



Arab States Research and Education Network
المنظمة العربية لشبكات البحث والتعليم

Morocco National Conference



on
MARWAN
Moroccan NREN



Centre National pour la Recherche
Scientifique et Technique

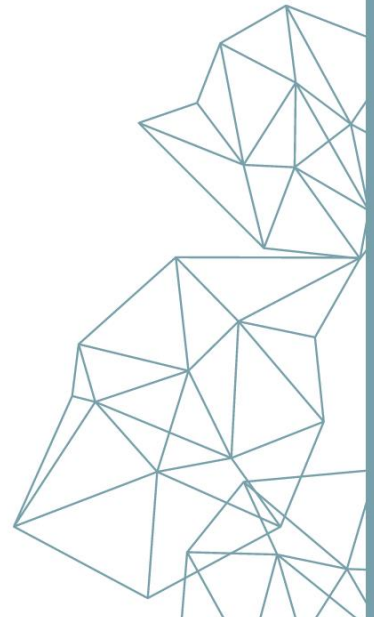
"An Innovation Enabler through
Advanced e-Infrastructures"

Palm Plaza Marrakech Hotel

13 - 14 OCTOBER 2022



This event is co-funded
by the European Union





ASREN Network & Services

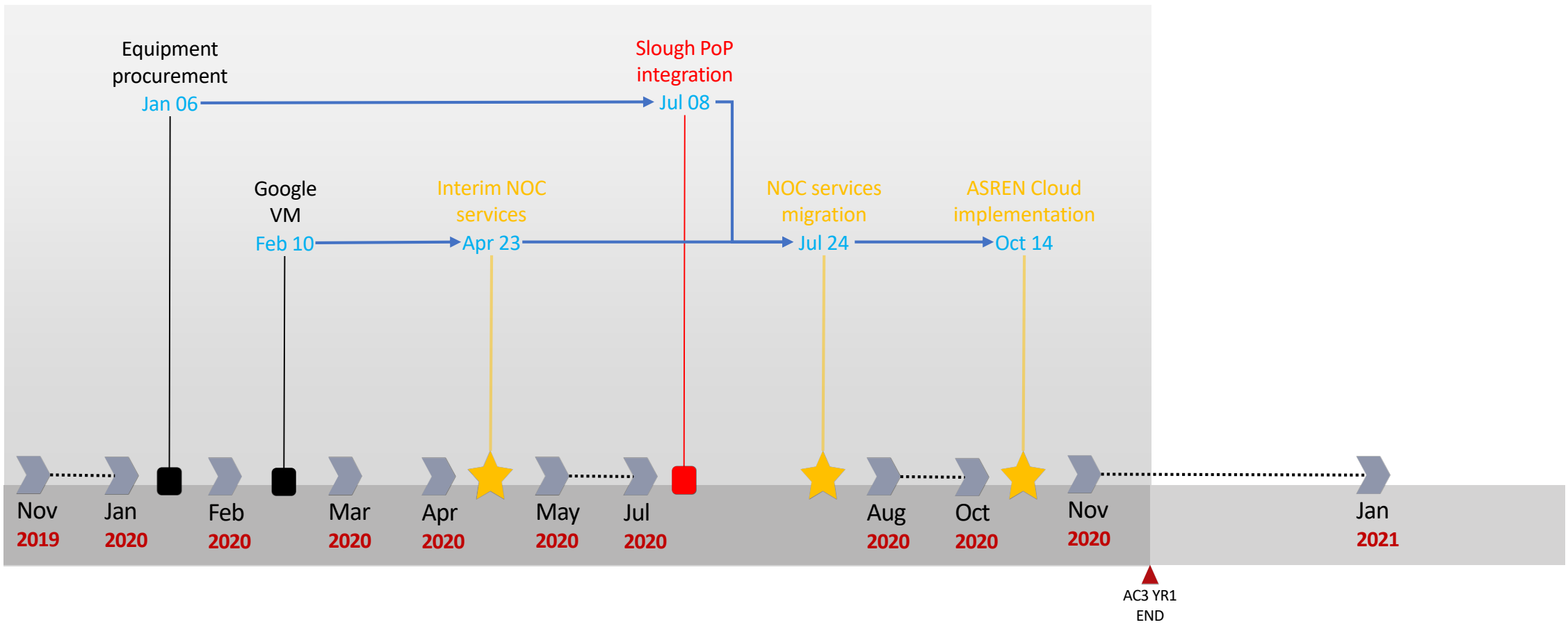
Evolution of ASREN Network and Services over the third Year of the AfricaConnect3 Project

Eriko Porto

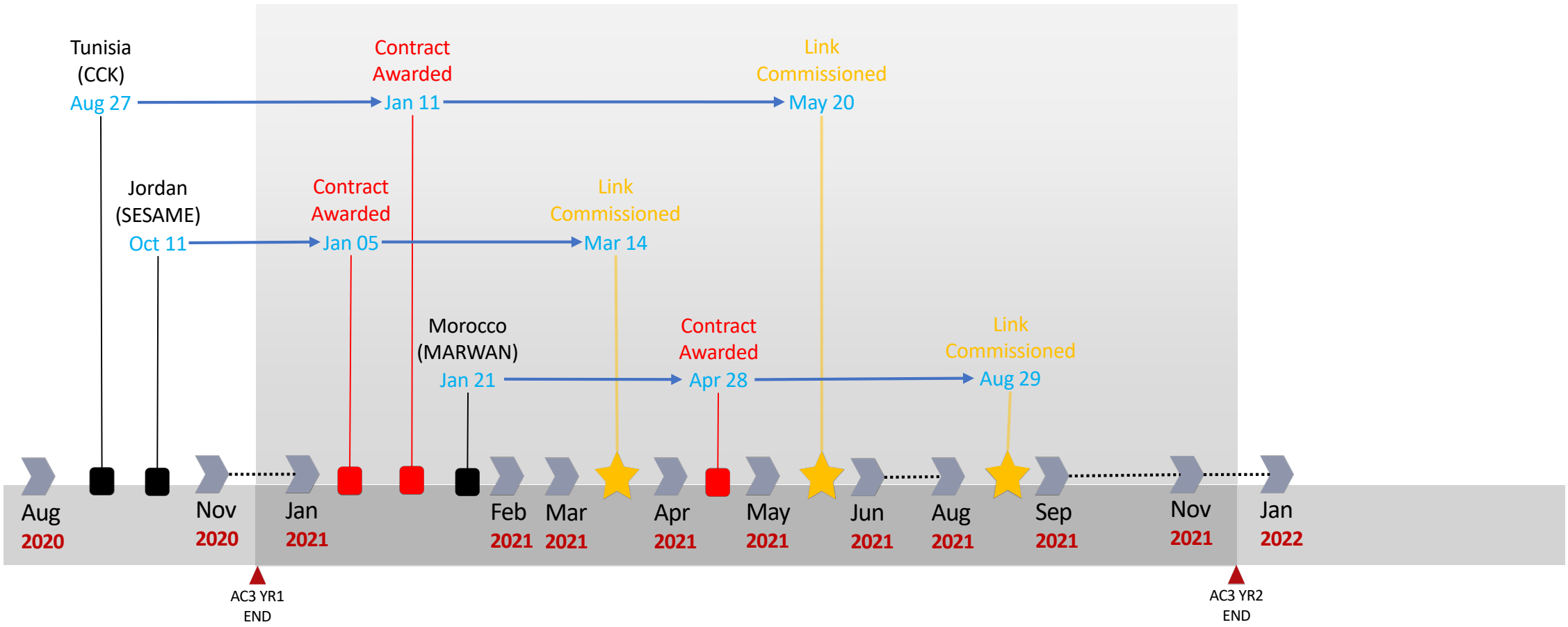
eriko.porto@asrenorg.net

October/2022

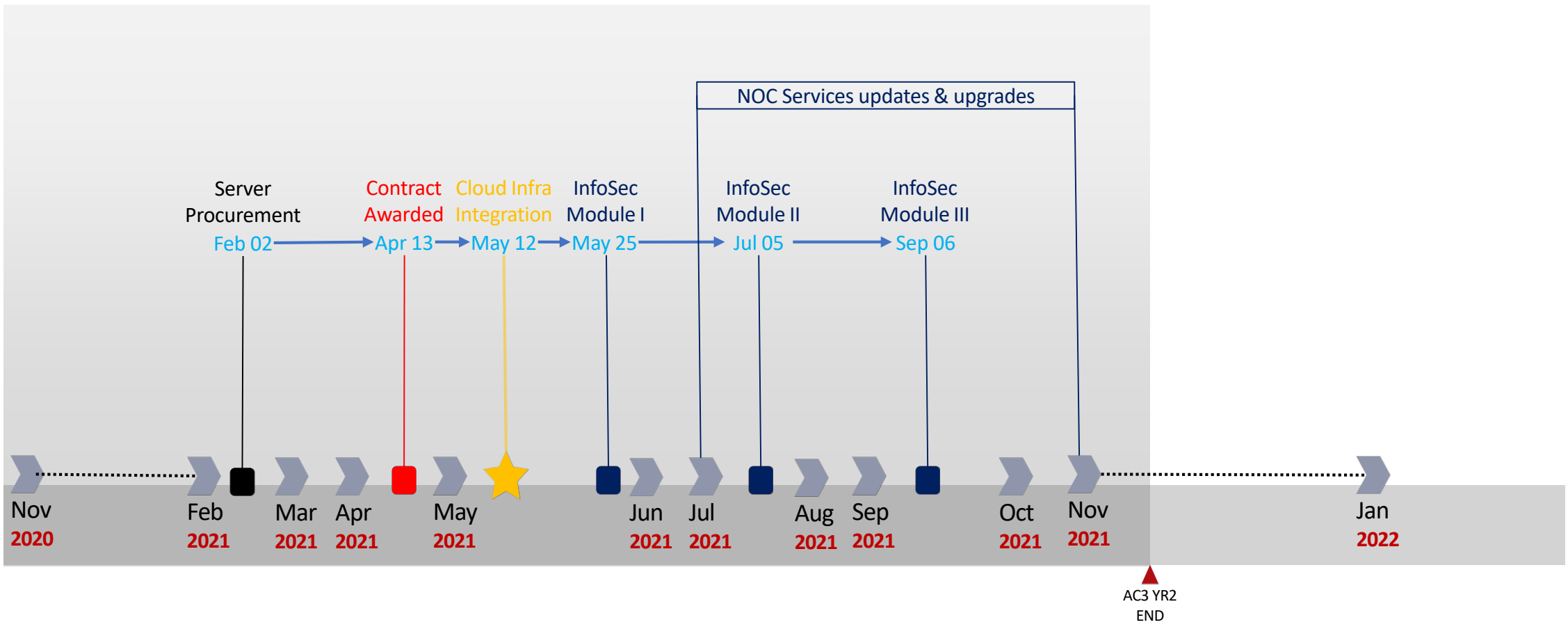
AC3 Project Year-1



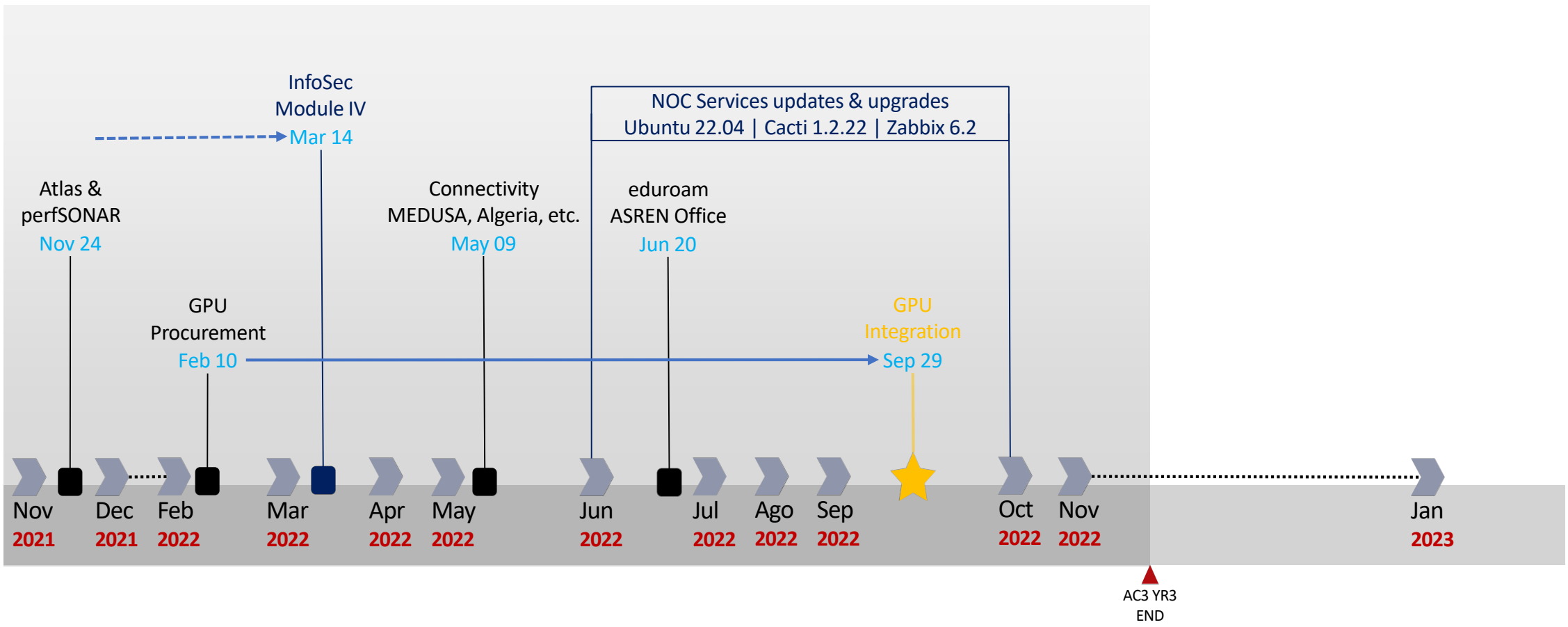
AC3 Project Year-2 Connectivity



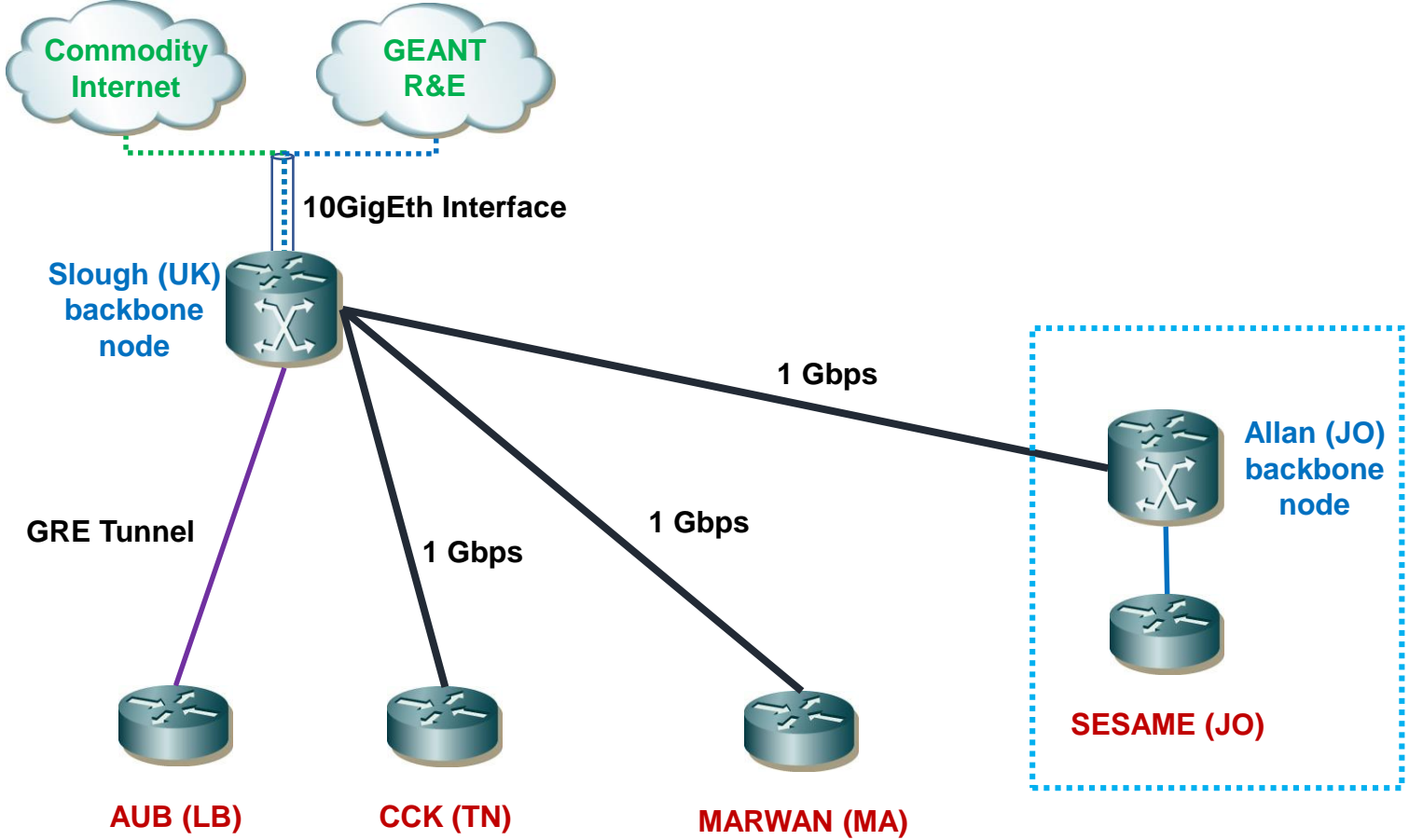
AC3 Project Year-2 Cloud & Services



AC3 Project Year-3 Milestones



ASREN Network Topology



Performance monitoring

Console | Graphs | Reporting | Logs

Console | Devices

Logged in as eporto

- Main Console
- Create
- Management
- Devices
- Sites
- Trees
- Graphs
- Data Sources
- Aggregates
- Data Collection
- Templates
- Automation
- Projects
- Import/Export
- Configuration
- Utilities
- Troubleshooting

ASREN Backbone (Slough (UK) [bps])

Tree Mode

ASREN

Search

- viewer
- ASREN Backbone
 - Allan (JO) [bps]
 - Allan (JO) [unicast pkts]
 - Slough (UK) [bps]
 - Slough (UK) [unicast pkts]
 - Default (all graphs)
 - Local
 - Local Linux Machine
 - ASREN-Slo
 - ASREN-All
 - Core
 - ASREN-Slough
 - ASREN-Allan

ASREN-Slough - Te0/1/0 - 10Gbps Connection ASREN-GEANT

Inbound	Current: 3.50 M	Average: 9.01 M	Maximum: 75.18 M	Total In: 97.33 GB
Outbound	Current: 27.50 M	Average: 52.48 M	Maximum: 122.72 M	Total Out: 566.81 GB

ASREN-Slough - Te0/1/0.500 - R&E Networks

Inbound	Current: 3.11 M	Average: 7.97 M	Maximum: 84.36 M	Total In: 86.04 GB
Outbound	Current: 27.08 M	Average: 51.94 M	Maximum: 122.81 M	Total Out: 560.92 GB

ASREN-Slough - Te0/1/0.333 - Commodity Internet

Inbound	Current: 371.28 k	Average: 1.05 M	Maximum: 6.18 M	Total In: 11.30 GB
Outbound	Current: 547.23 k	Average: 544.67 k	Maximum: 2.16 M	Total Out: 5.88 GB

ASREN-Slough - Te0/1/1.47 - 1Gbps Link to Allan (JO)

Inbound	Current: 31.89 k	Average: 943.55 k	Maximum: 61.46 M	Total In: 10.19 GB
Outbound	Current: 32.68 k	Average: 2.04 M	Maximum: 93.92 M	Total Out: 22.09 GB

Event and incident monitoring


- Dashboard


The screenshot displays the 'ASREN View' dashboard. At the top, there's a navigation bar with 'ASREN View' and 'Edit dashboard' options. Below this, a breadcrumb trail shows 'All dashboards / ASREN View'. A secondary navigation bar includes tabs for 'Problems', 'Topology', 'Slough Traffic', and 'Allan Traffic', along with a 'Start slideshow' button. The main content area is titled 'ASREN Topology' and features a network diagram. The diagram shows a central router labeled 'ASREN-Slough' with a status of 'OK'. It is connected to four other routers: 'ASREN-Allan' (Latency: 69.2ms, OK), 'MARWAN' (Latency: 61.3ms, OK), 'CCK' (Latency: 40ms, OK), and 'AUB' (Latency: 85ms, OK). To the right of the topology are four monitoring panels, each showing a 'Up (1)' status with a green arrow and 'ICMP ping' details. The panels are: 'NREN Tunisia router (CCK 1Gbps Link): I...' (2022-10-08 18:51:29), 'NREN Morocco router (MARWAN 1Gbps ...' (2022-10-08 18:51:29), 'ASREN-Allan: ICMP ping' (2022-10-08 18:51:27), and 'NREN Lebanon router (AUB GRE Tunnel...' (2022-10-08 18:52:04). A vertical sidebar on the left contains various icons for navigation and actions. At the bottom right, the footer text reads 'Zabbix 6.2.3. © 2001–2022, Zabbix SIA'.


Event and incident monitoring

- SLA Reports

SLA report ?

Filter 

SLA: From: 

Service: To: 

Month	SLO	SLI	Uptime	Downtime	Error budget	Excluded downtimes
2022-10	98%	100	7d 18h 46m	0	3h 48m 42s	
2022-09	98%	99.9907	29d 23h 56m	4m	0	
2022-08	98%	100	1M 1d	0	0	
2022-07	98%	100	1M 1d	0	0	
2022-06	98%	100	26d 6h 55m	0	0	
2022-05	98%	N/A	0	0	0	
2022-04	98%	N/A	0	0	0	
2022-03	98%	N/A	0	0	0	
2022-02	98%	N/A	0	0	0	
2022-01	98%	N/A	0	0	0	

Zabbix 6.2.3. © 2001–2022, Zabbix SIA

Event and incident monitoring

- SLA Reports

SLA report ?

Filter

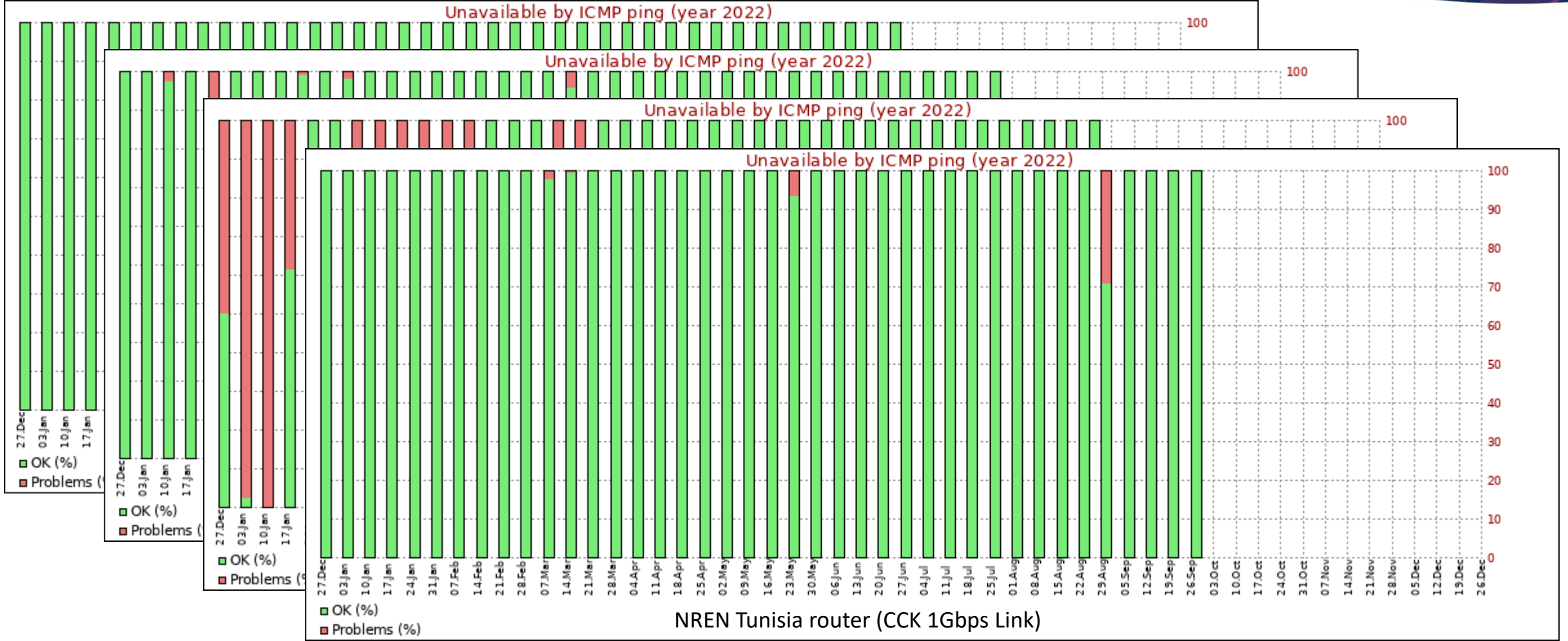
SLA: From:

Service: To:

Month	SLO	SLI	Uptime	Downtime	Error budget	Excluded downtimes
2022-10	98%	100	7d 18h 47m	0	3h 48m 43s	
2022-09	98%	99.8412	25d 7h 58m	58m	0	
2022-08	98%	N/A	0	0	0	
2022-07	98%	N/A	0	0	0	
2022-06	98%	N/A	0	0	0	
2022-05	98%	N/A	0	0	0	
2022-04	98%	N/A	0	0	0	
2022-03	98%	N/A	0	0	0	
2022-02	98%	N/A	0	0	0	
2022-01	98%	N/A	0	0	0	

Zabbix 6.2.3. © 2001–2022, Zabbix SIA

ASREN Network Performance

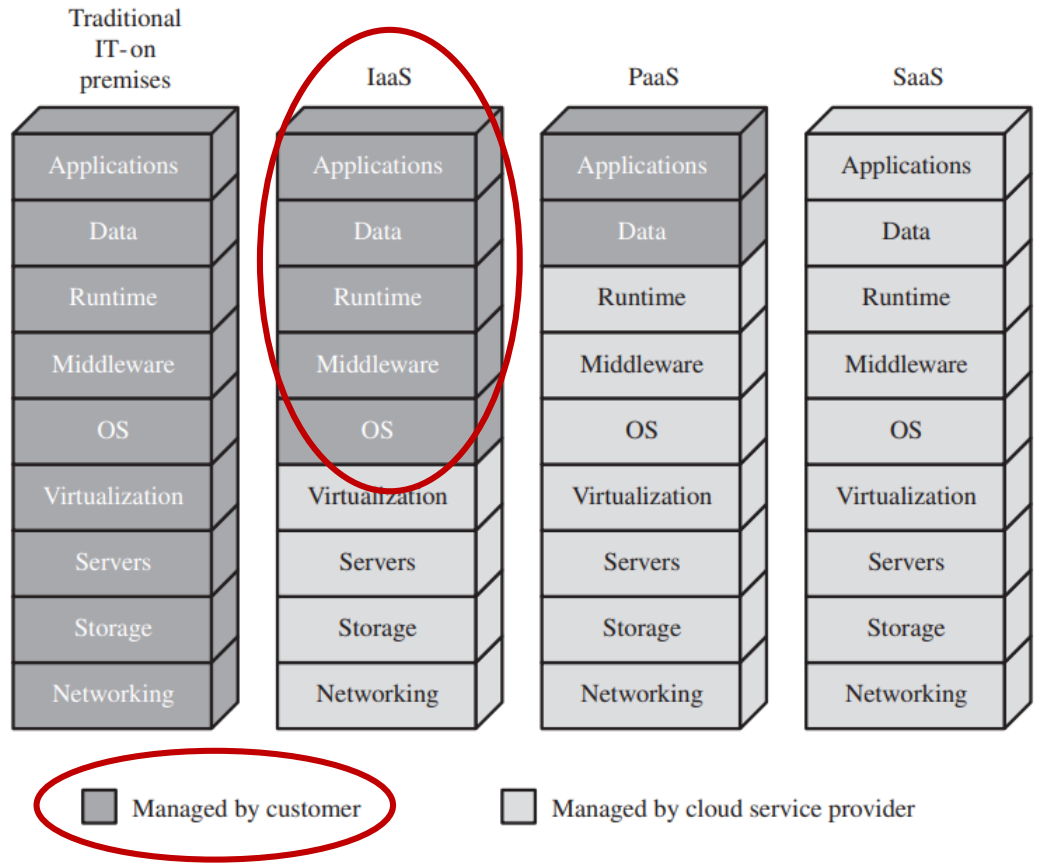
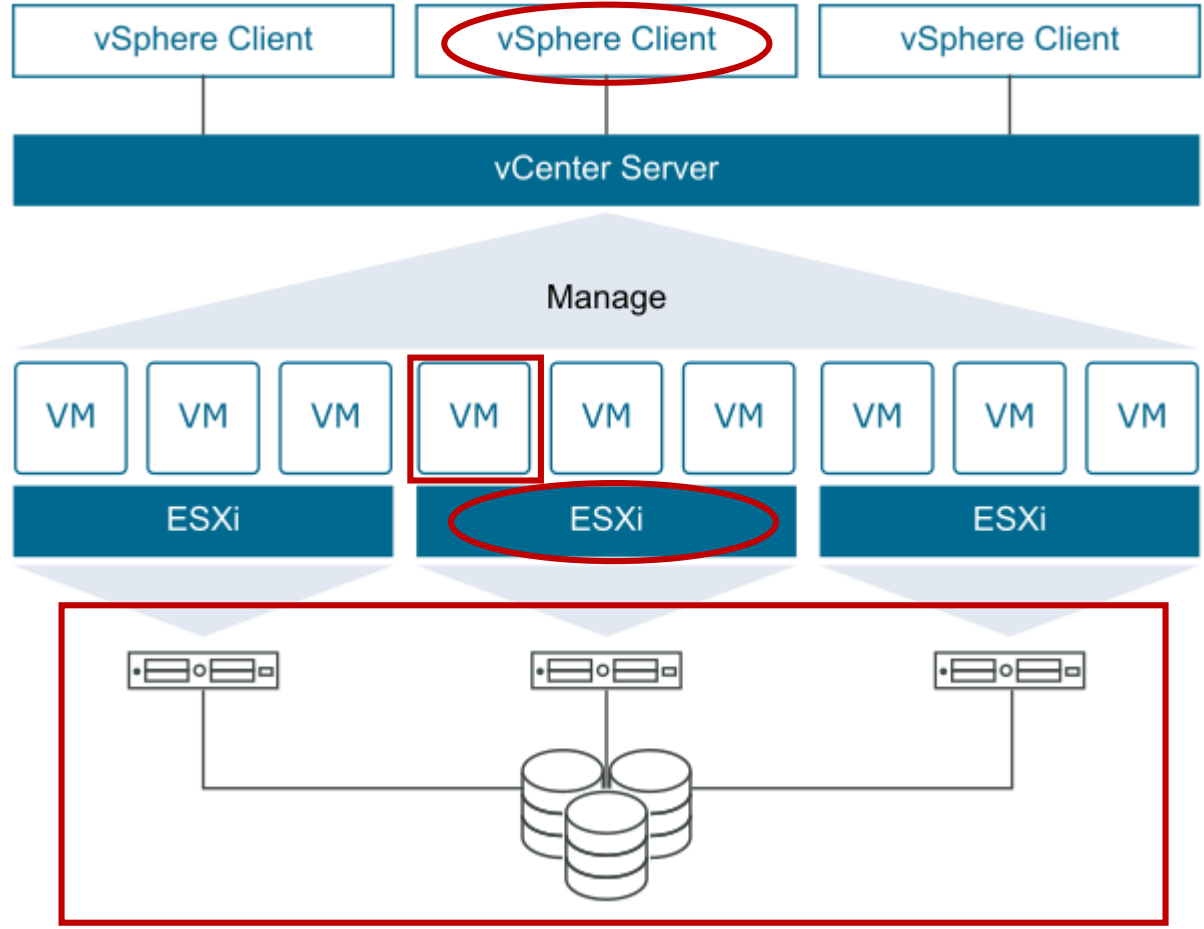


ASREN Cloud Hardware

Hardware	Number of vCPUs	Memory (GB)	Storage (GB)
UCS C220	8	16	2258
UCS C240 #1	64	192	8015
UCS C240 #2	112	768	12720



ASREN Cloud IaaS

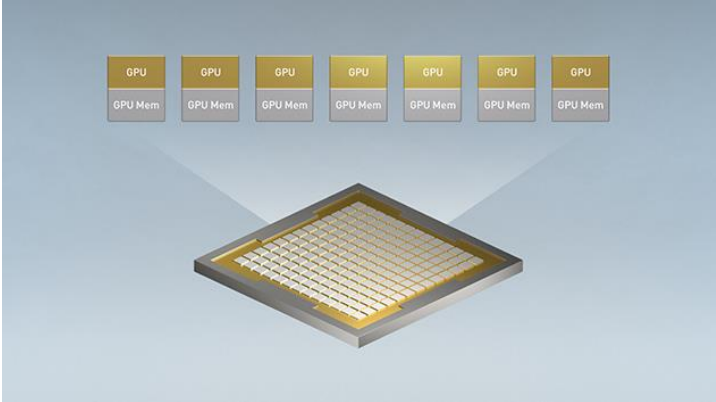


Cloud Services Upgrade

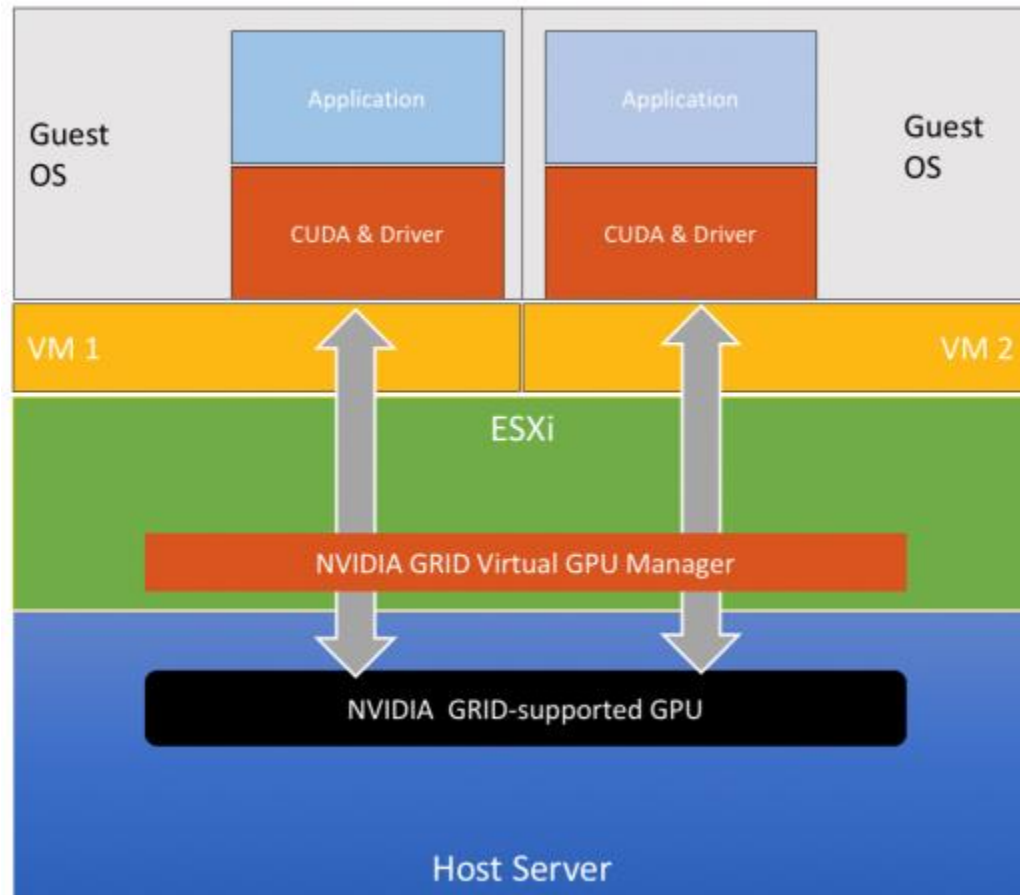
Hardware	Number of vCPUs	Memory (GB)	Storage (GB)
UCS C220	8	16	2258
UCS C240 #1	64	192	8015
UCS C240 #2	112	768	12720

Upgrade – September 2022

- 2 CPUs (Intel 8253 16C) → 32 vCPUs
- 192 GB Memory
- 6 TB Storage
- 2 NVIDIA T4 GPUs



Graphics Processing Units



- **Speed computational processes**
- **Initially designed to process images**
- **Deep Learning**
- **Artificial Intelligence**
- **Massive distributed computational processes**

Thank you

Any questions?

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