



Enterprise Management



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Overview

- Enterprise management vs. building management
- Managing a business vs. operating a service
- Information, information, information
- Financial and non-financial benefits

Enterprise Management: More than Just Multiple Buildings

- Driven by business objectives/benefits
 - Operational (financial benefits)
 - Improve quality of service and credibility of department
 - Utility billing (by building/cost center)
 - Cultural evolution
- It's all about leveraging BAS, metering, utility, space planning information to improve the business
- It's an information technology problem
 - Apply information technology to business problem
 - Integrate data from many different systems over complex networks
- Wide range of users, inside & outside facilities / utilities groups
- Size matters
 - 5 – 25M+ GSF
 - \$10M+ utility bill

Perspective on Enterprise

■ Business

- Financial benefits — hard savings versus reallocation of resources or funds
- Non-financial benefits — organization credibility, improved customer service, accountability,

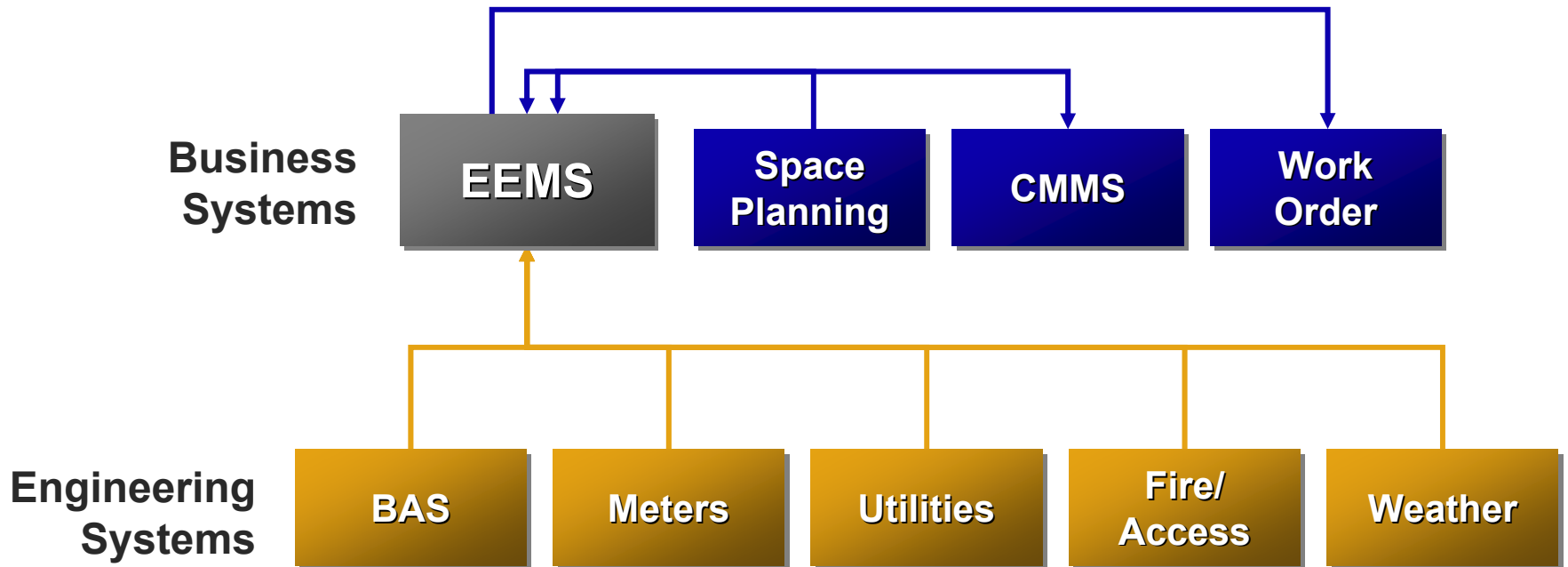
■ Organizational — who benefits

- Interdepartmental
- Intradepartmental

■ Technical

■ Cultural

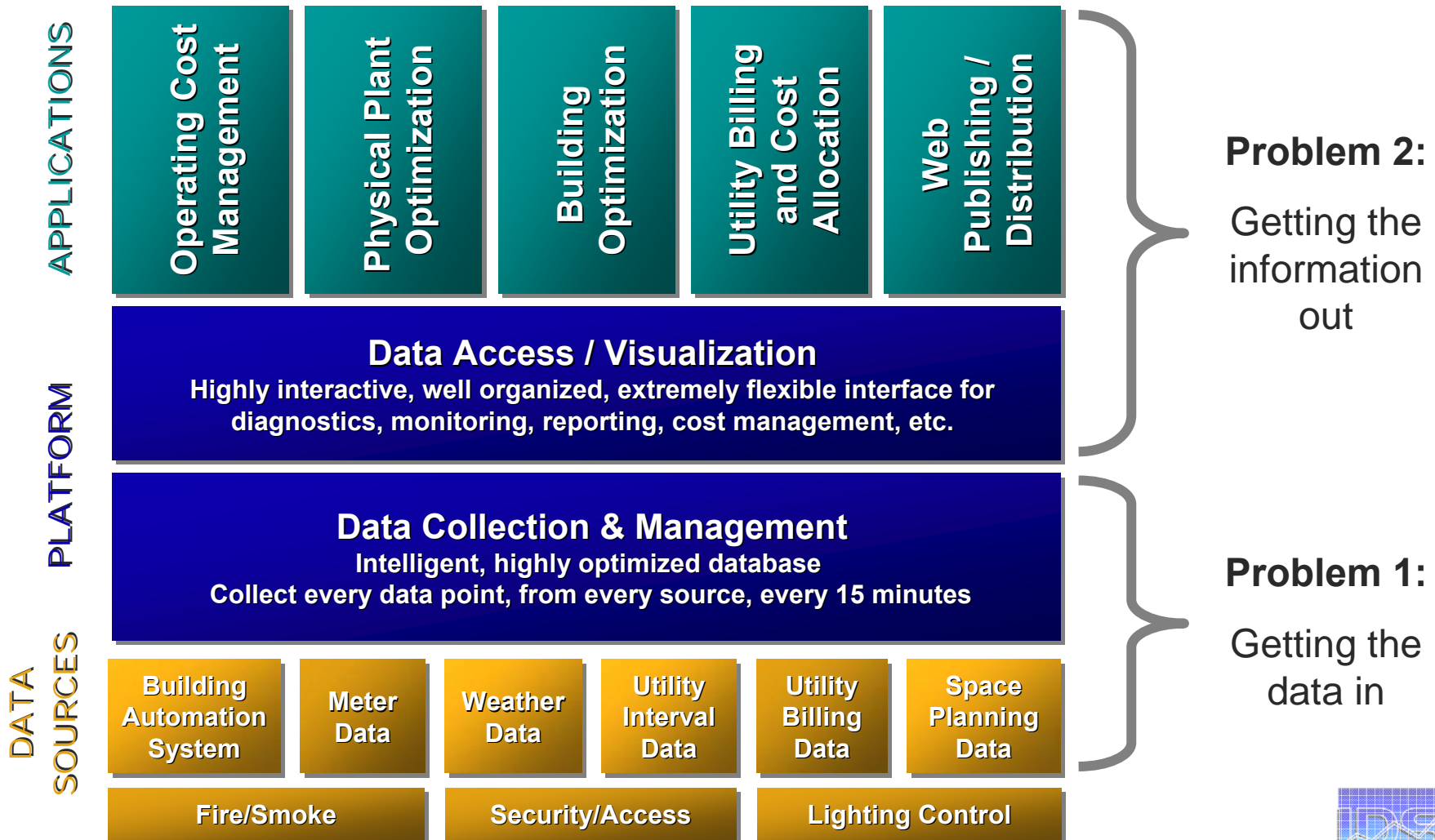
Perspective on Strategic Info Systems



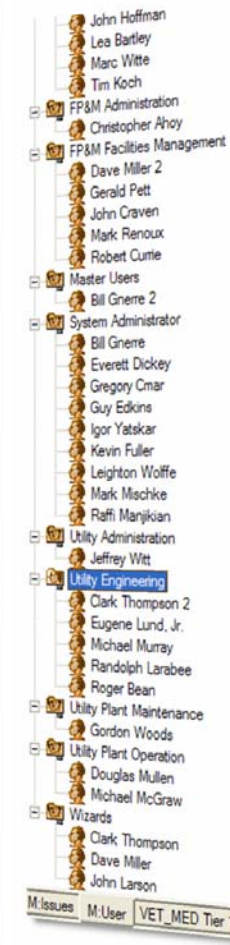
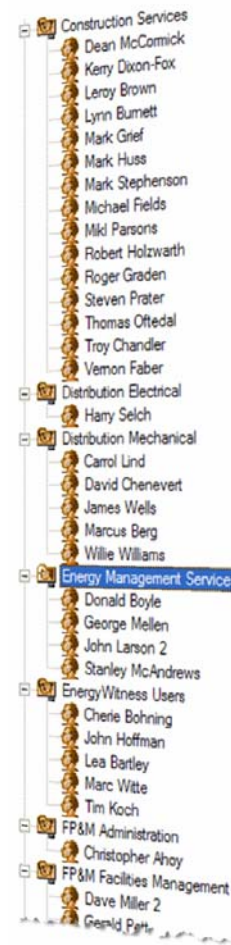
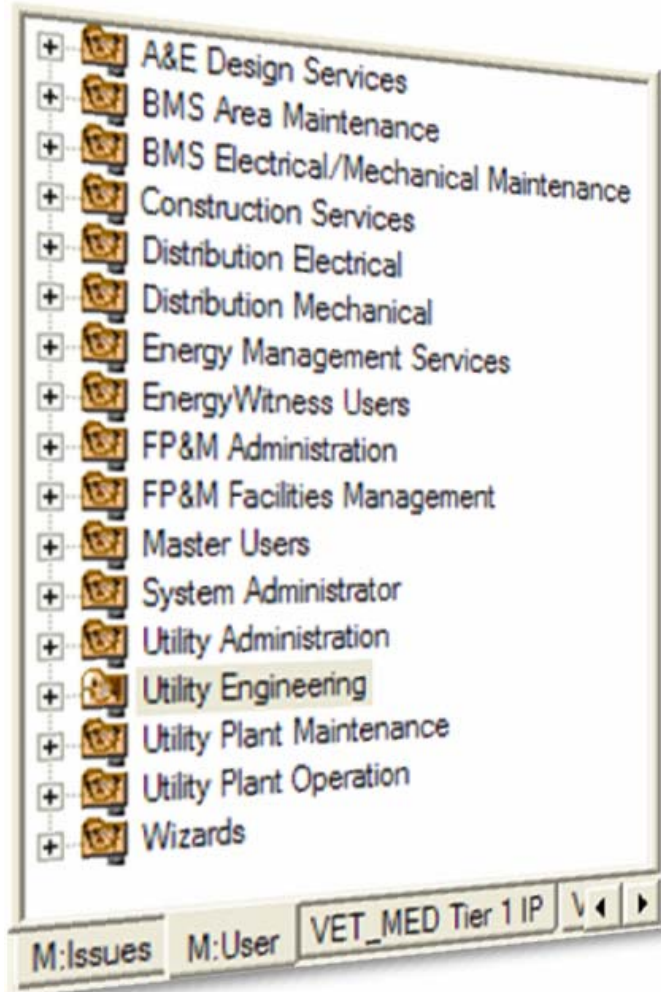
The Business of Facilities Operations

- You're running a \$20 – 100M business
- Innovate—don't accept status quo
- Need an information system to answer:
 - How do I lower energy costs while maintaining comfort?
 - What is the cost/hour to run the plant, or each building?
 - How can I improve credibility throughout the organization?
 - What will make my staff more productive and accountable?
 - Are engineers over-designing, costing more to install & run?
 - Can we occupy new buildings sooner, without issues?
 - How do I accurately allocate utility costs to departments?
- The answers exist, but require change

Information Requires Data

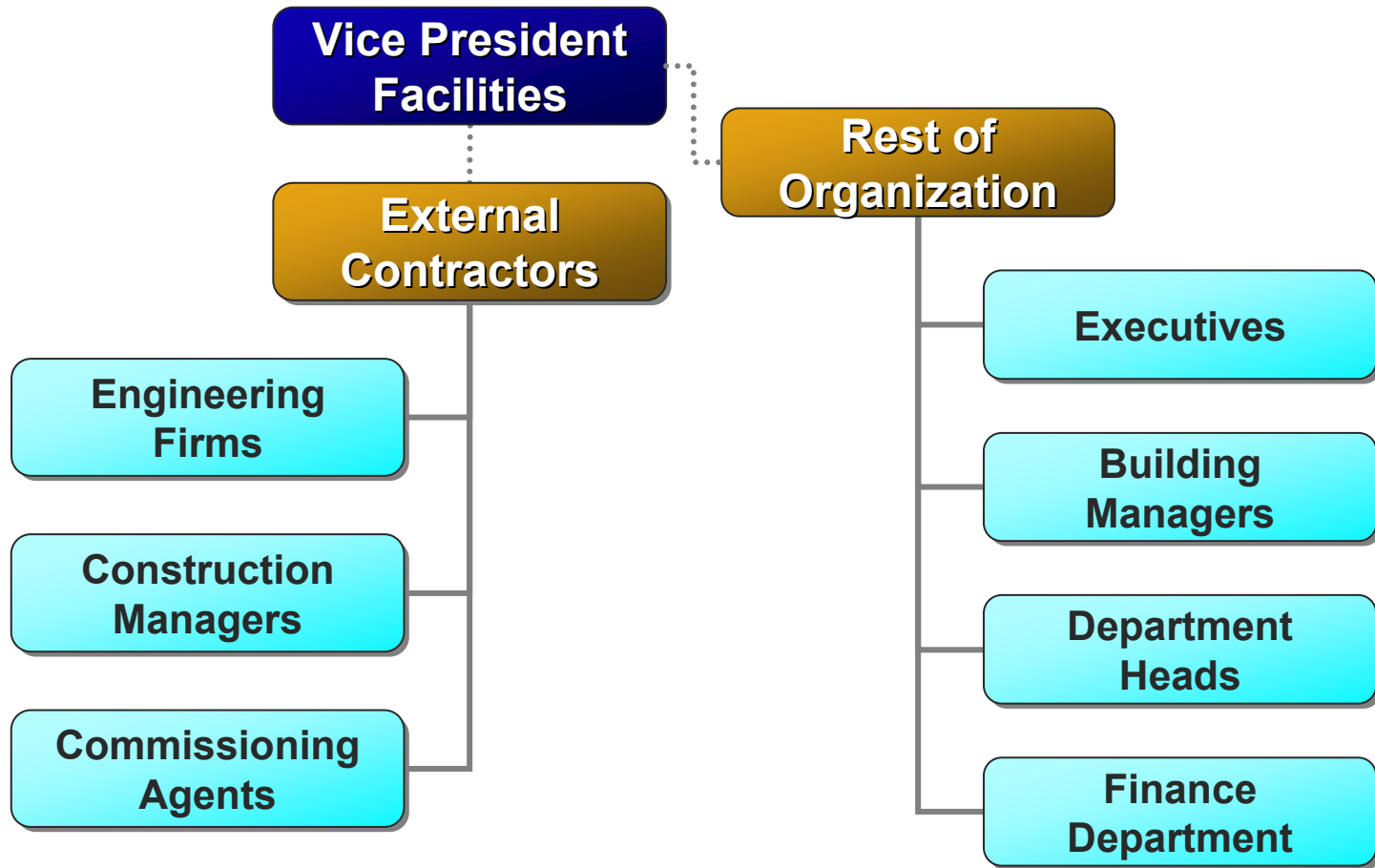


Who Uses Operational Information? Within Facilities



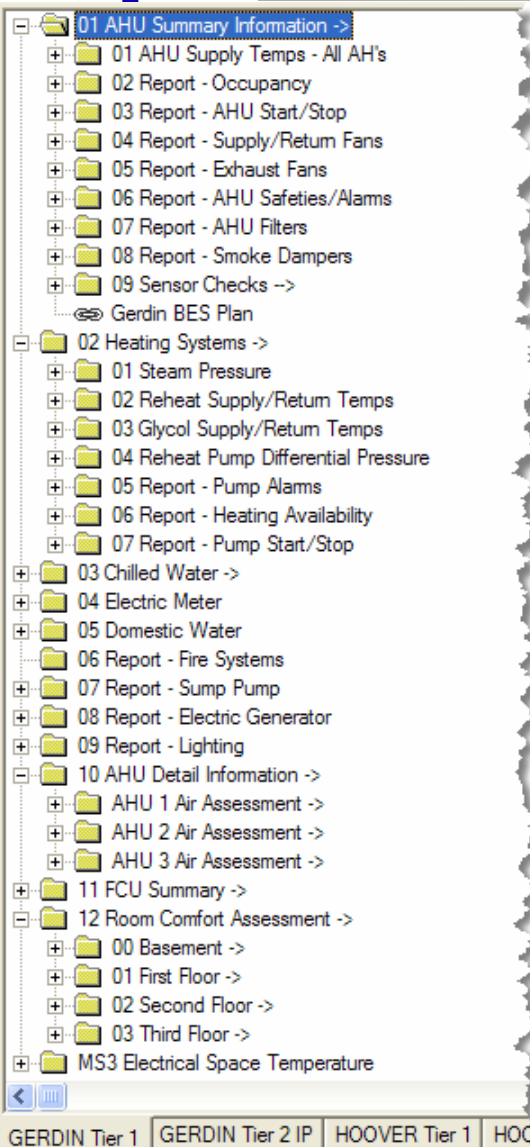
Affects ≈2 people for each \$1M non-utilities operating budget

Who Uses Operational Information? Outside Facilities



Each user has unique data/information needs

Multiple Information Views

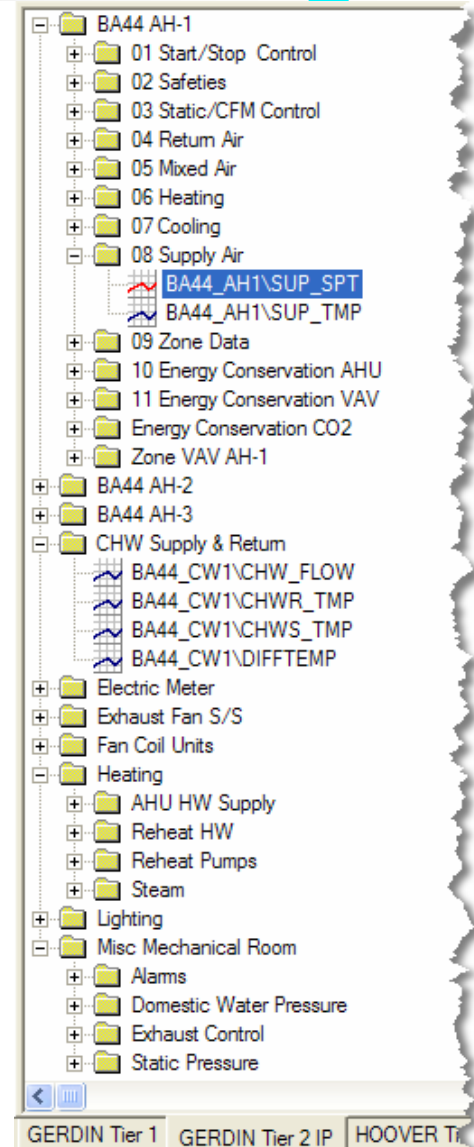


← Building mechanic's view

- Only info of interest
- Summary level
- Organized to “walk” through entire building in 10 minutes

Engineer's view →

- Complete building data
- Detailed level
- Organized based on equipment / systems

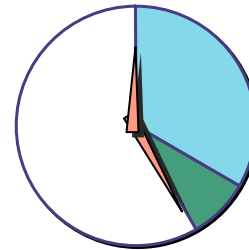


Why All the Data, All the Time?

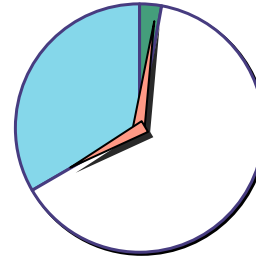
Stop wasting time

- Engineers / technicians spend 5X – 10X more time collecting data than doing actual engineering
- Accepted as “part of the job”
- Affects internal staff & external firms

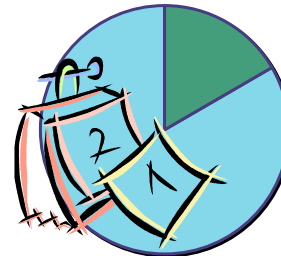
Most people are not aware of all the time they waste!



← Data collection: 20 min
Engineering: 5 min
Ratio: 4:1



← Data collection: 4 hrs
Engineering: 20 min
Ratio: 12:1



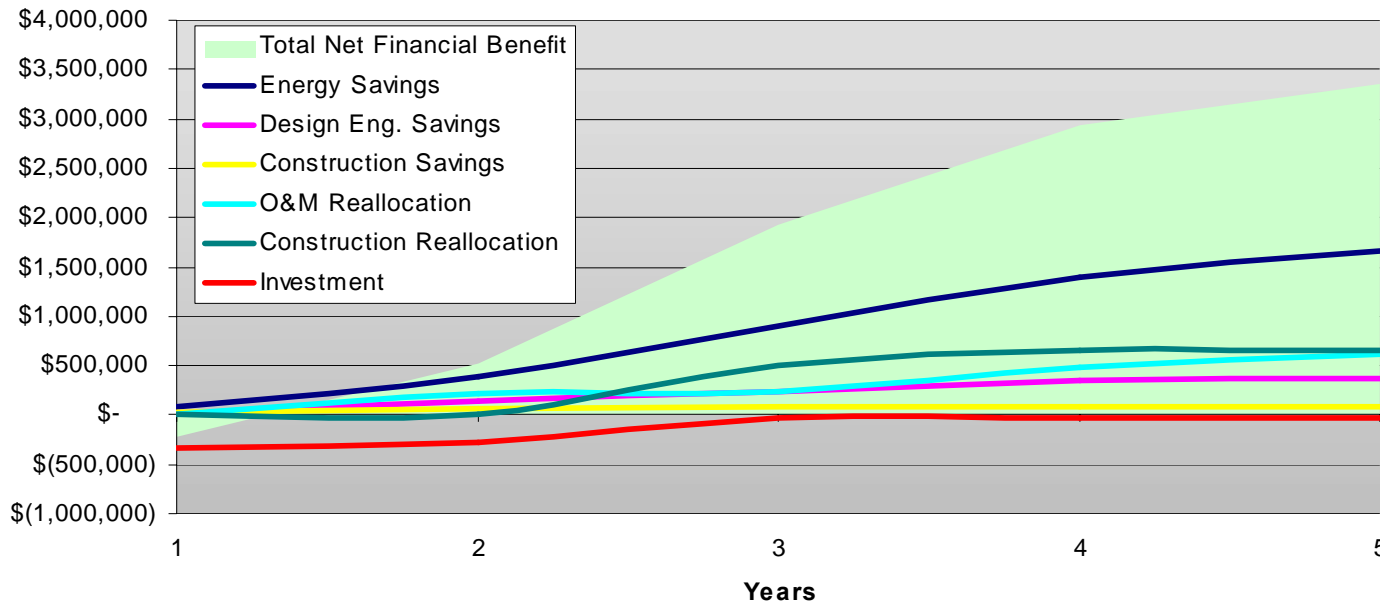
← Data collection: 2 days
Engineering: 2 hrs
Ratio: 7:1

Productivity Gains from an Enterprise System



Financial Benefits

- Savings from energy, design engineering, construction
- Funds available for reallocation for O&M, construction
- In this example, over \$3M/year benefit reached in year four
- Five-year cumulative benefit of \$8.5M



Parameters

O&M budget (incl utilities)	\$50M
Utilities budget	\$24M
Construction budget	\$55M

Non-Financial Benefits

- Operate proactively—not reactively
- Improve customer management & satisfaction
- Increase department credibility
 - With customers (occupants)
 - With management (finance)
- Build unparalleled accountability
- Reduce hot/cold calls
- Enable many more people with information
- Justify budget requests with facts
- Exploit more BAS capabilities



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For Additional Information

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