

Construction Operations Building Information Exchange (COBIE)



January 2008 Overview Briefing

for more information please visit www.wbdg.org/resources/cobie.php



briefing outline

1. cost of handover documents

2. why COBIE?

3. COBIE requirements

4. plan of action

5. for more information



agenda



1. cost of handover documents

2. why COBIE?

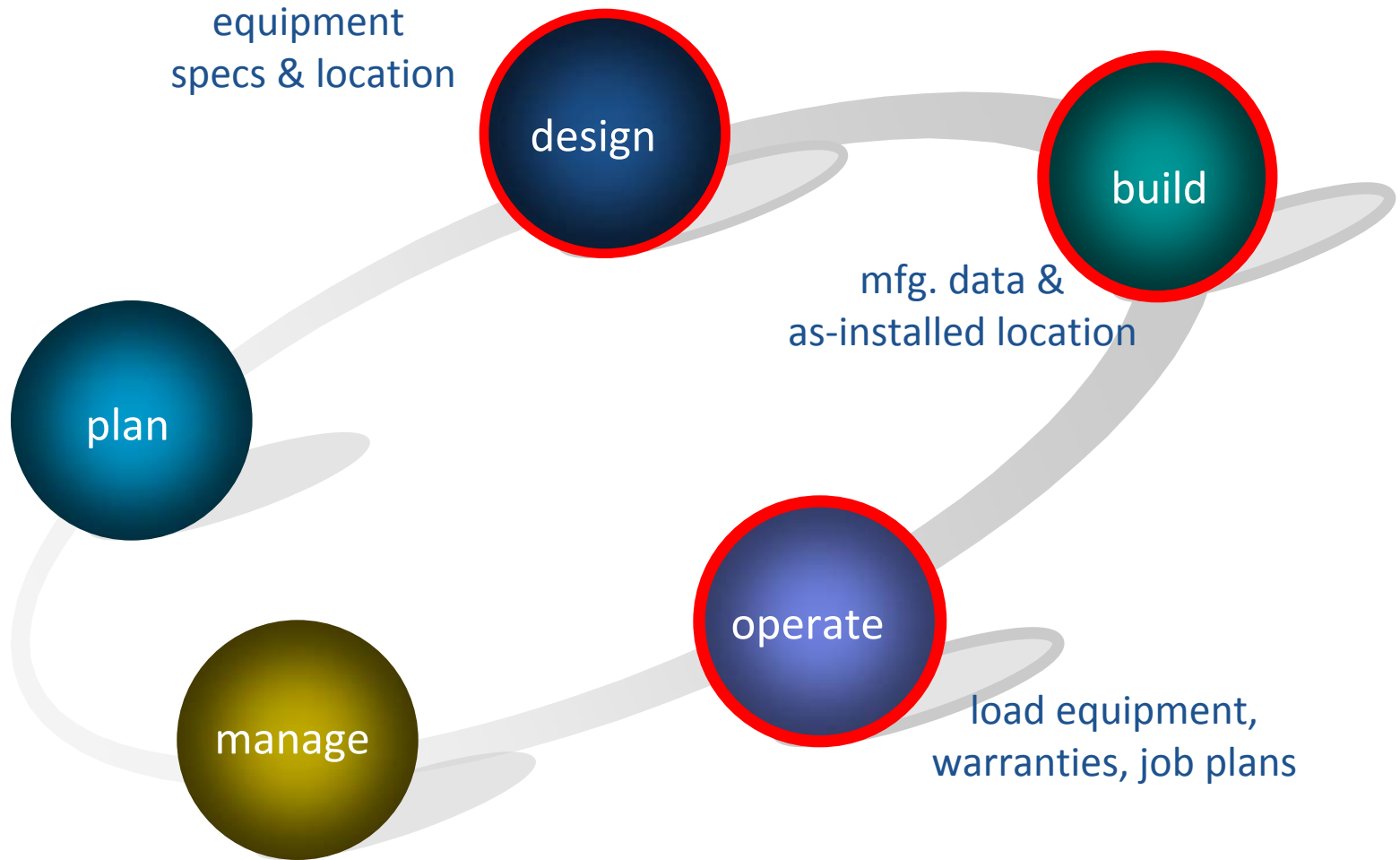
3. COBIE requirements

4. plan of action

5. for more information

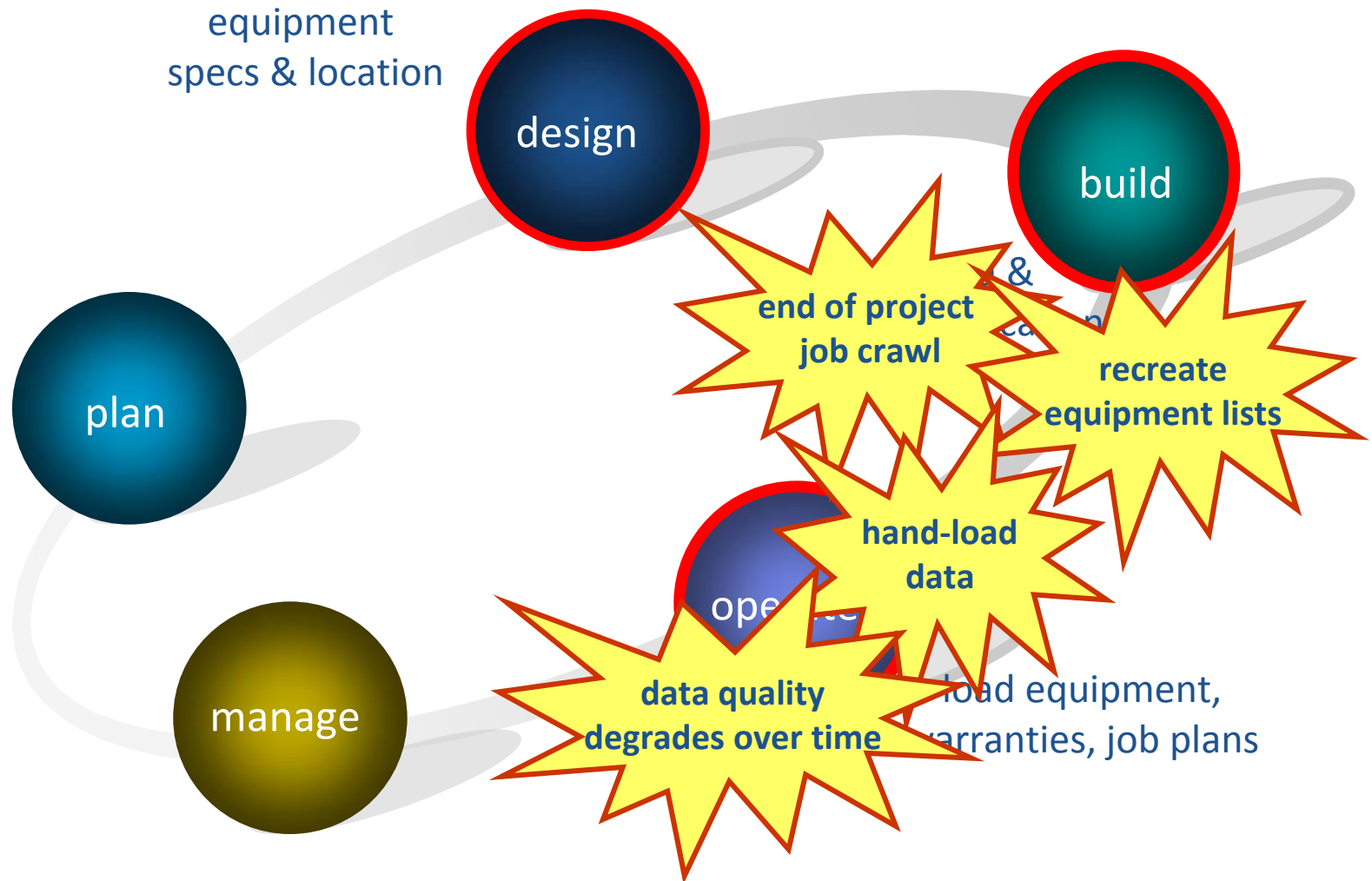


data is captured, lost, and recaptured



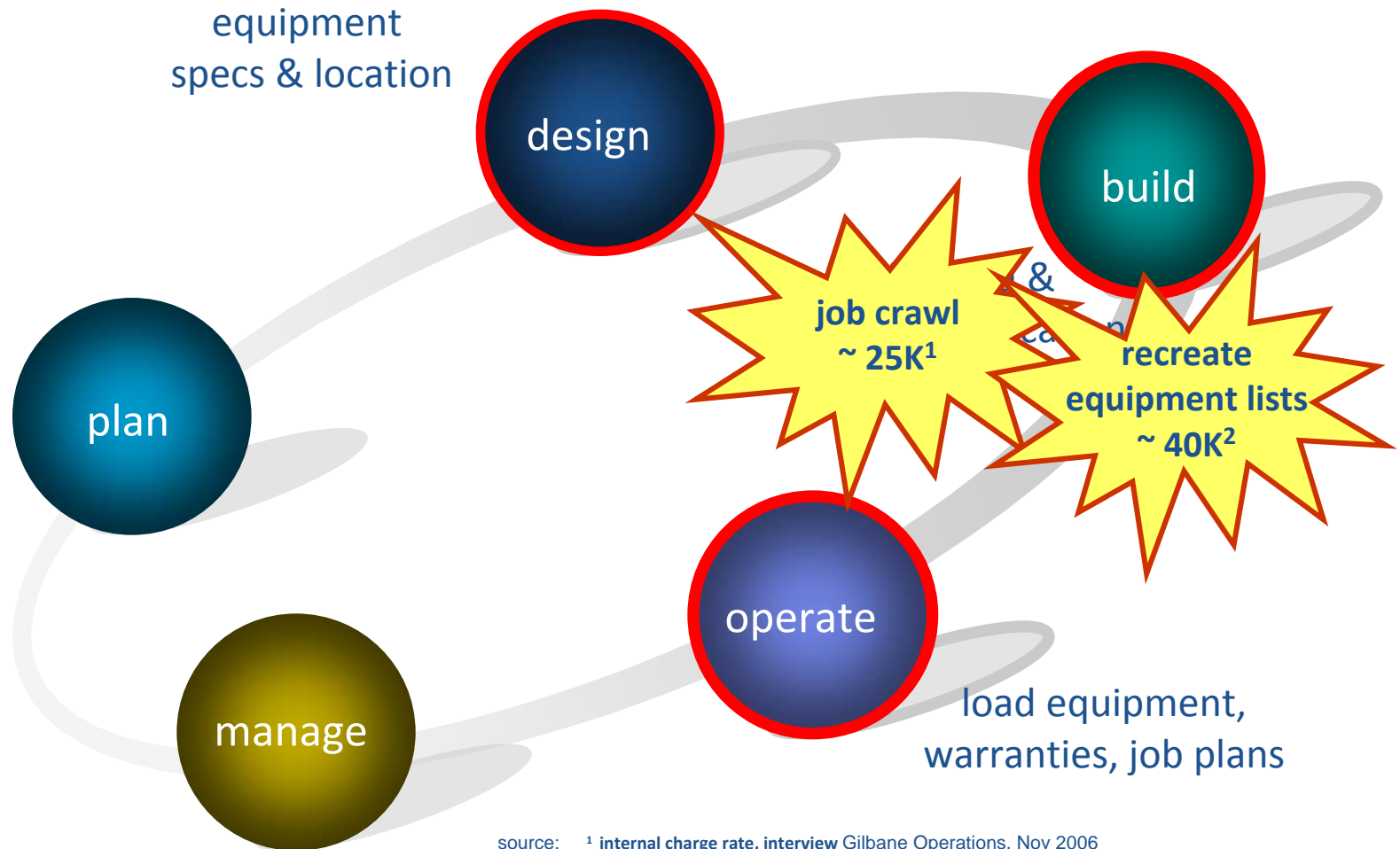


data is captured, lost, and recaptured





impact on construction team



source: ¹ internal charge rate, interview Gilbane Operations, Nov 2006
² typical cost of NAVFAC's OMSI file, interview Burns & McDonnell, 2007



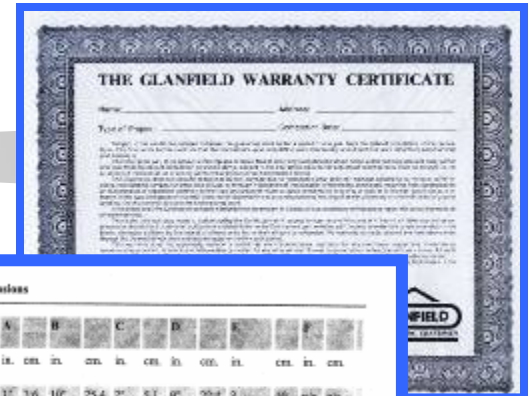
impacts on facility managers

- warranty terms unknown
- unknown PM requirements
- unknown system, equipment design criteria
- Spare parts suppliers
- Where is valve 5 ?

design

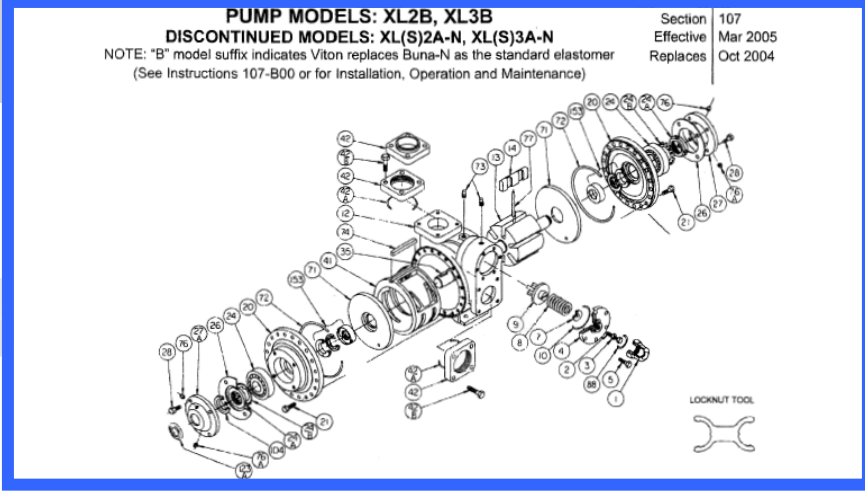
plan

manage



Ordering Specification and Dimensions

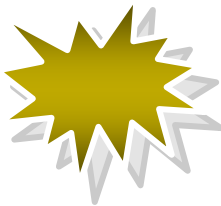
Product No.	Description	A		B		C		D		E		F	
		in.	cm.	in.	cm.	in.	cm.	in.	cm.	in.	cm.	in.	cm.
61STOP-1000	2" Cyl. Flange Medial	3"	7.6	10"	25.4	2"	5.1	9"	22.4	3"	15.16"	10"	25.4
61STOP-2000	2" Flange Arm	3"	7.6	10"	25.4	1.02"	2.58	5"	12.7	18"	45.72"	8"	20.32
61STOP-3000	2" Flange Arm Sp	3"	7.6	10"	25.4	1.02"	2.58	5"	12.7	18"	45.72"	8"	20.32





agenda

1. cost of handover documents



2. why COBIE?

3. COBIE requirements

4. plan of action

5. for more information



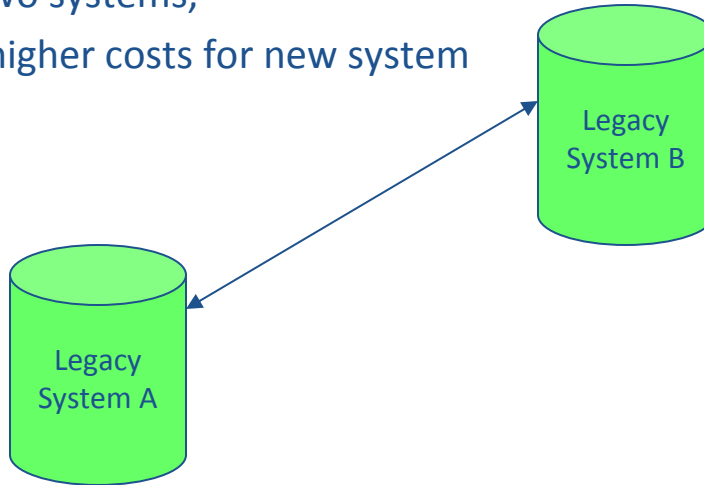
efforts to date

- **NAVFAC Operations & Maintenance System Information (OMSI)**
e-paper submission of O&M documents
- **U.S. Army, Department of Public Works, Fort Lewis, WA**
Pockets of local, proprietary information exchange & expertise
- **Electronic construction submittal register**
Construction Criteria Base, federal UFGS and UFC's. SpecsIntact software.
- **International Alliance for Interoperability (IAI)**
FM Project has been proposed using Industry Foundation Classes (IFC)
- **FIATECH Automated Equipment information eXchange (AEX)**
Exchange of supply chains information among tiered stakeholders
- **Machinery Information Management Open Systems Alliance (MIMOSA)**
Exchange standard for equipment telemetry
- **Open Standards Consortium for Real Estate (OSCRE)**
Asset management and valuation exchange
- **National Institute of Science and Technology (NIST)**
Capital Facilities "Handover" Guide (Jan 2006) General Building Guide (2007)



let's all just buy compatible software!?

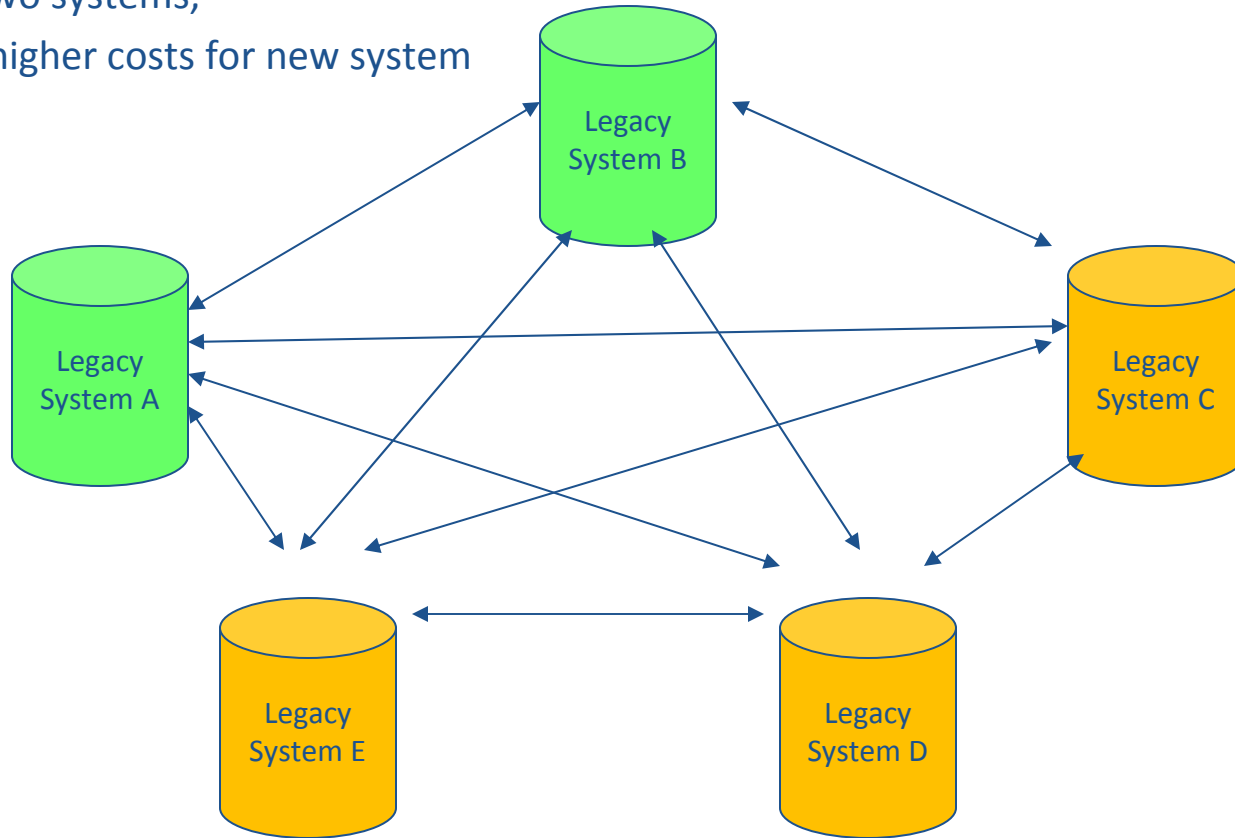
okay for first two systems,
exponentially higher costs for new system





...exponentially higher cost to maintain

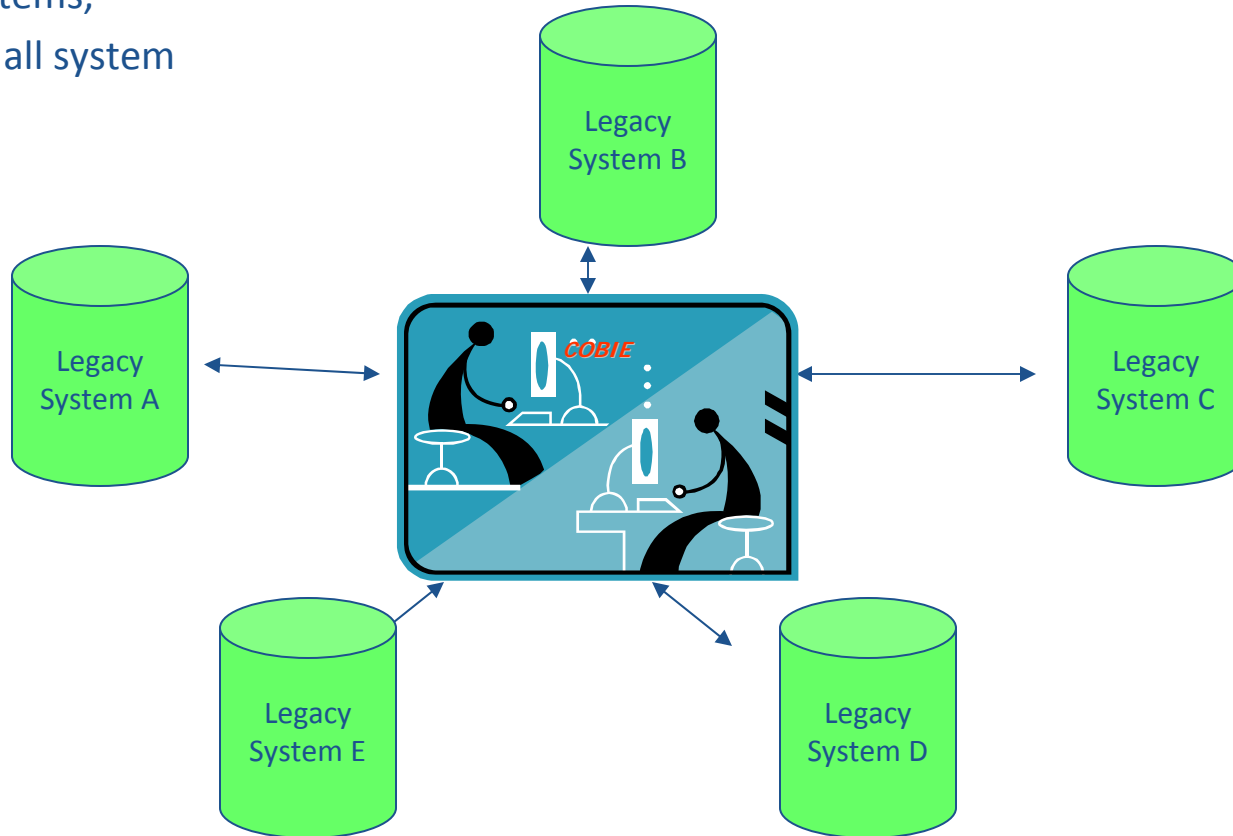
okay for first two systems,
exponentially higher costs for new system





no! write once, read as-needed

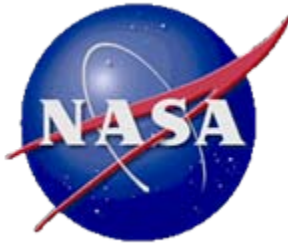
okay for all systems,
costs same for all system



what's the catch?

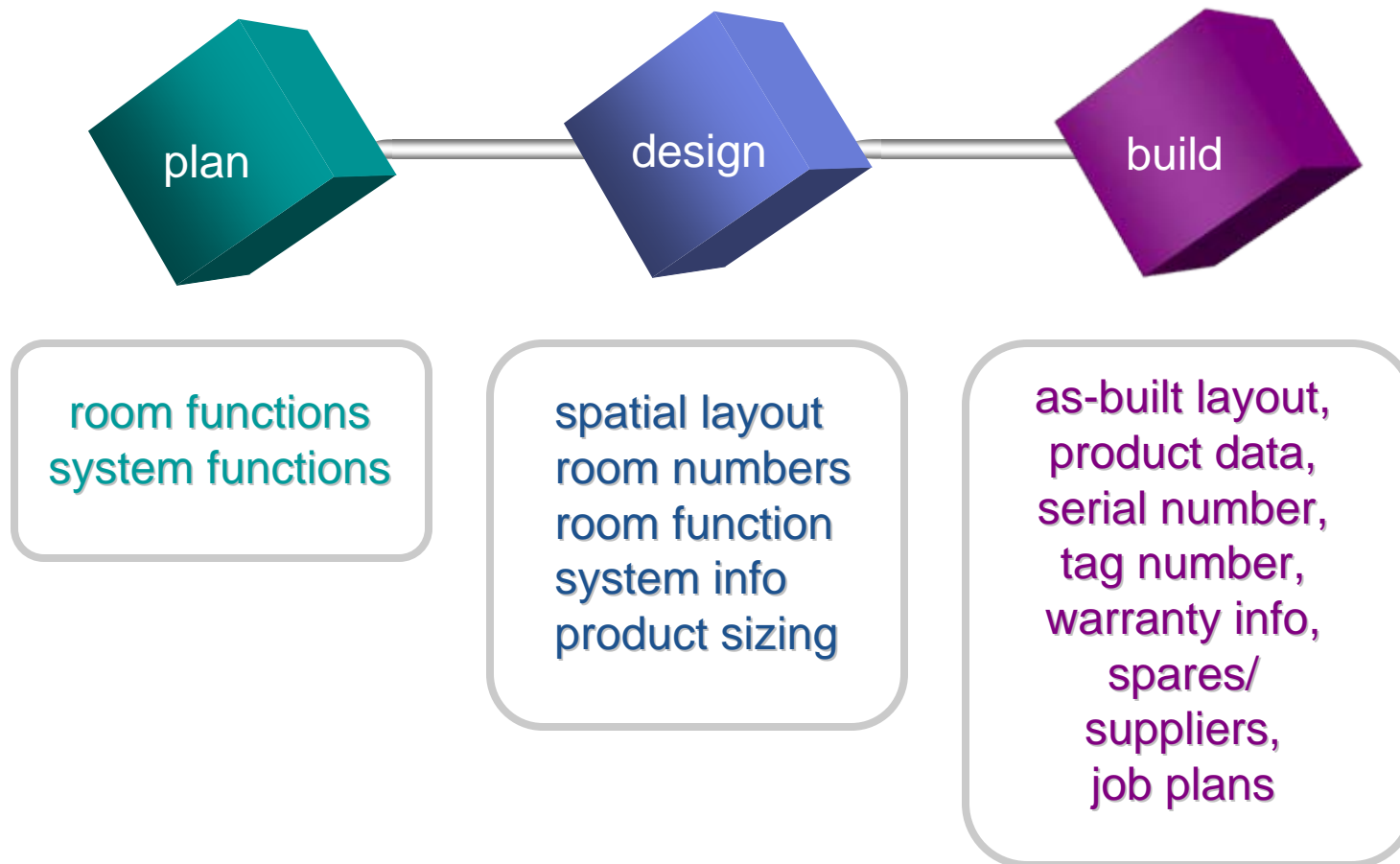
Someone has to define what be exchanged and how to do it!

let's do something about this!



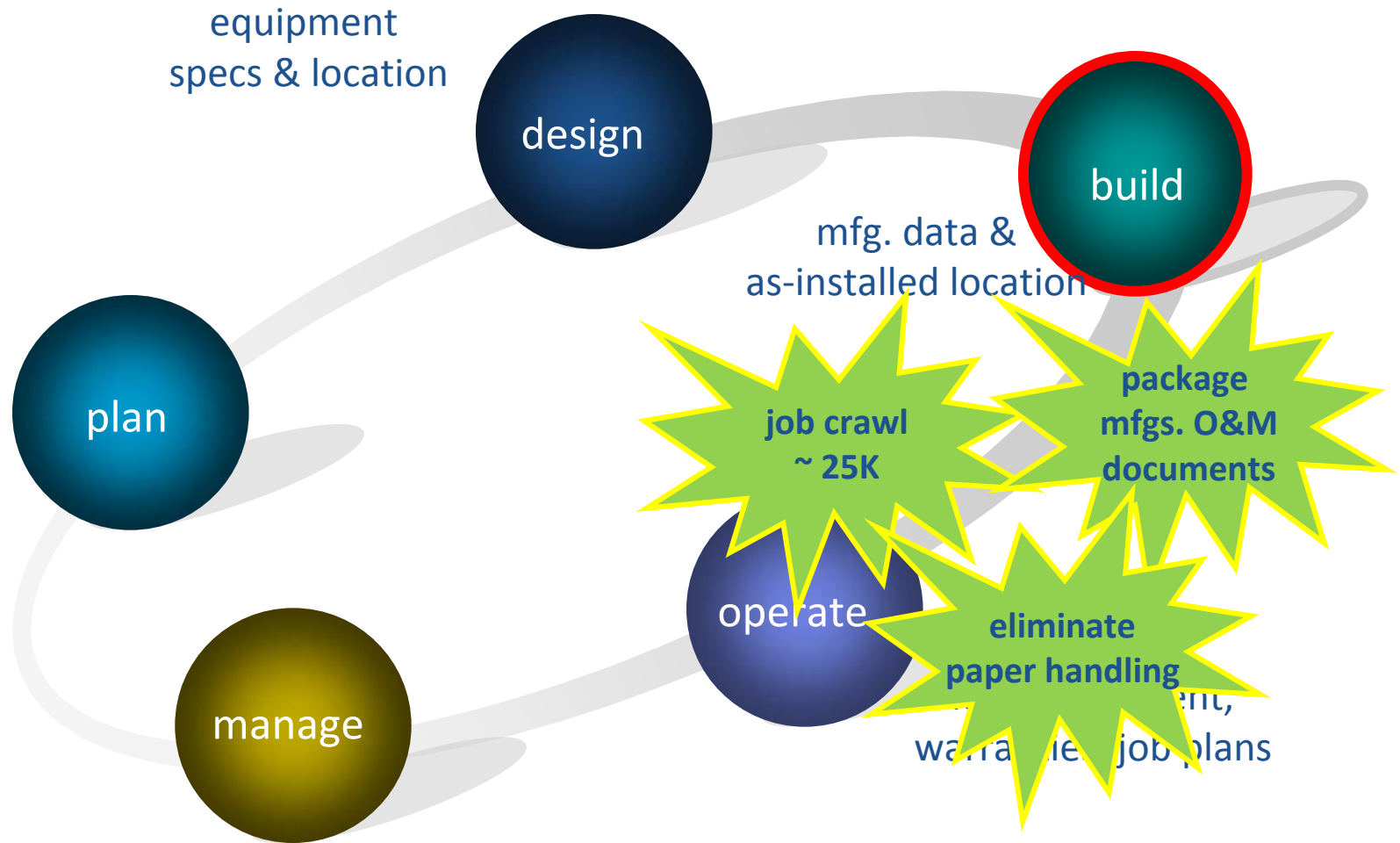


requirement = capture then forward





requirement = savings opportunity





agenda

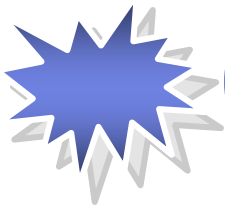
1. cost of handover documents

2. why COBIE?

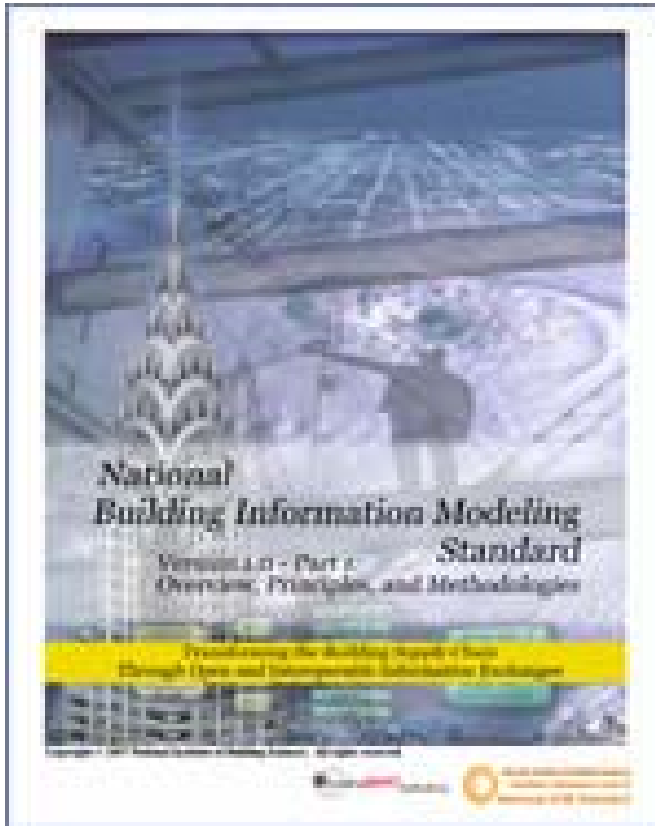
3. COBIE requirements

4. plan of action

5. for more information




content of data capture



March 2007

ERDC/CERL TR-07-30



US Army Corps of Engineers®
Engineer Research and Development Center

Construction Operations Building Information Exchange (COBIE)

Requirements Definition and Pilot Implementation Standard

E. William East August 2007

```
graph LR; Design([Design]) --> Build([Build]); Build --> Operate([Operate]); Design --- SSEL((Space, System & Equipment Layout)); Build --- PD((Product Data, As-Built Layout, Tag & Serial No., Warranties & Spares)); Operate --- PD;
```

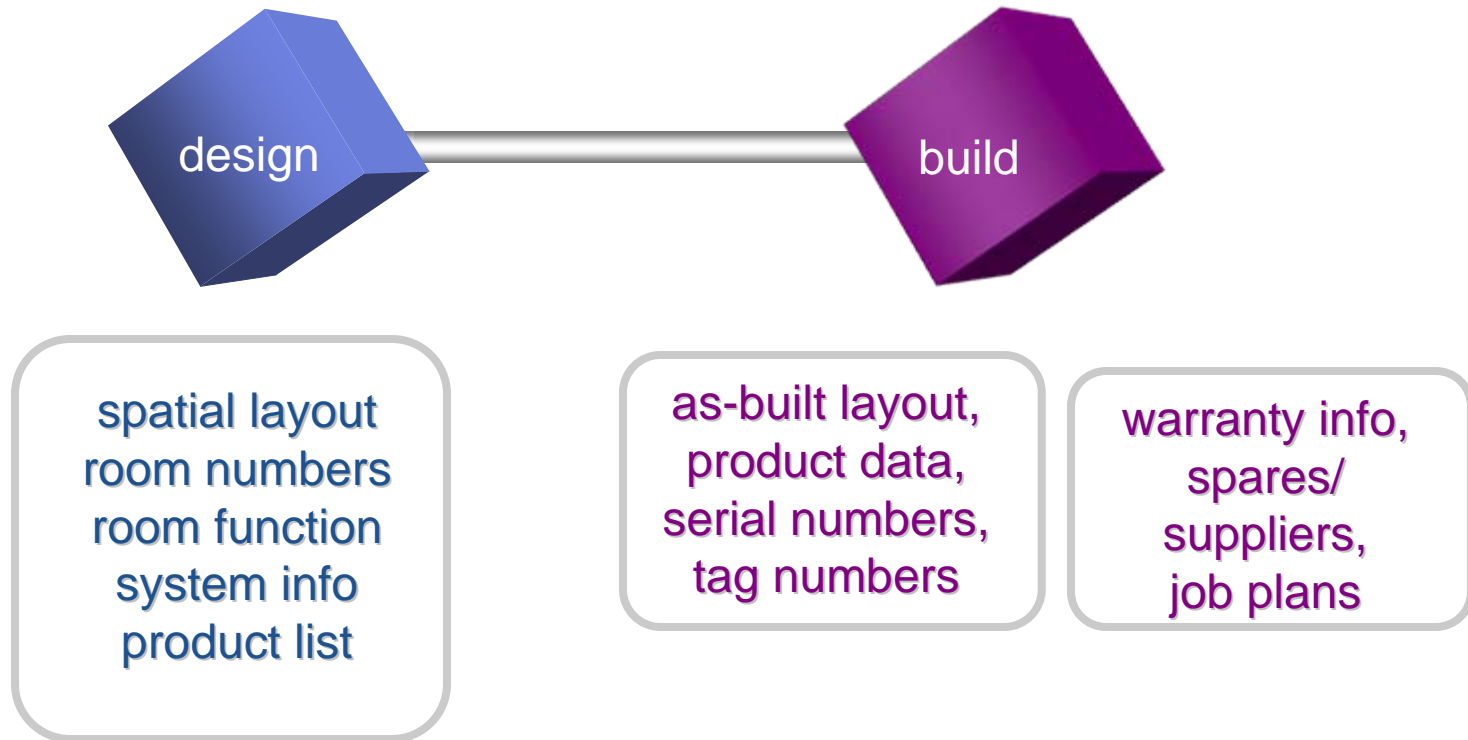
Construction Engineering Research Laboratory

Approved for public release; distribution is unlimited.

August 2007



process = capture then forward





design data

Facility	Identification of facilities referenced in a file
Floor	Description of vertical levels
Space	Spaces referenced in a project
System	Systems referenced in a project
Register	Material/equipment/etc. catalog (submittal register)
Component	Individually named materials and equipment



construction data

Installation	Location and serial no. of installed components
Manual	Instruction manuals for sets of/or components
Warranty	Warranty information for sets of/or components
Spare	Spare/parts reordering info for sets of/or components

Instruction	Installation/operating instructions
Test	System/component test results
Certification	Installation certifications



commissioning data

PM	Identifies specific PM tasks and frequency
Safety	Identifies required safety tasks
Trouble	Maintenance trouble shooting procedures
Start-Up	Start-up procedures
Shut-Down	Shut-down procedures
Emergency	Emergency operating procedures

Material	Special materials needed for a given Job Plan Task
Tool	Special tools needed for a given Job Plan Task
Training	Special training needed for a given Job Plan Task



agenda

1. cost of handover documents

2. why COBIE?

3. COBIE requirements

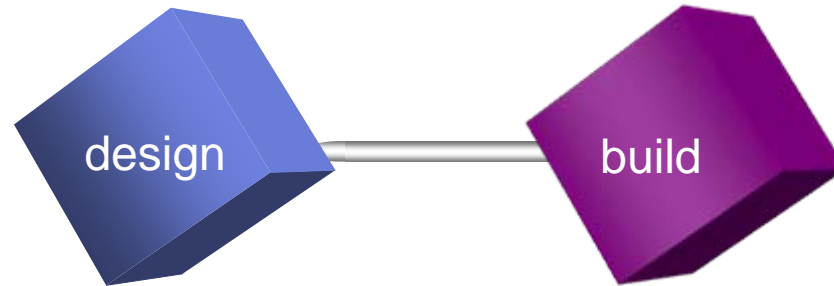
4. plan of action

5. for more information





plan of action – existing requirements



list of floor

list of rooms

list major systems

list of equipment

list products

mfg. make, model, serial number

mfg. product data

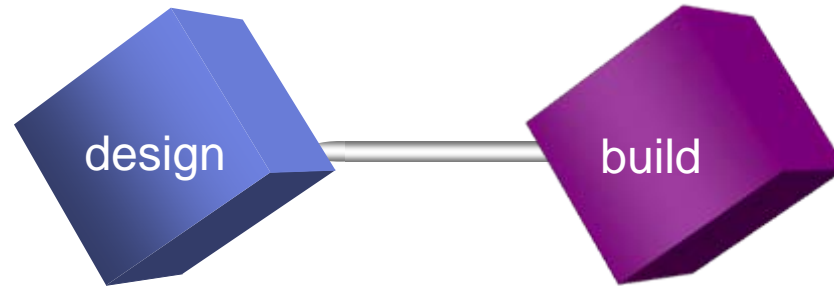
mfg. warranties, test reports

mfg. job plans

link to designers list



plan of action – capture as created



spaces and equipment included
in CADD/BIM

CADD/BIM direct export

ifcXML translation ready now

CADD/BIM manager reports

submittal register is key to
COBIE construction data

when equipment is installed
capture serial/tag numbers

directly use mfgs PDF files
link to equipment types



agenda

1. cost of handover documents

2. why COBIE?

3. COBIE requirements

4. plan of action

5. for more information





for more information

please visit

www.wbdg.org/resources/cobie.php