

## **(325) Network Design Team (S | PS)**

### **Description**

Analyze existing and planned business environments and develop a strategy for the implementation of a network infrastructure that addresses the business needs of the scenario provided. At state and national level, teams will be presented with an additional element to the scenario that requires revision of their final presentation.

### **Eligibility**

Any Secondary or Post-secondary division student member may enter this event. A team will consist of 2-4 members. Members participating in national level competition must be registered for the event prior to submission deadline for technical judging. Teams must participate in both parts of the competition in order to be ranked.

### **Topic:**

The world of esports is a massively connected multi-billion-dollar industry. DF Solutions, a technology support contractor for small, medium, and large-scale conference/special events, has recently decided to enter the world of esports event planning. Your team's task is to create a network infrastructure plan (replicable models) to accommodate Regional, State, and National esports conferences based on the information below.

- Local or Regional eSports Conference:
  - This model should define the requirements for creating a small-scale network to accommodate up to 200 players.
- State esports Conference:
  - This model should define the requirements for creating a mid-scale network to accommodate up to 1000 players.
- National esports Conference:
  - This model should define the requirements for creating a large-scale network to accommodate up to 5000 players.

Requirements to consider for all levels:

- Bandwidth requirements to accommodate low-latency gameplay
- Secure storage (network shared) for all games
- Anti-cheat systems
- Closed vs open network design
- Equipment requirements (computers, routers, switches, etc.)

### **Team must supply**

Laptop/notebook computer (**each** team member may have **one** laptop), portable printer, software, and paper for this event

Team must bring all supporting devices (e.g., extension cords, power supply, etc.)

Published and/or unpublished non-electronic written reference materials

Projector/Props (Optional)

**Business Professionals of America assumes no responsibility for hardware/software provided by the member. No equipment, supplies, or materials other than those specified for an event will be allowed in the testing area. No previous Business Professionals of America tests and/or sample tests or facsimiles thereof (handwritten, photocopied, or keyed) may be taken into the testing area. Violation of this rule will result in disqualification.**

## Competencies

- Apply technical skills in the network design
- Evaluate and delegate responsibilities needed to perform required tasks
- Utilize problem solving techniques
- Demonstrate teamwork skills needed to function in a business setting
- Analyze existing and planned network and systems management
- Demonstrate knowledge of network cable topologies
- Diagram the completed network
- Analyze end-user work needs
- Plan for placement and management of resources
- Plan for decentralized resources or centralized resources
- Incorporate redundancy into the network
- Design a remote access solution
- Analyze network infrastructure, protocols, and hosts
- Estimate upgrade cost based on existing environment
- Incorporate future expansion into the network
- Demonstrate an ability to meet software requirements
- Demonstrate a knowledge of VPNs
- Identify the company's tolerance for risk
- Analyze technical support structure
- Design a routing strategy
- Develop multiple recommendations to scenarios
- Produce business reports

## Specifications

- This is a pre-submitted event. See instructions for submissions.
- **Submit the written proposal and Works Cited in a combined PDF file to: <https://presubmit.bpa.org>, no later than 11:59 p.m. Eastern Time, on April 1, 2022.**
- The written proposal must follow the Report Format located in the [Style & Reference Manual](#).
- Members will receive an automated response confirmation at the time of submission.
- Individual confirmation of receipt *cannot* be provided by the National Center.
- Member ID will be required for all submissions.
- No fax or mailed copies will be accepted.
- No exceptions can be made for missed deadlines due to incorrect submission or technical difficulties.
- Multiple submissions *will not* be accepted.
- Only one (1) team member should complete the submission.
- Members must be registered for national level competition prior to submission of materials. The Member ID must be included as indicated.
- Use each member's full membership ID number in the header.
- Materials from non-registered members and those missing Member ID and/or projects received after the deadline *cannot* be accepted.
- *No* changes can be made to the project after the date of submission.
- It is the policy of Business Professionals of America to comply with state and federal copyright law. Federal law pertaining to copyright, as contained within the United States Code, is available at <https://www.copyright.gov/title17/title17.pdf>. The [Style & Reference Manual](#) contains guidelines for Copyright and Fair Use. Participant(s) will be *disqualified* for violations of the guidelines.

- One (1) copy of the completed written proposal and Works Cited must be submitted at the time of the presentation at NLC at both the Preliminary and Final Competition.
- The length of the presentations will be no more than ten (10) minutes, followed by no more than ten (10) minutes of judges' questions.
- Notes or note cards may be used.

### **Method of evaluation**

Judge's Scoring Rubric

### **Length of event**

No more than thirty (30) minutes preparation time at State and National Level Only

No more than three (3) minutes set-up in presentation room

No more than ten (10) minutes presentation time

No more than ten (10) minutes judges' questions

Finals may be required at state and national levels

### **Entries**

Each state is allowed two (2) entries

**Teams in all judged events who wish to receive judges' comments must submit a self-addressed, stamped envelope to the event judges before judging takes place.**

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Judge Number \_\_\_\_\_

Team Number \_\_\_\_\_

**Technical Scoring Rubric**

Team followed topic	<input type="checkbox"/> Yes	<input type="checkbox"/> No ( <i>Disqualification</i> )
If no, please stop scoring and provide a brief reason for the <i>disqualification</i> below:		

Items to Evaluate	Below Average	Average	Good	Excellent	Points Awarded
Team submitted the correct information and in the correct format. <ul style="list-style-type: none"> <li>Written proposal in Report Format - PDF format</li> <li>Works Cited – PDF format. <i>All points or none are awarded by the technical judge.</i></li> </ul>				10	
<b>TECHNICAL POINTS</b>					
<b>Written Proposal</b>					
Customer profile	1-5	6-10	11-15	16-20	
Objectives	1-5	6-10	11-15	16-20	
Abstract of implementation	1-5	6-10	11-15	16-20	
Explanation of products and/or services provided	1-5	6-10	11-15	16-20	
Clarity of message <ul style="list-style-type: none"> <li>Message is attention-grabbing, compelling and concise</li> <li>Message was developed according to topic</li> </ul>	1-5	6-10	11-15	16-20	
Short- and long-range goals defined	1-5	6-10	11-15	16-20	
Financial Analysis	1-5	6-10	11-15	16-20	
Supporting Documentation	1-5	6-10	11-15	16-20	
Grammar, Spelling, Punctuation, and Usage <ul style="list-style-type: none"> <li>Content without errors/No copyright violations</li> </ul>	5 (3+ errors)	10 (2 errors)	15 (1 error)	20 (0 errors)	
<b>Total Written Proposal Points (180 points maximum)</b>					
<b>Creativity</b>					
Solution is innovative <ul style="list-style-type: none"> <li>Fresh ideas, unique</li> </ul>	1-5	6-10	11-15	16-20	
<b>Total Creativity Points (20 points maximum)</b>					
<b>Specific Technical Recommendations</b>					
Plan provides scalable network designs for the different conferences	1-14	15-29	30-45	46-60	
Plan includes equipment requirement listing	1-5	6-10	11-15	16-20	
The design took into consideration the amount of bandwidth needed	1-5	6-10	11-15	16-20	
Provides a centrally managed network The design provides an efficient and streamlined means of maintaining and securing the network	1-5	6-10	11-15	16-20	
Includes solution for secure storage	1-5	6-10	11-15	16-20	
<b>Total Specific Technical Recommendation Points (140 points maximum)</b>					
<b>TOTAL TECHNICAL POINTS (350 points maximum)</b>					

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Judge Number \_\_\_\_\_

Team Number \_\_\_\_\_

**Presentation Scoring Rubric**

Items to Evaluate	Below Average	Average	Good	Excellent	Points Awarded
Ability to outline short- and long-term objectives and defend the solution as the most appropriate for the given scenario	1-5	6-10	11-15	16-20	
Ability to use technical terms, along with appropriate explanations that achieve effective communications with the client	1-5	6-10	11-15	16-20	
Voice quality and diction	1-5	6-10	11-15	16-20	
Self-confidence, assertiveness, and eye contact	1-5	6-10	11-15	16-20	
Presentation quality/style; flow	1-5	6-10	11-15	16-20	
All team members participated in presentation	1-5	6-10	11-15	16-20	
Response to judges' questions	1-5	6-10	11-15	16-20	
<b>Total Presentation Points (140 points maximum)</b>					

*Props and/or additional items shall not be used as a basis for scoring.*

**Specification Scoring Rubric**

<b>SPECIFICATION POINTS:</b> All points or none per item are awarded by the proctor per team, <i>not</i> per judge.		Points Awarded
Set-up lasted no longer than three (3) minutes – 5 points	10	
Presentation lasted no longer than ten (10) minutes – 5 points		
All registered team members in attendance for entire event	10	
Documentation submitted at time of check-in: Written Proposal in Report Format (1 copy) and Works Cited (1 copy) <i>Must have copies for both preliminaries and finals</i>	10	
<b>TOTAL SPECIFICATION POINTS (30 points maximum)</b>		

**TOTAL MAXIMUM POINTS = 520**

**PRESENTATION WILL BE STOPPED AT TEN MINUTES**