Data Center Management & Automation

Energy management in the data center

The increase of energy costs and new legal requirements for the efficient use of energy are driving data center operators to stronger focus on energy management in relation to processing power. Energy management starts with measuring the actual energy consumption, evaluating the data and initializing follow-up actions.

Energy management in the data center

To increase energy efficiency of IT infrastructure, we measure with our energy management solution the energy consumption of e. g. servers and storage and are thus able to recognize and identify energy wasters. Other data center infrastructure components such as network and cooling systems can be monitored as well with the energy management solution.

Each saved watt of energy per year results in savings of 1€ to 3€ and reduces the environmental footprint by 4 to 12kg of CO_2 emissions.
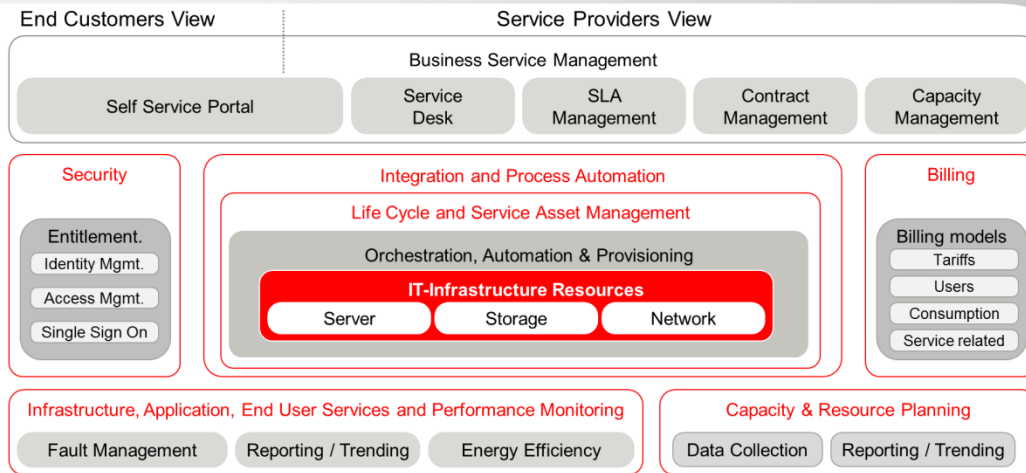
Use case: Identify the „energy guzzlers"

To identify inefficient IT components in the data center, energy consumption and IT performance must be recorded. We collect this information in our solution with the help of intelligent power distribution units (PDU) and customized monitoring software. To evaluate the measured energy consumption with regards to energy efficiency additional information such as Standard Performance Evaluation Corporation (SPEC) is used. Energy consumption and SPEC values are put in relation and the results serve as basis for further actions. Our energy management solution evaluates the ratio of CPU performance and energy consumption.

Older systems need more than half of maximum power consumption already in idle status. New and more energy efficient systems consume only 1/5 of maximum power consumption in idle status.

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Fujitsu Reference Architecture DCMA

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End Customers View	Service Providers View

Business Service Management

Self Service Portal	Service Desk	SLA Management	Contract Management	Capacity Management

Security

- Entitlement.
  - Identity Mgmt.
  - Access Mgmt.
  - Single Sign On

Integration and Process Automation

Life Cycle and Service Asset Management

Orchestration, Automation & Provisioning

IT-Infrastructure Resources

Server	Storage	Network

Billing

- Billing models
  - Tariffs
  - Users
  - Consumption
  - Service related

Infrastructure, Application, End User Services and Performance Monitoring

Fault Management	Reporting / Trending	Energy Efficiency

Capacity & Resource Planning

Data Collection	Reporting / Trending

Energy management in the data center requires the accurate measurement of the power consumption and processing power. For servers, processing power is the CPU performance. We collect CPU performance and consumption information. In the reference architecture Energy Management is combined with reporting / trend analysis and fault management.

Contact