

Troubleshooting

- Cluster networks typically robust
- Most network problems due to improper software configuration or data corruption
- To diagnose problem
 - Start at application (incorrect hostname or port)
 - then kernel (configuration or driver problems)
 - and logical network (improper firewall or routing rules)
 - then hardware (bad cables, NICs, switch ports)

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Rsh/ssh to remote machine fails

- Likely improper software configuration
 - Check config files
 - If OK, use ping/telnet to check if machine is visible and one can make connection
 - Ping in both directions
 - If OK, telnet to appropriate port, 514 for rshd, 22 for sshd
 - If fails one gets "Connection refused"
 - If OK, likely a configuration file problem

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Tools

- Ping
 - Uses ICMP to request echo packet
 - Check if host is alive
- Netstat
 - Check state of network connection, ports open, machines connected, connection state, etc.
- Iperf
 - Network performance testing suite
 - Has comprehensive protocol support (multicast, IPv6, etc)
- Nmap
 - Probe network accessibility of hosts, ports open, etc
- Telnet
 - Can be used to make connection to any port on a remote machine
 - Useful for checking connectivity on the port
- User Application

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Ping does not work

- Either
 1. Machines not configured properly
 2. Name resolution not working
 3. Firewall incorrectly configured
 4. Hardware problems
- To check 1 try pinging external machine
- If both can ping, try ping with IP address not name
 - If works then name resolution problem
 - Check configuration files
- If ping IP address does not work probably a router or firewall issue

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Other Problems

- User application appears slowed by network
 - Use `iperf` (or `netpipe`) to check performance
- Nothing works
 - Go through above process!!