



# ENTERPRISE NETWORKING WITH IPSEC AND DYNAMIC ROUTING

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# INTRODUCTION

- University of Helsinki, Finland
  - Computer Science Master's, 5th year
  - Networks Study Track



# CONTENTS

- Background
- Goals
- Technologies



# BACKGROUND



# THE IDEA

- Network for small/medium sized enterprises
  - Multiple locations, usually one "main" location
  - Simple, secure and cheap
- Experiment with
  - Different dynamic routing algorithms
  - Network topologies
  - VPN technologies?



# EXAMPLE

- Locations
  - Main location with all servers
  - Two other offices
- Connections
  - 2 operators for main office
  - 1 connection for others



# EXAMPLE

- IPsec tunnels
  - 2 from main to each office, using different operators
  - Dynamic routing for automatic fallback



# GOALS





# GOALS

- Learning
  - More about IPsec (in practice)
  - More about dynamic routing (in practice)
- Material for Master's Thesis
- A viable solution to implement for customers



# TECHNOLOGIES



# TECHNOLOGIES

- Routing
  - OSPF
  - BGP
- VPN
  - IPsec



# TECHNOLOGIES

- Experiments
  - Munet
  - Ansible



# THANK YOU!

Questions/Discussion