

LocalTel Communications Deployed StarWind as its Primary Storage to Obtain Necessary Level of Redundancy and Reliability

“ We strongly recommend StarWind solution. Since our initial deployment our storage needs have grown and the product has successfully grown with us. We have increased our storage exponentially without any complications. We can now perform maintenance on our storage cluster without creating an outage. ”

Michael J. Gage, Network Operations Manager at LocalTel Communications



About the Company

LocalTel Communications is one of the subsidiaries of the Computer 5 Inc., founded in 1982. The company provides telephone, Internet, television, networking, phone systems, computer repair and service. The headquarters is based in East Wenatchee, WA.

www.localtel.net

Industry

Telecommunications

Environment

VMware vSphere

Challenge

Redundancy and replication of critical data, reliable iSCSI targets for VMware hosting

Solution

StarWind Virtual SAN, Unlimited

Results

- Meeting Budget Requirements
- Advanced Data Protection and Availability
- Excellent Performance
- Scalability

CHALLENGE

“Most companies are facing challenges with growth and resources. We found ourselves in a situation where we had a difficulty to maintain infrastructure that was no longer meeting our needs. We had simply outgrown our storage solution and needed to find a new solution that could replace the previous one and grow together with our business,” said Michael J. Gage.

The company quickly became overwhelmed with the issues. “We exhausted our available resources and began having failures. We worked with vendor support and were losing ground quickly. We applied countless software patches and firmware updates. We began losing integrity on our iSCSI targets which impacted our ability to function.”

LocalTel Communications needed a new solution, which could help them to meet heavy I/O requirements and provide the high level of redundancy and reliability necessary for their IT environment. However, the company had limited funds and even less time.

SOLUTION

LocalTel Communications chose StarWind solution – **StarWind Virtual SAN** as its primary storage. “We deployed our spare storage server with StarWind. First, we did some production testing with non-critical virtual machines. Then, we reclaimed one of the active storage servers to add high-availability to our StarWind deployment. We had an unexpected hardware failure during the migration where a raid controller failed and had to be replaced. But StarWind continued to run even though we lost an entire node. Everything was still running smooth. We replaced the failed controller and brought the node back online without interrupting the migration,” said Michael J. Gage.

“Finally, we utilized the last original server as the third live server for StarWind, having created the 3-node high availability cluster. Today we have about 200 active VMs that range from idle to very heavy I/O requirements and everything is performing very well! We have not had to execute services affecting maintenance on our data stores since StarWind implementation.”

IT Infrastructure

Storage Servers:

- 3x SuperMicro 847E26-R1400LPB:
Storage Server Chassis (36x 3.5» HDD)
- 3x SuperMicro 847E26-RJBOD1:
Slave Storage Chassis (45x 3.5x HDD)
- 3x SuperMicro MBD-X8DTH-IF:
Dual IOH36, Xeon Tylersburg ServerBoard
- 6x Mellencox MHQH29B-XTR:
ConnectX-2 VPI InfiniBand Adapter (40gbps)
- 6x 3Ware/LSI 9750-8i SAS:
RAID Controller (8x Internal, 6GB, 512MB)
- 3x 3Ware/LSI S9750-8e SAS:
RAID Controller (8x External, 6GB, 512MB)
- 36x Samsung M393B1K70CH0-CH9:
16GB DDR3-1333 DIMM ECC Registered
- 6x INTEL BX80614L5640:
Xeon L5640 6Core+HT/2.26GHz/12M/6.4GT/s

Switches:

- 2x Mellencox IS5035 36:
Port Non-Blocking InfiniBand Switch
- 1x Cisco WS-C4510R+E: Catalyst Chassis
- 2x Cisco WS-X45-SUP7-E:
Sup 7-E 10GE (4x SFP+) -
Packet Processing Engine
- 2x Cisco WS-X4712-SFP+E:
12 ports 1G/10G SFP+ (48G shared) -
Line Card
- 2x Cisco WS-X4748-RJ45-E:
48-Port Non-Blocking 10/100/1000 (RJ-45) -
Line Card

VMWare Nodes:

- 2x SuperMicro 6026TT-HIBQF:
2U Twin2 SuperServer
(4x Dual Xeon HotSwap Nodes)
- 8x Mellencox MHQH29B-XTR:
ConnectX-2 VPI InfiniBand Adapter
- 144x Samsung M393B1K70CH0-CH9:
16GB DDR3-1333 DIMM ECC Registered
- 16x INTEL BX80614L5640:
Xeon L5640 6Core+HT/2.26GHz/12M/6.4GT/s

RESULTS

Meeting Budget Requirements

LocalTel Communications successfully deployed StarWind storage solution using their existing hardware, thus, the company remained within its budget. **StarWind Virtual SAN** is hardware-agnostic solution, therefore, any Windows server can be modified and converted into a high-performance fault-tolerant shared storage for VMware vSphere.

StarWind gives the right to choose - to use existing hardware or to buy any commodity equipment that suits company's needs and budget.

ADVANCED DATA PROTECTION AND AVAILABILITY

"We had issues with maintaining synchronization with our previous 2-way HA iSCSI solution. When we reached a resource limit, we lost synchronization and our HA. Now we have a 3-way active storage solution that has the ability to grow with us. The ability to reclaim and replicate resources in a live environment without creating an interruption in service is critical for success for a modern service provider."

StarWind configures an HA storage cluster that ensures absolute reliability and fault-tolerance of the storage system. Along with the traditional 2-node HA configuration, StarWind allows for the creation of the spectacular 3-node HA storage cluster that ensures advanced data protection and availability.

3-node HA acts as a fully active-active-active storage with real-time synchronization and load balancing between all three cluster nodes. Such a configuration provides 99.9999% uptime and tolerates failure of two out of three storage nodes.

EXCELLENT PERFORMANCE

"The performance improvement of our existing hardware was nothing short of amazing!" said Michael J. Gage.

StarWind solution delivers 3-5x performance increase from existing storage hardware. With high-performance caching, StarWind accelerates reads and writes by leveraging the powerful processors and large memories of the commodity servers on which it runs, allowing meeting any I/O requirements.

- 1x NFS (low performance)
- 2x iSCSI (mid & high performance)
- Average peak usage of 250MB/s across the cluster
- During rebuild/resynchronization, sustained data rates of around 2 GB/s
- From 1,000 to 5,000 IOPs during operation without latency issues

SCALABILITY

"We were looking for a scalable solution that could grow together with our business, and we found it," said Michael J. Gage.