

BIM 360 Ops for Data Centers: An Application Review

Ian McGaw

ENGworks, VP of Innovation & Technology

Tyler Miller

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The background of the slide is a light blue, abstract architectural rendering. It features several overlapping, semi-transparent geometric shapes that resemble modern building facades or architectural models. These shapes have various textures, including grid patterns and smooth surfaces. In the center of the slide, there is a large, dark grey play button icon with a white border. The text "About Us" is written in a bold, blue, sans-serif font, positioned directly in front of the play button icon.

About Us

Ian McGaw

Vice President of Technology and Innovation,
ENGworks

Ian is an executive business leader with broad domestic and international experience in identifying strategic and innovative technology solutions to complex business challenges. With experiences as practitioner, product manager & project manager Ian has been developing products and services specific to the building lifecycle with a focus on improving the overall workflow delivery, Virtual / Augmented Reality, and IWMS (Integrated Workplace Management Solution) integration.





Tyler Miller

Director of Electrical Design and Fabrication,
ENGworks

Tyler is an experienced Design Director with a vast background and knowledge within the AEC industry. With a focus in electrical engineering and design, Tyler has led design teams of all MEP trades, created project standards, and oversees the project lifecycle from design phase to final build-out. Tyler also focuses his efforts on data management within BIM models, as the need for building data hand-over becomes more prevalent.

House Keeping



Key Learning Objectives

LEARNING OBJECTIVE 1

Leverage technologies that allow our Project Team to revolutionize the AEC project delivery workflow.

LEARNING OBJECTIVE 2

Getting started with BIM 360 Ops on any budget.

LEARNING OBJECTIVE 3

Understand how to build a digital experience that pleases every customer.

LEARNING OBJECTIVE 4

Learn how to build more impactful, meaningful facilities, and increase adoption.



Class Summary

The Internet of Things (IoT) has made it possible to gather real-time data about your critical business assets. This enables you to collect data about asset condition, performance, and usage and turn it into real actionable insights. Coupling IoT with BIM 360 Ops and by reorganizing teams to align with the customer journey, a data center owner was able to automate the management of data and switch servers.

Everyone in the organization has an idea for improving work but not everyone is empowered to deliver it. Learn how delegated development empowers anyone in the organization to innovate WITHOUT adding risk of impacting other areas of the organization. In this session, you'll learn how various systems fit in the ecosystem, and how to decide on which technologies will help accelerate digital transformation. Workflows should be designed to be flexible, robust, and efficient. Attendees will be exposed to industry best practices for workflow automation design.

Delegated development provides fine-grained control of no/low/pro code capabilities within a secure and risk-free scoped environment to ensure changes do not impact the broader business.

Agenda

01. What is BIM 360 Ops

02. BIM 360 Ops Setup

03. Commnet Wireless

04. ITSM/ DCIM

05. IoT

06. Dashboarding

07. Closing Remarks

08. Q&A



What is BIM 360 Ops?

What is BIM 360 Ops?

Asset and Maintenance Management Solution

- Streamline project handover & create centralized location for building operations.
- Connect data rich BIM models created during design and construction phases directly to building operations.

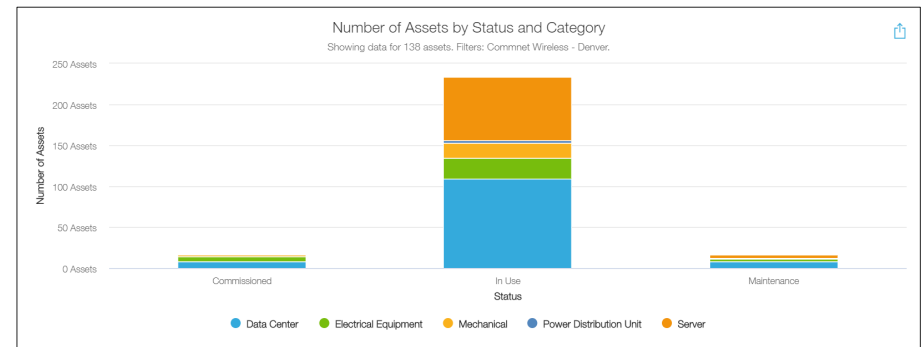




What is BIM 360 Ops?

Asset Management

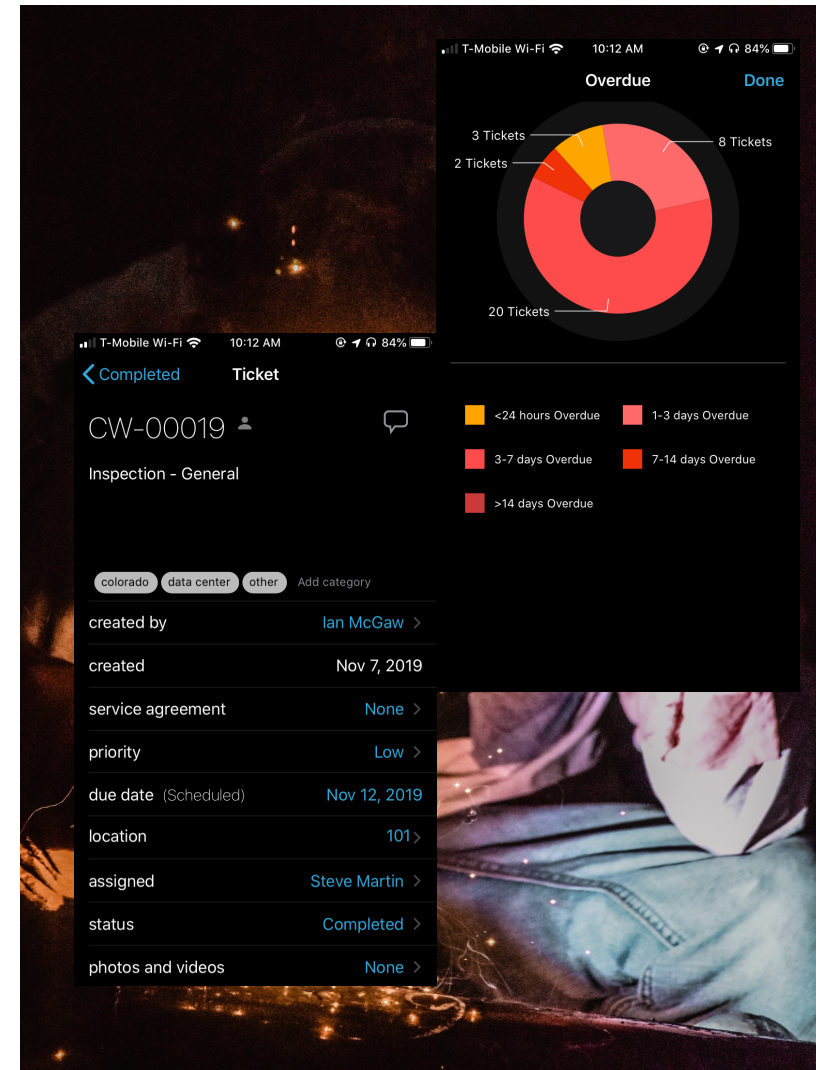
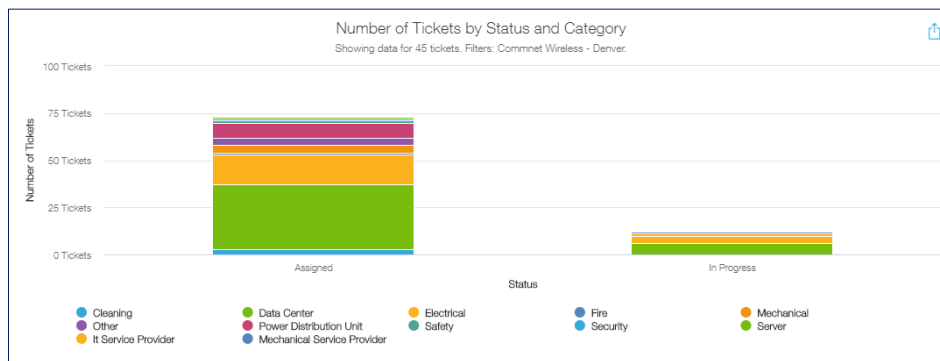
- Jumpstart asset maintenance by adding assets directly from Revit, BIM360 field, IoT Solutions, and Spreadsheets (.csv)
- Asset records include visualization tools, maintenance checklists, scheduling, and maintenance history.



What is BIM 360 Ops?

Ticketing

- Create and update tickets on your phone or tablet.
- Receive live updates/notifications when tickets are assigned or updated.
- View tickets and assets based on proximity to your location.



EHD-4U



SYSTIMAX® EHD 4U sliding tray fiber panel, accepts (24) EHD ULL modules, splice cassettes or MPO panels, providing up to 288 duplex LC ports or up to 288 MPO ports, High Speed Migration

Product Classification

Portfolio	SYSTIMAX®
Product Series	EHD
Product Type	Fiber patch panel
Regional Availability	Asia Australia/New Zealand EMEA Latin America North America

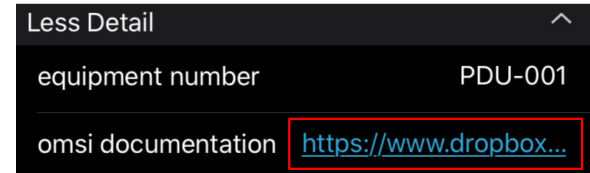
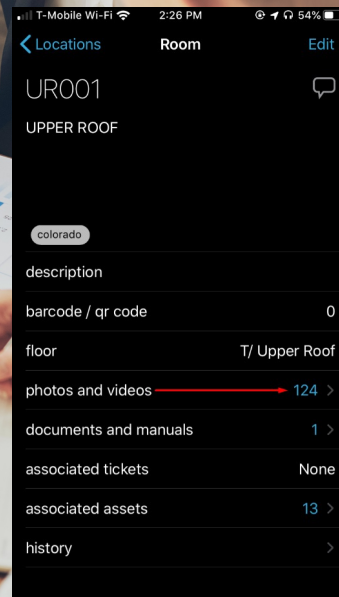
Dimensions

Depth	538.48 mm 21.20 in
Height	177.80 mm 7.00 in
Width	482.60 mm 19.00 in
Weight	15.60 kg 34.40 lb

What is BIM 360 Ops?

Document Management

- Link photos, videos, submittals, O&M documents directly to building assets.
- Document & Manual Links
- O&M Document and URL Links
- Link photos/videos to level or space



BIM 360 Ops Setup



BIM 360 Ops Setup

Portfolio - Settings

- Purpose
 - Schedule Configuration
 - Ticket Configuration
 - Category Configuration
 - Task Configuration

Allowed Occupant Domains	occupants can join from engworks.com View more >	
Work Schedule	workdays <div>S M T W T F S</div>	workday hours 12:00 AM - 11:00 PM
Ticket Configuration	priorities and due dates 5 >	needs attention reasons Awaiting parts View more >
	service level agreement groups 6 >	occupant quick tickets 7 >
Email Configuration	email notifications come from ENGworks BIM 360 Ops Team at info.chicago@engworks.com >	
Category Configuration	categories 85 >	edit categories Here only >
	category groups 5 >	
Task Configuration	edit tasks Owner, Co-owners, Managers >	
Add-Ins	Autodesk BIM 360 Ops Add-in for Revit Download >	

Portfolio > Scheduled Tasks

Tasks Schedules Add +

Name

TASK-00001

Inspection - Generator_Daily

electrical x add category

created by

Ian McGaw >

priority

Medium >

repeat every

1 Day(s) >

checklist

Inspection - Generator_Daily >

create ticket

1 Day(s) > before

history

View >

Portfolio > Checklists

Add +

Name

Inspection - Generator_Daily

electrical x add category

associated tickets

7 >

associated tasks

1 >

6 Items

Visual Inspection

...

Check Coolant Heater

...

Check Coolant Level

...

Check Oil Level

...

Check Fuel Level

...

Check Charge-Air Piping

...

BIM 360 Ops Setup

Portfolio – Scheduled Tasks & Checklists

- Purpose
 - Scheduled Maintenance
 - Inspections
- Use Case
 - Generator
 - Daily, Monthly, Quarterly, Annual



BIM 360 Ops Setup

Building Information Model (BIM)

- Setup
 - Levels & Rooms
 - Assets
- Model / Template Setup
 - 3D Export Views
 - Schedules (Provided as Additional Resources in the Class Materials)

The image features a blue-tinted background with a low-angle view of modern skyscrapers. A large, semi-transparent play button icon is centered over the text. The text 'Commnet Wireless' is written in a blue, sans-serif font, with the 'n' in 'Commnet' partially obscured by the play button.

Commnet Wireless

Commnet Wireless

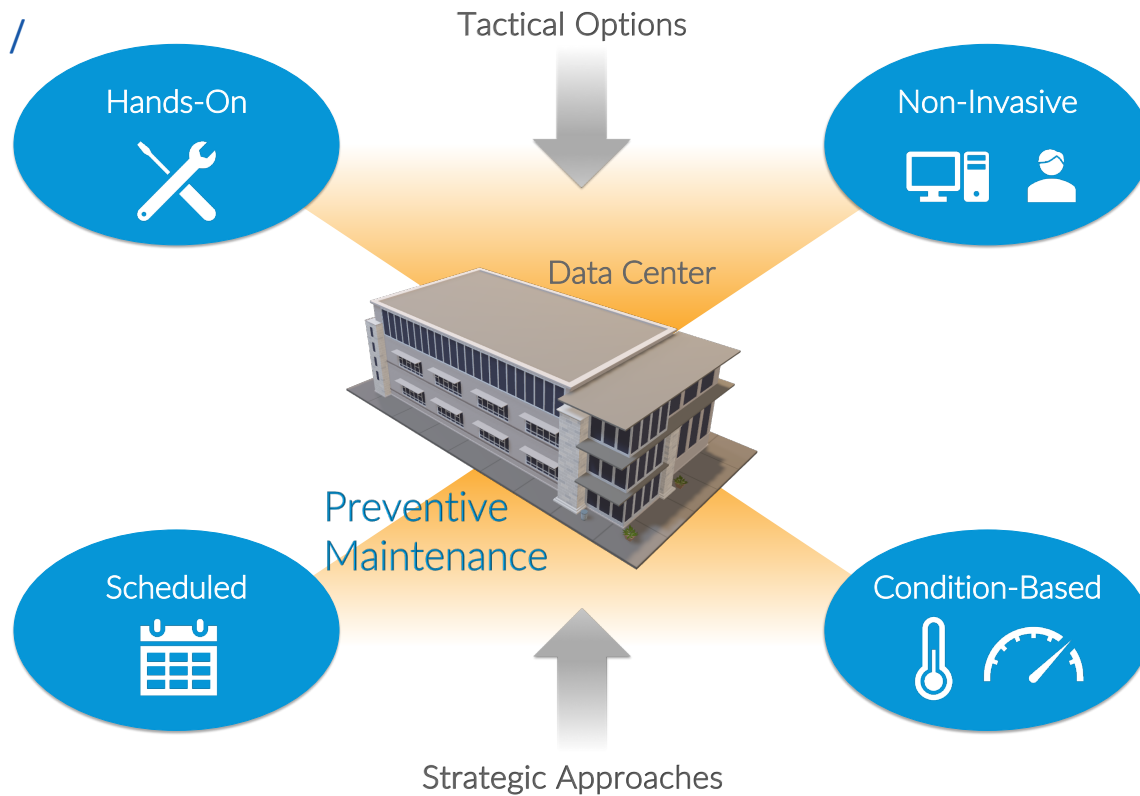
Overview

- Provides Telecommunication services and solutions across the U.S.
 - Wholesale: Underserved markets
 - Enterprise: Transport, Rural areas, Infrastructure
 - Retail: Choice Wireless & Choice Broadband
 - Currently servicing 14 states
 - State Parks, Small Communities, Roadways
- Ops & Commnet: Asset management, preventative/scheduled maintenance.



Commnet Wireless

Typical Options /
Approaches

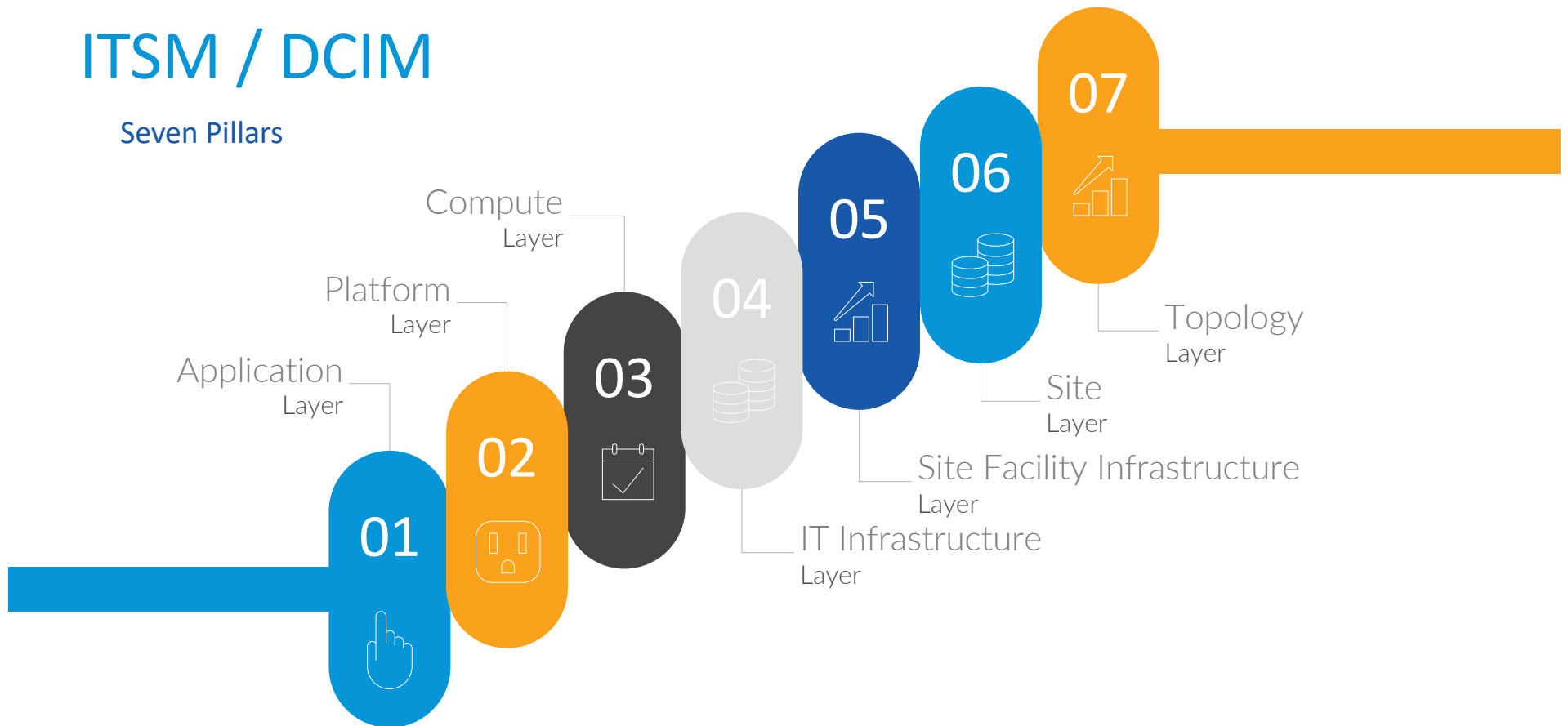




ITSM / DCIM

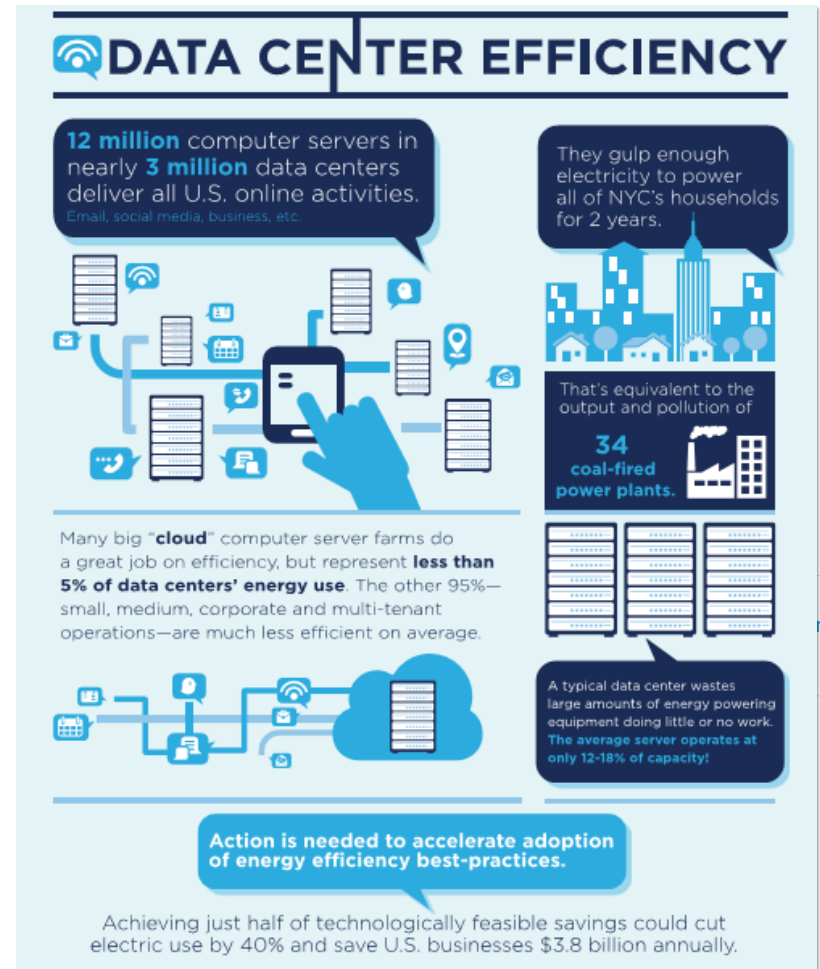
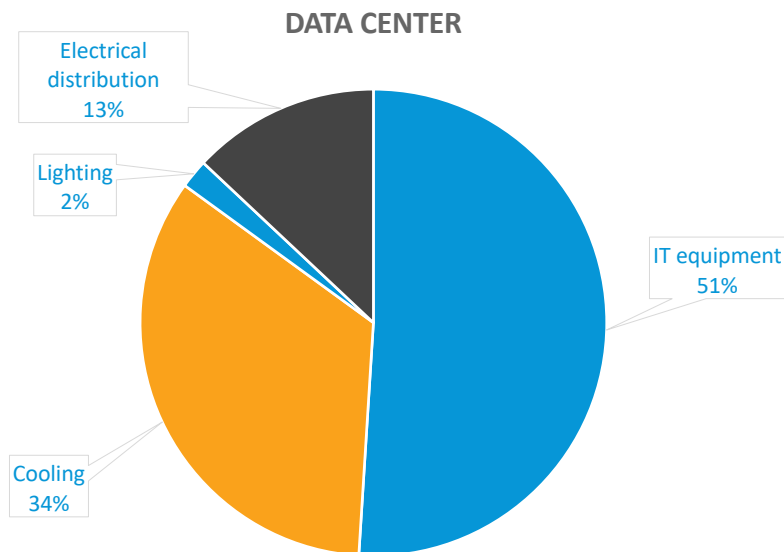
ITSM / DCIM

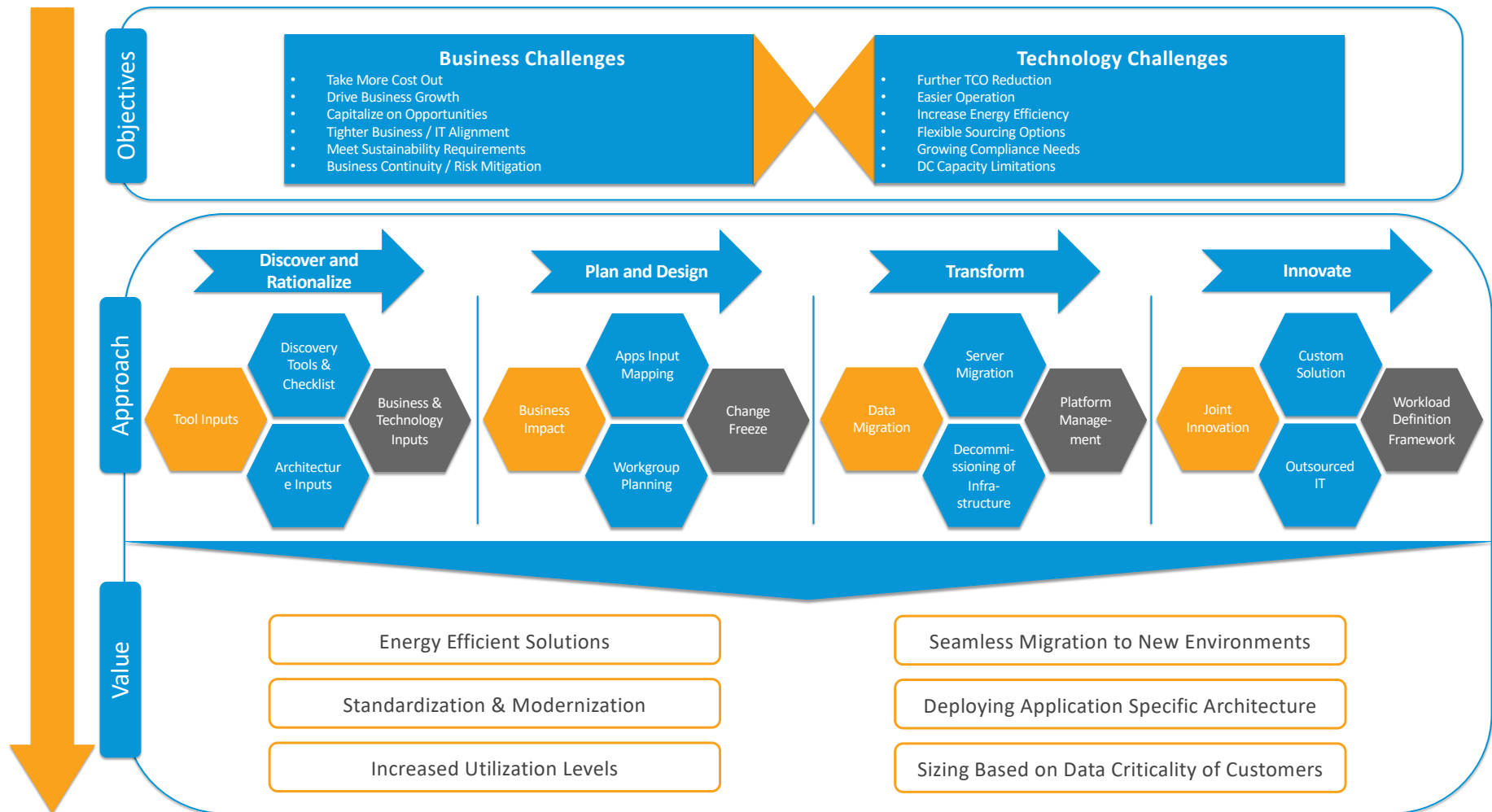
Seven Pillars



ITSM / DCIM

Energy Consumption Profile in a Data Center vs. an Office Building





ITSM / DCIM

Demonstration

- 303.07: <http://bit.ly/303-07>
- 303.09: <http://bit.ly/340v5tm>



303.07



303.09



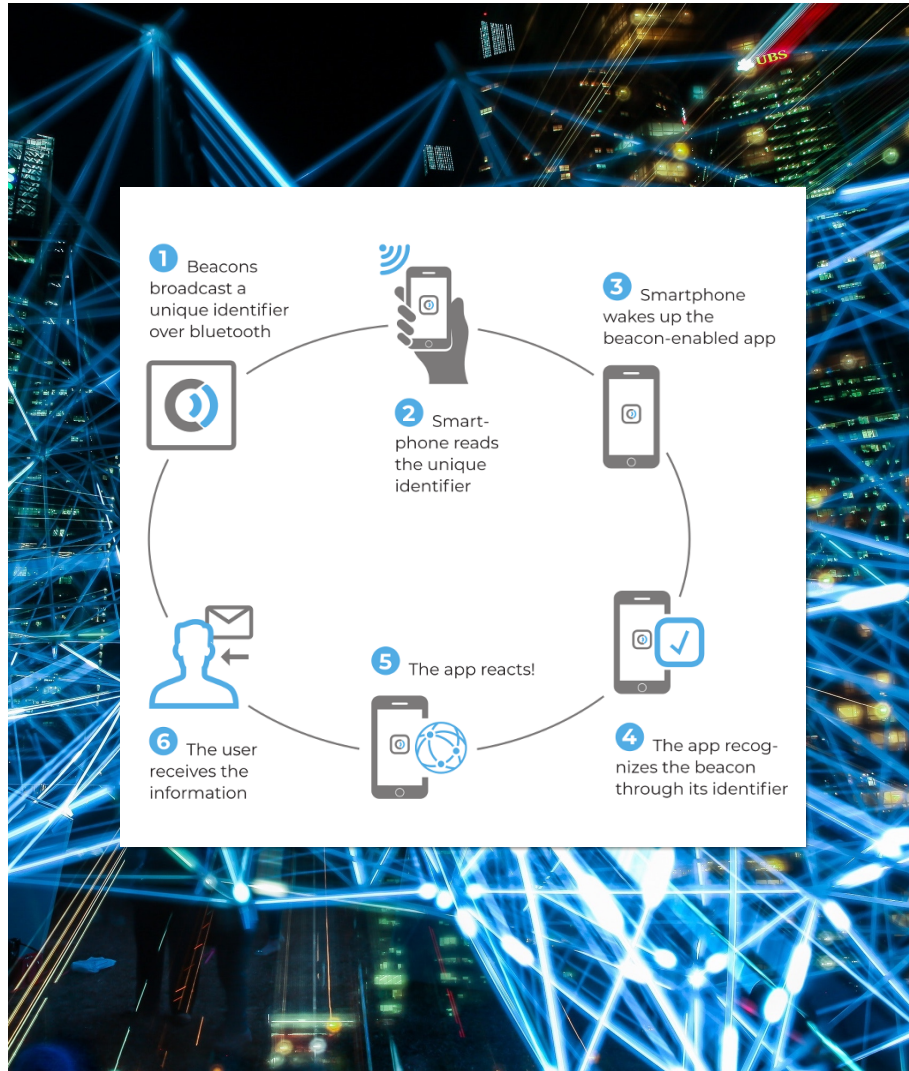


IoT

Beacons

- Small device broadcasting Bluetooth data packets that can be picked up by nearby devices (typically Smartphone) providing contextual information.
- Proximity Use Cases:
 - Places of interest, machines in a factory, people monitoring.
 - Link/leverage data in numerous applications and mobile apps.





IoT

Smart Sensors / Monitoring

- Interacting with Locations of Interest
- App Building Capability
 - Dashboarding
 - IoT Sensor Data, Building Analysis/Maintenance
- Enhancing Building Operations
- Centralized Management Locations
 - Time Series Data, Work Orders, Occupancy

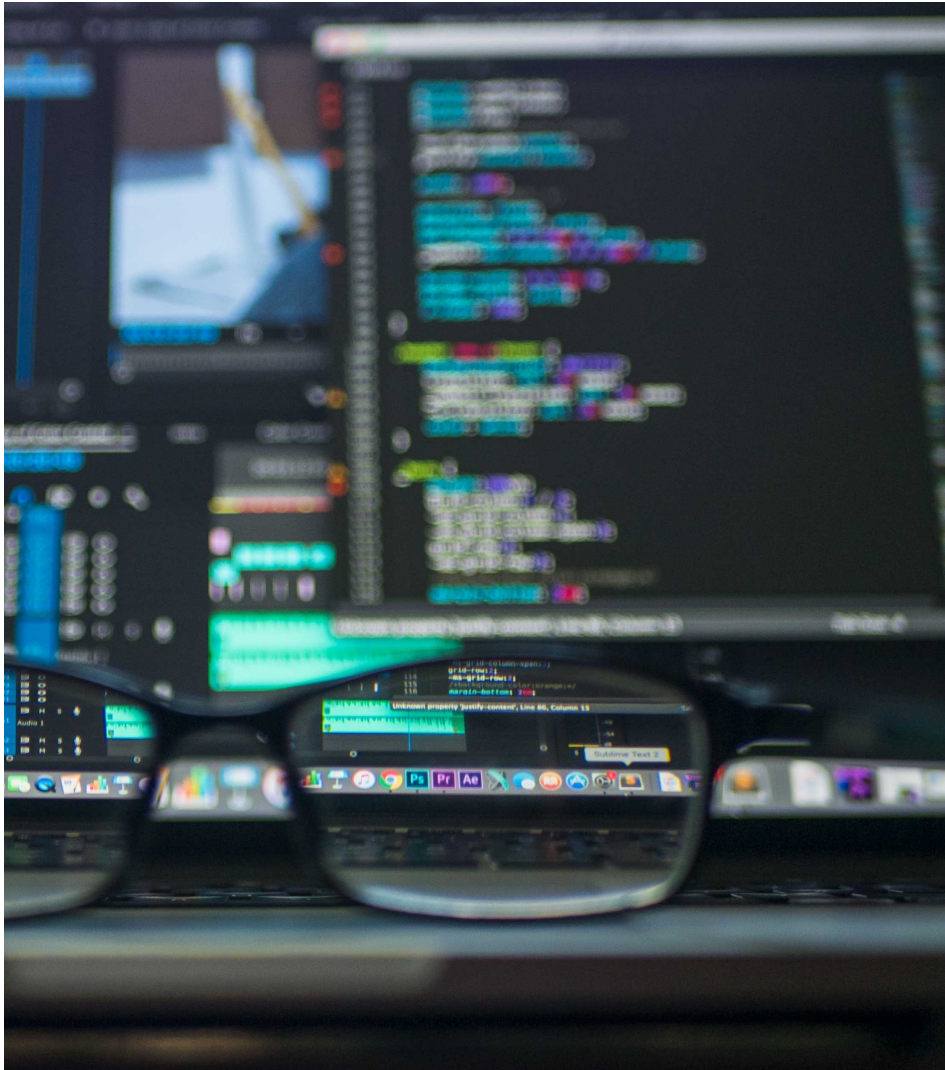


Dashboarding

Dashboarding

- Purpose
- Use Case





Dashboarding

Technologies

- Autodesk Forge
- PowerBi
- InitialState
- GoogleDocs
- Splunk
- GE Predix
- ServiceNow



splunk>

servicenow™

Dashboarding

Demonstration

- <http://enhanced-dynamix.com/CommnetDash/index.html>





Closing Remarks

Closing Remarks

DCIM + BIM 360 Ops

- Economic Efficiency
- Personalization
- Integrated Services
- On-Going Digital Transformation
- Digital Supply Chain Automation



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Thank You





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