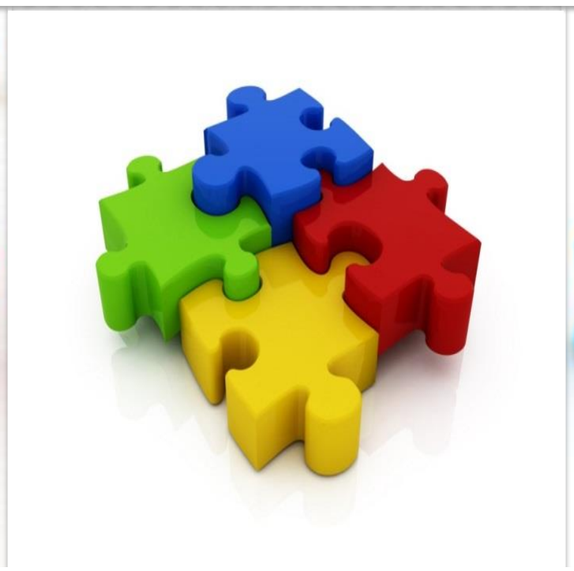
Trading Silos for Synergy



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LEARNING OBJECTIVES

- The relationship between building systems and IT is facing revolutionary change. Understand why by looking at the history of the Convergence.
- Convergence is creating significant challenges for our clients.
- Our industry cannot effectively provide leadership to our clients without a paradigm shift in our thinking.
- Discover strategies for a new approach to the management of technology in a modern construction project.

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"Nothing goes smoother on our projects than the IT / Technology design. It's almost transparent. It's my favorite part of the process and I can't wait to do it again on the next project."

--- said No One, Ever

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THE UNFORTUNATE REALITY

Technology is…

- becoming a significant client challenge
- a growing part of their project solution
- an integral part of our buildings

Necessitating…

- its inclusion as a core component of the A/E process

But with that brings…

- disproportionate source of frustration

COMMON FRUSTRATIONS

- Assembling subject matter experts. How do I…
  - assess the need for them?
  - evaluate them against that need?
  - define their scope and boundaries?
  - ensure cohesive scopes of work with no holes?
  - recognize and protect against shadow designers?
- Disconnections between A/E and the Owner
  - Team not achieving the owner's vision
  - Lack of understanding of the design intent
- Construction Process Diverging from Design Process
  - SME engagement challenges surface again
  - Design intent lost in translation
  - Lack of experience in conceptual cost model development

FRUSTRATION DICTATES THE WAY FORWARD

Our path forward is designed to minimize our frustrations.

Less frustration = successful process

That is not a sustainable approach

"Technology changes so fast."

--- says Everyone, Always

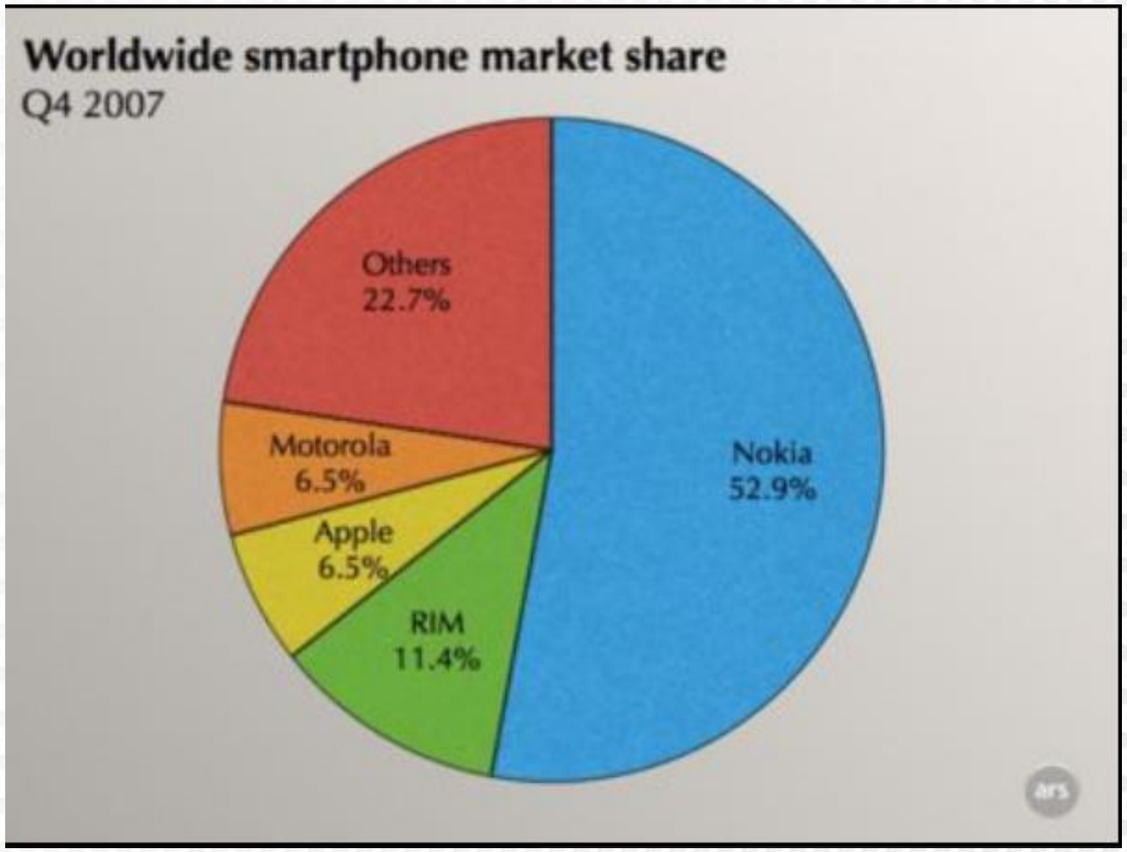
What to design

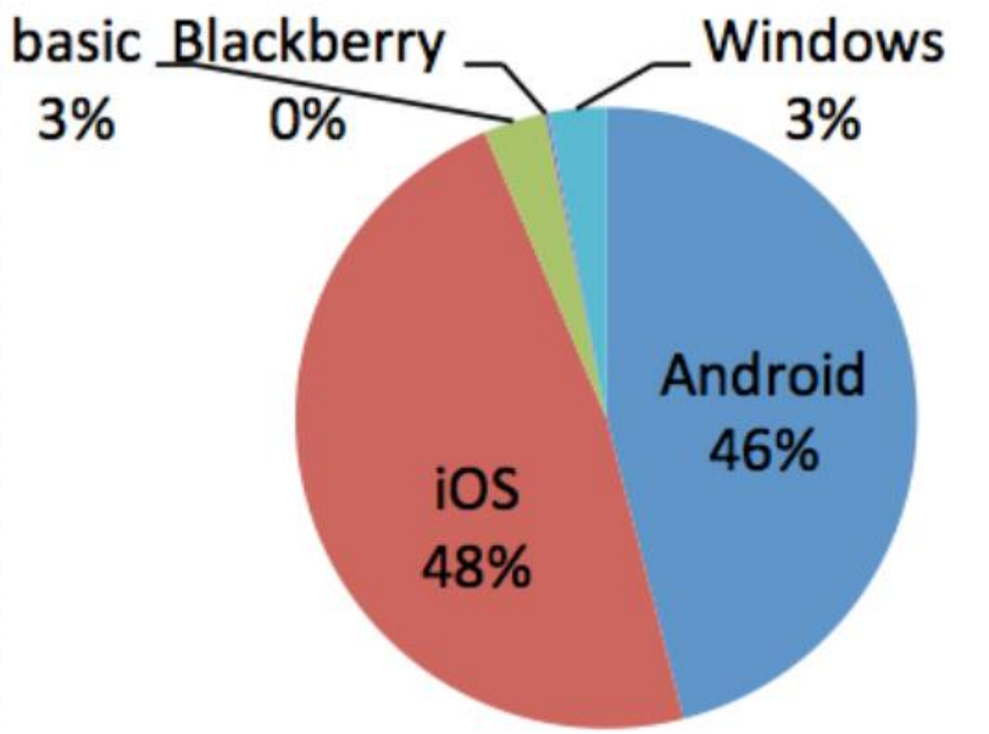
When to design it

How to implement it

This is the path of least resistance verbalized

TECHNOLOGY CHANGES SO FAST





2007

- First iPhone: June 2007
- First Android: October 2008
- First website use: January 1989

2014

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WHERE IS TECHNOLOGY TAKING US?

IoT: The Internet of Things

- "Things" are:
  - A patient with a heart monitor implant
  - A patient with a biochip transmitter
  - A smart label (bar code, QR, RFID, WIFI) for supplies and drugs
  - A smart meter for utilities
  - A smart sensor for monitoring or recording whatever they are designed for
  - A smart grid – a sensor to detect communications from smart sensors

- "The Internet of…"
  - Giving "things" the ability to communicate data over a network and make decisions based on that data, without human-to-human or human-to-computer interaction.

IoT is an evolution of a phenomenon called Convergence

WHERE IS TECHNOLOGY TAKING US?

A new world of integration of building systems built on:
TIME SENSITIVE NETWORKS (TSN)

CISCO

intel

BARCO
Visibly yours

BOSCH

LG

GM

Johnson Controls

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THE UNFORTUNATE REALITY

Our industry can’t handle convergence yet
and it’s already evolving?!?!

Our industry must take
control of convergence.

THE MORE ACCURATE REALITY

Technology is evolving faster than we are.

This is *key* to understanding our current challenges and the way forward

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UNDERSTANDING THE DIFFERENCE

Technology changes so fast

- Implies we are victims
- Suggests that no one can grasp it
- Informs most decisions on projects
- Perpetuates the status quo
- It only gets worse from here

Technology is evolving faster than we are

- Empowers us to take control
- Understands that there *is* expertise available
- Gives us control of decision-making
- Provides a roadmap away from frustration
- Is tough, heavy lifting but allows us to control our destiny

Future success requires a paradigm shift in our industry's thinking.

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CONVERGENCE DEFINED

"The act of moving towards union or uniformity."

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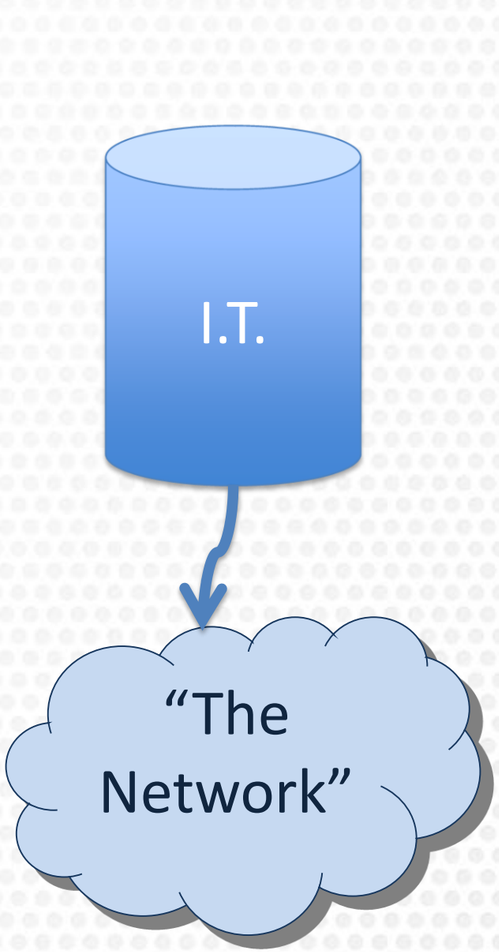
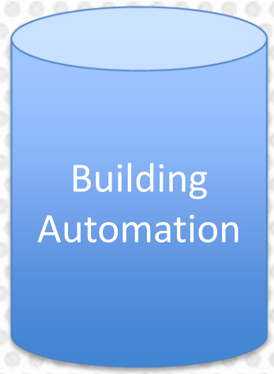
CONVERGENCE EXPLAINED





- *Collection of discrete systems*
- *Isolated siloes*
- *Reflects our historical reality*

What was our human response?

CONVERGENCE EXPLAINED

The IT Silo

- Data Network
- Telephone

The Facilities Silo

- MEP Systems
- Sound/Paging

Clinical Silo

- Biomedical
- Nurse Call
- Digital OR
- Patient Experience

Isolated Silos

It works…until…

- *Clients*
- *Consultants*
- *Contractors*

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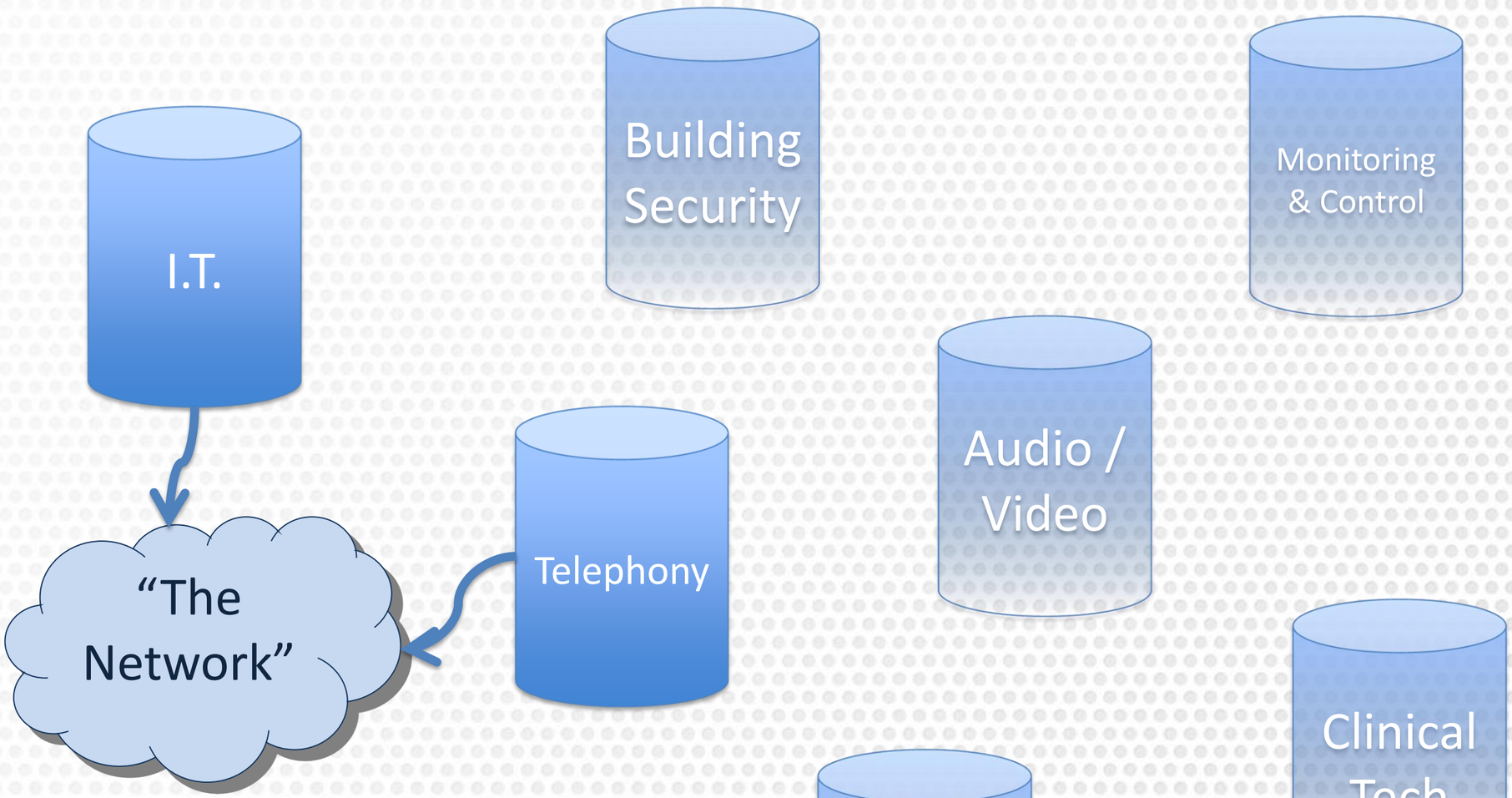
THE FOUNDATION OF REVOLUTIONARY CHANGE



Voice-Over-IP

"The act of moving towards union or uniformity."

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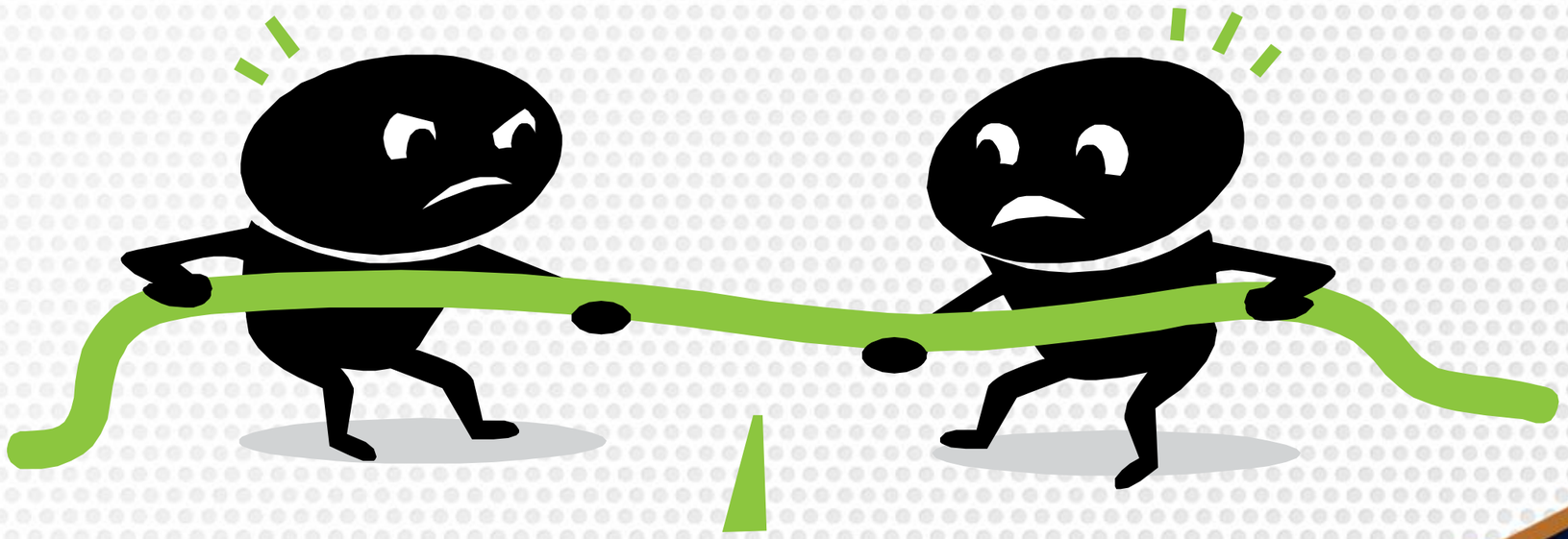
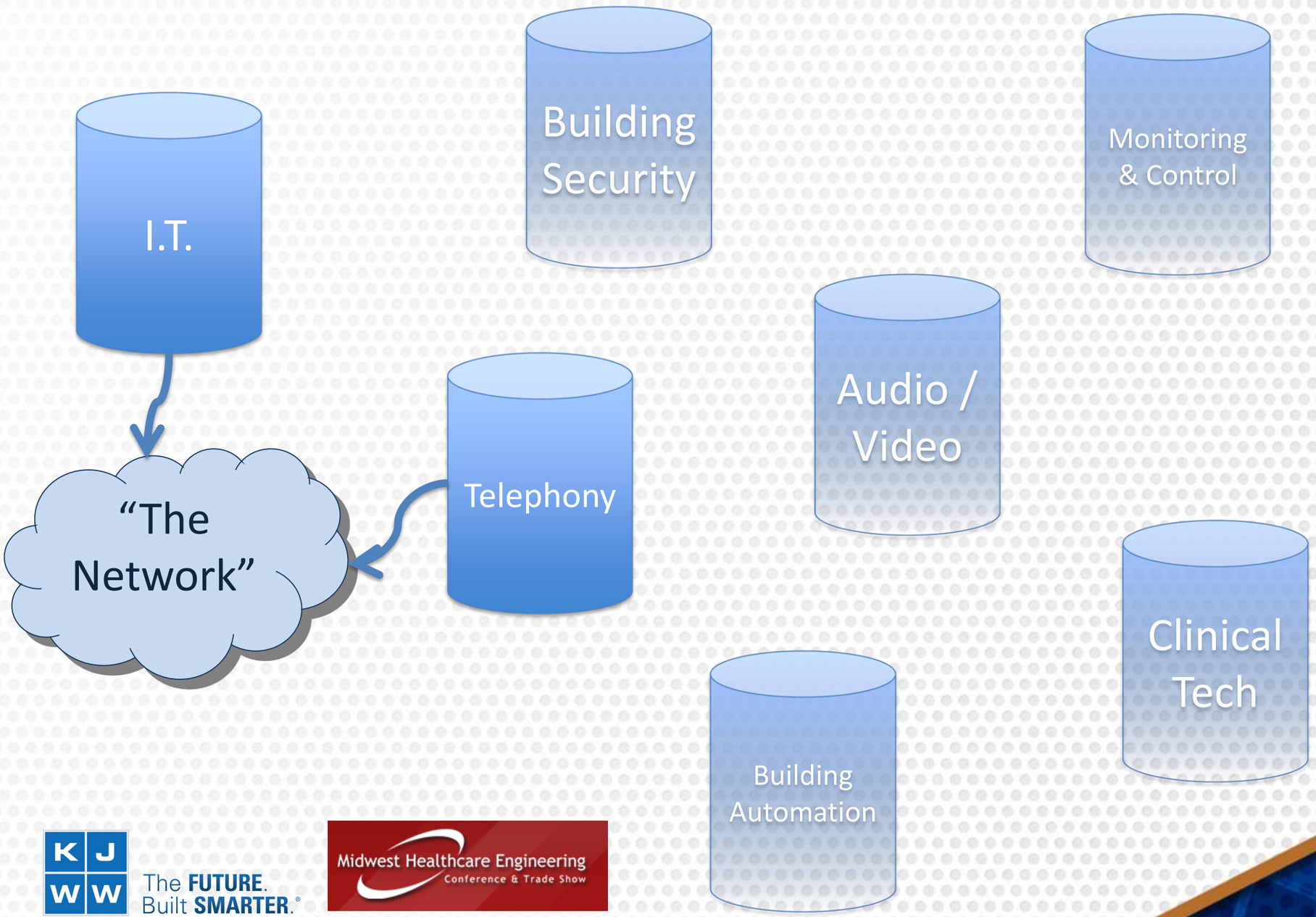
CONVERGENCE IMPACT

- Leverages one investment for the benefit of others
- Unifies disparate technologies
  - Economies of scale
  - Greater capabilities from the whole than the parts (i.e. unified messaging)
- Sets the foundation for an epic struggle
  - Struggle that continues today
  - The source of our frustration

"The act of moving towards union or uniformity."



THE EVOLUTIONARY CHANGE



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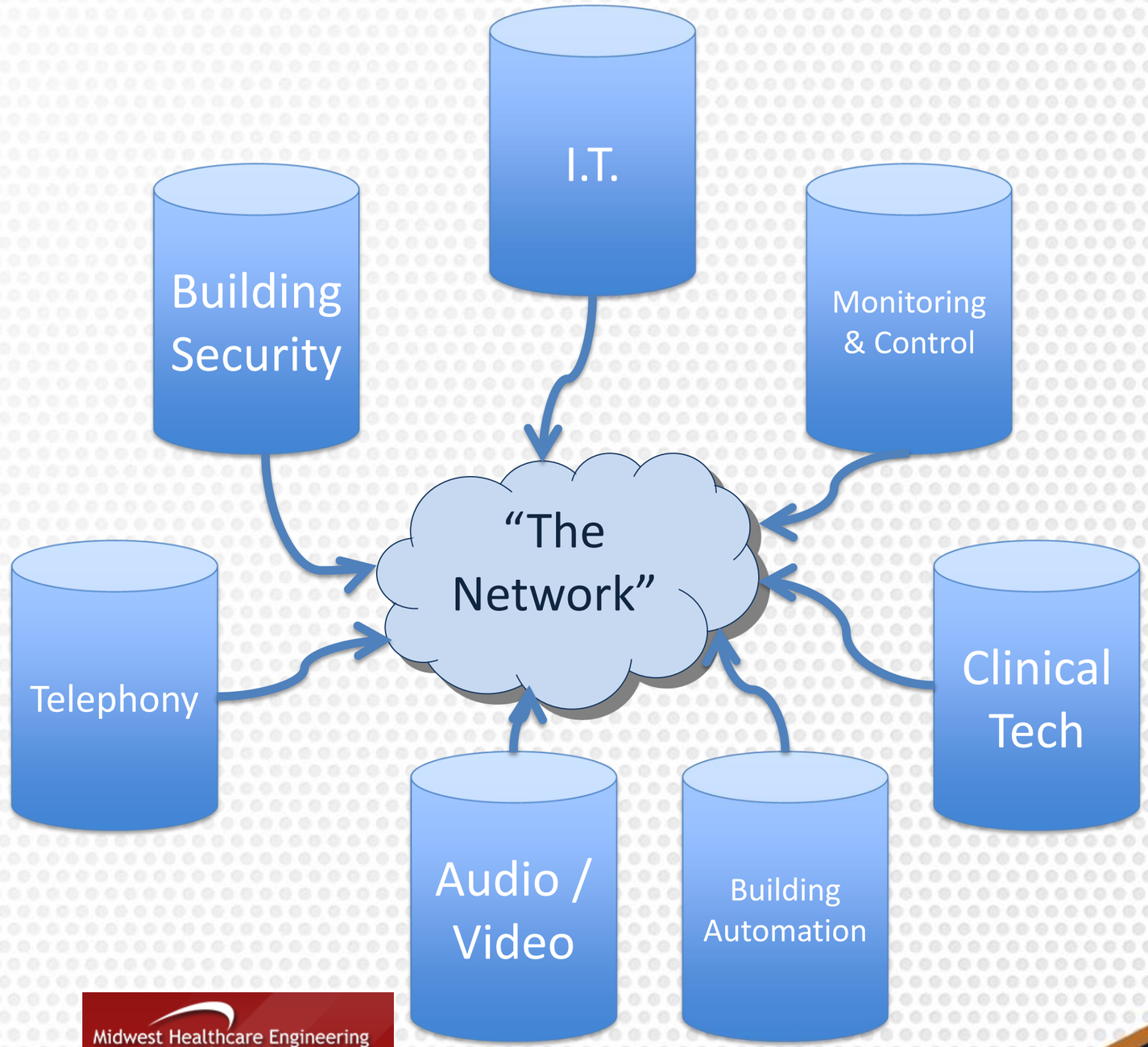
THE REVOLUTIONARY CHANGE

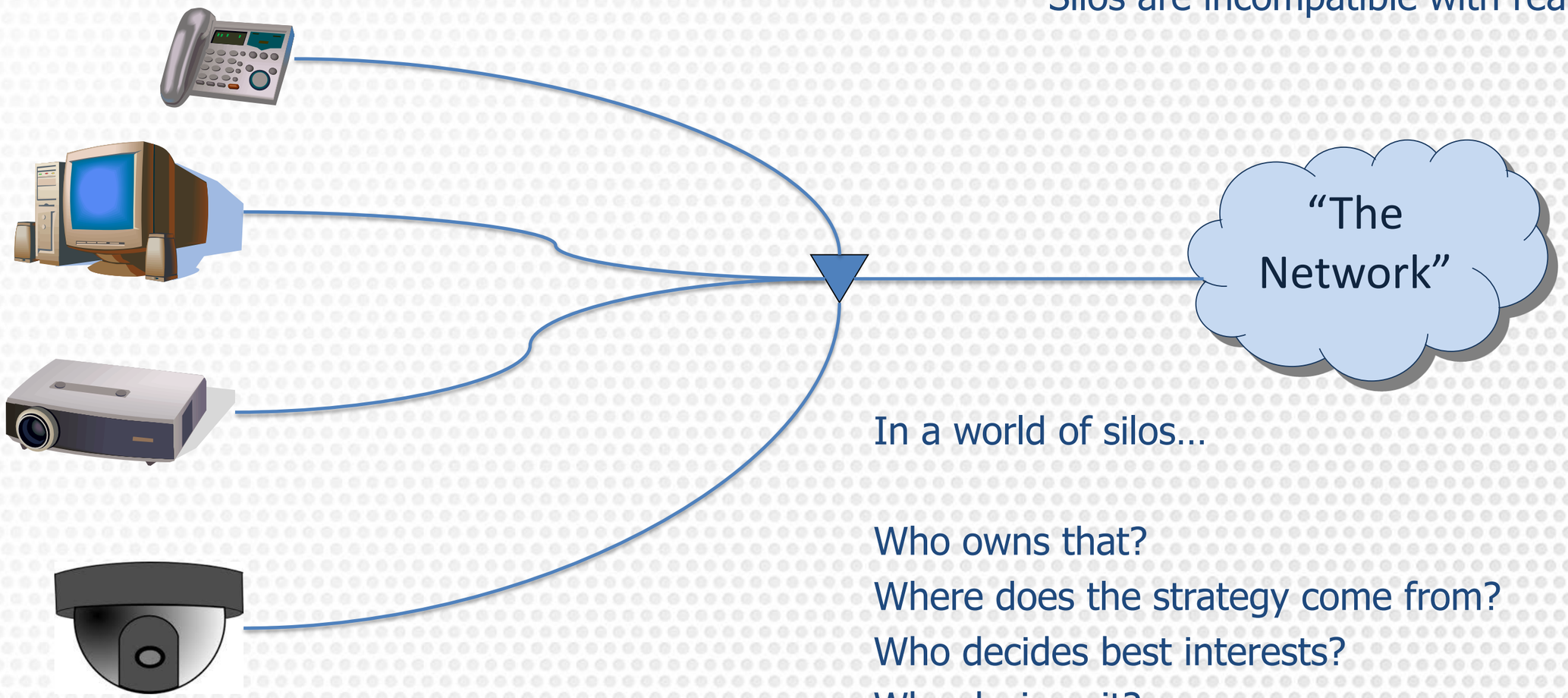


The Technology Utility

Why is this a challenge?

DEFINING OWNERSHIP

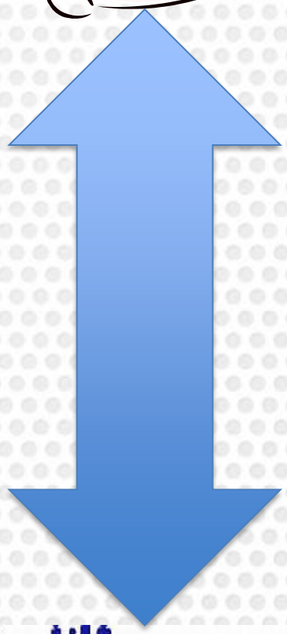
Silos are incompatible with reality



In a world of silos…

Who owns that?
Where does the strategy come from?
Who decides best interests?
Who designs it?
Who constructs it?

OUR CHALLENGE



Are silos that big of a deal?

We must deal effectively with multiple decision-makers simultaneously, many of whom have conflicting goals.

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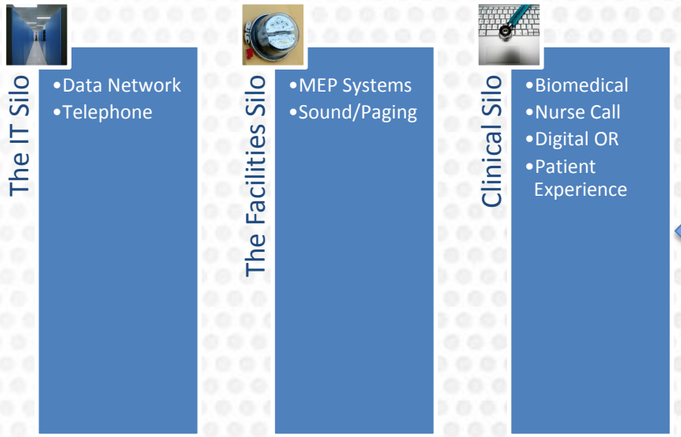
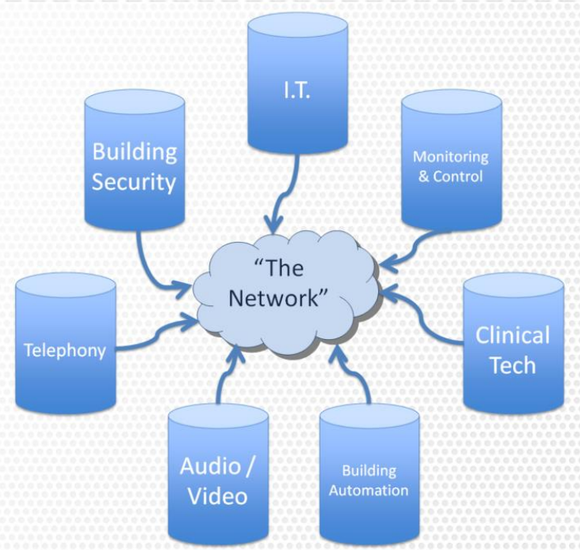
OUR CHALLENGE





Technology evolving faster than we are

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WHAT DOES FAILURE LOOK LIKE?

- Decision making in silos
  - Duplication in a rising cost environment
  - The *right* solution can be stifled
  - Overlook disruption & innovation
  - No one drives the overall vision
  - Is not sustainable!
    - Inevitable pressures won't allow it
    - Not able to meet technology expectations
    - Can do it at home? Why not at work?
    - Client no longer being able to achieve their goals (V/E)
  - *Creative Tension* is never achieved

Even with failure we've still *designed* & *engineered* but

have we consulted as advisors?

If not the A/E then who?

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STEPS TO SUCCESS

This is *not* a technical problem.
This is a people problem.

Reimagine our design process

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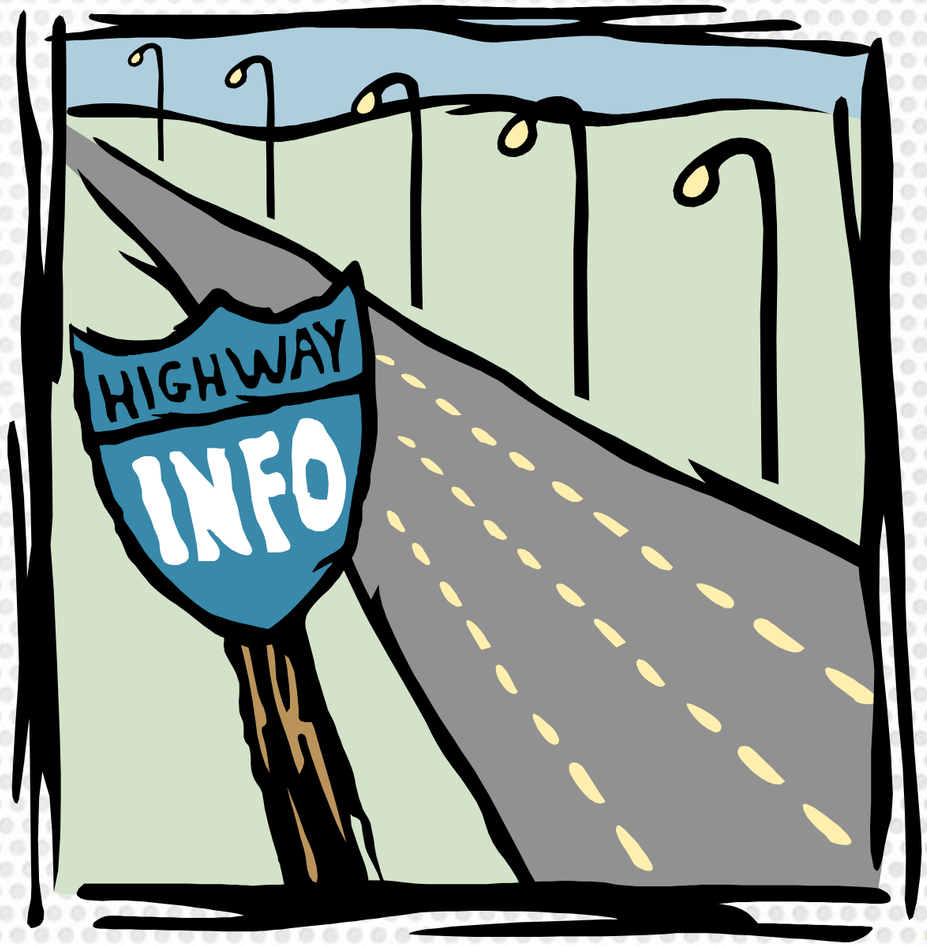
THE PARADIGM SHIFT

- Make informed, intentional decisions about technology
  - Simplified team member selection aligned behind a coherent strategy
  - Unified contract requirements behind a single approach
  - Structure and method to the design process
  - Influence the construction and procurement strategies
- Understand similarities between design team & client frustrations
  - Both experiencing the same issues
  - Paradigm shift provides leadership – a way forward
- Convergence
  - Understand it
  - Learn from it
  - Apply it
- A/E industry takes a leadership position in being a catalyst for our clients

STEPS TO SUCCESS

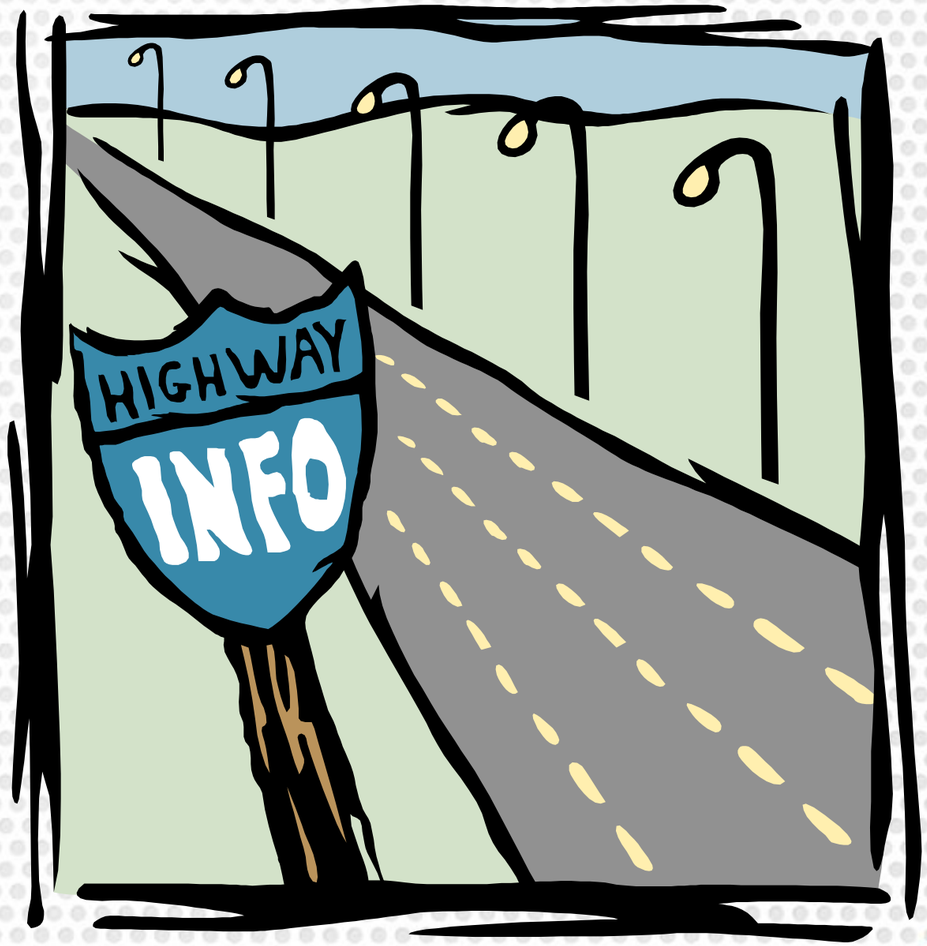
- Technology Project Governance Structure
  - Engaged at project conception
  - A "core team" that mimics reality
  - Technically Knowledgeable Stakeholders
    - Strategic decision making
    - Not just their silos
  - Bridges executives & user groups

- Governance structure defines "the rules of the road."
  - Makes purposeful decisions on converged technology



STEPS TO SUCCESS

- Rethink User Groups
  - Technology is no longer a user group
  - Needs, wants and ideas come from user groups
  - A global technology strategy usually does not
  - Strategy must transcend individual interest
- Governance Structure / User Group Relationship
  - Engage the user groups with defined rules of the road



IDENTIFYING SUCCESS

- Leadership is evident in the design process
  - Frustrations reduced = Goals achieved
  - Taking the path of least resistance was not the reason for reduced frustrations
  - Defined a process that achieved something that wouldn't have been possible
  - Clients begin to reorganize internally to manage converged system challenges.
- The technology solution was optimized
  - Capabilities achieved
  - Outcomes realized
  - Goals met
  - Budgets adhered to
  - The jar is full
- Buy-out and construction strategy matched the design strategy.
  - Design-phase thought leadership is echoed in the construction strategy.

"Technology changes so fast…

but there is a method to the madness."

--- says Every One, Always

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THE CRUCIAL QUESTION

In every decision that you make, ask yourself:

are we “moving towards union and uniformity”
or are we reinforcing silos?

The *right* answer will usually be self-evident

Thank you for your time.

Q & A

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