Lab - Research Docking Stations and Port Replicators (Instructor Version)

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

# Introduction

A docking station uses proprietary connectors that turn laptops into a desktop system by connecting to other peripheral devices, such as mice, keyboards, and external monitors. A port replicator can provide some or all of the functionality of docking station; however, it usually connects to the laptops via USB or Thunderbolt connection.

In this lab, you will research the specifications for a proprietary laptop docking station and a generic port replicator for a specific laptop model. Be prepared to discuss your decisions regarding your choices.

For the proprietary docking stations, navigate to the major computer brands’ websites to search for their recommendations. For the generic port replicators, they can be found on websites of major computer brands or computer electronic stores.

**Instructor Note**: You may choose another laptop docking station to research. The answers below are specific to the Lenovo P51s. Laptops can use the manufacturer’s proprietary docking stations and/or port replicators that are connected via USB.

# Instructions

## Choose a laptop with an associated docking station.

The major computer brands that target the business market will most likely sell laptop models that use proprietary docking stations.

Navigate to the web site of a major computer brand. Search for a propriety docking station suitable for your laptop model. Review the provided information and answer the following questions.

### Questions:

* + 1. What is the model or part number of the docking station?

Type your answers here.

Answers may vary. The model is ThinkPad Pro Docking Station – 90W. The part number is 40A10090US.

* + 1. What is the approximate cost?

Type your answers here.

The cost is $215.

* + 1. What are the dimensions of the docking station?

Type your answers here.

Height: 2.19 in (55.6 mm)  
Width: 13.58 in (345 mm)  
Depth: 6.40 in (162.5 mm)

* + 1. How does the laptop connect to the docking station?

Type your answers here.

The laptop has a docking station connector on the underside of the laptop, which attaches to a connector on the docking station.

* + 1. List some of the features available with this docking station.

Type your answers here.

3x USB 2.0, one supports always-on USB charging, 3x USB 3.0  
10/1000 Gigabit Ethernet, supports enterprise manageability  
1x DisplayPort 1.2 (Exclusive use with DVI-D), 1x DVI-D (Exclusive use with DisplayPort), 1x VGA  
Driver-free, perfect video quality  
1x Stereo/Mic Combo Audio Port  
Security lock hole  
Convenient eject button for one-step system removal  
Charges your ThinkPad

* + 1. Is this docking station compatible with other laptop models?

Type your answers here.

Yes, this docking station works with ThinkPad T, L, X, and X1 Series laptops. For a specific laptop model, some of the manufacturers may have a finder: <https://www.lenovo.com/us/en/docksSearch/>

## Choose a port replicator.

In this step, search and review the technical specification for a port replicator that is compatible with your laptop model. Answer the following questions.

* + 1. What is the model or part number of the port replicator?

Type your answers here.

Answers may vary. The model is ThinkPad USB-C Dock. The part number is 40A90090US.

* + 1. What is the approximate cost?

Type your answers here.

The cost is $190.

* + 1. What are the dimensions of the port replictor?

Type your answers here.

Height: 1.28 in (32.5 mm)  
Width: 6.73 in (171 mm)  
Depth: 3.15 in (80 mm)

* + 1. How does the laptop connect to the port replicator?

Type your answers here.

The port replicator supports any laptops with full function USB-C port.

* + 1. List some of the features available with this port replicator.

Type your answers here.

2 x DP  
1 x VGA  
3 x USB 3.0 – 1 provides always-on mobile device charging  
2 x USB 2.0  
1 x USB-C (data only, provides 5V, 3A power)  
1 x Gigabit Ethernet  
1 x Stereo/Mic Combo Port  
1 x Security Lock Slot

* + 1. Is this port replicator compatible with other laptop models?

Type your answers here.

Yes, it supports laptops with full function USB-C port, not just Lenovo laptops.

# Reflection Question

Now that you have chosen a docking station and a port replicator for your laptop model, which is your choice? Explain your choice and list some of advantages and disadvantages.

Type your answers here.

The docking station is only compatible with specific vendors and models and usually slightly more expensive. The port replicator can be used with laptops of different brands or models, as long as the laptops have the correct connections. For choosing either docking station or port replicator, verify that the monitor has the correct connections, such VGA, DVI or HDMI.

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