QlikView

Demystifying QlikView Clustering

Clustering / Licensing / Virtualization

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QlikView

Agenda

- Typical Customer / Prospect Questions
- QlikView Development Environment
- End-User Environment
- Summary
- Q&A

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Typical Customer / Prospect Questions

Questions and Requirements

- I want 1000 concurrent users. How do I do it?
- If this system goes down for a minute, we lose money. How do we do that? Our IT team says they know how but that your software is weird.
- I have to make my batch jobs finish before 7am, otherwise the users can't get to their data. We have outsourced our infrastructure to reduce costs. They only allow Virtualized servers. What are my options?
- We want to test the scalability first, then place an order for servers. That will take 2 months to deliver. Can we do the testing with virtualization?
- Our web team only allows virtualized web servers in a DMZ. Can you work with that?
- Our storage team wants us to use the corporate Storage Area Network (SAN). What are your recommendations?

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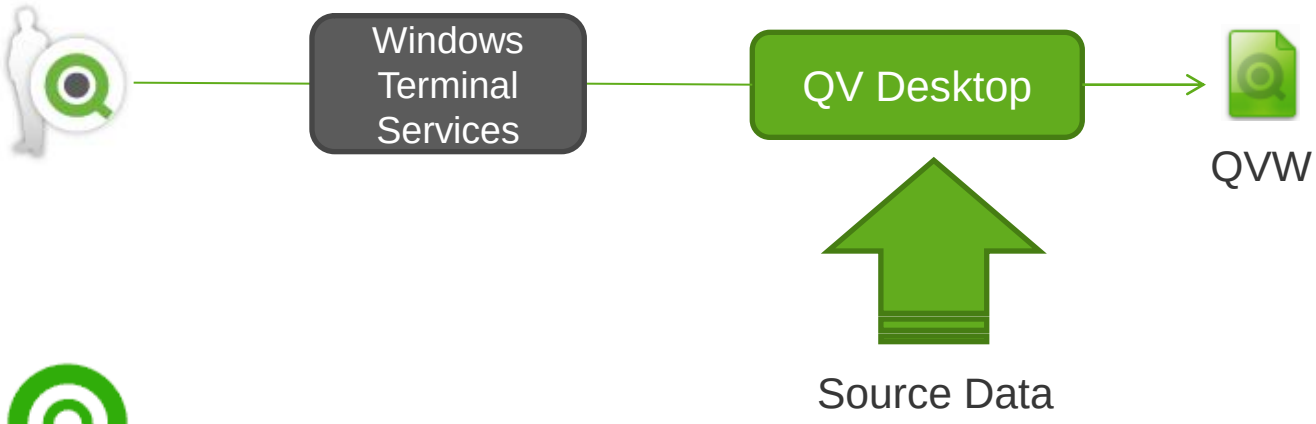
QlikView Development Environment

Development Environment

- If data volume is small then developer's PC can be used
  - Most of the time though, a server is used with Terminal Services
  - Clustering: No
  - Virtualization: Depends
  - License:
    - ✓ Local Client
    - ✓ Borrowed CAL obtained from Production QVS.



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License Lease Considerations

- What needs to be in place for License Lease?
  - Named CAL's
  - Not a test edition watermarked server

Features	EE	SBE	IAS	QES
License Lease (offline access) requires Named CAL's	✓	✓	×	×

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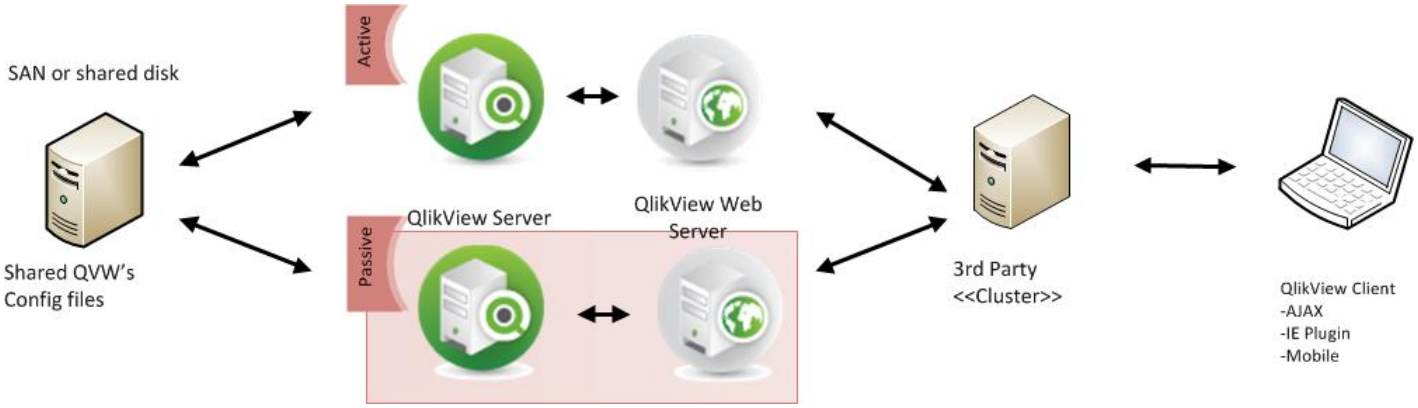
End-User Environment

End-User Environment - High Availability - Active/Passive

- **Why Use?**
  - Can’t be off for more than a few minutes
  - No extra scalability in users or data
- **License**
  - No extra license - not a QVS Cluster
  - Requires external Active/Passive system with cost (MSCS Failover Cluster, …)
- **Points of Interest**
  - Could be done via Virtualization but a very bad idea



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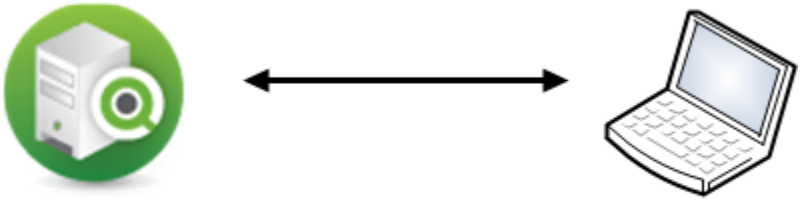
Scenario 1

QlikView Server



- QlikView Server
- QlikView Publisher
- IIS or QVWS
- QVDs, QVWs

QlikView Client
-AJAX
-IE Plugin
-Mobile

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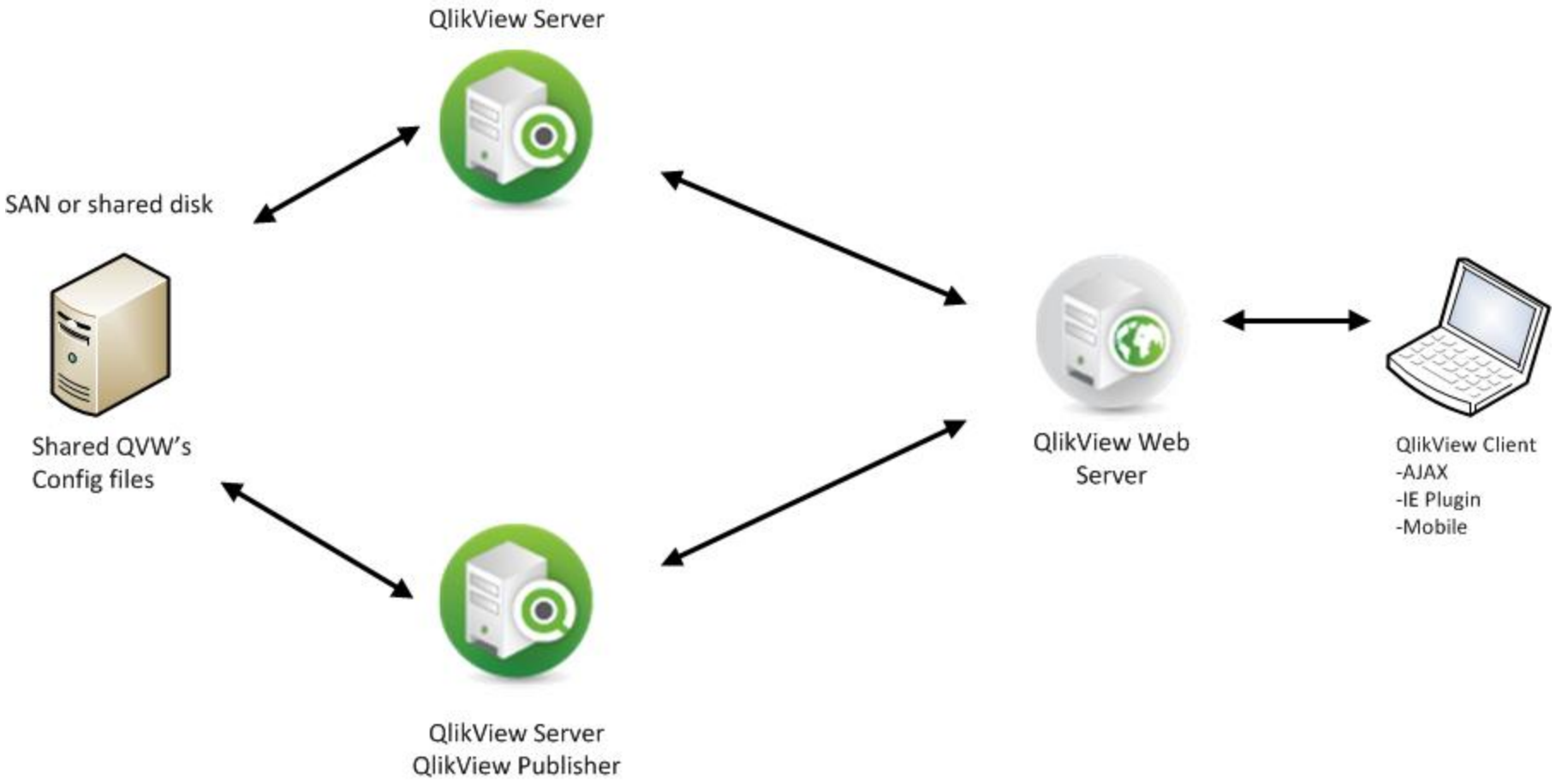
Scenario 2



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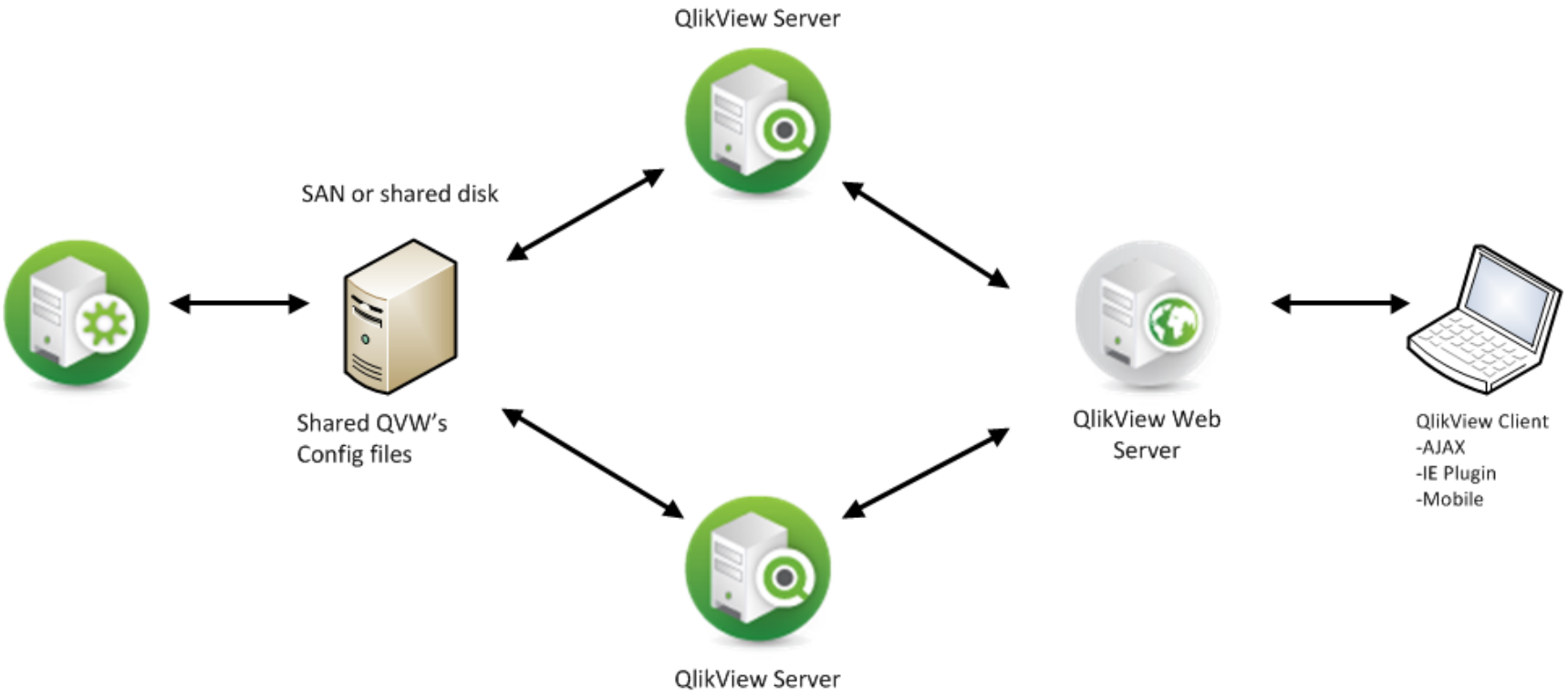
Scenario 3



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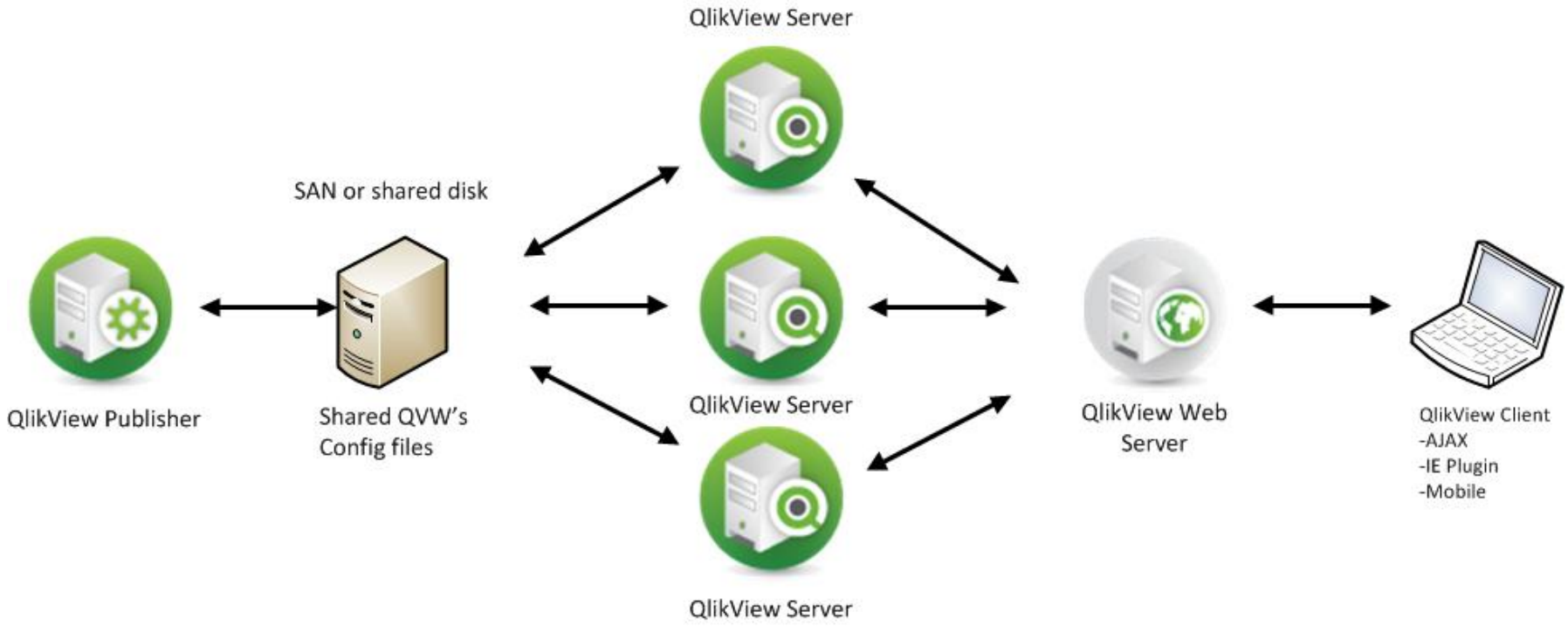
Scenario 4



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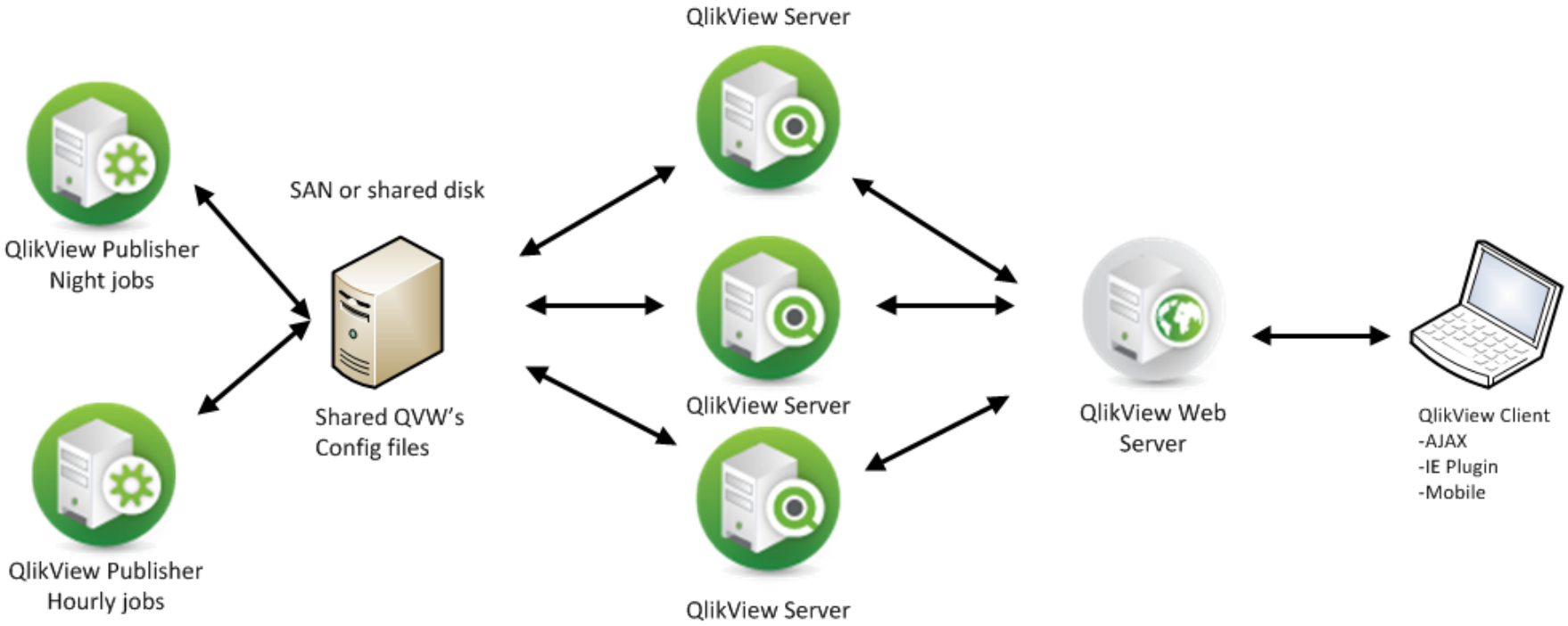
Scenario 5



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End-User Environment - Scalable QVS Cluster

- **License**
  - No Small Business Edition
  - LEF must have NO_OF_CLUSTER_NODES=N - Costs money
- **Points of interest**
  - Disk must be NTFS attached to a Windows machine
  - Dedicated disk is a good idea
  - Two load balancing strategies: Random and ‘LoadedDocument’
  - Pre-Load is a cluster setting (i.e. pre-loaded documents will be on all nodes)
  - Ideally use identical hardware

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What's on the Shared Disk?

- PGO (Persistent Global Objects) files
  - CAL's
  - Tickets, etc
- QVW's
  - .Shared files
  - .meta files

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A Word on SAN's, NAS's and DAS's

"SANs primarily are used to make storage devices (such as disk arrays, tape libraries, and optical jukeboxes) accessible to servers so that the devices appear as locally attached to the operating system." (Wikipedia.org)

"Network-attached storage (NAS) is file-level computer data storage connected to a computer network providing data access to heterogeneous clients. [..]" (Wikipedia.org)

"NAS devices [..] are typically storage arrays with direct attached storage that communicate with application servers using file-level protocols, such as CIFS or NFS" (Wikipedia.org)

"A typical DAS system is made of a data storage device [..] connected directly to a computer through a host bus adapter (HBA)." (Wikipedia.org)

QVS and QDS clustering need shared storage provided by a Windows bases NAS i.e. a Windows 2003/2008 unc path.

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Which QVS Licenses Can Be Clustered??

Scalability	EE	SBE	IAS	QES
Can be Clustered	✓	✗	✓	✓

Do I get more documents if I Cluster IAS and QES??

No - Sorry!

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Summary

Summary

- What Clusters or could be Virtualized?

Component	Clusters	License required?	Virtualize?
QlikView Server	Yes	Yes	Caution
QlikView Management Service	No	n/a	Yes
Directory Service Connector	Yes	No	Yes
QlikView Web Server or IIS (AccessPoint)	External	No	Yes
QlikView Distribution Service (Publisher license)	Yes	Yes	Caution
Shared Disc	External	No	Caution

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Virtualization – Know Issues

- Beware of the following issues with Virtualization:
  - Memory Ballooning
  - CPU Overcommit
  - Network throughput issues
    - ✓ Shared Disk performance
- VMWare limits (vSphere 4.1):
  - 8 Cores per VM
  - 255Gb RAM

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Thank you!