SKILLS MANITOBA COMPETITION **CONTEST DESCRIPTION**	
Competition Year	2018
Competition Location	MITT – Manitoba Institute of Trades and Technology 130 Henlow Bay, Room 209.6
Trade Number	39
Trade Name	IT- Network Systems Administration
Level	Secondary

1. **Introduction**

   1.1. **Purpose of the Challenge**
   To evaluate each competitor's skills and to recognize excellence and professionalism in the field of IT network systems administration.

   1.2. **Time**
   8:00 till 11:00 a.m. and 11:30 till 2:30 p.m.

   1.3. **Duration of Contest**
   6 hours

   1.4. **Skills and Knowledge to be tested**
   The competition evaluates a competitor's knowledge of computer and network hardware.

   1.5. Maximum **3 competitors** per school.

2. **Contest Description**

   2.1. **List of documents produced and timeline for when competitors have access to the documents.**

- No other competition document will be released prior to the competition

2.2. Tasks that may be performed during the contest

Desktop support
- Identify, install and test hardware components
- Troubleshoot hardware failures
- Perform structured cabling tasks
- Install and configure virtual machines
- Prepare hard drives for operating system setup
- Use disk, system, and file management tools
- Produce technical and end-user documentation
- Demonstrate understanding of software licensing and it's applications
- Install, setup, and configure corporate productivity software products
- Install, setup, and configure utility software fulfilling corporate computing goals
- Install and verify correct operation of peripheral devices
- Configure and troubleshoot common home office and small business software operations

Desktop software benchmarking, diagnostics, and troubleshooting (Win 7 or newer)
- Use technical documentation including specifications and procedures
- Use available documentation and logs to identify and resolve problems
- Use utility software to benchmark software or hardware performance
- Use utility software to diagnose software or hardware problems
- Fix and document resolution using customer complaint descriptions
- Choose appropriate diagnostic programs to troubleshoot problems
- Troubleshoot software installation problems
- Troubleshoot common home office and small business problems

Desktop security
- Perform patch and update management
- Install, configure and verify basic security-related software and cryptographic processes
- Create and update security policies and procedures to ensure security and reliability of network data

- Utilize virtual environments to perform workstation desktop security

2.3. Networking
- Interpret network diagrams
- Create network documentation in written and diagrammatic forms
- Operate basic network diagnostic software
- Calculate for and apply to a network, an addressing scheme using Variable Length Subnet Mask (VLSM) Internet Protocol addressing (IP v4)
- Implement static and dynamic addressing services for hosts in a Local Area Network (LAN) environment
- Implement, verify and troubleshoot hardware and software network configuration
- Implement, verify, and troubleshoot securing of network devices
- Implement, verify, and troubleshoot network address translation
- Implement, verify, and troubleshoot Wide Area Network (WAN) links
- Implement an IP addressing scheme and IP Services to meet network requirements in a Small Office Home Office (SOHO) network using a virtualized environment (Packet Tracer) This environment would include wired and wireless workstations, static and dynamic station addressing and network security.
- Install wireless hardware and software on client machines
- Implement, verify, and troubleshoot wireless deployment
- Configure, verify, and troubleshoot securing of wireless communication

3. **Equipment, Material, Clothing**
   3.1. Equipment provided by Skills Manitoba
   - Suitable computer hardware
   - Linksys SOHO Integrated Router device
   - Patch cables
   - USB wireless NIC

   3.2. Material provided by Skills Manitoba
   - Cabling consumables
   - Suitable computer hardware
   - VMWare virtualization software
   - Windows 7 or newer

- Cisco Packet Tracer. If your school does not have access to this software, please contact Gursharn Wander or Jon Funk (see contact information at the end of scope)
- Graphic Screen Capture program. Competitor may have to use a screen capture program and a paint program to display/explain the completion of a task

3.3. Equipment and material provided by the competitor
- No equipment or tools are required

3.4. Required clothing (Provided by competitor)
- Competitors must be dressed as appropriate for an office environment.

4. Safety Requirements

4.1. No personal protective equipment (PPE) is required

5. Assessment
5.1. Point Breakdown

Point Breakdown	/100
Desktop Support	20
Desktop Software Diagnostics and Troubleshooting	20
Security	25
Networking	35

6. Additional Information

6.1. Tie (No ties are allowed)
In the event of a tie, placement will be determined based on their answer to a theory based question.

6.2. Competition rules
Please refer to the competition rules for all general CSC information.

6.3. National Competition Eligibility

A mark of **70 % or higher** must be scored by the gold medalist in each contest in order for them to attend the National Skills Competition

6.4. Essential skills are used in nearly every job and at different levels of complexity. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. Good Essential Skills means you will understand and remember concepts introduced in technical training. The level of Essential Skills required for most trades is as high as or higher than it is for many office jobs. The following 9 skills have been identified and validated as key essential skills for the workplace: Numeracy, Oral Communication, Working with Others, Continuous Learning, Reading Text, Writing, Thinking, Document Use, Digital. Top Essential Skills for IT Network Systems Administration: Thinking: Problem Solving, Job Task Planning and organizing, Document Use, Digital

7. Manitoba Technical Committee Members

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