

# **StoreAge** networking technologies

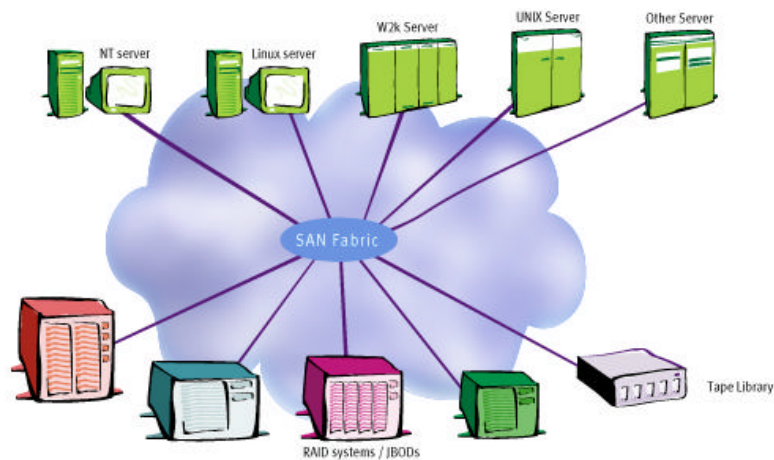
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Director, Product Management

# Switch-based Storage Services

## Today's Storage Challenges

- Increased storage utilization
- Match user and application needs
- Grow storage capacity without increasing administration labor
- Improved application performance
- Increased data availability, zero window backup, DR, migration
- Cross Platform Copy Services

# The Current Answer



+ Virtualization

**SAN**

## How It Works

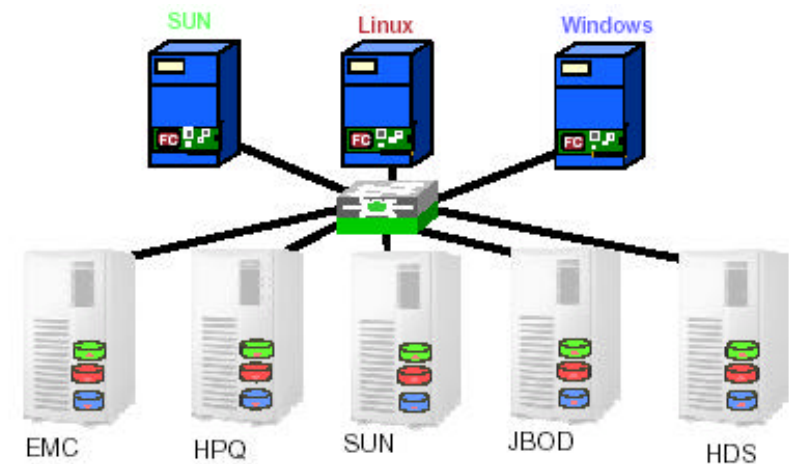
**Virtualization is the technology which separates the logical representation of storage from the actual physical storage components.**

## Different Implementations

- Host based
- Storage based
- Network based

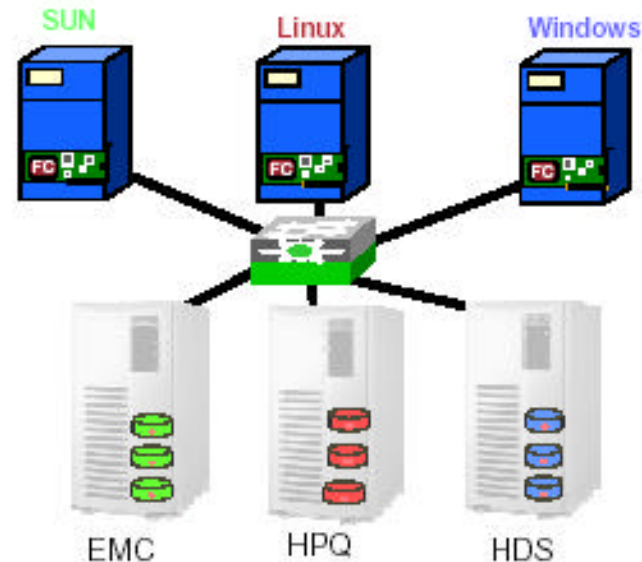
## Host Based

- Capabilities
  - Agnostic to storage array
  - Multipathing
  - Highly scalable
- Disadvantages
  - LUN allocation –  
low flexibility, non-efficient  
usage of capacity
  - Distributed management
  - Uses host CPU



# Storage Based

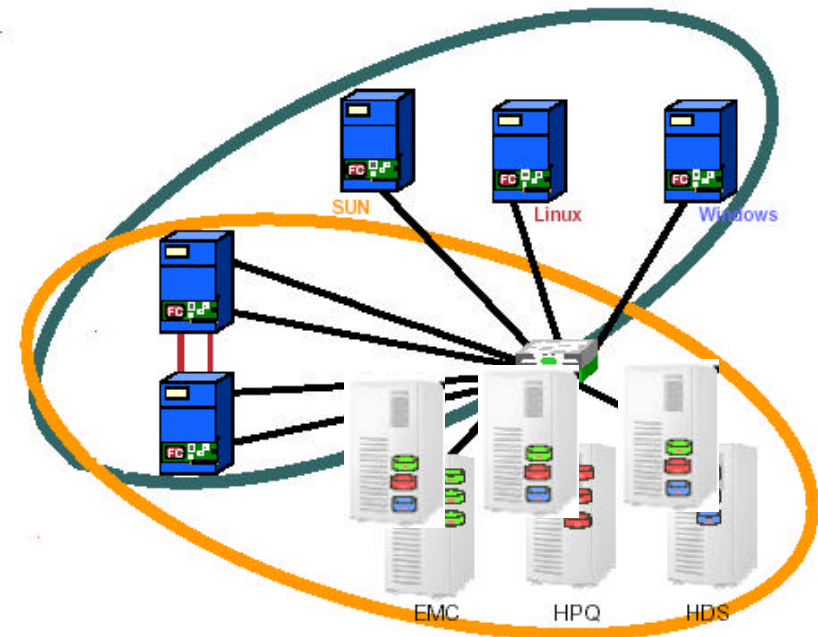
- Capabilities
  - Server agnostic
  - Central management
- Disadvantages
  - Vendor (product) lock-in
  - Scalability out of array





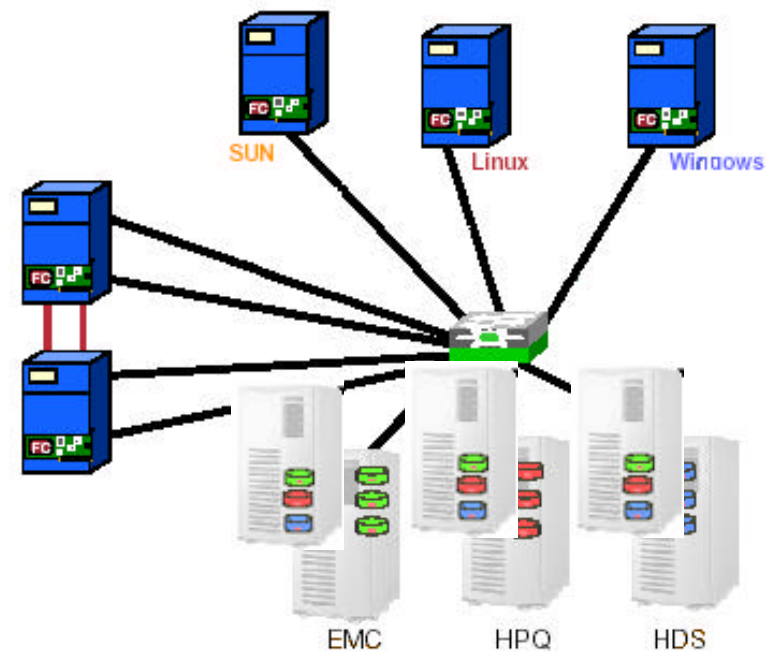
## Network Based

- In-the-data path
  - Advantages
    - Central management
    - Highly secured
    - Cross storage platform
  - Disadvantages
    - Limited resources on appliance – CPU/Memory/HBAs
    - Scalability



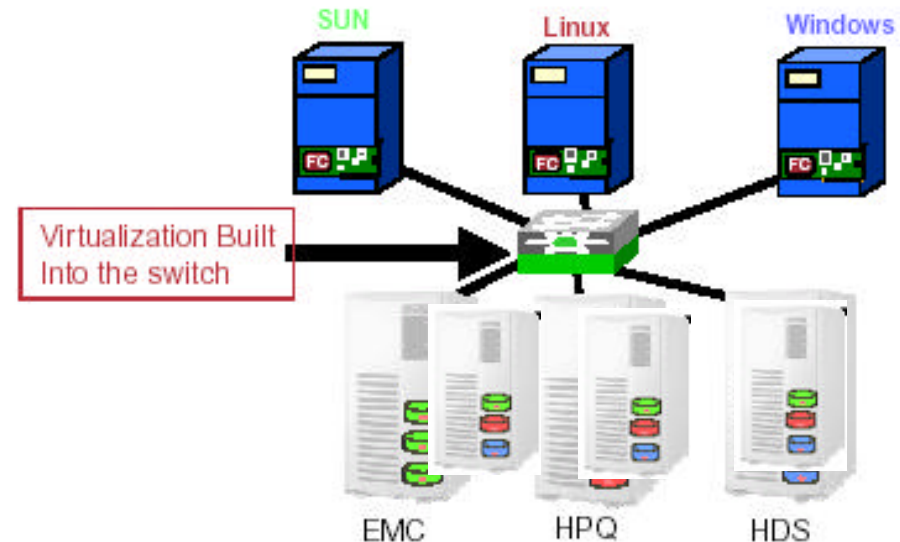
## Network Based

- Out-of-the-data path
  - Advantages
    - Central management
    - Cross storage platform
    - Highly scalable
  - Disadvantages
    - Management of host agents
    - Manual security management



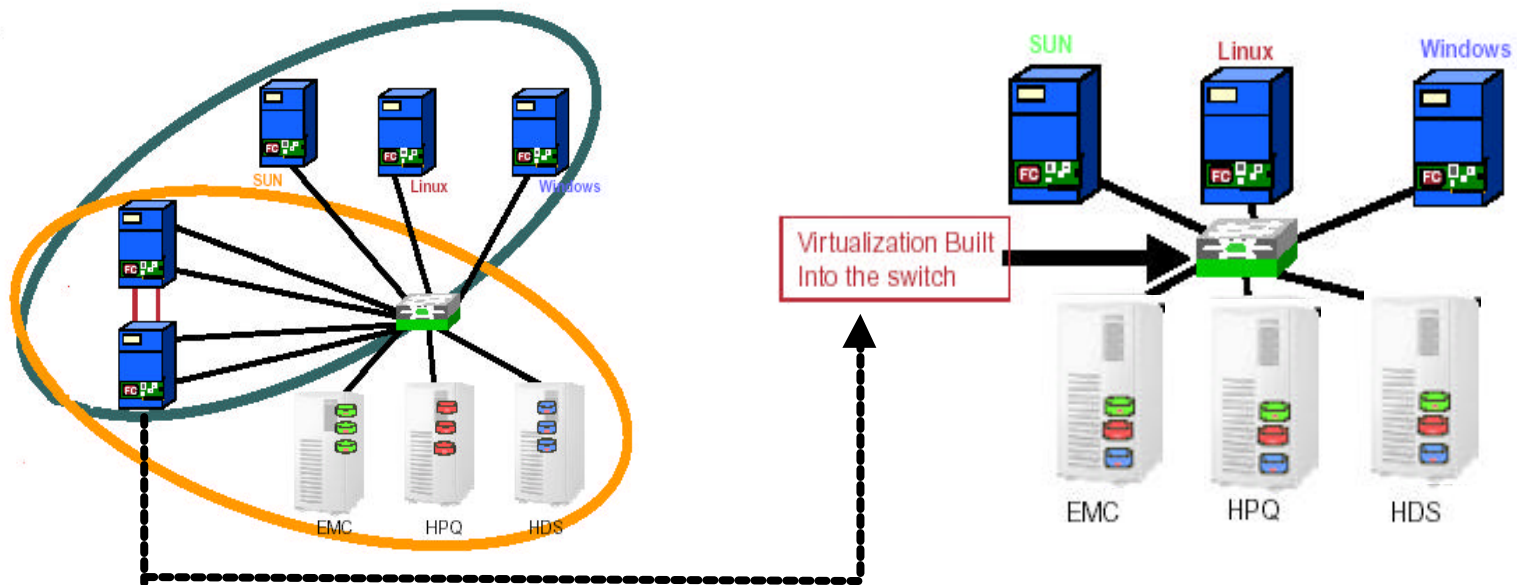
## Next-Generation Network Based Virtualization

- All **Virtualization** traditional challenges
- Highly secured
- Wire speed throughput
- Central management
- Highly scalable

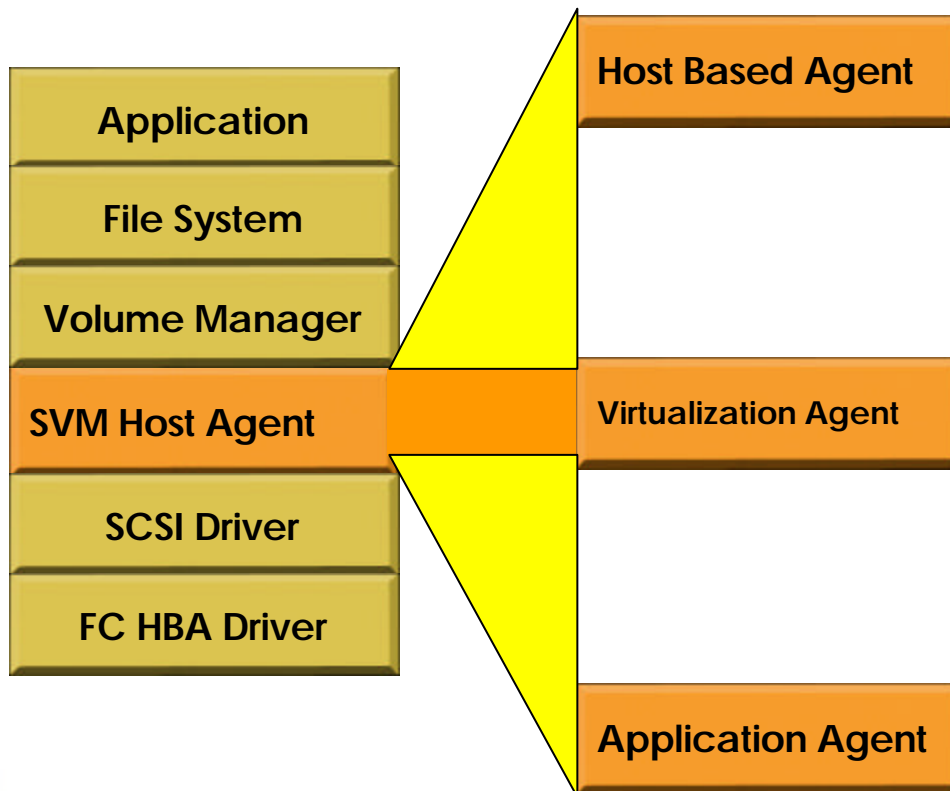


## Mid-term Solutions

- Centralized Switch based virtualization
  - Scalability?
  - Wire throughput?



# Modular Agent Capability



## Path Management

Multi-pathing  
Failover  
Load balancing  
Security

## Volume Management

Creation      multiView  
Striping      multiCopy  
Allocation      multiMirror  
Provisioning

## Host Application Integration

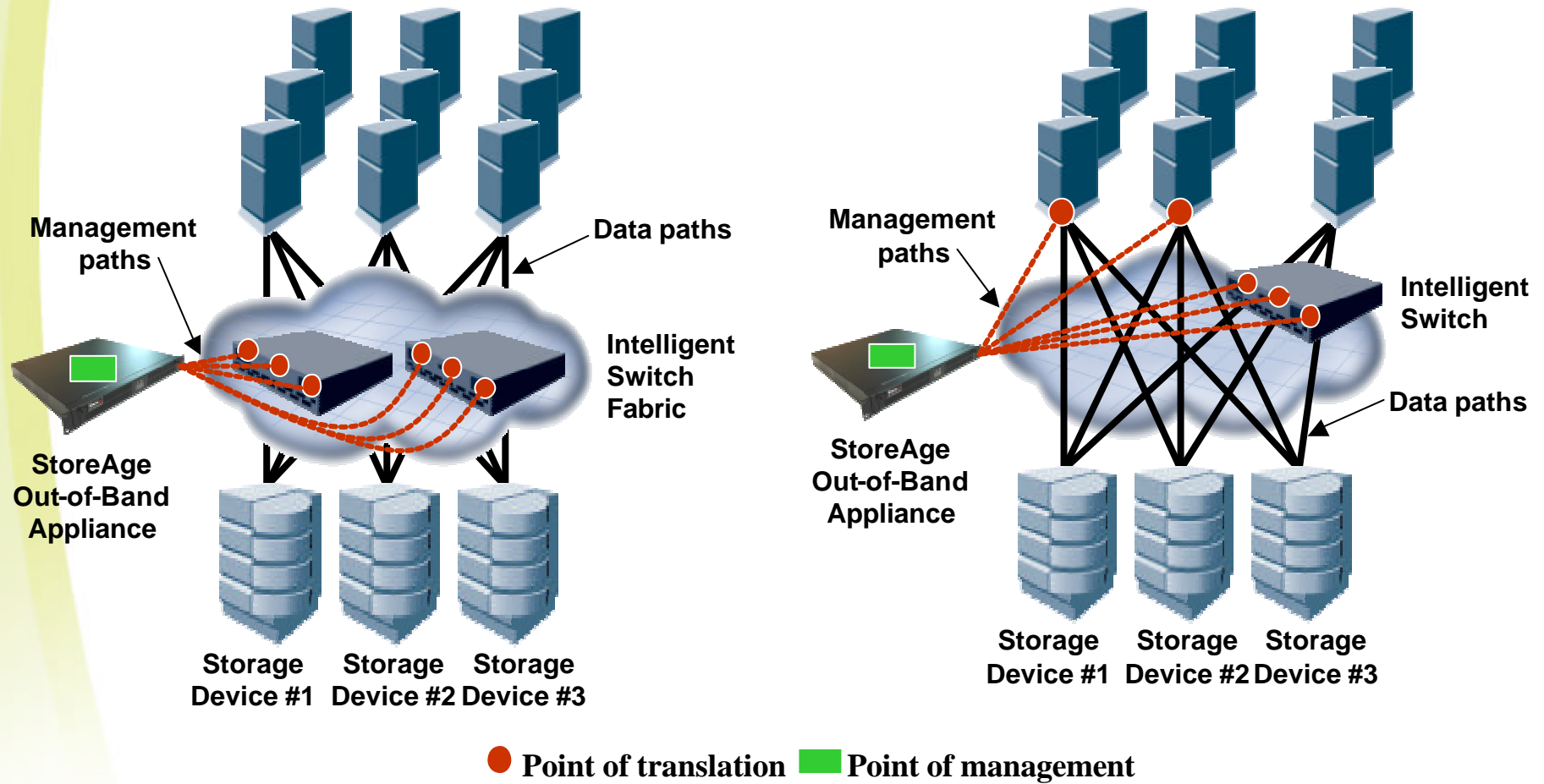
Quiesce  
File system  
Scripts (CLI & API)

## StoreAge Solution

- Central storage management deployment
- Distributed virtualization fits switch implementation
  - Allows “point of translation” to be anywhere
  - Allows wire speed translation
  - Common metadata server synchronizes activity
- Provide storage management to IP networks

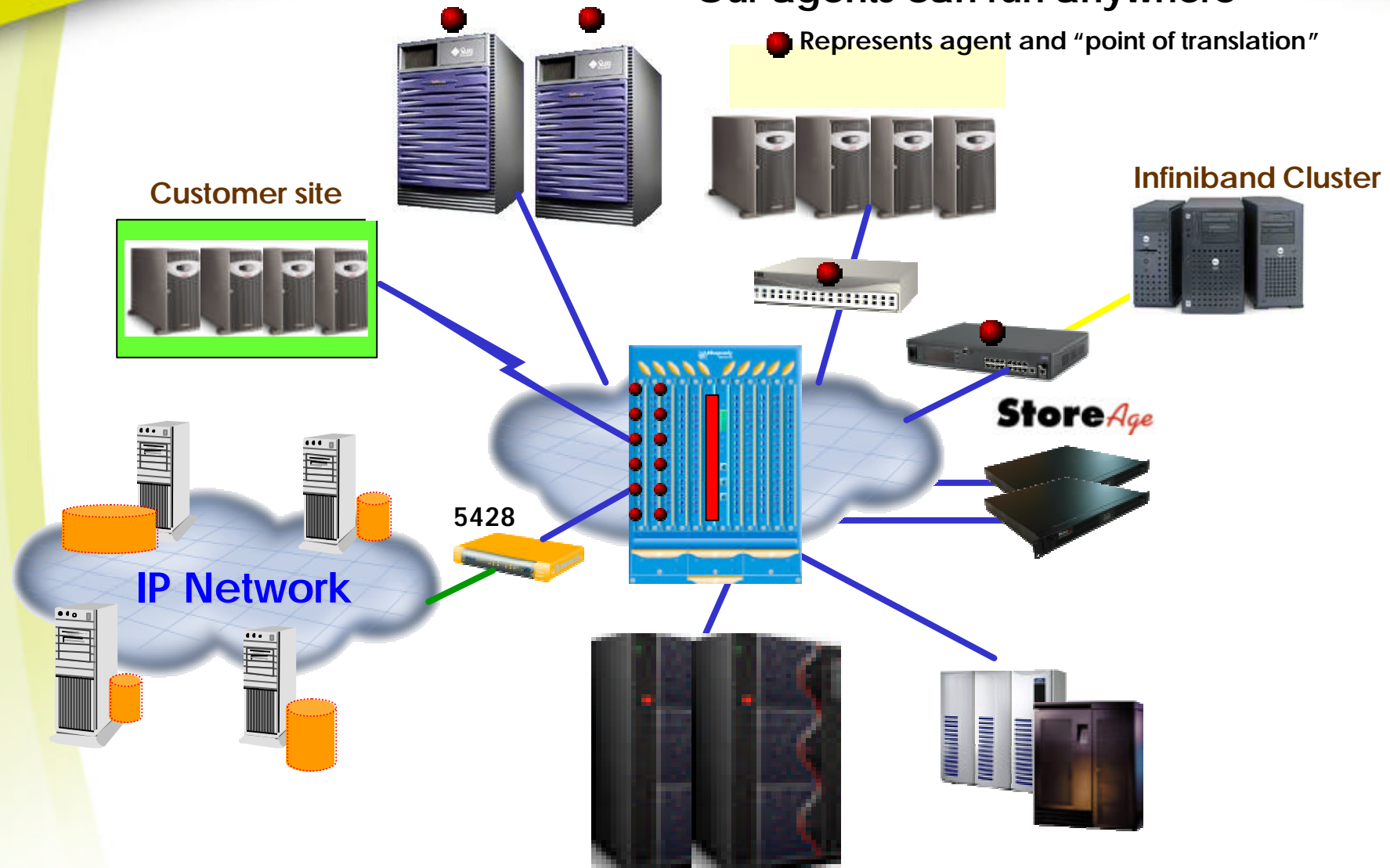


# Distributed Switch Based Virtualization



## Our agents can run anywhere

● Represents agent and "point of translation"







## Benefits

- Backward compatible with legacy devices
- Scalability (distribution of Virtualization to switch ports)
- Central management
- Agent consolidation
- **Gathers all Virtualization architectures benefits with no drawbacks**

# Questions?