go/v10r-up1-testresults

UP1 Test Results

1. HSA Test Acceptance:
    a. Code for adherence to meta-TDD standards
    b. Review of tests
    c. Resolution of discrepancy between PRD and delivered code
2. HSA Metrics:
    a. ATC
    b. SCS

Manual ATC and SCS (XWiki-GCE)

Steps		Step-1	Step-2	Step-3	Step-4	Step-5	Step-6.1	Step-6.2	Step-7	Step-8	Step-9	Step-10	Total
Task		*Create VPC and Firewall Rules*	*Create DB Instance*	*Create Shared Storage*	*Create Bucket*	*Create VM Instance*	*Set up XWiki (No UI)*	*Edit Firewall Rule*	*Create Instance Image*	*Create Instance Template*	*Create Autoscaling Group*	*Set up Load Balancer*	
GCP	*Service*	VPC	Cloud SQL	Filestore	Cloud Storage	Compute Engine						Cloud Load Balancing	6 services
	SCS (UI input / click)	51	42	14	11	24	6	4	10	19	21	30	232
	Manual ATC	0:04:09	0:12:00	0:05:50	0:01:10	0:01:23	0:00:25	0:00:23	0:03:00	0:02:07	0:03:00	0:03:33	0:37:00

- **ATC:** Average Time from Signup to Completion
- **SCS:** Sign-up to Completion Steps

- Web automation implemented by Selenium.
  Executed 20 times for each cloud

- **STD/Mean:** Coefficient of variation

Terraform ATC and SCS (XWiki-GCE)

GCE	*Terraform Resource*	*Service Account*	*Networking*	*Cloud SQL*	*Filestore*	*VM Instance*	*Cloud Monitoring*	*Load Balance*	*Total*	*Total (hh:mm:ss)*
	Auto ATC (Mean)	TODO	TODO	TODO	TODO	TODO	TODO	TODO	TODO	TODO

- **ATC:** Average Time from Signup to Completion
- **SCS:** Sign-up to Completion Steps

- Terraform automation executed 20 times for each cloud
- STD/Mean: Coefficient of variation

Manual ATC and SCS (XWiki-GCE-Basic)

Steps		Step-1	Step-2	Step-3	Step-4	Step-5	Step-6.1	Step-6.2	Total
Task		*Create VPC and Firewall Rules*	*Create DB Instance*	*Create Shared Storage*	*Create Bucket*	*Create VM Instance*	*Set up XWiki (No UI)*	*Edit Firewall Rule*	
GCP	*Service*	VPC	Cloud SQL	Filestore	Cloud Storage	Compute Engine			5 services
	SCS (UI input / click)	51	42	14	11	24	6	4	152
	Manual ATC	0:04:09	0:12:00	0:05:50	0:01:10	0:01:23	0:00:25	0:00:23	0:25:20

- **ATC:** Average Time from Signup to Completion
- **SCS:** Sign-up to Completion Steps
- Web automation implemented by Selenium.
  Executed 20 times for each cloud
- **STD/Mean:** Coefficient of variation

Terraform ATC and SCS (XWiki-GCE-Basic)

GCE	Terraform Resource	Service Account	Networking	Cloud SQL	Filestore	VM Instance	Cloud Monitoring	Total	Total (hh:mm:ss)
	Auto ATC (Mean)	0:00:08	0:00:12	0:05:25	0:03:11	0:00:12	0:00:01	0:09:59	9 min 59 sec

- **ATC:** Average Time from Signup to Completion
- **SCS:** Sign-up to Completion Steps

- Terraform automation executed 20 times for each cloud
- STD/Mean: Coefficient of variation

Load Test Configuration

- **GCE (VM x6):**
  - OS: Ubuntu 20.04 LTS
  - VM Spec: 4 vCPU / 16G Mem
  - Storage: 30G SSD
  - Location: us-west (Oregon)

- **GCP CloudSQL (MySQL HA)**
  - Spec: 2 vCPU / 4G Mem / 20G Storage
  - DB engine: MySQL 8.0

- **GCP JMeter (c2-standard-4) x1:**
  - VM / OS: Ubuntu 20.04 LTS
  - Location: us-west (Oregon)

- **Load Balancer Type:**
  - Global HTTP(S) Load Balancer

- **Auto-scaling Settings**
  - Threshold: CPU utilization at 60%
  - # of autoscaled VMs: 4 (in 2 zones)

- **JMeter Settings**
  - Ramp-up time: 55 seconds
  - Number of client threads: 55
  - Total duration: 24 hours

24HR Load Test Result (XWiki-GCE)

	GCE (latest ver.)
1. Total HTTP Requests	*5,492,962*
2. Total Successful Requests	*5,492,894*
3. Avg. HTTP Throughput (Request per second)	*63*
4. Avg. Response Time	*886 ms*
5. Min. Response Time	*775 ms*
6. Max. Response Time	*3.2 seconds*
7. Total Timed Out Requests	*68*
8. Total Server Errors (HTTP 500)	*0*
9. Total Failed Requests (Timeout + Server error)	*68*
10. Number of Failures / Million Requests	*12*

Estimated Daily Cost For Load Test (24 hours)

	GCE (Specification and rate)
VM Instance	GCE (c2-standard-4) vCPU: 4 Memory: 16 GiB Used Instances: 6 Hourly rate: $0.2088 **24-hour test usage: $35.82** **(VM + disk + network)**
Database	CloudSQL MySQL (db-lightweight-2) vCPU: 2 Memory: 4 GiB Storage: 20 GB Hourly rate: $0.23 **24-hour test usage: $5.54** **(DB + network)**
Shared Storage	Filestore (BASIC_HDD) Capacity: 1TiB Used size: 100GB / month **24-hour test usage: $6.82**
Networking	Cloud Load Balancing **24-hour test usage: $3**
24-Hour Test Usage	**$51.18**