

## Call me! (Instructor Version)

**Instructor Note:** Red font color or Gray highlights indicate text that appears in the instructor copy only.

### Objectives

**Explain why routing is necessary for hosts on different subnets to communicate.**

- Students will recognize that data is delivered more quickly if group addressing identifiers are used.
- Students will visualize how communication is facilitated through providing large groups and then splitting those groups into more manageable parts. After reflecting on how their smartphone or landline telephone numbers are divided, they can draw inferences to how networking employs the same practices.

### Background /Scenario

In this chapter, you will be learning how devices can be grouped into subnets, or smaller network groups, from a large network.

In this modeling activity, you are asked to think about a number you probably use every day, a number such as your telephone number. As you complete the activity, think about how your telephone number compares to strategies that network administrators might use to identify hosts for efficient data communication.

Complete the two sections listed below and record your answers. Save the two sections in either hard- or soft-copy format to use later for class discussion purposes.

- Explain how your smartphone or landline telephone number is divided into identifying groups of numbers. Does your telephone number use an area code? An ISP identifier? A city, state, or country code?
- In what ways does separating your telephone number into managed parts assist in contacting or communicating with others?

**Instructor note:** This is an individual or an in-class small/large group modeling activity. It is not intended to be a graded assignment. Its purpose is to encourage students to reflect on their current knowledge of how networks are grouped using a numerical basis. Facilitation of the discussion should be initiated as a result of this Activity.

**Instructor note:** Please have students adjust their answers to incorporate a country area code if necessary.

### Required Resources

- Recording capabilities (paper, tablet, etc.) for reflective comments to be shared with the class.

### Reflection

1. Why do you think ISPs need your telephone number when setting up your account parameters?
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Example telephone number and identifying groups in that telephone number (if your country uses another identifier, it would need to be incorporated into this section's answers:

Area Code (or ISP identifier)	City	Telephone Identifier
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571	555	1212
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571 directs calls from my telephone showing the general, geographic location of my ISP or state. I wish to call someone in another state or through a different ISP, the area code or ISP identifier will be different.

555 indicates the city from which I am calling and this helps to route my communications to the correct switches or routers.

1212 indicates my personal smartphone or landline telephone identifier when combined with the first two groups. This enables my telephone to receive the communication after being processed, generally, through my area code/ISP and city identifiers.

### Identify elements of the model that map to IT-related content:

- Hierarchies are employed when using addressing schemes
- Connectivity is influenced by the addressing scheme identifiers