



# Avoiding Costs From Oversizing Data Center and Network Room Infrastructure

**White Paper # 37**





## Executive Summary

The physical and power infrastructure of data centers and network rooms is typically oversized by more than 100%. Statistics related to oversizing are presented. The costs associated with oversizing are quantified. The fundamental reasons why oversizing occurs are discussed. An architecture and method for avoiding oversizing is described.















requirement. In practice, the only part of the power system that is completely deployed up-front is the main input switchgear and main power distribution panels, which are sized to meet the ultimate Room Capacity. The UPS, Battery system, Power Distribution Units, Bypass switchgear, and Rack power distribution wiring are all deployed in a modular fashion in response to the changing load.

Note that this discussion has focused on the attributes associated with the power and cooling systems, which are primary contributor to overall data center and network room infrastructure costs. The same analysis can and must be extended to comprehend the need for physical space, fire protection requirements, and security requirements in order to be complete.

## Conclusions

Data centers and network rooms are routinely oversized to three times their required capacity. Oversizing drives excessive capital and maintenance expenses, which are a substantial fraction of the overall lifecycle cost. Most of this excess cost can be recovered by implementing a method and architecture that can adapt to changing requirements in a cost-effective manner while at the same time providing high availability.

## References

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