

UPGRADE PAYBACK SCENARIO



Replacing Obsolete Cooling Equipment Within a Tight Budget

In virtually every situation, retrofitting or upgrading data center cooling systems improves energy efficiency. Plus, you gain greater comfort in having more reliable equipment that requires less annual maintenance. Here is one of four scenarios developed by Vertiv to address the costs and benefits of retrofitting.

SCENARIO: Obsolete Cooling Equipment and A Tight Budget

- 1MW Data Center in Columbus, Ohio
- Raised Floor
- 14 rows of 14 racks
- 17 older Liebert® Deluxe System™/3 cooling units

CHALLENGES

The cooling units are 15-years old or more — multiple generations out. You've been making them last and you hope to keep making them last. But money is tight and you don't see a path forward using retrofits or replacements.

- Units are inefficient
- Outdated cooling unit controls create higher risk of failure from adverse events

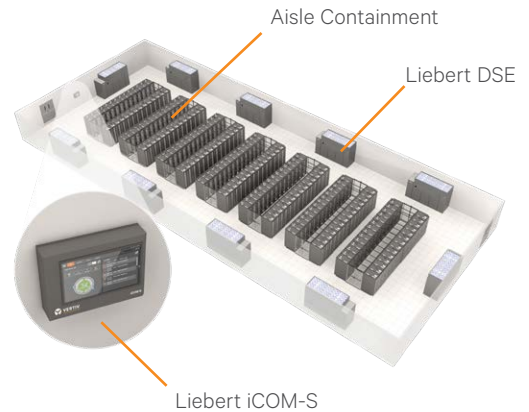
SOLUTION

- Replace old units with new Liebert® DSE™ free-cooling units which have advanced Liebert iCOM™ unit controls
- Add Liebert iCOM™-S system controls to manage multiple units for higher efficiency
- Add aisle containment for higher density and efficiency

UPGRADE COST: Approximately \$1.7 million

PAYBACK: 3.8 Years

- 44% of the investment cost is recouped in the first year
- Annual cooling energy costs drop from \$462,151 to \$128,282 – a \$333,869 savings
- PUE drops from 1.53 to 1.16
- Maintenance costs drop, as you go from operating 17 old units to using only 10 units with much lower maintenance requirements



CALCULATING THE PAYBACK

Annual Energy Cost Existing Liebert Deluxe System/3 Units	\$ 462,151
Annual Energy Cost Updated Liebert DSE™ Units	\$ 128,282
Annual Energy Savings	\$ 333,869
Equipment & Installation Costs Liebert DSE units, Liebert iCOM-S system controls, Aisle Containment	\$ 1,732,506
Energy Rebate (25% of total E&I)	\$ 433,127
Net Cost - E&I Cost less Energy Rebate	\$ 1,299,380
Payback in Years (net cost / annual energy savings)	3.8

The costs and savings are estimates and these calculations are estimates and should not be construed as results you would achieve in an actual installation.

For more on upgrading or retrofitting data center cooling equipment, visit www.VertivCo.com/Retrofits

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