

# 2023 Provincial Scope Document

## *Skill 39 – IT Network Systems Administration*

### *Secondary Competition*

**Contest Length – 6 hours**

**Registration Time – 8:00am**

#### **Purpose of the Challenge**

This challenge will provide each competitor the opportunity to demonstrate their knowledge and skills in common aspects of computer and network systems administration and support.

#### **Project Scenario**

For the purposes of this competition, each competitor is considered to be an entry-level IT Helpdesk Technician. Each competitor will be required to complete and document selected tasks from the project tasks listed below. Not all listed tasks will be tested.

#### **Project Tasks**

##### **Documentation Creation and Interpretation**

- Create, interpret, and modify textual and graphical documentation
- Use screen capture technology such as Windows Snipping Tool

##### **Hardware**

- Identify, install, connect, and test computer and network hardware components
- Create and test ethernet network cabling

##### **Networking (IPv4 and IPv6)**

- Operate basic command-line network diagnostic utilities
- Calculate, configure, and verify an IPv4 or IPv6 VLSM addressing scheme
- Configure and verify a home network wireless router and firewall

##### **Desktop Environment**

- Install, configure, and update virtual machines and virtualization software
- Install, configure, and update operating systems

- Install, configure, and update corporate software applications
- Configure operating system functionality (e.g. System Settings or Control Panel)
- Configure and manage users with various privilege levels and permissions
- Configure networking in a workgroup environment, including shares and permissions
- Configure and verify peripheral devices and local or network printers
- Configure and verify proper workgroup environment computer security practices
- Configure and operate disk, system, and file management tools

### **Troubleshooting and Incident Resolution**

- Identify, document, and resolve incidents based on user-provided descriptions
- Identify, document, and resolve incidents relating to computer hardware and software
- Identify, document, and resolve incidents relating to home networks
- Identify, document, and resolve incidents relating to desktop and application software
- Reference all available information including software logs and documentation

### **Equipment, Tools, and Materials**

#### **To be Supplied by Each Competitor**

- Pen and pencil
- Appropriate tools to create and terminate a Category 5E ethernet patch cable
- Appropriate tools for computer assembly and disassembly

#### **To be Supplied by the Committee as Required**

- Suitable physical and/or virtual computer hardware
- Suitable virtualization software
- Suitable software or worksheets for documentation
- Cisco Packet Tracer
- Current version of Windows server environment (e.g. 2016 R2 or later)
- Current version of Linux server environment (e.g. Ubuntu 20.04 or later)
- Current version of Windows desktop environment (e.g. Windows 10 or later)
- Current version of Linux desktop environment (e.g. Ubuntu 20.04 or later)
- Raw materials for cable termination

### **Clothing Requirements**

Competitors are to be dressed in a clean and safe manner appropriate for a business office environment.

## Safety Requirements

Safety awareness and requirements will always exceed the minimum industry standards. A competitor will not be allowed to compete without the safety equipment noted within this scope document.

## Judging Criteria

- Ability to configure, test, and upgrade workstations, servers, and network devices
- Ability to configure, test, and upgrade application software
- Ability to follow vendor, industry, and security best practices
- Ability to comprehend and follow provided written and oral instructions
- Ability to complete and provide appropriate and organized documentation
- Proper technique and safe use of trade tools
- Neatness of work area and space management
- Professionalism, including cooperation and demeanor during the competition

In the case of a tie at the end of the competition, the competitor with the higher score in the Troubleshooting section will be declared the winner. If the tie continues, professionalism will be the deciding factor.

## Technical Committee

|   |               |
|---|---------------|
| <b>Andrew Mueller, Refrigerative Supply Limited</b> | <b>Chair</b>  |
| <b>Nathan Wiens, Cradlepoint</b>                    | <b>Member</b> |
| <b>Troy Berg, Okanagan College</b>                  | <b>Member</b> |
| <b>Eddie Wong, Burnaby South Secondary</b>          | <b>Member</b> |

**Skills Canada BC reserves the right to make changes to this scope document.**