

# Splunk Cloud Under The Hood



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# Disclaimer

During the course of this presentation, we may make forward looking statements regarding future events or the expected performance of the company. We caution you that such statements reflect our current expectations and estimates based on factors currently known to us and that actual events or results could differ materially. For important factors that may cause actual results to differ from those contained in our forward-looking statements, please review our filings with the SEC. The forward-looking statements made in the this presentation are being made as of the time and date of its live presentation. If reviewed after its live presentation, this presentation may not contain current or accurate information. We do not assume any obligation to update any forward looking statements we may make.

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splunk > cloud

Site Reliability Engineering  
San Francisco

# What is

# splunk<sup>®</sup> > cloud<sup>™</sup> ?

# Agenda

- Overview
- Design Principles
- Data Ingestion
- Reliability & Availability
- Security from the Ground Up
- Hybrid
- Operational Excellence

# Design Principles

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# Design Principles

Secure

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Instant

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Reliable

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Hybrid

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Clustering &  
License Managers



Indexers



Search Heads



# Single Tenant




Clustering &  
License Managers



Indexers



Search Heads

 EC2 Instance



# Secure By Default



Network Isolation

System Isolation

Encryption

Non-repudiable Logging

Secure coding practices





# Reliable

Replicated Data

Replicated Configs

Disaster Recovery

Redundant infrastructure





Licenser Service



ANSIBLE



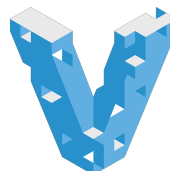
splunk > cloud™



CHEF™

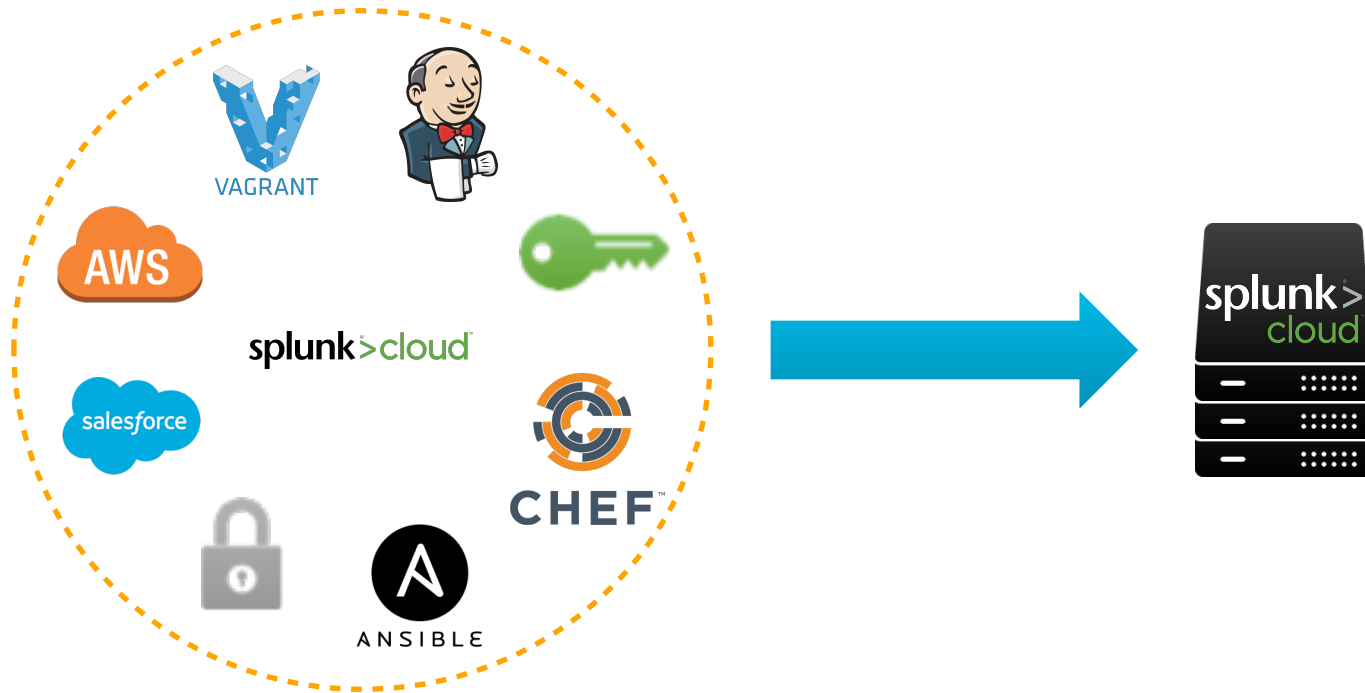


Cert Generation



VAGRANT

# Instant



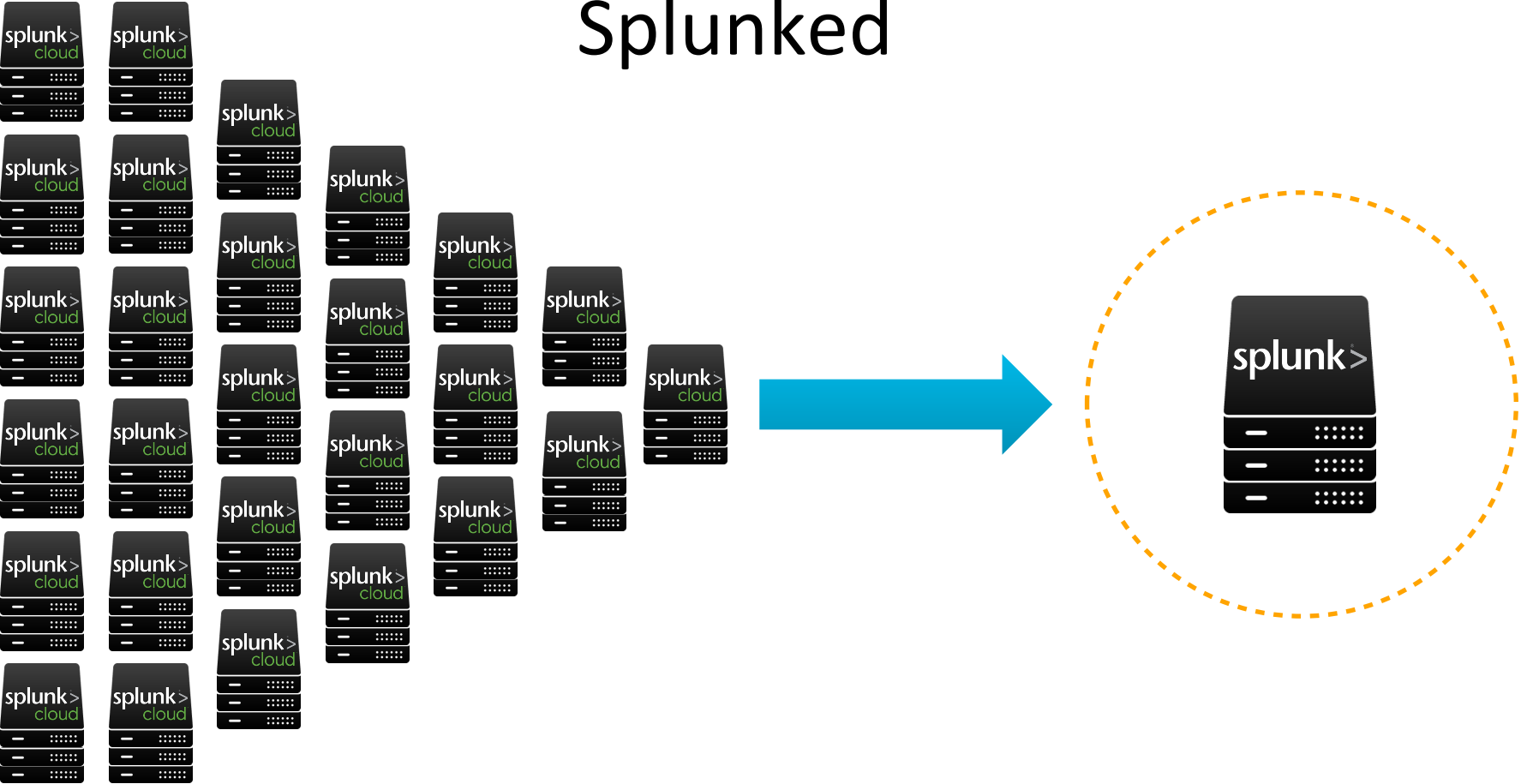


# Scalable





# Splunked

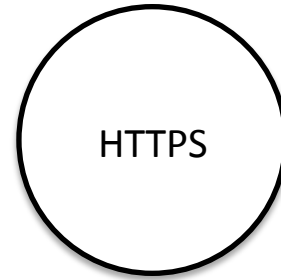
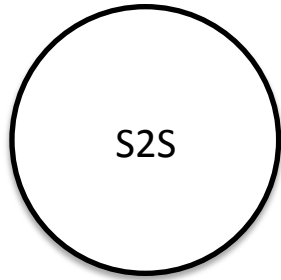


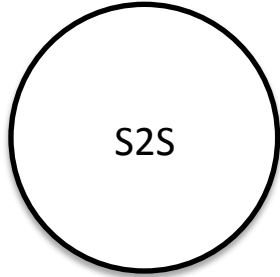
# Data Ingestion



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# Two Methods Of Ingesting Data



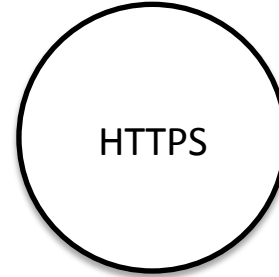


S2S

Splunk-to-Splunk with SSL

Universal & Heavy Forwarders

High performance



HTTPS

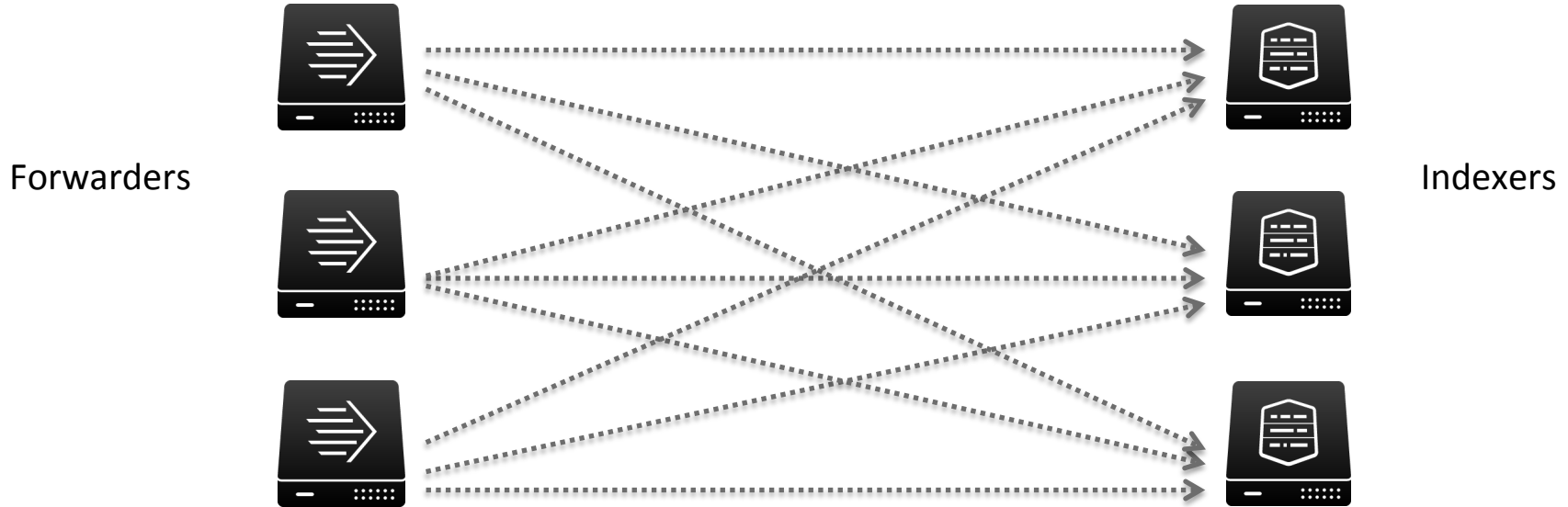
Forward JSON events over HTTPS

No Splunk forwarders necessary

SDKs allow for application integration

High performance & scalable

# S2S Ingestion



# S2S Ingestion

Forwarders



**ACME**  
CORPORATION

Round Robin DNS  
+  
Elastic IP Addresses

```
[default outputs.conf]  
autoLBFrequency=30  
dnsResolutionInterval=300
```

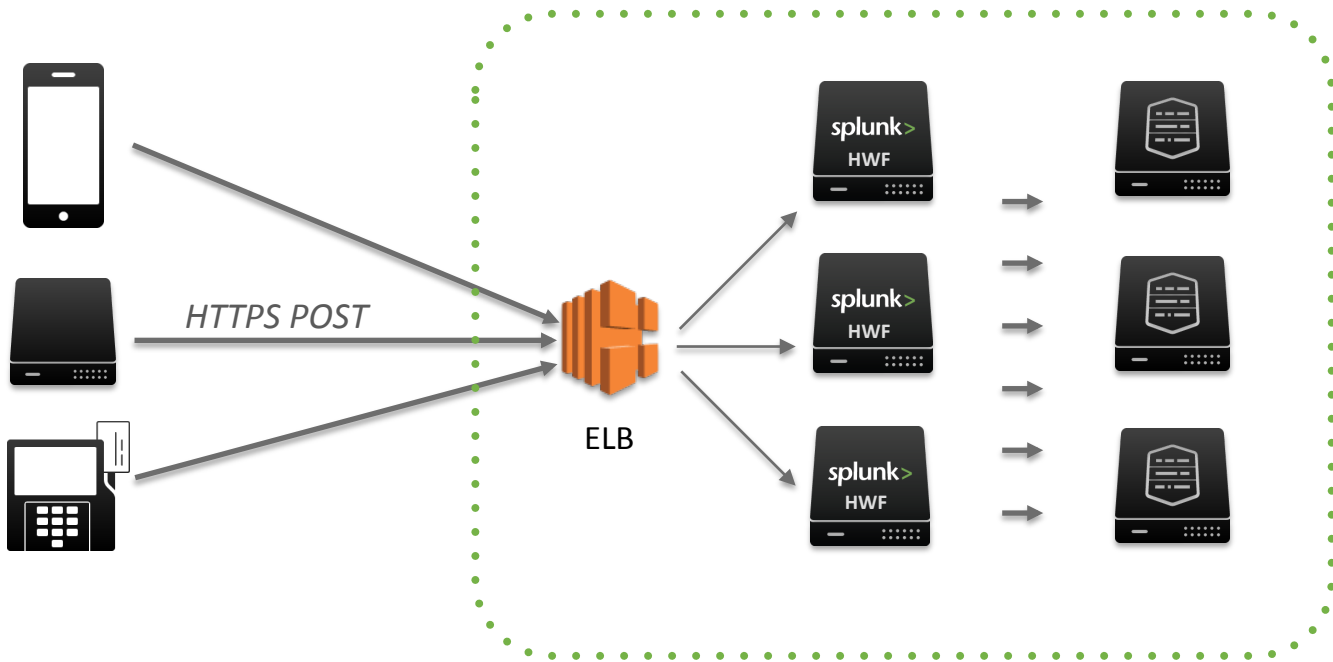
Indexers



splunk>cloud



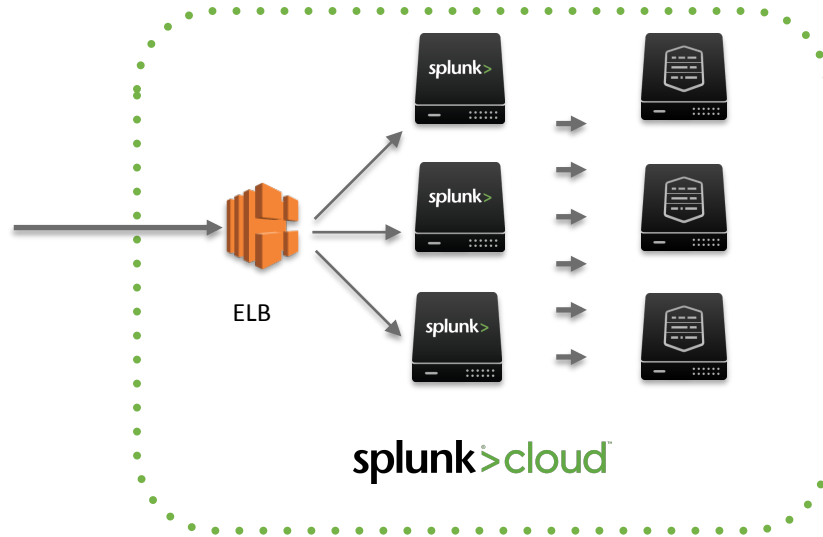
# HTTP Event Collector



splunk>cloud™

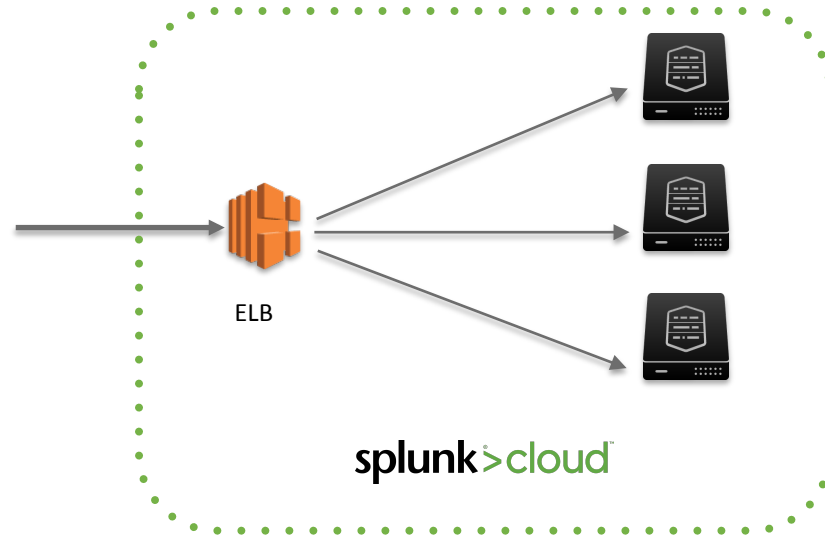
# Large number of HTTP clients

## Small bursts of data, **millions of times**



# Small number of HTTP clients

## Continuous streams of data



# Reliable & Available

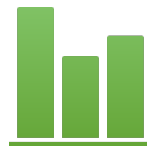


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# High Availability



# High Availability



Search Head 1

Search Head 2

Search Head 3

# High Availability



# High Availability



Load Balancer

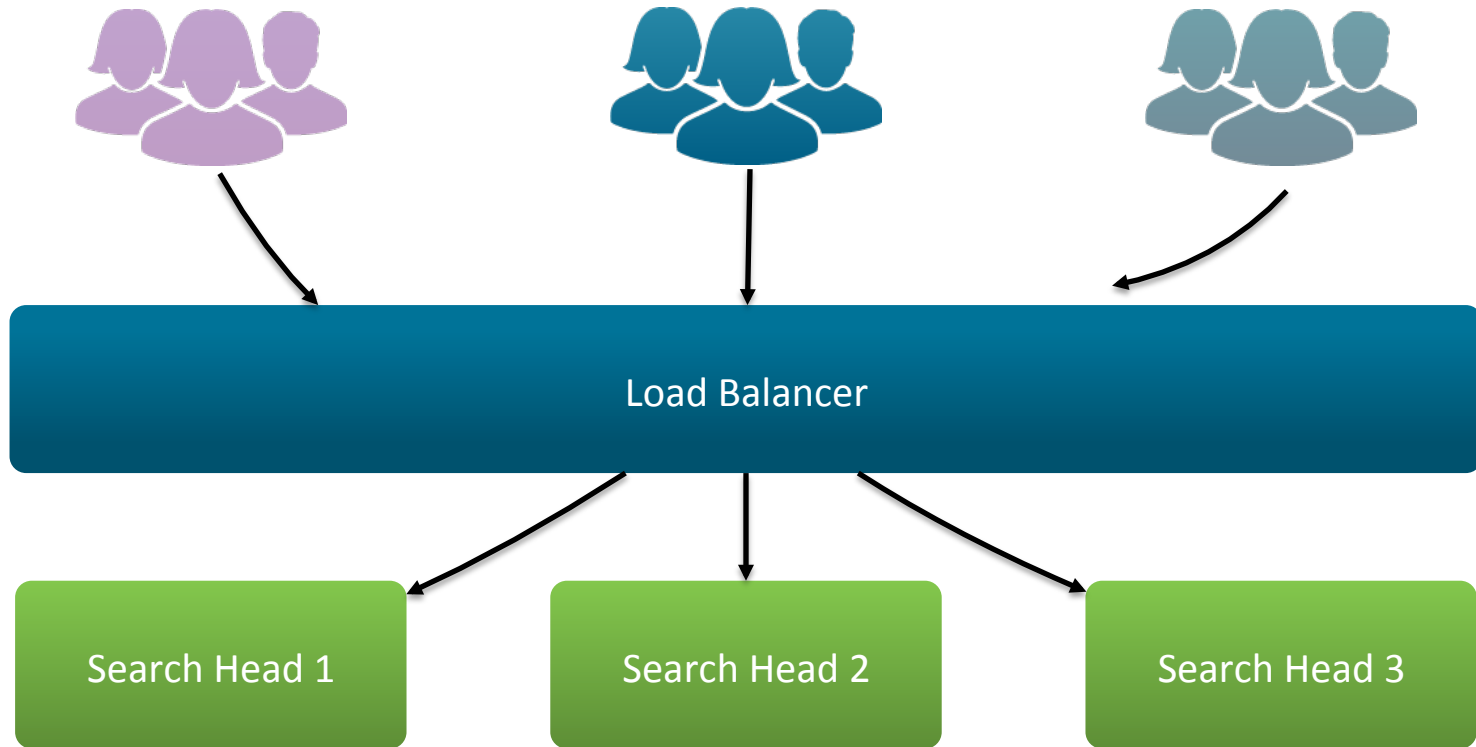
Search Head 1

Search Head 2

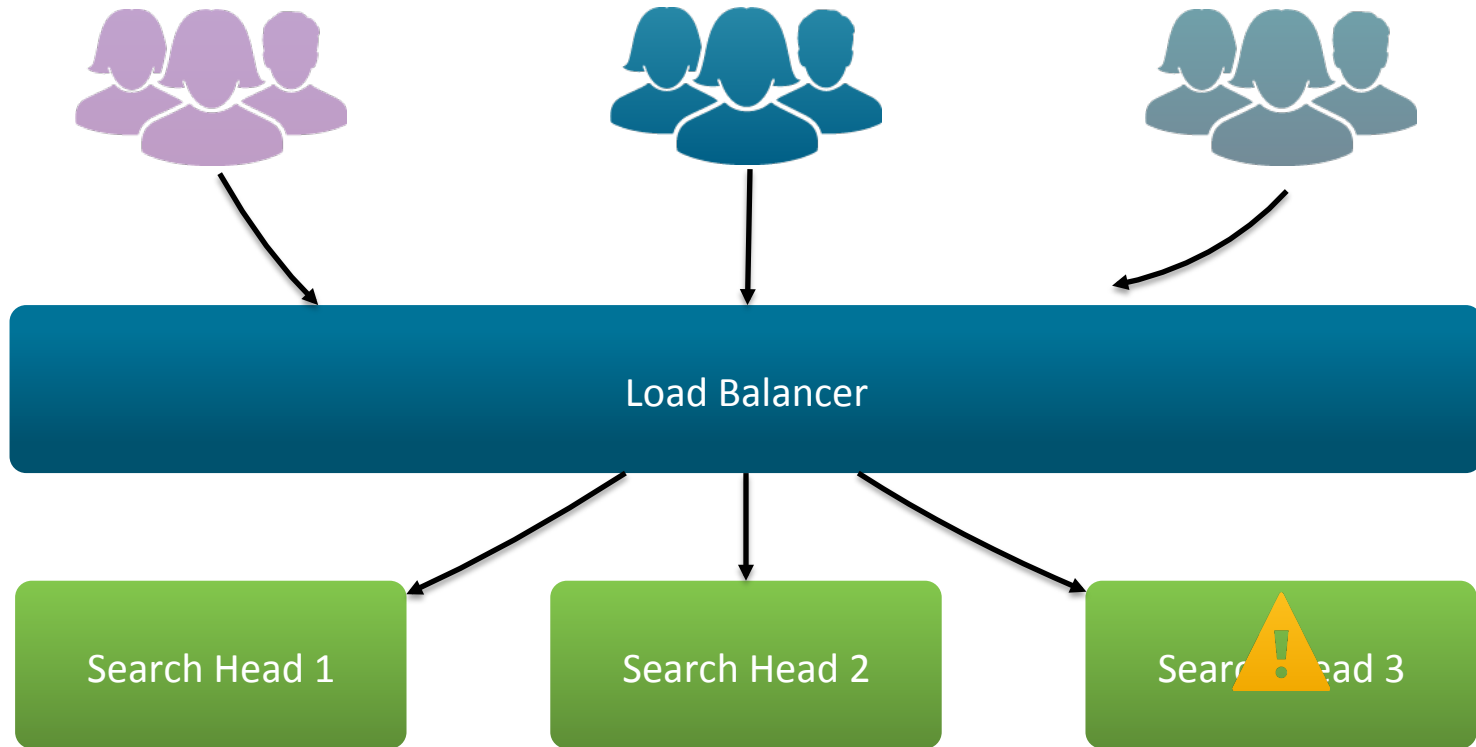
Search Head 3



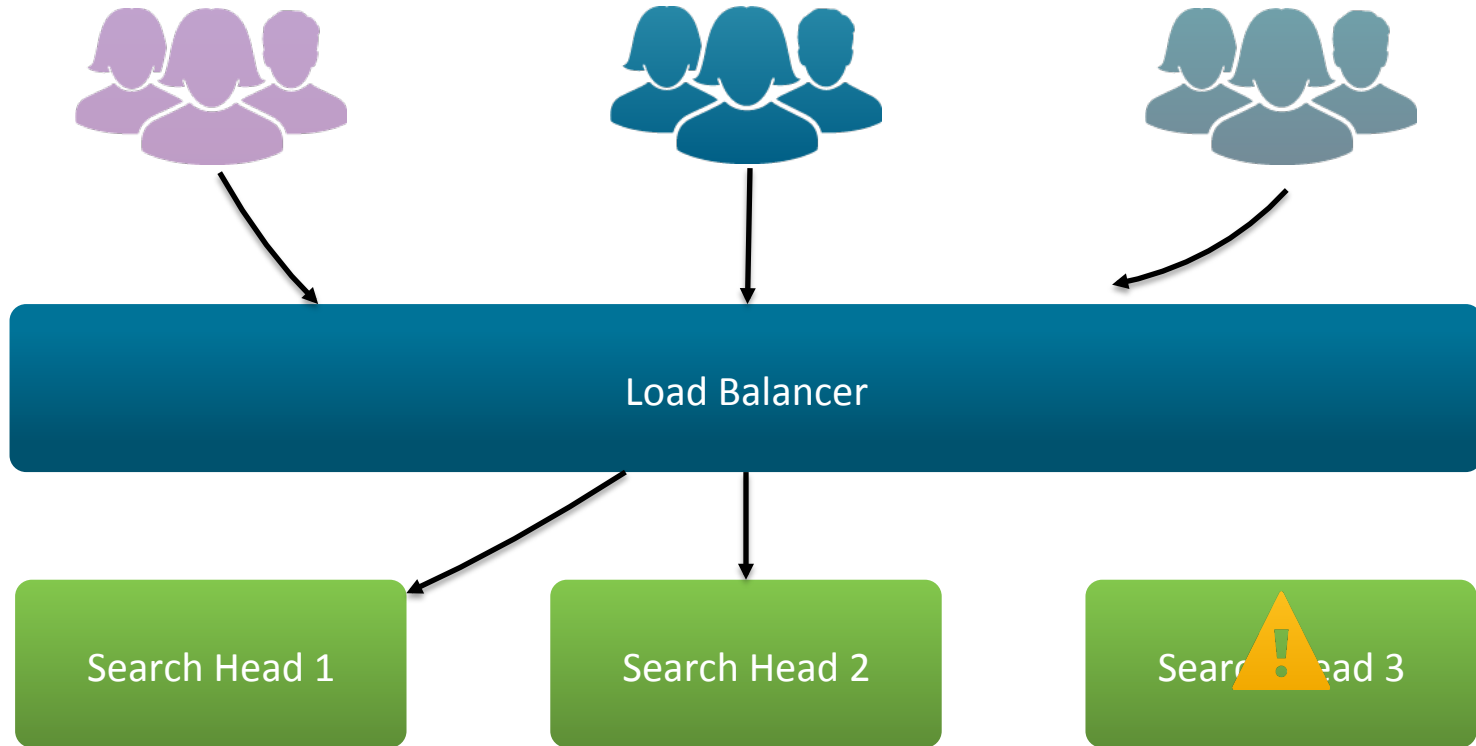
# High Availability



# High Availability



# High Availability



# Reliability



3 Indexers

# Splunk Buckets



Searchable Bucket  
Contains raw data & Splunk metadata

# Splunk Buckets



Searchable Bucket  
Contains raw data & Splunk metadata



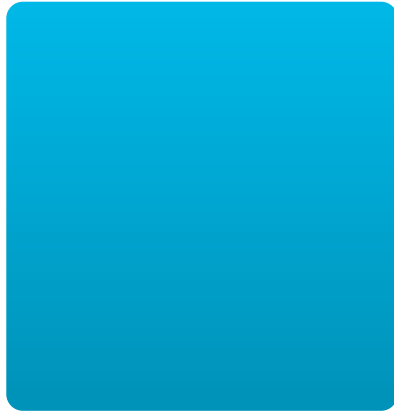
Replicated Bucket  
Contains only raw data

# Reliability

Indexer 1



Indexer 2



Indexer 3



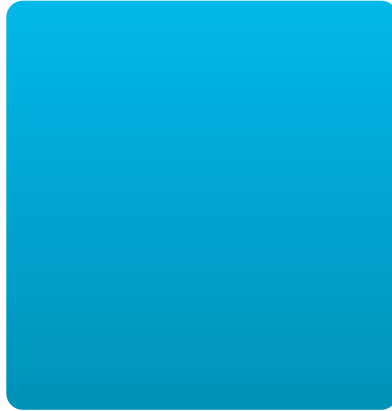
# Reliability

Indexer 1



Searchable Bucket

Indexer 2



Indexer 3





# Reliability

Indexer 1



Searchable Bucket

Indexer 2



Searchable Bucket

Indexer 3



# Reliability

Indexer 1



Searchable Bucket

Indexer 2



Searchable Bucket

Indexer 3



Replicated Bucket

# Reliability

Indexer 1



Searchable Bucket

Indexer 2



Searchable Bucket

Indexer 3



Replicated Bucket

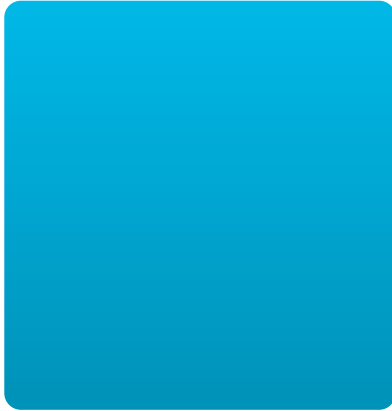
# Reliability

Indexer 1



Searchable Bucket

Indexer 2



Indexer 3



Replicated Bucket

# Reliability

Indexer 1



Searchable Bucket

Indexer 2



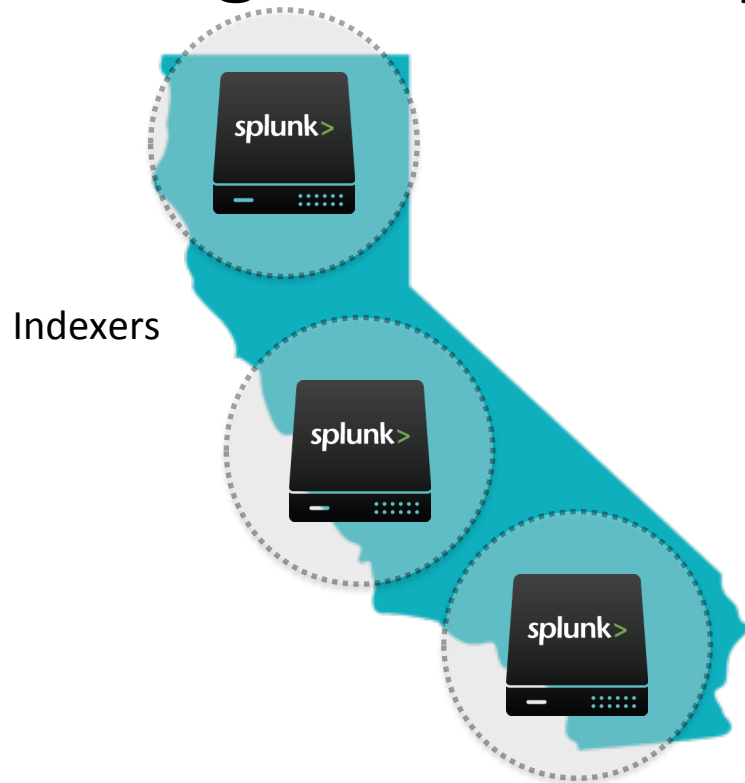
Searchable Bucket

Indexer 3

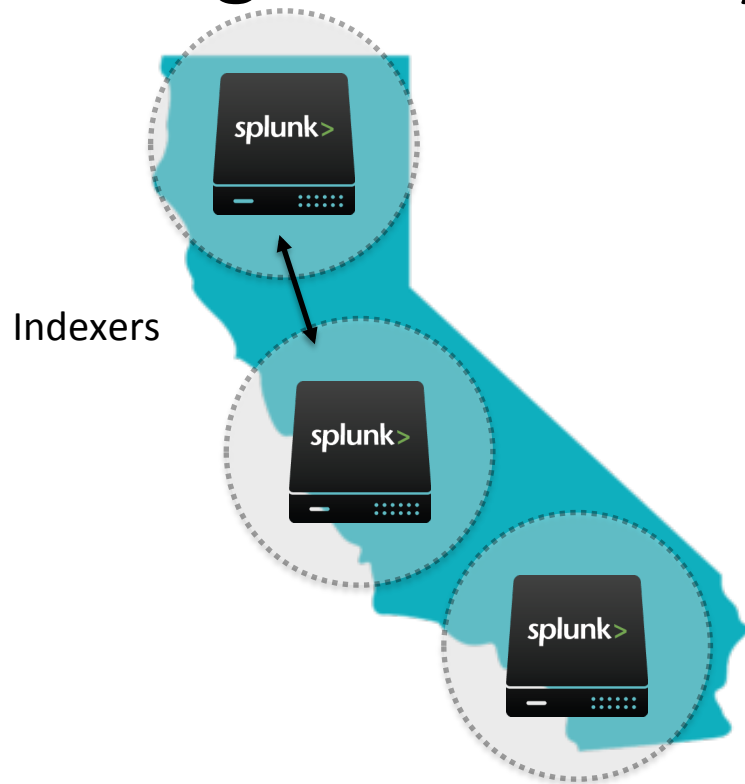


Replicated Bucket

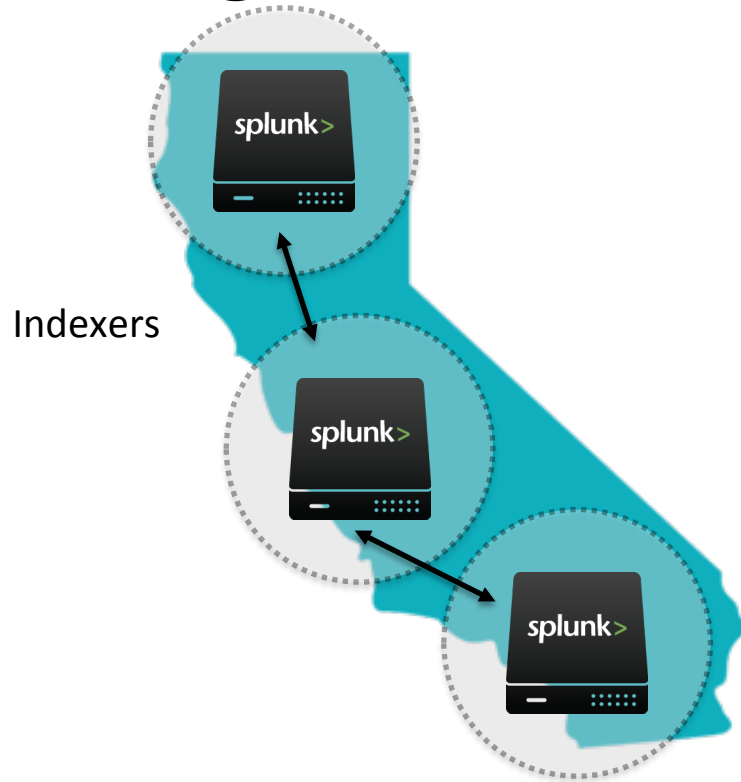
# High Availability



# High Availability

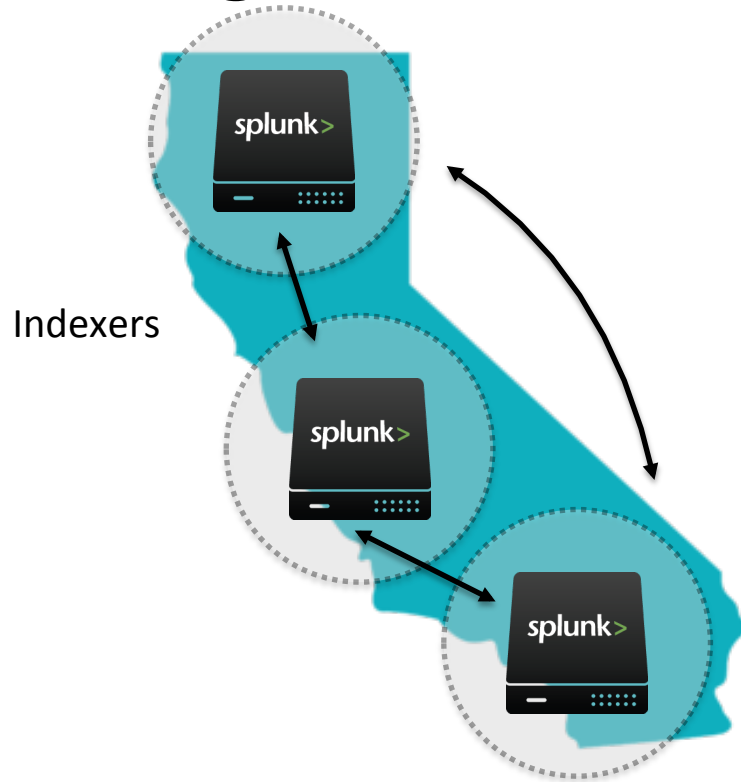


# High Availability

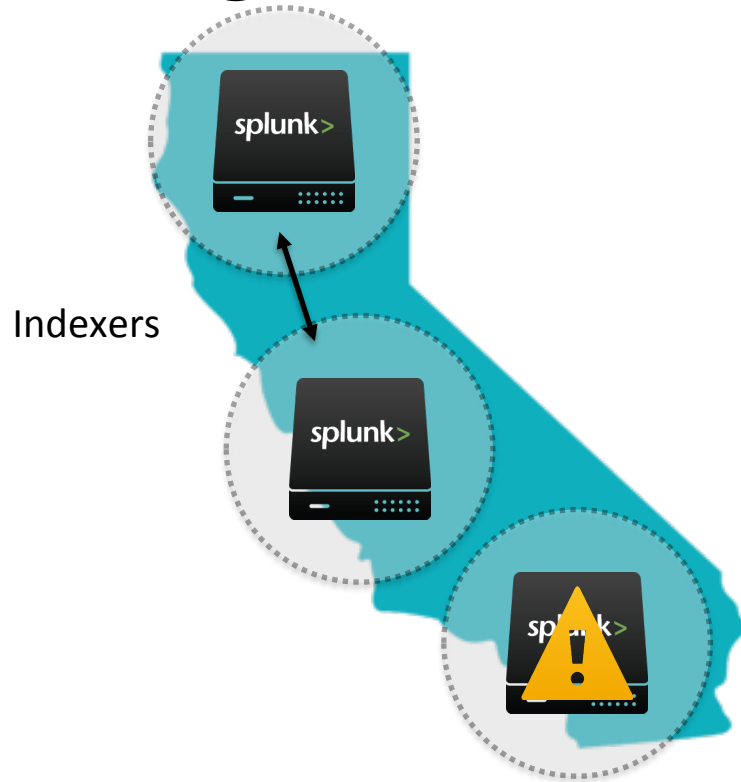




# High Availability



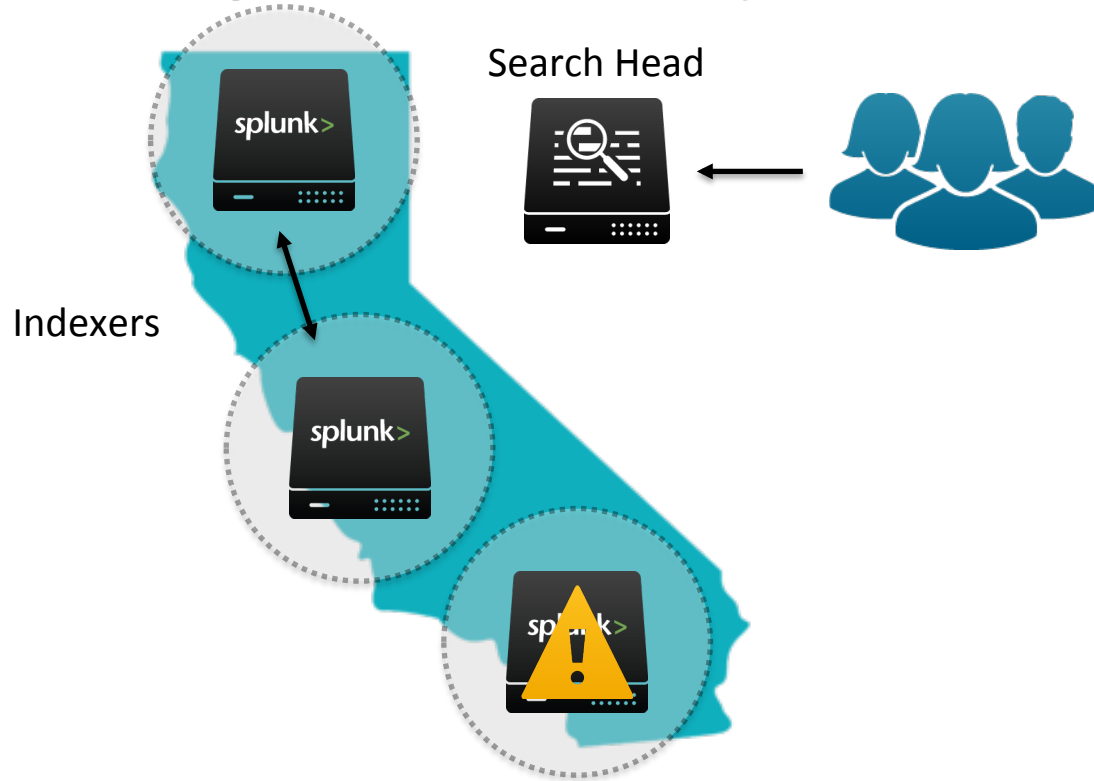
# High Availability



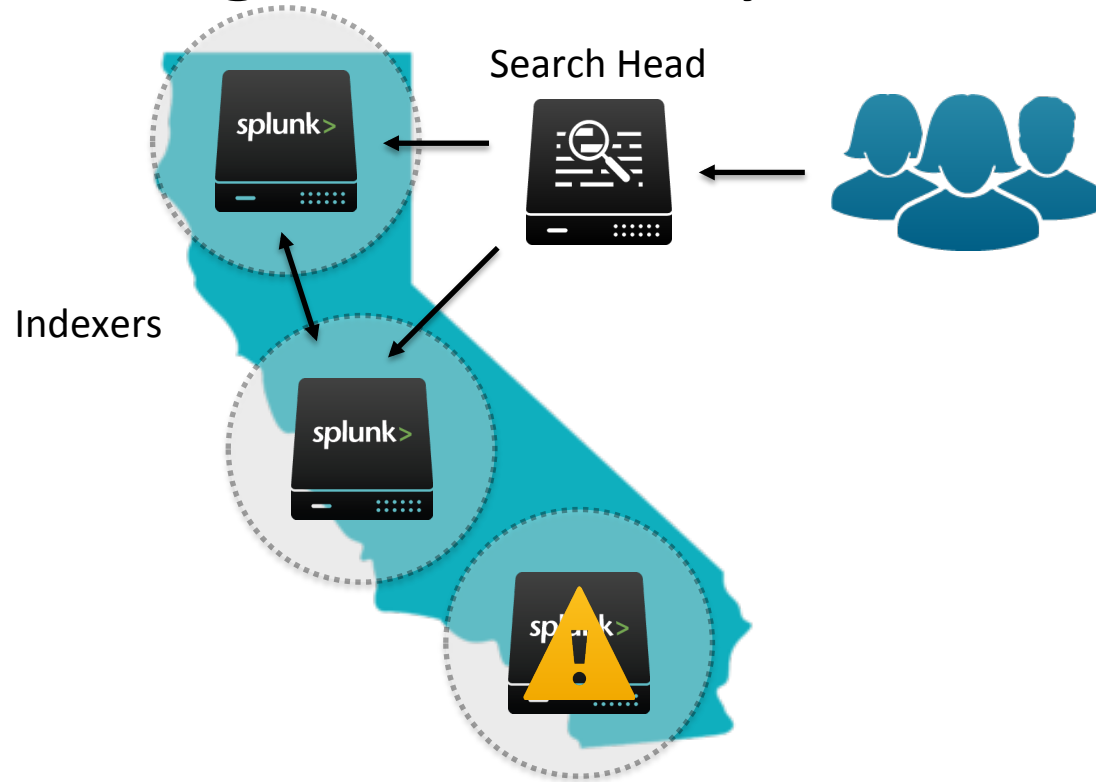
# High Availability



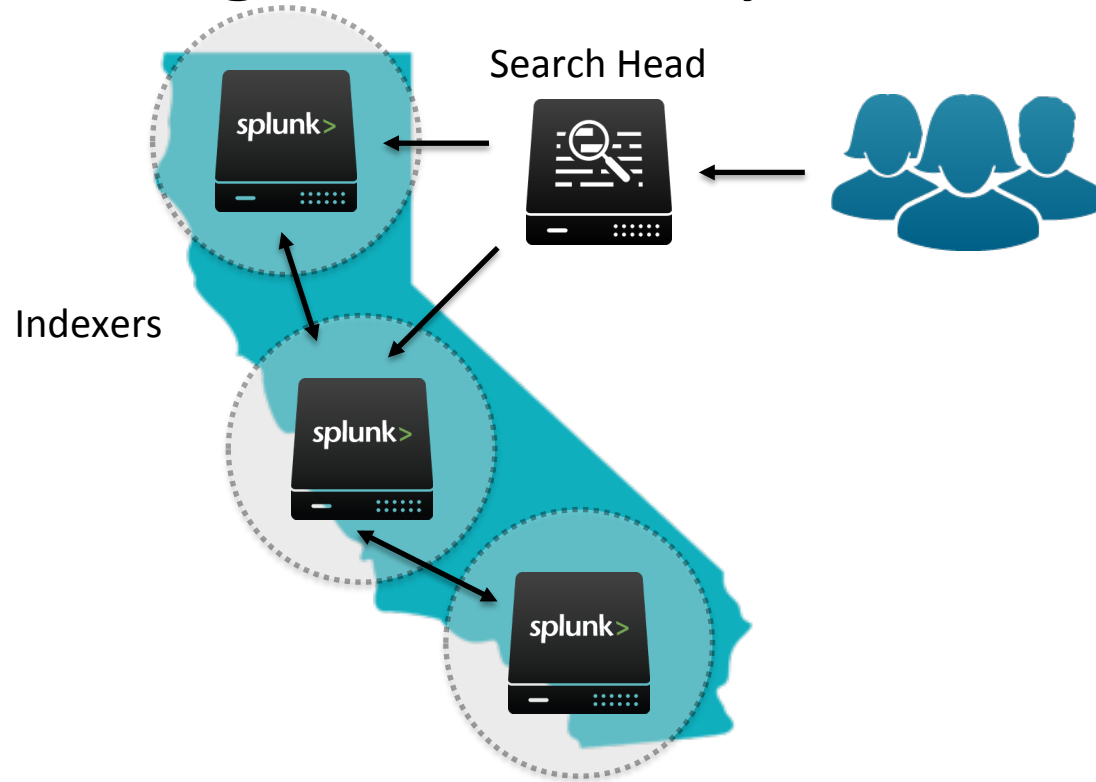
# High Availability



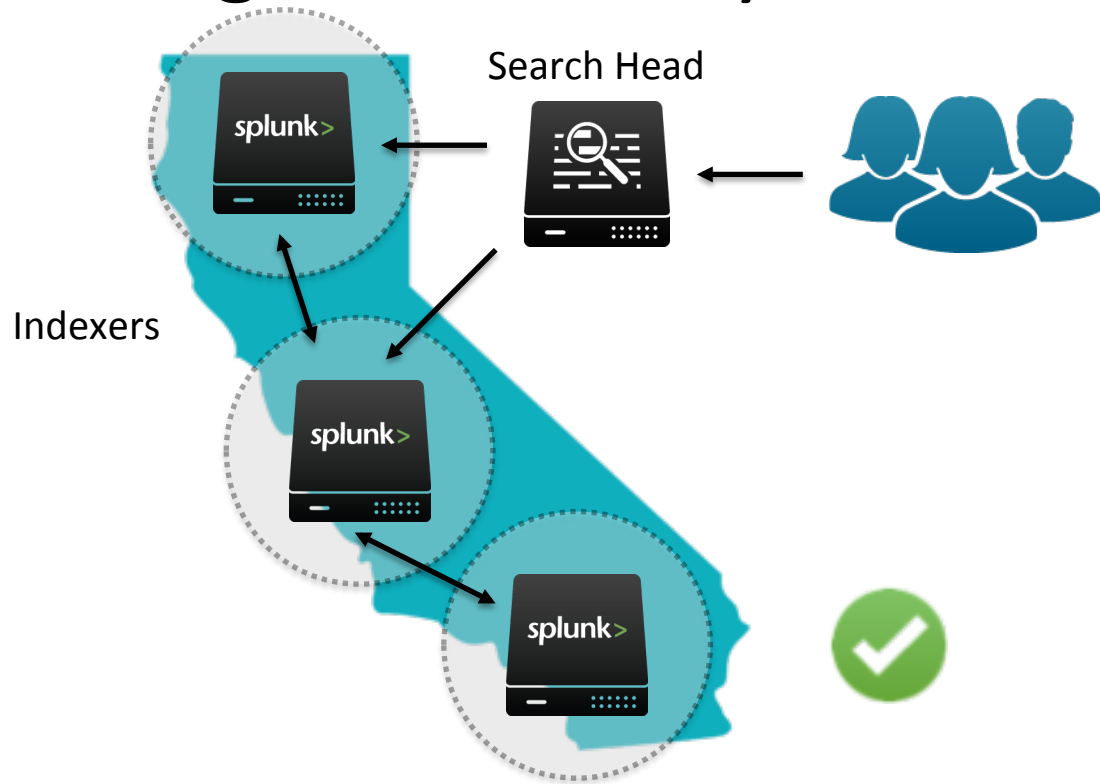
# High Availability



# High Availability



# High Availability



# Disaster Recovery



Splunk Buckets &  
Configuration



# Disaster Recovery



Splunk Buckets &  
Configuration



Amazon S3

# Disaster Recovery



Splunk Buckets & Configuration



Amazon S3

# Security



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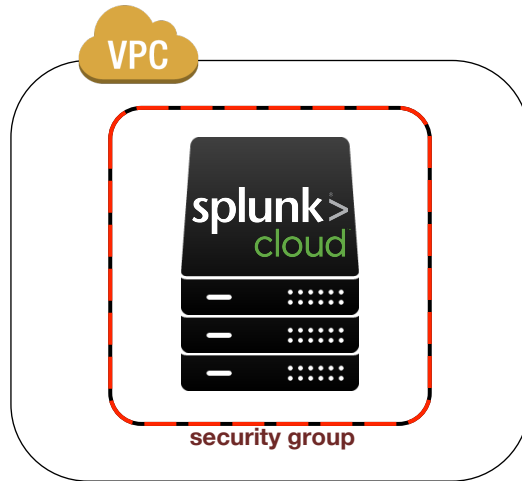
splunk >



## Customer Stack



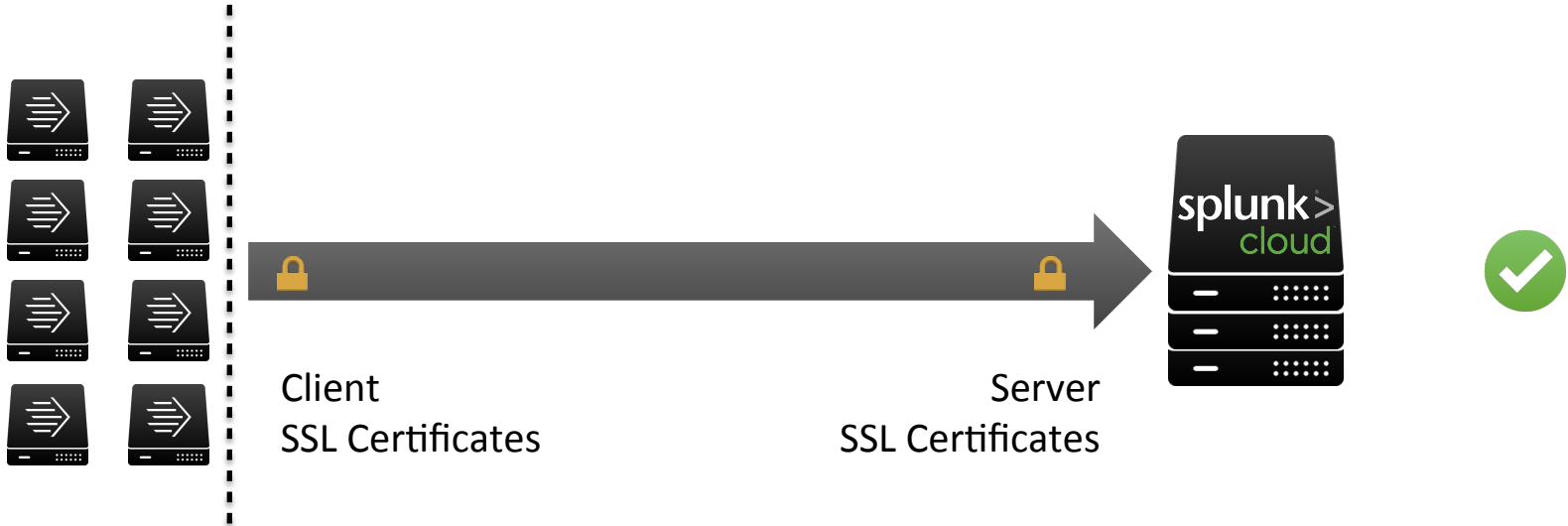
Isolated by Security Groups



Further Isolated by a Splunk VPC

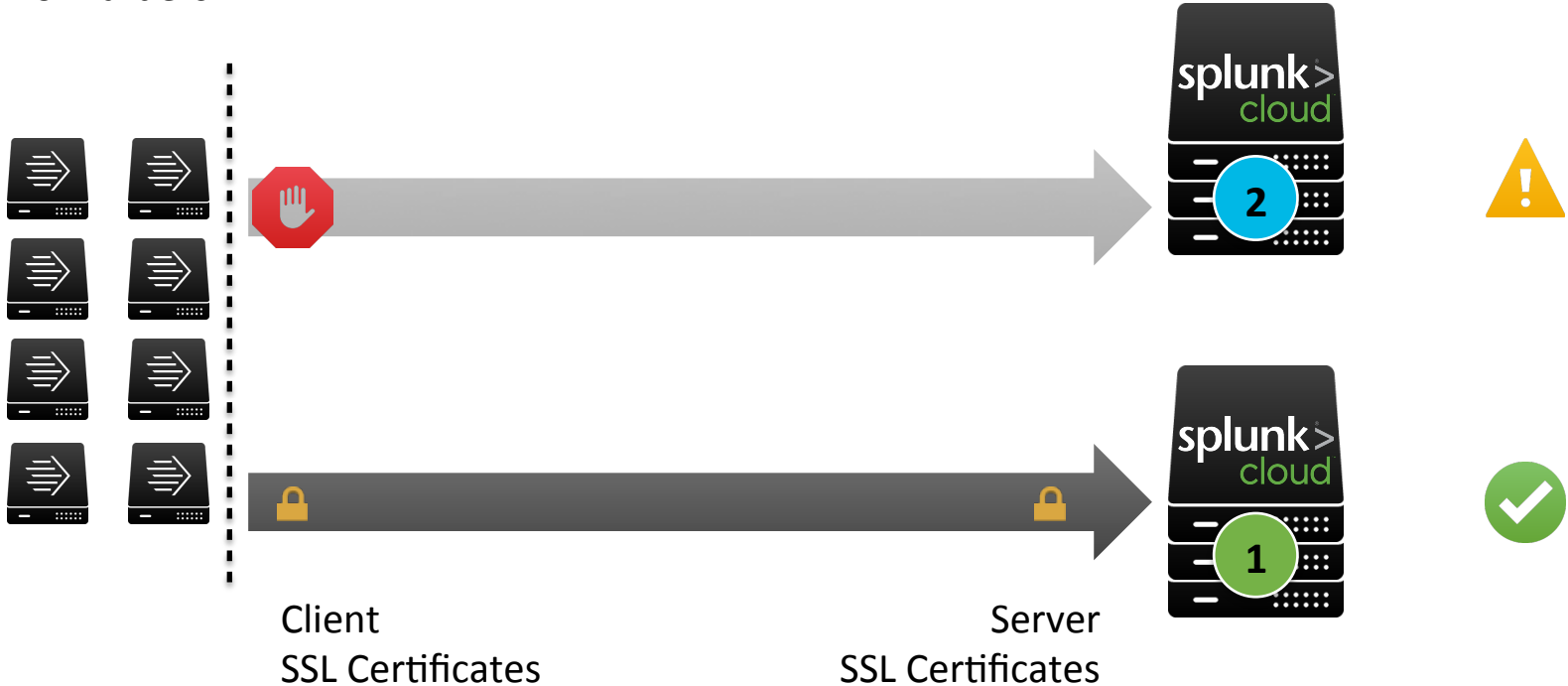
# Authentication

Customer Forwarders



# Authentication

Customer Forwarders



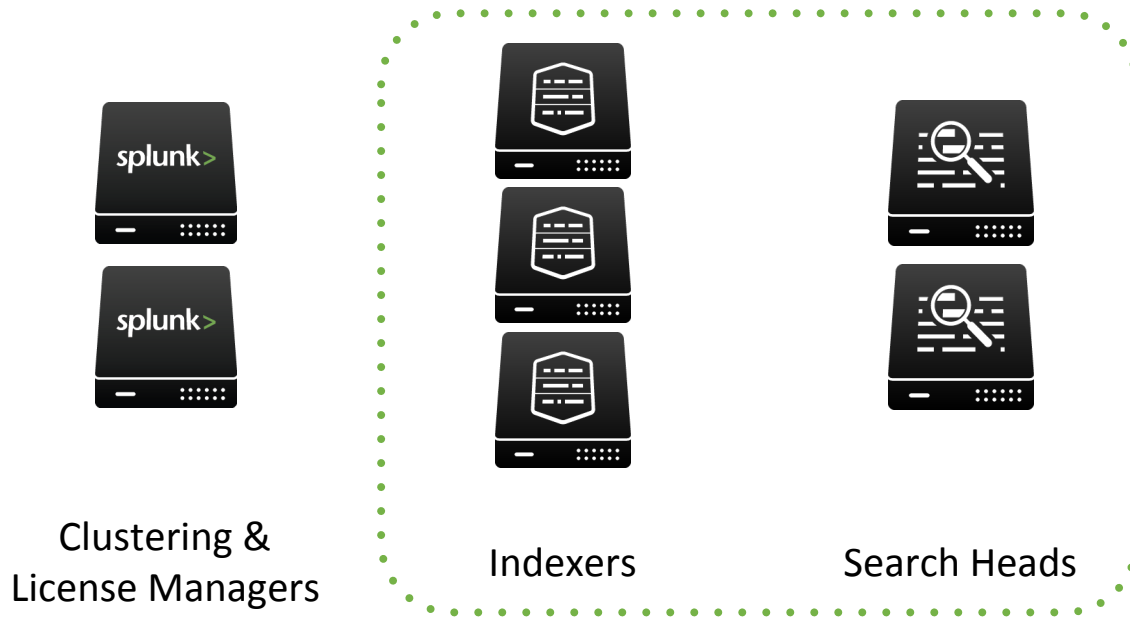


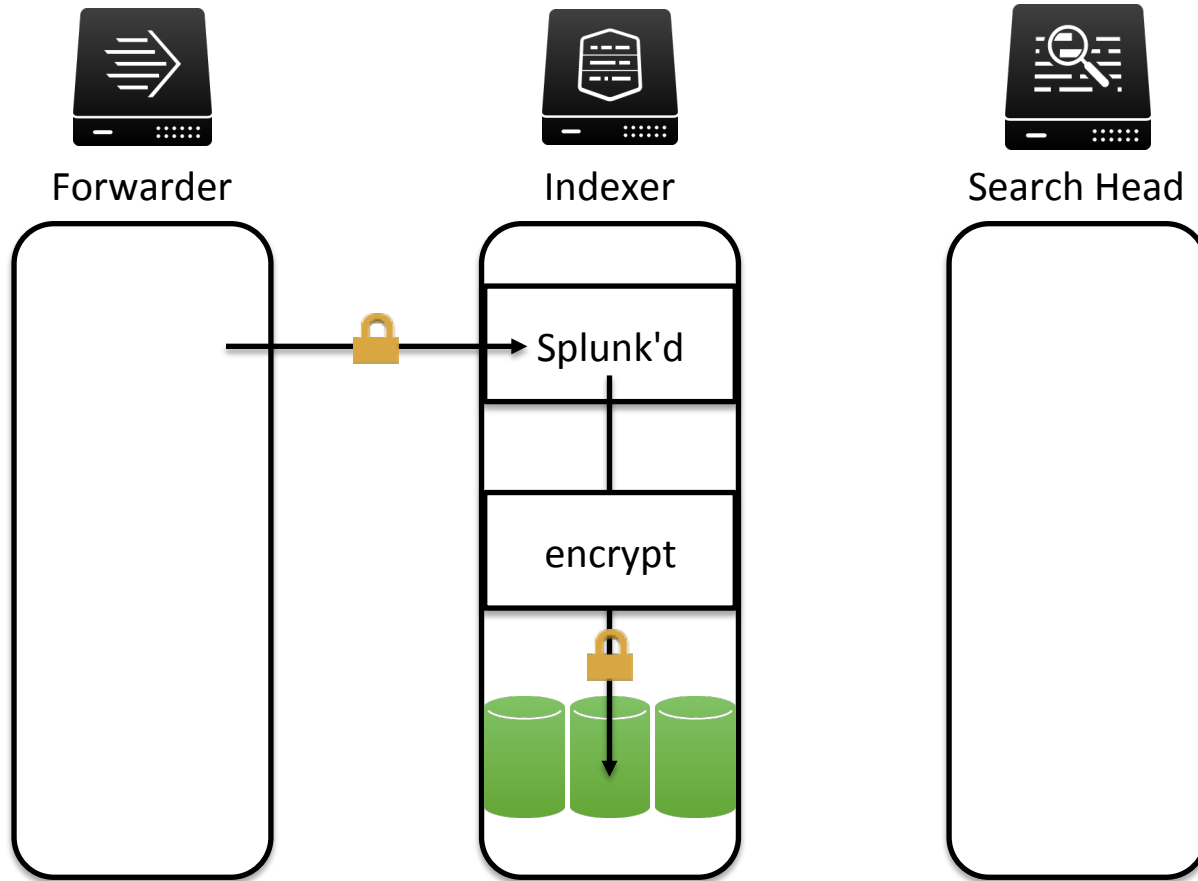
# Authentication

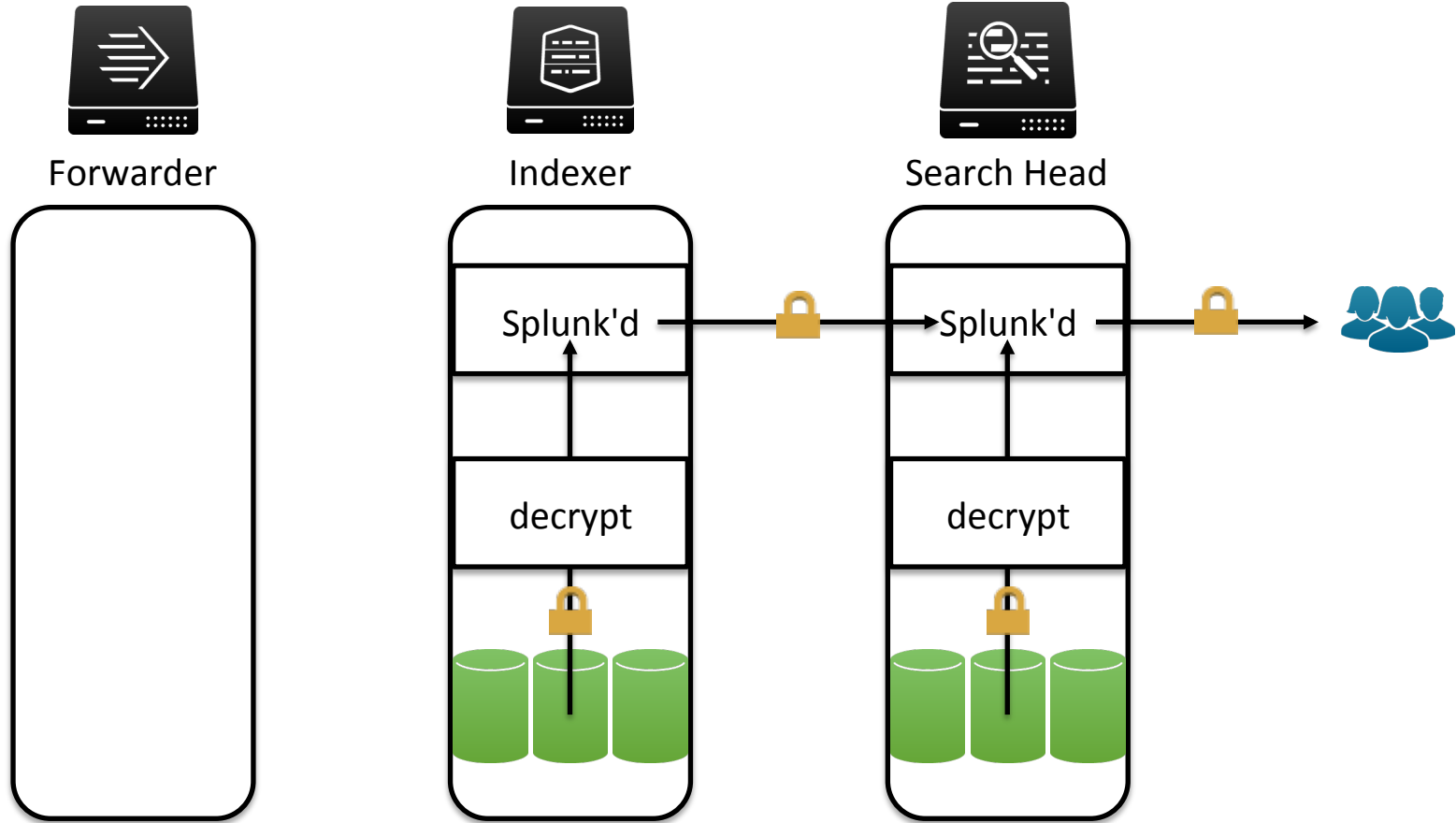
Rogue  
Forwarders



# Encryption At Rest







# Hybrid



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splunk>cloud

splunk>enterprise

Hybrid Search

Single Pane of Glass Visibility



Search Head(s)



Indexer(s)



Indexer(s)



On Premises



Private Cloud



Public Cloud



On Premises



Private Cloud



Public Cloud

# Wrapping Up

- Highly performant
- Highly available
- Built with security from the ground up
- Operationally automated
- A single pane of glass visibility with hybrid search

# Thank You!



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Questions?



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