



# Enabling Data For Automating Capital Facility Decisions Through Scenario Based Planning

OPS Support Tools & Processes

**Dianne Davis**

BIM Process Manager

AEC Infosystems, Inc

Chair Scoping Committee National BIM Standards

IDM Technical Chair

© Copyright AEC Infosystems &  
Onuma Inc. 2008

© 2007 Sanborn  
Image © 2007 Sanborn  
© 2007 Europa Technologies  
© 2007 BIMcenter

# Driving Forces Enabling Innovation

***Information systems are developed around  
the available forms of communication***



We are evolving.....  
*from paper-centric to an info-centric process*  
*from conversation to communication*  
*from outputs to outcomes*  
*from ad-hoc to standardized*

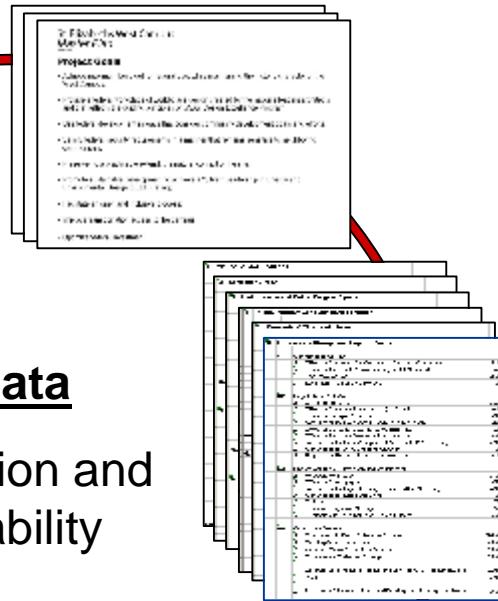
- CAD to BIM
- Text to Database
- E-Mail to Portal Workflows
- Unstructured to Structured Data
- Knowledgable Workers to Knowledge Management
- Stovepiped Disciplines to Collaborative Teams

# Lag Time in Decisions

---

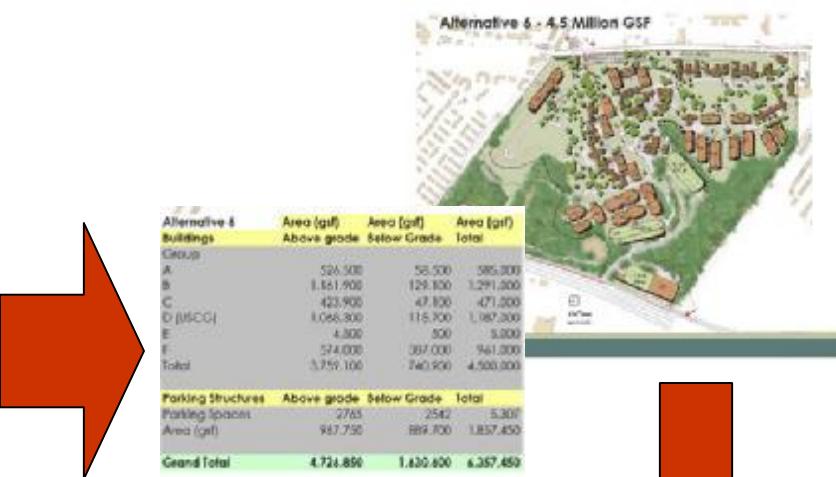
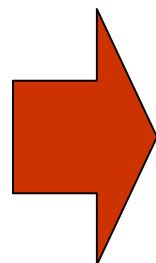
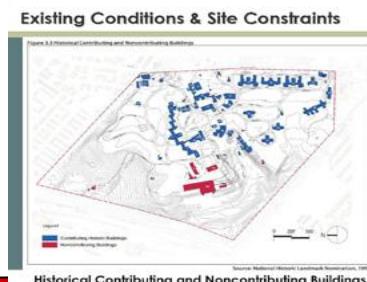
- It is estimated that 30% of time on design is spent waiting on information or designing without complete information.
- By focusing on enabling data we reduce the lag time from design option to project decision
- These tools allow the maximum number of decision makers to view the same data
- See ramifications of decisions against the project criteria

# Project Data Issues Addressed by Process Data Development, Use, Sustainability



## One-Way Data

Limited Integration and  
Re-Use Capability

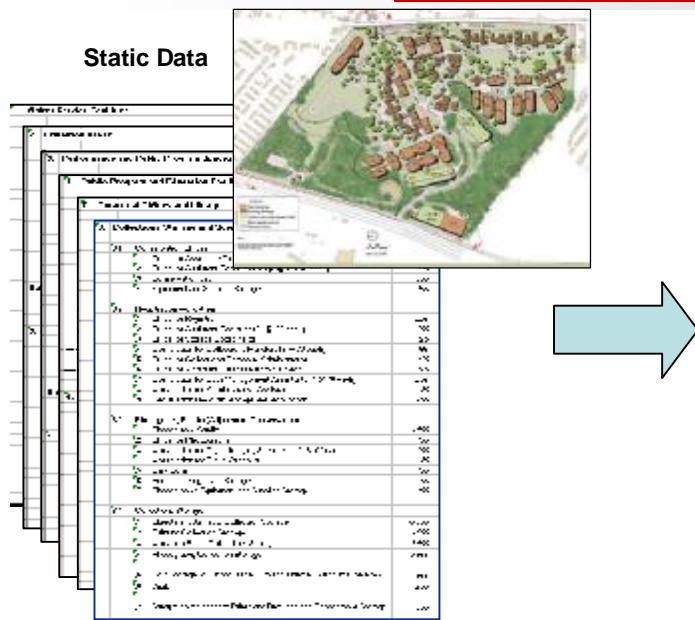


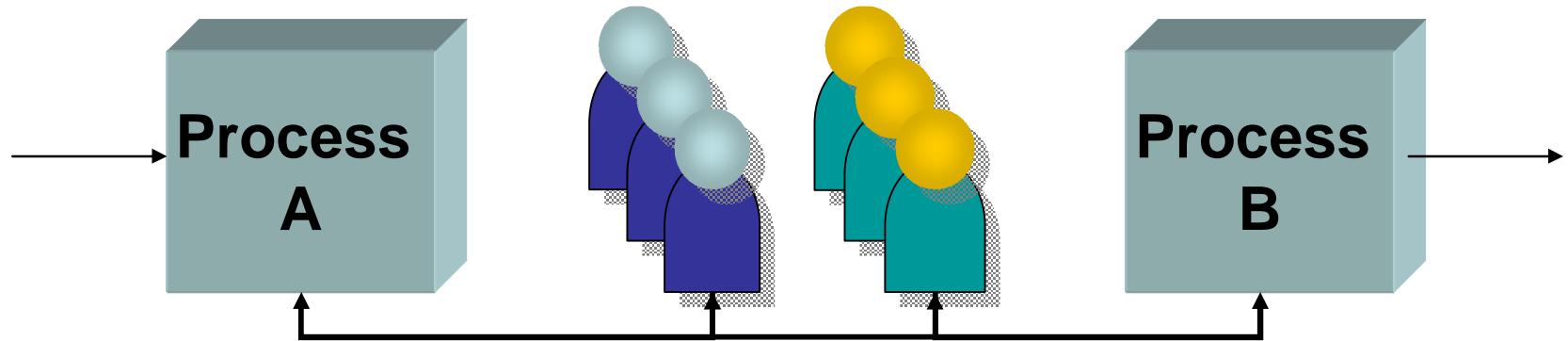
New Studies Re-Create  
or Re-Process the Data

**Formats Don't Support  
Automated Analysis  
Analysis = Simulation**

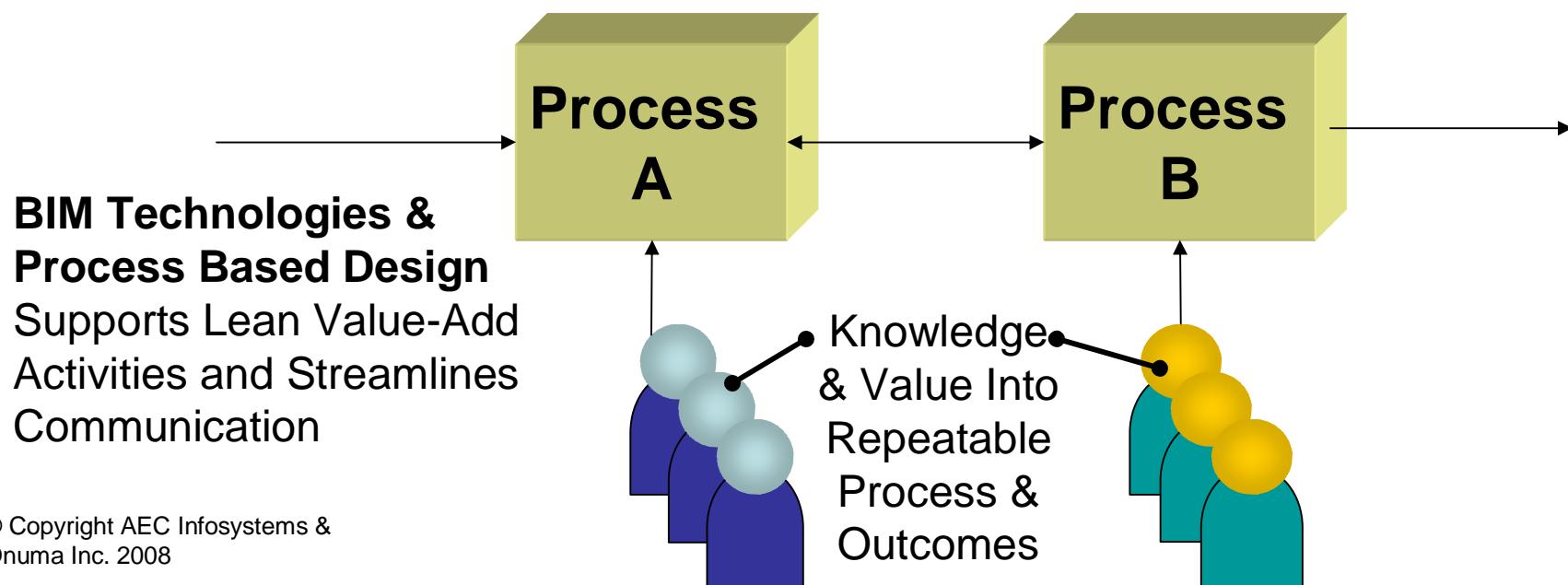


# Streamline Data Sharing and Analytical Capability in Process

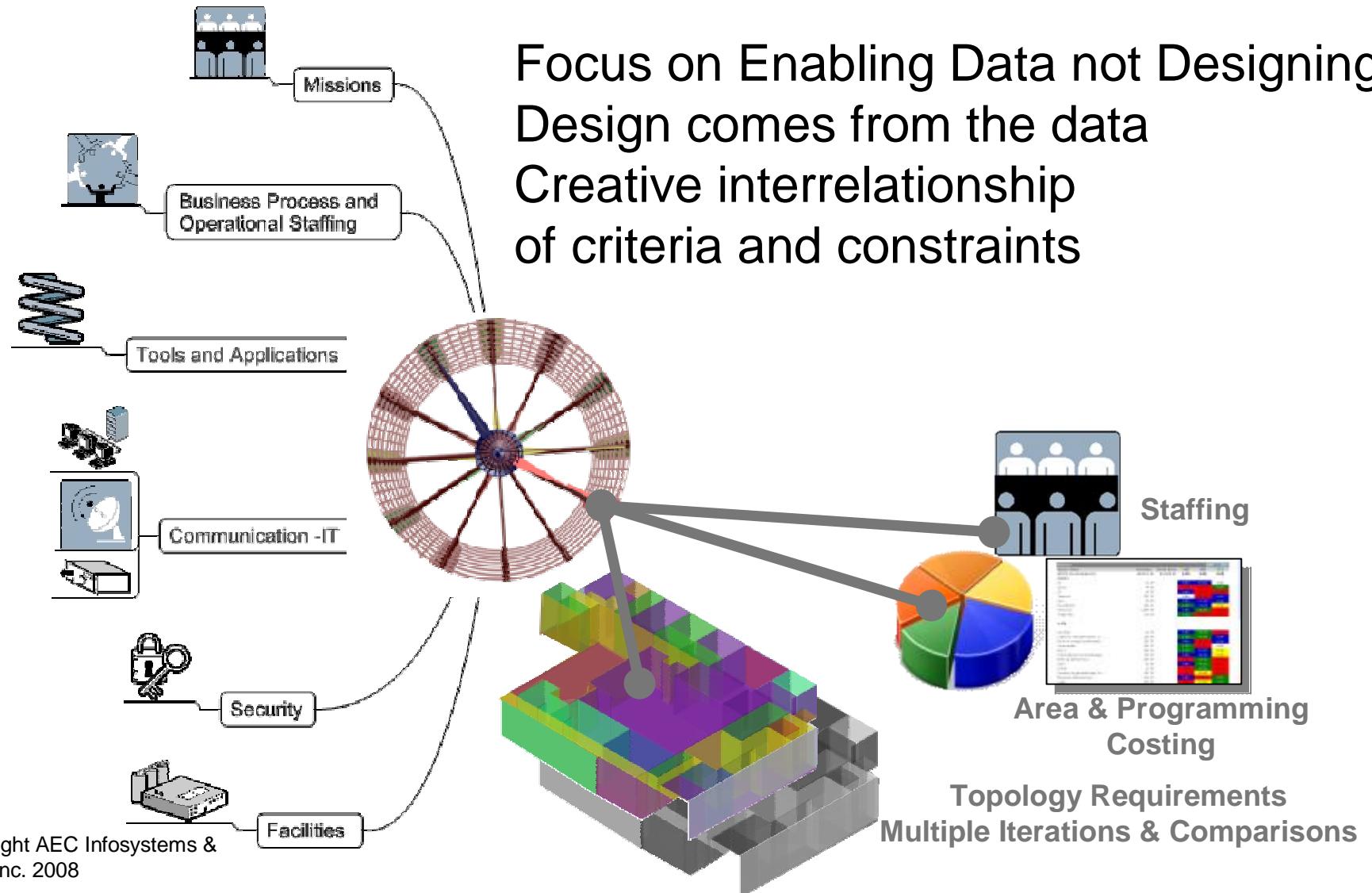




**Paper and Current Ad-Hoc Based Design**



# Data Aggregation & Relationships



# Products for Outcomes

## Core Requirements Understanding and Aggregate Data Sets



Facility Mission

Facility  
Operational  
Concept

Operational Information  
For Function & Need

Building Information  
Management System

Facility Functional  
Concept

Staffing  
Program

Area/Space Tool  
& Program

*Facilities  
Response*

Equipment

Client  
Requirements  
For Green

Requirements  
for Security

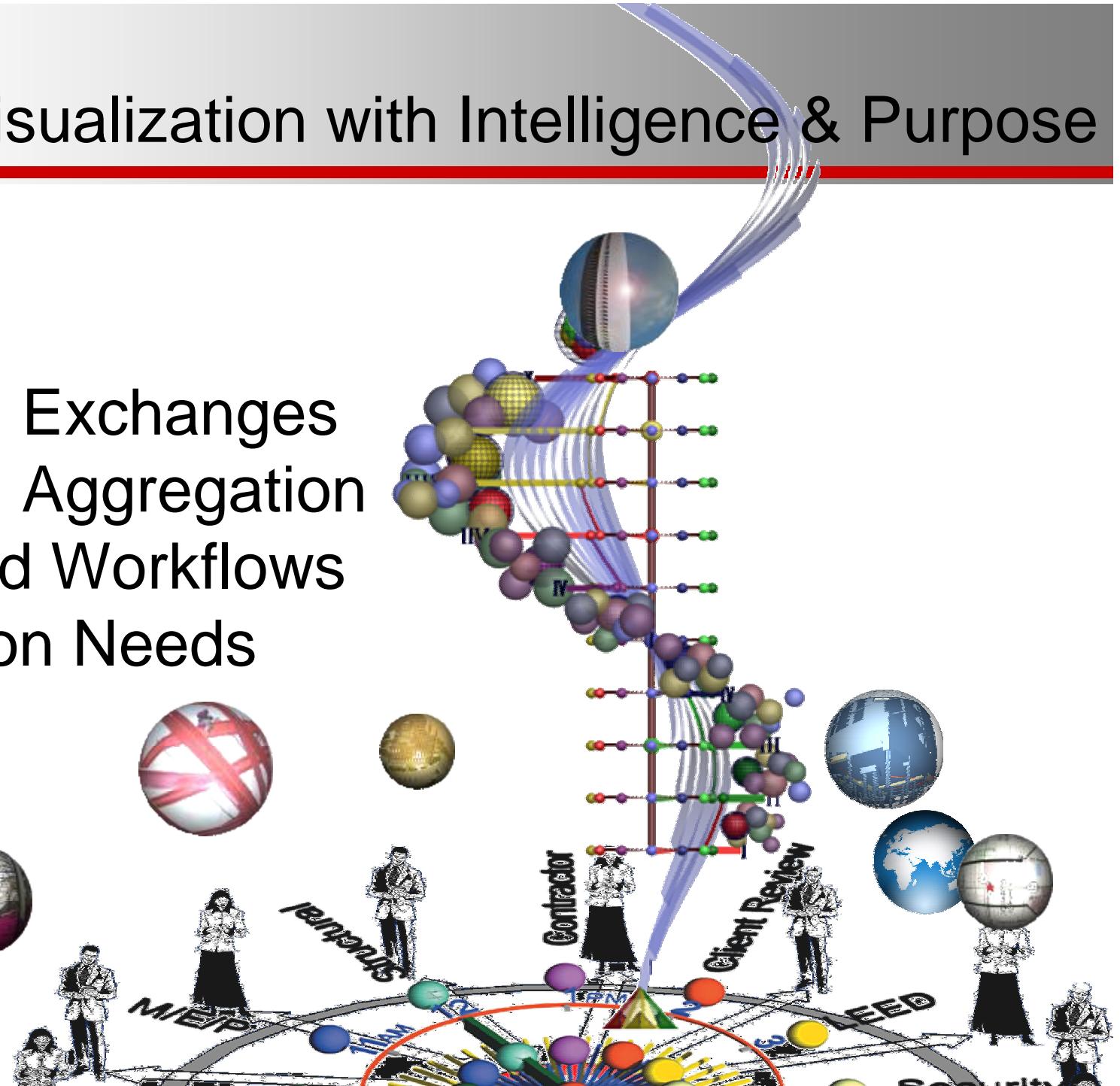
Design Criteria  
(new facility)

Design Criteria  
(existing facility)



# Visualization with Intelligence & Purpose

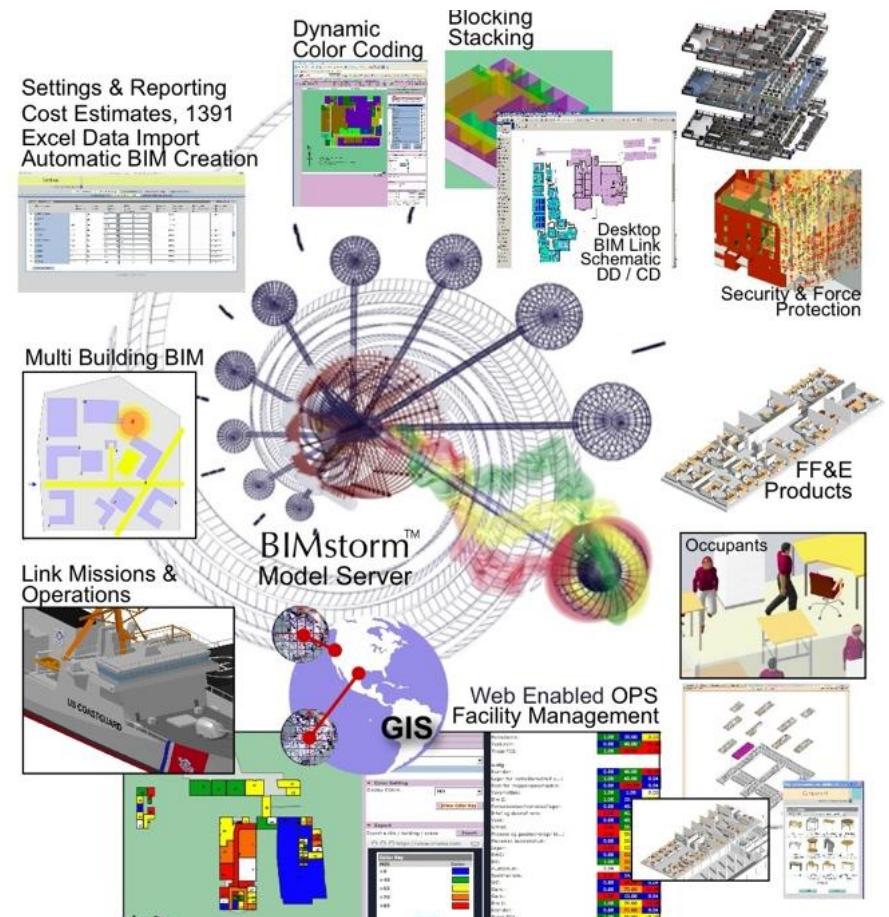
Information Exchanges  
Information Aggregation  
Built Around Workflows  
and Decision Needs



# ONUMA Planning System-OPS

- **Web-enabled Mission or Operational Based Requirements Planning for Facilities**

- Supports Mission to Facility Linkage
- Real Property Inventory
- Facility Metrics
- Functional Spaces
- Equipment
- Organization to Space Linkage
- Occupants and Space
- Costing
- Multiple Scenario Comparisons
- Downloads to major CAD/BIM software



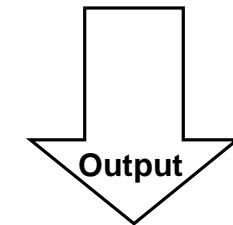
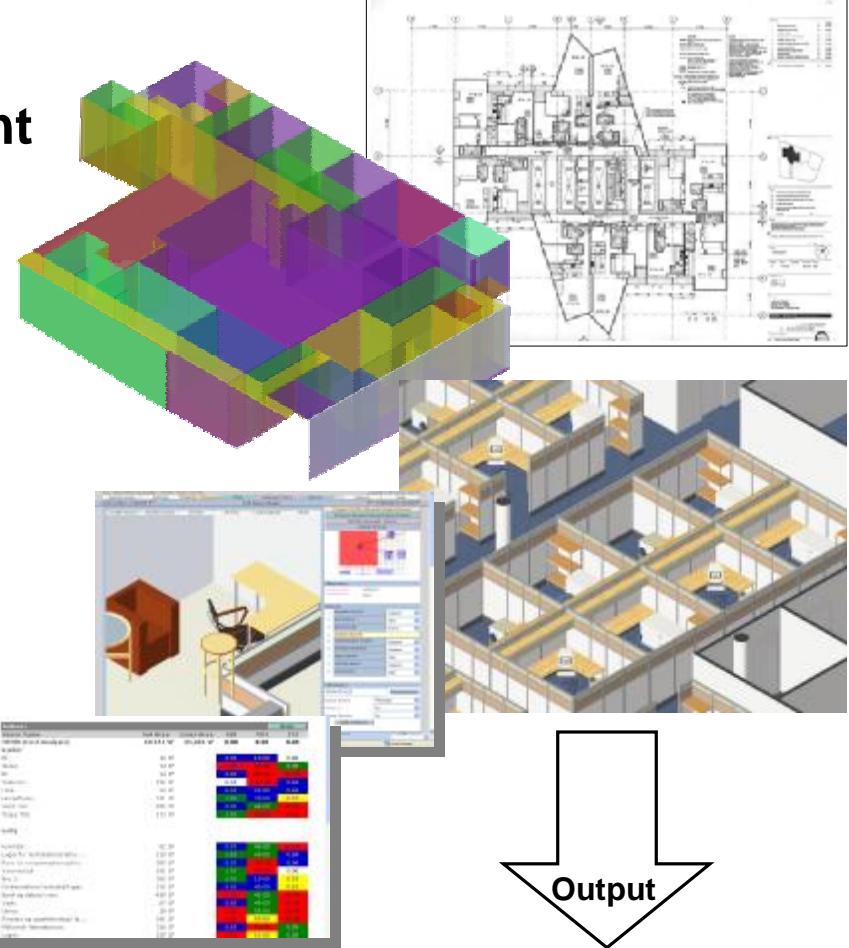
# Backbone of Process Change

---

- The enabling environments of WEB, Databases, and Visualization of Data are core components of Scenario Planning
- Move from Application and desktop (singular) to Web and collaboration
- Requires a process approach to design automation
- Built on Open Data and Standards to Allow Maximum Participation

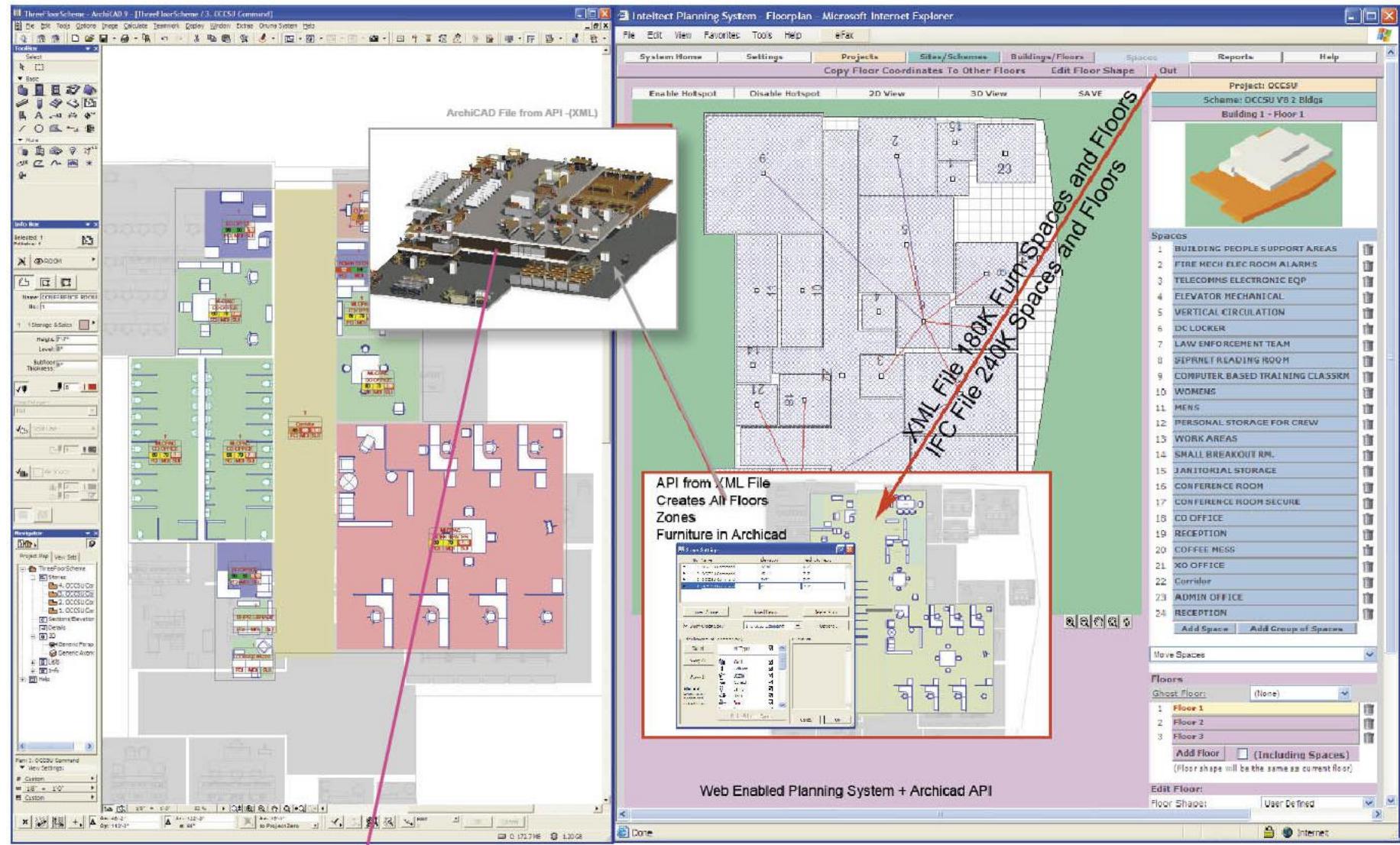
# Views of Critical Project Data

- **High Level Programming from client**
- **Space and Functional Inventory**
- **Facility Metrics**
- **Project Principles**
- **Spaces & Components**
- **Equipment**
- **Functional Space Linkage**
- **Occupants**
- **Costing**
- **Multiple Scenario Comparisons**
- **Downloads to major CAD/BIM software**



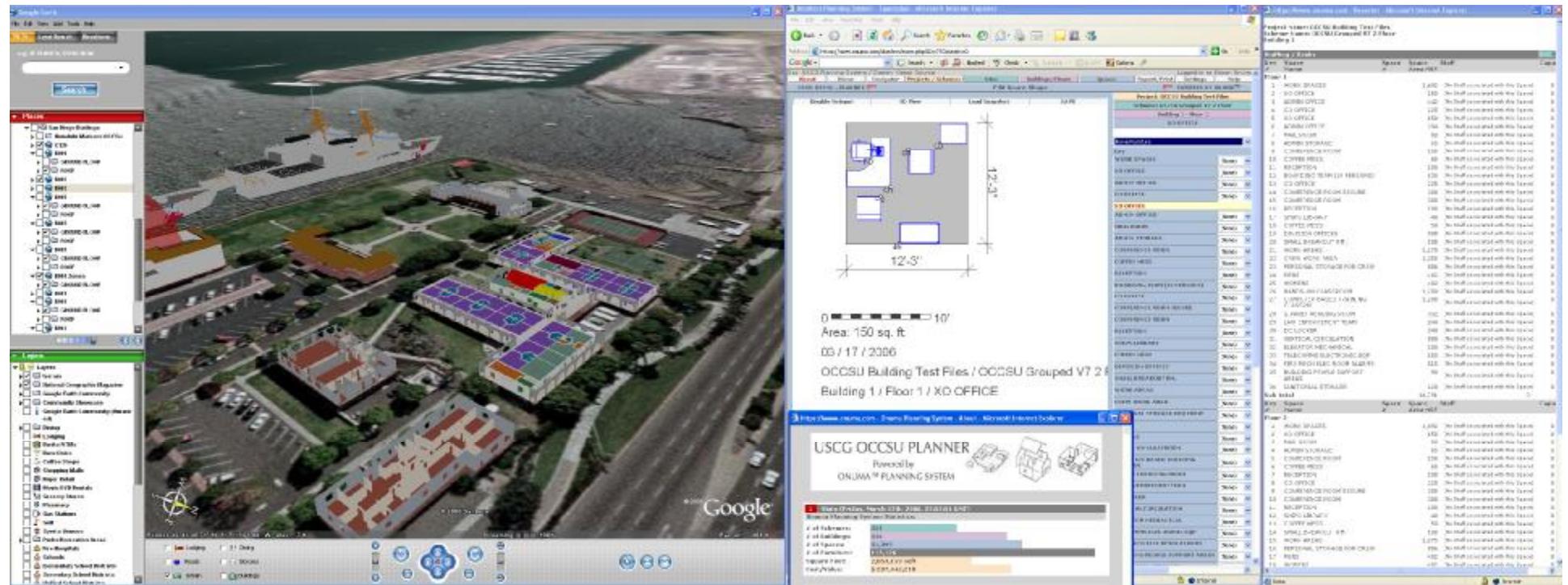
Staff/Area Program  
Functional Concepts  
Space Typologies

# US Coast Guard Operations Planning





# US Coast Guard Operations Planning





# St Elizabeths Campus

Google Earth



© Copyright AEC Infosystems &  
Onuma Inc. 2008

DigitalGlobe Coverage



# Moving From Ad-Hoc to Industry Knowledgebase



## Login IDM Information Database

Please [sign up for a password](#) if you don't have a Username yet.

Please [contact us](#) if encounter any difficulties with the login.

**Sign in:**

Username

Password

Remember Username and Password  
(For this Computer to "forget" this information you can use the "logout" link at the top right.)

[Forgot your password?](#)

**Login** **Clear**

**Cookies and JavaScript must be enabled to use this system.**

(In Windows IE, instead of allowing all cookies you can also specifically add this domain "bimsmart.com" to a list of "allowed" websites ->Tools ->Internet Options ->Privacy ->Edit)

Username and Password are not case sensitive.

© Copyright AEC Infosystems & Onuma Inc. 2008

