

# ONUMA, Inc.

## Data Management & COBie

Kimon Onuma, FAIA





Concept

# Data for the Portfolio and Life Cycle

COBie, BIM and GIS Standards



DMLSS FM 4.0

DMLSS-FM Dashboard Sample Redacted

Installed on Nov 04 10:40:07 AM 2013 from DMLSS-FM Dashboard Sample Redacted.xlsx  
Sample Data - Edited on April 23, 2013

File Edit Tools Help Rows: 1 Grids: 1 Map of Installation... D1 Chart: 1 D2 Chart: 2

No files applied

1:100 of 407

Installation Name	# of Active Facilities	# of Active Rooms	# of Active RPIE	# of Work Requests for FY 12	# of Active Requirements	\$ Value of Active Requirements	\$ Value of Active Requirements in a Bundle	# of Active Projects	# of PM Schedules for Individual RPIE	# of PM Schedules for Groups
AFRIMS TAK	2	137	107	95	13	\$ 143		1	-	-
CAMP ZAMA JAPAN	6	302	893	40	47	\$ 2,284		-	-	-
SAGAMI DEPOT JAPAN	7	623	761	12	44	\$ 1,259,933	269,146	-	1	-
SAGAMIHARA FIA JAPAN	3	870	5,898	2,534	22	\$ 638,263	\$ 320,150	4	100	108
TORII ST OKINAWA	1	18	70	-	18	\$ 69,279	\$ 349,834	-	-	-
ANNISTON ARMY DEPOT	5	171	388	277	55	\$ 1,805,611	\$ 350,673	-	-	-
CAMP FRANK MERRILL	88	2,072	4,789	2,998	910	\$ 30,709,029	\$ 376,323	31	558	-
EGLIN AFB SITE 1 (MAIN)	1	83	688	27	10	\$ 3,100,000	\$ 391,719	1	-	-
FORT BENNING	8	356	435	285	42	\$ 1,575,901	\$ 427,893	-	-	-
FORT BLISS TX	3	597	1,034	184	24	\$ 414,756	\$ 438,687	7	-	-
MCGREGOR RG	1	-	-	2	-	-	-	1	-	-
WHITE SANDS MR NM	1	-	-	-	17	\$ 1,257,794	-	-	-	-
FORT BRAGG	1	32	20	164	4	\$ 245,000	-	3	39	28
FORT CAMPBELL KY	1	14	-	47	-	-	-	-	-	-
FORT CAMPBELL TN	1	-	-	-	-	-	-	-	-	-
DUGWAY PROVING GROUND	1	12	-	195	-	-	-	-	-	-
FORT CARSON	1	37	-	113	2	\$ 2,130,000	-	-	-	-
PUEBLO CHEM DEPOT	1	26	-	-	10	\$ 265,051	-	-	-	-
TOOELE ARMY DEPOT	1	6	-	-	4	\$ 10,841,000	-	-	-	-
FOREST GLEN	9	55	-	-	36	\$ 1,556,901	\$ 26,525	-	-	-
FT DETRICK - MRMH HQ	4	49	-	-	25	\$ 1,061,896	\$ 41,000	-	-	-
FT DETRICK CEHR-MMDA-MRAA	1	14	-	-	17	\$ 285,988	\$ 42,823	-	-	-
FT DETRICK - USAMRIID	3	42	-	-	42	\$ 2,981,725	\$ 77,105	3	-	-
FORT DRUM	7	12	-	-	25	\$ 509,343	\$ 94,300	2	81	90
WATERVLIET ARSENAL	1	4	-	-	-	-	-	-	-	-
FORT EUSTIS	1	84	133	327	22	\$ 278,955	-	-	23	9
FORT STORY	1	132	127	427	18	\$ 515,464	-	-	22	8

1. Excel List of DMLSS FM Locations

2. Excel Imported to Google

DMLSS FM Server

3. Charts Created in Google

4. Geo referenced 2 Minutes

5. Created Locations in Onuma System

6. Zoom Into One

7. Added Buildings on Site

COBie used as a structure to format data for linking.

8. Sample Spaces in Buildings

9. Equipment in Space

10. Equipment Bar+QR Codes on Mobile

BIM + GIS

Google Earth Plug In

Single Healthcare Facility

## DMLSS FM Data - Services Oriented Architecture

HT9402-11-D-0001 - Task Order 0012 - 100% Submittal



(Or other Server)

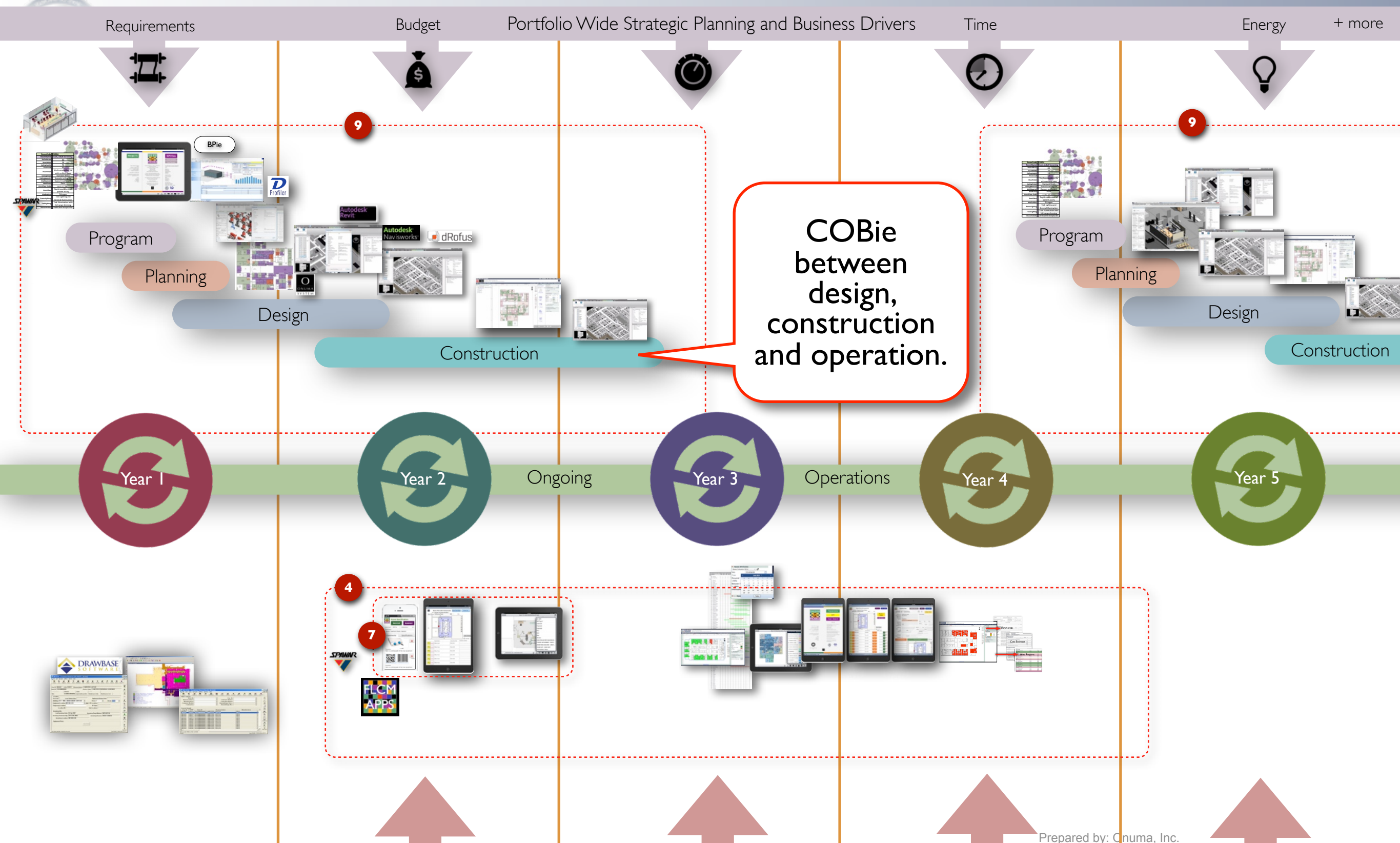
The tools used to demonstrate the concept are not selected as the only solutions possible, but to illustrate what type of an ecosystem could develop in the next version of DMLSS FM once a services oriented architecture is enabled. Other vendors are encouraged to demonstrate how their solutions fit into the DMLSS FM Ecosystem.

Prepared by: Onuma, Inc.





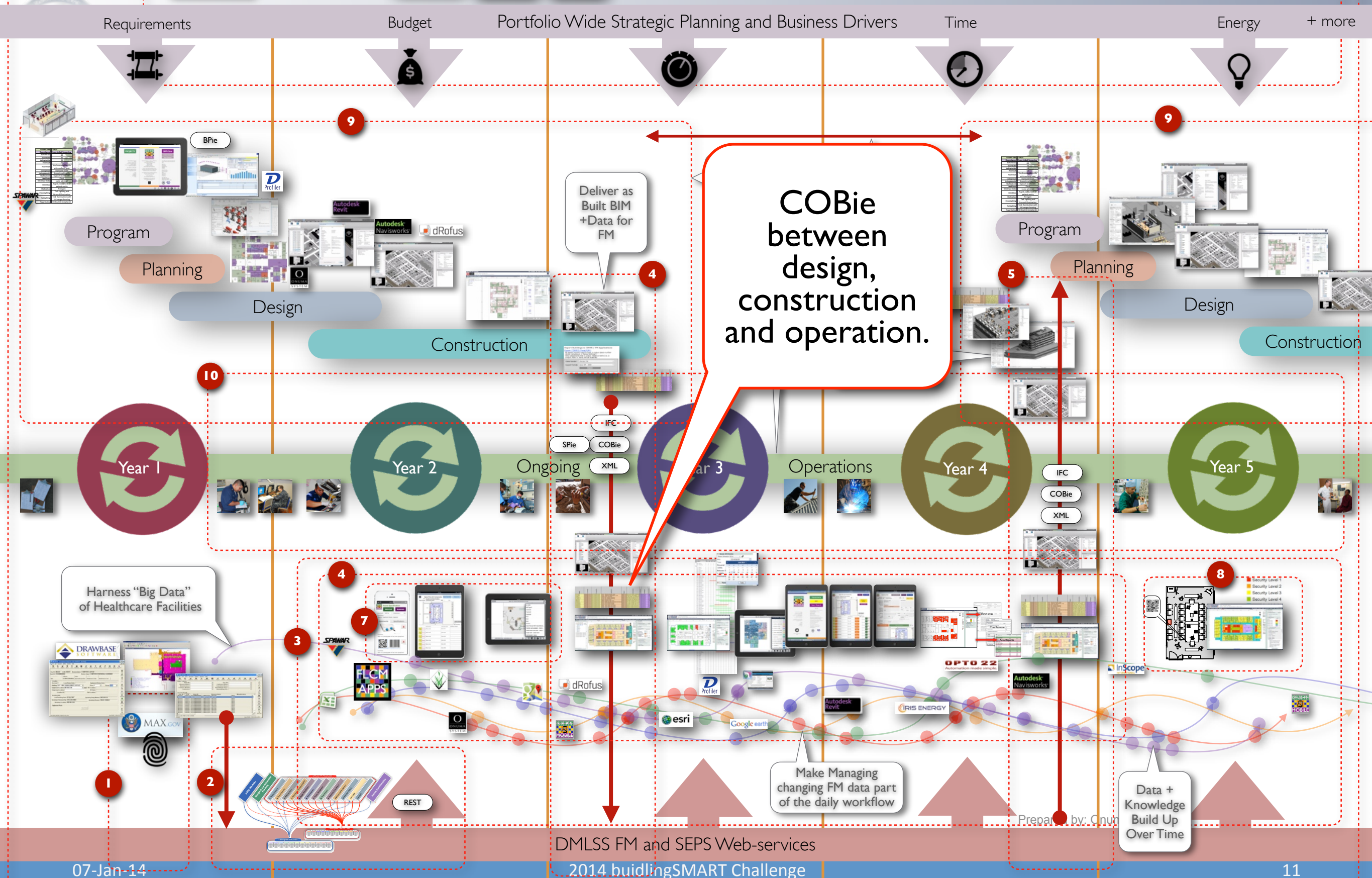
# Life Cycle and COBie



Prepared by: Chuma, Inc.



# Life Cycle and COBie







Concept

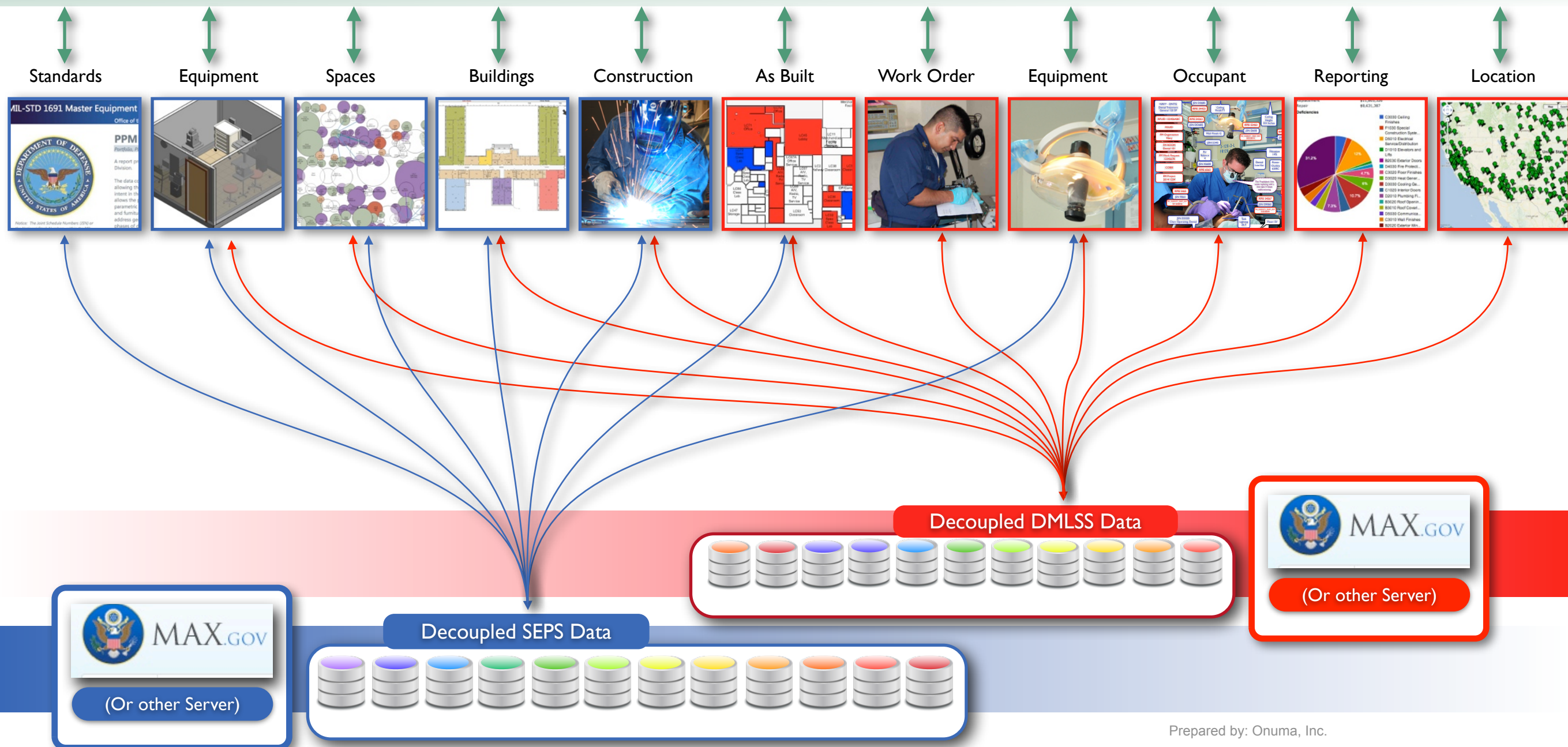
# Model Servers, Web-services & COBie

Connects All Threads

COBie supports the structure needed for life cycle data.

MODEL SERVER

In the immediate future, BIMs can draw from and provide data back to both SEPS and DMLSS  
As BIM, GIS Servers become more mainstream the potential exists to connect directly to data throughout the lifecycle. Model Servers could replace static file based plans for as built information.



Prepared by: Onuma, Inc.

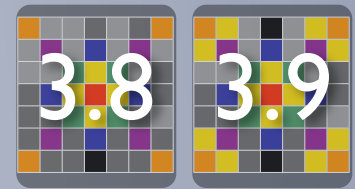




Concept

# Design and Construction to Operations & COBie

Revit Tracking Delta of Spaces and Equipment



9

The collage displays various software interfaces used in the design and construction process:

- Revit:** Shows a floor plan with a 'Requirement Comparison' legend indicating color-coded changes (e.g., +2% to +10%, +10% to +20%, -2% to -10%, -10% to -20%, Equal, less than -20%).
- Onuma:** Displays a 'Revit vs. Onuma Spaces' table comparing room areas and differences.
- COBie:** A large table listing equipment items with columns for Name, CreatedBy, CreatedOn, Location, Description, and Quantity. A red arrow points from this table towards the bottom right corner of the slide.

COBie

## DMLSS FM Data - Services Oriented Architecture

HT9402-11-D-0001 - Task Order 0012 - 100% Submittal

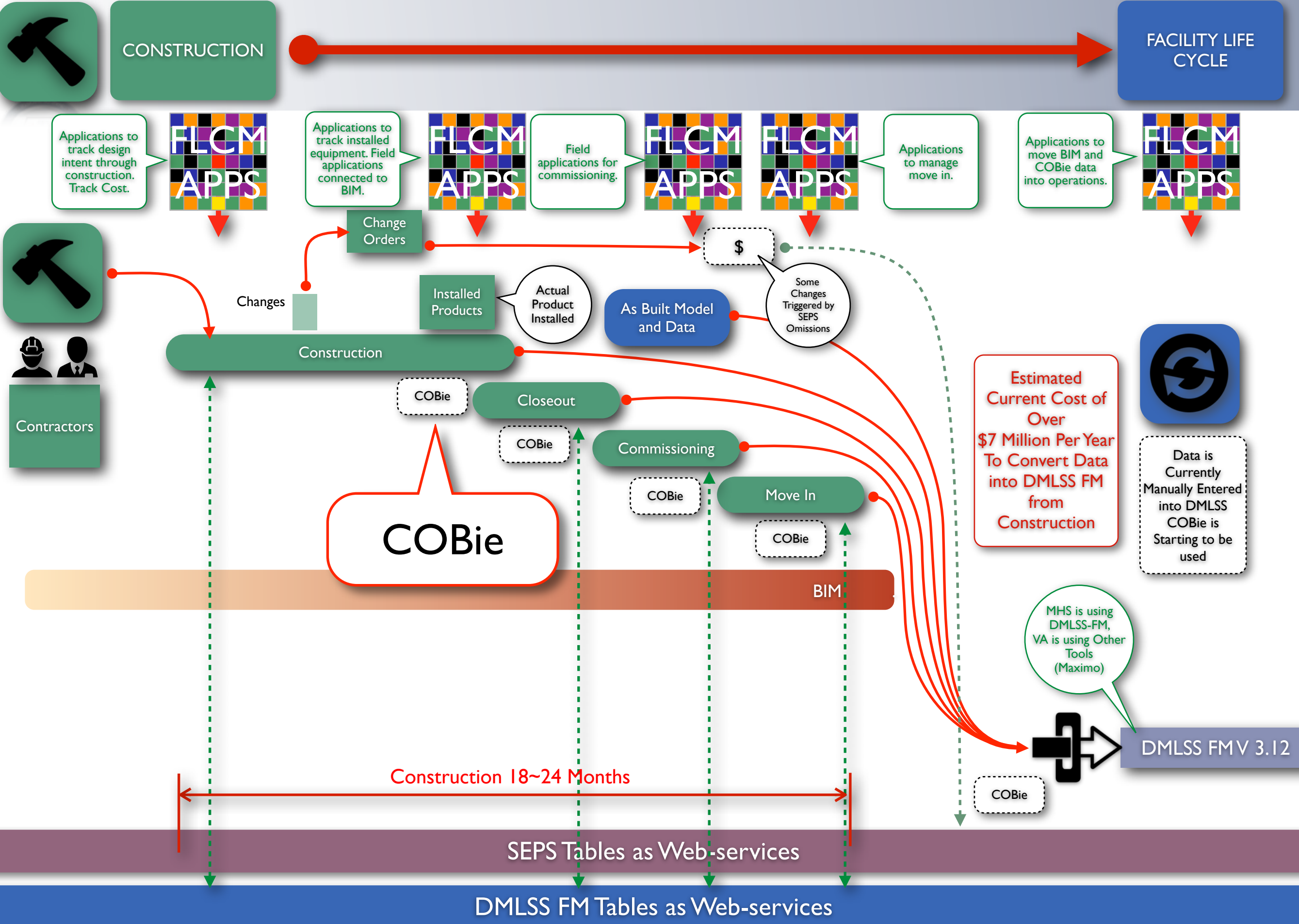


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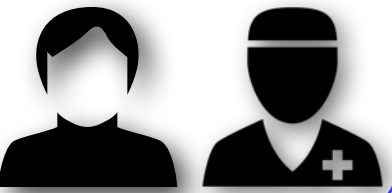
View and Comment

Minor Editing and Updating

Maintain Plans and Data

## Customers

Patients  
Healthcare Professionals



Limited Access

## Executives

Joint Commission  
Headquarter Level  
Local Hospital Executives



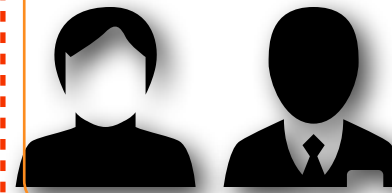
## Hospital Facilities Team

Hospital Facility Managers  
Hospital Maintenance Teams  
Project Managers



## Technical Team

CAD/BIM/GIS Technicians  
Technical Support Teams



## Contractors

Design Consultants  
Contractors Maintenance and Repairs



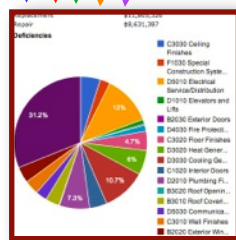
Limited Access



Viewing Data and Plans



Printing



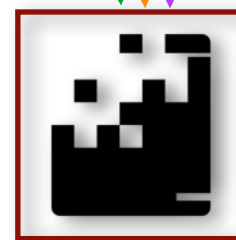
Querying Data



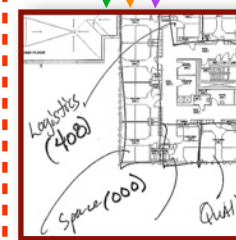
Color coded Plans



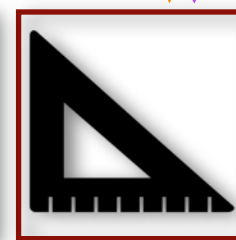
Comment on DMLSS FM Data



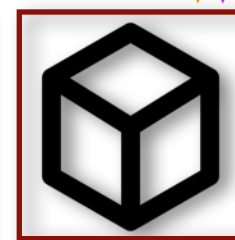
Update DMLSS FM Data



Update DMLSS Plans - Sketching New Edits



Update DMLSS FM Plans



Manage BIM, CAD and GIS for DMLSS FM

Web-services Enables Access to Data

# DMLSS FM 4.0 Tables as Web-services





# Program Requirement Data Ends up in Facilities

Proposed Process



Last Update  
9/17/2006  
10:25:31 AM

NAVY - DNTG  
Dental Treatment  
General 125 SF

**CAFM CMMS Apps**  
(Such as DMLSS-FM, Maximo and Others)

RPUID 123456ABC

RSUID

FM Organization  
Navy

FM ROOM  
Dental 101

FM Work Request  
12345678

COBIE

FM Project  
2014-1234

Dental Treatment  
132 Square Feet  
Room 101 I



Prepared by: Onuma, Inc.



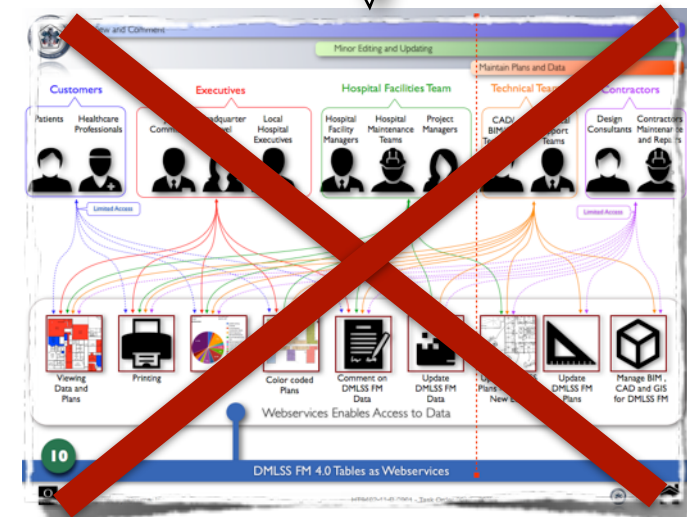


# Get to the Data you Need



Data I Need

End users do not care about or should not be bothered with all the technicalities of how it works. It should just work.

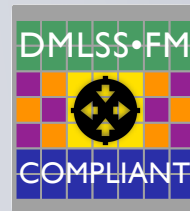




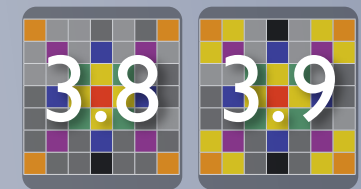


Concept

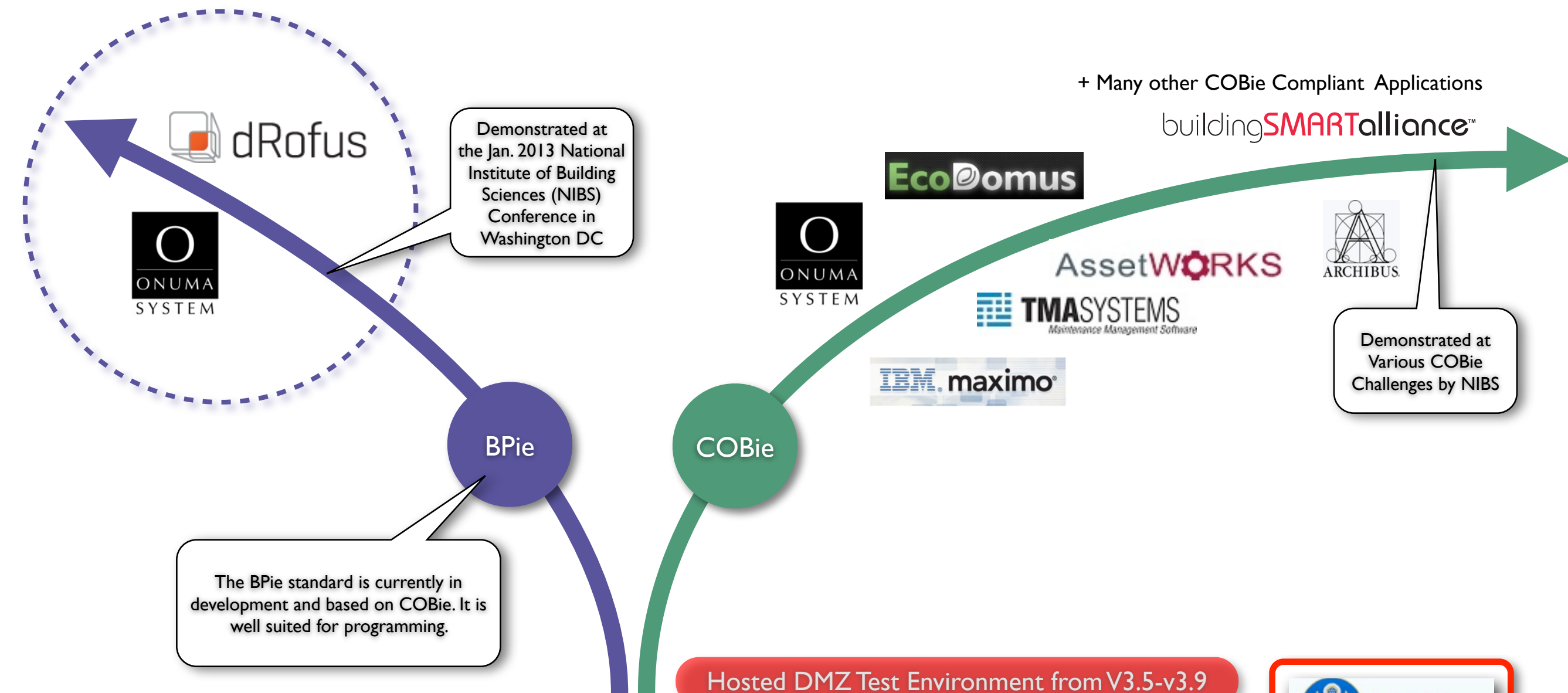
# DMLSS FM Compliant



## COBie + BPie



### Construction Operation Building Information Exchange (COBie) Building Programming Information Exchange (BPie)



## DMLSS FM Data - Services Oriented Architecture

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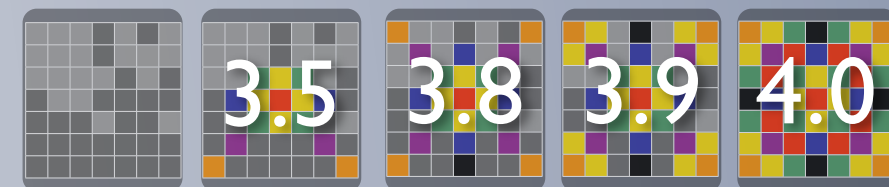


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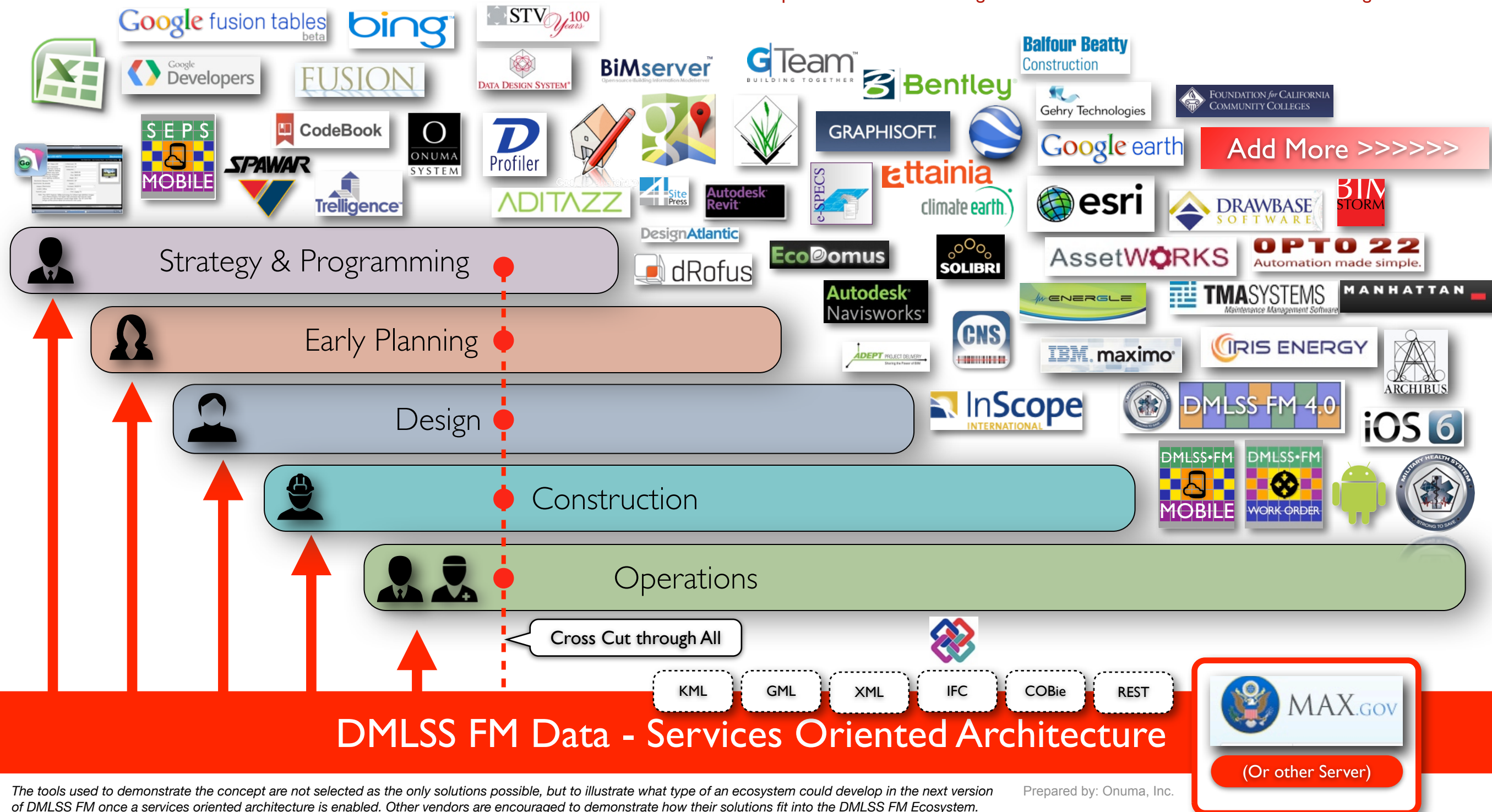
# Tools Evaluated, Used or Connected



The tools shown on this page are examples of the types of applications that were evaluated or directly used in the proofs of concepts developed for the DMLSS FM Road Map. They are not intended as a complete list, and others are encouraged to demonstrate how their solutions can fit into the proposed DMLSS FM Ecosystem.

Many of the applications span multiple parts of the life cycle. The placement over specific sections is for illustrative purposes and does not suggest a structure.

Open standards file exchanges were reviewed as well as web-services exchanges.



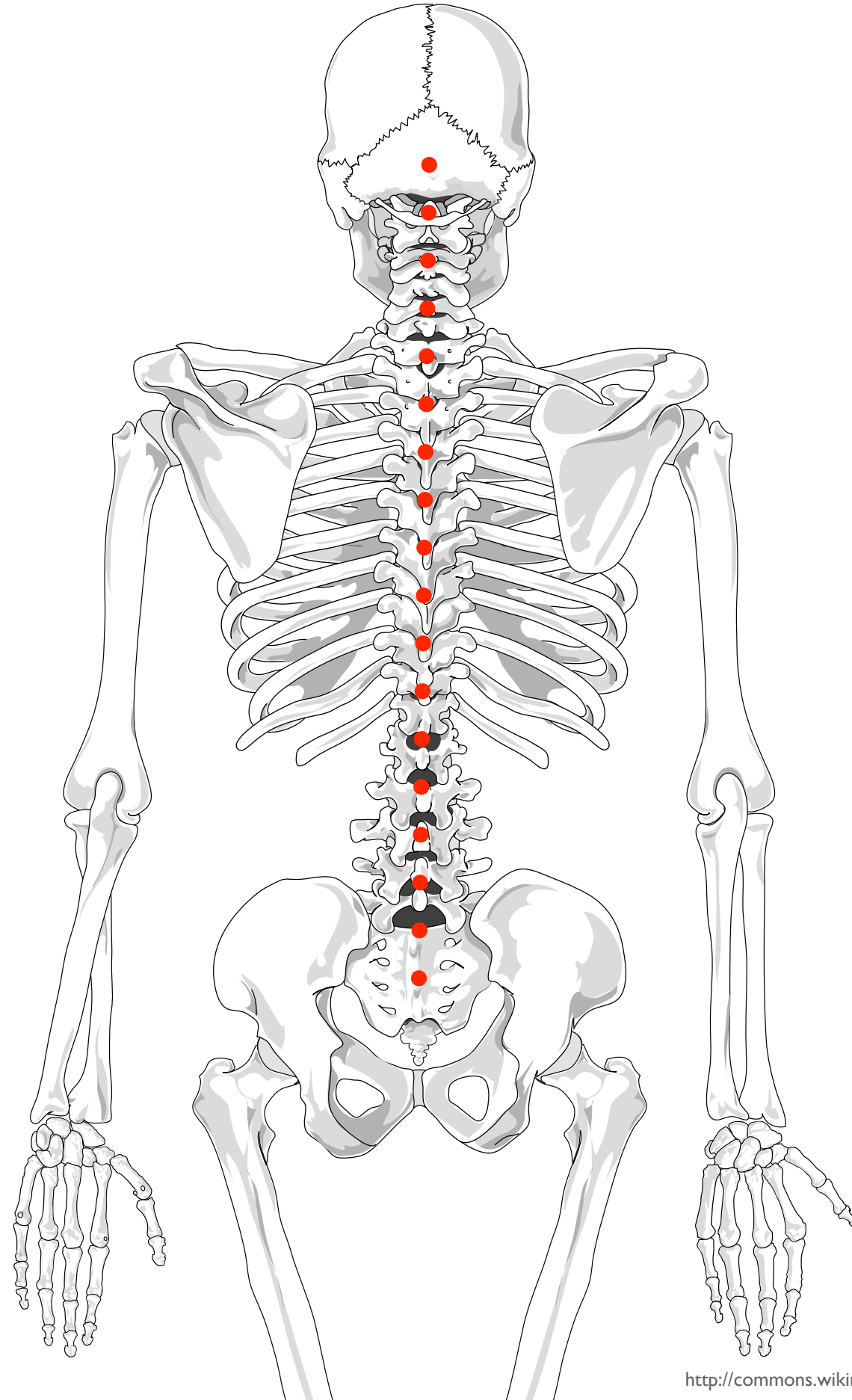
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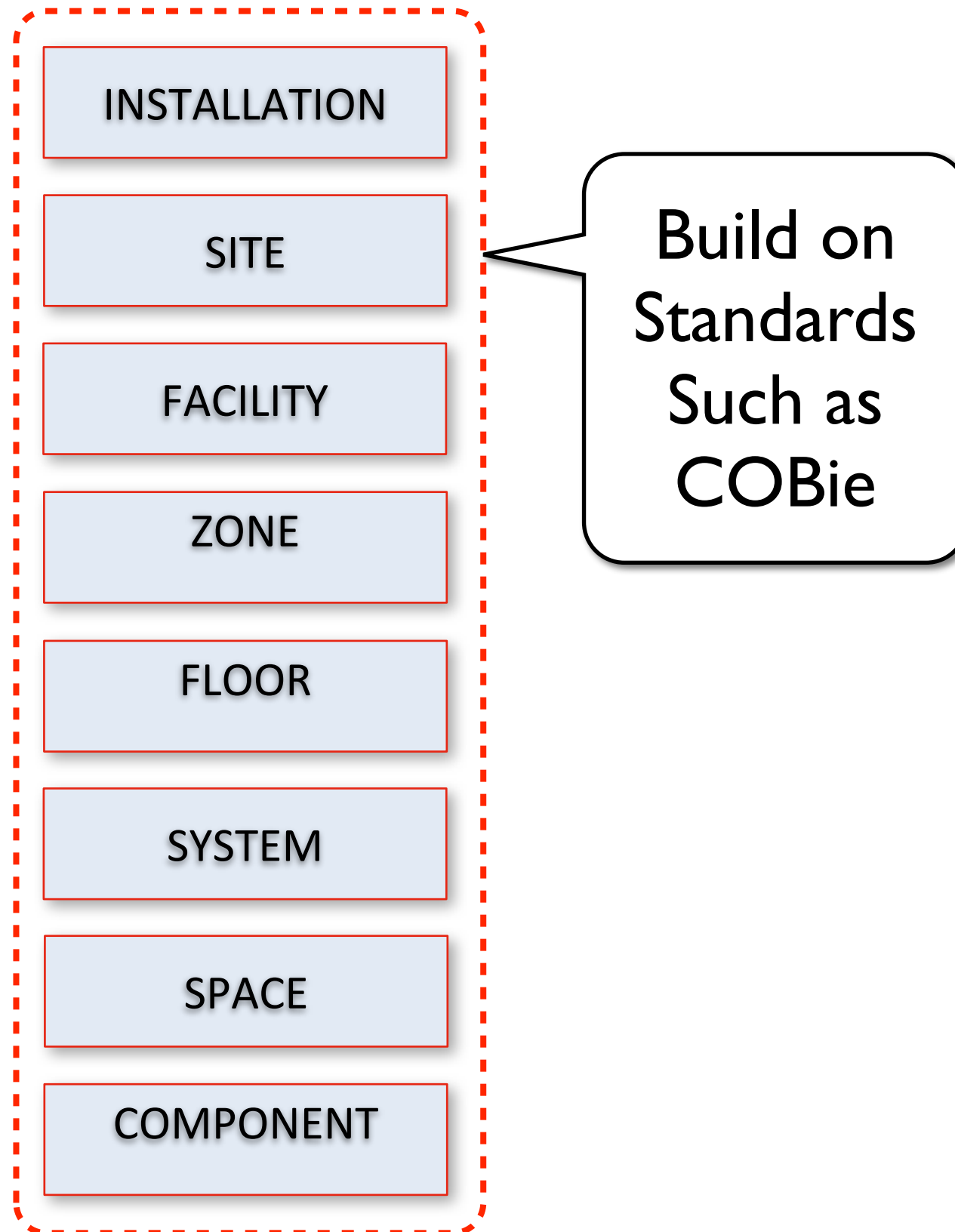




# FED iFM is Like a Backbone

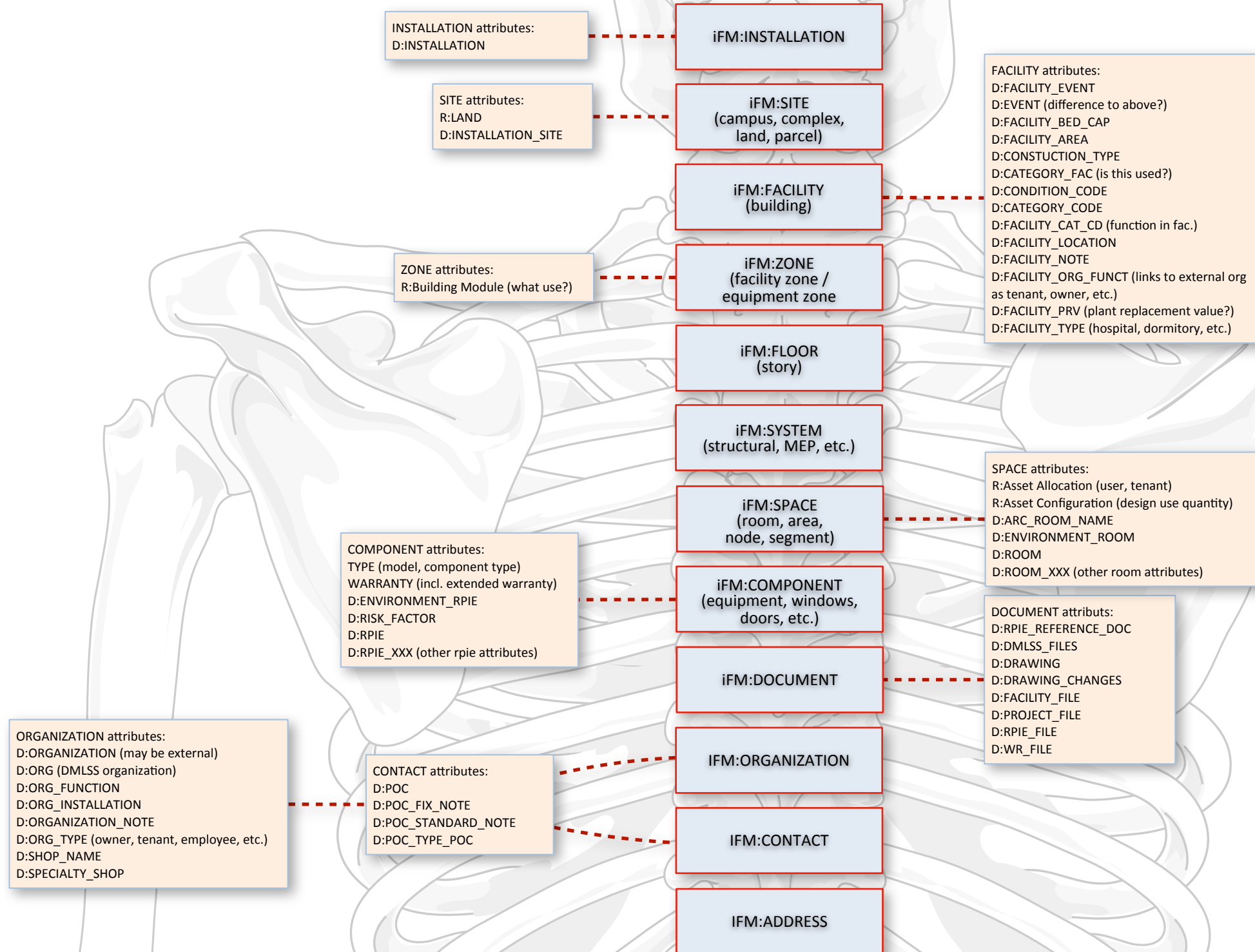


# Start with the Basics





# Expand with Attributes



# Links

SEPS Strategic Plan: <https://facilities.health.mil/home/seps/roadmap>

DMLSS FM Road Map: <https://facilities.health.mil/home/dmlss-fm/roadmap>

Life Cycle: <http://BIMStorm.com/LIFE>

## COBie support

name: Thomas Dalbert

phone: 626 793 7400

email: <https://www.onuma.com/Contact/>

web: <http://Onuma.com/COBIE>

## Marketing POC

name: Kimon Onuma

phone: 626 793 7400

email: <https://www.onuma.com/Contact/>