

From Silos to Services

*A Comprehensive Roadmap
to Utility Computing*

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Executive Summary



Today, IT is provisioned as **silos, not as a utility**



Utility Computing = IT delivered as a set of services



Goal of utility computing is **Business Agility**



Business Agility requires **service**, not silo **architecture**.

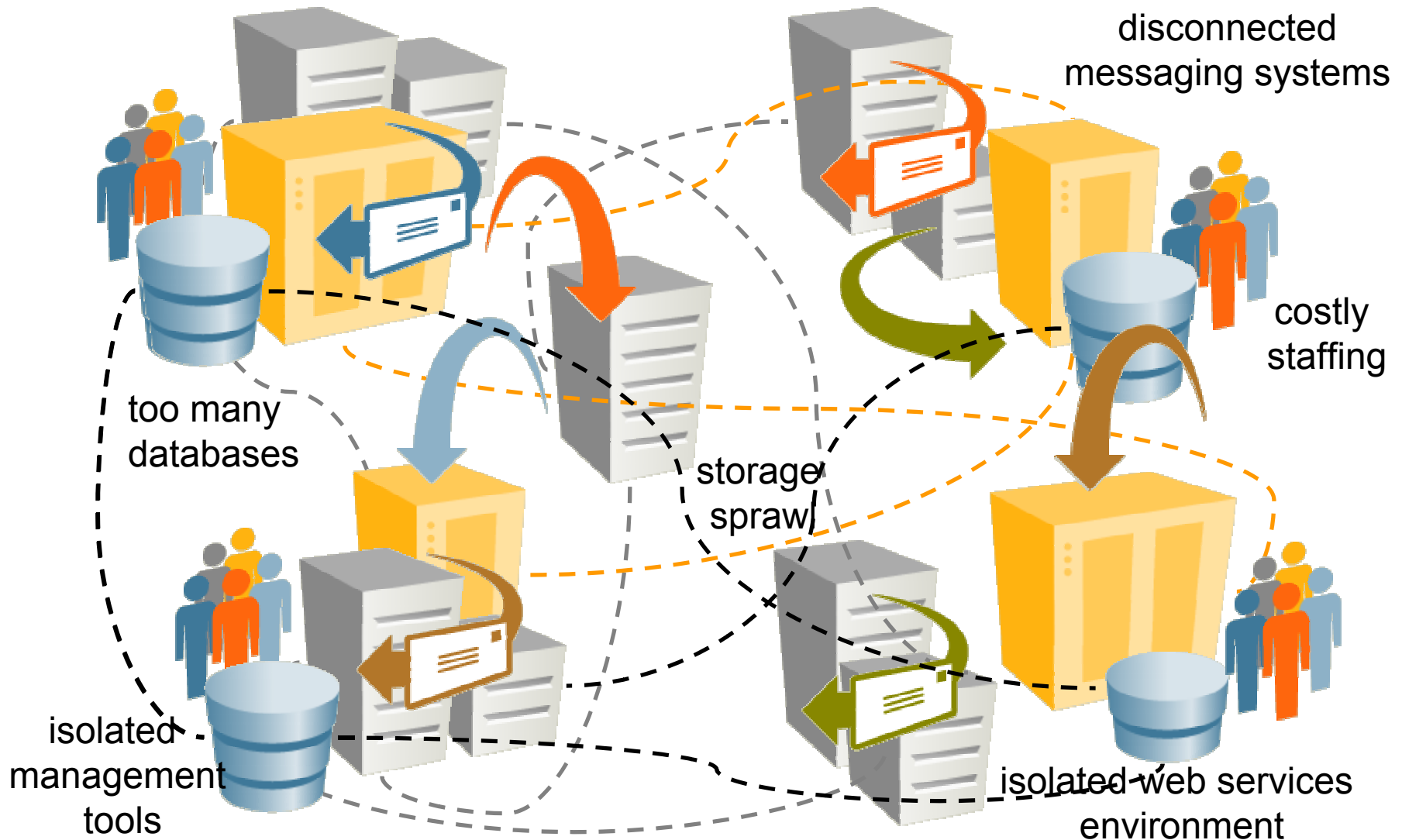


The answer requires **more than technology**



Synchronized change across **four key domains**
infrastructure, relationship, process, investment

Today, IT is provisioned as silos ... not utility



Utility Computing

■ Utility Computing

Being able to plug into computing power as you do electricity, paying only for the resources that are consumed

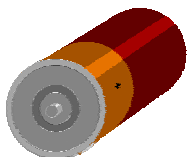
- CIO Magazine

■ Utilities = deliver services, not products

■ Power utility vs. battery



- defined processes (delivery, service restoration, billing, etc)
- measured quality (availability, 'cleanliness', power levels)
- defined price (consumption-based. Includes defined processes)

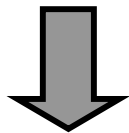


- product, no services
- quality inferred by 'brand'
- defined price (acquisition-based. Cost incurred at acquisition)

Business Agility the New Business Driver

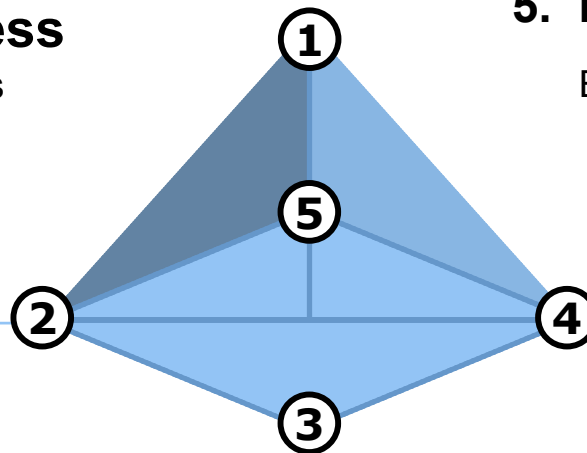
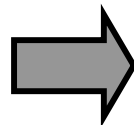
• 1. Enable the Business

Realize operational strategies through enablement of the business processes



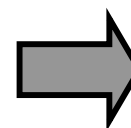
2. Maximize Return

- Return (profit) comes from increasing revenue and/or decreasing costs
- Link operational costs with utilization (i.e., variable, pay-per-use)
- Minimize and/or “smooth” upfront capital investment costs
- Optimize fixed vs. variable costs



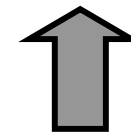
3. Maximize Performance

- Improve business process and IT service levels
- Extend service levels across the enterprise
- Ability to change the service as well as deliver it



5. Maximize Agility

Enable the IT environment to adapt to changing business needs



4. Minimize Risk:

- Risk emanates from regulatory/compliance pressure and business continuity/security issues
- Ensure security and continuity of business operations
- Mitigate operational, organizational, legal and financial risk

new IT architecture required

- “every **change in the business** creates a **change in the IT infrastructure**. With the right infrastructure... anything is possible.”

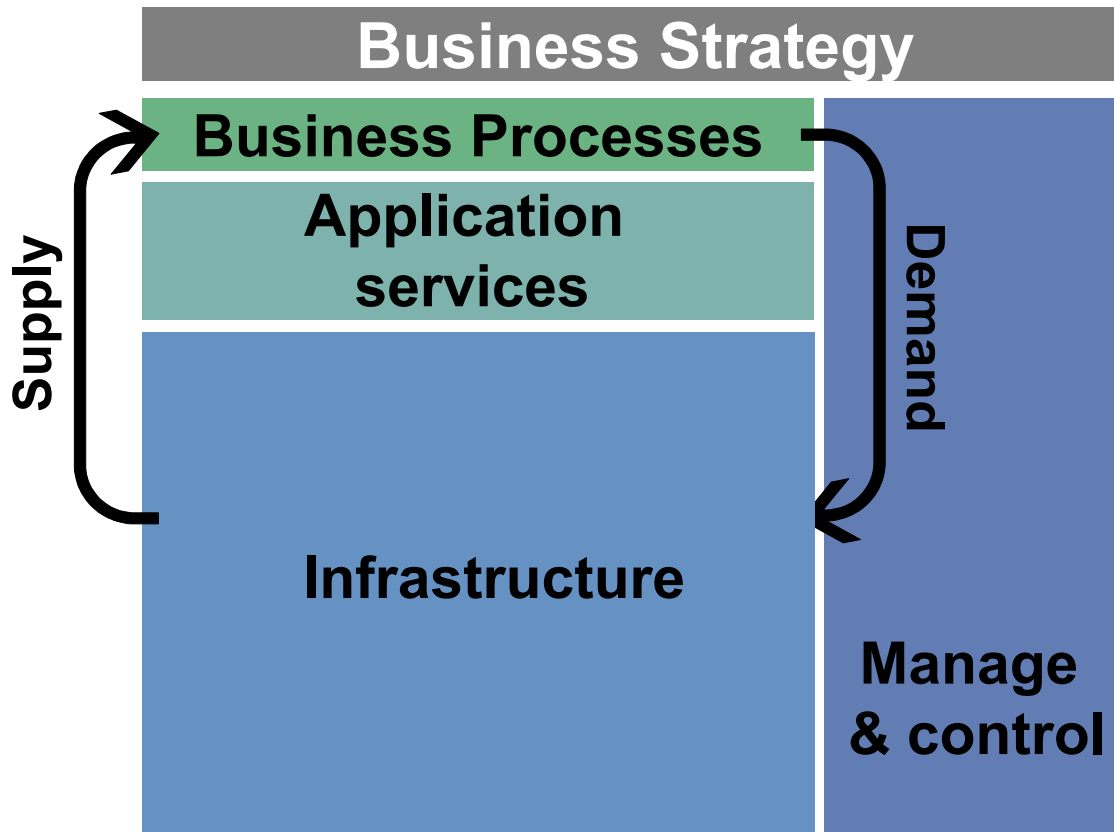
- Bob Napier, HP CIO

“ it's time to aggressively drive IT toward a new enterprise architecture that **removes the vertical silos** of automation built up over the years.

Silos are **replaced** over time with a **flexible, modular, standards-based architecture** where business changes can be executed effectively and transactions and information can flow freely.”

– Shane Robison, HP CIO

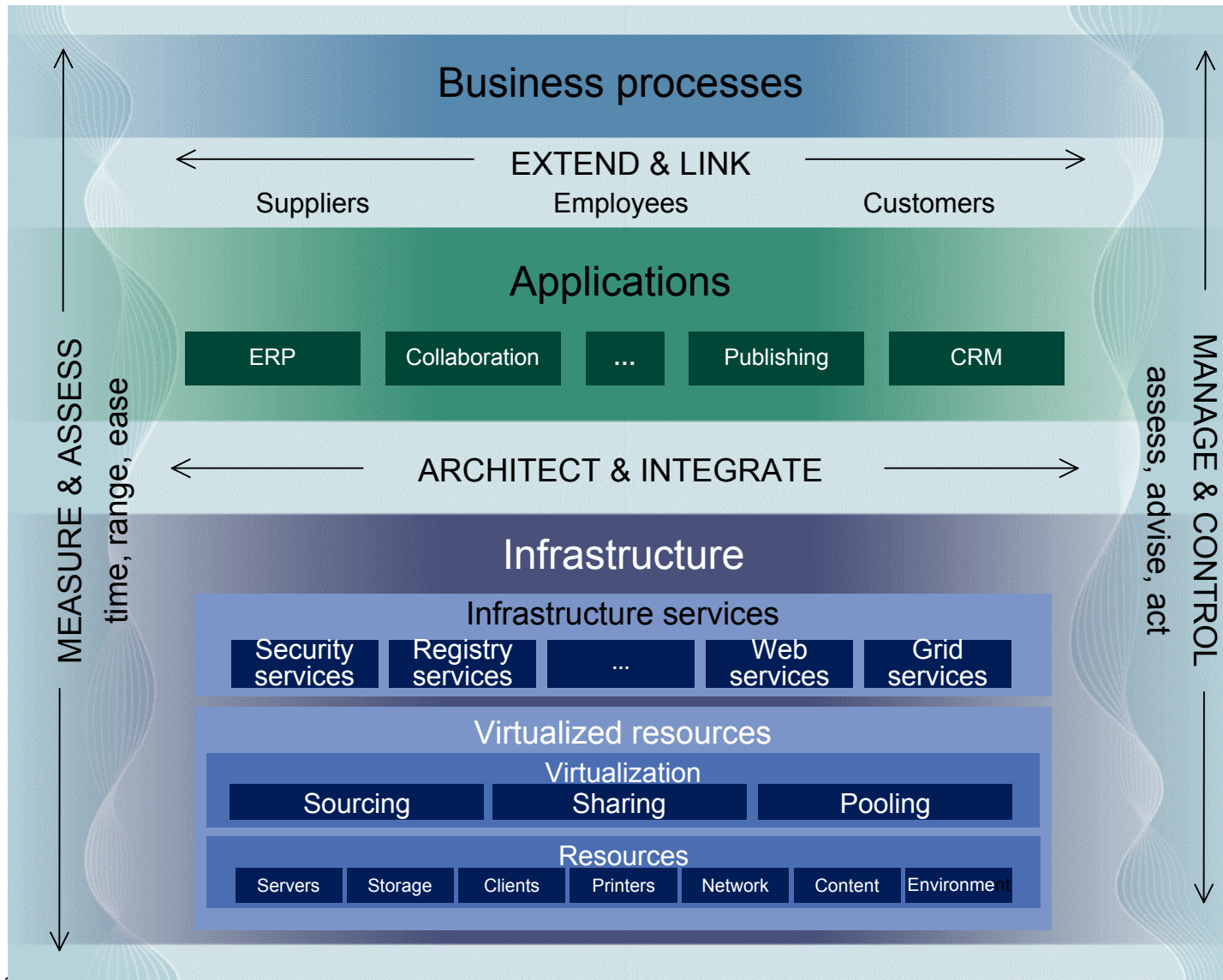
Adaptive Enterprise synchronizing business changes and IT adaptations



AGILITY

The ability of an organization to (leverage technology in order to) sense environmental change and respond efficiently and effectively to that change.

HP's Darwin Reference Architecture



Automated
intelligent
management

Dynamic
resource
optimization

Continuous
secure
operation

Adaptive Enterprise state model

	Tech Focused	Service Focused	Business Focused
Business concerns	cost/efficiency	SLA effectiveness	agility/ process enablement
IT concerns	keep it running	quality of service	business value
Business/IT relationship	tech centric	service centric	business centric
Agility stage	reactive	predictive	proactive
Technology stage	discrete	integrated	virtualized

challenges

From an IT standpoint, it's like having to rebuild an entire organization, much like the transformation that manufacturing plants had to make to support just-in-time manufacturing
- Meta Group

The technical issues involved with utility computing are complex enough. But that's nothing compared with **the thicket of organizational and managerial challenges** that face the CIO who wants **to implement a full-blown utility computing model**.

Implementing such a strategy means overhauling the IT department, just for starters. It also involves the **incredibly difficult task of getting departments and functions to share** computing resources and, most important, making sure that **IT functions are properly mapped to business processes**.
- CIO Magazine

we must change

from

to



how we architect (infrastructure)

distributed silos —————> shareable pools of resources
disjointed technologies —> common adaptive infrastructure

how value is managed (investment)

high cost, low value —————> lower cost, high value
rising fixed costs —————> costs aligned with revenue
cost center —————> discipline of P&L center
cost —————> value

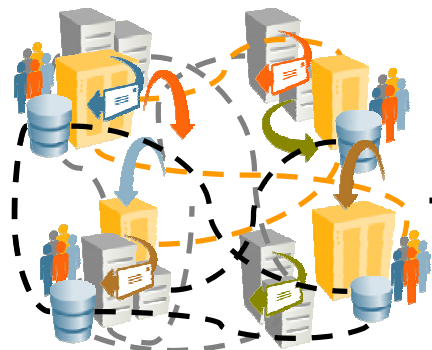
how we operate IT (process)

reactive, ad hoc —————> proactive, rationalized process
best effort —————> measured & accountable
operations mgr —————> service manager
entirely in-house —————> strategic sourcing

how we make IT decisions (relationship)

users —————> customers
inward looking —————> outward looking
technology focus —————> business focus
systems skills —————> listening skills

Mgmt of Change Dependencies



silos

**Adaptive, shareable
infrastructure
depends on**



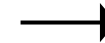
**LOB-IT relationship
(trust & confidence)
earned by**



**IT ops processes
executed credibly
incented by**



**Variable investment
models**



IT as Utility

From Silos to Services

from many silos, evolve an adaptive infrastructure

**Adaptive, shareable
infrastructure
depends on**



**LOB-IT relationship
(trust & confidence)
earned by**

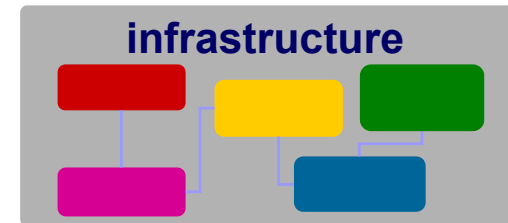


**IT ops processes
executed credibly
incented by**

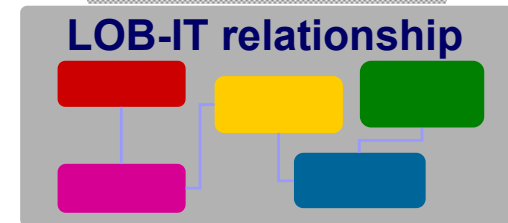


**Variable investment
models**

Infrastructure
capability maturity
model



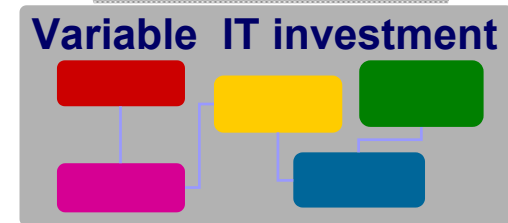
Relationship
capability maturity
model



IT Op Process
capability maturity
model

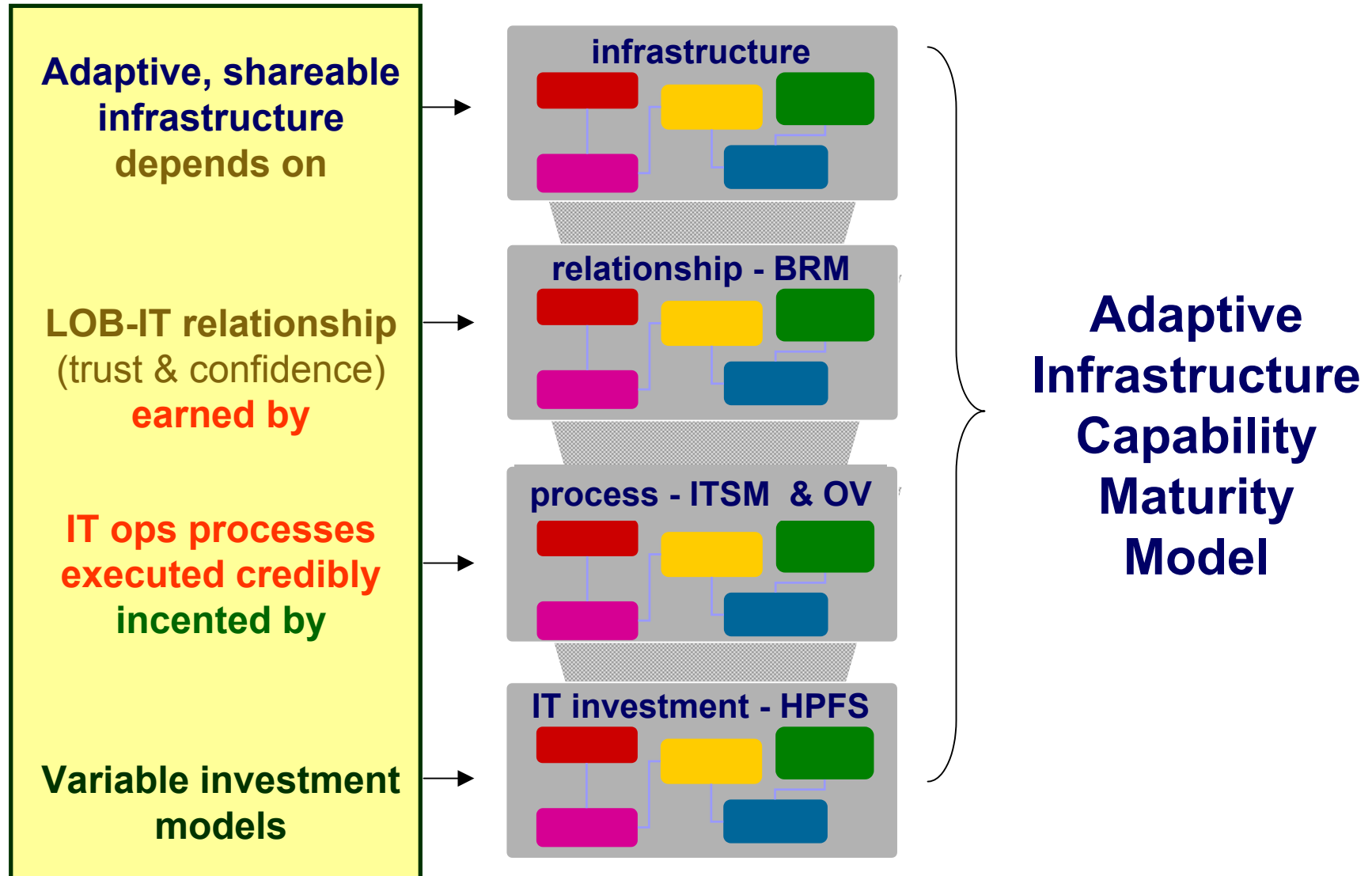


IT Investment
capability maturity
model

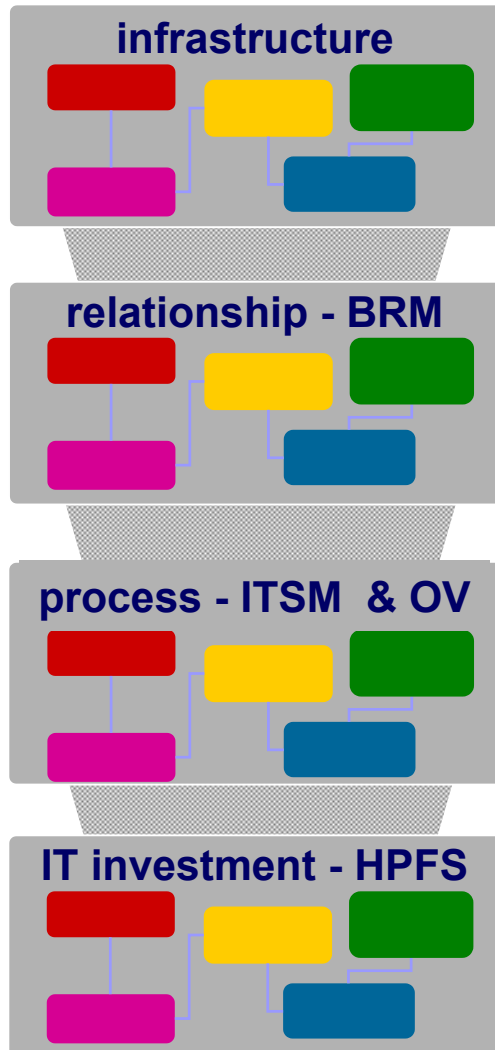


From Silos to Services

synchronized change across four domains



Adaptive Infrastructure Capability Maturity Model



transforming infrastructure and
technical architectures already
deployed

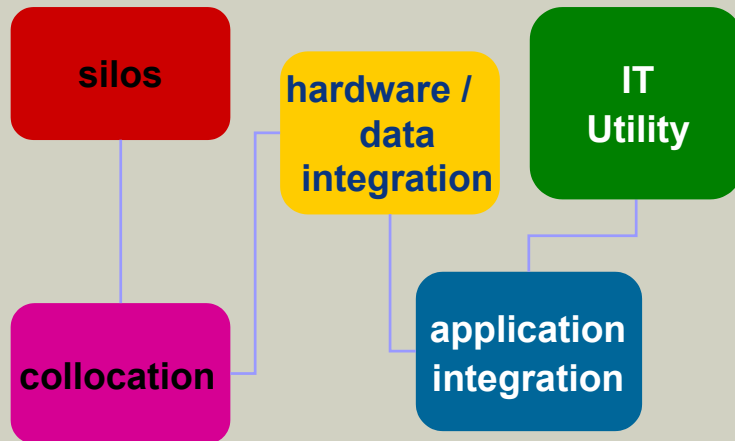
into a new technical architecture,
organized by function,
delivered as services,

rather than application, technology,
or organizational silos

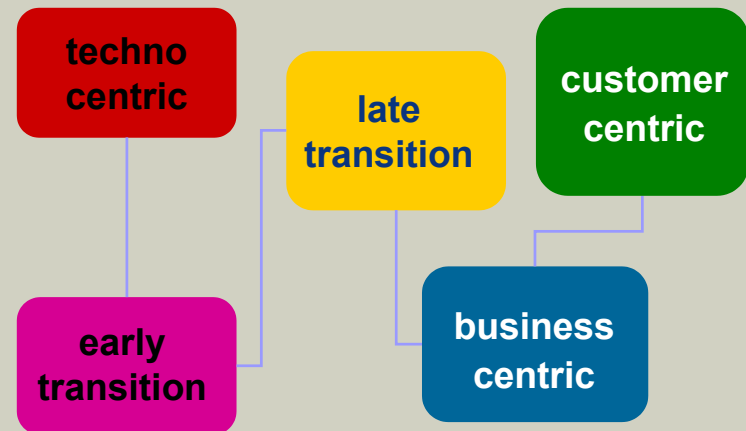
AICMM

Adaptive Infrastructure Capability Maturity Model

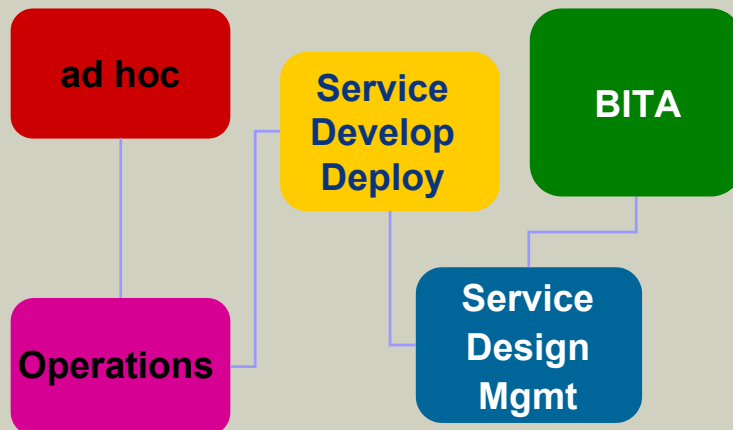
Infrastructure



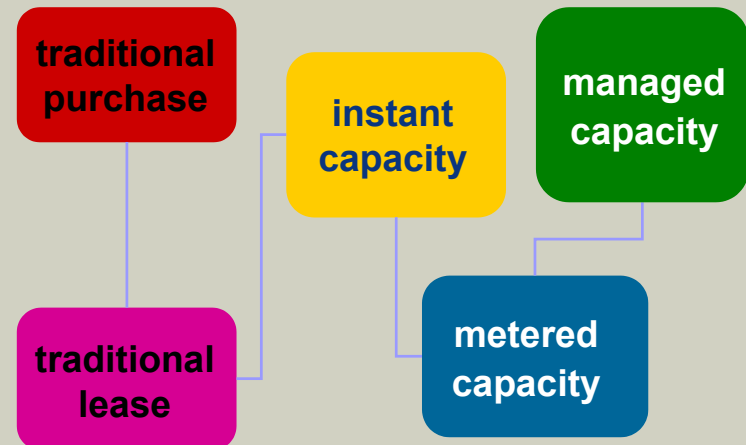
Relationship



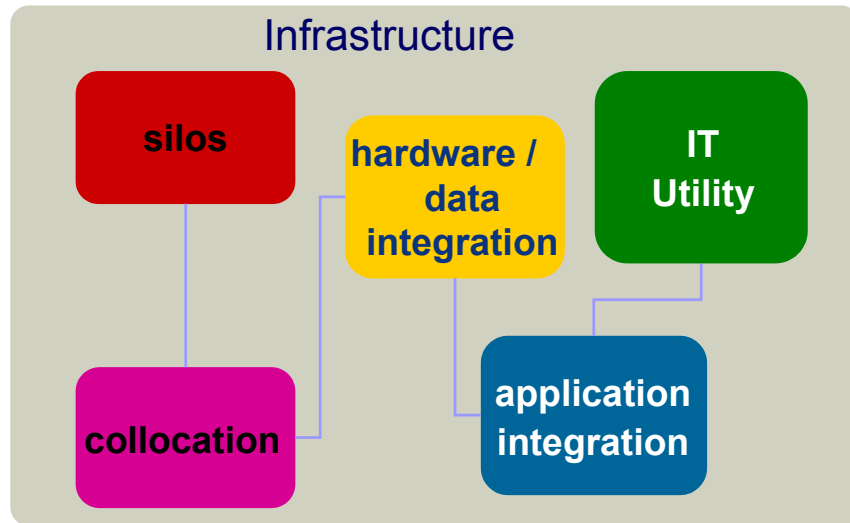
Operational Process



Investment



AICMM Model infrastructure model



distributed IT architectures

- 20+ yrs distributed architectures
- based on software, not hardware
- eases transitions to “n-tier”

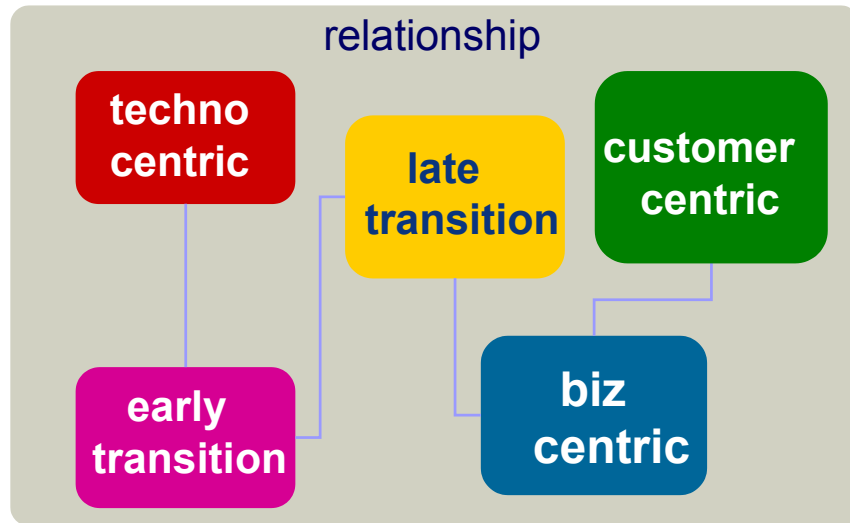
Describes the logical and practical changes required to re-organize and re-architect already deployed infrastructure and technical architectures

into a new technical architecture, organized by functional services,

rather than by application silos, technology silos, or organizational silos

AICMM Model

BRM relationship model



BRM business relationship model

- developed over 5 years
- quantitatively researched for validity with over 800 customers
- based on academic models and primary research

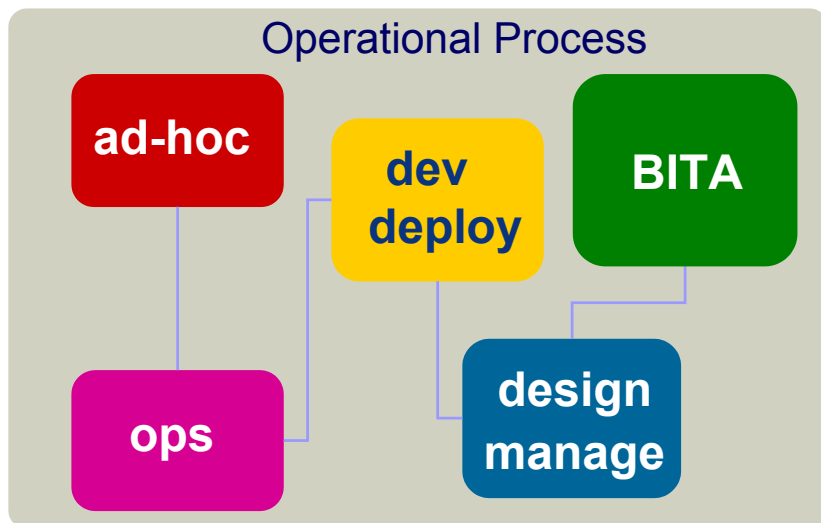
Maps the success of IT within an organization. Provides structured roadmap for increasing IT's value to the business. Creates working scorecards and implementation plan.

BRM identifies:

- common IT scenarios
- IT's understanding of "service"
- where IT should focus
- who IT should work with at each maturity level
- how to improve LOB's trust and confidence in IT

AICMM Model

ITSM process model



ITSM Service Mgmt Model

- based on ITIL - in use since '86
- best practices operations model
- 17 interlocking process groups required to deliver IT as a set of services
- AICMM: ITSM model in transformation order

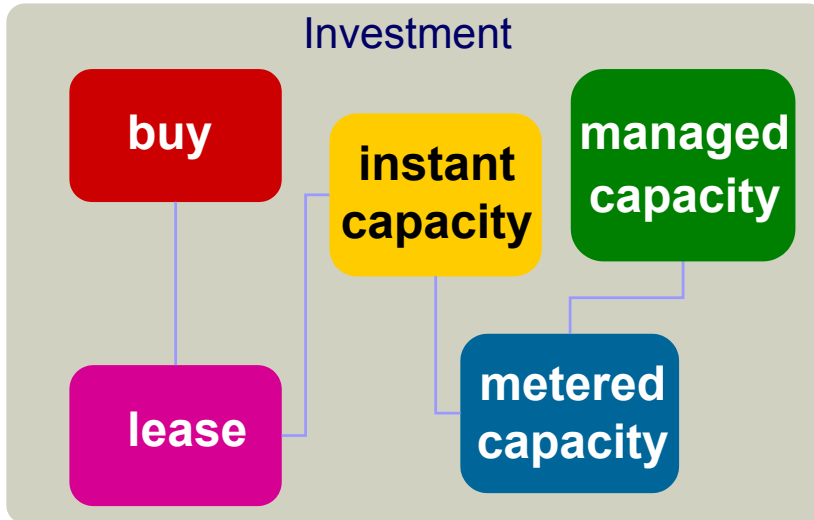
Strategy for planning, developing, and operating the set of integrated support processes necessary and sufficient to manage IT services and their underlying technical infrastructures.

ITSM goals

- allow effective, predictable business operations
- maximize effectiveness of IT infrastructure
- quantify op'l costs on per-svc basis
- partner with business in tuning IT investments to balance negotiated benefits with measured costs

AICMM Model

variable investment model



Variable Investment Model

- based on HP's On-Demand portfolio
- On-Demand variable investment models in use for 2+ years
- HP: \$1B on On-Demand solutions delivered in 2002

Options for more closely aligning IT costs with business revenue.

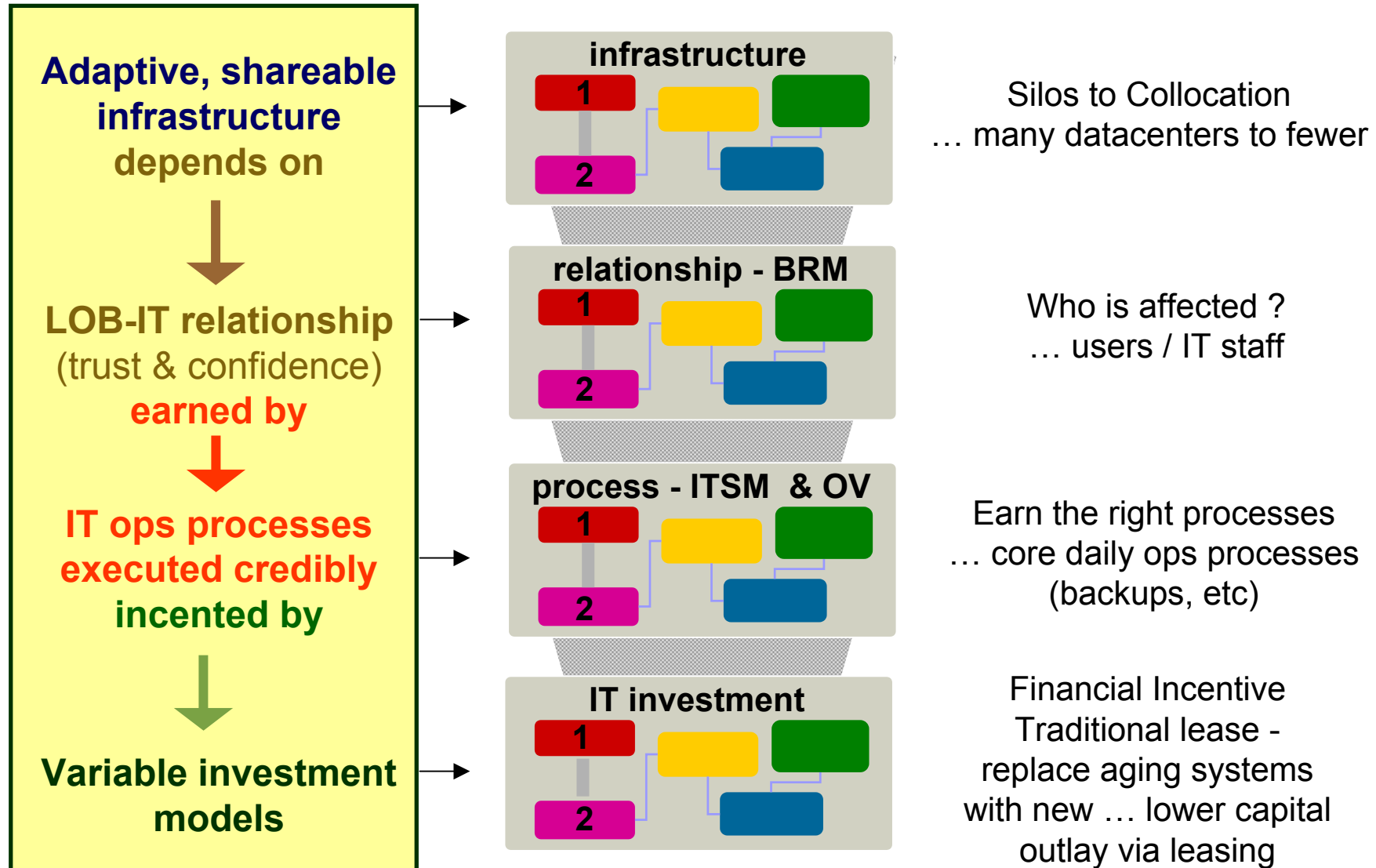
Variable investment options map to infrastructure changes in the infrastructure capability maturity model.

Answers the question:

“what financial incentives can be offered to LOB customers to incent the changes required by the transition to Utility Computing”

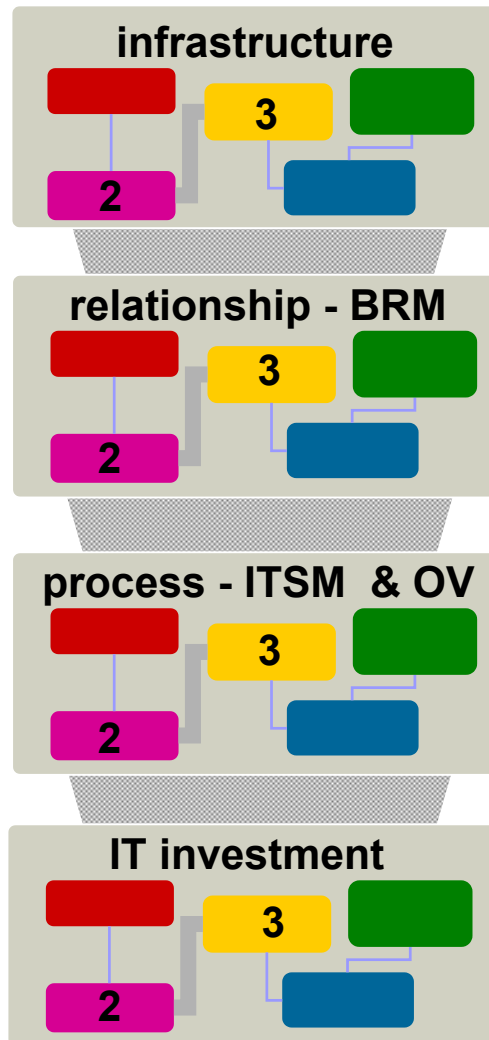
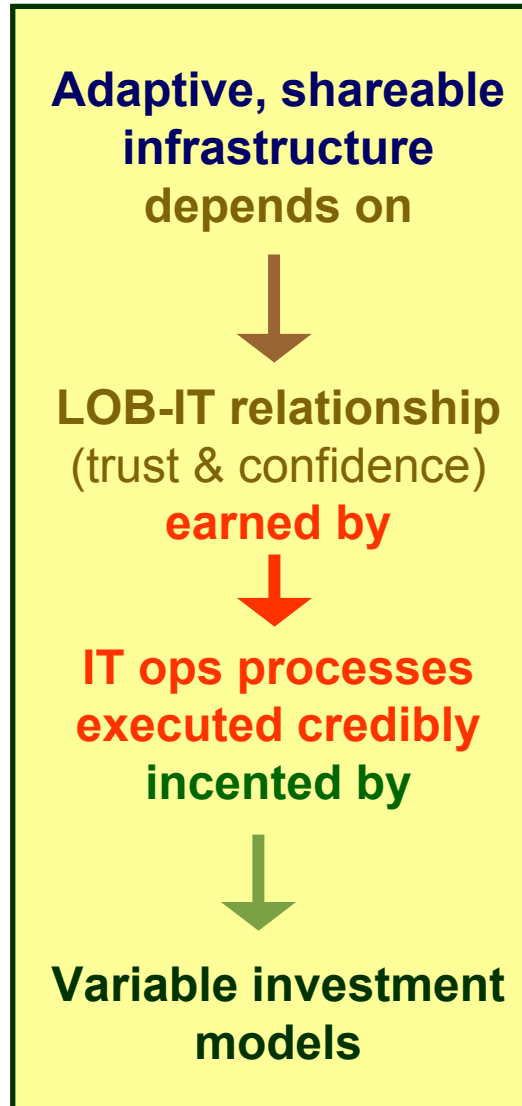
AICMM Example

distributed silos to collocation



AICMM Example

collocation to hdwe/data integration



From collocation to hardware / data integration partitioning & SANs

Who is affected ?
LOB apps owners

“Earn the right” processes
service develop
and deploy

Financial Incentive
instant capacity on demand

AICMM Model

Implications & Guiding Principles



Journey

1. Evolution to an Adaptive Enterprise is a journey, not a single step.
2. The journey to an Adaptive Enterprise requires synchronized progress across all four domains.
3. To quickly achieve progress greater than one AICMM level requires strategic sourcing.
4. Adaptive Enterprise / Utility Computing requires delivering IT as a set of services
5. Services have defined deliverables, measured quality, and defined price
6. Agility is achieved via modular services.



Services

AICMM Model

Implications & Guiding Principles



RoIT

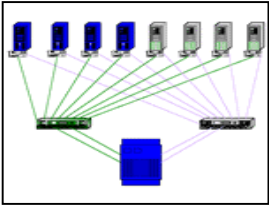
7. AICMM provides a basis for explaining poor RoIT
8. Unbalanced environments require over-investment to compensate and therefore less RoIT
9. IT mgmt tools (e.g. Tivoli, Unicenter, BMC, OV) produce insufficient financial return when operational process automation is not in sync across the domains
10. AICMM provides a roadmap for building trust and confidence between LOBs and IT.
11. To maintain balance, stability, and flexibility, the IT environment should be within one level across all four domains
12. AICMM = roadmap for structured improvement in the absence of centralized governance



Governance

AICMM Model

Implications & Guiding Principles

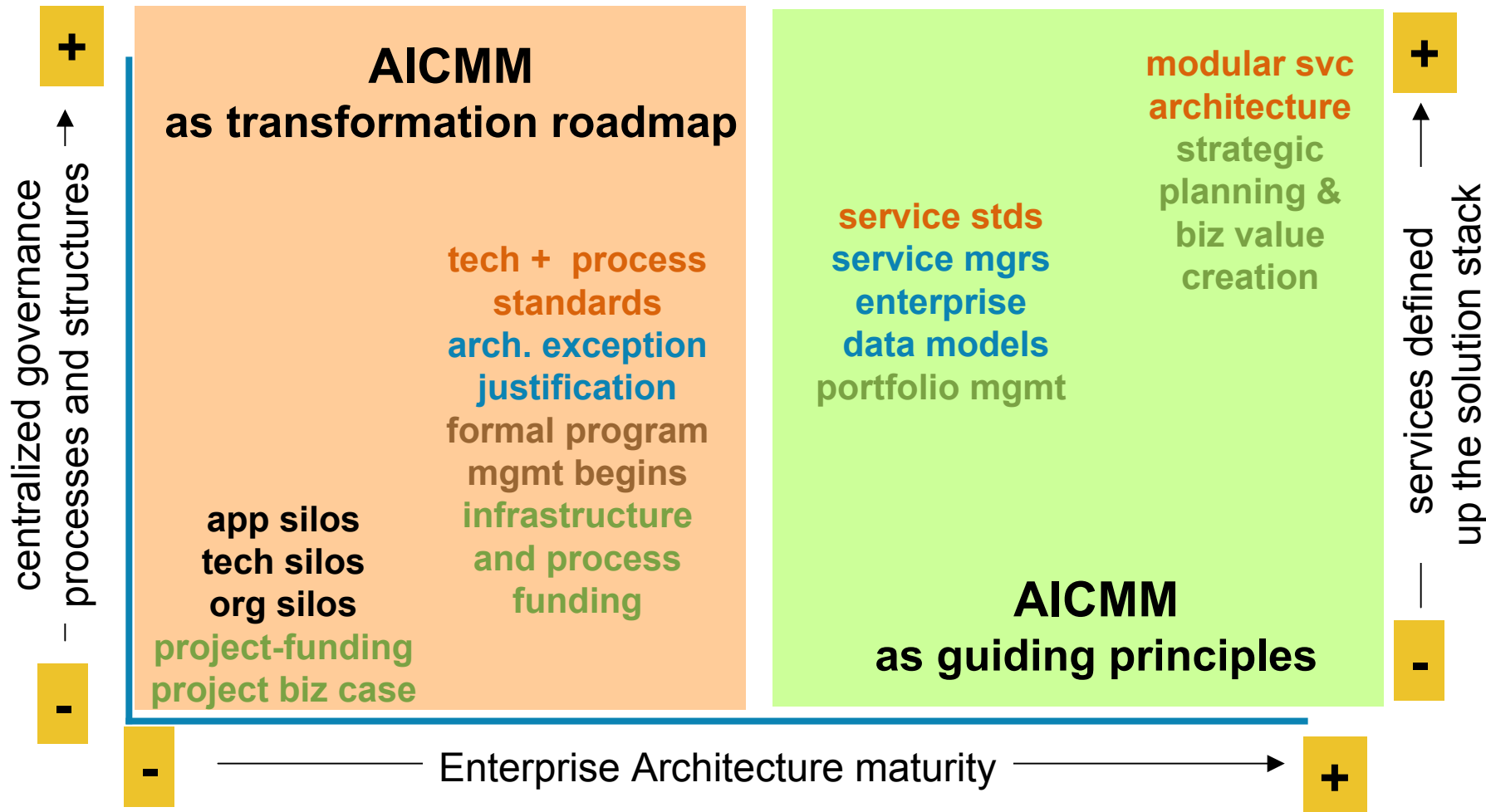


Consolidation

- 13. AICMM provides a roadmap for “healthy” consolidations (i.e., that won’t damage agility).
- 14. “Big bang” consolidations done as one-time projects focused only on cost will be less successful over mid and long-term.
- 15. Consolidations can stall if not coordinated across all four domains

IT Governance Maturity

how IT decisions are made



From Silos to Services building a go-forward plan

Steps:

1. Identify placement in all 4 AICMM domains

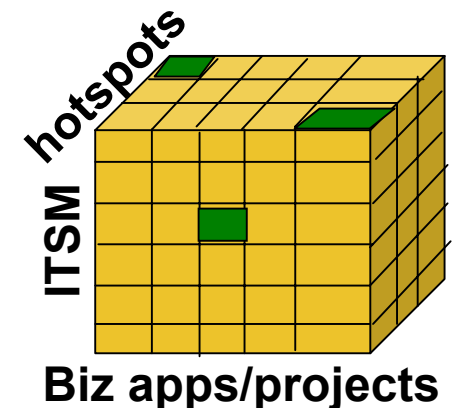
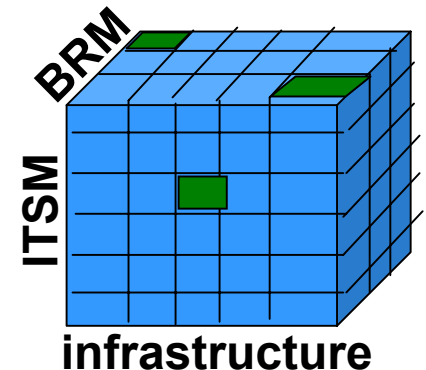
- infrastructure (simplification opportunities)
- operational process maturity
- relationship maturity
- investment maturity

2. map to business projects, in plan

3. map to IT infrastructure projects, in plan

4. Map to agility 'hotspots'

5. Operate at the intersections



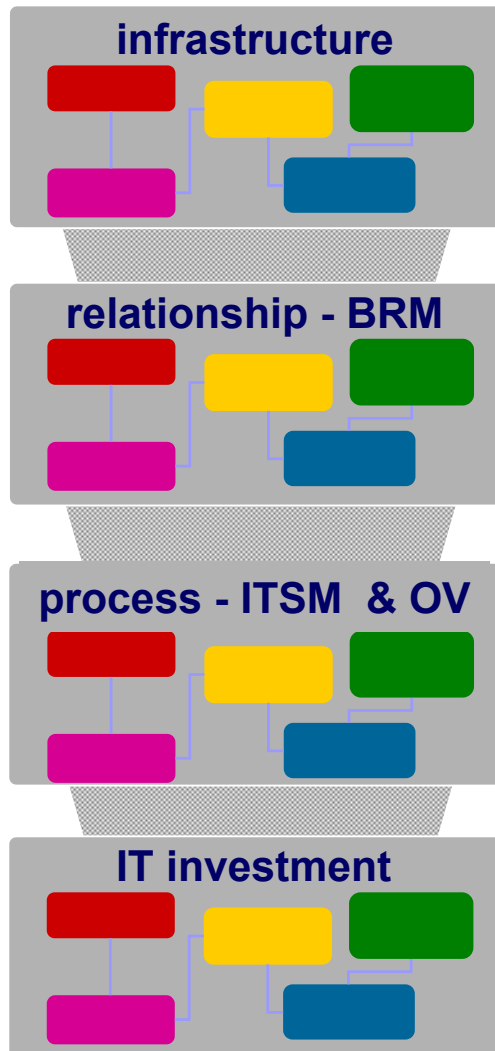
From Silos to Services

do you know ...



- How your IT strategy supports your business imperatives
- If your next major IT initiative moves you towards (or away from) an Adaptive Enterprise
- If your business thinks it's getting a fair RoIT
- What adaptability improvements your business is willing to invest in
- How IT processes will adapt to the next major IT initiative
- If that adaptation moves you toward (or away from) an IT Service Management capability
- Where cost-reducing improvements can be made
- Where the funding for those improvements will come from

If not, you need ...



AICMM

From Silos to Services
a practical vision for IT

Michael Uram
Bill Stephenson
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From Silos to Services



Profiles and Questions

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Thank you

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