

Welcome to Our Webinar!

DON'T BE PENNY WISE & WORKSTATION FOOLISH

Why old computers are actually costing you money and what you can do about it.



Presenter

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But First ...

We'd like to know
a bit about YOU.

Three quick polls!

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Q: When is spending cheaper than not spending?

A: When you save enough time to pay for it!

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People Are Expensive!

JOB APPLICATION

Name _____
Driver's License Number (with state) _____
Social Security No. _____
Home Phone _____
Business Phone _____
Date of Birth (Month, Day, Year) _____
Email _____

1. Address	City	Zip	Home Phone	From	To
2. Present Employer	Employment Dates	Position			
3. Previous Employers	Employment Dates	Position			
4. Education					
5. References					
6. Other Information					

People Are Expensive!

Consider \$70,000 per year employee Bill

Benefits add 20%

That's \$84,000 per year!

But Bill only works 48 weeks (1,920 hours) per year:



$\$84,000 / 1,920 \text{ hours} = \$43.75/\text{hour}$

Wasted Time Adds Up!

**Bill loses 15 minutes per day due to:
crashes, slow rendering, etc.
That's 75 minutes (1.25 hours) per week
In 48 weeks, that's 60 hours**



**60 hours × \$43.75/hour = \$2,625/year
In three years, that's \$7,875!**



Why are we happy
to waste \$7,875
over three years
when
a \$3,000
workstation would
solve Bill's
problems?

Workstations
Are Cheap!



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Workstations Are Cheap!

High speed (>4 GHz) quad-core

16 GB RAM

500 GB Solid-State Drive (SSD)

2 GB graphics processor

Existing monitor



Approximately \$3,000

Workstations
Are Cheap

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Cost Over Three Years

\$3,000 workstation

3 years at 1,920 hours/year



$$\begin{aligned} & \$3,000 / (3 \text{ years} \times 1,920 \text{ hours/year}) \\ & = \$0.52 \text{ per hour} \end{aligned}$$

Workstations
Are Cheap

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Return on Investment (ROI)
Time = Money and Savings > Costs



Tally Up the Savings

Time spent rebooting
Time spent waiting for processing
Slow video performance
Slow plotting
Slow disc I/O



How does it add up over a year?

Return on
Investment

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Remember Bill?

**15 minutes' wasted time per day
= \$2,625/year**

**That's 75 minutes (1.25 hours) per week
for 48 weeks at \$43.75/hour**



**Do the math using
the labor rate of the user**

Return on
Investment

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Tally Up the Costs!

**New workstation
(Use \$3,000 price tag)**

**Time to install workstation (IT)
(Use 2 hours @ \$65/hour)**



Workstation cost = \$3,130

Return on
Investment

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Compute 3-Year ROI

$$\text{ROI} = \text{savings} / \text{cost}$$

$$\begin{aligned} \text{ROI} &= \text{time savings} / \text{workstation cost} \\ &= \$7,875 / \$3,130 \end{aligned}$$



252% or 84% annualized

Return on
Investment

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Show Your Boss!

**Your savings potential
Cost of workstations
Your ROI computation**



**Better workstations
make financial sense!**



Hardware Technology Update

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Q: Why not buy an off-the-shelf computer from Best Buy instead?

A: Because you **won't get these** types of features or configurability.





Processor (Clock is King)

**Intel® Xeon™ or Core™ i7 preferred
Higher base and Turbo Boost speeds**

Speeds > 4 GHz

Boost > 4 GHz on more cores

Supporting faster memory



The heart of the system – don't skimp!

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RAM

(16 GB Minimum)

DDR4 at 2400 MHz

Use highest speed processor supports

Fill all memory slots equally

(All slots at same size/speed)



Maximum memory performance

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SSD (Solid-State Drive)

Virtually eliminates disk access
Speeds all types of tasks
NVMe preferred over SATA III



Don't buy a workstation without one!

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GPU

(Professional Graphics
Processing Unit)

Certified performance

Timely updates

Long-term warranty support



Fewer glitches, better performance

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High-Speed Peripherals

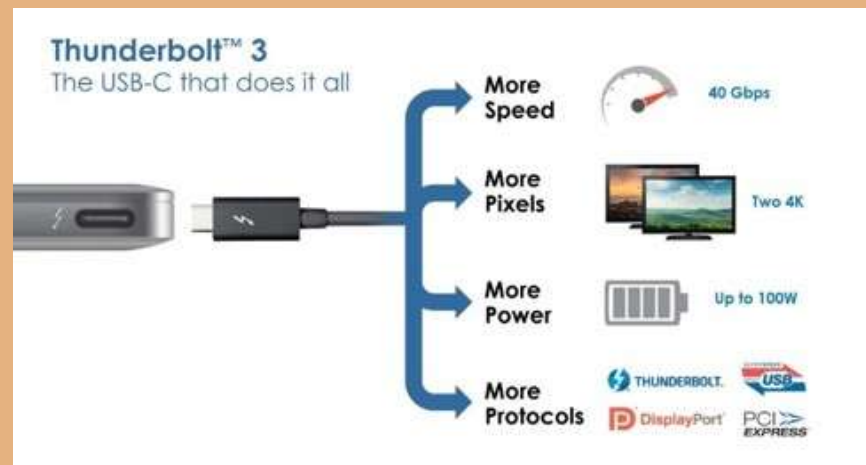
Ample USB 3.0 technology ports

Thunderbolt 3 ports ideal


10 GbE networking emerging



Get data on/off the workstation fast



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Minimum CAD Configuration

3.6/4.0 GHz Intel® Core™ i7 Processor

16 GB DDR4 RAM

500 GB SATA III SSD

2 GB GPU



Useful 3-year life span

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Better CAD Configuration

3.7/4.5 GHz Intel® Xeon™ 6-Core Processor

32 GB DDR4 RAM

500 GB NVMe SSD

4 to 8 GB GPU



High-performance, 3-year life span

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Task-Specific Adjustments

(Sometimes You Just Need More)

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Intense Analysis or Video Tasking

More cores (6/8) can help multi-threading

Keep clock rates high

32 GB RAM minimum

NVMe technology SSDs needed

GPU dictated by resolution and frame rates

Solution time savings pays for upgrades

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High-Performance Mobile Workstation

Same recommendations as desktop
High-speed peripherals highly desired
Add-on battery capacity highly desired
Time saved via up/download savings
Speed of remote work justifies expense

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A wooden chessboard with chess pieces arranged on it, serving as a background for the text. The board is set on a wooden surface, and the pieces are in their starting positions. The lighting is warm and focused on the center of the board.

Purchasing Strategies



Buy for next year,
not this year

**Purchase robust systems
to prevent obsolescence**

**Today's rendering machine will be a
CAD machine in two years**

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Strategies

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Plan for Multiple Owners

**Buy new rendering machines
every two years.**

**Then run those machines as base CAD
machines for another two years.**

**Then run the machine as a general
office machine until it dies.**

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Let Labor Cost Dictate Purchase

**Buy new rendering machines
every two years.**

**Then run those machines as base CAD
machines for another two years.**

**Then run the machine as a general
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In Conclusion:

Think of a workstation as a professional tool that pays you back, not as an overhead item.

Do the math and you'll see that matching the workstation to the user workload actually saves your company money!

Don't Be Penny Wise & Workstation Foolish

Q&A

▶▶ Submit a question using the Questions panel on the right side of the GoToWebinar interface

Panelist

Robert Green

Moderator

Nancy Johnson



Thank You for Attending

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