Infrastructure product requirements

Date	
Description	
Diagram	Add draw.io diagram to describe in high level the resource deployment in luminate production environment
Product Requirements	describe the following: • Which flows will this resource be serving (e.g critical flows ? login pipeline flows etc ..) • SLA for this resource - you should consider the flows it is participating in.
Stakeholders	Who should be part of the approval process ?

Infrastructure as code

- can we use terraform to deploy this service?
- can we use terraform module ?
- in general, all resources should be deployed using terraform native resource.
- if not possible we can use null resource that invoke a script.
- describe in pseudo, both the module and how it will be used.
- **as last resort only**, you should create a document describing how to deploy a production grade resource.

Testing

- if the resource is deployed using terraform:
- using the terratest framework, which tests are mandatory in P0 / P1 ..
- using the conftest framework, which policy for P0 / P1 ..

Acceptance

- using the environment-infra-acceptance framework, which tests are mandatory in P0 / P1 ..

Pipeline

- Describe and explain how to roll out changes across environments / gates.
- Level of confidence required for each gate elevation.

Immutability

- if the resource requires instances:
  - describe what will the instance image include.
  - how will we roll changes made to this images as part of our pipeline.

SLA

- what is the SLA required for the resource ?
- if it is a managed resource, what is the SLA commitment from the provider?
- what can be done to mitigate any gap between the provider SLA and the required one.

Scalable

- What would be the scale up based metrics (cpu ? # of messages ? memory ? Disk, etc ..)
- What is the SLA for scale ?
- Can the service be manually scale ? automatically ?
- can it be scale down ?

Limits

- are there any known limits to the service, for instance :
  - throttling for the api ?
  - number of allowed connections

Backup / Restore

- do we need to perform any backup.
- what is the TTR (Time To Recover) from a backup
- RTO (Recovery Point Objective) / PRO (Recovery Time Objective)
- backup method ?
- restore method ?

Maintenance

- is there any maintenance that might affect availability ? (i.e. AWS redis maintenance window downtimes.)
- time period ? for how long ?
- is there any maintenance required that is not performed by the resource provider? (clean up old logs)

Security & Auditing

- Data Sensitivity
  - Is it tenants data?
  - is it internal logs data?
- API Security
  - Authorization - least privileges concept.
- Network security
  - Is network access restriction required (i.e. network access security group)
- service - service security etc ..

Auditing:

- CloudTrail ?
- Netwrok Flow logs ?
- AWS Config ?

Metrics

- What should be the exposed metrics ?
- Metrics shipping - telegraf, datadog etc'.

Monitoring and Alerts

- Which metrics should be monitored:
  - Disk ?
  - CPU ?
  - Memory ?
  - Number of items ?
- Which metrics should trigger critical alerts?
  - i.e. - no disk for elasticsearch is critical.

Logs

- Logs Export
  - Is the service export logs? to where?
- Logs shipping
  - How to ship logs to Kibana?
  - Which Kibana?

Supportability

- On-Call
  - Access - i.e. is the service export dashboard? is it required for access?
  - KB - related issues? (i.e. how to delete elasticsearch index manually)
- Is support access required ?

Budget

- Calculate Budget
- Future Estimation
  - Expected Growth
- Alternative cost models
  - Spot instances? reserved?

Documentation

- Terraform module ?
  - README with output and input variables
  - Exported config maps ?
- Cli Tool
  - Developer Documentation ?
  - Meetup?