

**113-SIG-3006**  
**Implement Network Address Translation (NAT) for IP Address Conservation**  
**Status: Approved**

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**Distribution Restriction:** Approved for public release; distribution is unlimited.

**Destruction Notice:** None

**Foreign Disclosure: FD1** - This training product has been reviewed by the training developers in coordination with the US Army Signal School and FG foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

**Condition:** You need to find a way to limit when you take calls and from whom. You also need to mask your telephone number so that when you call someone, another number is displayed to the recipient. You have 2 Cisco Routers (With Cisco IOS release 15.2(4) M3 universal image or comparable), 1 Cisco Switch (With Cisco IOS release 15.0(Z) lanbaseK9 image or comparable), 3 PCs (Windows 7, Vista, or XP with terminal emulation software), 1 console cable, 4 ethernet straight-thru cables, 1 serial DCE/DTE cable.

**Standard:** Implements network address translation (NAT) and telephone number is masked.

**Special Condition:** None

**Safety Risk:** Low

**MOPP 4:**

<b>Task Statements</b>
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**Cue:** None

<b>DANGER</b>
None

<b>WARNING</b>
None

<b>CAUTION</b>
None

**Remarks:** None

**Notes:** All required references and technical manuals will be provided by the local Command via Cisco Networking Academy at [www.netacad.com](http://www.netacad.com).

## Performance Steps

### 1. Configure Static NAT.

- a. Establish static translation between an inside local address and an inside global address. Router (config) # ip nat inside source static {inside local address} {inside global address}.
- b. Specify the inside interface. Router (config) # interface {type slot/port}.
- c. Enable nat translation. Router (config-if) # ip nat inside.
- d. Specify the outside interface. Router (config) # interface {type slot/port}.
- e. Specify the outside interface. Router (config) # interface {type slot/port}.
- f. Enable nat translation. Router (config-if) # ip nat outside.
- g. Verify NAT operation. Perform a ping from host computer to outside global network and Perform show ip nat translations command and/or show ip nat statistics command.

### 2. Configure Dynamic NAT.

- a. Define the pool of global addresses. Router(config)# ip nat pool {name}{beginning IP to ending IP} netmask {subnet mask}.
- b. Configure a standard access list permitting the addresses that should be translated. access-list {1 – 99} permit {ip address to be translated}.
- c. Establish dynamic nat mapping statement. Router(config)#ip nat inside source list {access-list #} pool {pool name}.
- d. Specify the inside interface. Router (config) # interface {type slot/port}.
- e. Enable nat translation. Router (config-if) # ip nat inside.
- f. Specify the outside interface. Router (config) # interface {type slot/port}.
- g. Enable nat translation. Router (config-if) # ip nat outside.
- h. Verify NAT operation. Perform a ping from host computer to outside global network and Perform show ip nat translations command and/or show ip nat statistics command.

(Asterisks indicates a leader performance step.)

**Evaluation Guidance:** Score the Soldier GO if all steps are passed (P). Score the Soldier NO GO if any step is failed (F). If the Soldier fails any step, show what was done wrong and how to do it correctly.

**Evaluation Preparation:** Ensure that the equipment is available, serviceable, and ready for use. Use the reference and evaluation guide to score the Soldier's performance. Brief Soldier: Tell the Soldier what is required IAW the task condition and standards.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Configured Static NAT.			
2. Configured Dynamic NAT.			

**Supporting Reference(s):**

Step Number	Reference ID	Reference Name	Required	Primary
	ISBN: 9781587058820	Implementing Cisco IP Routing (ROUTE) Foundation Learning Guide: Foundation learning for the ROUTE 642-902 Exam (Foundation Learning Guides)	No	No

**TADSS :** None

**Equipment Items (LIN):** None

**Materiel Items (NSN) :**

Step ID	NSN	LIN	Title	Qty
	5895-01-539-4546	FA9516	Catalyst 2960 24 PT	1
	7025-01-581-2387	05004N	Cisco Integrated Router Gen 2: CISCO 2901/K9	2

**Environment:** Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card.

**Safety:** In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

**Prerequisite Individual Tasks :** None

**Supporting Individual Tasks :** None

**Supported Individual Tasks :** None

**Supported Collective Tasks :** None

**ICTL Data :**

ICTL Title	Personnel Type	MOS Data
MOS 25C Radio Operator-Maintainer Skill Levels 1, 2, and 3	Enlisted	MOS: 25C
MOS 25Q Multichannel Transmission Systems Operator-Maintainer Skill Levels 1, 2, and 3	Enlisted	MOS: 25Q

MOS 25U Signal Support Systems Specialist Skill Levels 1, 2, 3, and 4	Enlisted	MOS: 25U
MOS 25N Nodal Network Systems Operator-Maintainer Skill Levels 1, 2, and 3	Enlisted	MOS: 25N
MOS 25B Information Technology Specialist Skill Levels 1, 2, 3, 4 and 5	Enlisted	MOS: 25B
MOS 25L Cable Systems Installer-Maintainer Skill Levels 1, 2, and 3	Enlisted	MOS: 25L