

# Multiple-Perspective Issuance Corroboration Recommendations

Paper #XXX, 12 pages

## ABSTRACT

A cite so this compiles [1].

## 1 AMAZON WEB SERVICES (AWS)

The top 10 most resilient combinations of vantage point locations under their given quorum policies were computed from the following 13 available AWS data centers:

Table 1: List of the 13 Referenced AWS Data Centers

AP	CA	EU	US
northeast-2		central-1	
northeast-3		north-1	east-2
south-1	central-1	west-1	west-1
southeast-1		west-3	west-2
southeast-2			

Here, AP stands for Asia-Pacific, CA is Canada, EU is Europe, and US is the United States. Below is a table with links to the best performing sets of vantage points under each deployment setting.

Table 2: Reference Links for Best Deployment Set-Ups

Vantage Point Count	Quorum	Table Reference
8	N	Table 6
	N-1	Table 7
	N-2	Table 8
7	N	Table 9
	N-1	Table 10
	N-2	Table 11
6	N	Table 12
	N-1	Table 13
	N-2	Table 14
5	N	Table 15
	N-1	Table 16

## 2 GOOGLE CLOUD PLATFORM (GCP)

The top 10 most resilient combinations of vantage point locations under their given quorum policies were computed from all 40 available GCP data centers:

Table 3: List A of First Half of Referenced GCP Data Centers

AF	AS	AU	EU
			central2
			north1
	east1		southwest1
	east2		west1
	northeast1		west2
	northeast2		west3
south1	northeast3	southeast1	west4
	south1	southeast2	west6
	south2		west8
	southeast1		west9
	southeast2		west10
			west12

Table 4: List B of Second Half of Referenced GCP Data Centers

ME	NA	SA	US
			central1
			east1
			east4
central1	northeast1		east5
west1	northeast2	east1	south1
	south1	west1	west1
			west2
			west3

Here, AF stands for Africa, AS is Asia, AU is Australia, EU is Europe, ME is Middle East, NA is North America, SA is South America, and US is the United States. Below is a table with links to the best performing sets of vantage points under each deployment setting.

**Table 5: Reference Links for Best Deployment Set-Ups**

Vantage Point Count	Quorum	Table Reference
8	N	Table 17
	N-1	Table 18
	N-2	Table 19
7	N	Table 20
	N-1	Table 21
	N-2	Table 22
6	N	Table 23
	N-1	Table 24
	N-2	Table 25
5	N	Table 26
	N-1	Table 27

**A ALL DEPLOYMENT TABLES****A.1 AWS Deployments****Table 6: AWS: Best Performing 10 Sets for (8, N)**

AP	CA	EU	US
northeast-3		central-1	
southeast-1	central-1	north-1	west-2
southeast-2		west-1	
northeast-2		north-1	
south-1	central-1	west-1	west-2
southeast-2		west-3	
northeast-2		central-1	
southeast-1	central-1	north-1	west-2
southeast-2		west-1	
northeast-2		central-1	
northeast-3	central-1	north-1	west-2
south-1		west-1	
southeast-2			
northeast-2		central-1	
south-1	central-1	north-1	west-2
southeast-2		west-1	
northeast-2		central-1	
south-1	central-1	north-1	west-1
southeast-2		west-1	west-2
northeast-2		central-1	
southeast-2	central-1	north-1	west-2
		west-1	
		west-3	
northeast-2		central-1	
northeast-3	central-1	north-1	west-2
southeast-2		west-1	
northeast-2		central-1	
south-1	central-1	north-1	east-2
southeast-2		west-1	west-2
northeast-2		central-1	
southeast-2	central-1	north-1	west-1
		west-1	west-2

**Table 7: AWS: Best Performing 10 Sets for (8, N-1)**

AP	CA	EU	US
northeast-2 southeast-2	central-1	central-1 north-1 west-1	east-2 west-1
northeast-2 south-1 southeast-2	central-1	north-1 west-1	east-2 west-1
northeast-2 south-1 southeast-2	central-1	north-1 west-1	east-2 west-2
northeast-2 south-1 southeast-2	central-1	central-1 west-1	east-2 west-1
northeast-3 south-1 southeast-2	central-1	north-1 west-1	east-2 west-2
northeast-3 southeast-2	central-1	central-1 north-1 west-1	east-2 west-2
northeast-2 northeast-3 south-1 southeast-2	central-1	north-1 west-1	east-2
northeast-2 southeast-2	central-1	central-1 north-1 west-1	east-2 west-2
northeast-2 northeast-3 southeast-2	central-1	central-1 north-1 west-1	east-2
south-1 southeast-1 southeast-2	central-1	north-1 west-1	east-2 west-2

**Table 8: AWS: Best Performing 10 Sets for (8, N-2)**

AP	CA	EU	US
northeast-2 southeast-1 southeast-2	central-1	north-1 west-1 west-3	east-2
northeast-2 southeast-1 southeast-2	central-1	central-1 west-1 west-3	east-2
northeast-2 southeast-1 southeast-2	central-1 north-1 west-1	east-2 west-2	
northeast-2 southeast-1 southeast-2	central-1	north-1 west-1 west-3	west-2
northeast-2 southeast-1 southeast-2	central-1	central-1 north-1 west-1	west-2
northeast-2 southeast-1 southeast-2	central-1	central-1 north-1 west-3	west-2
northeast-3 southeast-1 southeast-2	central-1	north-1 west-1 west-3	east-2
northeast-2 northeast-3 southeast-2	central-1 north-1 west-1	east-2 west-2	
northeast-2 southeast-1 southeast-2	central-1	central-1 north-1 west-1	east-2
northeast-2 southeast-1 southeast-2	central-1	central-1 west-1 west-3	west-2

**Table 9: AWS: Best Performing 10 Sets for (7, N)**

AP	CA	EU	US
northeast-2 south-1 southeast-2	central-1	north-1 west-1	west-2
northeast-2 southeast-2	central-1	central-1 north-1 west-1	west-2
northeast-3 south-1 southeast-2	central-1	north-1 west-1	west-2
northeast-3 southeast-2	central-1	central-1 north-1 west-1	west-2
northeast-2 southeast-2	central-1	north-1 west-1 west-3	west-2
northeast-2 southeast-2	central-1	north-1 west-1	east-2 west-2
northeast-2 southeast-2	central-1	north-1 west-1	west-1 west-2
northeast-3 southeast-1 southeast-2	central-1	north-1 west-1	west-2
northeast-2 southeast-1 southeast-2	central-1	north-1 west-1	west-2
northeast-2 northeast-3 southeast-2	central-1	north-1 west-1	west-2

**Table 10: AWS: Best Performing 10 Sets for (7, N-1)**

AP	CA	EU	US
northeast-2 southeast-2	central-1	central-1 west-1	east-2 west-1
northeast-2 southeast-2	central-1	central-1 north-1 west-1	east-2
northeast-2 south-1 southeast-2	central-1	central-1 west-1	east-2
northeast-2 south-1 southeast-2	central-1	north-1 west-1	east-2
northeast-2 northeast-3 southeast-2	central-1	central-1 west-1	east-2
northeast-2 southeast-2	central-1	central-1 west-1	east-2 west-2
northeast-2 southeast-2	central-1	central-1 north-1	east-2 west-1
northeast-3 southeast-2	central-1	central-1 north-1	east-2 west-2
northeast-2 northeast-3 southeast-2	central-1	north-1 west-1	east-2
south-1 southeast-1 southeast-2	central-1	central-1 west-1	east-2

**Table 11: AWS: Best Performing 10 Sets for (7, N-2)**

AP	CA	EU	US
northeast-2 southeast-2	central-1 north-1 west-1	east-2 west-2	
northeast-2 south-1 southeast-2	central-1 west-1	east-2 west-2	
northeast-3 southeast-2	central-1 north-1 west-1	east-2 west-2	
northeast-3 southeast-2	central-1	central-1 north-1 west-1	west-2
northeast-2 southeast-2	central-1	central-1 north-1 west-1	west-2
northeast-3 southeast-2	central-1	north-1 west-1 west-3	west-2
northeast-2 south-1 southeast-2	north-1 west-1	east-2 west-2	
northeast-3 southeast-2	central-1	central-1 west-1 west-3	west-2
northeast-2 southeast-2	central-1	north-1 west-1 west-3	west-2
northeast-2 south-1 southeast-2	central-1	central-1 west-1	west-2

**Table 12: AWS: Best Performing 10 Sets for (6, N)**

AP	CA	EU	US
northeast-2 southeast-2	central-1	north-1 west-1	west-2
northeast-2 south-1 southeast-2	central-1	north-1 west-1	
northeast-2 southeast-2	central-1	central-1 north-1 west-1	
northeast-3 southeast-2	central-1	north-1 west-1	west-2
southeast-2	central-1	central-1 north-1 west-1	west-2
northeast-2 southeast-2	central-1	north-1 west-1 west-3	
northeast-2 southeast-2	north-1 west-1	east-2 west-2	
northeast-2 southeast-2	central-1	north-1 west-1	east-2
northeast-2 southeast-2	central-1	north-1 west-1	west-1
northeast-3 southeast-1 southeast-2	central-1	north-1 west-1	

**Table 13: AWS: Best Performing 10 Sets for (6, N-1)**

AP	CA	EU	US
northeast-2		central-1	east-2
southeast-2	central-1	west-1	
northeast-2		west-1	east-2
southeast-2	central-1	west-3	
northeast-2		north-1	east-2
southeast-2	central-1	west-1	
southeast-1		central-1	east-2
southeast-2	central-1	north-1	
northeast-3		central-1	east-2
southeast-2	central-1	west-1	
southeast-1		central-1	east-2
southeast-2	central-1	west-3	
northeast-2		central-1	east-2
southeast-2	central-1	north-1	
southeast-1		north-1	east-2
southeast-2	central-1	west-3	
northeast-3		north-1	east-2
southeast-2	central-1	west-1	
northeast-3		central-1	east-2
southeast-2	central-1	north-1	

**Table 14: AWS: Best Performing 10 Sets for (6, N-2)**

AP	CA	EU	US
		central-1	west-1
southeast-2		north-1	west-2
		west-3	
	central-1	central-1	east-2
		north-1	west-1
		west-3	
	central-1	central-1	east-2
		north-1	west-2
		west-3	
		central-1	east-2
		north-1	west-1
		west-1	west-2
	central-1	central-1	west-1
		north-1	west-2
		west-1	
southeast-2		central-1	west-1
		west-1	west-2
		west-3	
	central-1	central-1	east-2
		west-1	west-2
		west-3	
		central-1	east-2
		north-1	west-1
		west-3	west-2
	central-1	central-1	west-1
		north-1	west-2
		west-3	
south-1	central-1	west-1	
southeast-2		west-3	west-2

**Table 15: AWS: Best Performing 10 Sets for (5, N)**

AP	CA	EU	US
northeast-2 southeast-2	central-1	north-1 west-1	
northeast-2 southeast-2		north-1 west-1	east-2
northeast-3 southeast-2	central-1	north-1 west-1	
southeast-2	central-1	north-1 west-1	west-2
northeast-2 south-1 southeast-2	central-1	north-1	
southeast-1 southeast-2	central-1	north-1 west-1	
northeast-2 southeast-2	central-1	central-1 west-1	
southeast-2	central-1	central-1 west-1	west-2
northeast-3 southeast-2		north-1 west-1	east-2
northeast-2 south-1 southeast-2	central-1	west-1	

**Table 16: AWS: Best Performing 10 Sets for (5, N-1)**

AP	CA	EU	US
northeast-2 southeast-2		central-1 west-1	east-2
northeast-2 southeast-2	central-1	central-1 west-1	
northeast-2 southeast-2		north-1 west-1	east-2
northeast-2 southeast-2	central-1	north-1 west-1	
northeast-3 southeast-2		central-1 west-1	east-2
northeast-3 southeast-2		north-1 west-1	east-2
northeast-3 southeast-2	central-1	north-1 west-1	
northeast-3 southeast-2	central-1	central-1 west-1	
northeast-2 southeast-2		west-1 west-3	east-2
northeast-2 southeast-2	central-1	west-1 west-3	

**A.2 GCP Deployments****Table 17: GCP: Best Performing 10 Sets for (8, N)**

AF/AS	AU/EU	ME/NA	SA/US
			SA-west1
AF-south1 AS-south1	AU-southeast2 EU-north1		US-central1 US-east1 US-west3
			SA-west1
AF-south1 AS-south1	AU-southeast2 EU-north1		US-central1 US-east1 US-west4
			SA-east1
AF-south1 AS-south1	AU-southeast2 EU-north1		US-central1 US-east1 US-west4
			SA-east1
AF-south1 AS-south1	AU-southeast2 EU-north1		US-central1 US-east1 US-west3
			SA-east1
AF-south1 AS-south1	AU-southeast1 EU-north1		US-central1 US-east1 US-west4
			SA-east1
AF-south1 AS-south1	AU-southeast1 EU-north1		US-central1 US-east1 US-west3
			SA-west1
AF-south1 AS-south1	AU-southeast1 EU-north1		US-central1 US-east1 US-west4
			SA-west1
AF-south1 AS-south1	AU-southeast1 EU-north1		US-central1 US-east1 US-west3
			SA-west1
AF-south1 AS-south1	AU-southeast2 EU-central2		US-central1 US-east1 US-west4
			SA-west1
AF-south1 AS-south1	AU-southeast2 EU-west10		US-central1 US-east1 US-west3

**Table 18: GCP: Best Performing 10 Sets for (8, N-1)**

AF/AS	AU/EU	ME/NA	SA/US
			SA-east1
AS-south1	EU-west3		SA-west1
AS-south2	EU-west6		US-west2
			US-west3
			SA-east1
AS-south1	EU-west10		SA-west1
AS-south2	EU-west6		US-west2
			US-west3
			SA-east1
AS-south1	EU-north1		SA-west1
AS-south2	EU-west6		US-west3
			US-west4
			SA-east1
AS-south1	EU-west3		SA-west1
AS-south2	EU-west6		US-west3
			US-west4
			SA-east1
AS-south1	EU-west10		SA-west1
AS-south2	EU-west3		US-west3
			US-west4
			SA-east1
AS-south1	EU-central2		SA-west1
AS-south2	EU-west10		US-west2
			US-west3
			SA-east1
AS-south1	EU-west10		SA-west1
AS-south2	EU-west3		US-west2
			US-west3
			SA-east1
AS-south1	EU-central2		SA-west1
AS-south2	EU-west10		US-west3
			US-west4
			SA-east1
AS-south1	EU-north1		SA-west1
AS-south2	EU-west10		US-west3
			US-west4
			SA-east1
AS-south1	EU-north1		SA-west1
AS-south2	EU-west3		US-west3
			US-west4

**Table 19: GCP: Best Performing 10 Sets for (8, N-2)**

AF/AS	AU/EU	ME/NA	SA/US
	EU-north1		
AS-south1	EU-southwest1		US-west2
AS-south2	EU-west3		
AS-southeast2	EU-west8		
	EU-central2		
AS-south1	EU-north1		US-west2
AS-south2	EU-southwest1		
AS-southeast2	EU-west3		
	EU-southwest1		
AS-south1	EU-west10		US-west4
AS-south2	EU-west3		
AS-southeast2	EU-west8		
	EU-north1		
AS-south1	EU-southwest1		US-west2
AS-south2	EU-west12		
AS-southeast2	EU-west3		
	EU-southwest1		
AS-south1	EU-west10		US-west4
AS-south2	EU-west12		
AS-southeast2	EU-west3		
	EU-north1		
AS-south1	EU-southwest1		US-west2
AS-south2	EU-west6		
AS-southeast2	EU-west8		
	EU-north1		
AS-south1	EU-southwest1		US-west2
AS-south2	EU-west12		
AS-southeast2	EU-west6		
	EU-west10		US-east4
AS-south1	EU-west3		US-west2
AS-southeast2	EU-west6		
	EU-north1		
AS-south1	EU-west3		US-east4
AS-southeast2	EU-west6		US-west2
	EU-north1		
AS-south1	EU-southwest1		
AS-south2	EU-west10		
AS-southeast1	EU-west12		
AS-southeast2	EU-west12		

**Table 20: GCP: Best Performing 10 Sets for (7, N)**

AF/AS	AU/EU	ME/NA	SA/US
AF-south1 AS-south1	EU-north1		SA-west1
			US-central1
			US-east1
			US-west3
AF-south1 AS-south1	EU-north1		SA-east1
			US-central1
			US-east1
			US-west3
AF-south1 AS-south1	EU-north1		SA-west1
			US-central1
			US-east1
			US-west4
AF-south1 AS-south1	EU-north1		SA-east1
			US-central1
			US-east1
			US-west4
AF-south1 AS-south1	EU-west10		SA-west1
			US-central1
			US-east1
			US-west3
AF-south1 AS-south1	EU-west10		SA-east1
			US-central1
			US-east1
			US-west3
AF-south1 AS-south1	EU-west10		SA-west1
			US-central1
			US-east1
			US-west4
AF-south1 AS-south1	EU-west10		SA-east1
			US-central1
			US-east1
			US-west4
AF-south1 AS-south1	EU-central2		SA-west1
			US-central1
			US-east1
			US-west4
AF-south1 AS-south1	EU-central2		SA-east1
			US-central1
			US-east1
			US-west4

**Table 21: GCP: Best Performing 10 Sets for (7, N-1)**

AF/AS	AU/EU	ME/NA	SA/US
AS-south1	EU-central2		US-west3
AS-south2	EU-west10	ME-west1	US-west4
AS-south1	EU-central2		US-west3
AS-south2	EU-west10	ME-central1	US-west4
AS-south1	EU-west10		US-west2
AS-south2	EU-west8	ME-west1	US-west3
AS-south1	EU-north1		US-west2
AS-south2	EU-west8	ME-west1	US-west3
AS-south1	EU-west6		US-west2
AS-south2	EU-west8	ME-west1	US-west3
AS-south1	EU-west10	ME-central1	US-west2
AS-south2	EU-west8		US-west3
AS-south1	EU-north1	ME-central1	US-west2
AS-south2	EU-west8		US-west3
AS-south1	EU-west6	ME-central1	US-west2
AS-south2	EU-west8		US-west3
AS-south1	EU-west10	ME-west1	US-west2
AS-south2	EU-west12		US-west3
AS-south1	EU-north1	ME-west1	US-west2
AS-south2	EU-west12		US-west3

**Table 22: GCP: Best Performing 10 Sets for (7, N-2)**

AF/AS	AU/EU	ME/NA	SA/US
AS-south1	EU-north1		
AS-south2	EU-west10		US-west3
AS-southeast2	EU-west6		
AS-south1	EU-north1		
AS-south2	EU-west10		US-west4
AS-southeast2	EU-west3		
AS-south1	EU-north1		
AS-south2	EU-west10		US-west1
AS-southeast2	EU-west6		
AS-south1	EU-north1		
AS-south2	EU-west10		US-west3
AS-southeast2	EU-west3		
AS-south1	EU-west10		
AS-south2	EU-west12		
AS-southeast1	EU-west8		
AS-southeast2			
AS-south1	EU-north1		
AS-south2	EU-west12		
AS-southeast1	EU-west8		
AS-southeast2			
AS-south1	EU-north1		
AS-south2	EU-west10		US-west4
AS-southeast2	EU-west8		
AS-south1	EU-west10		
AS-south2	EU-west6		US-west4
AS-southeast2	EU-west8		
AS-south1	EU-north1		
AS-south2	EU-west6		US-west4
AS-southeast2	EU-west8		
AS-south1	EU-north1		
AS-south2	EU-west10		US-west4
AS-southeast2	EU-west12		

**Table 23: GCP: Best Performing 10 Sets for (6, N)**

AF/AS	AU/EU	ME/NA	SA/US
AF-south1			SA-west1
AS-south1	EU-north1		US-east1
			US-west3
AF-south1			SA-east1
AS-south1	EU-north1		US-east1
			US-west3
AF-south1			SA-west1
AS-south1	EU-north1		US-east1
			US-west4
AF-south1			SA-east1
AS-south1	EU-north1		US-east1
			US-west4
AF-south1			SA-west1
AS-south1	EU-north1		US-east1
			US-west2
AF-south1			SA-east1
AS-south1	EU-north1		US-east1
			US-west2
AF-south1			SA-west1
AS-south1	EU-west10		US-east1
			US-west3
AF-south1			SA-east1
AS-south1	EU-west10		US-east1
			US-west3
AF-south1			SA-west1
AS-south1	EU-west10		US-east1
			US-west4
AF-south1			SA-east1
AS-south1	EU-west10		US-east1
			US-west4

**Table 24: GCP: Best Performing 10 Sets for (6, N-1)**

AF/AS	AU/EU	ME/NA	SA/US
AS-south1	EU-west10		US-west2
AS-south2	EU-west3		US-west3
AS-south1	EU-north1		US-west2
AS-south2	EU-west3		US-west3
AS-south1	EU-west3		US-west2
AS-south2	EU-west6		US-west3
AS-south1	EU-north1		US-west3
AS-south2	EU-west10		US-west4
AS-south1	EU-central2		US-west3
AS-south2	EU-west10		US-west4
AS-south1	EU-west10		US-west3
AS-south2	EU-west6		US-west4
AS-south1	EU-west10		US-west3
AS-south2	EU-west3		US-west4
AS-south1	EU-north1		US-west3
AS-south2	EU-west6		US-west4
AS-south1	EU-north1		US-west3
AS-south2	EU-west3		US-west4
AS-south1	EU-west3		US-west3
AS-south2	EU-west6		US-west4

**Table 25: GCP: Best Performing 10 Sets for (6, N-2)**

AF/AS	AU/EU	ME/NA	SA/US
AS-south2	EU-west10		
AS-southeast1	EU-west12		
AS-southeast2	EU-west8		
AS-south2	EU-north1		
AS-southeast1	EU-west12		
AS-southeast2	EU-west8		
AS-south2	EU-central2		
AS-southeast1	EU-west12		
AS-southeast2	EU-west8		
AS-south2	EU-west12		
AS-southeast1	EU-west6		
AS-southeast2	EU-west8		
AS-south2	EU-central2		
AS-southeast1	EU-west10		
AS-southeast2	EU-west8		
AS-south2	EU-central2		
AS-southeast1	EU-north1		
AS-southeast2	EU-west8		
AS-south2	EU-central2		
AS-southeast1	EU-west10		
AS-southeast2	EU-west12		
AS-south2	EU-central2		
AS-southeast1	EU-north1		
AS-southeast2	EU-west12		
AS-south2	EU-north1		
AS-southeast1	EU-west10		
AS-southeast2	EU-west6		
AS-northeast3	EU-west10		
AS-south2	EU-west12		
AS-southeast1	EU-west8		

**Table 26: GCP: Best Performing 10 Sets for (5, N)**

AF/AS	AU/EU	ME/NA	SA/US
AF-south1	EU-north1		SA-west1
AS-south1			US-east1
AF-south1	EU-west10		SA-west1
AS-south1			US-east1
AF-south1	EU-north1		SA-west1
AS-south2			US-east1
AF-south1	EU-north1		SA-east1
AS-south2			US-east1
AF-south1	EU-north1		SA-east1
AS-south1			US-east1
AF-south1	EU-west6		SA-west1
AS-south1			US-east1
AF-south1	EU-west10		SA-west1
AS-south2			US-east1
AF-south1	EU-west10		SA-east1
AS-south2			US-east1
AF-south1	EU-west10		SA-east1
AS-south1			US-east1
AF-south1	EU-central2		SA-west1
AS-south1			US-east1

**Table 27: GCP: Best Performing 10 Sets for (5, N-1)**

AF/AS	AU/EU	ME/NA	SA/US
AS-south1	EU-north1		US-west3
AS-south2			
AS-south1	EU-west10		US-west3
AS-south2			
AS-south1	EU-north1		US-west3
AS-south2			
AS-south1	EU-north1		
AS-south2			
AS-southeast1			
AS-south1	EU-north1		US-west4
AS-south2			
AS-south1	EU-central2		US-west4
AS-south2			
AS-south1	EU-west10		US-west4
AS-south2			
AS-south1	EU-west10		US-west4
AS-south2			
AS-south1	EU-north1		US-west4
AS-south2			
AS-south1	EU-north1		US-west4
AS-south2			

**B ETHICS****REFERENCES**

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