



2024

Disaster Recovery (DR) and Backup Solution

RFP 01-2025

دائرة التوازن والمشتريات





ملاحظات

[illegible]

Disaster Recovery (DR) and Backup Solution

RFP001-2025

AAUP

1. Introduction

Arab American University (AAUP) a leading educational institution, is soliciting proposals from qualified vendors to provide a comprehensive Disaster Recovery (DR) and Backup solution for our current on-premises systems. This RFP aims to ensure high availability, data integrity, and uninterrupted access to critical services in the event of a disaster. Our current infrastructure consists of a Sangfor Hyper-Converged Infrastructure (HCI) system, running 75 business critical production virtual servers.

2. Scope of Work

Vendors are invited to submit proposals for the following three DR and Backup options:

Option 1: Full Cloud-Based Solution

Provide a fully cloud-hosted DR and Backup solution for 75 production virtual servers (as detailed in the attached server list). Include two scenarios Passive DR and Active DR Include a detailed plan for replication, recovery times (RTO/RPO), and cloud storage capabilities. Ensure compatibility with our current HCI infrastructure, FortiGate 900G firewall, FortiWeb 1000E WAF, and Cloudflare DNS services. Outline the process for testing the DR solution and performing failovers.

Option 2: Private Cloud by Local or Regional Host

Provide a proposal for hosting a private cloud DR solution with a local or regional provider. Detail the replication process, bandwidth requirements, and connectivity with our on-premises systems. Specify security protocols to ensure seamless integration with our Fortinet security appliances and Cloudflare DNS management. Include pricing for data storage, backup, and disaster recovery testing.



Option 3: Colocation and Hardware Hosting

Provide options for renting rack space and filling it with required hardware at the hosting provider's facility.

Alternatively, propose a solution where the hosting company buys the physical components, including HCL servers, and rents them to us.

Ensure that this option covers network redundancy, power, and physical security for DR purposes.

Specify how this would integrate with our existing infrastructure and detail the setup, migration, and support plan.

3. Key Requirements

DR Infrastructure: Must support a minimum of 75 virtual machines and allow for scaling based on future growth.

Security: Solutions must align with existing security infrastructure (FortiGate 900G, FortiWeb 1000E, Cloudflare DNS, Microsoft Entra Connect for SSO).

Bandwidth: Consideration of the two fiber uplinks with 1Gbps 1:1 bandwidth for internet access.

Compliance: Solutions should adhere to local and international data privacy and compliance regulations.

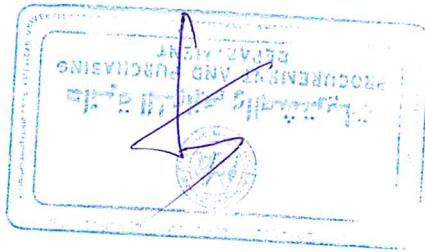
Testing and Monitoring: Vendors should provide a detailed plan for testing the DR solution, including ongoing monitoring and reporting.

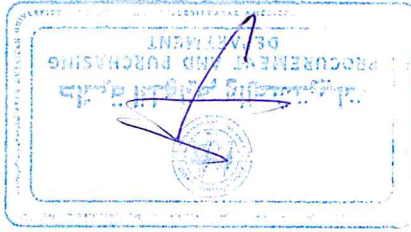
Service Level Agreements (SLAs): Clearly define SLAs for uptime, RTO/RPO metrics, and support.

4. Submission Requirements

Proposals must include:

- A detailed implementation plan, including timelines.
- Breakdown of costs for setup, monthly recurring fees, and any optional features.
- Documentation on integration with the existing infrastructure.
- A list of previous clients, preferably within the education sector.





- Alignment with the university's infrastructure and security needs.
- Pricing structure and cost-effectiveness.
- Vendor experience and reputation.
- Proposed solution's scalability, flexibility, and reliability.
- Support and maintenance offerings, including 24/7 support availability.

Proposals will be evaluated based on the following:

5. Selection Criteria

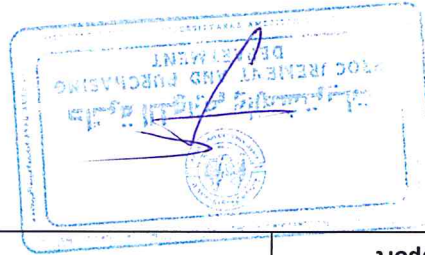
- Vendor certifications, qualifications, and partnership levels with relevant technology providers.

6. Current on premises technical information

HCI details:

HCI Physical Nodes : KAVTUS NFS280G7 servers

Item	Description	Qty.
Form Factor chassis	Rack-mountable 2U Height Fully redundant component	
Processors	Installed: 2x Intel Xeon Gold 6530 32 C 2.1 GHz	
Installed memory	1,024GB (16x 64GB) DDR5-4800 R ECC Memory Slot: 32 DIMM Slots	
Cooling	hot-plug redundant cooling fan	
Power Supply	1300W Dual, Hot-plug, Redundant Power Supply.	
Networking	Quad 25G SFP28 Quad 1Gb base -T	
Drives	2x SSD SATA 240G 2.5 for OS 6x SSD NVMe 7.68TB 2.5'	
Management	Dedicated 1Gb management port	
Intelligent management	adopts easy maintenance design and the entire system supports tool-less maintenance. By optimizing some structural components, it allows convenient assembly and reduces the maintenance time unique intelligent temperature control technology and advanced air-cooling system to keep the server working in the best environment, to ensure the stable operation of the system Relying on the latest BMC technology, technicians can perform monitoring and troubleshooting via the web-based GUI and LEDs (for fault diagnosis and prognosis). The front-panel UID indicator indicates the failure components and identifies the faulty or abnormal components in a timely manner, thus, simplify the maintenance work-ow, speed up troubleshooting, and improve system availability. BMC supports to monitor system parameters and triggers alarm notification for potential failures, thus, allow technician to be prepared in case of failure, secure stable machine operation, and reduce the risk of system shutdown	
OS	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS	
Service & Support	5 years from vendor (parts and labor) onsite warranty	



HCI Software: Sangfor HCI - Hyper Converged Infrastructure

Product Code	Product Description	Qty
Server Virtualization	3-years subscription for server virtualization, HA, DRS, Automated Hot Add, backup, clone, ...	10
Network Virtualization	3-years subscription for network virtualization, Distributed Firewall, Drawable topology, visualized network, Switch, Router...	10
Storage Virtualization	3-years subscription for storage virtualization, 2-3 copies, SSD read and write acceleration, data locality, Striping.	10
Disaster Recovery Virtualization	3-years subscription for Disaster Recovery module, Replication and recovery, DR orchestration, rehearsal, incremental migration back (The base license is bundled with 5 VMs), CDP (CDP is automatically activated with DR license).	1
Disaster Recovery Virtualization/ per VM	3-years subscription for DR VM license, must be purchased after base license, license is purchased per VM, including 1 VM CDP protection	15

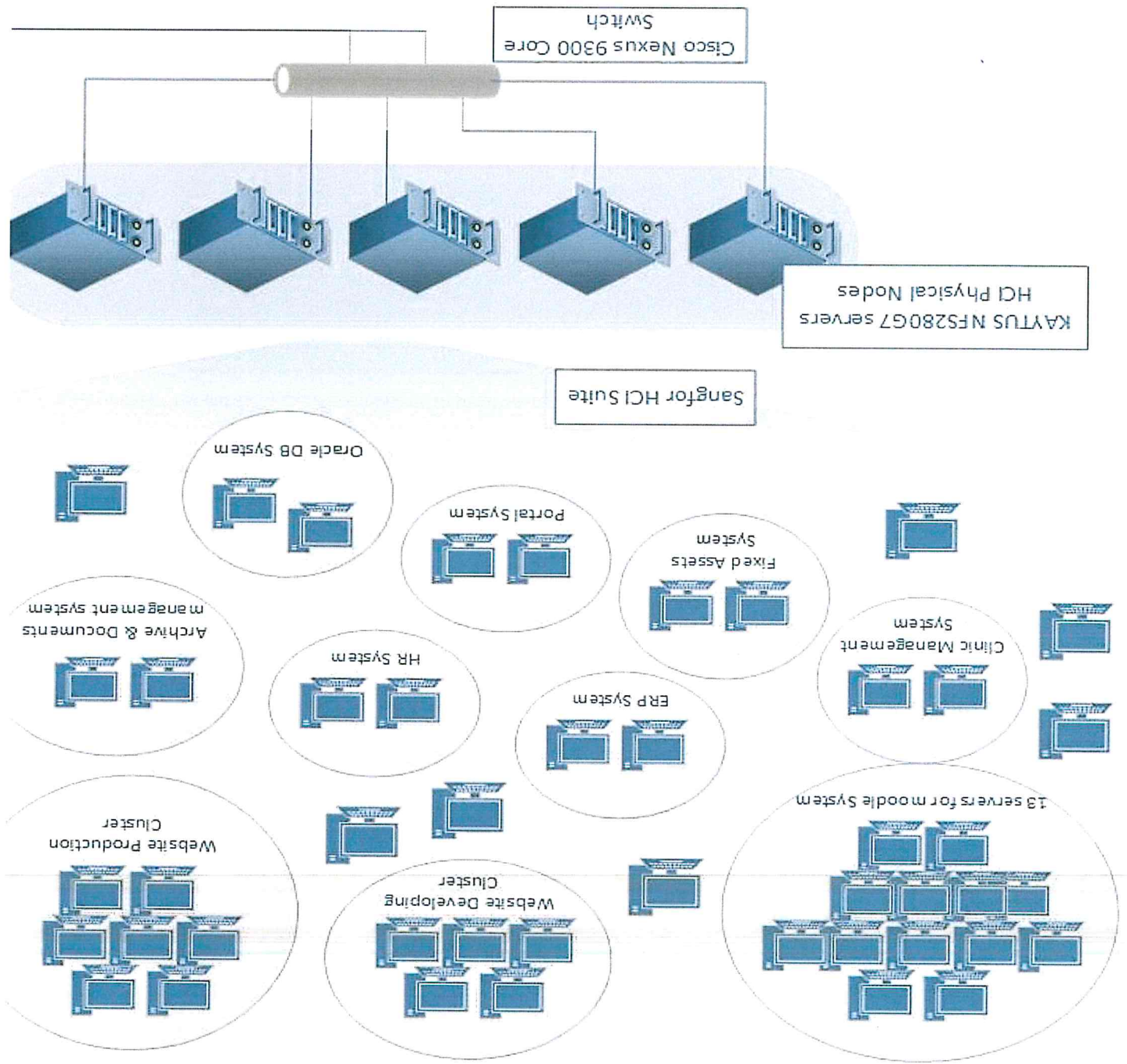
Networking & Security

Core switch	Cisco Nexus 9300 Core Switch (N9K-C93180YC-EX)
UTM Firewall Appliance	FortiGate 900G, It is protecting both internal traffic and external traffic.
WAF Appliance	FortiWeb 1000E
DDOS Protection Appliance	NETSCOUT Arbor Edge Defense (AED)
Public DNS	Cloudflare
Active Directory	Main Domain aaup.edu with 4 DCs , and subdomain student.aaup.edu with 2 DCs
Synchronization for Microsoft 365	Hybrid identity for Microsoft 365 through Active Directory Domain Services (AD DS) synchronization

omar.aburrob@aaup.edu
 ** في حالة وجود استفسار: يرجى تزويدنا بها من خلال البريد الإلكتروني للرد عليها

mohammad.hannoon@aaup.edu 0097259778665 الرقم على السيد محمد حنون. م. استفسارات الفينة: م. ** للاستفسارات





On-Premises Production Servers Specs

Cloud Backup Retention Policy (RPO)										Cloud DRS key Metrics(RTO)		
Host	VLAN ID	CPUs	Cores /Socket	Memor y_GB	Provisioned SpaceGB	GuestOS	Brief Description	Data Category	Backup Frequency	Retention Period	RPO	RTO
Host1	35	16	1	16	400	Microsoft Windows Server 2016 or later (64-bit)	Dpspace test	Web App	Weekly	Weekly	1 hour	1 hour
Host2	35	4	1	8	250	Microsoft Windows Server 2016 or later (64-bit)	Dpscae Production	Web App	Daily	Weekly	1 hour	1 hour
Host3	35	32	2	32	200	Microsoft Windows Server 2012 (64-bit)	Eservices server	Web APP	Daily	Weekly	1 hour	1 hour
Host4	35	9	3	8	130	Microsoft Windows Server 2008 R2 (64-bit)	arabic language and media server	Web app	Daily	Weekly	1 hour	1 hour
Host5	35	16	2	24	200	Microsoft Windows Server 2019 (64-bit)	Eservices server (ss.aaup.edu)	Web App	Daily	Weekly	1 hour	1 hour

Host6	35	16	2	24	200	Microsoft Windows Server 2019 (64-bit)	IDTC conference web app	web app	weekly	1 month	1 hour	1 hour
Host7	35	4	2	8	100	Microsoft Windows Server 2019 (64-bit)	Library web app	Web App	Daily	Weekly	1 hour	1 hour
Host8	35	9	3	8	100	Microsoft Windows Server 2016 or later (64-bit)	Palpay payment services	Web App	Daily	Weekly	1 hour	1 hour
Host9	35	9	3	8	100	Microsoft Windows Server 2016 or later (64-bit)	QLIK	Application	Daily	Weekly	1 hour	1 hour
Host10	35	8	1	32	250	Microsoft Windows Server 2016 or later (64-bit)	registration system	Application	Daily	Weekly	1 hour	1 hour
Host11	35	8	2	16	300	Microsoft Windows Server 2008 R2 (64-bit)	registration system	Application	Daily	Weekly	1 hour	1 hour
Host12	35	8	2	8	90	Microsoft Windows Server 2022 (64-bit)	ESADAD online payment services	Web App	Daily	Weekly	1 hour	1 hour

Host13	35	8	2	8	90	Microsoft Windows Server 2022 (64-bit)	ESADAD online payment services	Web App	Daily	Weekly	1 hour	1 hour
Host14	35	8	2	16	100	Microsoft Windows Server 2019 (64-bit)	Certificate verification web app	Web App	Daily	Weekly	1 hour	1 hour
Host15	35	32	2	46	1824	Oracle Linux 7 (64-bit)	Test registration DB	N/A	N/A	N/A	N/A	N/A
Host16	35	32	2	46	2024	Oracle Linux 7 (64-bit)	DR for Registration DB	N/A	N/A	N/A	N/A	N/A
Host17	35	12	4	32	1300	Microsoft Windows Server 2019 (64-bit)	HRDB	SQL DB	Daily	Weekly	1 hour	1 hour
Host18	35	16	4	64	1624	Oracle Linux 4/5/6/7 (64-bit)	Old registration production db	Database	Daily	Weekly	0 minutes	1 hour
Host19	35	32	2	46	3231.2	Oracle Linux 7 (64-bit)	Registration Production Database	Database	Daily	Weekly	0 minutes	1 hour
Host20	35	8	2	8	80	Microsoft Windows Server 2019 (64-bit)	web app	web app	daily	1 week	1 hour	1 hour
Host21	35	12	4	24	400	Red Hat Enterprise Linux 7 (64-bit)	AAUP WEBSITE DRUPAL 7	Web App	Daily	Weekly	1 hour	1 hour

Host22	35	8	4	16	360	Red Hat Enterprise Linux 7 (64-bit)	NDTC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host23	35	8	4	16	360	Red Hat Enterprise Linux 7 (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host24	145	4	1	32	200	Ubuntu Linux (64-bit)	CICD Sync	DevOps App	Weekly	Weekly	24 hours	24 hours
Host25	146	4	1	16	200	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host26	146	4	1	16	200	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host27	146	4	1	16	400	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host28	146	4	1	16	500	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host29	146	4	1	16	200	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host30	145	4	2	8	90	Microsoft Windows Server 2022 (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours

Host31	145	4	1	64	200	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host32	145	4	1	32	200	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host33	145	8	1	32	400	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host34	145	8	1	32	500	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host35	145	4	1	32	200	Ubuntu Linux (64-bit)	PCRSC WEBSITE DRUPAL 7	Web App	Weekly	Weekly	24 hours	24 hours
Host36	35	32	2	32	700	Microsoft Windows Server 2012 (64-bit)	Old portal server	Web App	Daily	Weekly	1 hour	1 hour
Host37	35	32	2	32	550	Microsoft Windows Server 2012 (64-bit)	Portal Files storage	Files server	Daily	Weekly	1 hour	1 hour
Host38	35	32	2	32	600	Microsoft Windows Server 2016 (64-bit)	Portal Production	Web App	Daily	Weekly	1 hour	1 hour
Host39	35	24	2	32	1024	Microsoft Windows Server 2019 (64-bit)	BPM Test	Web app	Weekly	Weekly	1 hour	1 hour

Host40	35	24	2	32	1024	Microsoft Windows Server 2019 (64-bit)	BPM Production	Web app	Daily	Weekly	1 hour	1 hour
Host41	35	9	3	8	100	Microsoft Windows Server 2016 or later (64-bit)	Active Directory Domain Controller	Active Directory	Daily	1 month	1 minute	30 minute s
Host42	35	4	1	8	450	Microsoft Windows Server 2016 or later (64-bit)	Students Domain Controller	Active Directory			1 minute	30 minute s
Host43	35	9	3	20	400	Microsoft Windows Server 2016 or later (64-bit)	Microsoft Exchange Server with ADsync tool	MS Exchange	Daily	1 month	30 minute s	1 hour
Host44	35	4	4	8	4084	Microsoft Windows Server 2012 (64-bit)	Shared Storage Server	Files Storage	Daily	1 Year	1 hour	2 hours
Host45	104	4	1	8	30	Debian GNU/Linux 11 (64-bit)	Moodle frontend app cluster member	Web App	Daily	Weekly	1 hour	1 hour
Host46	104	10	2	24	30	Debian GNU/Linux 11 (64-bit)	Moodle frontend app cluster member	Web App	Daily	Weekly	1 hour	1 hour

Host47	104	10	2	24	30	Debian GNU/Linux 11 (64-bit)	Moodle frontend web app cluster member	Web App	Daily	Weekly	1 hour	1 hour
Host48	104	10	2	24	30	Debian GNU/Linux 11 (64-bit)	Moodle frontend web app cluster member	Web App	Daily	Weekly	1 hour	1 hour
Host49	104	10	2	24	30	Debian GNU/Linux 11 (64-bit)	Moodle frontend web app cluster member	Web App	Daily	Weekly	1 hour	1 hour
Host50	100	2	1	4	20	Debian GNU/Linux 11 (64-bit)	Moodle nginx load balancer	Proxy	Weekly	1 month	24 hours	30 minute s
Host51	100	2	1	4	20	Debian GNU/Linux 11 (64-bit)	Moodle nginx load balancer	Proxy	Weekly	2 month	24 hours	30 minute s
Host52	103	16	2	32	500	Debian GNU/Linux 11 (64-bit)	Moodle MariaDB Server	Database	Daily	Weekly	1 minute	1 hour
Host53	103	16	2	32	350	Debian GNU/Linux 11 (64-bit)	Moodle MariaDB Server	Database	Daily	Weekly	1 minute	1 hour
Host54	103	16	2	32	600	Debian GNU/Linux 11 (64-bit)	Moodle MariaDB Server	Database	Daily	Weekly	1 minute	1 hour
Host55	102	8	1	24	4608	Debian GNU/Linux 11 (64-bit)	Moodle Shared Storage Server	Application	Daily	Weekly	1 hour	1 hour

Host56	102	8	1	24	4658	Debian GNU/Linux 11 (64-bit)	Moodle local Backup server	Application	Daily	Weekly	1 hour	1 hour
Host57	102	16	1	32	520	Debian GNU/Linux 11 (64-bit)	Moodle Sessions Manager	Application	Daily	Weekly	1 hour	1 hour
Host58	35	2	1	4	80	debian GNU/Linux 10(64-bit)	management server	app	daily	1 week	1 hour	1 hour
Host59	35	8	1	16	1024	Debian GNU/Linux 11 (64-bit)	staging server	staging	daily	1 week	1 hour	1 hour
Host60	35	9	3	8	100	Microsoft Windows Server 2016 or later (64-bit)	Clock attendance	app	daily	1 week	1 hour	1 minute
Host61	35	4	2	32	128	Microsoft Windows Server 2022 (64-bit)	HMS web app	web app	daily	1 week	1 hour	1 hour
Host62	35	4	2	32	256	Microsoft Windows Server 2022 (64-bit)	Medical center web app	Web App	Daily	Weekly	1 hour	1 hour
Host63	35	8	2	16	750	Microsoft Windows Server 2019 (64-bit)	Laserfiche DB	Database	Daily	Weekly	1 minute	1 hour
Host64	35	8	2	16	9641.2	Microsoft Windows	Laserfiche forms	Web App	Daily	Weekly	1 hour	1 hour

Host72	35	4	1	8	200	Microsoft Windows Server 2016 or later (64-bit)	myclinic web app	Web App	Daily	Weekly	1 hour	1 hour
Host73	35	4	1	16	300	Microsoft Windows Server 2016 or later (64-bit)	myclinic DB	database	Daily	Weekly	1 minute	1 hour
Host74	35	9	3	16	250	Microsoft Windows Server 2016 or later (64-bit)	web app	web app	daily	1 week	1 hour	1 hour

