TENDER FOR THE DESIGN, SUPPLY, DELIVERY, COMMISSIONING, TRAINING AND SUPPORT SERVICES FOR MCMC'S CYBER RANGE LAB SOLUTIONS

Questions & Answers

No.	Questions	Answers
1	**Network Portion** (ASR Router) Can MCMC specify whether how many interface is using 10G interface or 1G interface for LAN or WAN purposes?	MCMC does not have any number using 10G or 1G LAN/WAN purpose. The proposed solution must be able to stimulate and accommodate Telco/ISP grade 10G LAN/WAN and 1G LAN/WAN types of connectivity. If you have the proposed number of 10G LAN/WAN and 1G LAN/WAN interfaces, please provide.
2	**Network Portion** (ASR Router) What kind of routing protocol, route technology and features MCMC is using on top of provider router? This is to decide whether the router requires a RAM upgrade.	Generic routing protocols such as BGP, OSPF, IS-IS, Static must be supported. The proposed solution must be able to take consideration from Telco/ISP such as number of routes (full routes or partial routes).
3	**Network Portion** (ISR Router) Can MCMC specify whether how many interface is using 10G interface or 1G interface for LAN or WAN purposes?	MCMC does not have any number using 10G or 1G LAN/WAN purpose. The proposed solution must be able to simulate and accommodate Enterprise/Government/SME/Retail grade 10G LAN/WAN and 1G LAN/WAN type of connectivity. If you have the proposed number of 10G LAN/WAN and 1G LAN/WAN interface, please provide.
4	**Network Portion** (ISR Router) What kind of routing protocol, route technology and features MCMC is using on top of provider router? This is to decide whether the router requires a RAM upgrade	Generic routing protocols such as BGP, OSPF, IS-IS, Static must be supported. The propose solution must be able to take consideration from Enterprise/Government/SME/Reta il/Home number of routes full routes or partial routes.

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5	<u>Core Switch:</u> Will MCMC consider Cisco Nexus 9508 or Catalyst 6800 as a replacement for Catalyst 4500 for high performance environment?	Please propose how Cisco Nexus 9508 or Catalyst 6800 can be the replacement of Catalyst 4500. From this Layer 2 and Layer 3 features we are looking into multiple brands(products) of network elements.
6	<u>Access Switch:</u> Will MCMC consider to upgrade Access switch to 10Gbps uplink backbone since the Core is having 32-port 10Gbps line card?	Please propose how this design access switch to 10Gbps uplink backbone.
7	<u>Threat Management Appliance:</u> Can MCMC specify the use case for threat management appliance since IPS has already malware protection component built in?	MCMC will use Threat Management Appliance during Red and Blue Team exercises.
8	<u>Threat Management Appliance:</u> What is the throughput required for Threat Management Appliance?	Must be able to accommodate from 1G to 10Gbps.
9	<u>Threat Management Appliance:</u> How many interface going to live connected to network for threat monitoring?	Minimum 4 interfaces combine (LAN and WAN). If your propose solution can support more than 4 interface, please propose.
10	<u>Hardware Server for DMZ Components:</u> There is only 1 unit server needed as listed in tender, is this single server joining to existing VMware infrastructure or running as dedicated standalone VMware host?	MCMC required dedicated standalone VMware host.
11	<u>Hardware Server for DMZ Components:</u> If to go for standalone VMware host, it will have single point of failure. Do you want to have HA for this? (If HA needed, then it will another physical server with same spec & 1 more Shared Storage)	MCMC only need standalone server.

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12	**Hardware Server for DMZ Components:** How many VMs will be running for DMZ components?	Minimum VMs running for DMZ components at least 10 VMs. This VMs will be use to run multiple application (As per tender specification – vendor required to install the application) in the DMZ zone.
13	**Hardware Server for DMZ Components:** Do help to update the attached capacity planner spreadsheet for all VMs to be deployed in this host	The vendors shall propose capacity planner for at least minimum of 10 VMs.
14	**Log Analysis Application & Forensics Tool:** Please list down the no of Log Sources and locations in the following format, need this for EPS Calculation and Architecture Design. 	Device Type	Qty.	Location
Windows AD, DNS, DHCP, ESX, Auth		
Windows IIS and Exchange Servers		
Windows General Purpose Servers		
UNIX and Linux Servers		
Antivirus Servers		
Database Servers		
Proxy Servers, Edge Firewalls		
Core, Large Firewalls		
IDS, IPS, VPN, WAF, DAM, DLP, LB		
Routers and Switches & Wireless		
Others				During hands-on security exercises, Blue team will use log sources to gather all information into one place. Please propose what kind of log source and format support each listed as per question. All the equipment located at MCMC Cyberjaya.

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15	<u>Log Analysis Application & Forensics Tool:</u> Preferably Appliance / Software Solution?	You can propose appliance or software, as long it meet the specification.
16	<u>Log Analysis Application & Forensics Tool:</u> Is HA Solution Required?	No HA required
17	<u>Log Analysis Application & Forensics Tool:</u> Data Retention Period?	Data retention minimum of 3 months, maximum of 6 months. This log analysis will be required during Red and Blue teaming exercise.
18	<u>WAF Question</u> What is the Hardware Specification needed? • Application Throughput (L4/L7): • Layer 4 CPS: • Layer 4 HTTP RPS: • Layer 4 Concurrent Sessions: • SSL Bulk Throughput: • SSL CPS: • RSA (1K): • RSA (2K):	The proposed WAF must be able to accommodate 1G and 10G networks. Must be able to support minimum of 10 applications (HTTP/HTTPS or combination). Must be able to accommodate and simulate Red and Blue Teaming exercises. Please propose solution for this requirement.
19	<u>WAF Question:</u> How many application server needed for ADC? • Geo Location failover?	Not applicable (All the equipment will be used for lab simulation only).
20	<u>WAF Question</u> HA required?	Not required.
21	<u>Provider Edge Router</u> May I know how many SFP+ pluggable transceiver, MMF, 850nm for 300m Transmission needed?	Minimum 4 SFP+, if you provider edge router can provide more interfaces with SFP+, please propose.

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22	Cyber Range core requirement: Can you confirm if the requirement is 8 x10G Physical port with 8 port fully activated or 2port activated? From the tender requirement, it seems that the customer need 8port activated as they required 8 x SFP also.	MCMC want all interfaces are fully activated. This is required for our Red and Blue Teaming exercise as well interconnecting each ports to various Telco/ISP/Enterprise networks. Please propose your solution to accommodate this requirements.
23	Threat Management Appliance requirement: i. There's not much information on this requirement ii. What kind of traffic do they want to block?	i. Threat Management Appliance is used during Red and Blue teaming exercises. Blue team are able to detect information based on multiple source from Threat Intelligence (Open or Commercial), honeypots, security researchers and updated on regular basis. ii. MCMC want to see all good and bad traffics simulation by both teams.
24	Can MCMC help to clarify on the below requirements for network broker systems: i. Number of network links to be monitored ii. I assume all network links to be monitored are 10G SR Fibre iii. How many monitoring tools required to connect to the network packet broker? iv. Do MCMC need SSL Decryption or netflow?	i. Minimum number of links to be monitor are 8 links, however, the network links must be able to cater 10G and 1G. MCMC will have a mixture copper and fibre. Please propose the solution to accommodate this. ii. We need both copper and fiber (1g or 10G) to be monitored. iii. All desktop computer and laptops comes with packet analyser software (refer to tender Forensics Tools and Application no 7). iv. No.
25	We noted that the measurement given is 1 : 400. May we know more details on the measurement? May we get the details of the square feet of the area?	We have provided scaled drawing which is it's supposed to be accurate measurement. The tenderer should be able measure from that. On top of that, we have shown them the exact location of the data center and the cyber range lab.

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26	For the AC, do you have any preferred type of AC (cassette etc.)	We would prefer split unit cassette type. Brand: York or equivalent.
27	May we know where is the location for the installation of AC compressor?	We have shown all the tenderer the exact location of AV compressor which is at the roof top, Zone C (3rd floor roof slab)