



WELCOME





RAIN TECHNOLOGY

Presented By:

www.seminarlab.com





TOPICS

- **RAIN TECHNOLOGY**

1. Origin

2. Architecture

3. Features

4. Communication

- **ADVANTAGES**

- **APPLICATIONS**

- **FUTURE SCOPE**



BACK GROUD

- Trends in the current growth of the internet
 - a. Internet clients are becoming more numerous and varied .
 - b. To support these new clients, new types of networks are being designed and implemented.
 - c. The content delivered over the internet is evolving, partly because of the emergence of the new clients and networks.
 - d. New internet applications emerge, both on the server side and the client side.

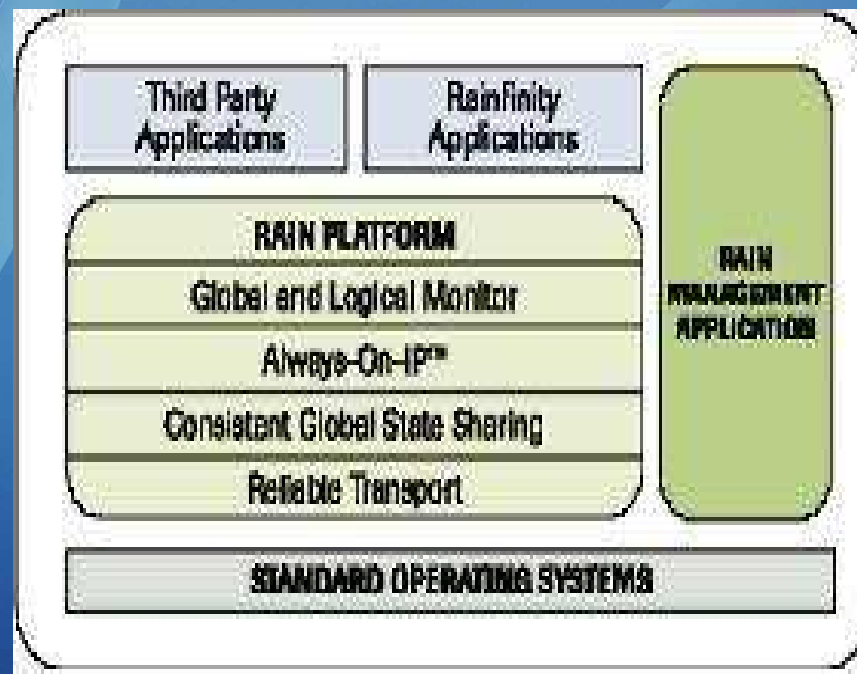


ORIGIN

- Rain Technology developed by the California Institute of technology ,in collaboration with NASA's Jet Propulsion laboratory and the DARPA.
- The name of the original research project was RAIN, which stands for Reliable Array of Independent Nodes.
- The RAIN research team in 1998formed a company called Rainfinity.



Architecture



FEATURES OF RAIN

- It includes scalability and high availability.
- Many novel features in an attempt to deal with faults in nodes, network, and data storage.
- ✓ Bundled interfaces
- ✓ Link monitoring
- ✓ Fault tolerant interconnect
- Group members
- Data storage

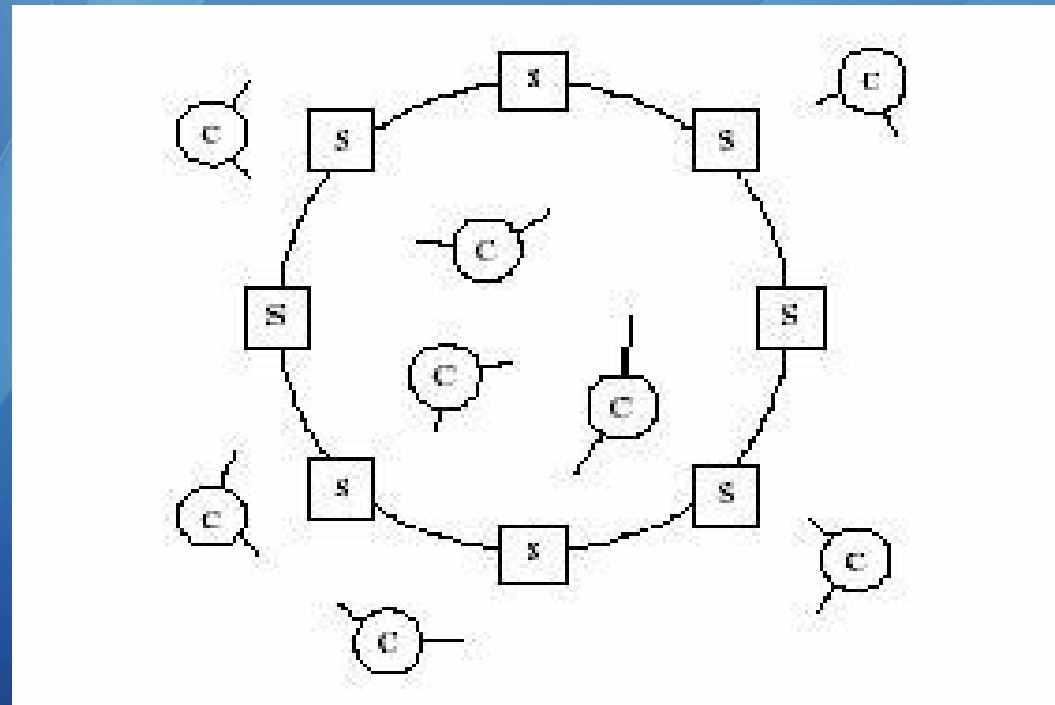


COMMUNICATION

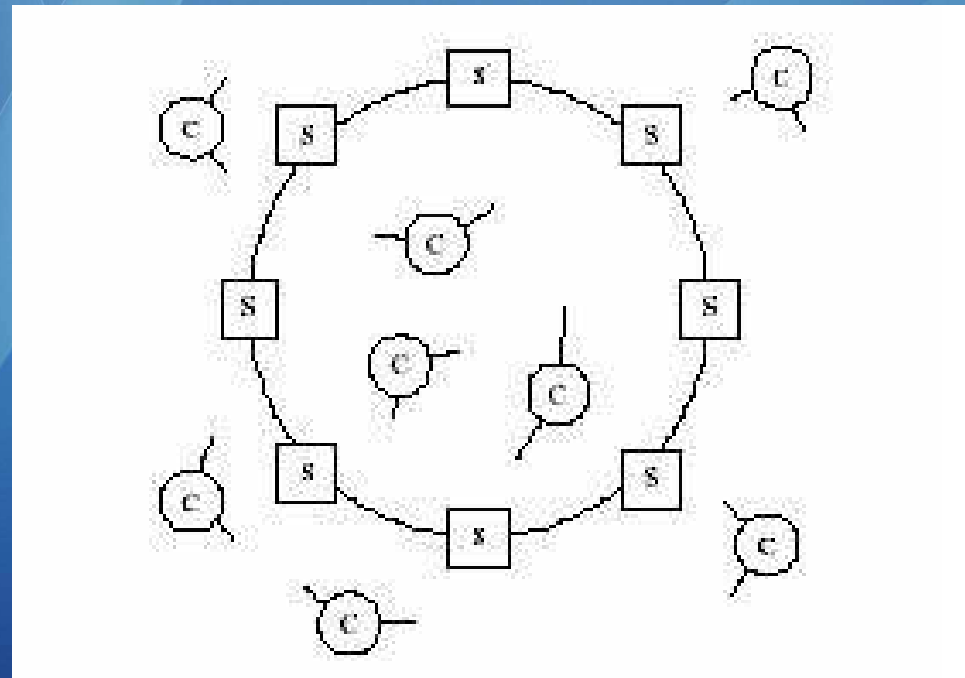
- Fault-tolerant Interconnect Topologies.
 - The problem
 - A Naïve Approach
- Consistent –History protocol for linking failures
 - Precise problem definitions
 - The protocol



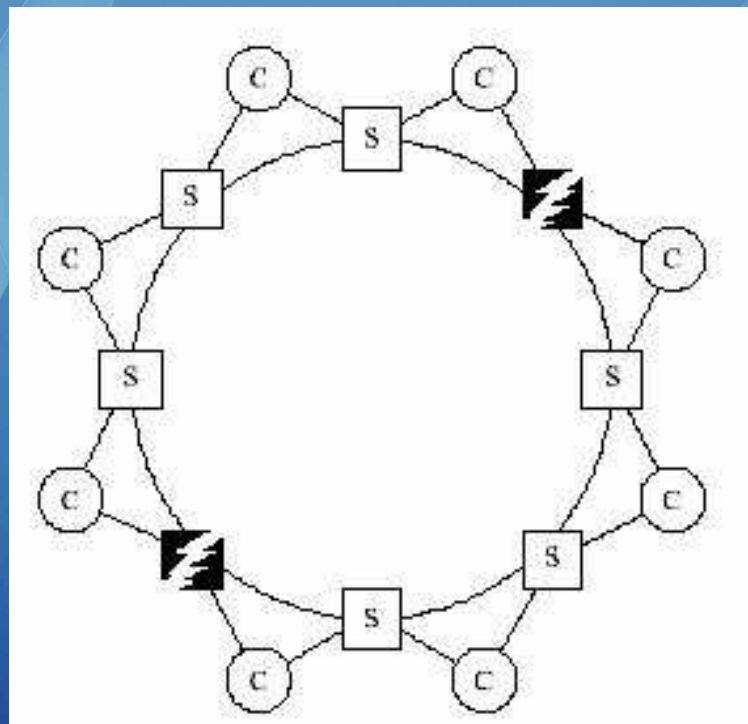
The Problem



A Naive Approach



If two Switches fail

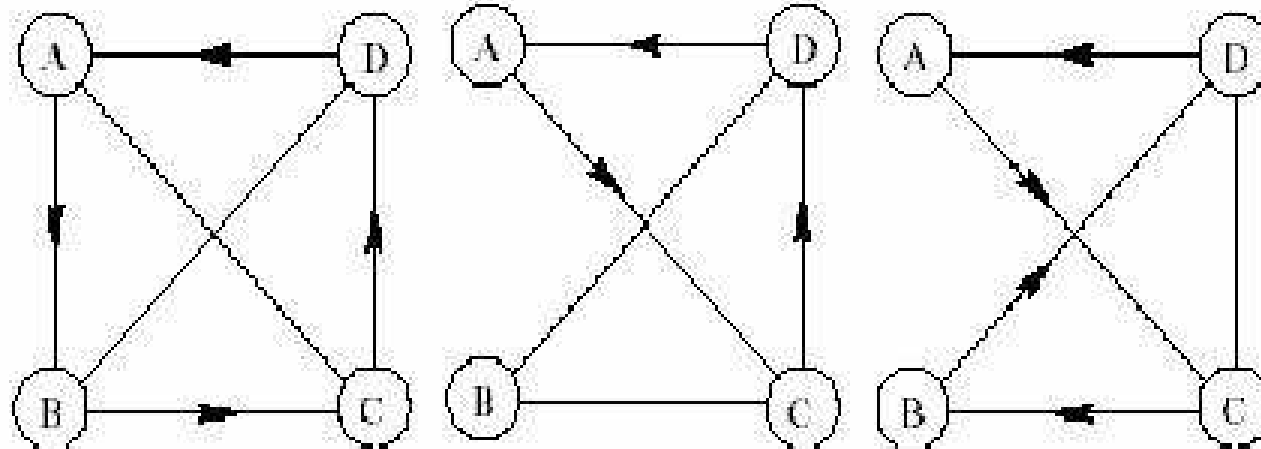


GROUP MEMBRERS

- ❑ Noval Features.
- ❑ Token Mechanism.
 - Aggressive Failure Detection
 - Conservation Failure Detection
- ❑ 911 messages
 - Token regeneration



Token Mechanism



ADVANTAGES

- RAIN Technology is the most scalable software cluster technology for the Internet marketplace today.
- There is no limit on the size of a RAIN cluster.
- All nodes are active and can participate in load balancing.
- This software only technology is open and highly portable.

(a) Application of the correlation operator with the background image, using a matrix of appropriated size. The best results are obtained with a matrix size of 5X5, using three color bands and averaging later on .

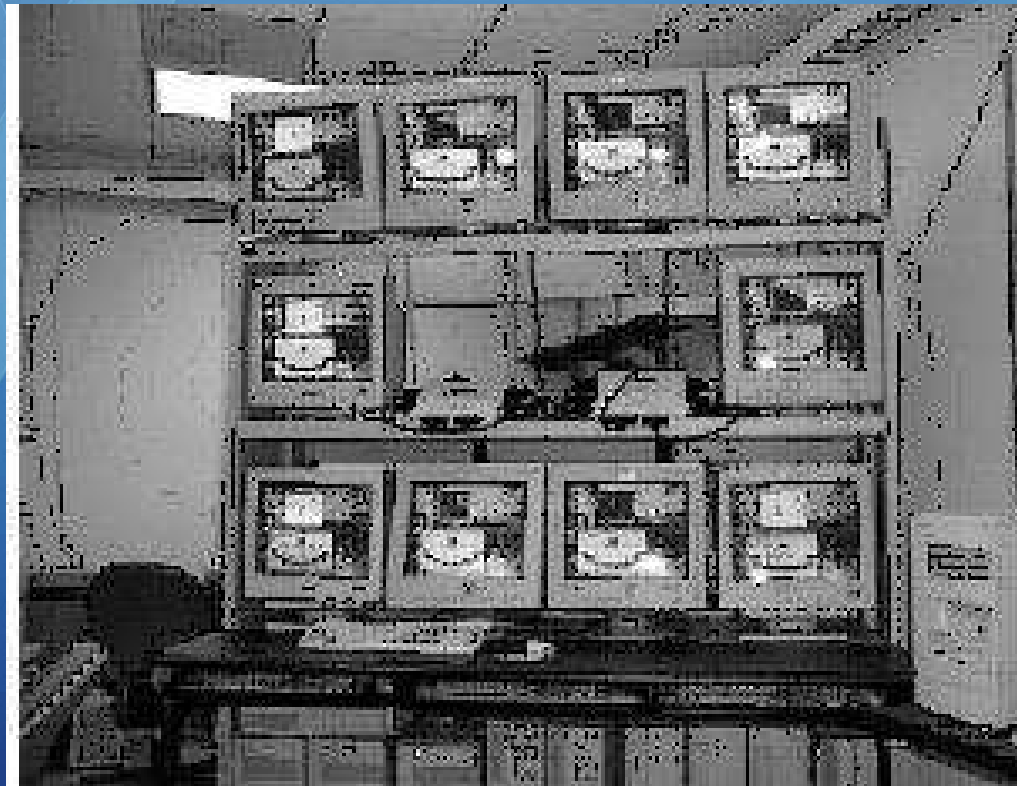


APPLICATIONS

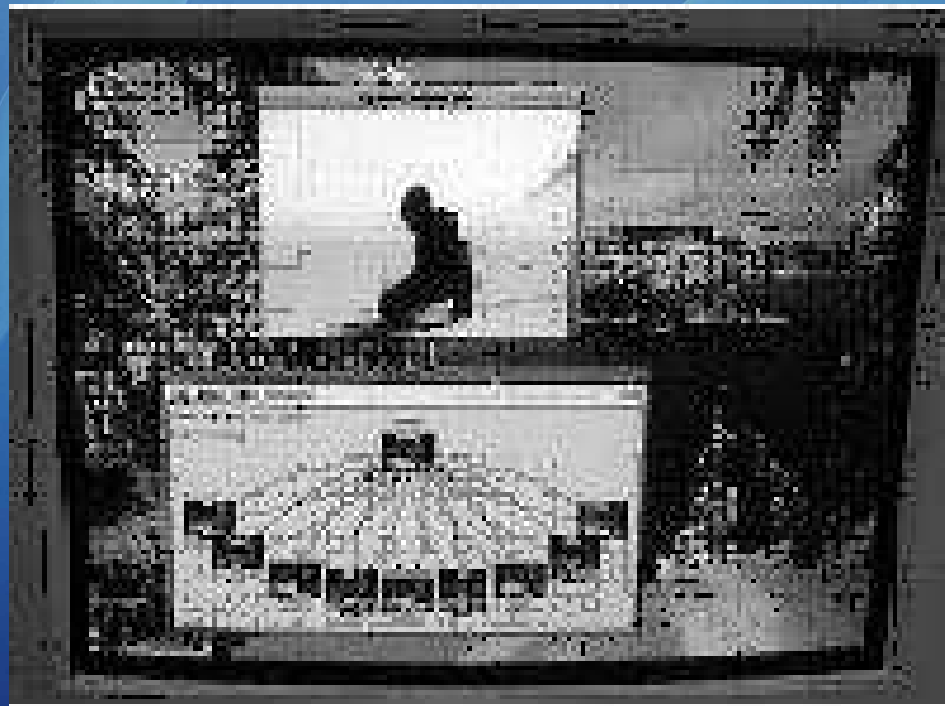
- High availability Video Server
- High availability Web Server
- Distributed check pointing Mechanism



High availability of Video Server



High availability of Web Server



CONCLUSION

- Unlimited scalability
- High performance
- Built in reliability
- Simple deployment



FUTURE SCOPE

- Development of API's for using the various building blocks.
- The Group Communication Protocols are being extended to address more challenging scenarios.
- The implementation of a real distributed file system using the partitioning scheme developed here.





...**THANK YOU**...

By
www.seminarlab.com

