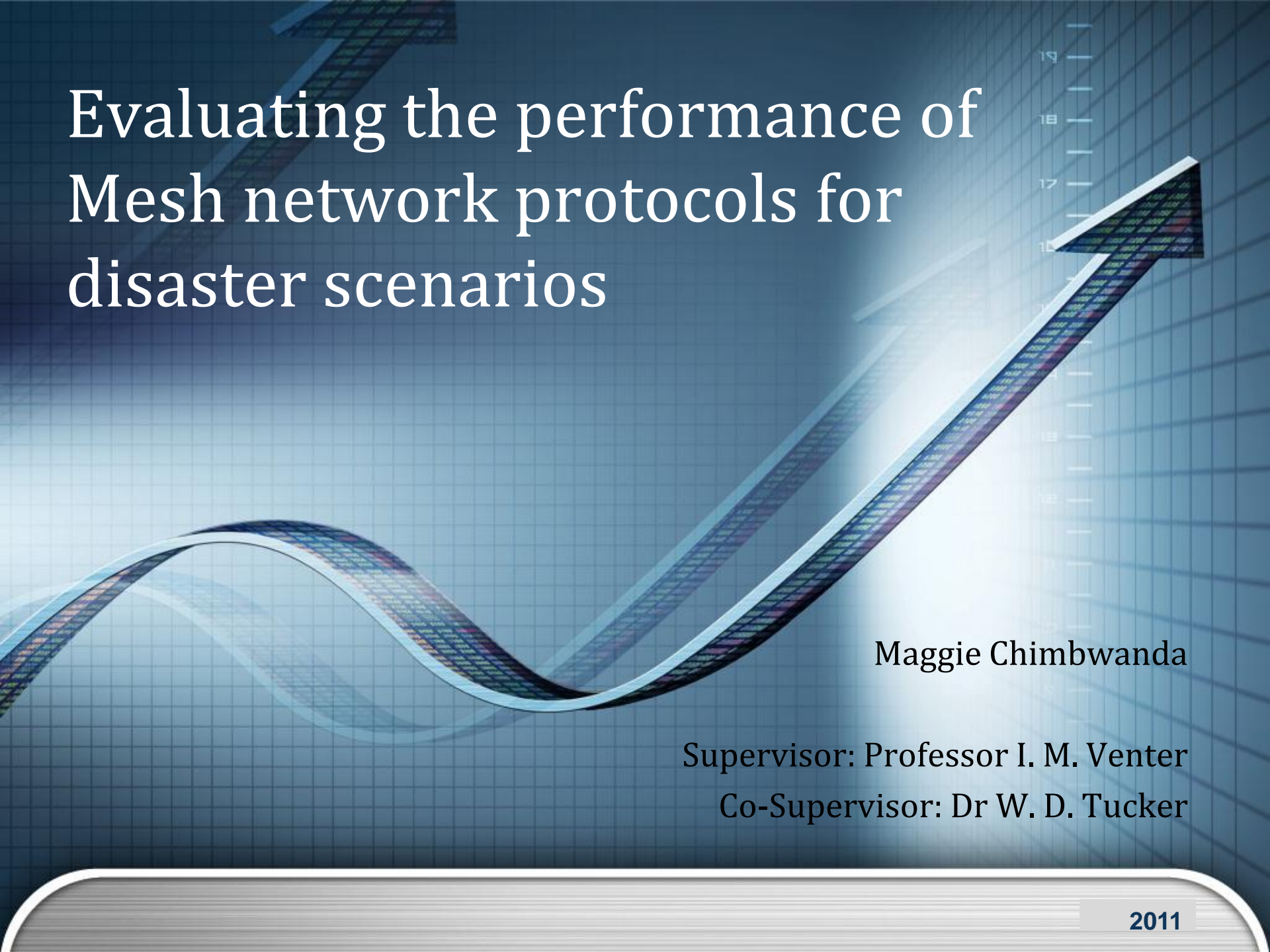


Evaluating the performance of Mesh network protocols for disaster scenarios




Maggie Chimbwanda

Supervisor: Professor I. M. Venter

Co-Supervisor: Dr W. D. Tucker

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-  Mesh network introduction
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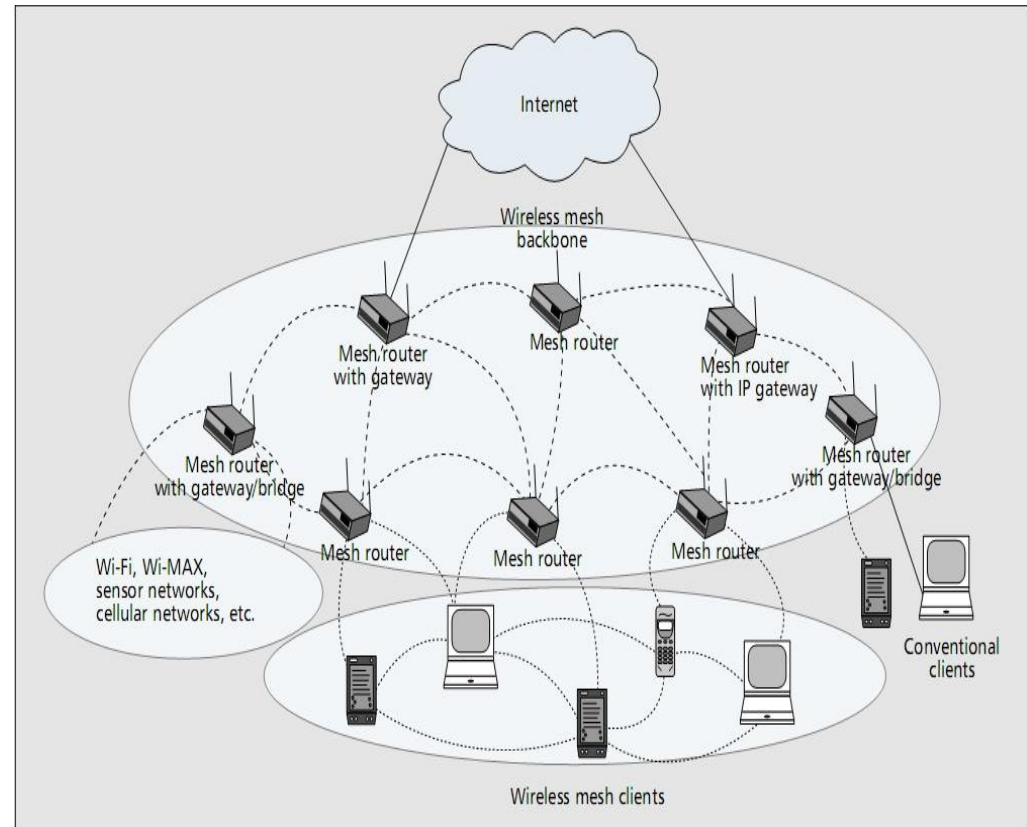
Wireless Mesh Networks

Introduction

❑ **Definition** - A group of self-organized and self-configured mesh clients and routers interconnected via wireless links.

❑ **Applications:**

- Digital home
- Community and neighborhood networking
- Enterprise networking
- **Emergency and disaster networking**



User Requirements

- ❑ Users want:
 - To communicate through voice.
 - To communicate through video.
 - To send and/or receive information about rescue missions.
 - To have access to web browsing.

- ❑ Data gathering:
 - Literature

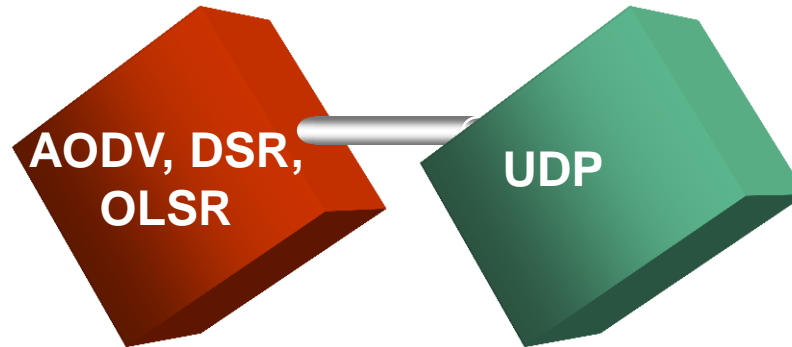
Requirements Analysis

User Requirement	Application required	Protocol used
Video	Video calls/conferencing	User Datagram Protocol
Voice	Voice over IP	User Datagram Protocol

Project Aim

- ❑ Evaluate the routing protocols AODV, DSR, OLSR, using UDP, HTTP, and FTP.
- ❑ Test which is the best routing protocol for these applications under the performance metrics throughput, delay, and net load.

Why consider these specific protocols?



AODV, DSR and OLSR are the main routing protocols found in Mesh networks.

UDP used for real-time video conferencing i.e. streaming video frames.

Timeline

	Term 1	Term 2	Term 3	Term 4
Project Analysis	URD, RAD			
Project Design and Development		UIS, Prototype, OOA/HLD, OOD/LLD		
Project Implementation			Implementation and Refinement	
Project Testing, Evaluation and Presentation				Testing and Evaluation Criteria Document, User's Guide, Demo, Final Write-up

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A brief description of the protocols

AODV (Ad hoc On Demand Vector) generates route request messages to other nodes to create a route.

DSR (Dynamic Source Routing) dynamically discovers a source route across multiple hops to any destination.

OLSR (Optimized Link State Routing) updates and maintains information in tables.

UDP (User Datagram Protocol) A protocol often used in videoconferencing applications specially tuned for real-time performance.

HTTP (Hypertext Transfer Protocol) communicates between web browsers and web servers.

FTP (File Transfer Protocol) enables file transfer between a client and a server.