2025-2026 Competitive Events Guidelines
Network Design

Network Design challenges members to demonstrate their understanding of networking concepts and infrastructure through an objective test and a role play scenario. Members apply their knowledge to design, implement, and troubleshoot network solutions that meet the needs of a business or organization.

Event Overview

Division	High School
Event Type	Team of 1, 2 or 3 members
Event Category	Role Play
Event Elements	Objective Test and Interactive Role Play

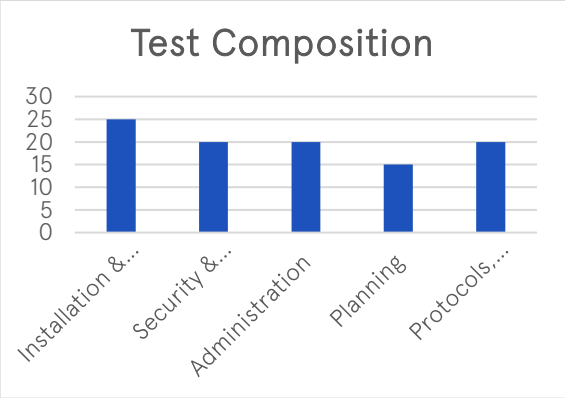
Educational Alignments

Career Cluster Framework Connection	Digital Technology
NACE Competency Alignment	Career & Self-Development, Communication, Critical Thinking, Leadership, Professionalism, Technology

Knowledge Areas

- Network Installation and Configuration
- Network Security and Recovery
- Network Administration
- Network Planning
- Network Protocols, Services, and Access

Test questions and role plays are based on the knowledge statements and objectives outlined for this event. Detailed objectives can be found in the study guide included in these guidelines.



District/Region/Section

Check with your District/Region/Section leadership for District/Region/Section-specific competition information and deadlines.

State

Check with your State Leader for state-specific competition information and deadlines.

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National

Required Competition Items

	Items Competitor Must Provide	Items FBLA Provides
Objective Test	• Sharpened pencil • Fully powered device for online testing • Conference-provided nametag • Photo identification • Attire that meets the FBLA Dress Code	• One piece of scratch paper per competitor • Internet access • Test login information (link & password provided at test check-in)
Role Play	• Conference-provided nametag • Photo identification • Attire that meets the FBLA Dress Code	• Two notecards per competitor • Pencil • Secret role play problem/scenario • Flip chart paper/markers • Easel for placement of flipchart during presentation

Important FBLA Documents

- *Competitors should be familiar with the Competitive Events Policy & Procedures Manual, Honor Code, Code of Conduct, and Dress Code.*

Eligibility Requirements

To participate in FBLA competitive events at the National Leadership Conference (NLC), the following criteria must be met:

- **Membership Deadline**: FBLA national membership dues must be paid to the specific division by 11:59 p.m. Eastern Time on March 1 of the current school year.
- **Repeat Competitors**: Members may only compete in an event at the NLC more than once if they have not previously placed in the top 10 of that event at the NLC. If a member places in the top 10 of an event at the NLC, they are no longer eligible to compete in that event at future NLCs, unless the event has been modified beyond a name change. Chapter events are exempt from this procedure.
- **Conference Registration**: Members must be officially registered for the NLC and must pay the national conference registration fee to participate.
- **Official Hotel Requirement**: To be eligible to compete, competitors must stay within the official FBLA housing block.
- **State Entry Limits**: Each state may submit up to four entries per event.
- **Event Participation Limits**: Each member may participate in:
  - One individual or team event, and
  - One chapter event (e.g., *Community Service Project* or *Local Chapter Annual Business Report*).

- **Participation Requirement**: To be eligible for an award, each competitor must complete all components of the event at the National Leadership Conference.
- **Team Composition**: All members of a team must be from the same local chapter.
- **Identification at Check-in**: Competitors must present valid photo identification (physical or digital) that matches the name on their conference name badge. Acceptable forms include a driver's license, passport, state-issued ID, or school ID.
- **Late Arrivals**: Competitors will be allowed to compete until such time that the results are finalized, or participation would impact the fairness and integrity of the event, as determined by Competitive Events staff. If judges have left the competitive event area, it is no longer possible to compete. Five penalty points will be assessed for late arrivals in any competitive event.
- **Event Schedule Notes**:
  - Some events may begin before the Opening Session.
  - All schedules are posted in local time for the NLC host city.
  - Schedule changes are not permitted.

Event Administration

This event consists of two phases: an objective test and an interactive role play.

Objective Test

Each competitor will complete a 100-question multiple-choice objective test.

Test Duration

- **Test Duration:** 50 minutes

Format

- This event consists of an online objective test that is proctored and completed on-site at the National Leadership Conference (NLC).

Materials

- Reference or study materials are not permitted at the testing site.

Electronic Devices

- All electronic devices, including cell phones, smart watches, and similar technology, must be powered off prior to the start of the competition.

Team Tests

- If competing as a team, competitors must begin testing individually within a few minutes of one another. Each competitor's score will be averaged to determine the team's overall test score.

Calculators

- Personal calculators are not allowed; an online calculator will be available within the testing platform.

Question Review

- Competitors may flag questions within the testing platform for review prior to the finalization of results at the NLC.

Interactive Role Play Details

The team-averaged objective test score determines the top 15 teams advancing to role play round.

Timing Structure

- **Preparation Time:** 20 minutes (a one-minute warning will be provided)
- **Presentation:** 7 minutes (a one-minute warning will be provided)

- **Question & Answer (Q&A):** None

Role Play Prompt
- Competitors will be provided with a single copy of a network design–related scenario or problem at the beginning of their assigned preparation time. This copy must be shared among team members and may only be accessed within the designated preparation area.

Notecard Use
- Each competitor will receive two notecards for use during preparation and the presentation. Information may be written on both sides. Notecards will be collected after the role play.

Materials
- No technology, reference materials, visuals, or props may be used.

Interaction with Judges
- Judges may ask questions during the presentation as part of the interactive role play format.

Audience
- Role play presentations are closed to all conference attendees.

Confidentiality
- To maintain fairness, competitors must not discuss or share the role play prompt until the event concludes.

Scoring
- The team-averaged objective test score determines the top 15 teams advancing to role play round.
- The role play round scores only will be used to determine winners.
- Objective test scores will be used to break a tie.
- All judging decisions are final. Results announced at the National Leadership Conference are considered official and will not be changed after the conclusion of the National Leadership Conference.

Penalty Points
- Competitors may be disqualified if they violate the Code of Conduct or the Honor Code.
- Five points are deducted if competitors do not follow the Dress Code or are late to their assigned presentation time.

Electronic Devices
- Unless approved as part of a documented accommodation, all cell phones, smartwatches, electronic devices, and headphones must be turned off and stored away before the competition begins. Visible devices during the event will be considered a violation of the FBLA Honor Code.

Recognition
- A maximum of 10 entries (individuals or teams) may be recognized per event.

Americans with Disabilities Act (ADA)

- FBLA complies with the Americans with Disabilities Act (ADA) by providing reasonable accommodations for competitors. Accommodation requests must be submitted through the conference registration system by the official registration deadline. All requests will be reviewed, and additional documentation may be required to determine eligibility and appropriate support.

Recording of Presentations

- Unauthorized audio or video recording is strictly prohibited in all competitive events.
- FBLA reserves the right to record presentations for educational, training, or archival purposes. Competitors should be aware that their presentations may be recorded by FBLA-authorized personnel.

Sample Preparation Resources

- Official sample test items and role plays can be found in FBLA Connect. These sample items showcase the types of questions that may be asked on the test and familiarize competitors with the multiple-choice item options.

Study Guide: Knowledge Areas and Objectives

Network Installation and Configuration (25 test items)

1. Discuss the functions of routers and modems in home and office networks
2. Describe the features of a SOHO router
3. Discuss configuration of software and hardware firewalls (e.g., rules, ACLs)
4. Describe the range, speed, and requirements for fiber optic cable
5. Describe the characteristics of copper cable
6. Explain IEEE 802 wireless standards
7. Describe the purpose of subnetting, subnet masks, and loopback addresses
8. Describe wireless network configuration (e.g., modem, router, network password)
9. Discuss server installation and configuration in rack and blade infrastructures
10. Discuss the impact of power and temperature on physical network infrastructures (e.g., cooling, uninterruptible power supply)
11. Describe configuration options for printing over a network (e.g., printer share, printer connectivity, print servers)
12. Describe the functions of access points and gateways

Network Security and Recovery (20 test items)

1. Describe the purpose of disaster recovery plans
2. Select plans for disaster recovery and prevention
3. Describe network backup solutions (e.g., cloud storage, NAS, external hard drives)
4. Describe defensive measures against DoS, phishing, and internal threats (e.g., least privilege, third-party service, security policy)
5. Describe methods for mitigating network vulnerabilities (e.g., closing ports, updating OS, maintaining antivirus)
6. Discuss best practices for network security (e.g., least privilege, authentication, encryption)
7. Describe the benefits of Zero Trust principles
8. Explain methods of network access control
9. Describe security features of Windows and Linux-based operating systems (e.g., BitLocker, domains, SELinux)
10. Describe the use of Intrusion Detection/Prevention Systems (IDS/IPS)
11. Discuss wireless security standards (e.g., WPA, access control lists)

Network Administration (20 test items)

1. Discuss the need for network maintenance (e.g., audits, updates, backups, restores)
2. Describe user account and permission management
3. Explain the purpose and use of Simple Network Management Protocol (SNMP)
4. Discuss common network issues (e.g. slow performance, connection issues, IP conflicts)
5. Use common network command-line tools (e.g., ping, tracert, ipconfig)
6. Discuss the importance of updates and patch management
7. Discuss the role of documentation in network maintenance and troubleshooting
8. Describe tools for monitoring network traffic and performance
9. Describe the use and benefits of load balancing
10. Describe procedures for managing network assets (e.g., users, groups, and printers)

Network Planning (15 test items)

1. Match business requirements to appropriate network design decisions (e.g., topology, physical size, users)
2. Discuss hardware and performance differences between network types (e.g., LAN, WAN)
3. Describe the physical layouts of network topologies (e.g., star, mesh, bus)
4. Discuss the use cases of network topologies (e.g., star, mesh, bus)
5. Select an appropriate network operating system (Windows Server, Linux-based, etc.)
6. Describe the benefits and risks of a peer-to-peer network
7. Discuss the benefits of cloud services for network infrastructure
8. Describe how business needs can restrict and drive network design decisions (e.g., cost, throughput, availability)
9. Explain how network topology decisions impact performance, cost, and availability

Network Protocols, Services, and Access (20 test items)

1. Describe different types of networks (e.g., LAN, WAN)
2. Describe basic network security practices (e.g., encryption, VPN, packet sniffing, authentication)
3. Describe common network attacks (e.g., phishing, spoofing, poisoning)
4. Describe different connectivity technologies (e.g., Ethernet, Wi-Fi, Bluetooth)
5. Discuss the functions of common network devices (e.g., modems, routers, switches)
6. Discuss types of network environments (e.g., peer-to-peer, client-server, thin client)
7. Explain relationships between major network components (e.g., servers, clients, switches)
8. Describe each layer of the Open System Interconnection (OSI) model
9. Explain basic networking protocols (e.g., TCP/IP, UDP, DHCP, SMP)
10. Discuss the characteristics of network topologies (e.g., star, bus, ring)
11. Describe tools and procedures for troubleshooting networks (e.g., ping, tracert, checking cable connections)

References for Knowledge Areas & Objectives

Cisco. *Designing Cisco Enterprise Networks (ENSLD) v1.1*. https://learningcontent.cisco.com/documents/marketing/exam-topics/300-420-ENSLD-v1.1.pdf

CompTIA. *CompTIA A+ Certification Exam Core 1 Objectives*. https://partners.comptia.org/docs/default-source/resources/comptia-a-220-1101-exam-objectives-(3-0)

CompTIA. *CompTIA Network+ Certification Exam Objectives*. https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-009-exam-objectives-(4-0)

Cisco. *What is network design?* https://www.cisco.com/site/us/en/learn/topics/networking/what-is-network-design.html

IBM. *What is network infrastructure?* https://www.ibm.com/think/topics/network-infrastructure

Microsoft. *Fundamentals of computer networking*. https://learn.microsoft.com/en-us/training/modules/network-fundamentals/

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Network Design

Future Business Leaders of America

Network Design Role Play Presentation Rating Sheet

Expectation Item	Not Demonstrated	Below Expectations	Meets Expectations	Exceeds Expectations	Points Earned
Demonstrates understanding of the role play and defines problem(s) to be solved	*No description or role play synopsis provided; no problems defined*	*Describes and provides role play synopsis OR defines the problem(s)*	*Describes and provides role play synopsis AND defines the problem(s)*	*Demonstrates expertise of role play synopsis AND definition of the problem(s)*	
	0 points	1-6 points	7-8 points	9-10 points	
Identifies alternatives and the pro(s) and con(s) of each	*No alternatives identified*	*Alternative(s) given but pro(s) and/or con(s) are not analyzed*	*At least two alternatives given, and pro(s) and con(s) are analyzed*	*Multiple alternatives given and multiple pros and cons analyzed for each*	
	0 points	1-9 points	10-16 points	17-20 points	
Identifies logical solution and aspects of implementation	*No solution identified*	*Solution provided, but implementation plan not developed*	*Logical solution and implementation plan provided and developed*	*Feasible solution and implementation plan developed, and necessary resources identified*	
	0 points	1-9 points	10-16 points	17-20 points	
Demonstrates knowledge and understanding of the event knowledge areas: *Network Installation and Configuration / Network Security and Recovery / Network Administration / Network Planning / Network Protocols, Services, and Access*	*No knowledge areas demonstrated*	*One or two knowledge areas are demonstrated*	*Three knowledge areas are demonstrated*	*Four or more knowledge areas are demonstrated*	
	0 points	1-9 points	10-16 points	17-20 points	
Delivery Skills					
Statements are well-organized and clearly stated	*Competitor(s) did not appear prepared*	*Competitor(s) were prepared, but flow was not logical*	*Presentation flowed in logical sequence*	*Presentation flowed in a logical sequence; statements were well organized*	
	0 points	1-6 points	7-8 points	9-10 points	
Consistently displays confidence, poised body language, engaging eye contact, and effective voice projection.	*Did not demonstrate any of the listed skills*	*Demonstrated 1-2 of the listed skills (confidence, body language, eye contact, or voice projection)*	*Demonstrated 3 of the listed skills (confidence, body language, eye contact, or voice projection)*	*Demonstrated all skills, enhancing the overall presentation*	
	0 points	1-6 points	7-8 points	9-10 points	
Demonstrates the ability to effectively answer questions	*Unable to answer questions*	*Does not completely answer questions*	*Completely answers questions*	*Interacted with the judges in the process of completely answering questions*	
	0 points	1-6 points	7-8 points	9-10 points	
Staff Only: Penalty Points (5 points for dress code penalty and/or 5 points for late arrival penalty)					
Presentation Total (100 points)					

Name(s):			
School:		Section:	
Judge Signature:		Date:	

Comments: