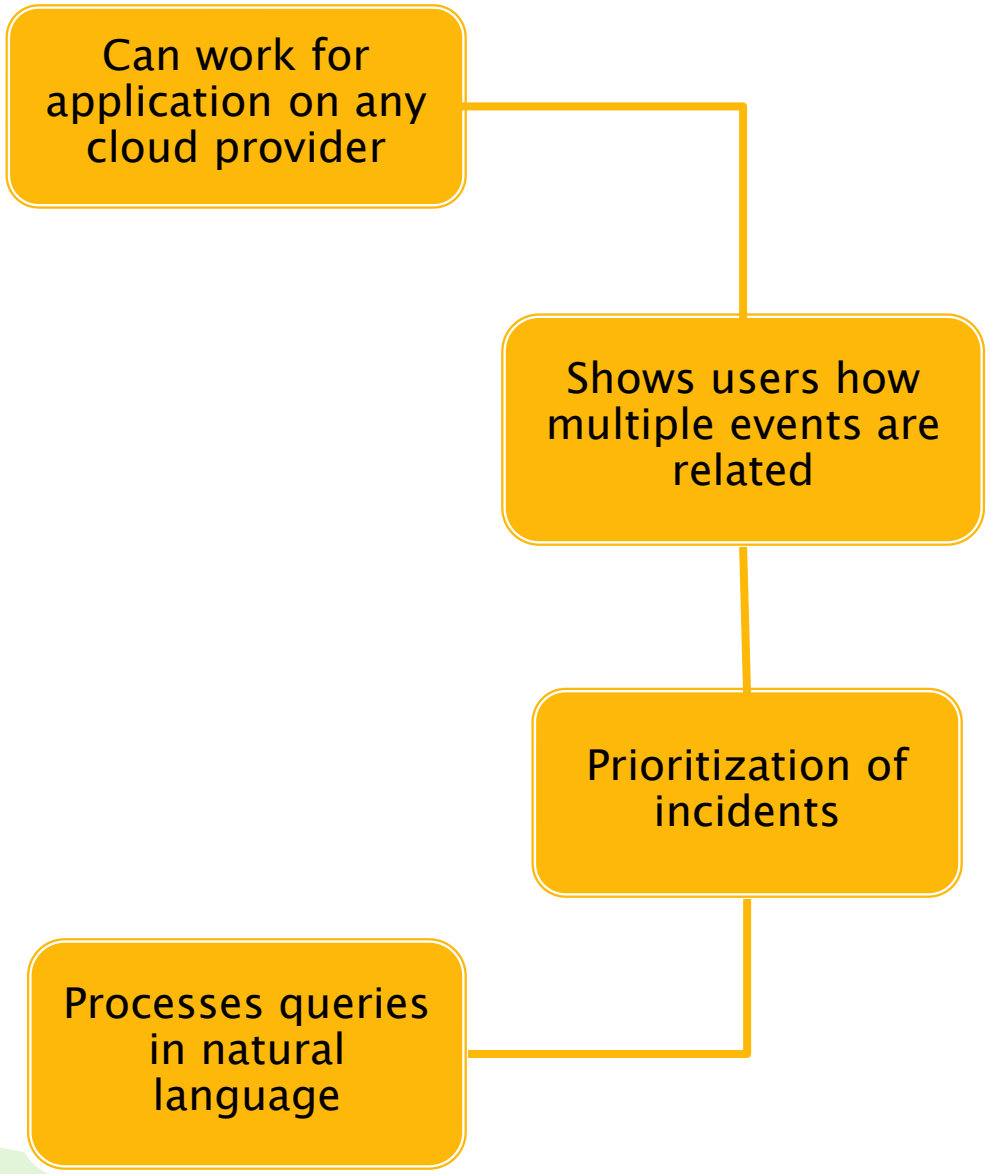
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Prioritization of incidents
Processes queries in natural language

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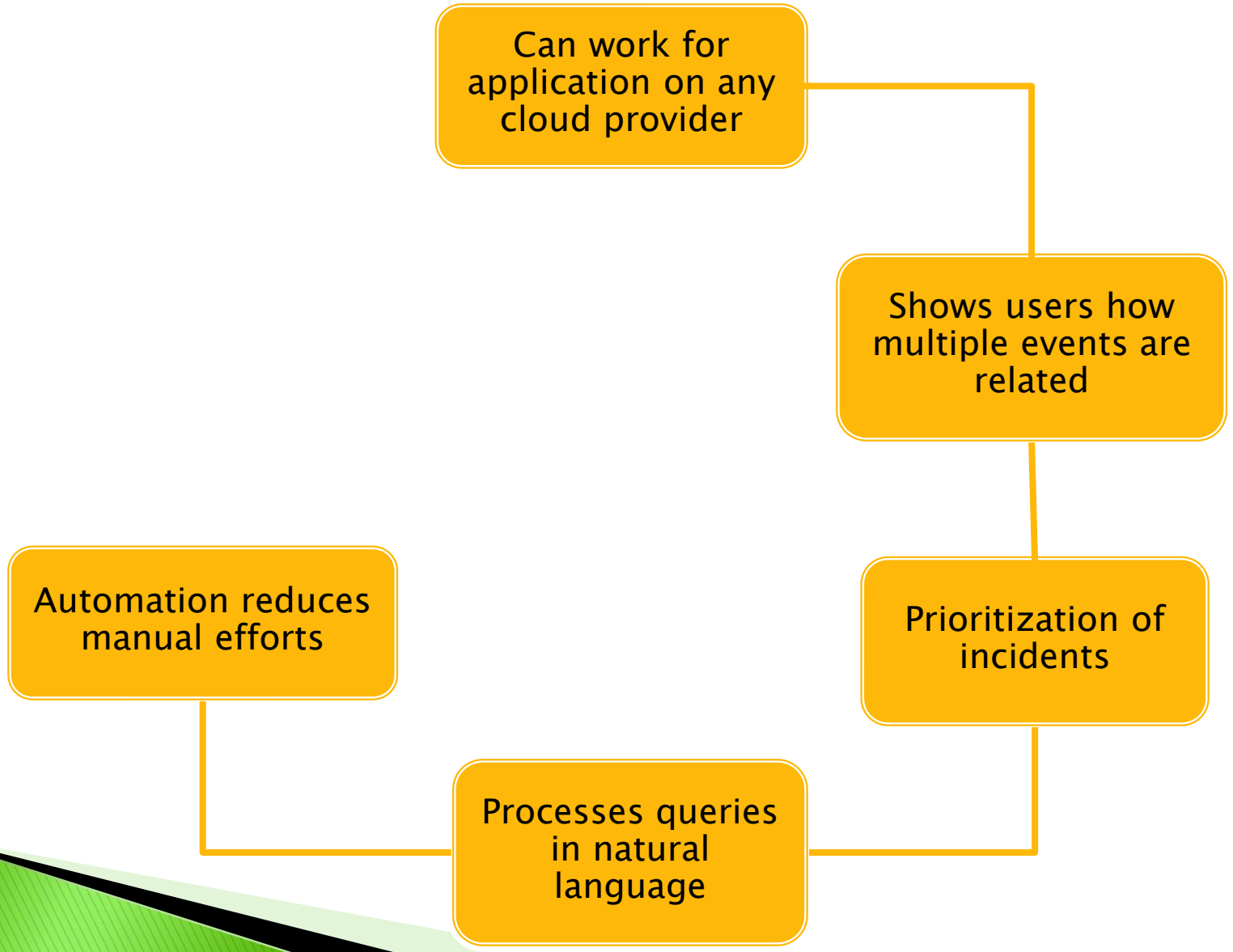
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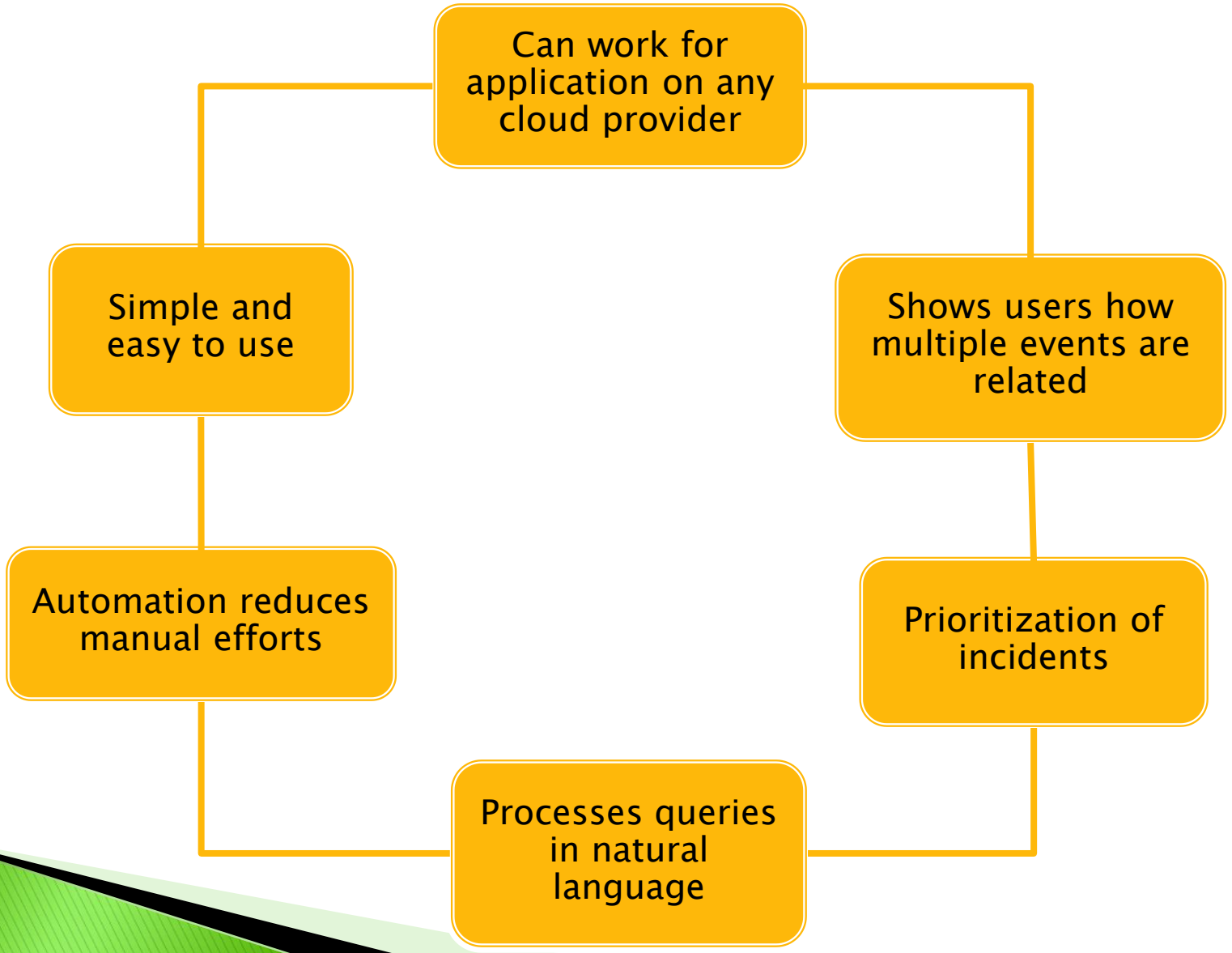
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Shows users how multiple events are related
Prioritization of incidents
Processes queries in natural language
Automation reduces manual efforts
Simple and easy to use

SOFTWARE QUALITY ATTRIBUTES

- Agility
- Compatibility
- Configurability
- Usability
- Correctness
- Flexibility

CONCLUSION

- The proposed project aims to help users in managing the application.
- It provides complete and relevant information of the events.
- Events are communicated with users in natural language.
- Thus, they can take appropriate actions immediately.
- This way, developers and administrators can meet business demands more efficiently.

FUTURE SCOPE

- Performing analytics on the event data collected
- Deriving patterns for meaningful insights
- Prediction of failure in advance

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Thank
You!


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