



U.S. Department of Energy  
Energy Efficiency and Renewable Energy

# High Performance Buildings Through Integration

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# Integration

- **What is Integration?**



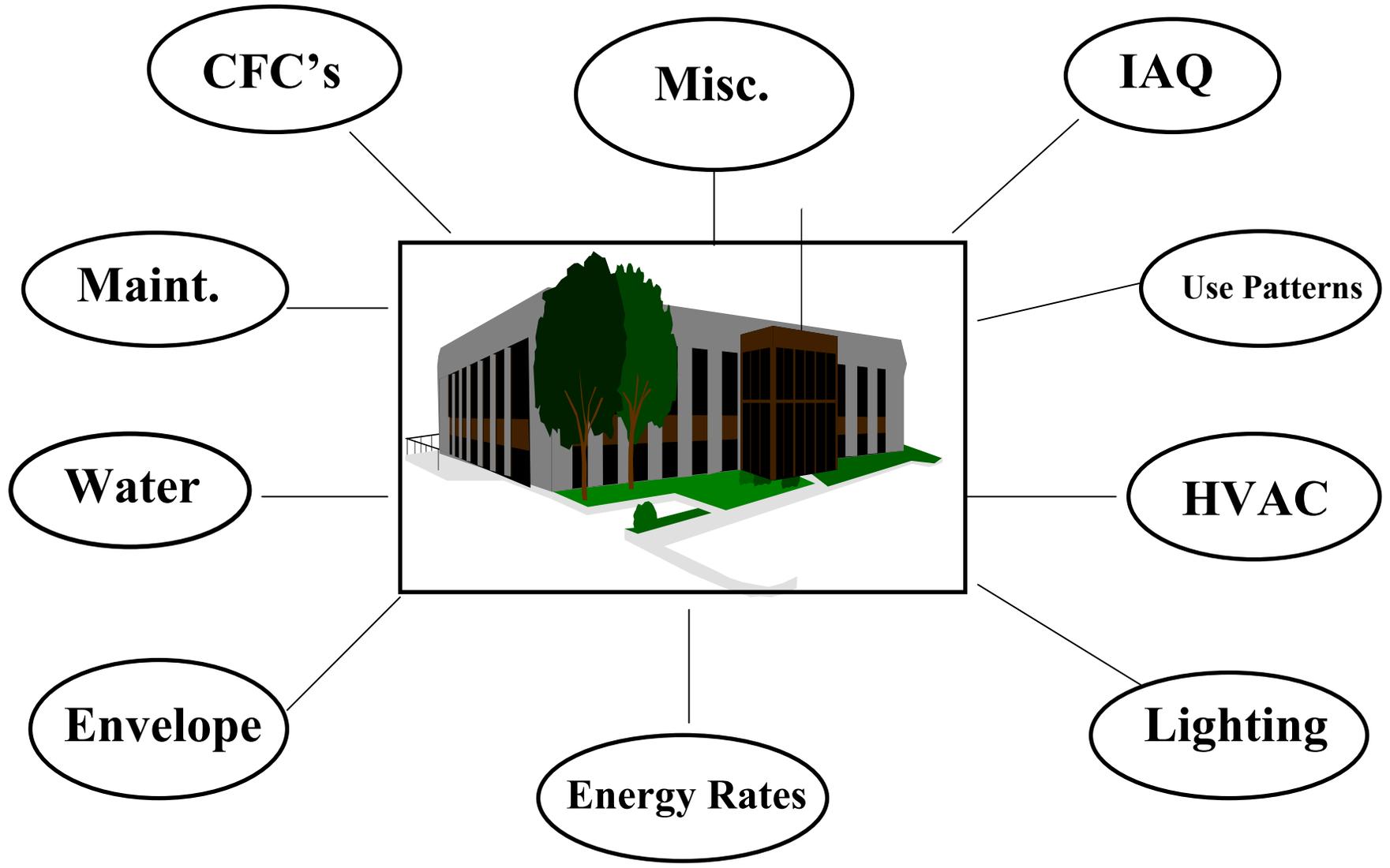
# Definition

- **“To Make or Become Whole or Complete”**
- **“To Bring Parts Together Into a Whole”**



# High Performance

- **What Is A High Performance Building?**





# What Are The Benefits Of Building Integration

- **Higher Efficiency**
- **Improved Comfort**
- **Reduced Operational Costs**
- **Longer Facility Life**
- **Others??????**



# What Are The Barriers To Building Integration

- **Procurement Process**
- **Paradigms**
- **Executive Support**
- **We Have Always Done Things This Way**
- **Creative Thinking**



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# Tools Available To Integrate For High Performance Buildings



# L&M Growth vs Low Interest Rates

- L&M Growth At An Average Rate of 2-4%
- Municipal Funding Sources As Low As 3%

***“ It is cheaper and in your best interest to implement high performance building applications now than to put them off for later”***



# ESPC

- **Self Funded Solutions From Energy and Operational Budgets**
- **Guaranteed Results**
- **Customer Maintains Complete Control**
  - Pricing
  - Contractors
  - Equipment



- **Example of High Performance Building Integration At It's Best**

**University of Utah**





# U of U Goals

- **Retrofit 90 Plus Buildings**
- **Leverage Capital**
- **Self Fund a \$23 Million Dollar Central Plant**
- **Not Have It Impact Future Bonding**
- **Have Happy Customers With End Result**















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# Questions