Solving Network Performance Problems with Wireshark

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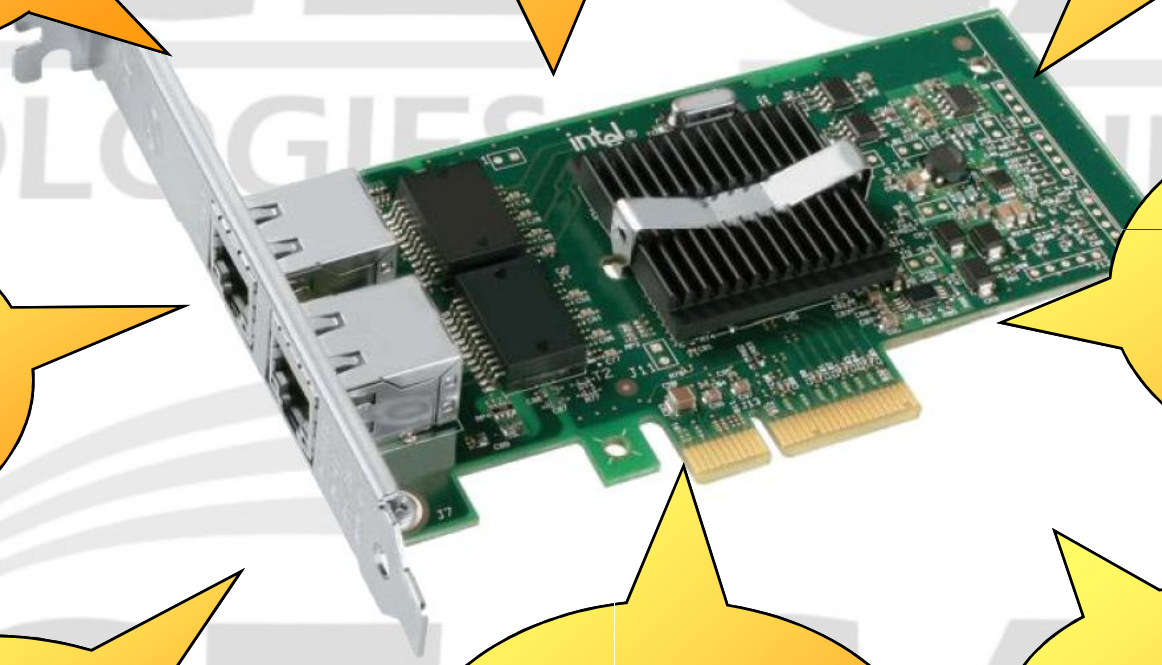
SHARKFEST **'08**
Foothill College
March 31 - April 2, 2008

TurboCap

Full Speed

Traffic TAP

1 Gb



2 Copper ports

Capture and Injection

Wireshark

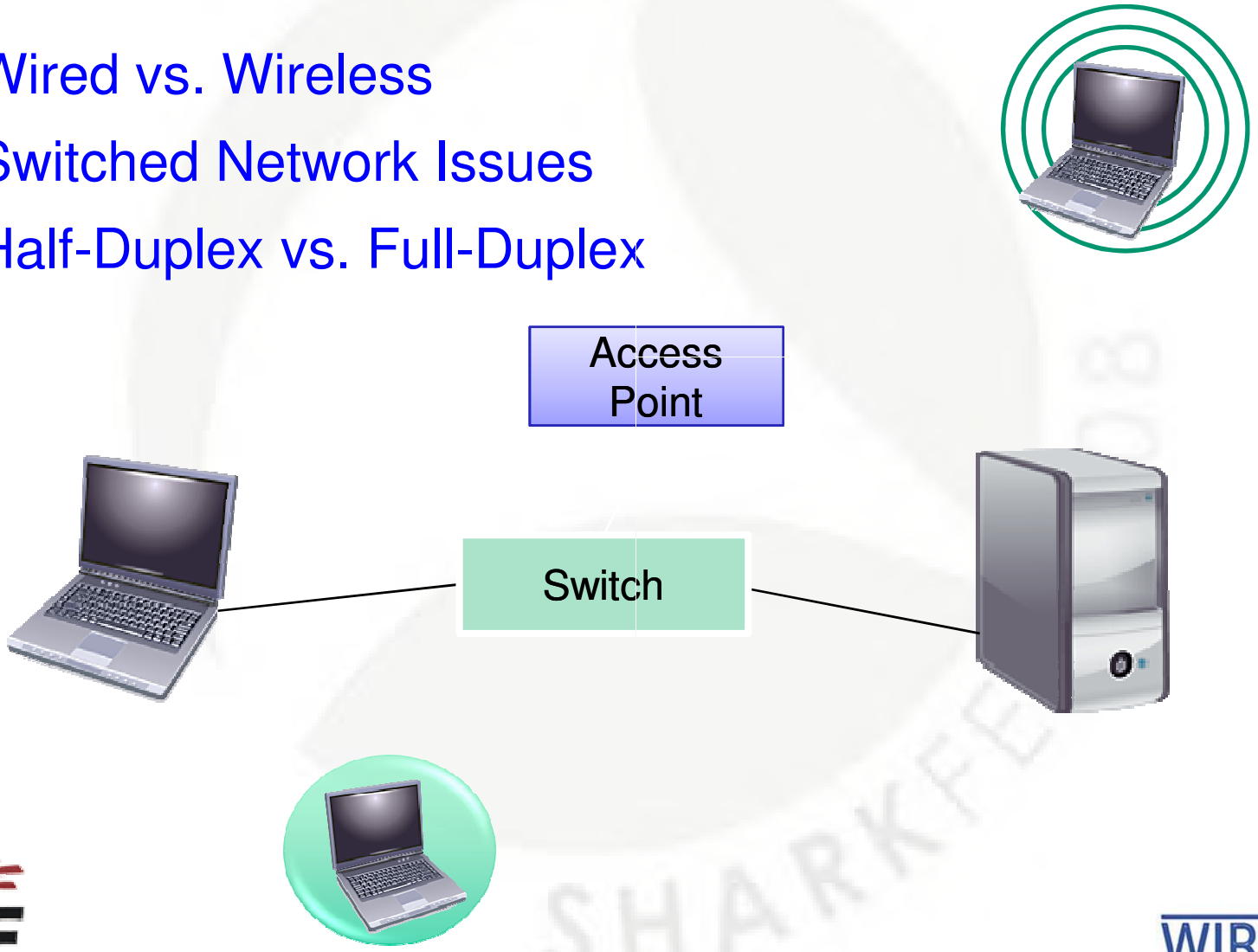
Aggregation

WinPcap

Capturing Traffic: Analyzer Placement

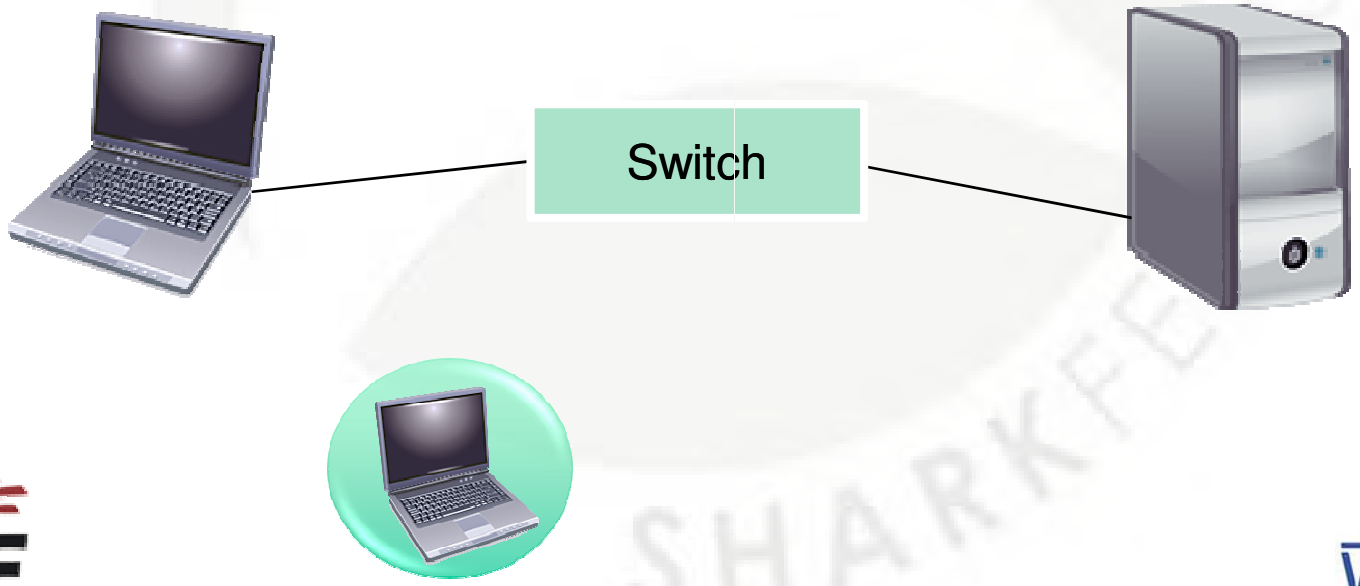
Considerations:

- Wired vs. Wireless
- Switched Network Issues
- Half-Duplex vs. Full-Duplex



Half-Duplex – Hubbing Out

Hub issues – is it really a hub?



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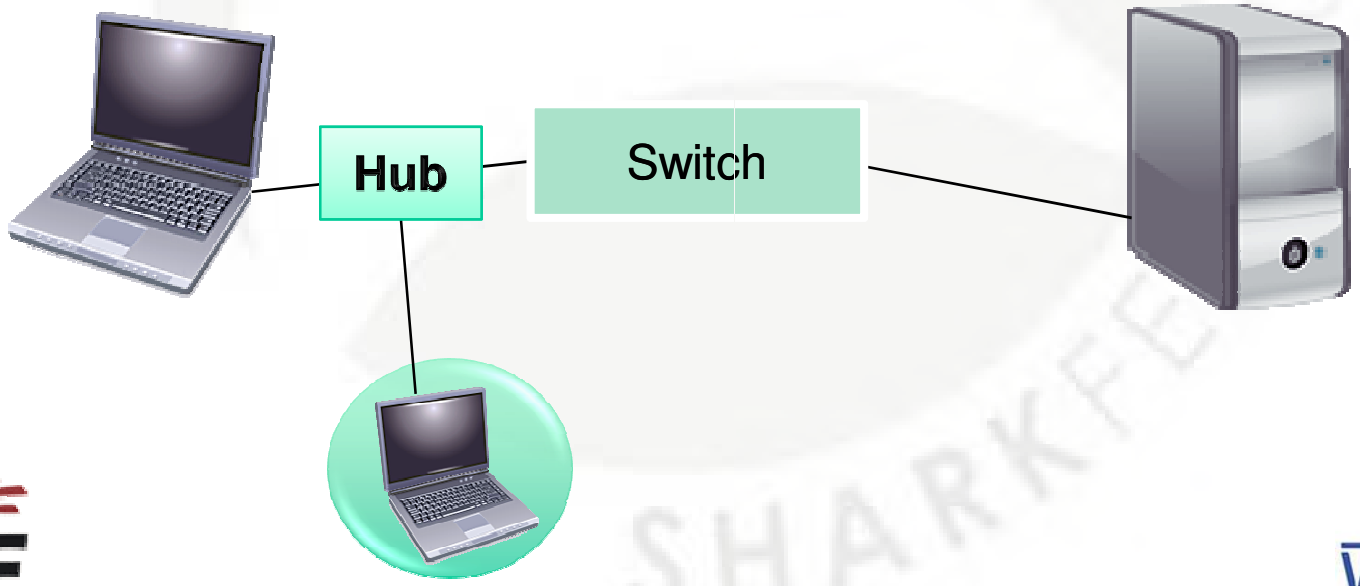
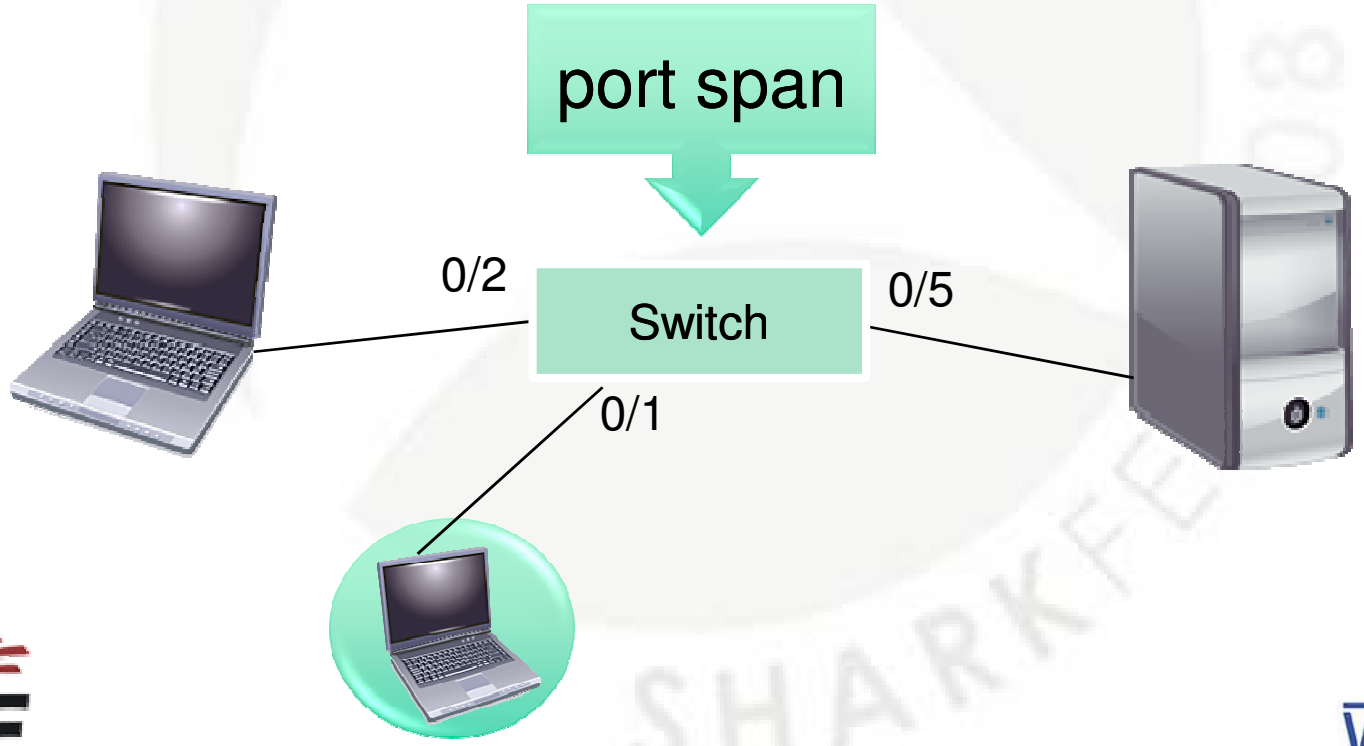


Port Spanning

```
Switch(config)#interface fastethernet 0/1
Switch(config-if)#port monitor fastethernet 0/2
Switch(config-if)#port monitor fastethernet 0/5
```



Full-Duplex Tap Options

Copper or Fiber

Aggregating or Non-Aggregating

Passive (no power) or Active

Regenerating Taps

Advanced Taps (packet insertion, filtering)

Wireless Traffic Capture

801.11 ABGN
External antennas
Channel scanning (monitor mode)
Multi-channel capture
Aggregating traffic
Transmit capability

Access Point

Switch

CACE TECHNOLOGIES

www.wiresharkU.com
WIRESHARK UNIVERSITY

Overview of the Onsite Process

The “Primary Directive”

The trace file log (www.wiresharkU.com)

Network diagrams in advance

Trace files in advance (if possible)

Local staff level of knowledge

Tap-in point availablity

Bullet list of issues seen during analysis

Recommendations

Report – graphs, notes

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Analyzing Network Performance Issues

Key Issues:

- High Latency (Client, Server, Link)
- Packet Loss (Upstream, Downstream)
- Congestion (Network, Receiver)
- Configuration Problems (Service Unavailable, Loops)
- Redirections (Routing, Service)
- Interdependencies (Third Parties)
- Low throughput (Itty-Bitty Stinkin' Packets)
- Negotiation Faults (Protocol or Application Layer)

Reports

Overview of traffic

Protocol distribution

Conversations

ICMP traffic

… etc.

All with notes included.

What's Next?

Laura's Lab Kit v9

In show bags as well as…

ISO image: www.novell.com/connectionmagazine/laurachappell.html

Wireshark University: www.wiresharkU.com

Laura's Blog: laurachappell.blogspot.com/

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