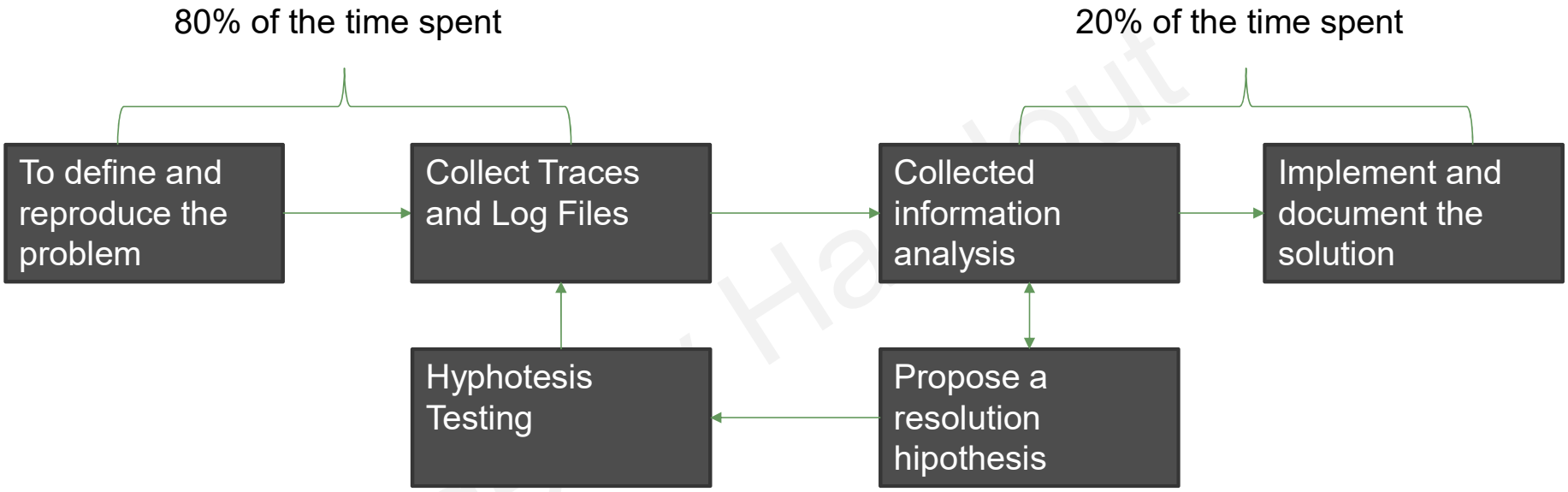
Troubleshooting SIP

How to solve problems in SIP networks

Objectives

- By the end of this chapter you should be able to:
  - **Use a methodology to solve a problem in your network**

Structured Troubleshooting Process



Troubleshooting Strategies

- Use the OSI model
- Divide and conquer based on the OSI model
- Simplify until it works
- Change componentes intelligently

Using the OSI Model

Bottom Up

or

Top Down

Application	OpenSIPS
Presentation	H264/G.729/G711/GSM/T.38
Session	SIP
Transport	UDP/TCP/TLS/SCTP/RTP/SRTP/RTCP
Network	IP
Datalink	Frame-Relay/ATM/PPP/Ethernet
Physical	Ethernet/V.35/RS-232/xDSL

Start from the middle

Many times a simple ping is able to eliminates three layers quickly

Application	OpenSIPS
Presentation	H264/G.729/G711/GSM/T.38
Session	SIP
Transport	UDP/TCP/TLS/SCTP/RTP/SRTP/RTCP
Network	IP
Datalink	Frame-Relay/ATM/PPP/Ethernet
Physical	Ethernet/V.35/RS-232/xDSL

Simplify

- What is the simplest model possible
  - **Example:**
    1. Bypass the PBX and connect the softphone directly to the provider to see what happens.
    2. Now by-pass the provider making a call from one phone to the other
    3. Keep trying diferente things isolating the problem
- Isolate parts of the system one by one until you can find the problem.

Switch Components

- Phone, SoftSwitch, SBC, Provider
- Switch one by one
- If you can't isolate the problem suspect you have more than one problem
- If nothing works validate your testing methods

Golden rule to speed up support tickets

- Tickets with evidences, traces and logs are solved in less time
- If a support ticket is open without evidence, someone will have to reproduce the problem to collect the evidence and this takes time

Summary

- In this chapter you hve learned
  - **Troubleshooting is not guessing**
  - **First step, reproduce the problem and collect information**
  - **Try to isolate the problem in a single component**
  - **Replace componente by component until to find a solution**
  - **Document the solution**