

# Assignment – 3

Name: - Pranav Murali

CWID: - A20555824

**Configuration 1:** Hadoop/Spark Cluster with 160K-cores, 128TB memory, 24PB HDD, and 100Gb/s Ethernet Fat-Tree network (each VM should be equivalent to the d3.8xlarge instance); in addition to the compute resources, a 48PB distributed storage shared across the entire cloud should be procured, with the expectation that 48PB of data will be read and written to S3 every year from outside of Amazon with enough capacity for 1GB/sec throughput (for pricing comparison, see S3 Standard). For EC2, you must use the reserved instance pricing with a standard 5-year term.

Private Cloud:-

Compute server and Storage Server

THINKMATE  
A SOURCE CODE COMPANY

Buy online or call 1-800-371-1212

ORDER \$20,609,808.00

LOG IN

Instant Product & Page Search


SERVERSTORAGEWORKSTATIONSOLUTIONSSERVICESUPPORT

Your Order


Product	Unit Price	Quantity	Subtotal
<div></div> <div><b>RAX QH4-11E4 ( My System February 26th, 9:09 pm EST )</b> Thinkmate Config ID 705474</div> <div><div>Reconfigure</div><div>Add A Spares Kit</div></div>	\$9,837.00	1905	\$18,739,485.00
<div><div>Remove</div></div>			
<div>AMD EPYC™ 9004 Series - 1U - 4x 3.5" Hybrid - 1x M.2 NVMe - Single 1-Gigabit Ethernet (RJ45) - 800W Redundant AMD EPYC™ 9634 Processor 84-core 2.25GHz 384MB Cache (290W) 4 x 16GB PC5-38400 4800MHz DDR5 ECC RDIMM 14TB SATA 6.0Gb/s 7200RPM - 3.5" - Ultrastar™ DC HC530 (512a/4Kn) Broadcom NetXtreme 100-Gigabit Ethernet Network Adapter P21000 - PCIe 4.0 x16 - 2x QSFP56 Thinkmate® Server Management Software Package - iPMI and Redfish Compatible 2x AC Power Cord (North America), C13, NEMA 5-15P, 2.0m CAB-AC Thinkmate Standard Rail Kit for 1U/2U Servers (Square Hole) (Included) Ubuntu Linux 22.04 LTS Server Edition (64-bit) Thinkmate® ISO 9001 Certified Assembly, Testing, and Quality Control Thinkmate® 5 Year Advanced Parts Replacement Warranty (Zone 0)</div>			
<div></div> <div><b>STX-NL QE24-14E3 ( My System February 26th, 9:26 pm EST )</b> Thinkmate Config ID 705485</div> <div><div>Reconfigure</div><div>Add A Spares Kit</div></div>	\$20,111.00	93	\$1,870,323.00
<div><div>Remove</div></div>			
<div>AMD EPYC™ 7003 - 8x SATA3 - 2x M.2 NVMe - Dual Intel 1-Gigabit Ethernet (RJ45) AMD EPYC™ 7313P Processor 16-core 3.0GHz 128MB Cache (155W) Thinkmate® 2U Aluminum Heatpipe with Embedded Heatpipe 8 x 8GB PC4-25600 3200MHz DDR4 ECC RDIMM Thinkmate® STX-4324 4U Chassis - 24x Hot-Swap 3.5" SATA/SAS3 - 12Gb/s SAS Single Expander - 1200W 1+1 Redundant Power 24x 2.25TB SATA 6.0Gb/s 7200RPM - 3.5" - Ultrastar™ DC HC570 (512a/4Kn) Broadcom HBA 9500-B SAS3 SATA 8-Port Tri-Mode Host Bus Adapter - PCIe 4.0 x8 Broadcom NetXtreme 100-Gigabit Ethernet Network Adapter P21000 - PCIe 4.0 x16 - 2x QSFP56 Thinkmate Certified Slimline SAS x8 (SFF-8654) to 2x MiniSAS HD (SFF-8643) (1M) 2x Thinkmate® Certified 12Gb/s mini SAS HD Cable - SFF-8643 to SFF-8643 (80cm) (30AWG) Startech 12" 4-Pin Fan Power Extension Cable - M/F Backplane to Rear Cable Connector, Internal to External Mini-SAS HD Ubuntu Linux 22.04 LTS Server Edition (64-bit) Thinkmate® ISO 9001 Certified Assembly, Testing, and Quality Control Thinkmate® 5 Year Advanced Parts Replacement Warranty (Zone 0)</div>			
<div><div>Update</div> \$20,609,808.00</div>			

Switches

## Cart


Product	Quantity	Total
<div></div> <div>Mellanox Mellanox MSN4600-CS2FC Spectrum-3 Ethernet Switch, 64 x 100 Gigabit Ethernet Expansion Slot, 100GBase-X, Rail-mountable, Rack-mountable \$25,046.49</div>	<div>- 30 +</div> <div>Remove</div>	\$751,394.70
<div>Clear All</div>		

# Shopping Cart

	Price
<div><div></div><div><div>Mellanox Spectrum-Based 32-Port 100GbE Open Ethernet Platform</div><div>Only 4 left in stock - order soon.</div><div>Shipped from: <a href="#">Alpine Wholesales</a></div><div>Gift options not available. <a href="#">Learn more</a></div></div><div><div>Qty: 3</div><div>Delete</div><div>Save for later</div><div>Share</div></div></div>	\$4,560.00
Subtotal (3 items): \$13,680.00	

## Cables

Supermicro 100G QSFP28 Passive 1m Cable (CBL-NTWK-0942-MQ28C10M)



- Passive Copper Cable Assembly
- Perfect for 100G Application
- QSFP+ to QSFP+ Connectors
- Supermicro Certified

\$136.42

[Buy More, Save More](#)


[Request quote for volume discount](#)

OUT OF STOCK

This item is out of stock but we may still be able to fulfill your order. [Contact Us](#) for more details!

## Racks

# Shopping Cart

	Price
<div><div></div><div><div>Server Rack - Locking Cabinet - Network Rack Cabinet Enclosure - 42U - Rack Mount - 32 Inch Deep - Server Cabinet - on Wheels - Shelf - Cooling Fan - Thermostat - Sysracks - SRF</div><div>In Stock</div><div>Shipped from: <a href="#">Sysracks Equipement Inc.</a></div><div>Gift options not available. <a href="#">Learn more</a></div></div><div><div>48</div><div>Delete</div><div>Save for later</div><div>Compare with similar items</div><div>Share</div></div></div>	\$939.99
Mellanox Spectrum-Based 32-Port 100GbE Open Ethernet Platform was removed from Shopping Cart.	
Subtotal (48 items): \$45,119.52	

Total cores = 84\*1905 = 160,020 cores

Power consumption for 1 server = 486.4 Watts/hr

Cost per hour for 1905 servers = 138.98 USD (assuming rate = 0.15 kWh) For 5 years 138.98\*24\*365\*5= 6,087,324.00

JBOD storage – 1 unit power consumption = 150.0 Watts/hr

Cost per hour for 93 JBOD = 2.09 USD For 5 years 2.09\*24\*365\*5= 91,542.00



aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

EC2 specifications

Tenancy

Choose the tenancy type to run your Amazon EC2 instances on.

Shared Instances

Operating system

Choose the operating system to run your Amazon EC2 instances on.

Linux

Workloads

Choose the graph that best represents your monthly workload

☒ Constant usage

☐ Daily spike traffic

☐ Weekly spike traffic

☐ Monthly spike traffic

Number of instances

Please specify the total number of instances that you need each month.

5000

EC2 Instances (231)

Based on your inputs, this is the lowest-cost EC2 instance: **r6g.xlarge**

Chosen instance: **r6g.xlarge** | Family: **r6g** | 32vCPU | 256 GiB Memory

Amazon Elastic Block Store (EBS) - optional

Calculating EBS snapshots

Learn more on how EBS snapshot prices are calculated.

Storage for each EC2 instance

Choose EBS volume storage type.

General Purpose SSD (gp3)

General Purpose SSD (gp3) - IOPS

gp3 supports a max of 16,000 IOPS per volume

Enter amount of IOPS per volume

General Purpose SSD (gp3) - Throughput

gp3 supports a max of 1000 MBps per volume

Value

Unit

MBps

Storage amount

Unit

TB

Snapshot Frequency

No snapshot storage

Standard Reserved Plan

Other purchasing options

☒ Standard Reserved Instances

Learn about [Standard Reserved Instances](#).

Reservation term

☒ 1 year

☐ 3 year

Payment Options

☒ No upfront

☐ Partial upfront

☐ All upfront

Upfront: 0.00

Monthly: 741.75/Month

☐ Convertible Reserved Instances

Learn more

Reservation term

☐ 1 year

☒ 3 year

Payment Options

☒ No upfront

☐ Partial upfront

☐ All upfront

Upfront: 0.00

Monthly: 609.99/Month

EC2 Instance

Successfully deleted Amazon EC2 estimate.

AWS Pricing Calculator

>

My Estimate

My Estimate

Edit

Export

Share

Estimate summary

Info

Upfront cost

0.00 USD

Monthly cost

5,723,997.00 USD

Total 12 months cost

68,687,964.00 USD

Includes upfront cost

Getting Started with AWS

Get started for free

Contact Sales

My Estimate

Duplicate

Delete

Move to

Create group

Add support

Add service

Find resources

<

1

>

<input type="checkbox"/>	Service Name	Status	Upfront cost	Monthly cost	Description	Region	Config Summary
<input type="checkbox"/>	Amazon EC2	-	0.00 USD	5,723,997.00 USD	-	US East (Ohio)	Tenancy (Shared Instances), ...

On-Demand Plan

On-Demand

Maximize flexibility. [Learn more](#)

Expected utilization

Enter the expected usage of Amazon EC2 instances

Usage

100

Usage type

Utilization percent per month

Instance: 1.6128/Hour

Monthly: 1177.34/Month

EC 2 Instance

Successfully updated Amazon EC2 estimate.

AWS Pricing Calculator

>

My Estimate

My Estimate

Edit

Export

Share

Estimate summary

Info

Upfront cost

0.00 USD

Monthly cost

7,901,952.00 USD

Total 12 months cost

94,823,424.00 USD

Includes upfront cost

Getting Started with AWS

Get started for free

Contact Sales

My Estimate

Duplicate

Delete

Move to

Create group

Add support

Add service

Find resources

<

1

>

<input type="checkbox"/>	Service Name	Status	Upfront cost	Monthly cost	Description	Region	Config Summary
<input type="checkbox"/>	Amazon EC2	-	0.00 USD	7,901,952.00 USD	-	US East (Ohio)	Tenancy (Shared Instances), ...

S3 Storage

S3 Standard feature

▼ S3 Standard Info

The calculations below exclude Free Tier discounts.

S3 Standard storage

49152

Unit

TB per month

How will data be moved into S3 Standard?

Automatically calculates PUT, COPY, POST costs for moving data into S3 Standard initially. To compare the cost of current storage in S3 Standard to lifecycleing this data to another storage class, you can specify that your storage is already stored in S3 Standard while selecting Lifecycle under the new storage class to capture the upfront cost of moving your data.

The specified amount of data is already stored in S3 Standard

PUT, COPY, POST, LIST requests to S3 Standard

Ongoing monthly number of PUT, COPY, POST or LIST requests

Enter amount of requests

GET, SELECT, and all other requests from S3 Standard

Ongoing monthly number of GET, SELECT and all other requests

Enter amount of requests

Successfully updated Amazon Simple Storage Service (S3)estimate.

AWS Pricing Calculator > My Estimate

My Estimate Edit

Export Share

Estimate summary Info

Upfront cost

0.00 USD

Monthly cost

3,578,001.41 USD

Total 12 months cost

42,936,016.92 USD

Includes upfront cost

Getting Started with AWS

Get started for free

Contact Sales

My Estimate

Duplicate

Delete

Move to

Create group

Add support

Add service

Find resources

< 1 >

	Service Name	Status	Upfront cost	Monthly cost	Description	Region	Config Summary
<input type="checkbox"/>	Amazon Simple Storage Serv...	-	0.00 USD	3,578,001.41 USD	-	US East (Ohio)	S3 Standard storage (49152 TB...

S3 Storage for 1 year = \$ 42,936,016.92

S3 Storage for 5 years = \$ 214,680,084.00

Standard Reserved Cost for 1 year= \$ 68,687,964.00

Standard Reserved Cost for 5 years = \$ 343,439,824.00

On-Demand Cost for 1 year = \$ 94,823,424.00

On-Demand Cost for 5 years = \$ 474,117,120

Conclusion

Public Cloud for 5 Years	
Standard Reserved cost	\$ 558,119,908.00
On-Demand cost	\$ 688,797,204.00
Private Cloud for 5 Years	\$ 34,296,001.00

**Configuration 2:** Support 1K application developers who are designing MacOS and iPad OS applications. They require a MacOS system with 6 cores (3GHz), 32GB RAM, 1TB storage, and a 10Gb/s network (Amazon has mac1.metal instances that have everything you need except the 1TB storage, which you can provision through EBS). The developers work 40 hours/week, 48 weeks/year (they get 4 weeks of vacation per year). You must use on-demand EC2 pricing as developers are expected to provision their systems at the beginning of each working day, and release their systems at the end of each working day.

### Private Cloud :-



#### Mac mini

Quantity:  
1

\$1,829.00

Pay 0% APR for 12 months:

\$152.41/mo.

[Hide product details ^](#)

[Remove](#)

##### Hardware

- Apple M2 Pro with 10-core CPU, 16-core GPU, 16-core Neural Engine
- 32GB unified memory
- 1TB SSD storage
- 10 Gigabit Ethernet
- Four Thunderbolt 4 ports, HDMI port, two USB-A ports, headphone jack

##### Software

- Photos, iMovie, GarageBand
- Pages, Numbers, Keynote
- macOS
- Accessory Kit

 **Add AppleCare+ for Mac mini (M2) for \$89.00**

[Add](#)

Get technical support and accidental damage protection.

[Learn more >](#)

For 1000 developers  $1829 \times 1000 = \$1,829,000.00$

The maximum power consumption for each Mac is 185 Watt/hr

For 1000 developers the power consumption is 185 kw/hr

The developers work 40 hours a week and 48 weeks a year =  $40 \times 48 \times 185 = 355,200$  kw/hr

Assuming 0.15 USD per kilowatt = \$ 53,280.00

A mini mac will be ideal for a long time. When it is in ideal state it consumes 7 watt/hr , so for 1000 Macs it is 7kw/hr

The total ideal hours where the developers wont be working is 6840 hours =  $6840 \times 7 = 47,880$  kw/hr

The total amount of \$ 60,462 for 1 year


For 5 years it is \$ 302,310

Switches

Cart

Product

Mellanox



Mellanox MSN4600-CS2FC Spectrum-3 Ethernet Switch, 64 x 100 Gigabit Ethernet Expansion Slot, 100GBase-X, Rail-mountable, Rack-mountable

\$25,046.49

Quantity

- 30 +

Remove


Total

\$751,394.70

[Clear All](#)

Cables

Shopping Cart



FiberCablesDirect - 1M OM3 LC LC Fiber Patch Cable | 10Gb Duplex 50/125 LC to LC Multimode Jumper 1 Meter (3.28ft) | Length Options: 0.5M-300M | 1g 10g 40g dplx mmf

In Stock

Eligible for FREE Shipping & FREE Returns

☐ This is a gift [Learn more](#)

Size: 1M

Style: LC LC

Qty: 1

Delete

Save for later

Compare with similar items

Share

Price


\$11.95

Subtotal (1 item):

\$11.95

Racks

Shopping Cart



Server Rack - Locking Cabinet - Network Rack Cabinet Enclosure - 42U - Rack Mount - 32 Inch Deep - Server Cabinet - on Wheels - Shelf - Cooling Fan - Thermostat - Sysracks - SRF

In Stock

Shipped from: Sysracks Equipement Inc.

Gift options not available. [Learn more](#)

48

Delete

Save for later

Compare with similar items

Share

Price

\$939.99

Mellanox Spectrum-Based 32-Port 100GbE Open Ethernet Platform was removed from Shopping Cart.

Subtotal (48 items):

\$45,119.52

	Description	Price per item	Quantity	Total Price (5 years)
Computer Servers	Mac mini	\$ 1829.00	1000	\$ 1,829,000.00
Network Switches	Mellanox MSN4600-CS2FC Spectrum-3 Ethernet Switch, 64 x 100 Gigabit Ethernet Expansion Slot, 100GBase-X, Rail-mountable, Rack-mountable	\$ 25,046.49	16	\$ 400,743.84
Network cables	FiberCablesDirect - 1M OM3 LC LC Fiber Patch Cable   10Gb Duplex 50/125 LC to LC Multimode Jumper 1 Meter (3.28ft)   Length	\$ 11.95	1050	\$ 12,547.5



	Options: 0.5M-300M   1g 10g 40g dplx mmf 10gbase sfp+ Aqua ofnr lommf lc-lc			
Racks	Server Rack - Locking Cabinet - Network Rack Cabinet Enclosure - 42U - Rack Mount - 32 Inch Deep - Server Cabinet - on Wheels - Shelf - Cooling Fan - Thermostat - Sy racks - SRF	\$ 939.99	21	\$ 19,739.79
Storage Servers	N/A			
Electric Power				\$ 60,462.00
Cooling				\$ 60,462.00
Administration	Require 1 admin for each 500 mac	\$ 200,000.00	2	\$ 400,000.00
Total				\$ 2,782,953.00

For 5 years the total amount will be \$ 3,266,649.00

Public Cloud

Specifications

aws pricing calculator

FeedbackLanguage: English ▼Contact Sales ↗Create an AWS Account

EC2 specifications info

Tenancy

Choose the tenancy type to run your Amazon EC2 instances on.

Dedicated Hosts

Number of dedicated hosts

Please specify the total number of Dedicated Hosts that you need each month.

1000

EC2 Instances (82)

Based on your inputs, this is the lowest-cost EC2 instance: a1

Chosen instance: mac1 | 12vCPU | 6 Physical cores

Search instance types

Q Search by instance name or filter by keyword

Instance family Info

Any family

vCPUs

Any vCPUs

Physical Cores

Any physical cores

Instance Category

Any category

< 1 2 3 4 5 6 7 8 9 > ⚙

	Instance Family	vCPUs	Physical Cores	On-Demand Hourly Cost
<input type="radio"/>	a1	16	16	0.449
<input type="radio"/>	mac2	12	8	0.65
<input type="radio"/>	mac2-m2	12	8	0.878
<input checked="" type="radio"/>	mac1	12	6	1.083

▼ Amazon Elastic Block Store (EBS) - optional info

Storage per instance

Storage for each EC2 instance

Choose EBS volume storage type:

General Purpose SSD (gp2)

Storage amount

1

Unit

TB

► Show calculations

## EC2 Instance

aws pricing calculator

Feedback Language: English Contact Sales Create an AWS Account

Successfully added Amazon EC2 estimate.

AWS Pricing Calculator > My Estimate

My Estimate Edit

Export Share

**Estimate summary** info

Upfront cost: 0.00 USD

Monthly cost: 892,990.00 USD

Total 12 months cost: **10,715,880.00 USD**  
Includes upfront cost

**Getting Started with AWS**

Get started for free Contact Sales

**My Estimate**

Find resources

Duplicate Delete Move to Create group Add support Add service

<input type="checkbox"/>	Service Name	Status	Upfront cost	Monthly cost	Description	Region	Config Summary
<input type="checkbox"/>	Amazon EC2	-	0.00 USD	892,990.00 USD	-	US East (Ohio)	Tenancy (Dedicated Hosts), W...

This is the total cost for 1 year with continuous work.

☒ On-Demand  
Maximize flexibility. [Learn more](#)

Instance: 1.083/Hour  
Monthly: 790.59/Month

As the configuration states that there are 1000 developers working 40 hours a week and 48 weeks a year, we can calculate =  $40 \times 48 \times 1.083 = 779.76 \times 1000 = \$ 779760$

For every one person using this instance over a week will be charged around 43.32 \$

For a single person using this instance for a whole year will be \$ 2079.36

The team of thousand developers working on it for 5 years will be charged \$ 10,396,800 just for the compute instance

For storage of 1TB we will be considering the General Purpose SSD (gp3) - Storage EBS from AWS

This storage costs around \$ 0.08 GB / Month

This storage will be charged \$ 983,040.00 for 1000 developers for one year

Over a tenure of 5 years the total charge for the above-listed storage will be \$ 4,915,200.00


The combined cost of these cloud instances and storage will be \$ 15,312,000.00

Private Cloud for 5 years	\$ 3,266,649.00
Public Cloud for 5 years	\$ 15,312,000.00

**Configuration 3:** Ethereum crypto currency mining; you have an investor who has \$10M to buy hardware 2 | CS553 H W 4 to mine Raven Coin RVN (and pay for maintance / sys admin, power, and cooling), or rent resources from Amazon EC2 to mine Raven Coin. Configure the best hardware you can from ThinkMate. For buying hardware solution, make sure to leave funds to pay for power, cooling, and system administrator. Raven Coin mining can be done on any compute hardware (CPUs or GPUs), but you will likely find that its most profitable to mine using GPUs. Since Ethereum mining is compute intensive, your processor, memory, hard drive, and network requirements are minimal (4-cores, 8GB RAM, 100GB HDD, and 1Gb/sec network). Identify the best Amazon instance (you must use Spot Instances to make sure you get the best hardware for the cheapest price); although spot pricing fluctuates over time, you can assume the spot price will remain fixed for the duration of your evaluation. For the purchase of the hardware scenario, you are free to locate the hardware in any state in the USA (for a full list of average electricity cost by state, see <https://www.chooseenergy.com/electricity-rates-by-state/>); since this will be a business venture, use the business electricity rates. If electricity is too expensive to make a profit, invest part of the \$1M in solar power (solar panels), and estimate the amount of energy you can extract. For an overview of various GPUs and their respective hash rates (the higher the hash rates, the more Raven Coin that can be mined), see <https://whattomine.com> (Kapow); this online resource has an even more exhaustive list of GPUs and their hash rate; <https://www.betterhash.net/mining/gpu/?page=1>. Once you have a hashrate, you can estimate how much money can be made mining Ethereum by using an online caluclator such as <https://www.cryptocompare.com/mining/calculator/eth?HashingPower=0&HashingUnit=M H%2Fs&PowerConsumption=0&CostPerkWh=0&MiningPoolFee=1>. The mining calculator gives an instantanous mining number, although in reality the amount of coin that can be mined would vary based on many factors (hash rate, hash difficulty, fees, etc). The profit similarly can vary based on the Raven Coin pricing, which can vary wildy. When computing the mining coins and expected profit, you can use the caluclator above to compute it for a 5 year period, assuming the mining continues at the same rate, and the price remains at the same level. Your task is to compute the amount of profit that is expected after \$10M is invested in buying hardware and running it for 5-years, vs. renting the hardware from Amazon. Its possible that the profits you make will be less than the original investment (especially with the Amazon scenario).

## Private Cloud


## Your Order

Product	Unit Price	Quantity	Subtotal
 <b>GPX XS12-24S3-10GPU ( My System February 27th, 9:47 pm EST )</b> Thinkmate Config ID 705990	\$39,329.00	<input type="text" value="175"/> <input type="checkbox"/> Remove	\$6,882,575.00
4U GPU Server - 12x 3.5" SATA/SAS - 10x GPUs Dual Root - Dual 10-Gigabit Ethernet - 2200W 2+1 Redundant 2x Intel® Xeon® Silver 4309Y Processor 8-Core 2.8GHz 12MB Cache (105W) 16x 8GB PC4-25600 3200MHz DDR4 ECC RDIMM 1TB SATA 6.0Gb/s 7200RPM - 3.5" - Ultrastar™ DC HA210 (512n) 10x NVIDIA® A10 GPU Computing Accelerator - 24GB GDDR6 - PCIe 4.0 x16 - Passive Cooler (w/o CEC) Broadcom NetXtreme 1-Gigabit Ethernet Network Adapter - PCIe 2.0 x1 - 2x RJ45 3x IEC320 C14 to C19 Power Cable - 14AWG - 250V/15A - 4ft / 1.2M (TAA Compliant) Ubuntu Linux 22.04 LTS Server Edition (64-bit) Thinkmate® ISO 9001 Certified Assembly, Testing, and Quality Control Thinkmate® 3 Year Advanced Parts Replacement Warranty (Zone 0)			
<input type="button" value="Reconfigure"/> <input type="button" value="Add A Spares Kit"/>			
<input type="button" value="Update"/>			\$6,882,575.00

Switches

Shopping Cart

Delivery based on 60601



D-Link 52-Port 10-Gigabit Smart Managed Switch

Item # 7286165

Delivery

Estimated delivery 3-7 business days

4

\$3,145.16

\$786.29 ea

X


Save for Later

Cables

Shopping Cart

Deselect all items

✓



Qiuean Ethernet Cable 25 FT, Cat8 High Speed Outdoor&Indoor Cat8 LAN Network Cable 40Gbps, 2000Mhz with Gold Plated RJ45 Connector, Weatherproof S/FTP UV

In Stock

Eligible for FREE Shipping & FREE Returns

☐ This is a gift

Learn more

Size: 25FT

Color: White

179

Delete

Save for later

Compare with similar items

Share

Price

\$13.99

Save 10%

Clip Coupon


Subtotal (179 items): \$2,504.21

Racks

Shopping Cart

Deselect all items

✓



Syracks - Server Rack - Locking Cabinet - Network Rack - Av Cabinet - 42 U - Rack Mount - Free Standing Network Rack- Server Cabinet - Caster Leveler - Rack Shelf - C...

In Stock

Shipped from: Systracks Equipement Inc.

Gift options not available. Learn more

Qty: 5

Delete

Save for later

Compare with similar items

Share

Price

\$959.99

Qiuean Ethernet Cable 25 FT, Cat8 High Speed Outdoor&Indoor Cat8... was removed from Shopping Cart.

Subtotal (5 items): \$4,799.95

	Description	Price per item	Quantity	Total Price (5 years)
Computer Servers	GPX XS12-24S3-10GPU	\$ 35,334.00	175	\$ 6,882,572.00
Network Switches	D-Link 52-Port 10-Gigabit Smart Managed Switch	\$ 786.29	4	\$ 3,145.16
Network cables	Qjuean Ethernet Cable 25 FT, Cat8 High Speed Outdoor&Indoor Cat8 LAN Network Cable 40Gbps, 2000Mhz with Gold Plated RJ45 Connector, Weatherproof S/FTP UV Resistant for Router/Gaming/Modem (25)	\$ 13.99	179	\$ 2,504.21
Racks	Sysracks - Server Rack - Locking Cabinet - Network Rack - Av Cabinet - 42 U - Rack Mount - Free Standing Network Rack- Server Cabinet - Caster Leveler - Rack Shelf	\$ 959.99	5	\$ 4,799.95
Storage Servers	N/A			
Electric Power	Chicago – \$ 0.063 kw/hr			\$ 1,346,601.00
Cooling				\$ 1,346,601.00
Administration	Require 1 admin for each 100 servers	\$ 100,000.00	2	\$ 200,000.00
Total				\$ 9,633,100.16

Total power consumption of 1 server = 2788.6 w/hr

Cost of Total power consumption for 1 year = \$1538.97

Total cost for 5 years = \$ 7694.86

Total cost for 5 years with cooling = \$ 15,389.72

Total for 175 servers = \$ 1,346,601

Total for 175 servers with cooling = \$ 2,693,201

Total hash rate for 175 machines with 10 gpu = 73500

Private Ethereum Coin

GET REWARDS UP TO \$20,000

Play now

Coin List Top 100 Research News Search

Currency BTC ETC XMR ZEC DASH LTC

Calculated for 1 BTC = \$ 27.89

Hashing Power: 73500 MH/s

Power consumption (w): 1346601

Cost per kWh (\$): 0.063

Pool Fee (%): 1

PROFIT RATIO PER DAY		PROFIT PER MONTH	
-89%		\$ -54.22 k	
Day	Profit per day \$ -1,807.30 Pool fee \$ 2.37	ETC 8.26	Power cost/Day \$ 2,036.06
Week	Profit per week \$ -12.65 k Pool fee \$ 16.39	ETC 57.79	Power cost/Week \$ 14.25 k
Month	Profit per month \$ -54.22 k Pool fee \$ 61.65	ETC 247.66	Power cost/Month \$ 61.08 k
Year	Profit per year \$ -659.66 k Pool fee \$ 784.41	ETC 3,013.25	Power cost/Year \$ 743.16 k


Join Drake At Stake. No purchase required! Claim \$25 Stake Cash & 250K Gold Coins.

Stake US SIGN UP AND START PLAYING TO WIN REAL PRIZES

Private cloud raven coin

### Ravencoin mining calculator

Estimated earnings, costs, and profits for mining RVN.

 **Boost your RVN mining profits today with minerstat. Get started now!**

Hashrate	Power consumption	Pool fee	Currency	Electricity costs	<div>Calculate</div>
<div>73500<div>MH/s</div></div>	<div>1346601<div>W</div></div>	<div>1<div>%</div></div>	<div>USD<div>▼</div></div>	<div>0.063<div>USD/kWh</div></div>	

PERIOD	EST. REWARD	EST. INCOME	COSTS	EST. PROFIT
Last 1h	2279.95 RVN	58.1708 USD 0.00102090 BTC	-84.84 USD -0.00148887 BTC	<b>-26.6651 USD</b> -0.00046797 BTC
Last 24h	52956.46 RVN	1364.8008 USD 0.02395225 BTC	-2036.06 USD -0.03573287 BTC	<b>-671.2599 USD</b> -0.01178061 BTC
Last 7 days	385228.18 RVN	9144.7135 USD 0.16048972 BTC	-14252.42 USD -0.25013006 BTC	<b>-5107.7115 USD</b> -0.08964034 BTC
Current daily	55763.98 RVN	1422.1999 USD 0.02495961 BTC	-2036.06 USD -0.03573287 BTC	<b>-613.8608 USD</b> -0.01077326 BTC
Current for 7 days	390347.83 RVN	9955.3991 USD 0.17471725 BTC	-14252.42 USD -0.25013006 BTC	<b>-4297.0259 USD</b> -0.07541280 BTC
Current for 30 days	1672919.25 RVN	42665.9960 USD 0.74878823 BTC	-61081.82 USD -1.07198596 BTC	<b>-18415.8254 USD</b> -0.32319774 BTC

Public Cloud

Spot Instances

Minimize cost by leveraging EC2's spare capacity. Recommended for fault tolerant and interruption tolerant applications. [Learn more](#)

The historical average discount for g4ad.xlarge is 0%

Assume percentage discount for my estimate

-1

Actual spot instance pricing varies


With spot instances, you pay the spot price that's in effect for the time period your instance is running

Instance: 0.38553/Hour

Monthly: 14781.07/Month



CurrencyBTCETCXMRZECDASHLTC



Calculated for  
1 ETC = \$ 27.99

Hashing Power

9984

MH/s

Power consumption (w)

0

Cost per KWh (\$)

0.063

Pool Fee (%)

1

PROFIT RATIO PER DAY

∞%

PROFIT PER MONTH

\$ 932.64

Profit per day \$ 31.09 Pool Fee \$ 0.3140	Mined/day ETC 1.12	Power cost/Day \$ 0
Profit per week \$ 217.62 Pool Fee \$ 2.20	Mined/week ETC 7.85	Power cost/Week \$ 0
Profit per month \$ 932.64 Pool Fee \$ 9.42	Mined/month ETC 33.66	Power cost/Month \$ 0
Profit per year \$ 11.35 k Pool Fee \$ 114.62	Mined/year ETC 409.49	Power cost/Year \$ 0

Private Cloud - 175 instances for 5 year	\$ 9,633,100.16
Etherium profit for 5 year	\$ -3,298,300.00
Raven coin profit for 5 year	\$ -1,104,900.00
AWS - 52 systems 1 year investment	\$ 180,608.64
AWS - 52 systems 5 year investment	\$ 903,040.00
Etherium profit for 5 year	\$ 56,750.00
Raven coin profit for 5 year	\$ 338,280.00



### Conclusion: -

In the context of the initial setup tailored for Hadoop and Spark use cases, opting for a private cloud infrastructure proves advantageous over a 5-year period. This choice promises a more economical initial investment coupled with favorable returns.

Considering the second configuration, the utilization of a private cloud not only ensures enhanced performance but also allows for further optimization through the incorporation of superior servers. Conversely, deploying instances in a public cloud would incur substantial costs.

Examining the third configuration, investing in mining rigs during a bear market appears financially unfavorable. However, embracing a public cloud-based solution becomes a prudent choice as it mitigates losses, especially when compared to the higher operational costs associated with a private cloud, even in a region like Louisiana with relatively low power consumption rates at 0.063\$/kWh.

	Public Cloud		Private Cloud	
Configuration 1	Shared - \$ 558,119,908.00 On-demand - \$ 688,797,204.00		\$ 34,296,001.00	
Configuration 2	\$ 15,312,000.00		\$ 3,266,649.00	
Configuration 3	\$ 180,608.64	<b>Profit</b>	\$ 9,633,100.16	<b>Profit</b>
Etherium		\$ 56,750.00		\$ -3,298,300.00
Raven		\$ 338,280.00		\$ -1,104,900.00