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# Adopting Virtualized 10GBE Ethernet ISCSI SAN for Mission Critical Applications

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# **Migration from Fiber Channel SAN to ISCSI SAN At Marshall University**



# Introduction

- **Edward Aractingi**
- **Marshall University**
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# Marshall University

- **Huntington, West Virginia**
- **Founded 1837**
- **14000 Students**
- **2000 Employees**
- **100 IT staff**



- [www.marshall.edu](http://www.marshall.edu)
- [twitter.com/marshallu](https://twitter.com/marshallu)



# Data Center

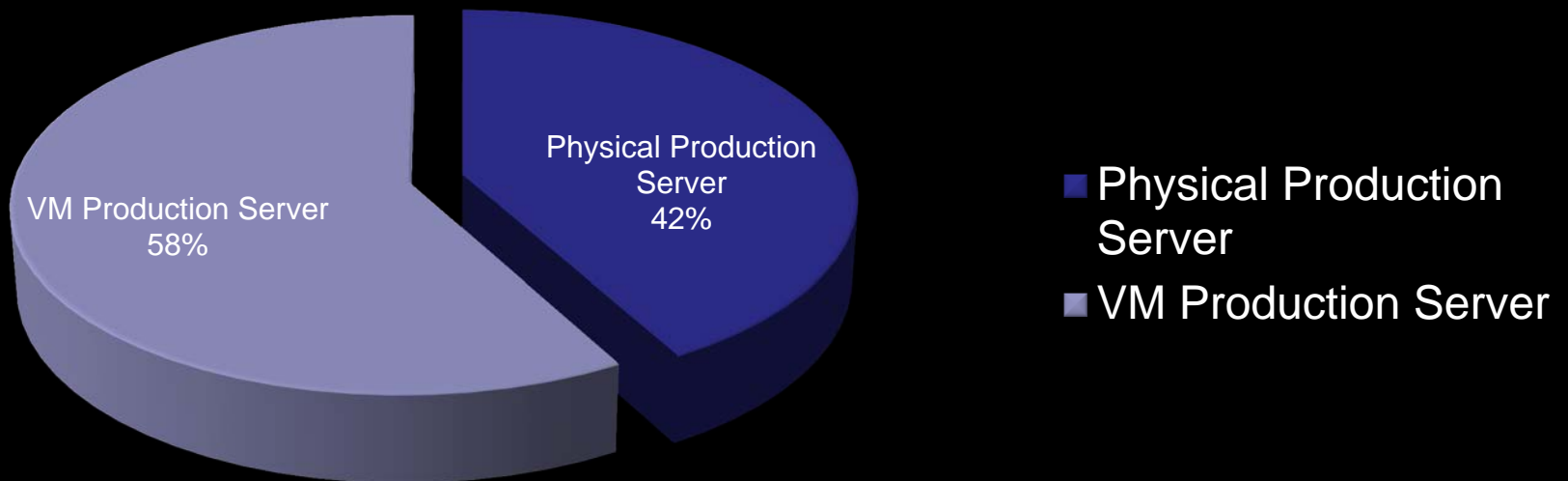
- **Dell EMC CX3-80 Fiber Channel SAN**
- **250 Servers - 7 SysAdmins**





# Some Stats

## Total Physical vs Virtual (production servers)

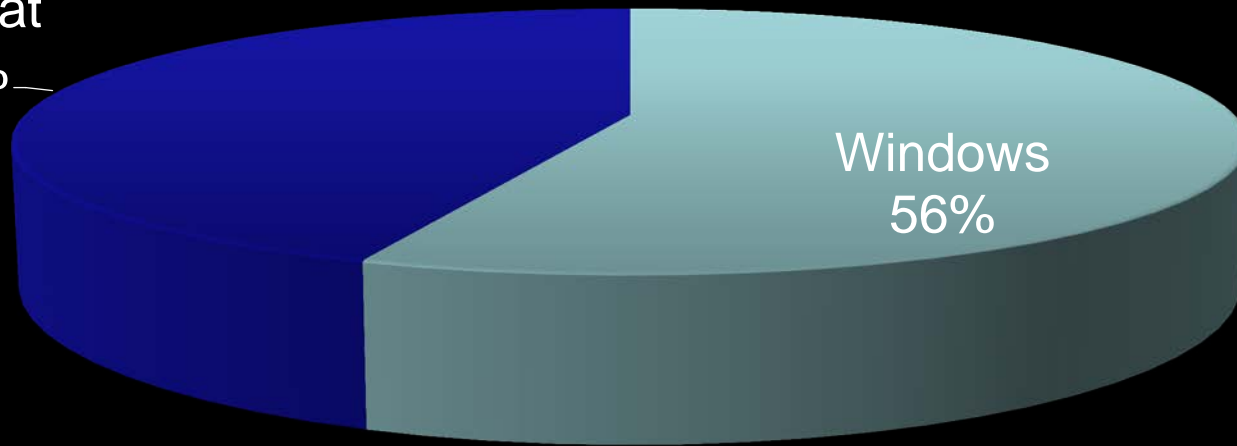




# More stats

Percentage of Production machines per operating system

Redhat  
44%



Windows  
56%

- Windows
- Redhat



# Challenges

- **Complexity of managing FC SAN**
- **Cost of connecting additional hosts**
- **End of life approaching**
- **Cost of support renewal**
- **Cost of additional licensing**



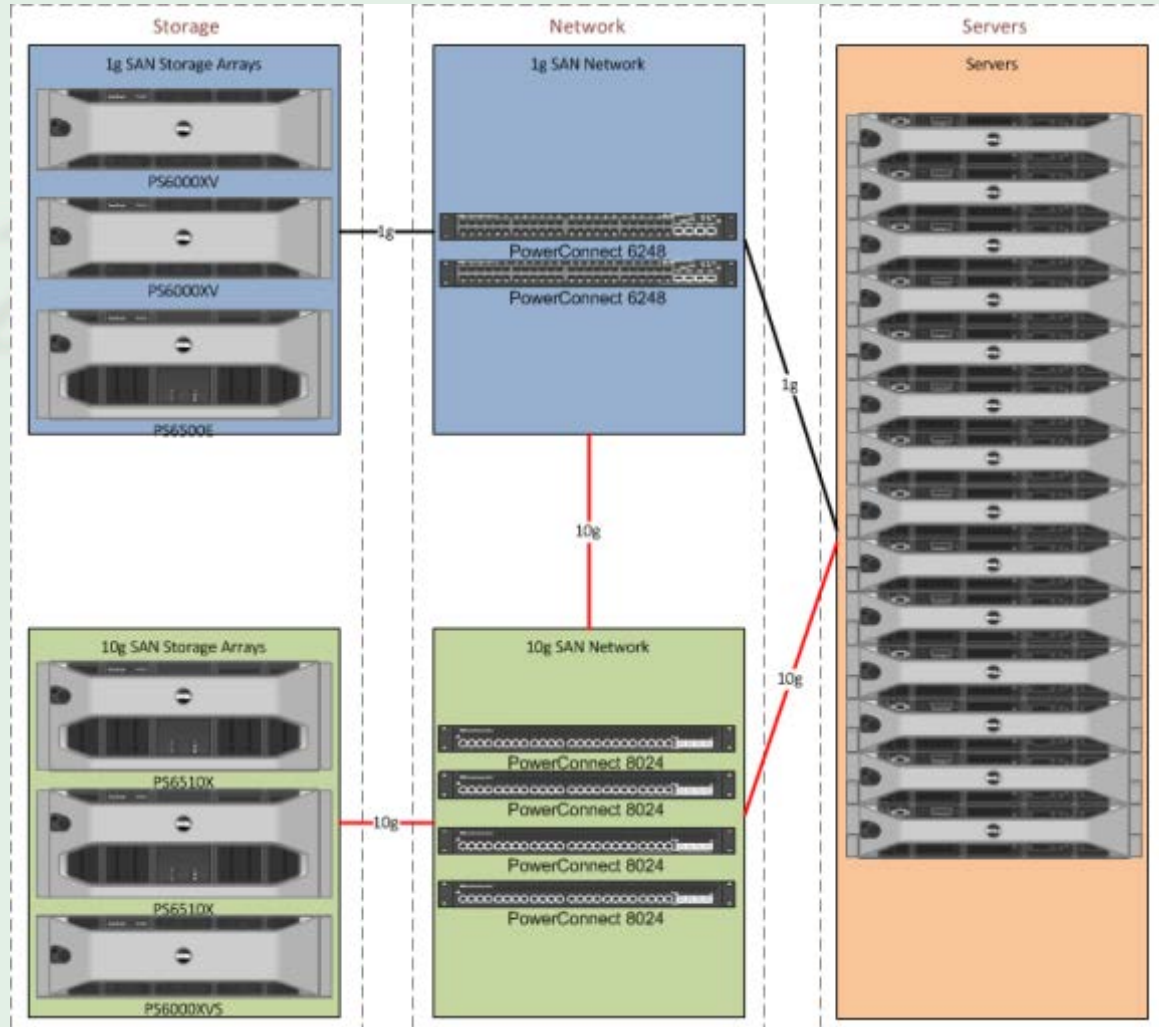


# Objectives

- **More cost effective storage platform**
- **Simple and cheap method to add hosts**
- **Flexible environment with mixed disks**
- **Full features, no additional licensing**
- **Keep power utilization in mind**



# After



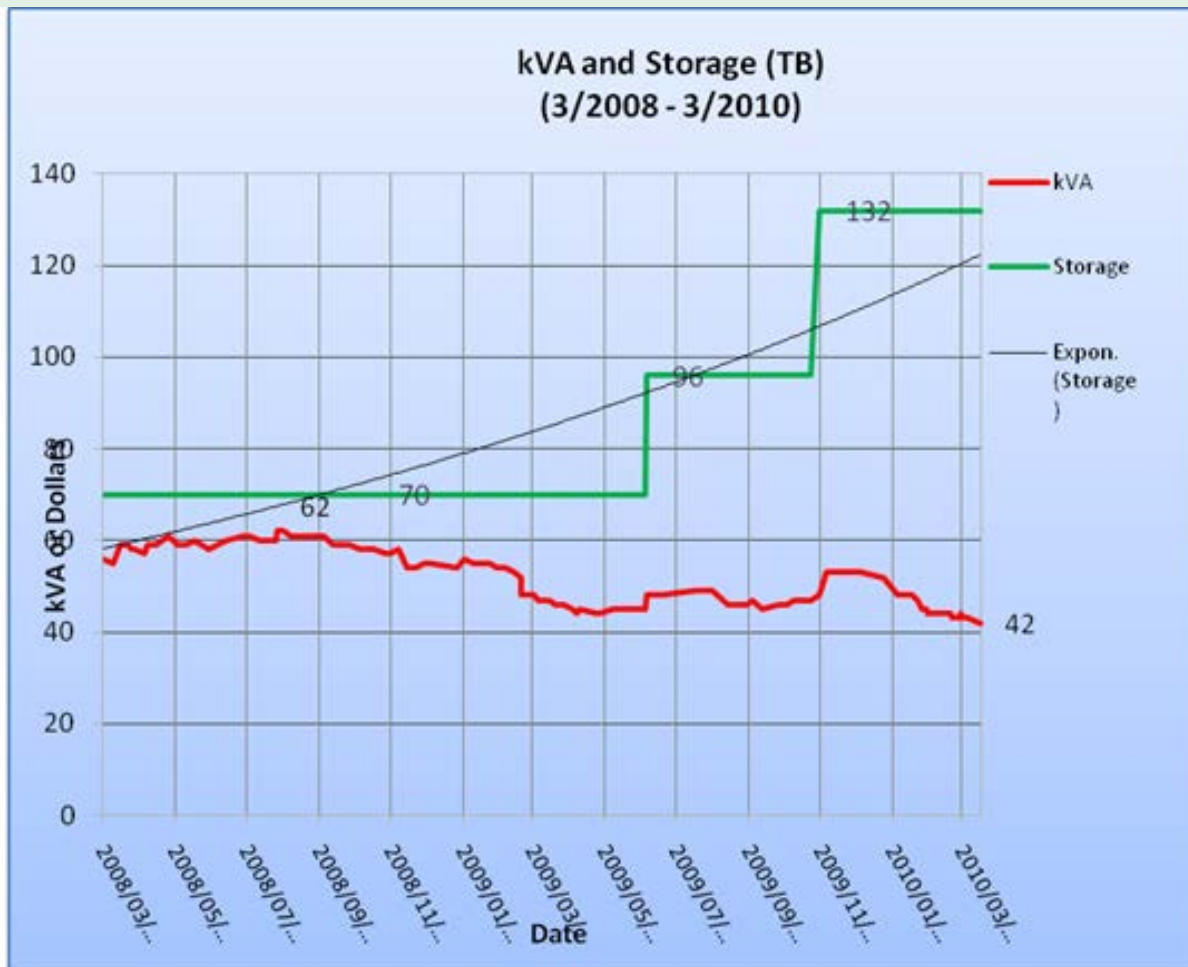


# Power Utilization





# Power vs Storage





# Benefits





# Current and Future Plans

- **Two more arrays to fire up soon**
- **Plan to standardize on 10g for most storage arrays**

