



# The Adaptive Enterprise

## A Practical Approach to IT Consolidation and Transformation Projects

Session 3224



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# Agenda

- Industry Trends and Client Challenges
- Adaptive Enterprise (AE) Overview
- IT Consolidation and Transformation Background
- Case Study: Applying AE to IT Consolidation Project (Assessment Phase)
  - Project background
  - CMDB phases
  - Where are we going?
  - Building an inventory database
  - Challenges encountered
  - Inventory analysis
- Future Recommendations
- Summary and Additional Resources

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# Industry Trends - Views on Managing IT are Changing:



from

to

**how IT is  
architected  
(infrastructure)**

distributed silos → shared services  
disjointed technologies → common adaptive infrastructure

**how IT decisions  
are made  
(relationship)**

users → customers  
inward looking → outward looking  
technology focus → business focus  
systems skills → listening skills

**how IT is  
operated  
(process)**

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

**how IT value  
is managed  
(investment)**

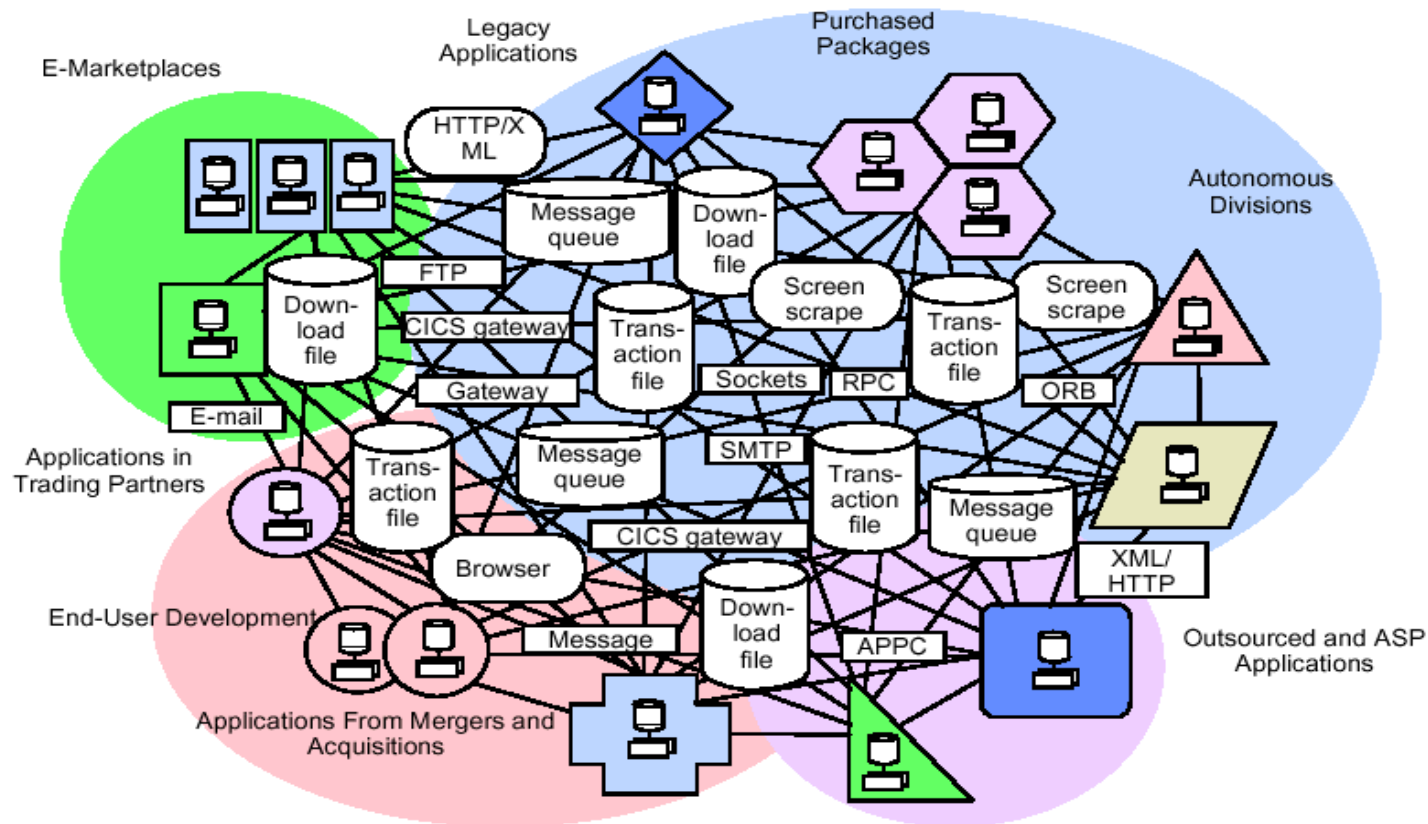
high cost, low value → lower cost, high value  
rising fixed costs → costs aligned with revenue  
cost center → discipline of P&L center  
cost → value



# Reality Check!! Client Challenges



Figure 1  
Spaghetti-Like Architecture



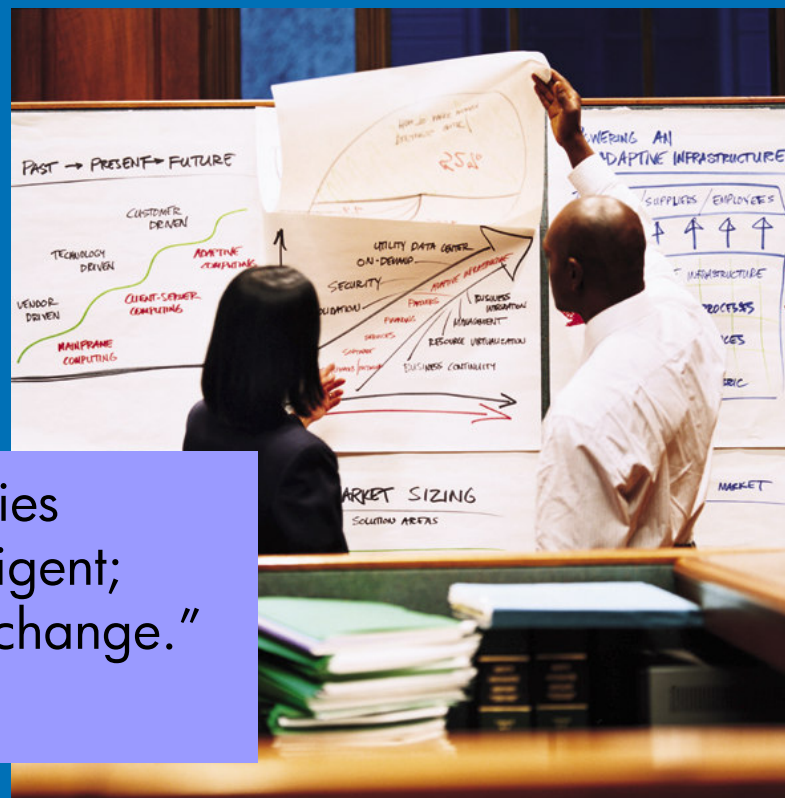
Source: Gartner Research

## Implications of the Ad Hoc Approach



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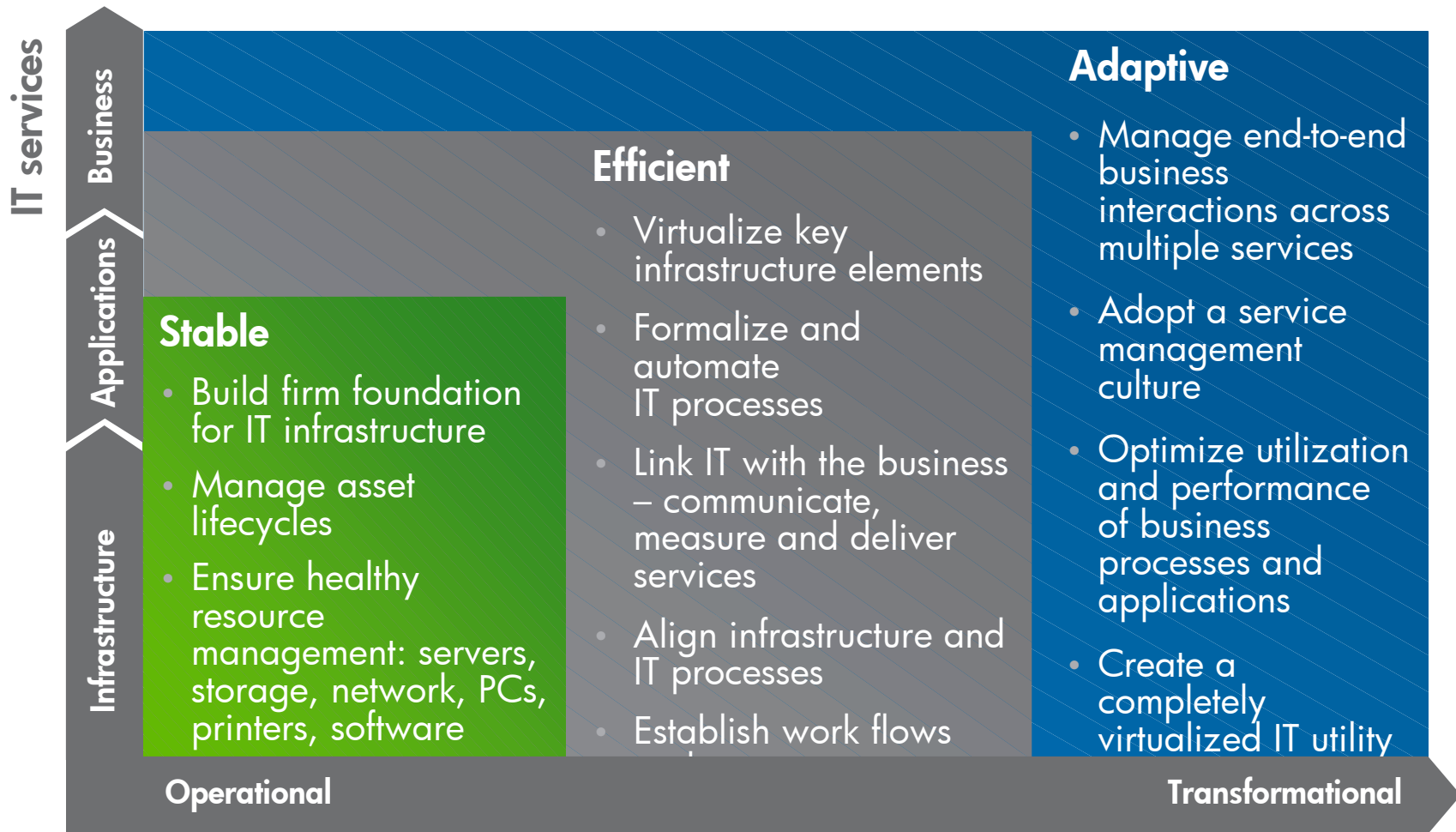
“It's not the strongest of the species that survives, nor the most intelligent; but the one most responsive to change.”

—Charles Darwin





# Journey to the Adaptive Enterprise



**Agility**



# Adaptive Enterprise Design Principles

## Simplification

- Reduce number of elements
- Eliminate customization
- Automate change

+

## Standardization

- Use standard technologies and interfaces
- Adopt common architectures
- Implement standard processes

+

## Modularity

- Break down monolithic structures
- Create reusable components
- Implement logical architectures

+

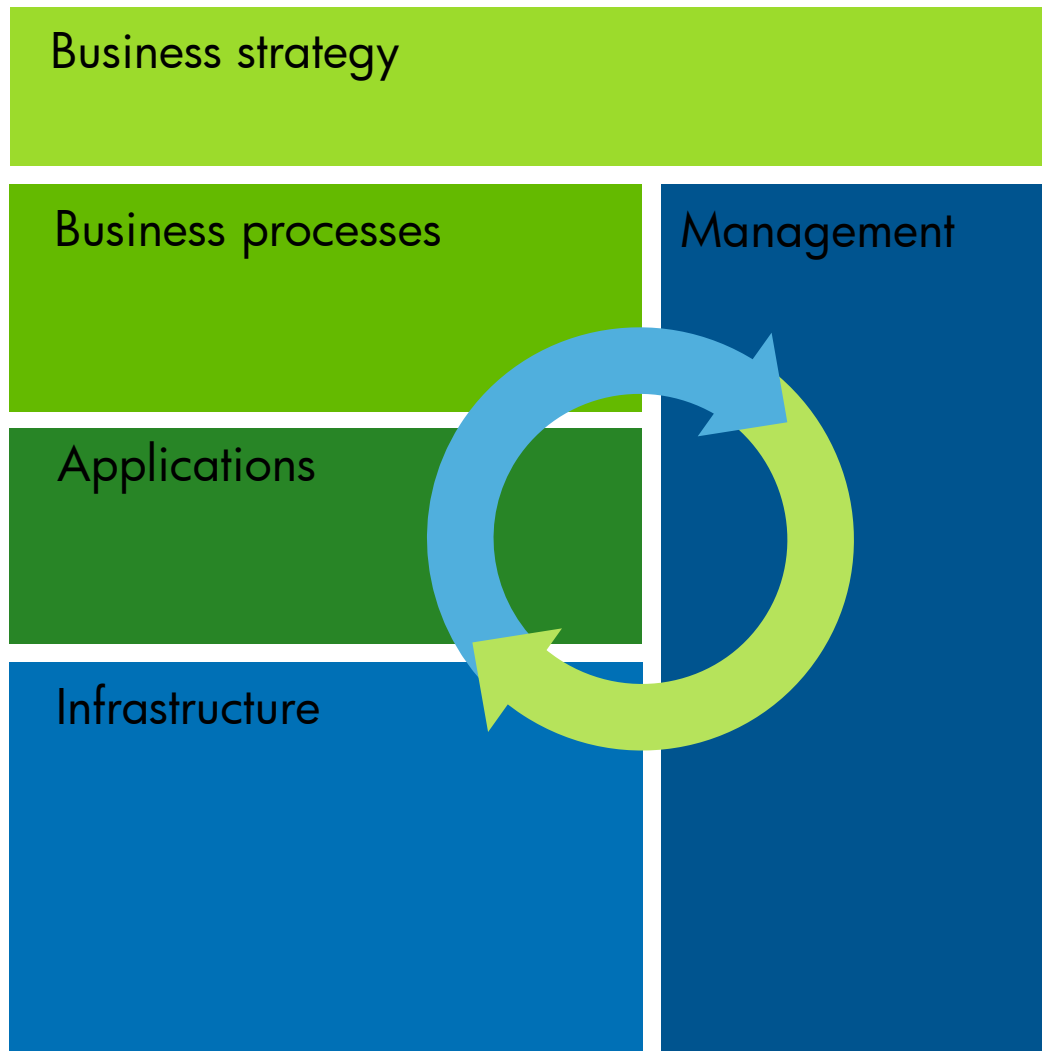
## Integration

- Link business and IT
- Connect applications and business processes within & outside the enterprise

## Applied consistently across these services:

- Business
- Applications
- Infrastructure

# HP Darwin Reference Architecture (Simplified)

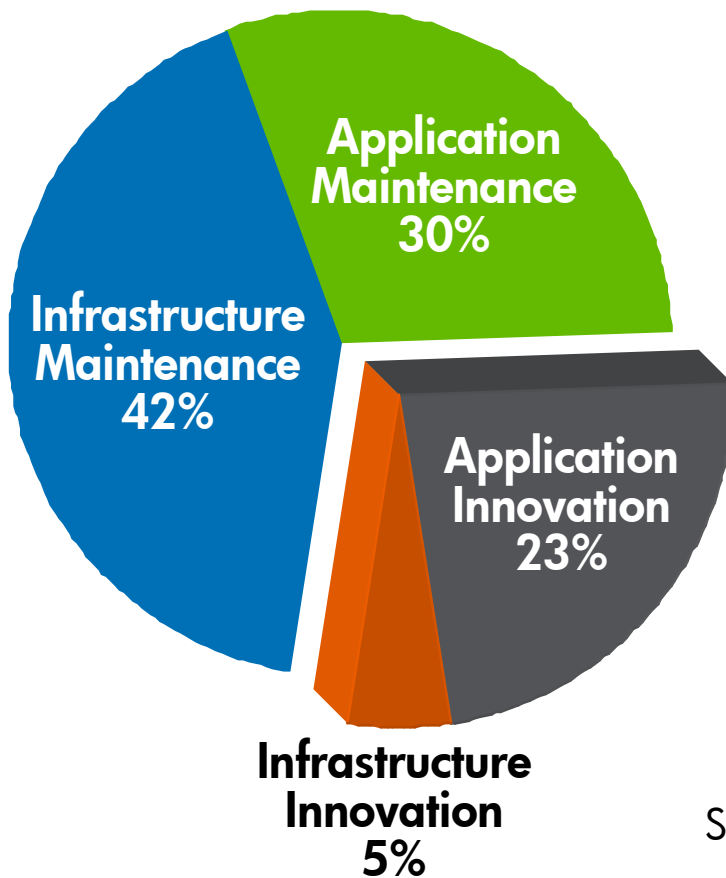


- Brings standardization to the entire IT environment
- Eliminates vertical islands of technology and applications
- Embraces heterogeneity and legacy IT environments
- Virtualizes all IT assets
- Uses automation to scale, reduce complexity and ensure supply meets demand
- Helps convert fixed costs to variable costs

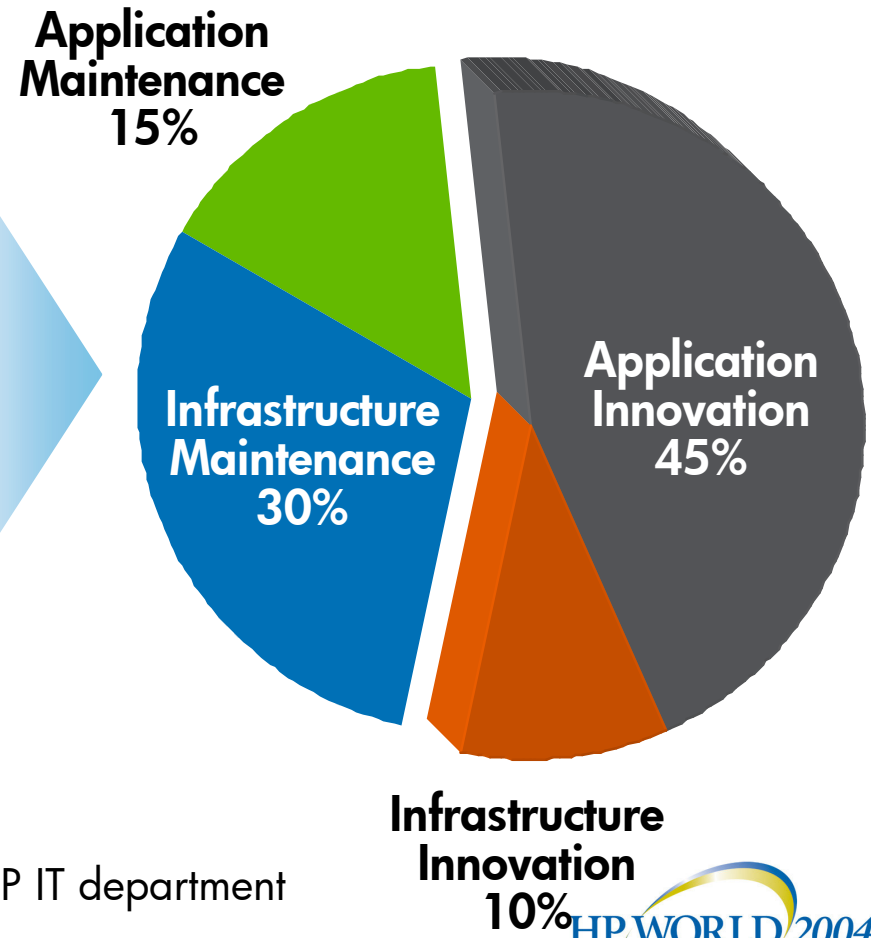
# Real World Results – HP Moving from maintenance to innovation



IT Current State



IT Future State



Source: HP IT department

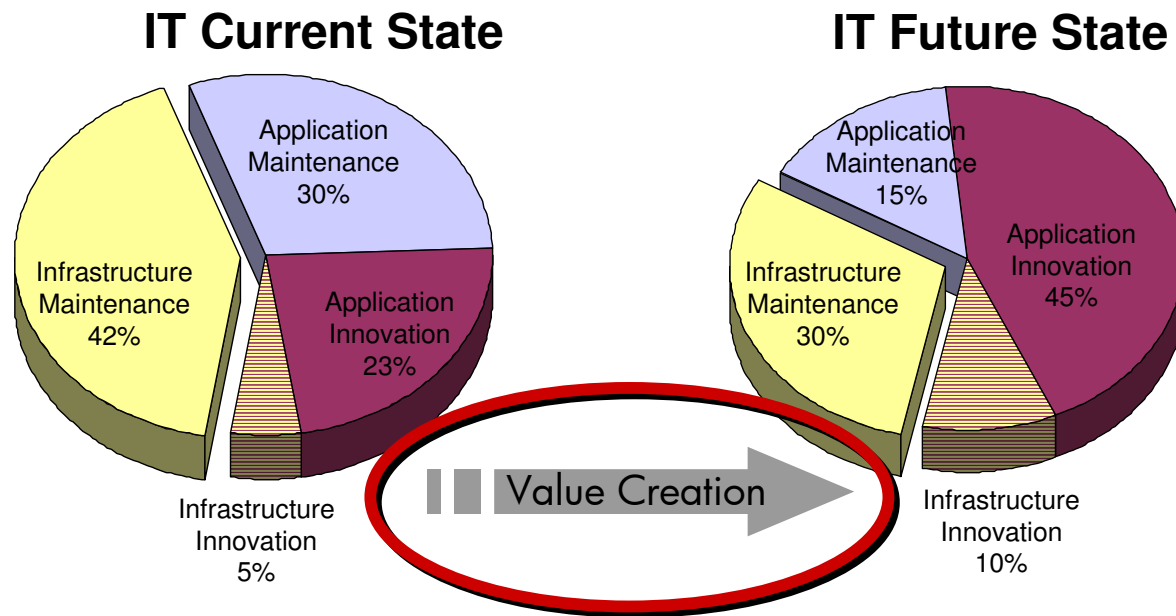
# HP Application Simplification Journey Results

Objective: Radical simplification of IT application portfolio (7500 – 1500) (3200 to date)

Objective: Radical reduction of IT infrastructure operating cost (6746 instances & 4248 servers to date)

Objective: Refocus IT resources on innovation instead of maintenance

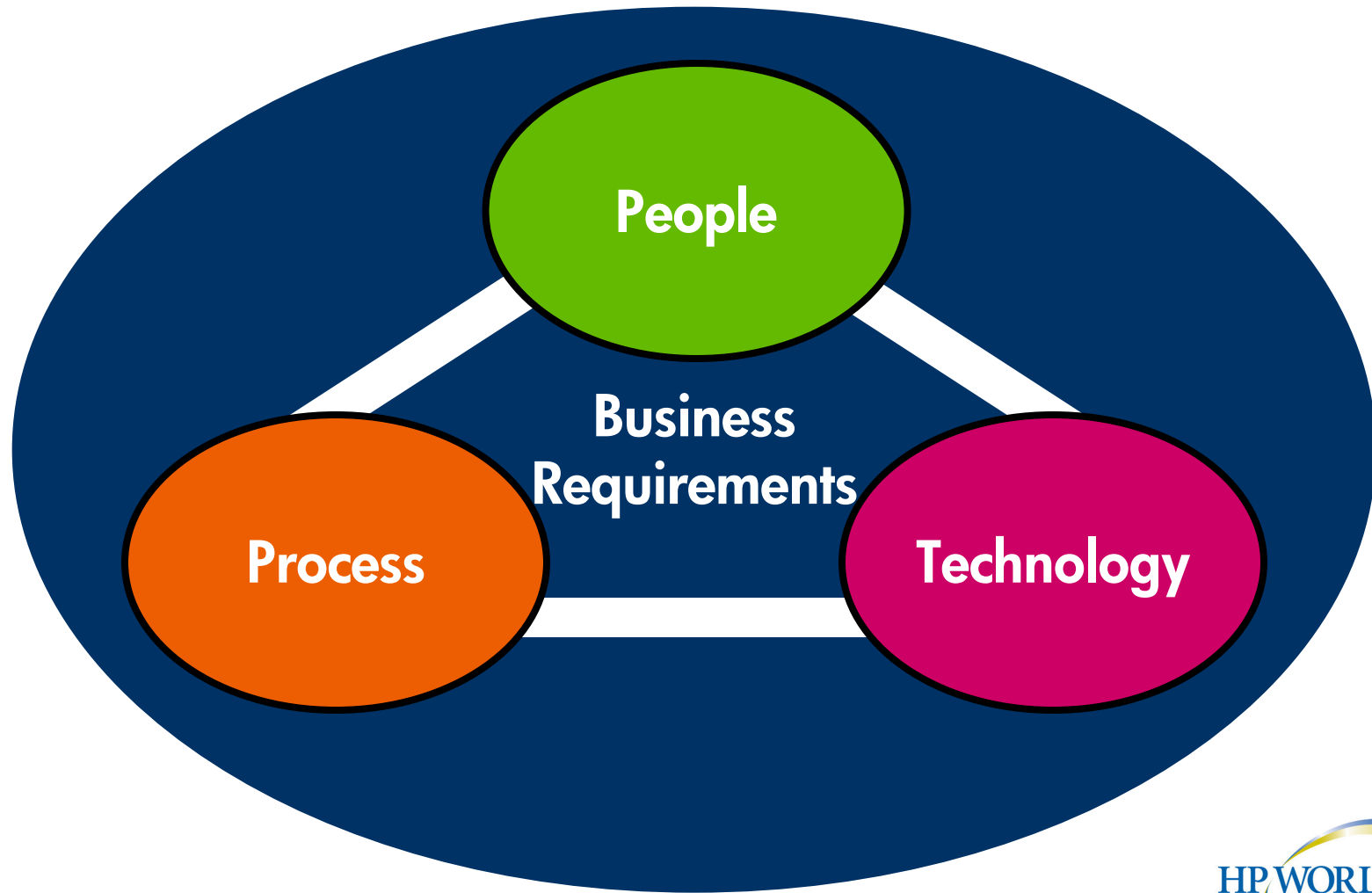
Requires: Application inventory, correspondence map of applications to standard business process architecture, strong governance model



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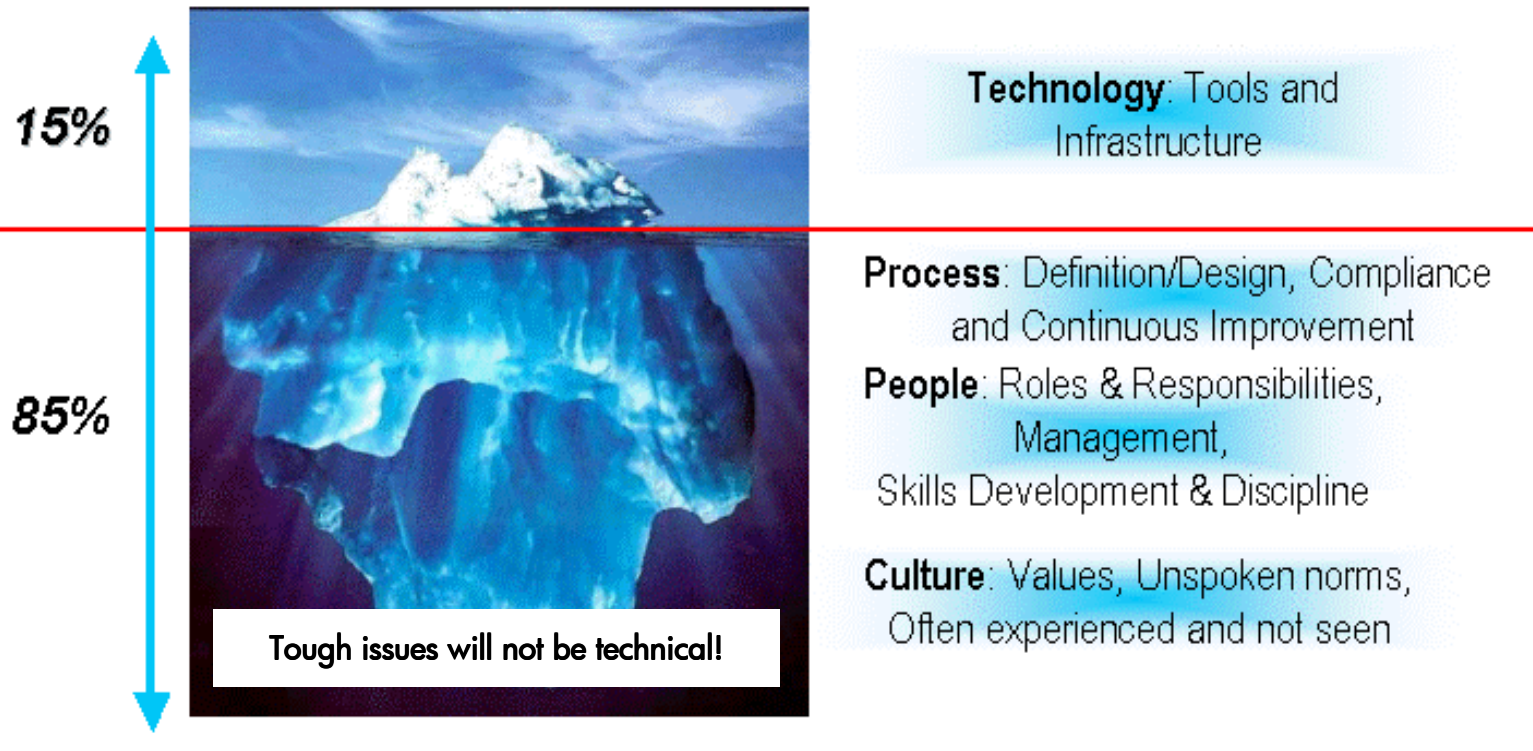
# IT Consolidation Requires a Balanced Approach



# IT Consolidation and Transformation – More than Just Technology



During an IT Consolidation Project, the focus to often is on tools and technology – but a Consolidated IT environment is a whole new world for many organizations





# IT Transformation to Adaptive Enterprise People & Process Considerations



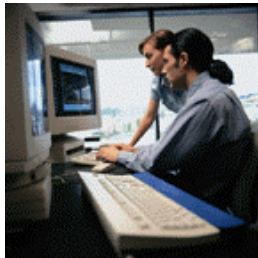
## IT Governance Model



## IT Processes



## IT Organization



## Human Impact



## IT Governance

- Business alignment
- Governance structures
- Enterprise architecture
- Roles & responsibilities
- Change management

## IT Processes

- Processes will need to change to manage the shared infrastructure, and to maintain the efficiencies from consolidation
- Proper balance of cost, service levels, risk and agility for the business

## IT Organization

- Reorganization may be warranted given other changes, especially with collocation

## Change & Human Impact

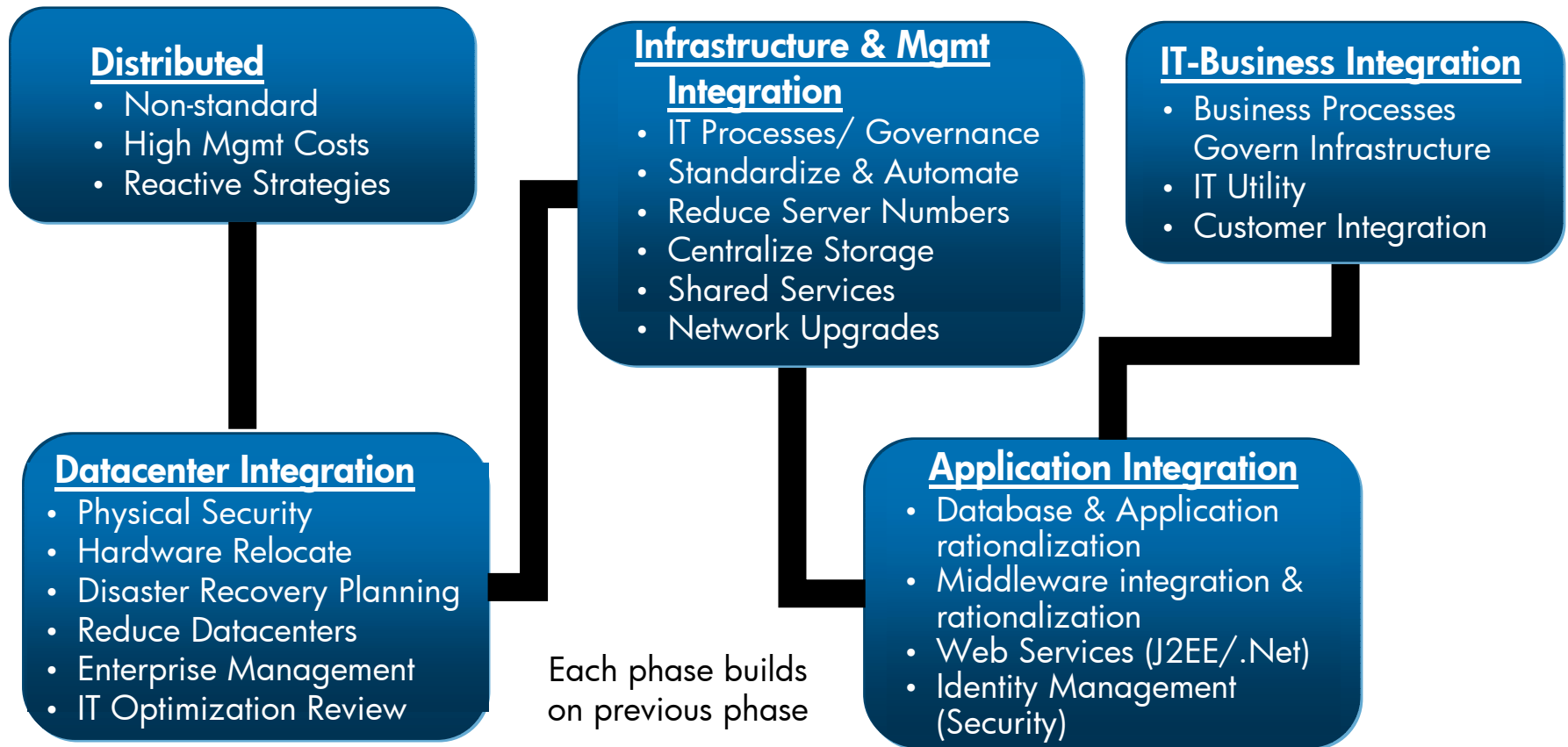
- Consolidation implies change
- May mean role change, retooling, relocation or redeployment
- Retention and buy-in may be factors



# IT Transformation Futures Roadmap

Adaptive Enterprise (AE) Phases

Get Stable → Get Efficient → Get Agile



AE Design Principles - Simplify, Standardize, Integrate, Modularize

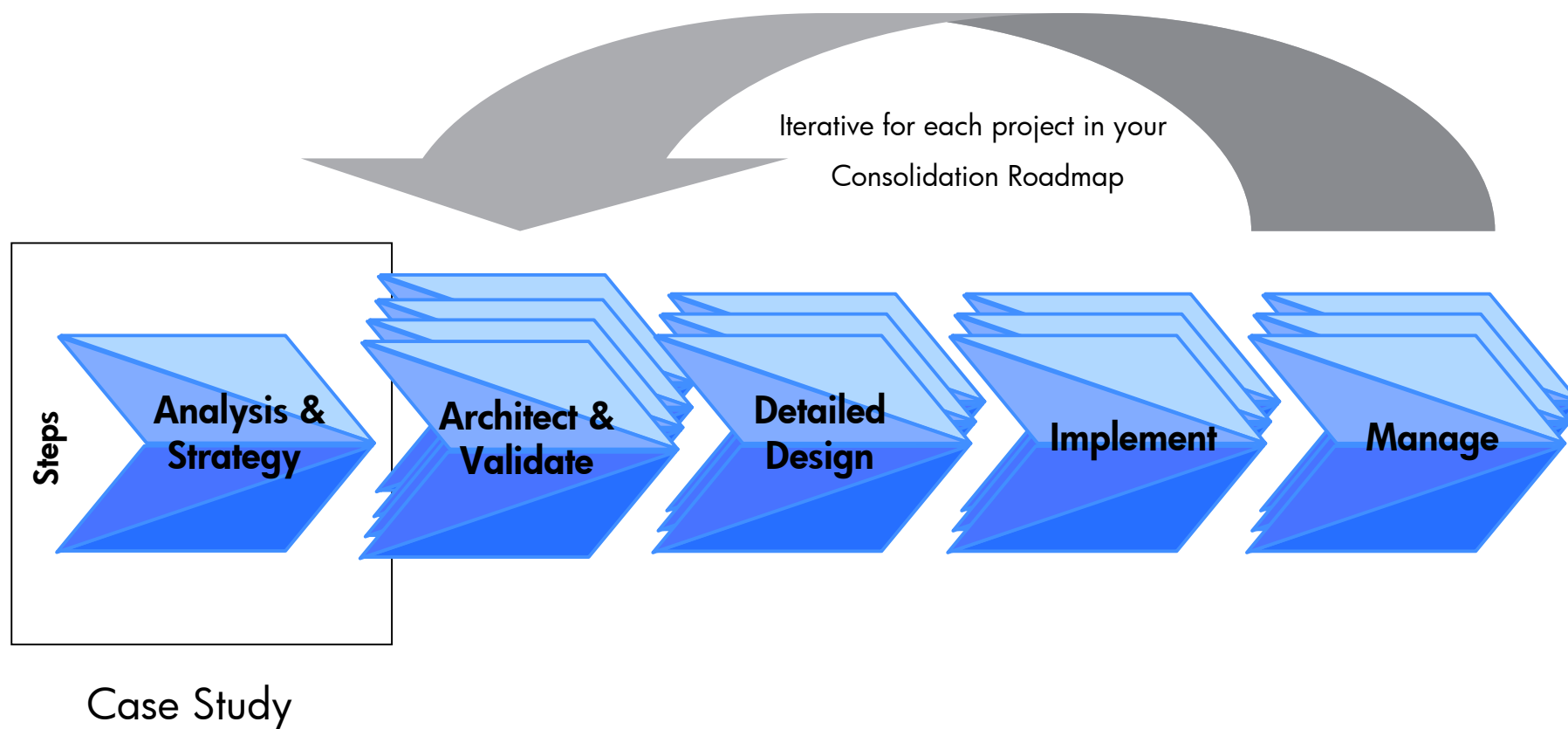
***Greater People and Process Integration Requirements***



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# HP IT Consolidation Methodology



# Case Study – IT Consolidation Assessment & Strategy Project



## Challenges

- Many distributed Windows servers very difficult and costly to manage with current reactive processes and available resources.
- Introducing new business services difficult due to complex IT infrastructure and application dependencies.

## Objectives

- Identify, document & categorize current Intel server inventory.
- Make recommendations to resolve current business and technical IT related challenges associated with future IT optimization initiatives.
- Provide futures roadmap to assist IT strategy & architecture planning.

# Case Study – IT Consolidation Assessment & Strategy Project



## Strategy

- Establish IT vision for future – where are we going?
- Need to build and populate inventory database (Configuration Management Database – CMDB)

## CMDB Phases

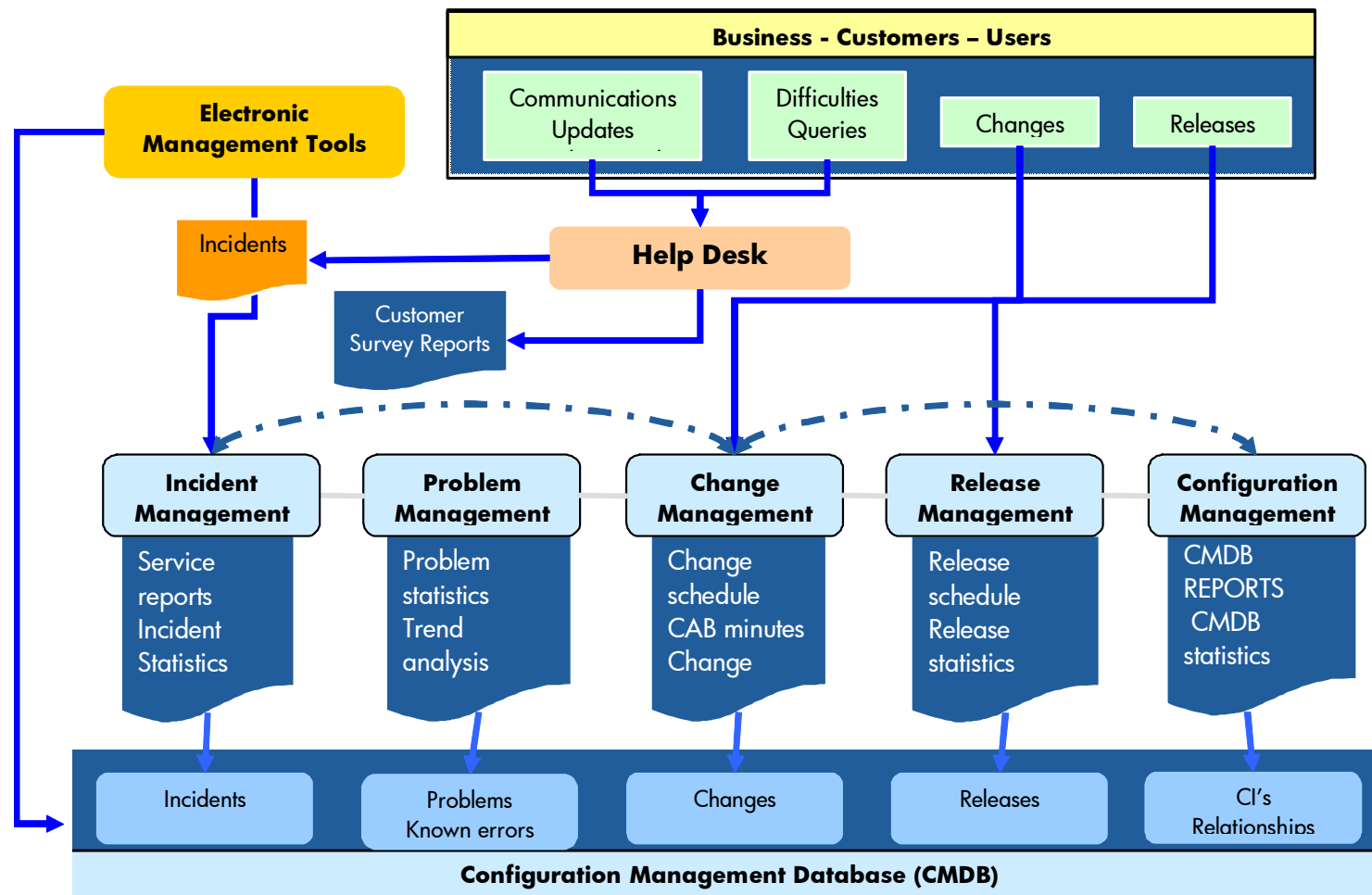
1. Planning / Design
2. Collection
3. Verification
4. Reports
5. Analysis
6. Recommendations

# Where are we going?

## Sample AE Vision for IT Processes

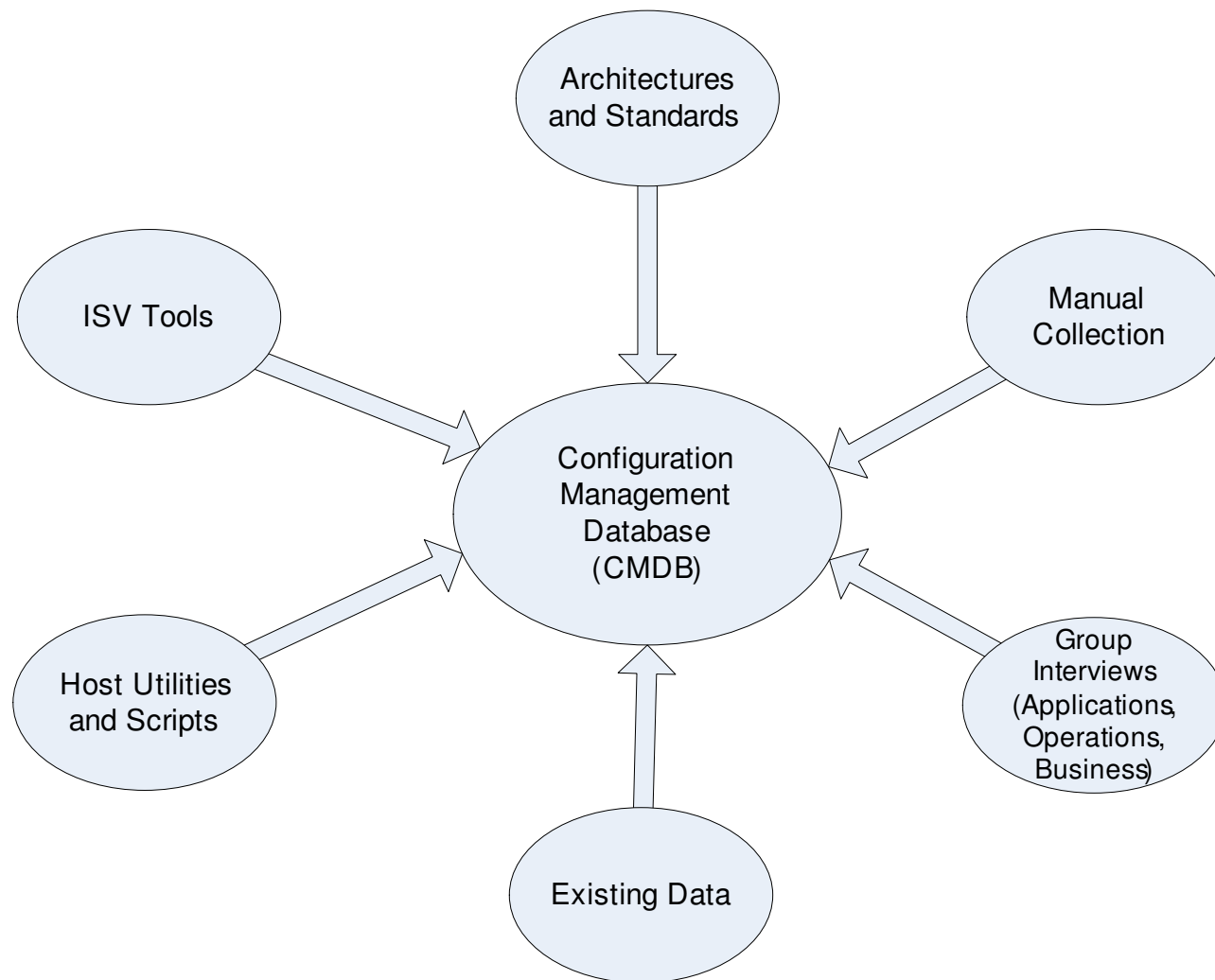


### Integrated Change and Configuration Management





# Building an Inventory Database (CMDB)



## Sample CMDB Information (per Server)

- Name
- Model
- Manufacturer
- Serial Number
- # of CPU's
- CPU MHz
- CPU Arch (P6, EV67)
- Memory (MB)
- OS Version
- Site
- Country
- Server BU Criticality (1-5)
- Partition – HW
- Partition – SW
- SLA
- Install Date
- Application Name(s)
- Application Category
- Application Support
- Application Owner
- Application Interdependencies
- Total Storage (MB)
- Used Storage (MB)
- Month n CPU Utilization
- Month n Disk Utilization
- TCPIP Address Information

# Challenges Encountered – Agent-less Tools

- Lack of privileged account access
- Some tools lack data & user migration features for next user and data migration phase - focus on inventory and/or performance only.
- Lack of customized fields for manual input
- Typically windows support only
- Need to balance data collected with production network utilization
- Some offline analysis tools require Customer or ISV network connection

## Challenges Encountered – Agent-less Tools

- Different detection and collection strategies, but each has advantages and disadvantages.
- WIN's issues may show up as missed servers or data incomplete.
- TCPIP ping method requires knowledge of all sub-nets where servers are located.
- Difficulty in creating customized reports in exact format you want.

## Challenges Encountered – Other

- Lack of application ownership.
- Version control of CMDB (spreadsheet esp).
- Server naming with site location as part of name.
- TCPIP addresses – virtual, cluster aliases. Use these to determine server location.
- Legacy server technologies may not support latest tool inventory collection technologies.
- Internal politics and other Project commitments

# Inventory Analysis – By Category & By Region

Servers by Categories	Server Totals	NT4	W2K	Unknown (??)
Telecom (TEL) App's	44	16	23	5
EBusiness (EBUS) App's	121	96	18	7
Other (OTH) App's	76	58	18	0
Operations Mgmt (OM)	57	20	37	0
Citrix Metaframe (MF)	175	170	5	0
Shared Services (SS)	69	42	27	0
Infrastructure (INF)	44	13	31	0
Grand Total	586	415	159	12

Note - ?? Servers reflect missing data from CMDB

Servers by Region	Server Totals	NT4	W2K	Unknown (??)
Region1	42	24	18	0
Region2	375	257	106	12
Region3	169	134	35	0
Grand Total	586	415	159	12

# CMDB Analysis – By Server Model / Region

Model	Vendor	Region1	Region2	Region3	Totals
OptiPlex GXPro	Dell	0	2	5	7
OptiPlex GX1 266L+	Dell	0	5	0	5
OptiPlex GX1 500L+	Dell	0	4	0	4
Optiplex GX110	Dell	2	0	0	2
OptiPlex GX240	Dell	0	1	0	1
OptiPlex GXa 233L EM+	Dell	0	3	0	3
PowerEdge 2300	Dell	0	19	17	36
PowerEdge 2400	Dell	0	10	13	23
PowerEdge 2500	Dell	0	7	10	17
PowerEdge 2650	Dell	13	27	34	74
ProLiant 1500	HP	0	2	3	5
ProLiant 2500	HP	0	28	23	51
ProLiant 3000	HP	1	52	11	64
ProLiant 4500	HP	0	1	0	1
ProLiant 5000	HP	0	3	1	4
ProLiant 5500	HP	0	4	1	5
ProLiant 570	HP	0	1	0	1
ProLiant 6000	HP	0	9	0	9
ProLiant 6400R	HP	0	2	0	2
ProLiant 8000	HP	0	1	0	1
ProLiant CL380	HP	0	1	0	1
ProLiant DL380	HP	1	6	0	7
ProLiant DL380 G2	HP	8	39	10	57
ProLiant DL380 G3	HP	0	17	11	28
ProLiant DL380 G4	HP	0	1	0	1
ProLiant ML530	HP	10	41	11	62
ProLiant ML530 G2	HP	2	0	1	3
ProLiant ML560	HP	0	1	0	1
ProLiant ML570	HP	1	17	6	24
ProLiant ML570 G2	HP	0	1	0	1
ProLiant DL580 G2	HP	0	1	0	1
Third Party	OEM	0	1	0	1
ProLiant ??	HP	2	1	0	3
Unknown ??	??	2	67	12	81
Grand Totals		42	375	169	586



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# Future Recommendations (Top 10 summary following AE design principles – standardize, simplify, integration, modularity)

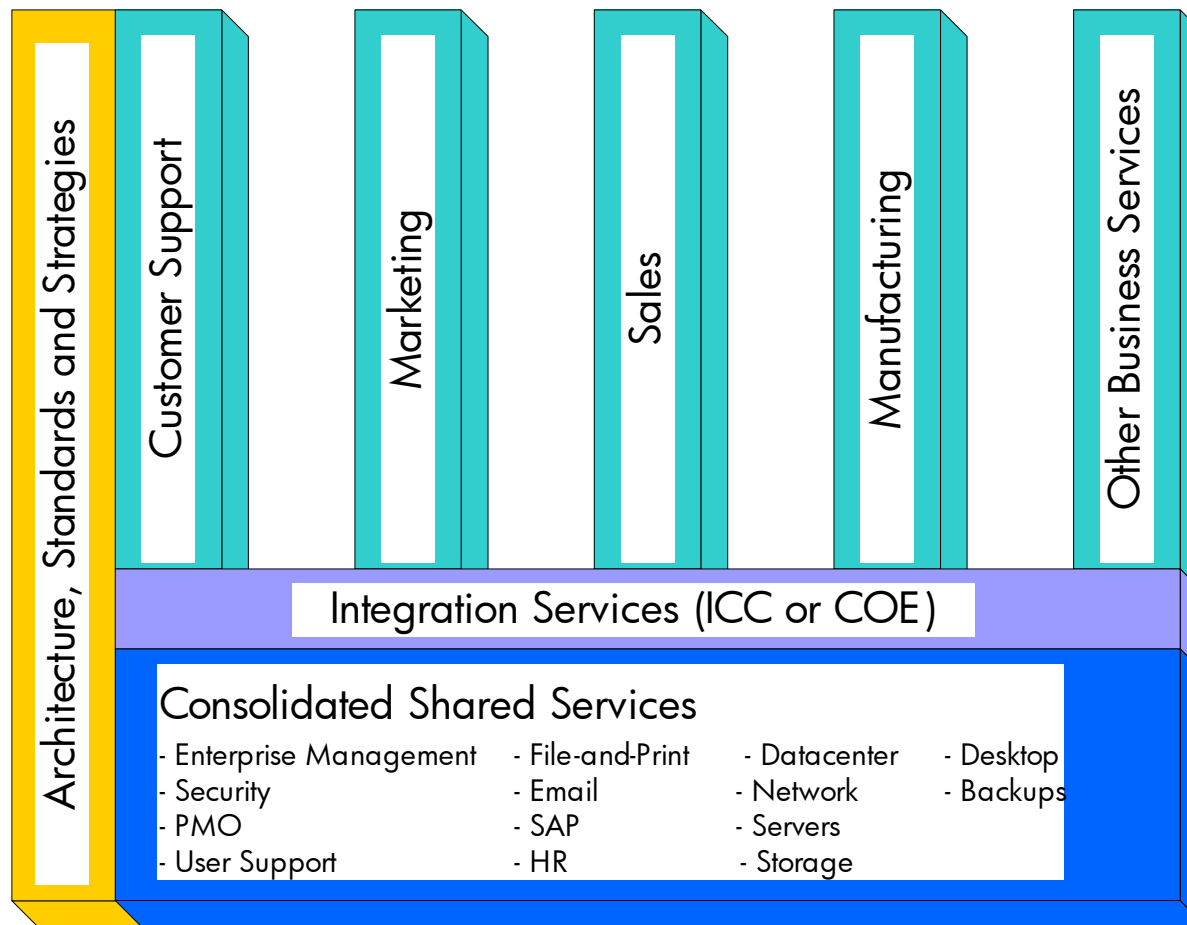


1. Improve IT governance
2. Transform IT to shared services model
3. Develop Enterprise Architecture with IT standards
4. Develop security standards and policies (identity management strategies)
5. Standardize and automate datacenter operations
6. Adopt standard IT consolidation methodology
7. Increase speed of integration and standardization by adopting Integrated Competency Center (ICC)
8. Develop and implement consolidation projects roadmap
9. Adopt technology virtualization strategies
10. Adopt cross platform enterprise management strategies



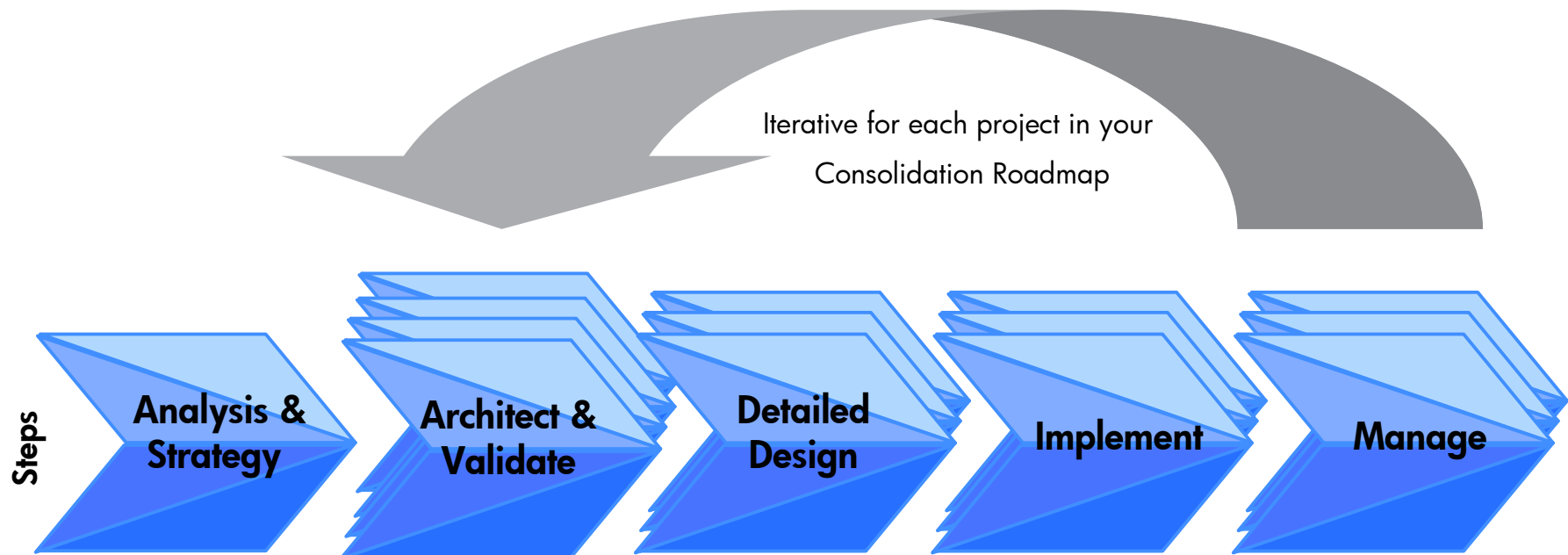
## Future Recommendations (cont'd)

### 2. Transform IT Organization from Silos of Technology to Shared Services



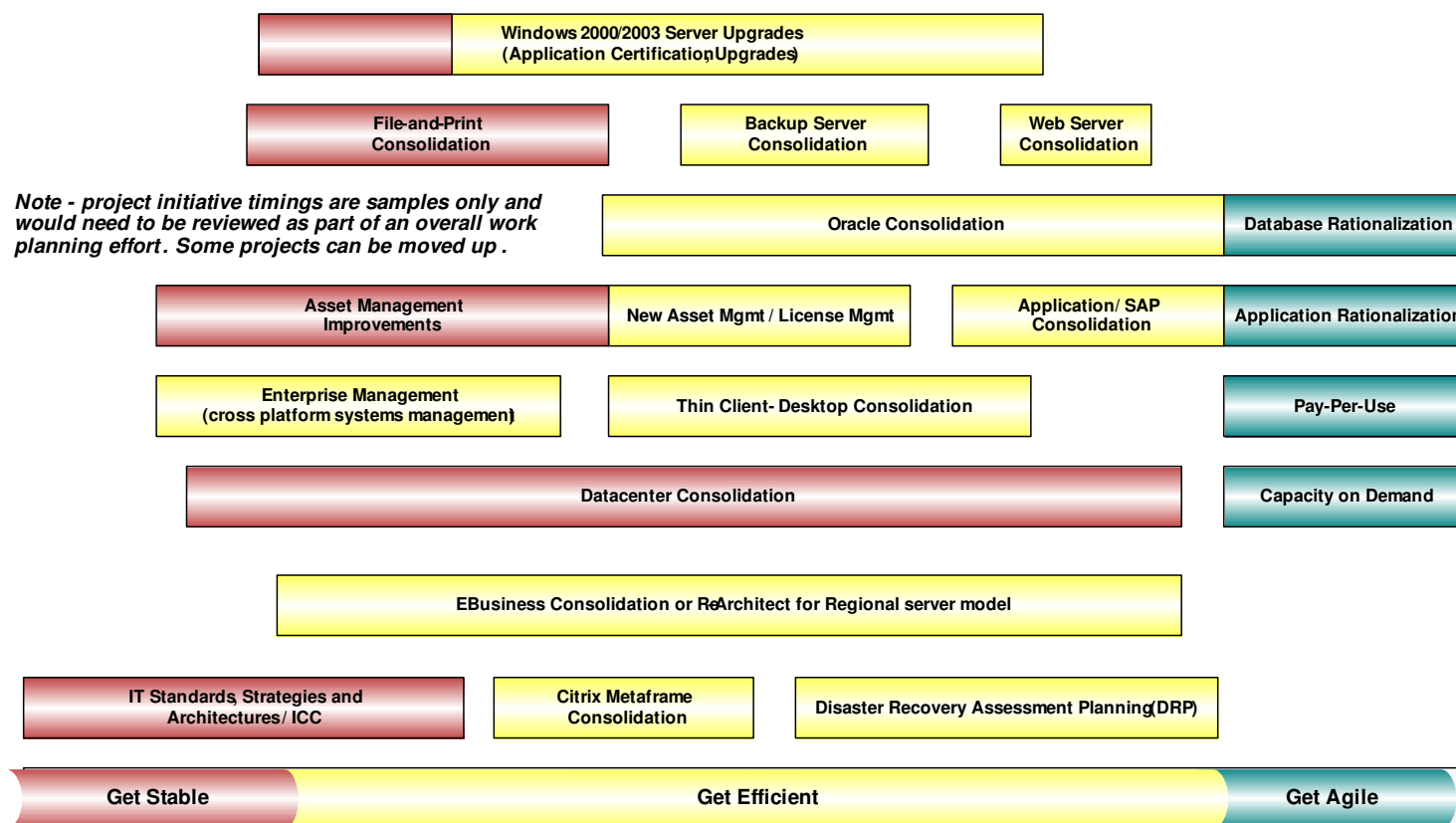
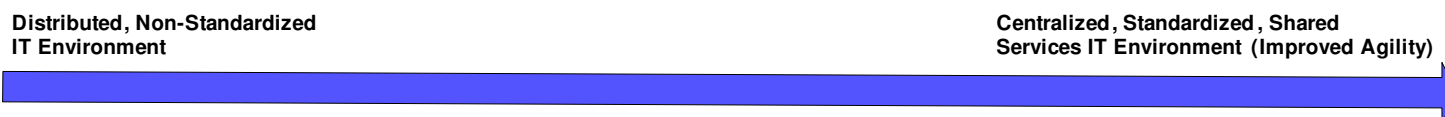
## Future Recommendations (cont'd)

### 6. Adopt standard consolidation and transformation project methodology



# Future Recommendations (cont'd)

## 8. Develop and implement consolidation projects roadmap



01-Jun-2004

Jan '05

Jan '06

Jan '07

*Note: Projects build on the processes , infrastructure and experience gained from previous projects .*

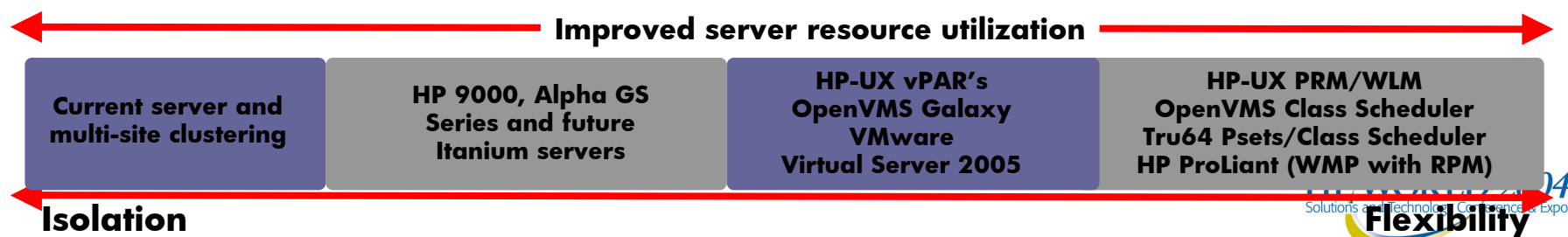
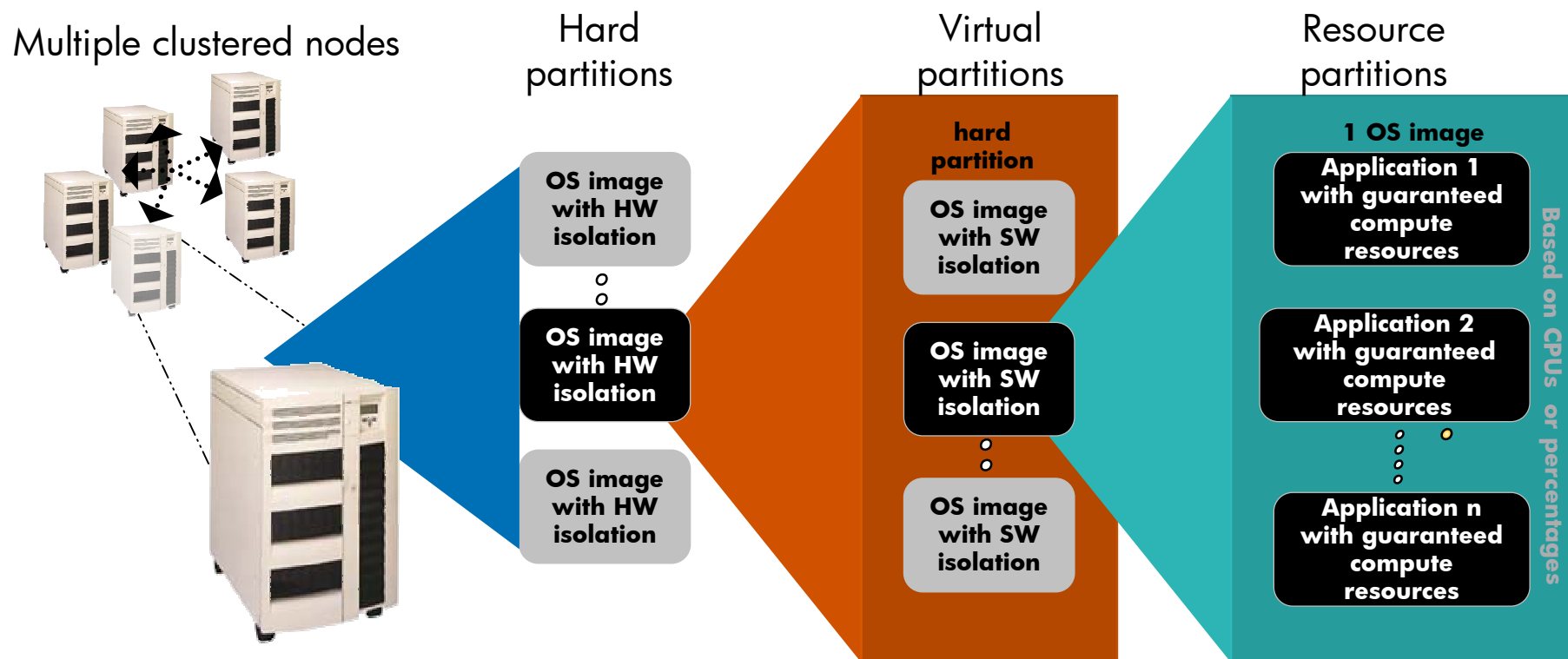
August 16, 2004

Adaptive Enterprise - A Practical Approach to IT Consolidation

**HP WORLD 2004**  
Solutions and Technology Conference & Expo  
29-Jun-2007

# Future Recommendations (cont'd)

## 9. Adopt technology virtualization strategies



“Use of virtualization technologies in servers will dramatically improve server utilization rates, increase server flexibility and reduce the overall spending required for servers...Virtualization should become an ongoing effort and part of the server strategy for every enterprise.”

Gartner

*Server Virtualization Evolves Rapidly, 2003*





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# Summary

- Adaptive Enterprise (AE) is a vision and strategy on how to initiate required changes within the company as a means to improve the companies competitive business. Focus on improving the companies ability to deal with rapid change (agility).
- AE design principles are simplification, standardization, integration, and modularity.
- IT consolidation is about much more than technology. People and process issues are typically biggest challenges. Remember iceberg.
- New IT strategy is shared services model for increased efficiencies and savings. Need to work with BU's to gain consensus.
- Role of IT is changing to a consultative model that understands the company business drivers and how to use IT to address these.
- Use recommendations in this presentation for any OS or vendor platform consolidation project. Design and planning is the same.
- Effective change & configuration mgmt are key processes to successful IT consolidation initiatives.



# Additional Resource Information

## **Adaptive Enterprise (AE)**

<http://h71028.www7.hp.com/enterprise/cache/6842-0-0-0-121.aspx> (Home)

<http://h71028.www7.hp.com/enterprise/cache/7504-0-0-0-121.aspx> (WP's)

## **IT Service Management (ITSM)**

[http://www.hp.com/hps/model/re\\_biz\\_it.html](http://www.hp.com/hps/model/re_biz_it.html) (Home)

## **IT Consolidation**

<http://h71028.www7.hp.com/enterprise/cache/4197-0-0-225-121.aspx>

## **Business and IT Services**

<http://www.hp.com/hps/>

## **Server Management**

<http://h18004.www1.hp.com/products/servers/management/index.html> (Proliant)

<http://www.openview.hp.com/index.html> (OpenView Enterprise Management)

## **AE in the Press**

[http://news.com.com/2008-7784\\_3-5108928.html?tag=guts\\_bi\\_7339](http://news.com.com/2008-7784_3-5108928.html?tag=guts_bi_7339) (Interview)

[http://www.citrix.com/site/ne/news/news\\_print\\_p.asp?newsID=11021](http://www.citrix.com/site/ne/news/news_print_p.asp?newsID=11021) (Citrix)





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<http://h71028.www7.hp.com/enterprise/cache/7504-0-0-0-121.aspx> (WP's)

## **Business and IT Services**

<http://www.hp.com/hps/>

## **AE in the Press**

[http://news.com.com/2008-7784\\_3-5108928.html?tag=guts\\_bi\\_7339](http://news.com.com/2008-7784_3-5108928.html?tag=guts_bi_7339) (Interview)

## Other Resources

"The Adaptive Enterprise" – IT Infrastructure Strategies to Manage Change and Enable Growth  
ISBN 0-201-76736-8 Bruce Robertson, Valentin Sribar (META Group)





# Questions ???

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