

# Wireless Systems Security

EE/NiS/TM-584-A/WS

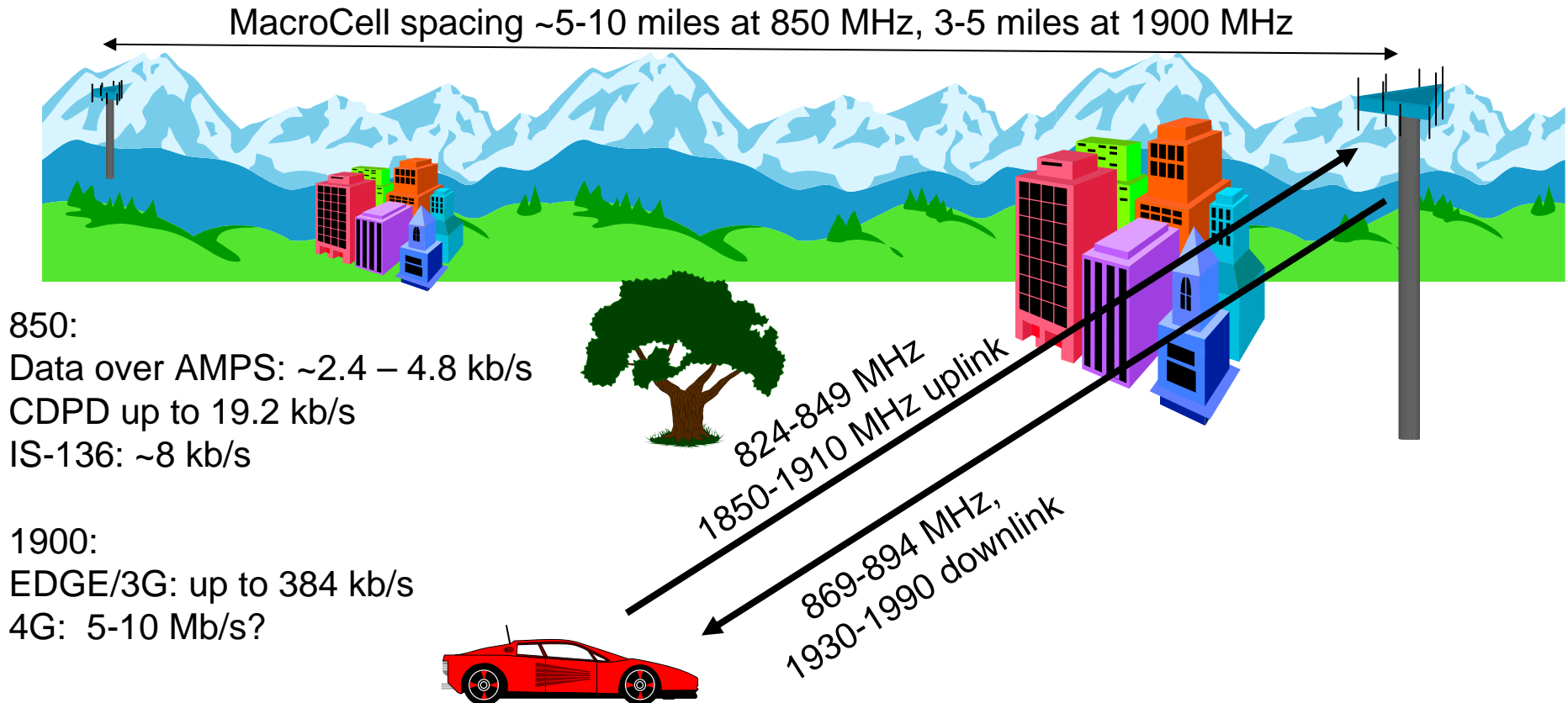
Bruce McNair  
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# Week 9

## Case Study 5

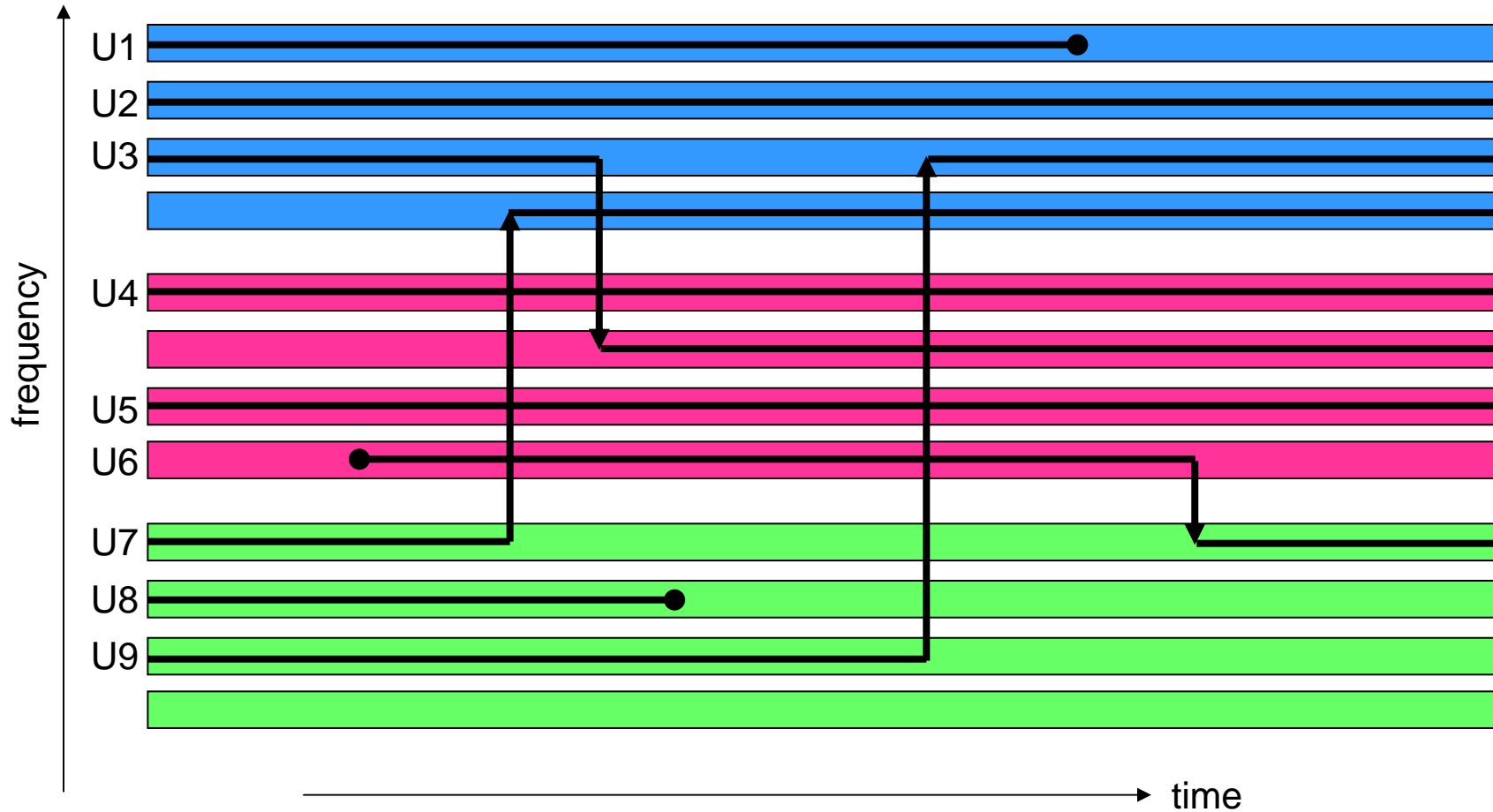
# Case 5 – Wide Area Wireless Data Services

## CDPD, 3G, EDGE, etc.



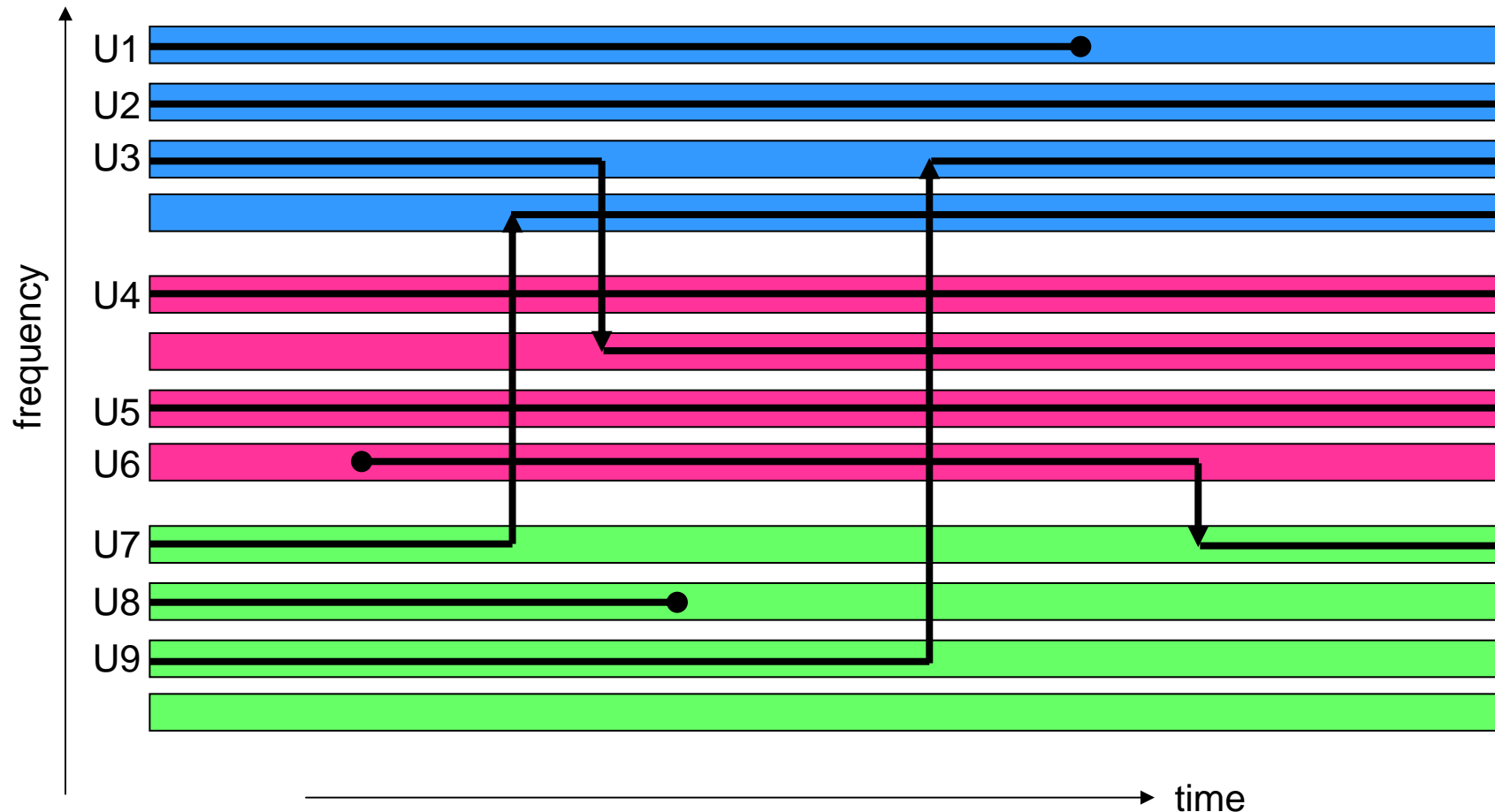
# Cellular Data Systems: The Beginning: CDPD

- Consider three basestations, each with 4 frequencies available



# Cellular Data Systems: The Beginning: CDPD

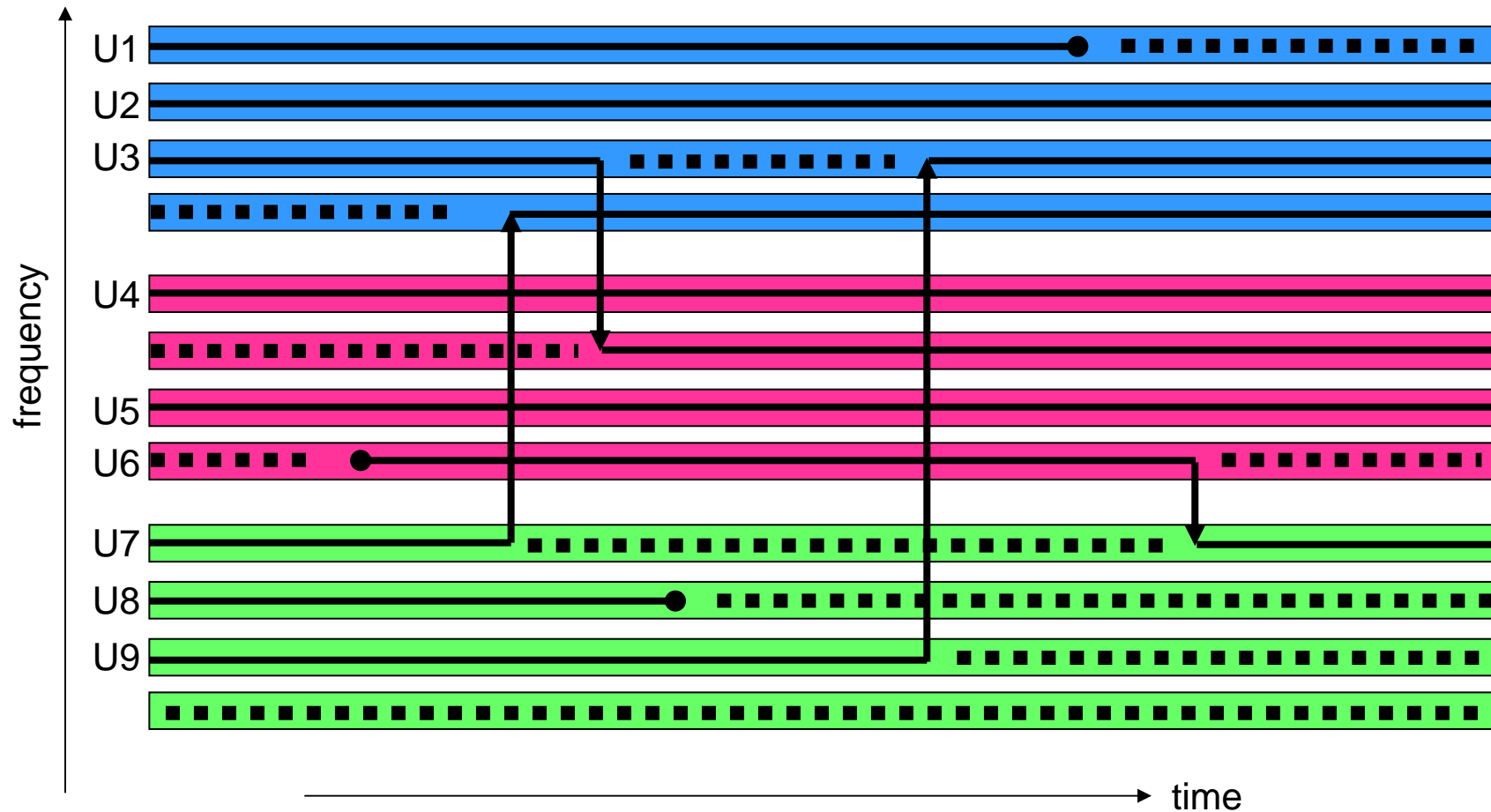
- To provide capacity for new calls, handoffs, spare capacity is needed



- But spare capacity implies under utilization – perhaps as low as 50%

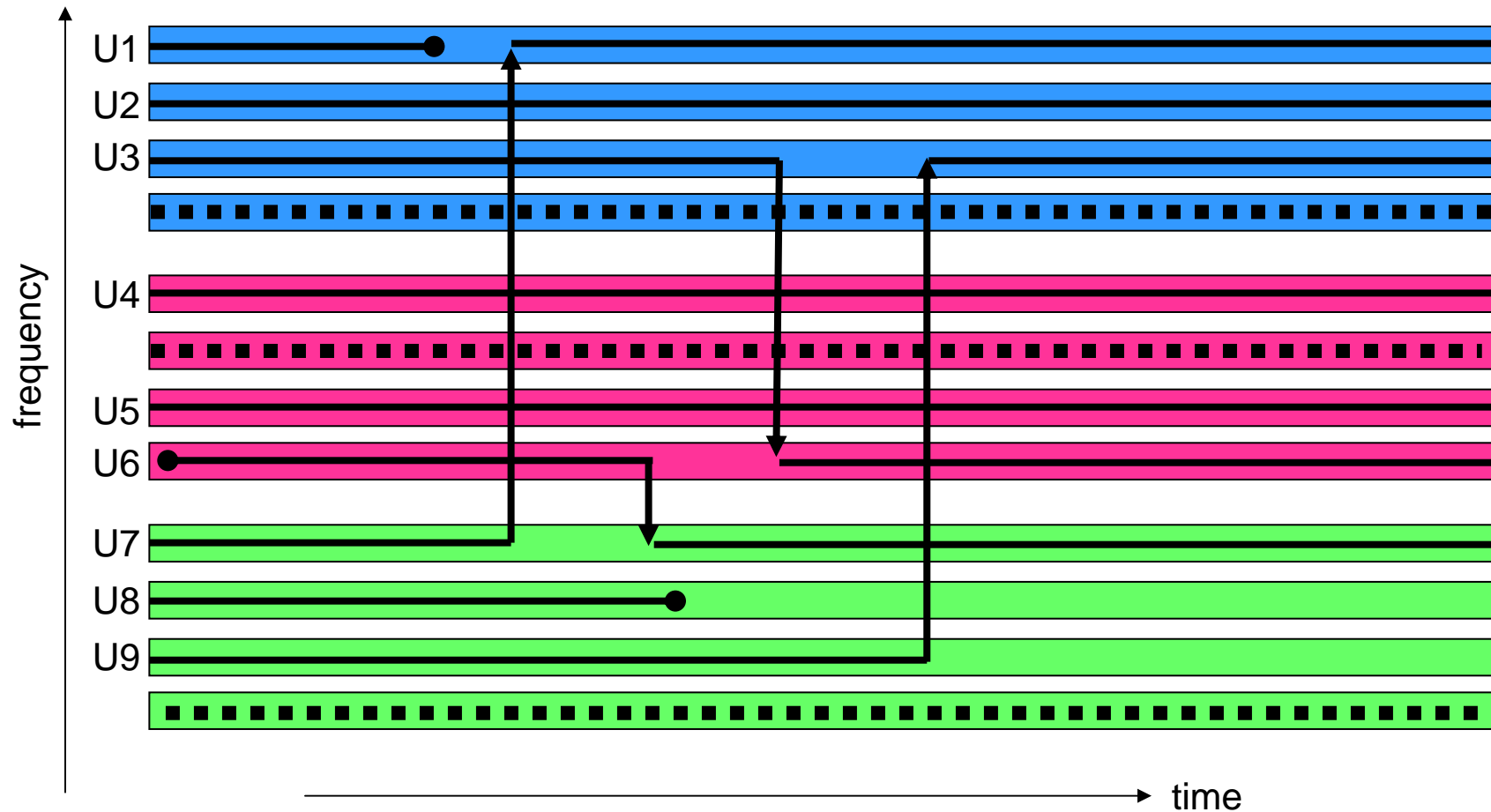
# Cellular Data Systems: The Beginning: CDPD

- Fill spare capacity with packet data services, which can tolerate delay



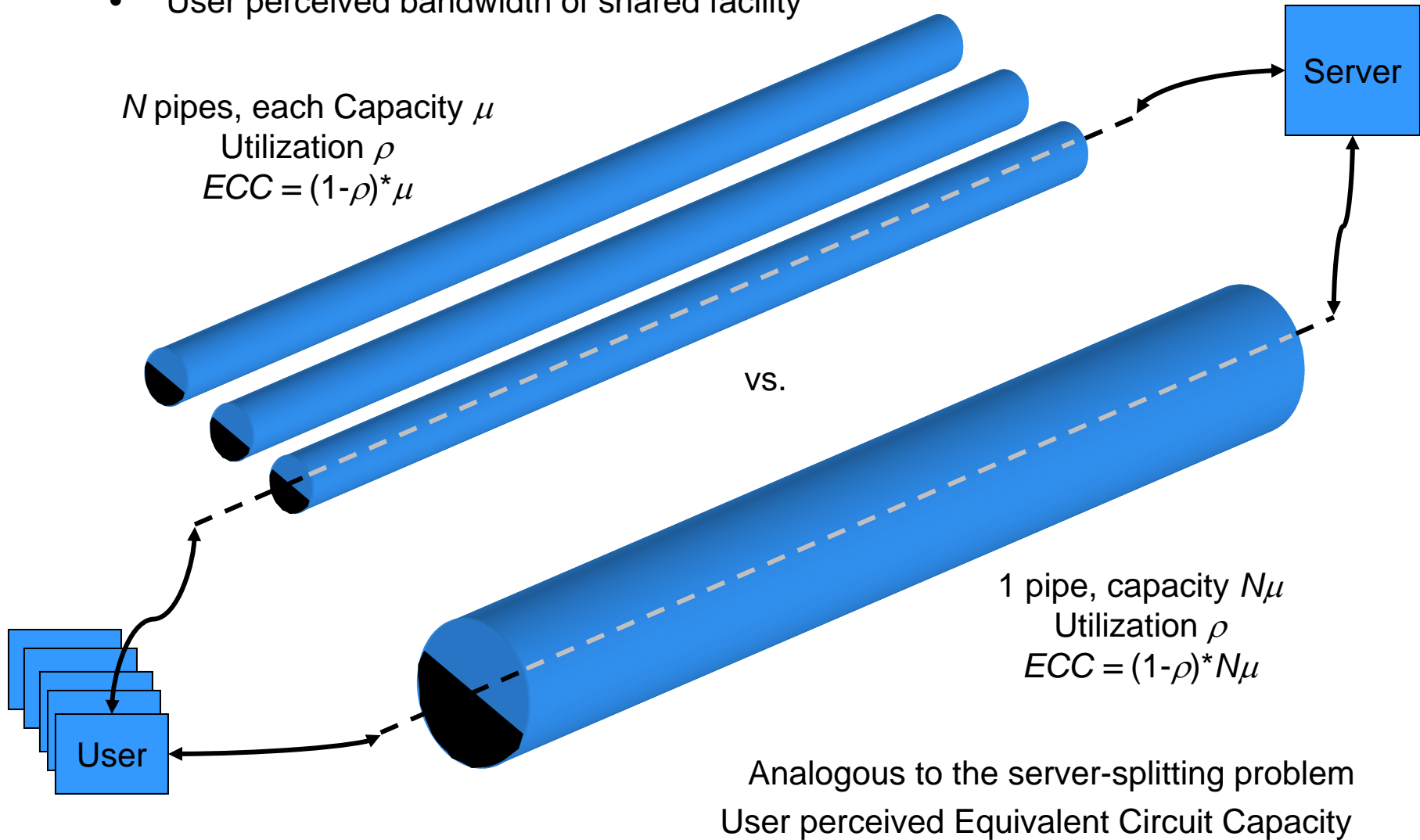
# Cellular Data Systems: CDPD as a service in it's own right

- Dedicate channels to CDPD operation

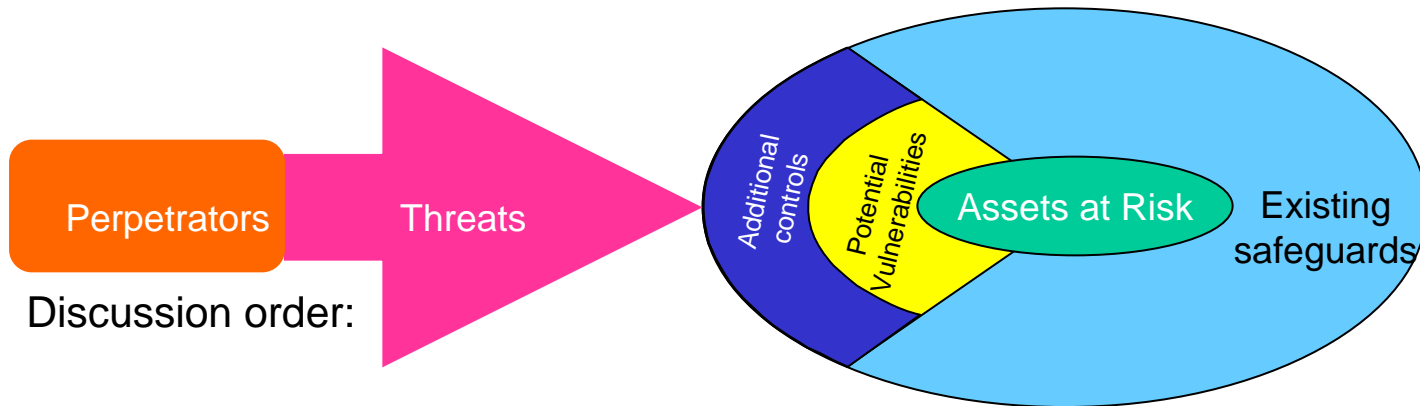


# The Need for Higher Bandwidth Data Services

- User perceived bandwidth of shared facility

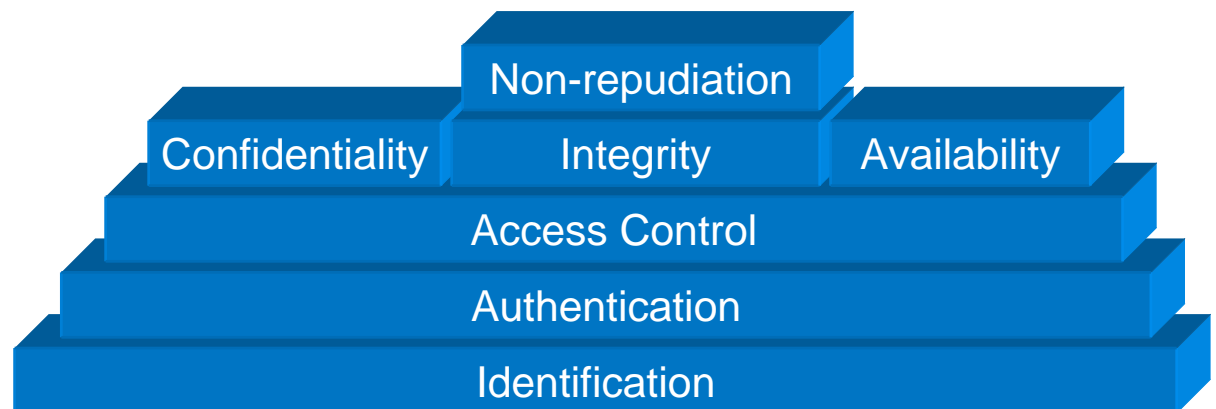


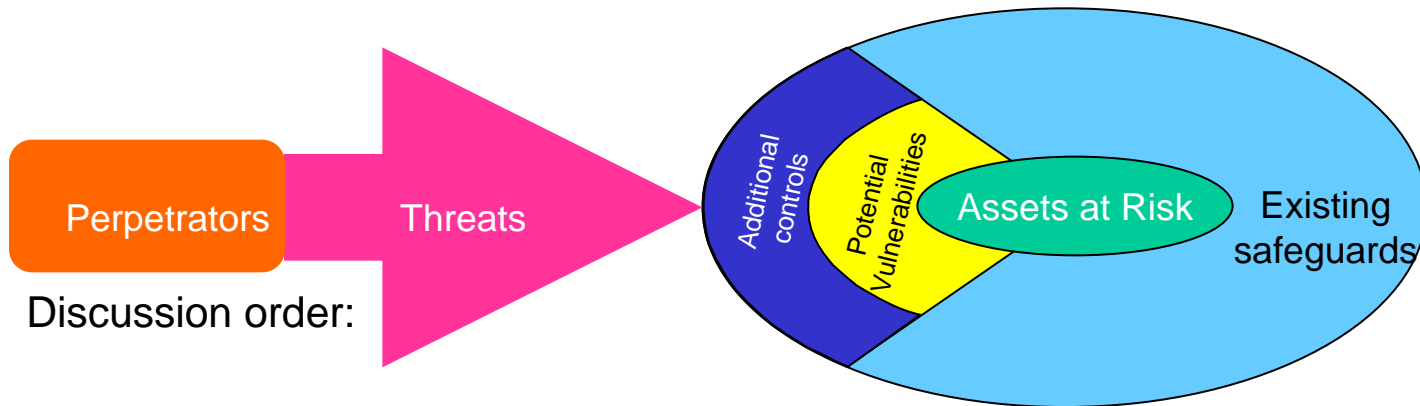




Discussion order:

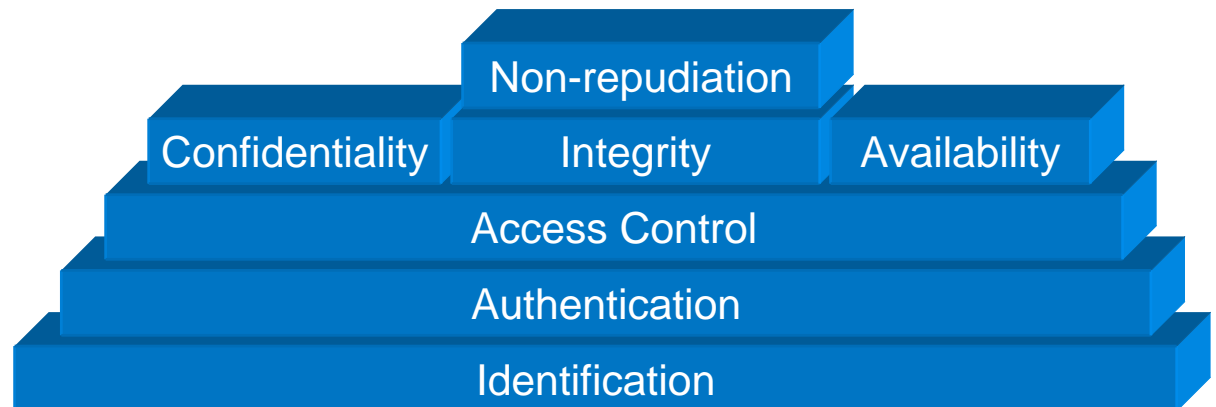
- Assets
- Perpetrators
- Threats
- Existing Safeguards
- Potential Vulnerabilities
- Additional Security Controls

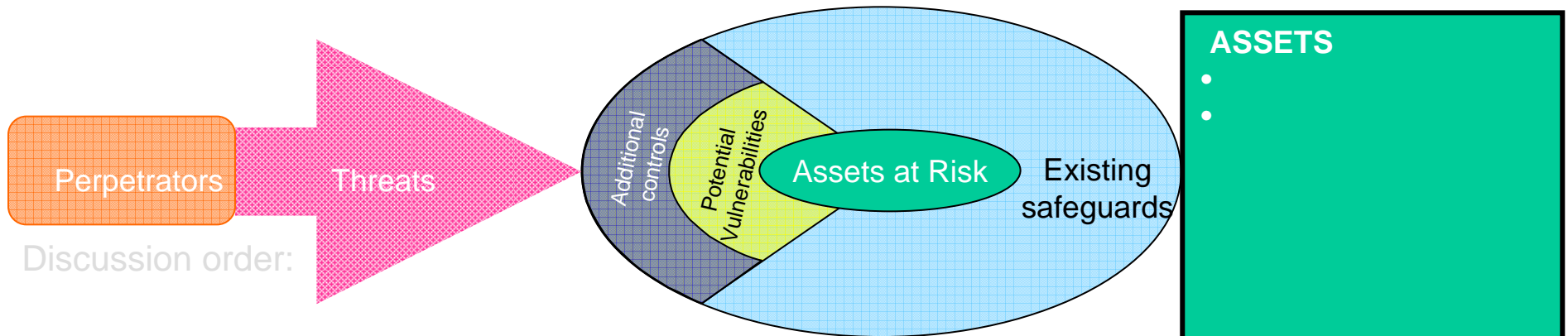




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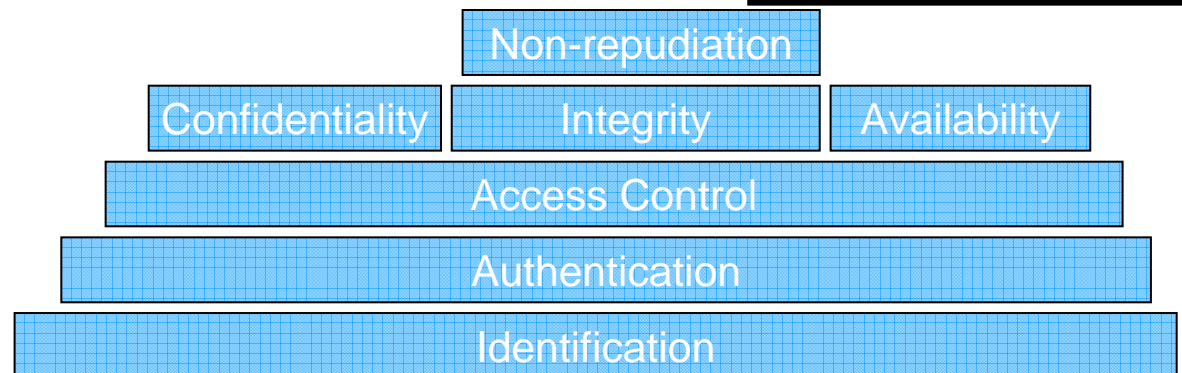
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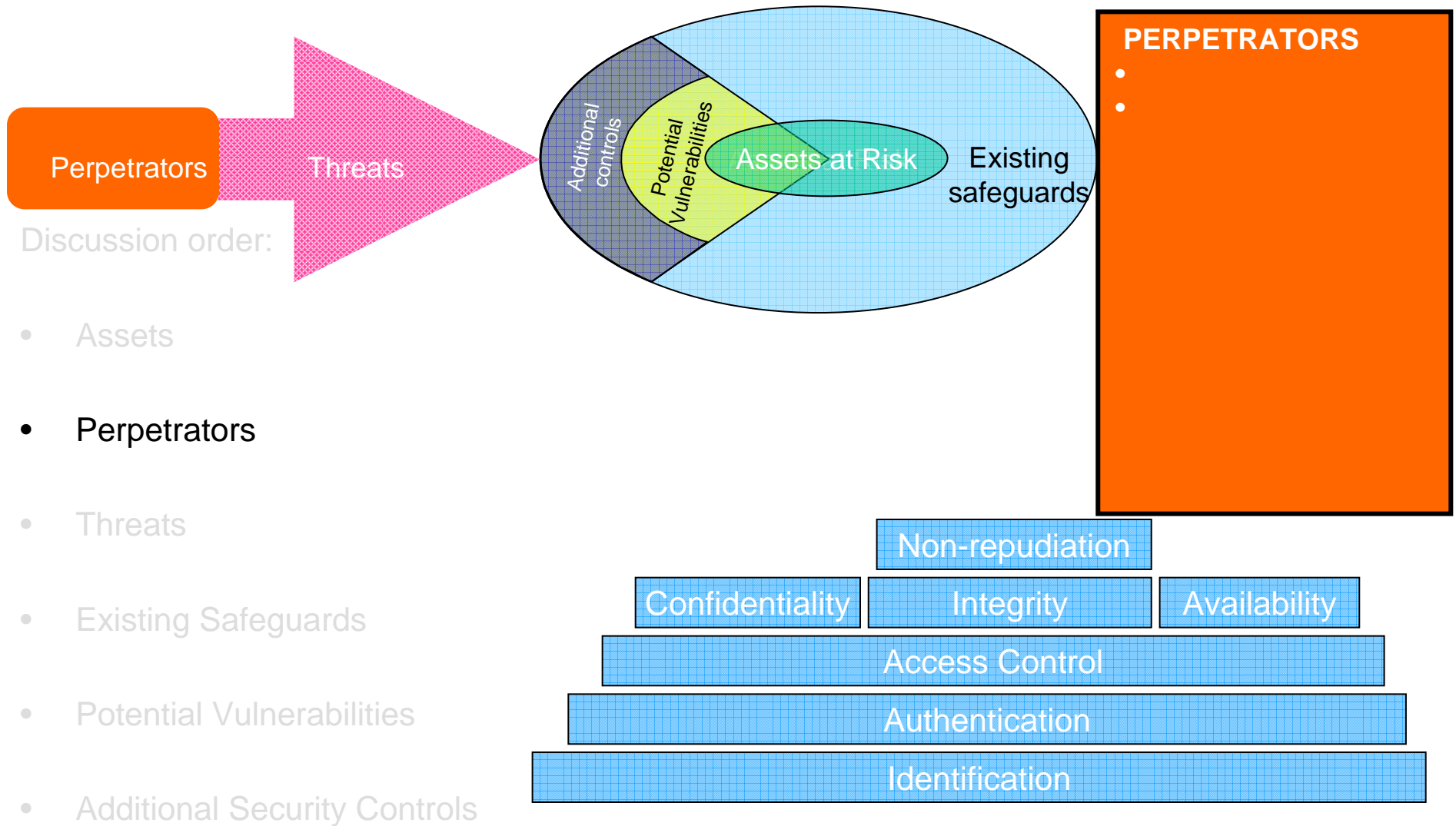


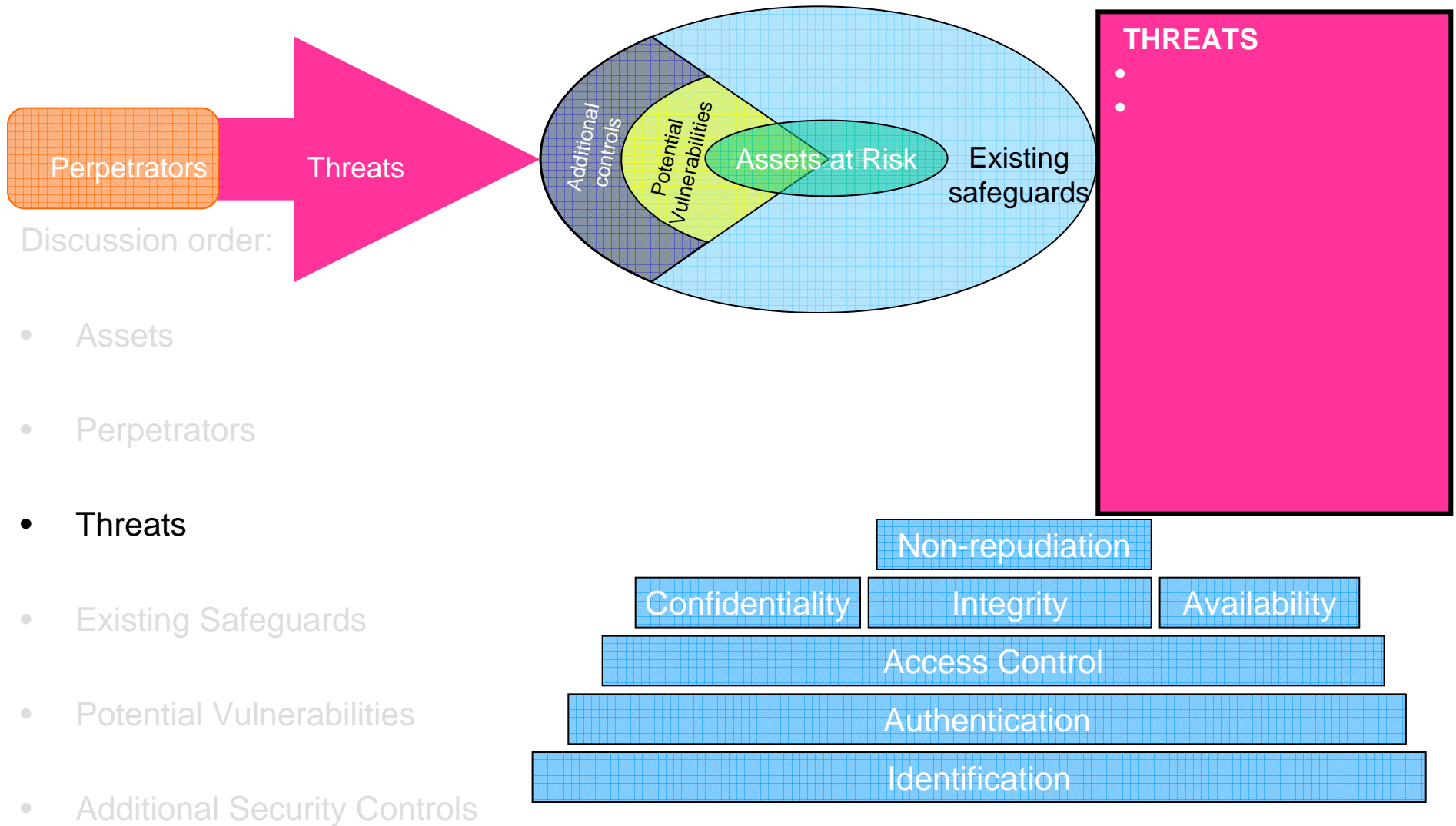


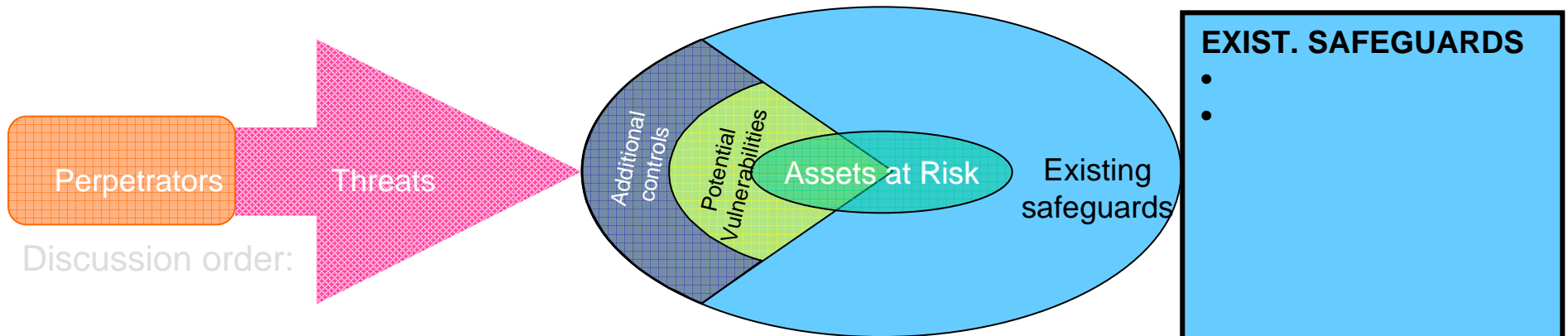
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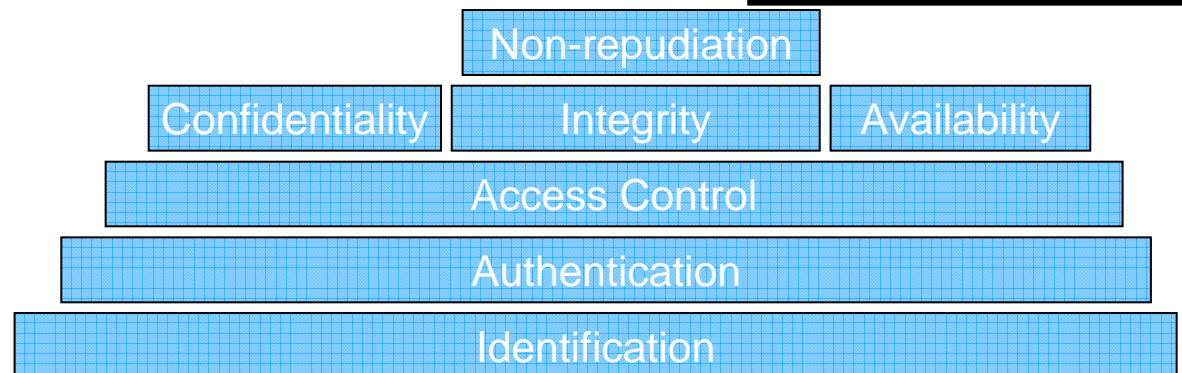


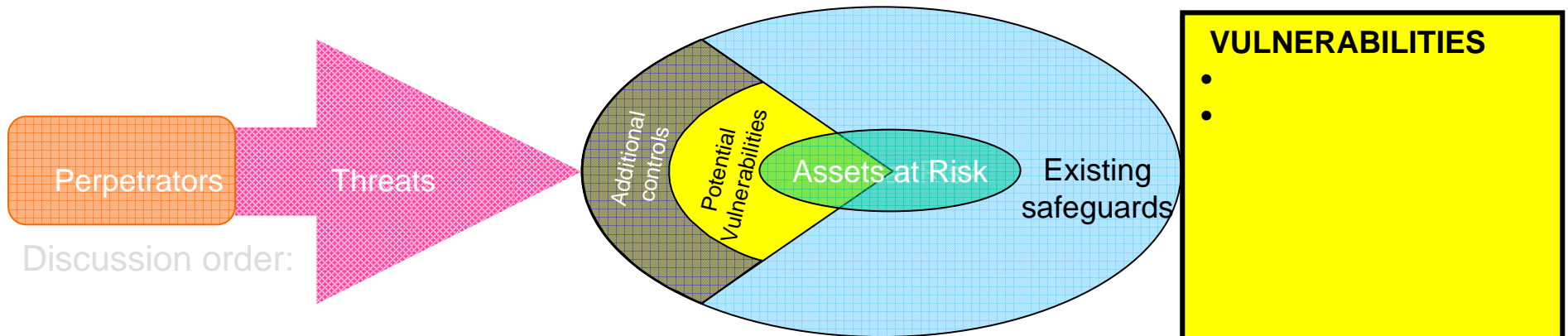




Discussion order:

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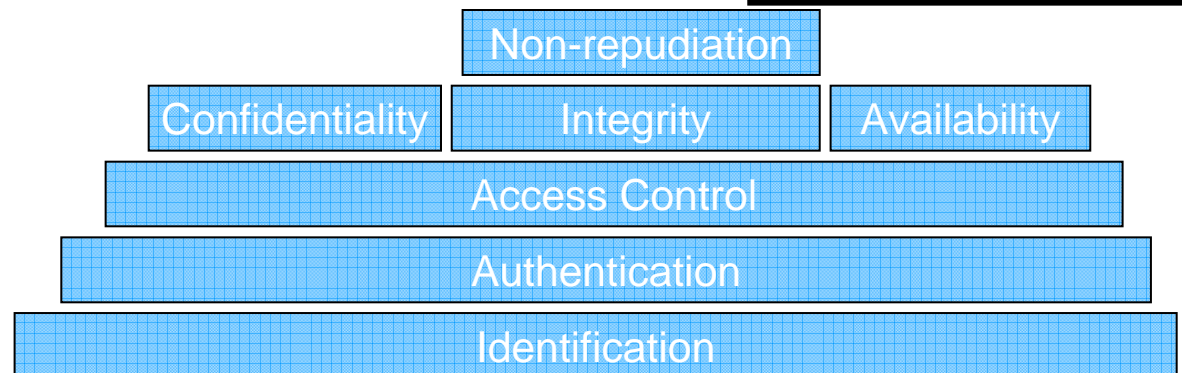


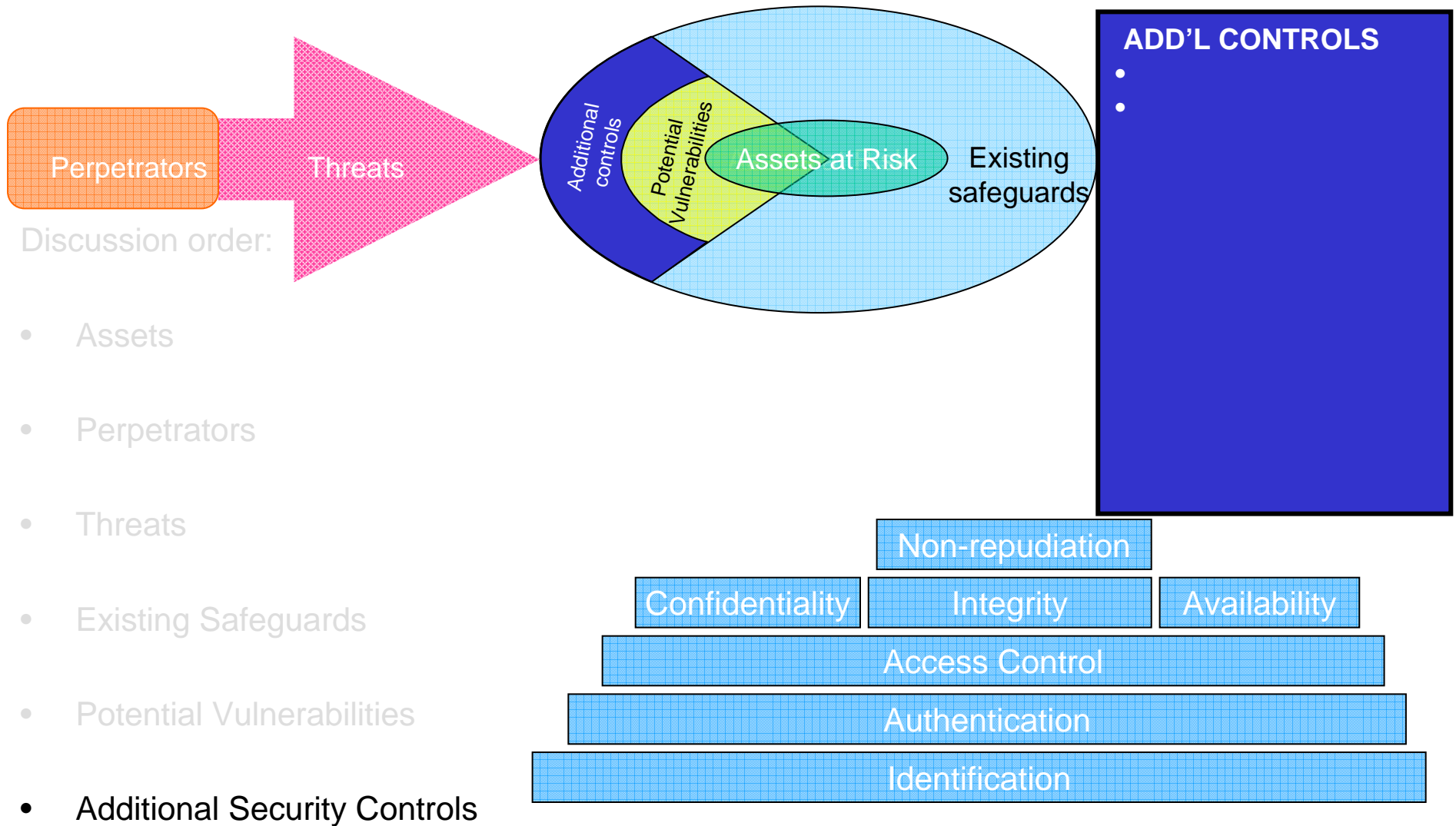
Discussion order:

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## VULNERABILITIES

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## ASSETS

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## PERPETRATORS

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## THREATS

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## EXIST. SAFEGUARDS

- 
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## VULNERABILITIES

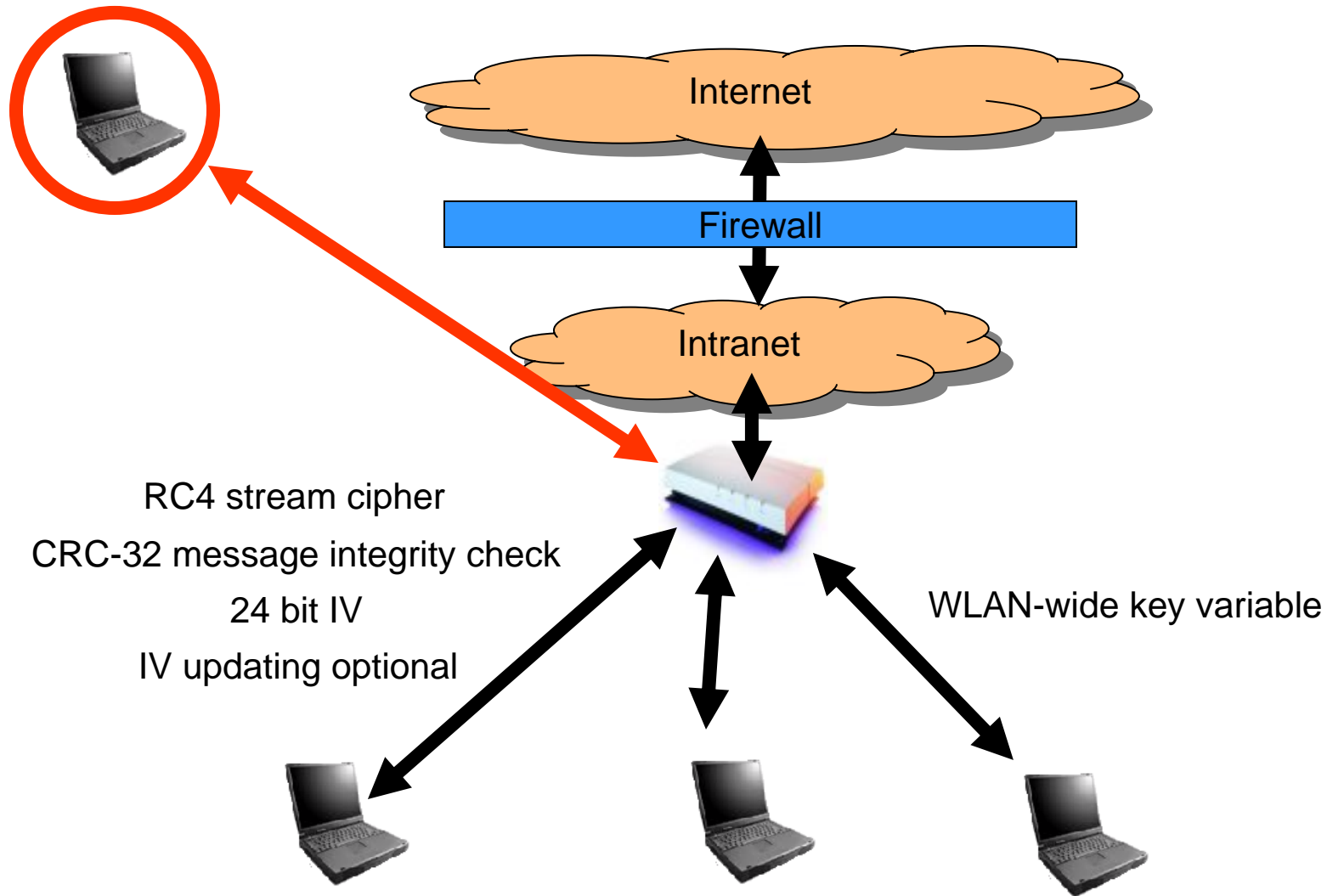
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## ADD'L CONTROLS

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# Case 6 – Wireless LANs 802.11a, b, g



# Wireless Security Paper Assignment

- Research “wireless security” (or related subjects – e.g., privacy, etc., just as long as the topic includes aspects related to wireless systems and security issues as we have discussed in the course)
- Use whatever resources are available to you: the Internet, your local technical library, technical journals, etc.
- Pick a reference that interests you and search for related materials or links
- Write a 3-5 page report on the material you have found. Report should include:
  - Citation of source
  - Summary of fundamental ideas presented
  - Issues addressed and how they may have been addressed in the past
  - Discussion of 1 or 2 core ideas presented
  - Potential applications of technology presented (or) potential issues created
  - Future directions suggested or ones that you might infer from the topic