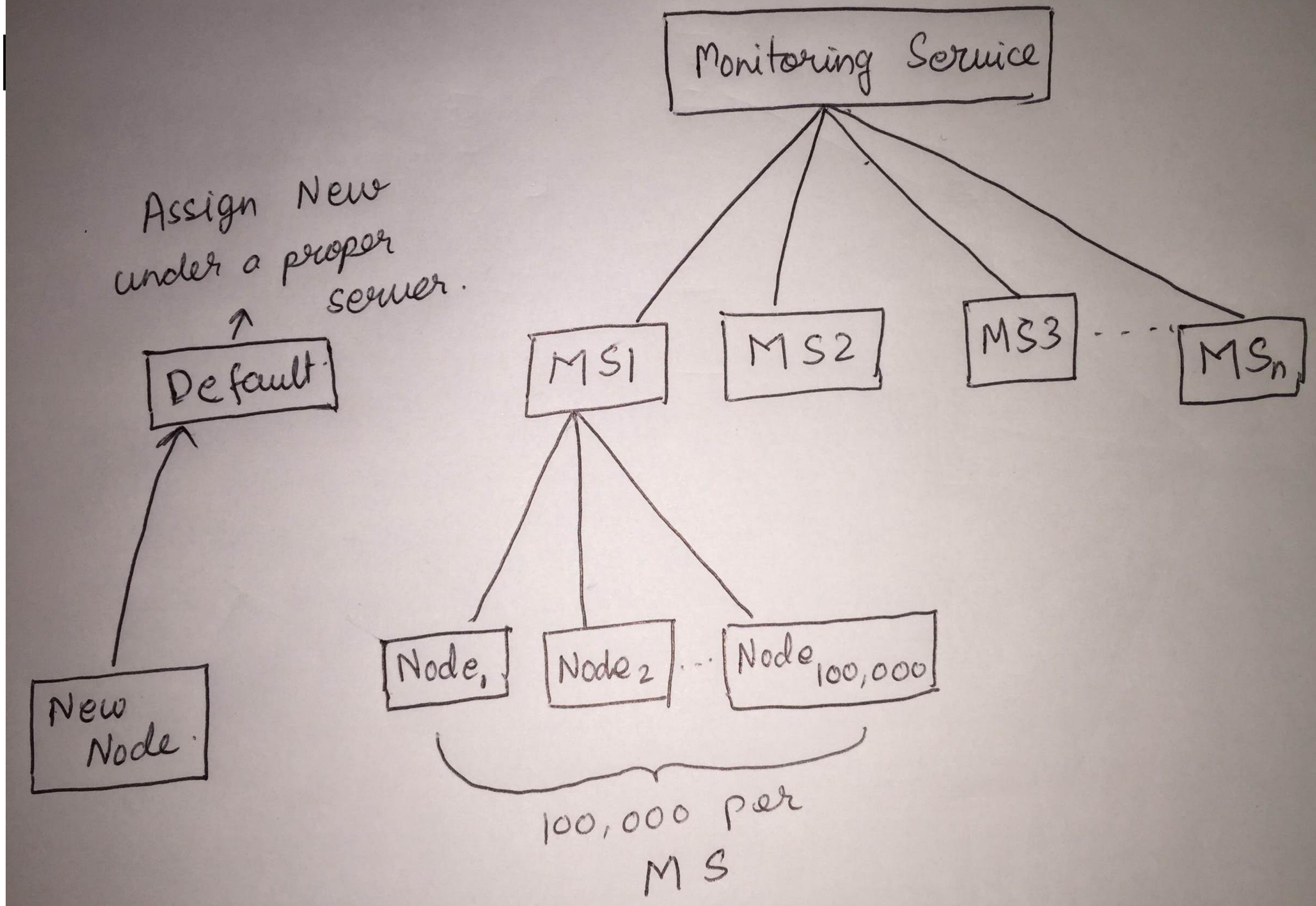
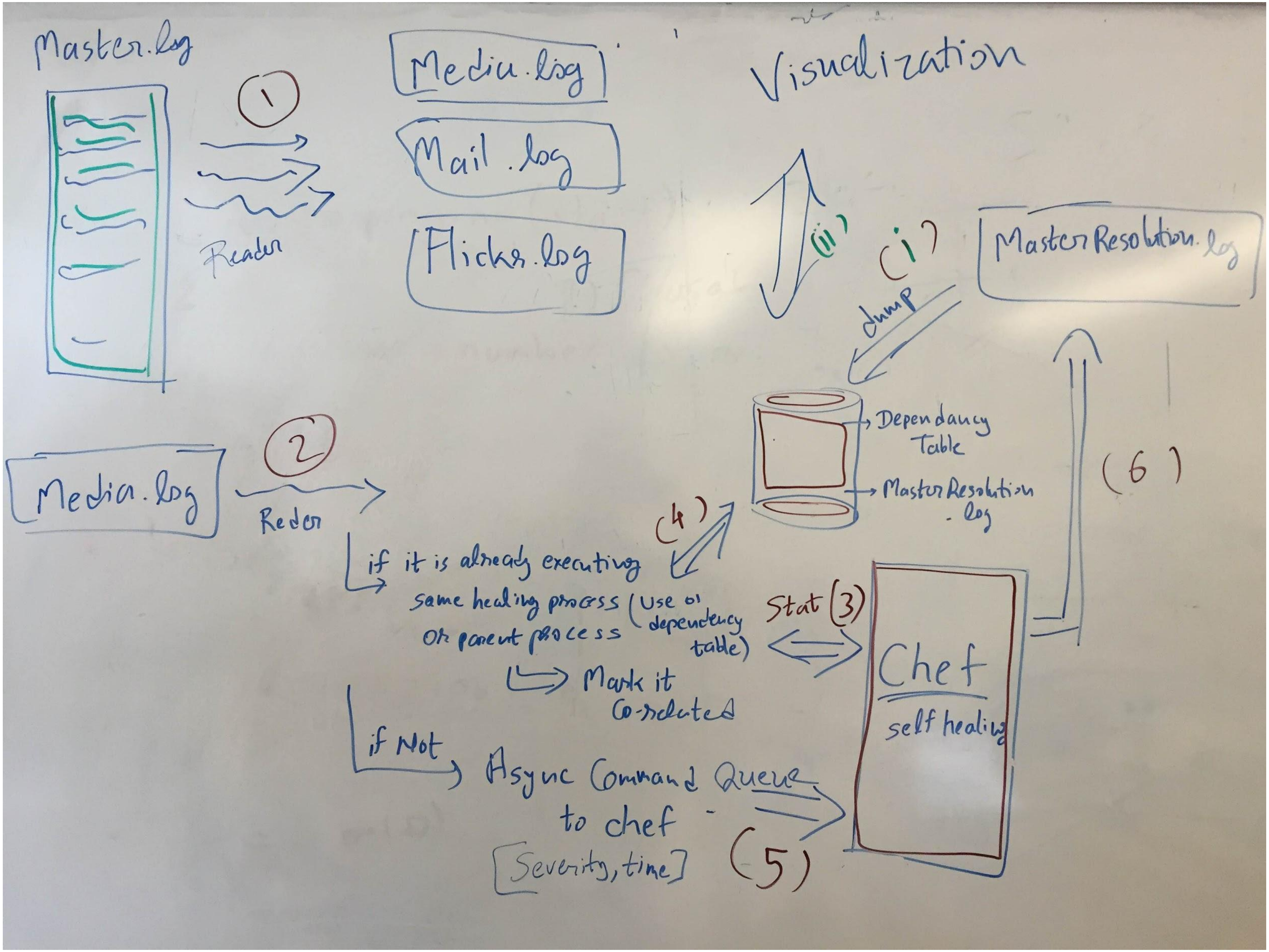
Red-Pheonix monitoring/self-healing System

Scalable and Smart

YAHOO! Hackathon


Monitoring Service
Assign New under a proper server.
Default
MS1
MS2
MS3
MSn
New Node.
Node1
Node2
Node100,000
100,000 per MS



Master.log
1
Reader
Media.log
Mail.log
Flickr.log
Visualization
(ii)
(i)
dump
MasterResolution.log
Dependancy Table
MasterResolution.log
(6)
Media.log
2
Reder
(4)
if it is already executing same healing process (Use of dependency table) Or parent process
Mark it Co-related
Stat (3)
Chef
self healing
if Not
Async Command Queue to chef
[Severity, time]
(5)

Correlation of Errors

Site - Down

Hardware Failure / Software Error

Down for Ping

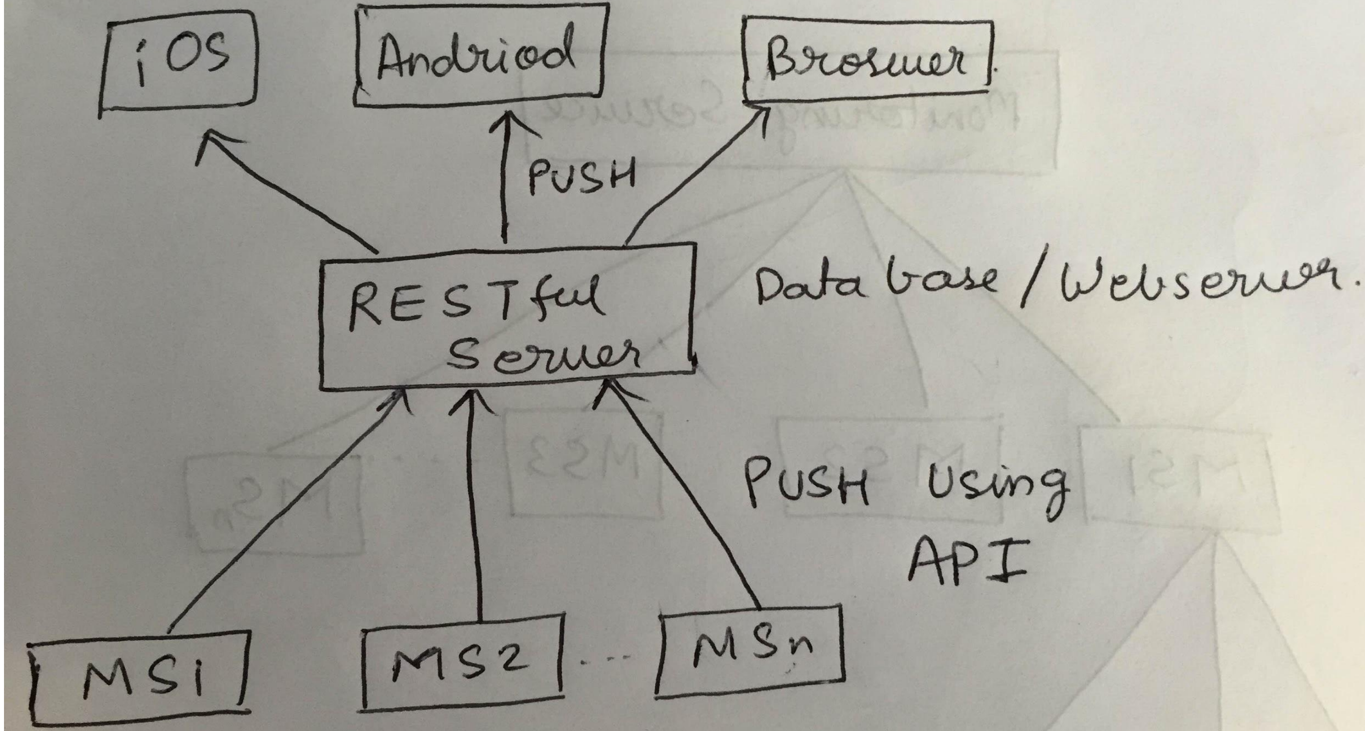
Capacity Exceeded/Apache Latency/Site Latency

What does a Monitoring Server(MS) do ?

- Receive log/error msgs from nodes
- Categorize logs for a particular category (media,frontpage,flickr)
- Detect the parent reason for failure on node/nodes
- Hit the Chef API to self heal
- Recieve result from chef and log result.

Continued ..

- Communicate with other MS servers if required.
- Push result from Chef to WebService API to put in Data Base(RESTful services)


iOS
Andriod
Broswer
PUSH
RESTful Server
Database / Webserver.
PUSH Using API
MS1
MS2
...
MSn

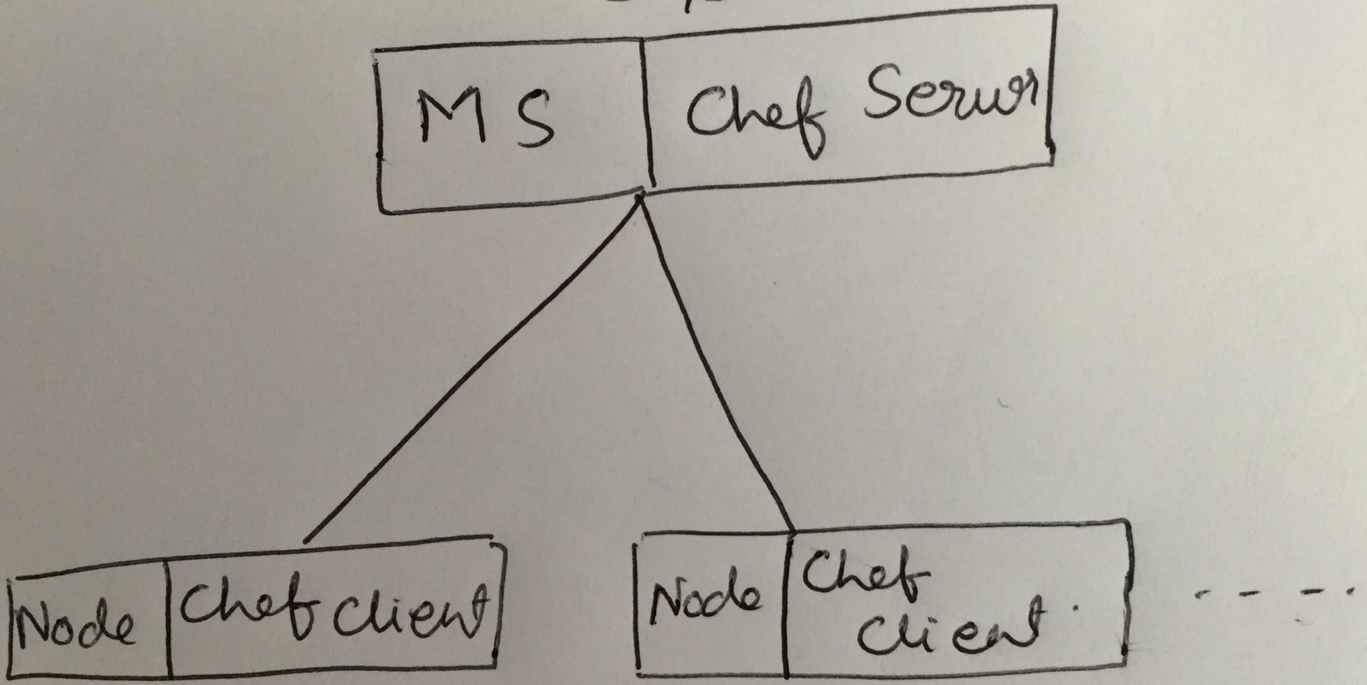
Client Agent(iOS,andriod,Webpages)

-All client agents can communicate with REST server to receive alerts/results of the automated actions taken by the MS server.

- User can set threshold/Configure alerts priority for particular service.

- User can block/modify a self heal action by a monitoring Server.

Chef on Monitoring System.



Chef server - Self heal

1. **Check web service** for node. Ex - content of response pages. Responses to dummy API calls, wget on web-pages.
2. Based on above test **send repair instruction** to node OR it nothing work Send a **repair-on-self to node**.
3. If **high priority issue auto configure a new server**

Continued...

4. If latency issue persists after auto assign more node to cluster/Service OR vertically scale the cloud node.

Example of how chef(client) will work

- Cookbook for Sitedown

1. Check server version ? Is the version known to have this error.If yes correct it.
2. Check services apache2,database connection. If down restart/repair service.
3. Check system properties network connection, disk space,etc. If find a inconsistency try to repair.

Continued

4. Check particular Webservice that may be down on the system. Report as only that service is down not the site.

5. Report final status back to Monitoring Server.

Thank You