

East Central BOCES – Response to Vendor Questions

Consortia Firewalls

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Question 1

In “Attachment B Requirements”, you’ve listed five stateful throughput tiers (1Gbps, 2.5Gbps, 5Gbps, 10Gbps, 20Gbps). For EACH of the tiers, can you list an approximate minimum, maximum, and average total user count in the network environment?

Answer:

Based on our current understanding of the network environments among our consortia members (primarily school districts with varying sizes), we estimate the following approximate user counts per tier. These figures are provided as general guidelines and are subject to change with evolving network demands:

- **1Gbps Tier:**
 - **Minimum Users:** ~100
 - **Average Users:** ~250
 - **Maximum Users:** ~500
- **2.5Gbps Tier:**
 - **Minimum Users:** ~250
 - **Average Users:** ~500
 - **Maximum Users:** ~1,000
- **5Gbps Tier:**
 - **Minimum Users:** ~500
 - **Average Users:** ~1,000
 - **Maximum Users:** ~2,000
- **10Gbps Tier:**
 - **Minimum Users:** ~1,000
 - **Average Users:** ~2,000
 - **Maximum Users:** ~4,000
- **20Gbps Tier:**
 - **Minimum Users:** ~2,000
 - **Average Users:** ~4,000
 - **Maximum Users:** ~8,000

These estimates are intended to guide proposal development and facilitate standardized comparisons among vendor responses (see Attachment B Requirements)

Question 2

For EACH of the same throughput tiers, can you list an approximate minimum, maximum, and average total devices in the network environment?

Answer:

Our approximate estimates for the total device counts (including endpoints, servers, networked peripherals, and IoT devices) corresponding to each throughput tier are as follows:

- **1Gbps Tier:**
 - **Minimum Devices:** ~150
 - **Average Devices:** ~300
 - **Maximum Devices:** ~600
- **2.5Gbps Tier:**
 - **Minimum Devices:** ~300
 - **Average Devices:** ~600
 - **Maximum Devices:** ~1,200
- **5Gbps Tier:**
 - **Minimum Devices:** ~600
 - **Average Devices:** ~1,200
 - **Maximum Devices:** ~2,400
- **10Gbps Tier:**
 - **Minimum Devices:** ~1,200
 - **Average Devices:** ~2,400
 - **Maximum Devices:** ~4,800
- **20Gbps Tier:**
 - **Minimum Devices:** ~2,400
 - **Average Devices:** ~4,800
 - **Maximum Devices:** ~9,600

These numbers provide a framework for vendors to consider the scale of network environments we typically encounter (see Attachment B Requirements)

Question 3

To ensure appropriate physical connectivity, for EACH of the tiers, can you list what the minimum port/interface TYPE and QUANTITY required (i.e., 1Gbps copper, 10Gbps copper, 1Gbps SFP ports, 10Gbps SFP+ ports, 40Gbps QSFP+ ports, etc.)?

Answer:

Below are our recommended guidelines for physical connectivity per throughput tier. These represent minimum requirements to support both primary and redundant connectivity. Vendors are encouraged to propose configurations that meet or exceed these baselines:

- **1Gbps Tier:**
 - **WAN Connectivity:**

- *Minimum: 2 x 1Gbps ports (copper or SFP) for primary and failover connectivity.*
 - **LAN/Internal Connectivity:**
 - *Minimum: 4 x 1Gbps copper ports.*
- **2.5Gbps Tier:**
 - **WAN Connectivity:**
 - *Minimum: 2 x ports supporting 2.5Gbps or higher speeds.*
 - **LAN/Internal Connectivity:**
 - *Minimum: 4 x ports; 1 supporting 2.5Gbps or higher speeds additional ports may include 1Gbps ports with aggregation or higher-speed interfaces (e.g., 10Gbps) if available.*
- **5Gbps Tier:**
 - **WAN Connectivity:**
 - *Minimum: 2 x ports supporting 5Gbps or higher speeds.*
 - **LAN/Internal Connectivity:**
 - *Minimum: 4 x ports; 1 supporting 5Gbps or higher speeds additional ports may include 1 or 2.5 Gbps ports with aggregation or higher-speed interfaces (e.g., 10Gbps) if available.*
- **10Gbps Tier:**
 - **WAN Connectivity:**
 - *Minimum: 2 x 10Gbps SFP+ ports.*
 - **LAN/Internal Connectivity:**
 - *Minimum: 4 x 10Gbps ports (SFP+ or equivalent)*
- **20Gbps Tier:**
 - **WAN Connectivity:**
 - *Minimum: 2 x ports supporting 10Gbps to 25Gbps SFP28 speeds, alternatively, 40Gbps QSFP+ or similar high throughput interfaces with an appropriate breakout cable*
 - **LAN/Internal Connectivity:**
 - *Minimum: 4 x ports supporting 10Gbps to 25Gbps speeds to maintain scalability and failover capabilities.*

These recommendations are intended as a baseline. Vendors may offer additional connectivity options that enhance performance or redundancy as part of their overall solution (see Attachment B Requirements)

Question 4

In “Attachment C Pricing” you’ve included response areas for “Firewall Throughput”, “IPSec Throughput”, as well as “Threat Prevention Throughput”. However, in “Attachment B Requirements”, you only list “Stateful Throughput Target(s)” and do not list Threat Prevention as a “must” or “should” feature. Knowing you’ve asked for “Threat Prevention Throughput” metrics on your pricing sheet, do you want Threat Prevention capabilities/options included in responses?

Answer:

Yes. Although Threat Prevention is not explicitly designated as a “must” or “should” feature in Attachment B Requirements, we request that vendors include Threat Prevention Throughput metrics in their pricing responses. Many modern firewall solutions integrate threat prevention as a core functionality, and including these metrics allows for a more comprehensive evaluation of overall solution performance.

- **For vendors offering Threat Prevention capabilities:** Please provide the corresponding throughput figures as part of your response and indicate pricing options that the consortia should consider.
- **For vendors without integrated Threat Prevention features:** Please clearly indicate this on the pricing sheet.

This approach ensures that all relevant performance aspects of the firewall solutions are considered during the evaluation process (see Attachment C Pricing)

Final Note

The estimates and guidelines provided above are intended to serve as a framework for vendors. Actual network environments among our consortia members may vary; however, these figures reflect our current understanding based on available data. We encourage vendors to include any assumptions or notes regarding scalability or configuration options in their proposals.