DCOI At-a-Glance

The goal of the U.S. Federal Data Center Optimization Initiative (DCOI) is reducing, streamlining, and making government agency data centers more energy efficient and responsible for performance. The mandate calls for automated collection and reporting of systems, software and hardware inventory, and dictates specified levels of operation. Data centers that do not comply in time will be closed.

The Facts

Requirements

9.30.2018
Compliance Deadline

INSTALL AUTOMATED ENERGY METERING
Required for continuous PUE reporting

DCIM* SOFTWARE IMPLEMENTATION
*Data Center Infrastructure Management

PUE BELOW 1.5
Or will be closed

Data Center Classifications

TIERED*
Have a separate physical space, UPS, independent cooling system & backup power generator
*PUE monitoring applies

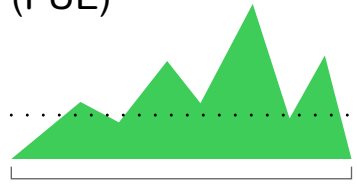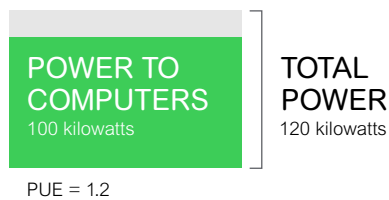**NON-TIERED**
All other sites

The Metric

Power Usage Effectiveness (PUE)

PUE DEFINITION
The total amount of power entering a data center divided by the amount of power that actually makes it to the data center computer equipment

Avg. over time

EXPRESSED AS A RATIO
Overall efficiency improving as the quotient decreases toward 1

POWER TO COMPUTERS
100 kilowatts

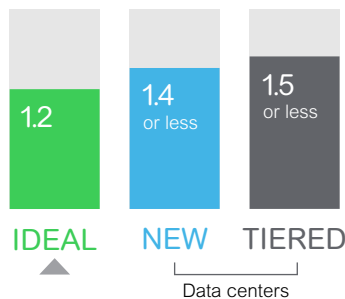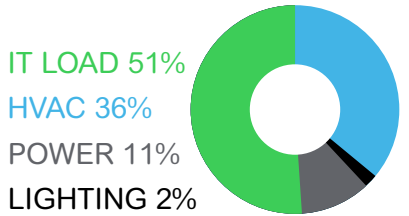**TOTAL POWER**
120 kilowatts

PUE = 1.2

AVERAGE EFFICIENCY
The energy consumption of a data center over a period of time is computed using the average of the data center efficiency over that period.

PUE measured instantaneously will generally NOT be equal to the annual PUE.
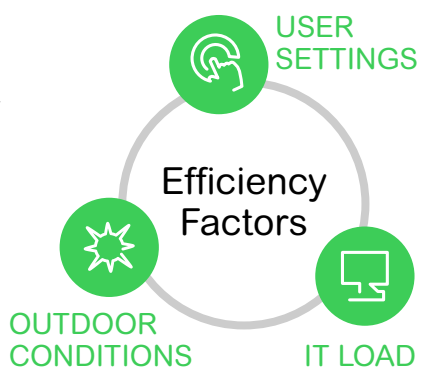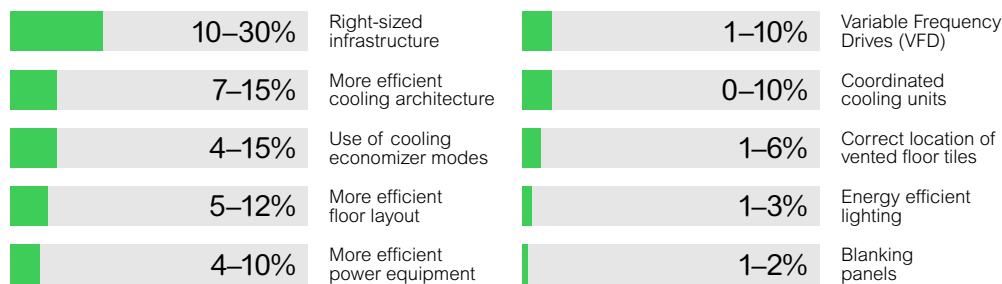
DCOI PUE Requirements

1.2 IDEAL

1.4 or less — NEW

1.5 or less — TIERED

Data centers

Typical Data Center Allocation (PUE=2)

IT LOAD 51%
HVAC 36%
POWER 11%
LIGHTING 2%

The Actions

Efficiency Best Practices: Achievable Savings Examples

10–30% Right-sized infrastructure	1–10% Variable Frequency Drives (VFD)
7–15% More efficient cooling architecture	0–10% Coordinated cooling units
4–15% Use of cooling economizer modes	1–6% Correct location of vented floor tiles
5–12% More efficient floor layout	1–3% Energy efficient lighting
4–10% More efficient power equipment	1–2% Blanking panels

Efficiency Factors
USER SETTINGS
OUTDOOR CONDITIONS
IT LOAD

DCOI in Depth

Data centers play a critical role in meeting your core mission. Schneider Electric can help you operate intelligently and at maximum efficiency, within compliance. For DCOI in depth, read whitepaper: "DCOI Compliance: A Guide to Improving PUE in U.S. Federal Data Centers."

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