

UPGRADE PAYBACK SCENARIO

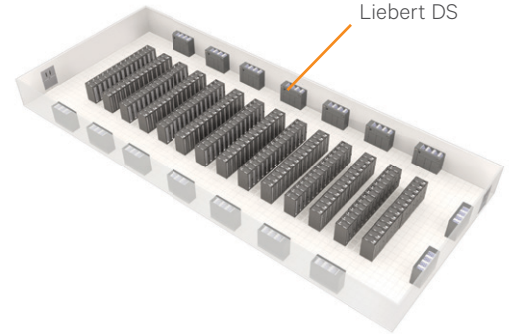


Replace 10-Year-Old Cooling Equipment for Higher Efficiency

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: 10-Year-Old Equipment Operating at Low Efficiency

- 1MW Data Center in Columbus, Ohio
- Raised Floor
- 14 rows of 14 racks
- 16 older Liebert® DS™ Cooling Systems



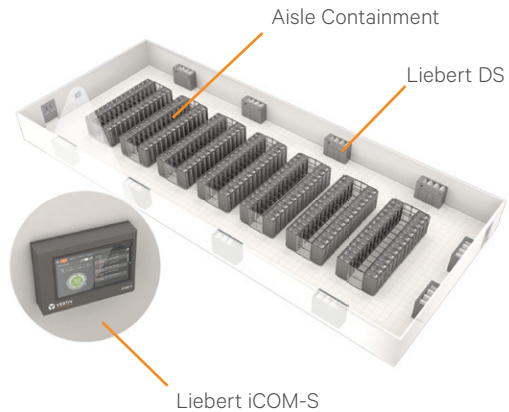
CHALLENGES

The units are less than ten years old and you've kept them serviced on a regular basis, so they should be running well. But you want to consider improving their efficiency.

- Units are inefficient
- Equipment nearing replacement life within five years
- Outdated cooling unit controls create higher risk of failure from adverse events

SOLUTION

- Add variable speed EC fans or variable speed drives
- Replace old unit controls with advanced Liebert iCOM™ unit controls
- Add Liebert iCOM™-S system controls to manage multiple units
- Add aisle containment



UPGRADE COST: Approximately \$304,352

PAYBACK: 1.7 Years

- 70% of the investment cost is recouped in the first year, from energy savings and a utility energy rebate
- Annual cooling energy costs drop from \$385,000 to \$250,066 – a \$135,410 savings
- PUE drops from 1.44 to 1.29
- One-time energy rebate of about 25% of equipment costs, or \$76,088
- Maintenance costs drop, as you go from 16 old units to just 10 new units with much lower maintenance requirements

CALCULATING THE PAYBACK

Annual Energy Cost Existing Liebert DS Units	\$ 385,476
Annual Energy Cost of Liebert DSE™ units with upgrades	\$ 250,066
Annual Energy Savings	\$ 135,410
Equipment & Installation Costs EC Fans, Liebert iCOM unit controls, Liebert iCOM-S system controls, Aisle Containment	\$ 304,352
Energy Rebate (25% of total E&I)	\$ 76,088
Net Cost - E&I Cost less Energy Rebate	\$ 228,264
Payback in Years (net cost / annual energy savings)	1.7

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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