

**FINANCE COMMITTEE MEETING
6:30 P.M., THURSDAY, DECEMBER 12, 2019
COUNCIL CHAMBERS – BUCKSPORT TOWN OFFICE**

AGENDA

- 1. Call meeting to order**
- 2. Roll call**
- 3. Town Server project with RSU 25**
- 4. Adjournment**

Finance Committee

Paul Bissonnette

Paul Gauvin

James Morrison

HCI Collaborative Solution

Quick Details: TOB

11/26/19

Purpose:

Infrastructure current and 5-year projected needs. Align Town of Bucksport (TOB) with changing landscape of server technology from isolated segments to centralized and virtual deployment.

Cost Evaluation:

Traditional (single servers)	HCI (Converged Infrastructure)
Cost \$15,500 (estimated)	Cost \$19,855.80 (full lease cost)
<ul style="list-style-type: none">-Segmented Solution-Fractured Backups (hourly limit)-1-2 Day Recovery for Critical Failure-Additional Network programming-No Contracted Installation-Consumed Resources (limited expansion)	<ul style="list-style-type: none">-24/7 Support (overnight module replacement)-Disaster Recovery (little as 5 minutes)-Backups (15 min incremental server)-Streamlined solution (all-in-one)-Expandability-Robust Hardware (three times Traditional)-Greatly reduced Tech Maint. Time-Initial Contracted Installation

Collaborated Server Needs

5-years

Servers Current

Town

-1 Current (Town Office)

RSU

-4 Domain Controllers

-1 Finance

-1 Heating

-2 Storage Servers

Servers Projected

Town

- 1 Town Office (Replace Current)
- 1 Public Safety
- 2 WWTF (SCADA Replacements)
- 1 GIS services server
- ? Virtual nodes & temporary use
 - Door Controls, WiFi, etc

RSU

- 4 Domain Controllers(Replace Current)
- 1 Finance(Replace Current)
- 1 Heating(Replace Current)
- 2 Storage Servers (Replace Current)
- ? Virtual nodes:
 - Door controls, firewalls, etc

Current Server Challenges

Disaster Recovery

Town: Growth!

-Expiring MS Support on Town Office Server

-Need for Public Safety Server

RSU: Update/Maintain

-2 servers expiring support

-Streamline storage needs

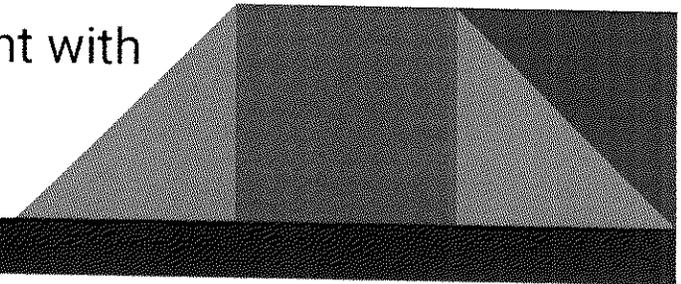
-Need to replace SCADA server(s)

-GIS/Property data (public facing)

-Critical Server rebuilds

-Reduce footprint with

With reliability



Hyper-Converged Infrastructure:

- Hyper-Converged infrastructure (HCI)=Software Defined from pool of resources
 - Storage, “hardware” and networking are software defined and flexible
 - Mix of traditional hard drives (storage) and flash hard drive (software processing)
- Built-in redundancy
- Low resource cost and no compatibility issues

Rated #1 Server
Virtualization Software
for 2019 by TrustRadius



Current vs HCI

-Town and RSU servers accessible only from respective networks

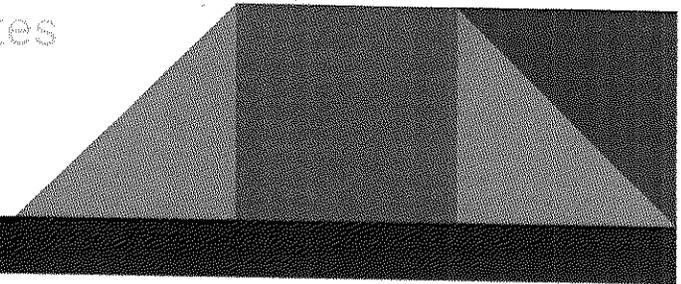
Single pane of glass access and control to full networks

-Rely on physical resources in per box

Can adjust "on the fly" as needed

-An issue with the server puts that segment of users offline

Can "dump" server and run a new one in sub 5-minutes



Scale Computing: Infrastructure

Custom system layout:

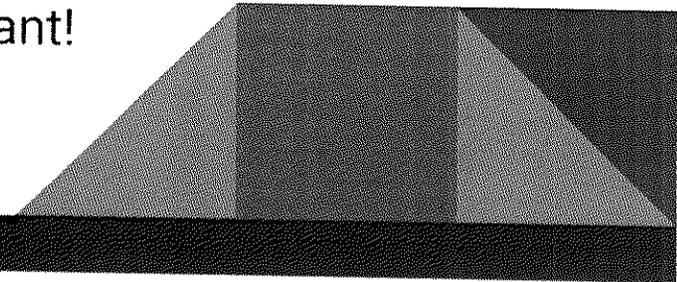
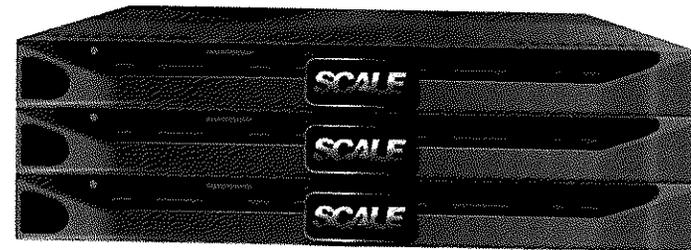
-Primary Cluster: 3 “boxes” with 16 core processor & 128 GB RAM each

-two operational and one “stand by”

-Located at Public Safety building

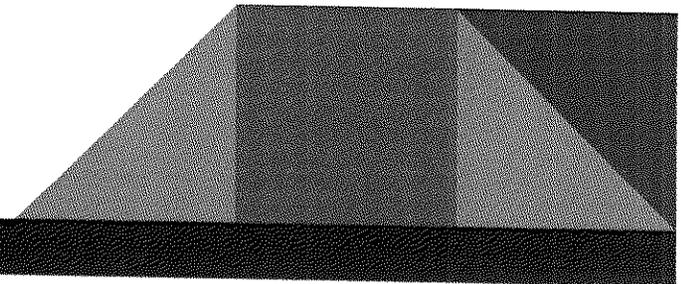
-Disaster Recovery:

-“Live” single box at MLS “switched” as needed. Instant!



How Scale Computing Assists Us:

- Known 5-year hardware costs
- 24/7 support with overnight hardware replacement
- Current, anticipated & growth infrastructure accounted for
- Instant system issue resolution without end-user interruption
- Disaster recovery: Critical structures online as little as 5-minutes
 - Off premise recovery



Comparable Solutions: Hardware \$49,000

-Microsoft Hyper-Visor:

(+)Microsoft licenses consolidate, snapshots & single interface for 3 vms

(-)limited to 3 vms per node, limited to phys. Resources, Linux support is low

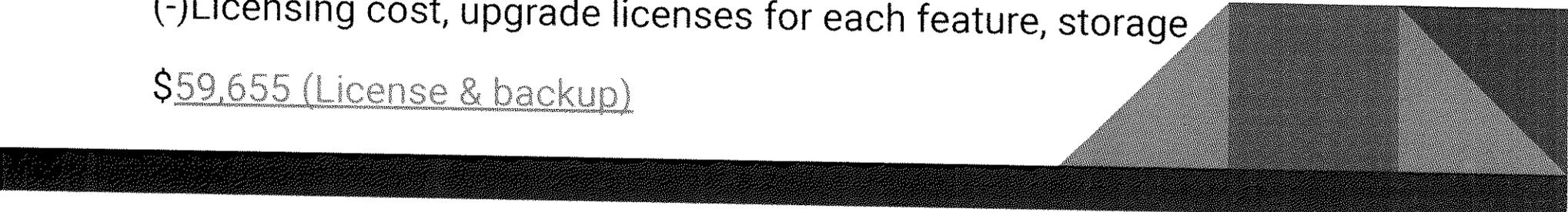
\$24,500 OS & licensing (No CALs)

>VMWare:

(+)With Disaster license, easy recovery and snapshots

(-)Licensing cost, upgrade licenses for each feature, storage

\$59,655 (License & backup)



Scale Pricing Q4 "Push":

Full HCI Hardware solution (HC3 & Single DR with 10 Gb backbone).

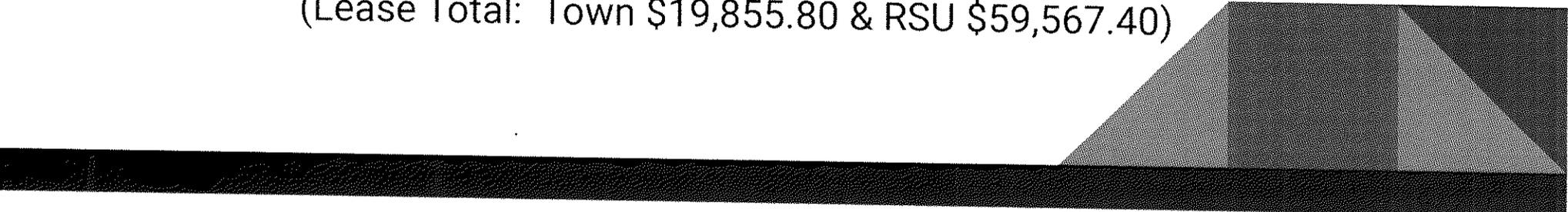
-\$72,747 (Original was about \$89,000)

-Cost sharing: 25% Town & 75% RSU

-Purchase price: \$72,747 (Town \$18,186.75 & RSU \$54,560.25)

-Lease Cost: \$79,423.20 (Annual: Town \$3,971.16 & RSU \$11,913.48)

(Lease Total: Town \$19,855.80 & RSU \$59,567.40)



Additional Considerations

-Server Licensing:

-About \$1,500 per Windows server (2@ Town). +CALs per Computer

-10 Gb Fiber per building

-Acronis and the 3-2-1 method

-Redundant Fiber Loop

-VPN/Gateways for redundancy?

-Partnership with Ellsworth (should we approach?)

