

Comprehensive Case Study : Phase F (Final) Migration Planning

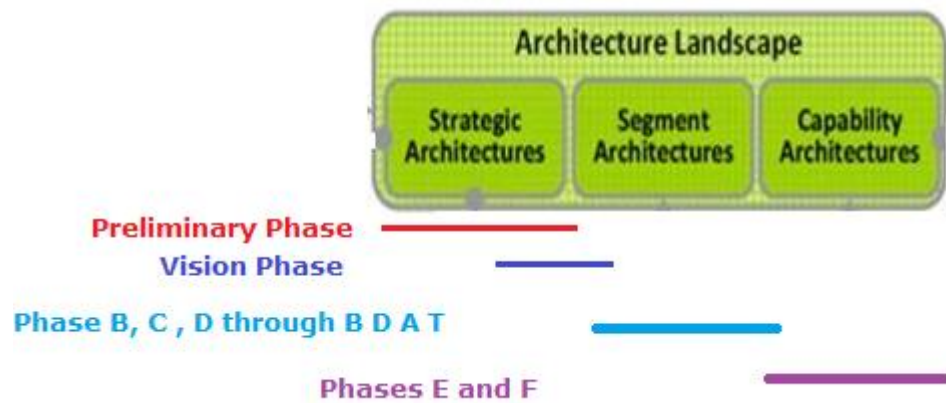
Files of this Case Study are to be referred and continued only in this sequence order, please :

-  CompCaseStudyStart
-  CompCasePhA
-  CompCasePhB
-  CompCasePhCAppArch
-  CompCasePhCDataArch
-  CompCasePhD
-  CompCasePhE
-  CompCasePhF
-  CompCasePhG
-  CompCasePhH

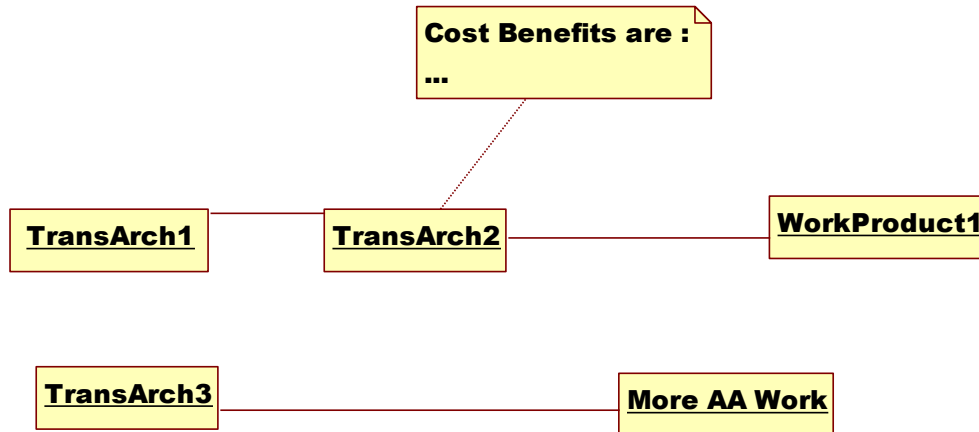
One Sr EA takes charge of looking at all the Work Packages proposed in Phase E. The acceptance of these will be subjected to a number of checks, this time more from Management and financial angle. Those work Packages which are accepted become Work Products with the preparation of a draft set of Architectural Contracts to 'govern' further work.

Some Work Packages may be deferred for a) simple rework b) relook and major rework c) deferred as it is for future consideration d) rejected for very solid reasons

Recollect what appeared in the Case Study file on Phase A :
Architecture Vision :  CompCasePhA



Any guess what is role of Phase F in this Architectural journey of a portfolio of projects related to **e-Commerce Enterprise** ?





Impacts from Forces outside EA

People Issues, Transformation Pains, Ownership of Services



Restrictions, Limitations

Business Drivers that would constrain implementation

Migration Issues

Schedule Mandates

Budget Limitations

financial limitations

physical limitations

time limitations



**Segment Architects create SBBs
(for Transition Architecture portion of a
Capability Increment)**



Multiple Architectural Projects
culminating in Phase E at sometime

Arrive at shared solutions and shared services



Break Functional Silos

Service Composition strategies
orchestrated process flows



Ensuring Inter-operability of shared services



Which Service, acts When and How



Are you Ready, fairly risk free ?

High-Level Implementation and Migration Strategy



- **Greenfield : Fresh**
- **Revolutionary : Radical and Sudden**
- **Evolutionary : Phased**

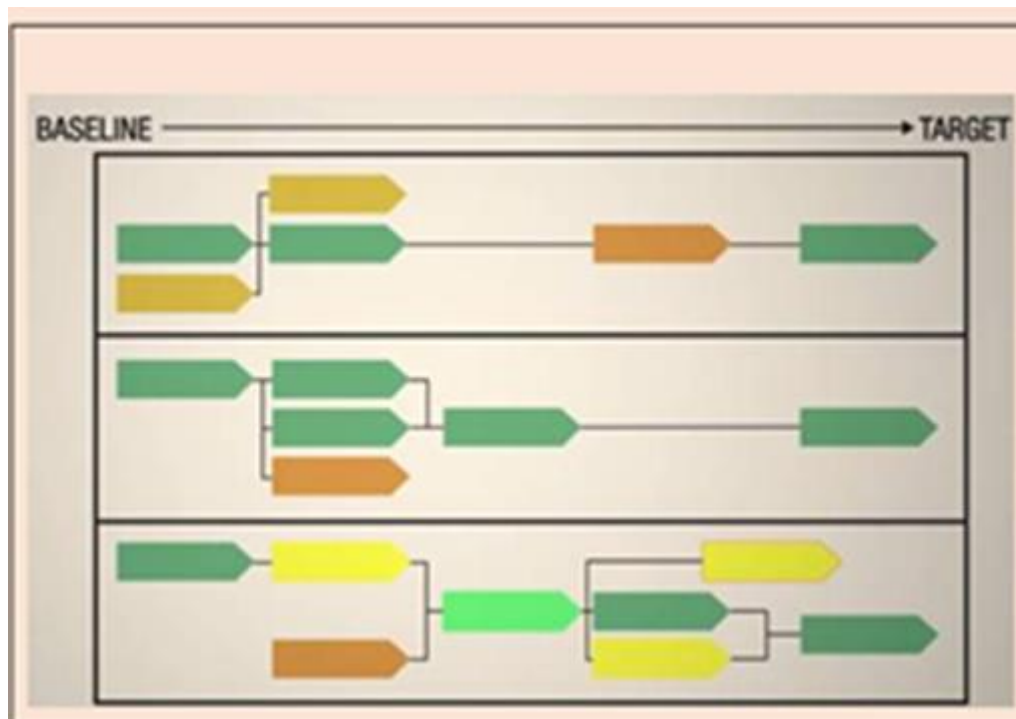
Strategic : Fresh / Urgent / Gradual

Identify and Group Major Work Packages

- Mainstream Systems : Future
- Contain Systems : Near Term
- Replace Systems : Current Term

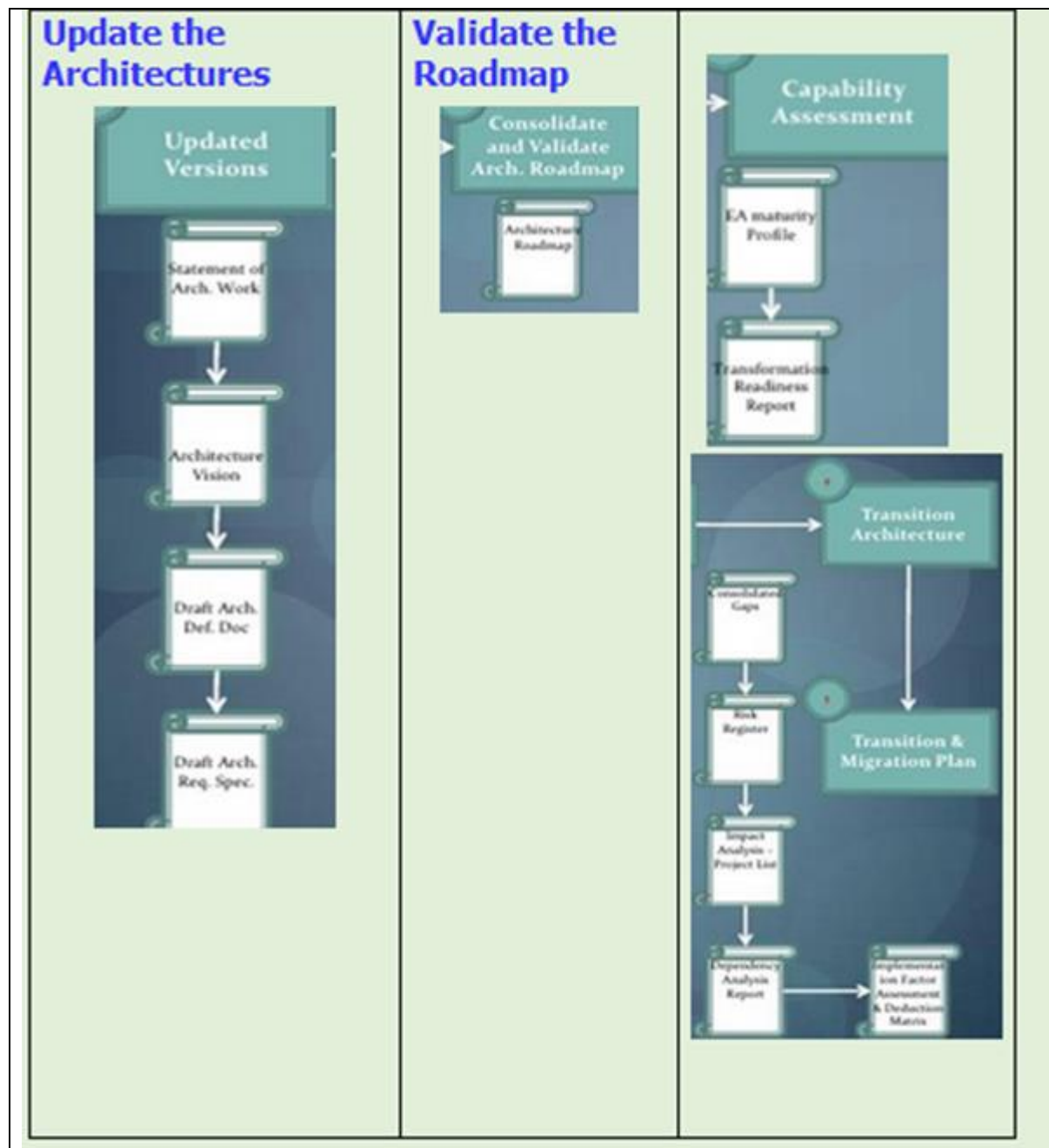


Packaging : Now, this Year, Next ADM

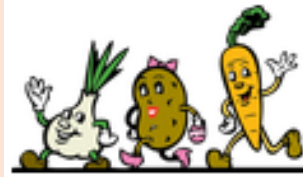


Change Transition Plan





Phase F Step : Confirm Management Framework Interactions for Implementation and Migration Plan



PMO
Operations
LOB

Four management frameworks

to work together :

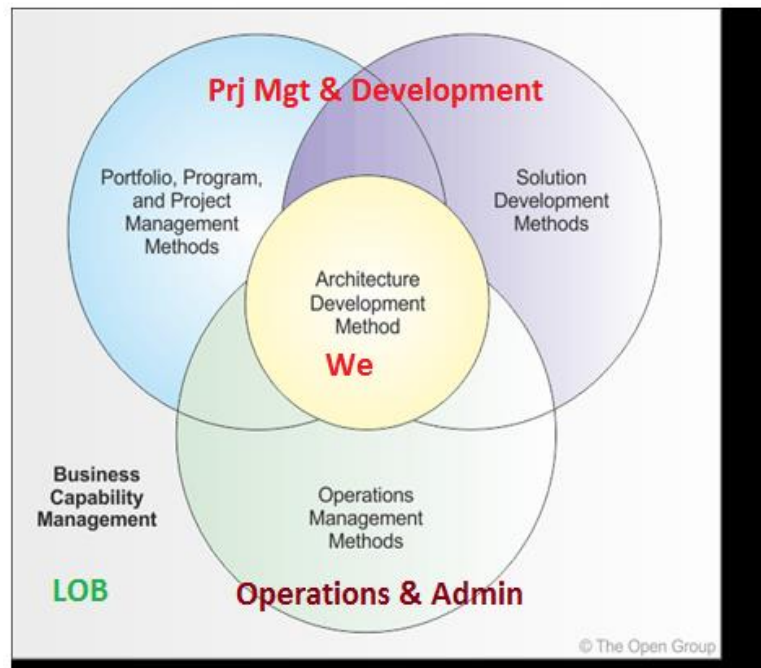
Business Planning LOB Unit

Enterprise Architecture We

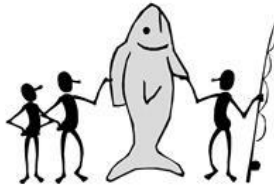
Portfolio / Project Management Builders of Systems

Operations Management

Takes over, runs it, Day after day



(so this Framework gets into the picture at this Phase F stage)



Four management frameworks that have to work closely together for the Migration Plan to succeed :

- > **Business Planning** that conceives, directs, and provides the resources for all of the activities required to achieve concrete business objectives/outcomes.

Discussed completion and handing over intricacies and proposed plans. Do this in light of the CD / CI that will be on a (Serverless) cloud Native using slices of Microservices

- > **Enterprise Architecture** that structures and gives context to all enterprise activities delivering concrete business outcomes primarily but not exclusively in the IT domain; currently IT governance addresses many of these requirements.

Discussed with other Team members of the possible constraints, risks and the way to mitigate from them, seen from code development and operational installation angle. These points are used during the discussing as outlined in the next two sections below.

- **Portfolio / Project Management** that coordinates, designs, and builds the business systems that deliver the concrete business outcomes.

Discussed with the preparedness for development and testing under modern technological fabric involving CD / CI that will be on a (Serverless) Cloud Native using slices of Microservices

- **Operations Management** that integrates, operates, and maintains the deliverables that deliver the concrete business outcomes.

Discussed with the preparedness for Operations Team and of the installation personnel with the leaders of this Team. Focus will be on Owned / Subscribed Cloud and other systems, Canary deployments and other needs automated deployment needs under modern technological fabric involving CD / CI that could be on a (Serverless) Cloud Native Platform using slices of Microservices



Align Implementation and Migration Plan with Business / Capability Planning

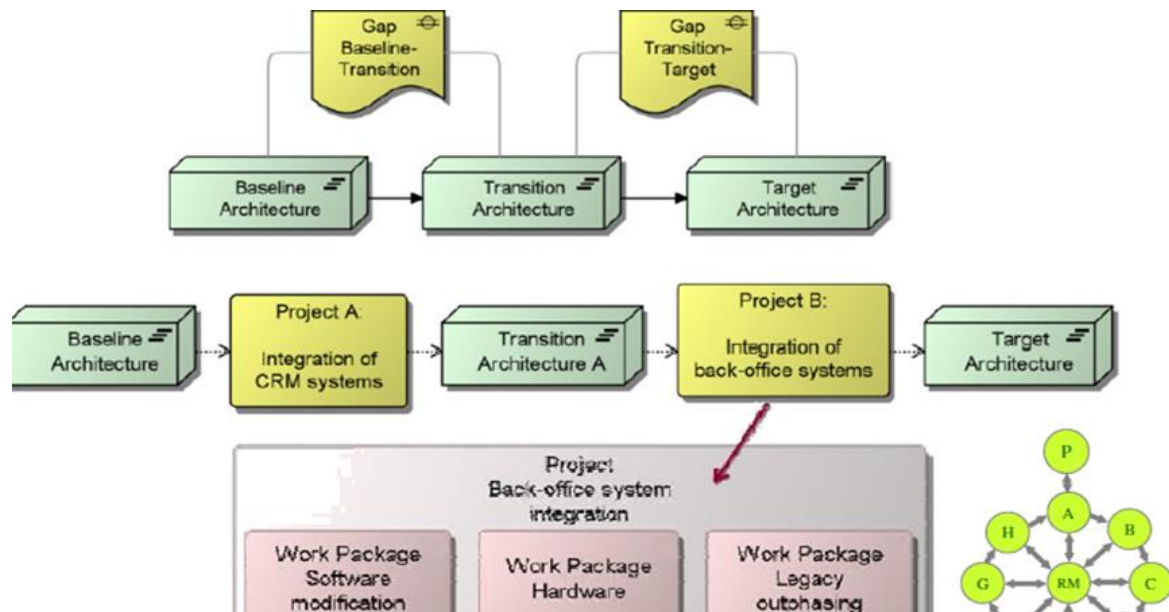
The assessment of business dependencies in Phase E will have **ensured that there is a business fit.**

The Enterprise Architect has **determined on what can be leveraged** from the strategic and business plans.

Also on **what has to be inserted as an addition to these plans** in the upcoming release cycle based on all the discussions mentioned above.

- Determined fitness-for purpose
- Focused on the delivery of measurable, incremental business value at the end of each Transition Architecture





There will also be **items that have to be repeated**, or preferably **referred to**, in the Implementation and Migration Plan **so that the corporate plan is synchronized**. This was discussed.

The key alignment target is the delivery of measurable, incremental business value at the end of each **Transition Architecture**. This was made known to the appropriate stakeholders.



Examine Aspects

Business Transformation

There are two main components,

namely **business transformation within**

and **without**

the IT lines of service.

These were examined.

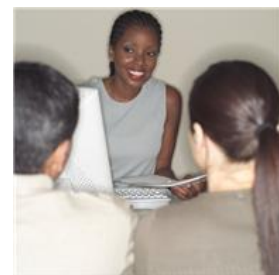


Assess the Synchronization of the Enterprise Architecture and Existing IT Planning Framework

Their **synchronization is essential** and the need for them to proceed in alignment will be a major change in working approach for planners used to working without an Enterprise Architecture framework.

- Implementation and Migration Plan is often a subset of the corporate IT strategic and business plans
- Enterprise Architecture provide a context for their activities and provide the essential governance fit criteria
- Ensure that the Implementation and Migration Plan is well-positioned within the IT business plan

Assessed with all other Frameworks which are connected to IT and software.



Align Implementation and Migration Plan with the Project Management Framework

Knowledge of the appropriate project delivery methodology (e.g., **PRINCE2**, **PMBOK**) should be used to frame the Implementation and Migration Plan. The enterprise architect and CIO will have to assess the best way for ensuring that the Implementation and Migration Plan is created and executed.

- Architecture Definition Document provides a Baseline Architecture, Target Architecture, gap analysis, and dependencies between Building Blocks
- Implementation and Migration Plan adds further detail on how the Target Architecture is to be realized through change activity
- Implementation and Migration Plan has to be embedded within the appropriate delivery vehicle
- Projects are transient delivery vehicles, whereas the Enterprise Architecture is permanent.

Aligned likewise.



Align Implementation and Migration Plan with the Operations Management Framework

The Operations Management function will be the recipient of the architecture artifacts which are the project deliverables.

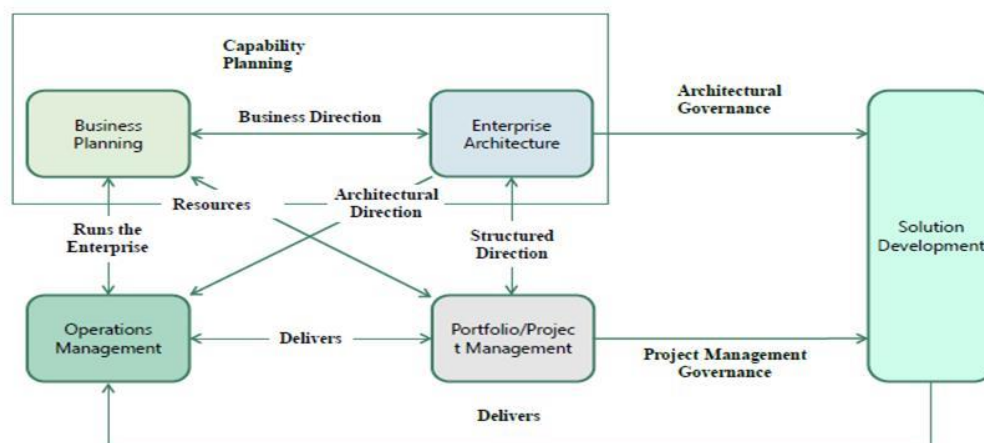


When an artifact is handed to them it comes under their configuration management and control, not the projects' nor the architects'. Operations management constantly execute "maintenance fixes" to the existing infrastructure.

These "bottom-up" changes to the portfolios and architecture are very important as These **Change Requests highlight either more efficient ways of implementing** and / or deficiencies. Changes to the Solution Building Blocks (SBBs) are not a major issue as long as the interfaces and business rules are respected, and the SBB is made available across the organization.



However, **changes to the Architecture Building Blocks (ABBs) and interfaces** will require architecture co-operation.



Carried out the necessary alignment with the Operations Department.



Establish Plans for Enterprise Architecture Management

The **Enterprise Architecture Framework** (established in the **Preliminary phase**) should reflect the interactions, but **may have to be modified** to explicitly state how the architecture is to be implemented and migrated. Ensuring that the Implementation and Migration Plan (however presented) is followed is detailed in Phase G (Architecture Governance).

At this point, a

Tailored Architecture Framework should be completed and

a **vehicle for the Implementation and Migration Plan** established.

- Implementation and Migration Plan **sits at the intersection of numerous technical and management frameworks**
- **Need to explicitly state how the architecture is to be implemented and migrated**

Established Plans properly.

Phase F Step : Assign a Business Value to Each Project :



Project

Assign a Business Value



to Each

$$IRR = \frac{\text{Cash flows}}{(1+r)^i} - \text{Initial Investment}$$

Where:

Cash flows= Cash flows in the time period

r = Discount rate

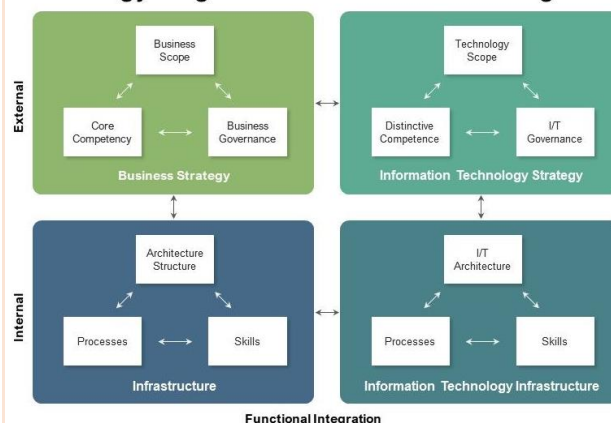
i = Time period

Year	Cash Flows	PV of Cash Flows
0	-\$500,000	-\$500,000
1	\$160,000	\$141,247
2	\$160,000	\$124,692
3	\$160,000	\$110,077
4	\$160,000	\$97,176
5	\$50,000	\$26,808

NPV	0
IRR	13%

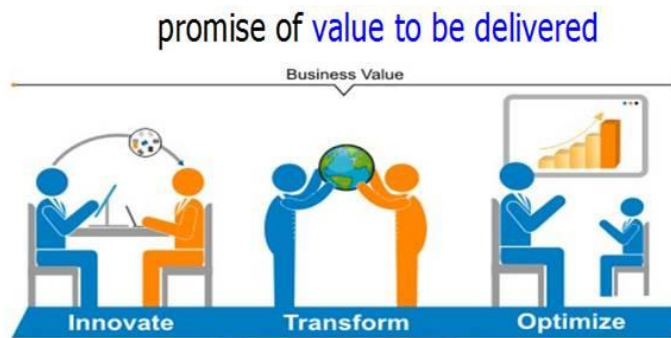
Internal Rate of Return

Strategy Alignment Model with Strategic Fit



Strategic Fit

A **value proposition** is a promise of value to be delivered



Direct Measures

Net Present Value (NPV)

Internal Rate of Return (IRR)

Payback Period

Discounted Cash Flow Analysis

Indirect Measures

Performance Evaluation Criteria

Return on Investment Criteria

Business Value

Critical Success Factors (CSF)

Measures of Effectiveness (MOE)

Strategic Fit

- Develop an estimated value to the business for each project
- Should be completed with business management input with the Enterprise Architect ensuring that the value of the business enabling IT infrastructure is well understood

➤ **Return on Investment Criteria** have to be detailed and signed off by the various executive stakeholders.



$$IRR = \frac{(\text{Cash flows})}{(1+r)^i} - \text{Initial Investment}$$

Where:

Cash flows= Cash flows in the time period

r = Discount rate

i = Time period

Year	Cash Flows	PV of Cash Flows
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NPV	0
IRR	13%

The Architecture ROI (Return On Investment) framework minimally addresses the following with the minimum of a 3-year projection :

■ application impact

- costs include new application licensing, maintenance, implementation, and decommissioning
- savings include decommissioned application license reduction, reallocation, and maintenance

■ infrastructure impact

- costs include new infrastructure purchases, maintenance, installation and setup, decommissioning
- savings include decommissioned infrastructure reduction, reallocation, annual charges, and infrastructure avoidance

■ personnel impact

- costs include additional employees, time and materials consultant labor, SOW costs, travel expenses, training costs, conference fees, membership fees, and overtime nonexempt charges
- savings include employee hiring avoidance, employee attrition, employee position elimination, consultant hiring avoidance, consultant personnel reduction, training

avoidance, travel expense avoidance, conference fee avoidance, and membership fee avoidance

■ **vendor impact**

- costs include hosting fees, service subscription fees, usage fee estimates, setup fees, support fees, appliance fees, and travel
- savings include hosting fee reduction, service subscription fee reduction, usage fee reduction, appliance fee reduction, and travel expense reduction

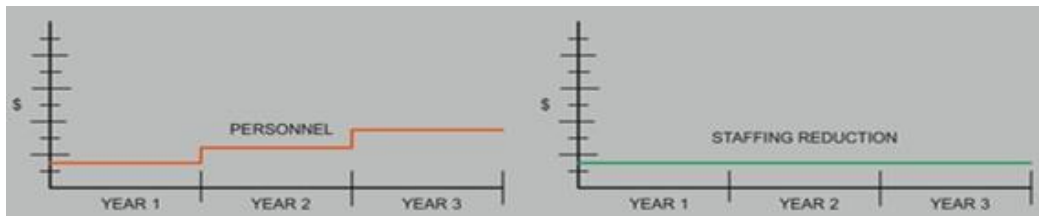
■ **operational workflow impact**

- costs include increased rate of inbound incidents/requests, estimated increase in processing time, and average incident/request cost increase
- savings include decreased rate of incoming incidents/requests, estimated decrease in processing time, and average incident/request cost decrease

■ **business impact**

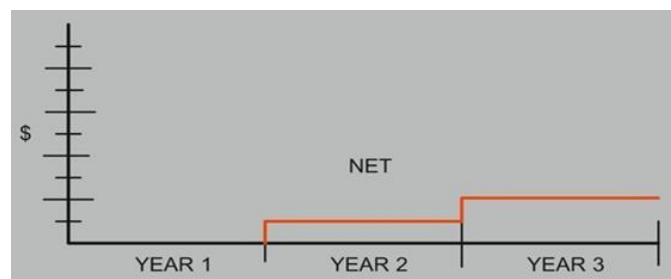
- costs include estimated business startup costs, estimated losses from periodic loss of business capabilities, estimated loss from customer dissatisfaction, and estimated exposure from regulatory noncompliance
- savings include value of additional business capabilities, value of improved customer satisfaction, and value of enhanced regulatory reporting

Additionally, each cost and benefit should have a visual illustration of a 3- to 5-year projection associated with it, such as in the cost illustration in red, and savings illustration in green, shown below :



3-year cost-benefit projection example

Once the figures have been reasonably verified, then it is time to prepare subtotals for each category followed at the end by a grand total chart to depict the net costs and savings of all categories, showing an architecture ROI cost, as illustrated below :



Net cost and savings

The assumption associated with the architecture ROI framework is that it does not consider :

- after tax implications,
- net present value (NPV) to account for the future value of money,
- internal rate of return (IRR) to compare two or more

investments,

- personnel severance costs as negotiated by HR,
- the distinction between airfare and lodging rates, and
- subjective measures of earnings and capital assumptions.

At this point, the architecture ROI is ready to go to finance to be included into their financial framework.

In conclusion, one or few experts will select technologies that will provide the greatest business value, as it is more likely to satisfy the capabilities actually required, to be less complex, be a vendor whose core capability more closely corresponds to what is needed to satisfy the pertinent business capability, and to have a better understanding of the all-in cost over the life of the technology.

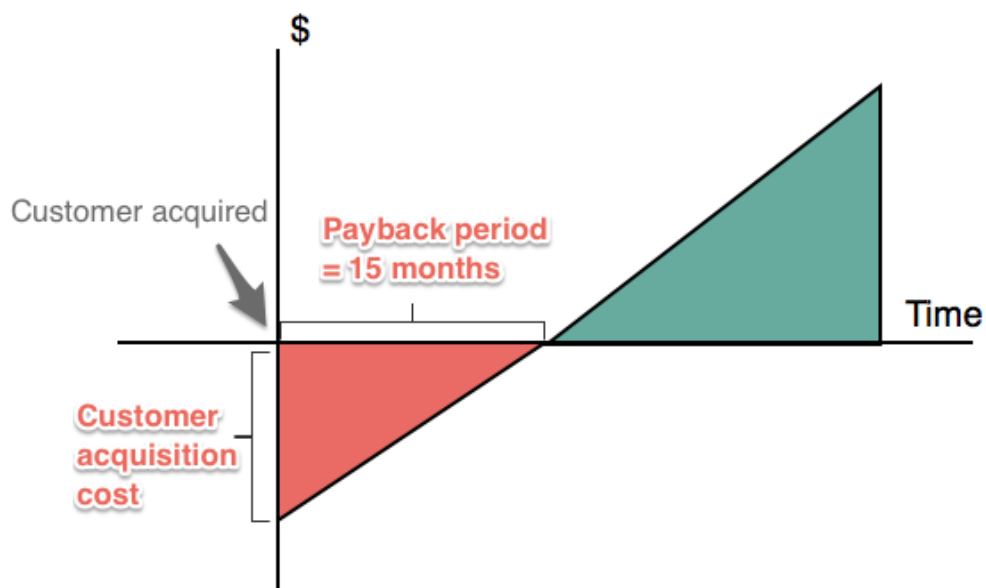
How is NPV calculated?

$$\text{NET PRESENT VALUE} = \text{PRESENT VALUE OF CASH INFLOWS} \\ (-) \\ \text{PRESENT VALUE OF CASH OUTFLOWS}$$

ACCEPT – REJECT CRITERIA

IF THE NPV IS POSITIVE - 

IF THE NPV IS NEGATIVE - 



WACC Calculation				
Cost of Capital		Tax Rate		Wavg WACC
		20.00%		0.0%
Risk-Free Rate	3.00%			
Inflation premium	5.00%			
Risk premium	7.00%			
		Share	Cost Of Resources	
		100.0%	0.00%	
		0.0%	15.00%	
		Loans		
		Equity		
Free Cash Flow Calculation (USD'000)				
Free Cash Flow, (USD)				
Financial year	2019	2020	2021	
Operating Income	39	388	1,266	
Tax Expense	(8)	(78)	(253)	
Tax-Effectuated EBIT (Earnings Before Interest)	32	311	1,012	
Plus: Depreciation Expense	-	-	-	
Capital Expenditures	-	-	-	
Inventory balance	16	73	4	
Accounts Receivable	58	148	137	
Current Liabilities	(8)	(78)	(253)	
Non-Current Liabilities	-	-	-	
Changes in Working Capital	(67)	(77)	256	
Unlevered Free Cash Flow	(35)	234	1,269	
Free Cash Flow Valuation (USD'000)				
Discounted Cash Flow, (USD'000)				
Financial year	2019	2020	2021	
Terminal Value				
Present Value of Unlevered Free Cash Flow	(35)	234	1,269	
NPV based on year 3				1,467
Multiplicator evaluation				1x

The weighted average cost of capital (**WACC**) is a calculation of a

firm's cost of capital in which each category of capital is proportionately weighted.

Free cash flow (FCF) represents the cash a company generates after accounting for cash outflows to support operations and maintain its capital assets.

Discounted Cash Flow (DCF) is a valuation method used to estimate the value of an investment based on its expected future **cash flows**. DCF analysis attempts to figure out the value of an investment today, based on projections of how much money it will generate in the future.

Business Value Assessment is a technique to assess business value of an initiative.



Business Value Assessment							
#	Initiative	Business Value			Risk Assessment		
		High	Medium	Low	On Target	At Risk	In Trouble
1	Partner Portal	X				X	
2							
3							
4							
5							

Arrived at Business Value with above mechanisms. Just one is sufficient, in effect.



Confirm Organizational Business Value, Return on Investment, and Performance Measurement Parameters

The intent is to **enable the generation of continuous business value**, even accepting that this might involve planned rework in subsequent sets of deliverables.

There are several issues to address in this activity :



➤ **Performance Evaluation Criteria** used by portfolio and capability managers to approve and monitor the progress of the architecture transformation.

Criteria for Evaluating E-Commerce	
Flexibility	• The ability to respond quickly to changing requirements
Costs	• The CapEx & WorkEx, like acquisition and maintenance costs for servers, licenses and other hardware and software.
Scope & performance	• Factors include degree of fulfillment of specific requirement, knowledge about service and performance quality.
IT security & compliance	• Factors like government, industry and firm specific needs in the areas of security, compliance and privacy are covered.
Reliability & trustworthiness	• Factors like service availability, consistency of delivery and fulfillment of the Service Level Agreements
Service & cloud management	• Factors like offered support and functions for controlling, monitoring and individualization of the web interface.



➤ **Business Value** has to be defined as well as techniques, such as the value chain (e.g., NASCIO), which are to be used to illustrate the IT role (as well as other business functions) in achieving tangible business outcomes. The business value will be used by managers to allocate resources and, in cases where there are cutbacks, business value in conjunction with return on investment are the two prime factors used to determine whether an endeavour proceeds, is delayed, or cancelled.



Preliminary/A

Provide the initial motivation for engaging enterprise architects.

B: Business Architecture

Provides the means for demonstrating the business value of subsequent architecture work to key stakeholders, and the return on investment to those stakeholders from supporting and participating in this work.

B/C/D

Develop the blueprint for architecture that will deliver the required Capability.

E

Identifies Solutions that can fulfil the Target Architecture, capability increments and transition architectures, and opportunities to fund and resource the changes.

E/F: Migration Planning Techniques

Include Business Value Assessment – see below.

F/G/H

Deliver the architecture that provides the required Capability.

— We should be checking business value throughout each Phase of the ADM —→

What is the business motivation for change?

How will value be measured?

What is the required architecture capability?

What solutions deliver this?

How do we assess business value?

How well did we deliver?

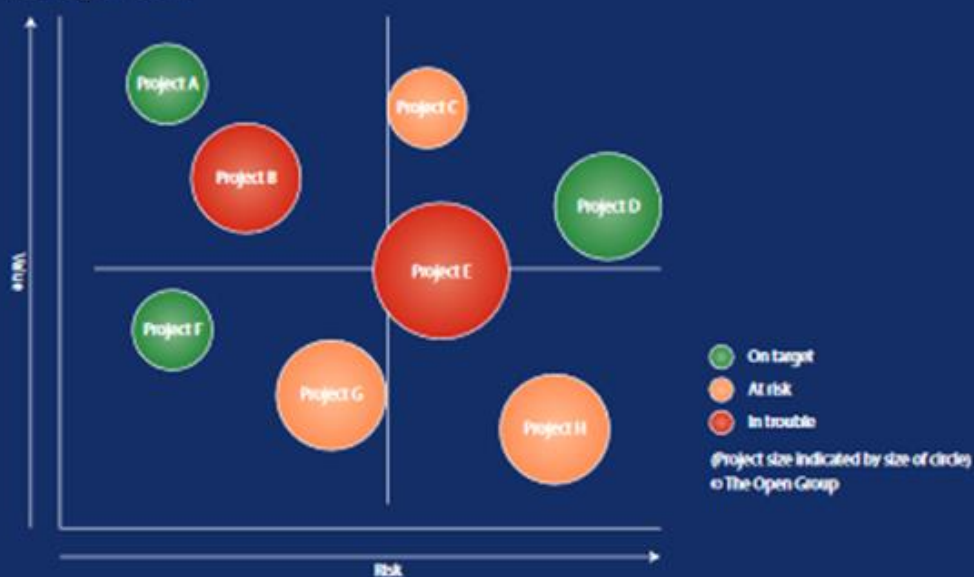
Business Value Assessment

....is a technique to assess business value through a matrix based on a value index dimension and a risk index dimension.

The value index includes criteria such as compliance to principles, financial contribution, strategic alignment, and competitive position.

The risk index includes criteria such as size and complexity, technology, organizational capacity, and impact of a failure.

Criterion should be assigned an individual weight. The index, its criteria and weighting should be developed and approved by senior management.



See this in Chapter 28 : **28.5 Business Value Assessment Technique**



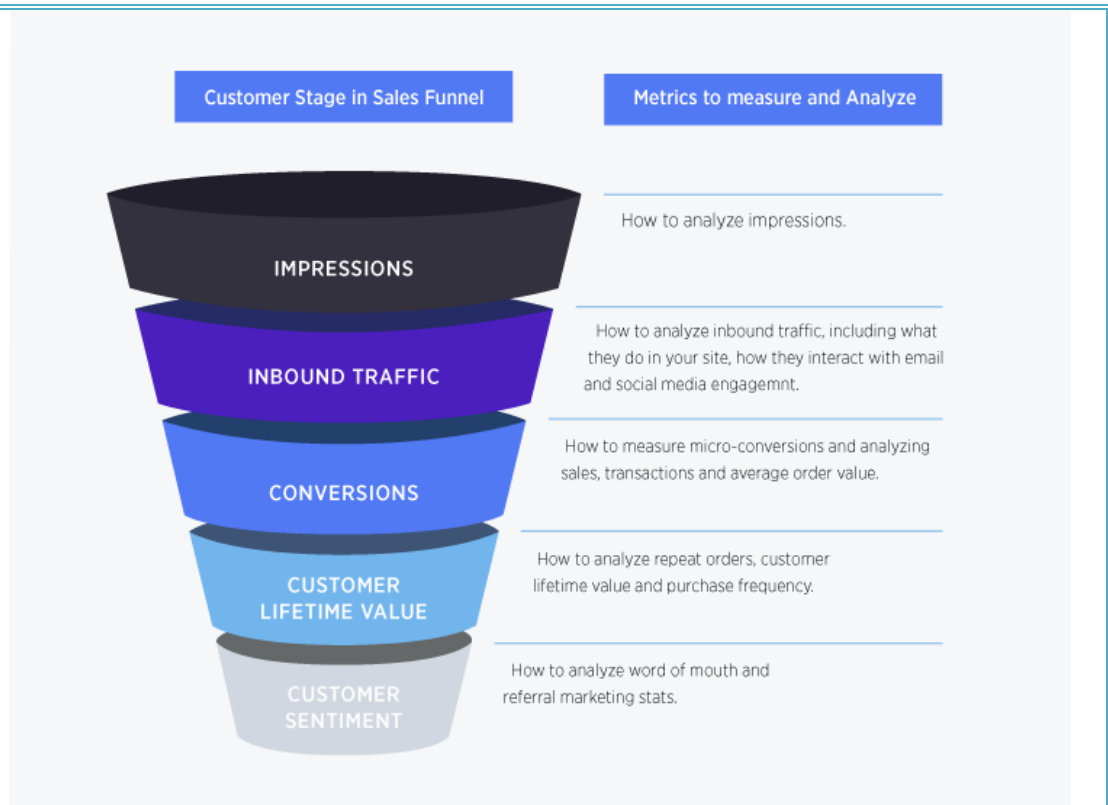
- **Critical Success Factors (CSF)** should be established to define success for a project and / or project increment. It is also a form of contract between clients and developers/builders that will ensure a mutual understanding of business value.


Ecommerce Critical Success Factors

Site Design and Maintenance	Product Catalog Management	Merchandising	Site Search
Shopping Cart and Checkout	Payment, Shipping and Taxes	Order Lifecycle & Inventory Mgmt. (Purchasing, Quotes, Fulfillment, Delivery, Returns)	Reporting & Store Administration
SEO & SEM Search Engine Optimization & Marketing	CRM (Customer Relationship Mgmt.)	Targeted 1:1 Email Marketing	Transactional E-mails
Personalization	Social and Mobile	Web Analytics	Site Optimization – A/B Testing
International Markets and Customers	Performance	Reliability and Availability	Security and Compliance



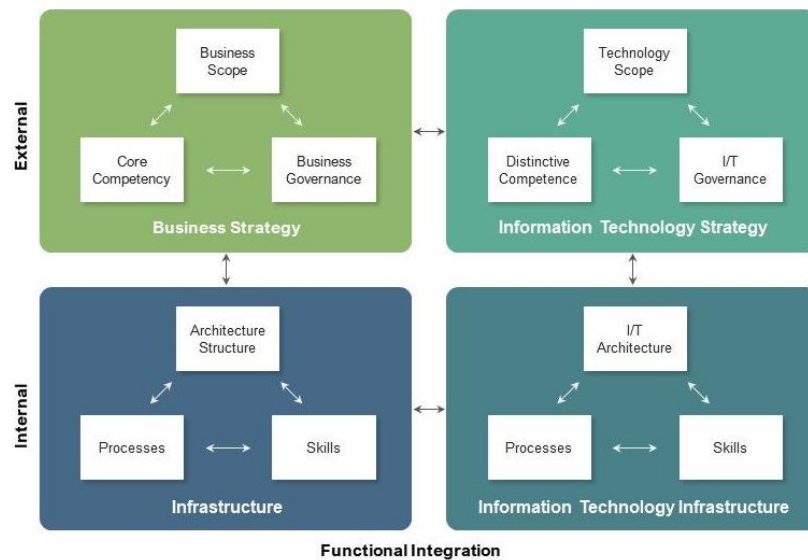
- **Measures of Effectiveness (MOE)** are often performance criteria. It should be clear as to how these criteria are to be grouped (e.g., in defense they include categories such as Persistence, Agility, Reach, Information, etc.).



 **Strategic Fit** based upon the overall Enterprise Architecture (all tiers) will be the critical factor for allowing the approval of any new endeavour (project/initiative or whatever) or determining the value of any deliverable.

For example, the implementation of a new service will be assessed with respect to the Enterprise Architecture models; if it is to be delivered strategically fine; if it is *not* in the plan, then either the project is not approved or the architecture model can be changed to accommodate a good idea.

Strategy Alignment Model with Strategic Fit



- Ensure the business value parameters are well-understood and serve as the basis for the creation and monitoring of the Implementation and Migration Plan
- Enable the generation of continuous business value, even accepting that this might involve planned rework in subsequent sets of deliverables
- Establish a concrete set of criteria with which to assess the business value, return on investment, and measures to ascertain how the project is meeting their objectives



**Assign Risk
Increments**

to the Projects and Project

The action is to aggregate the risks associated with each activity for the projects and their potential increments.

- Aggregate the risks associated with each activity for the projects and their potential increments in the Consolidated Gaps, Solutions, and Dependencies Assessment (from Phase E)



Assign Business Value **to the Projects and Project Increments**

Develop an estimated value to the business for each project.

- Completed with business management input with the Enterprise Architect ensuring that the value of the business enabling IT infrastructure is well understood

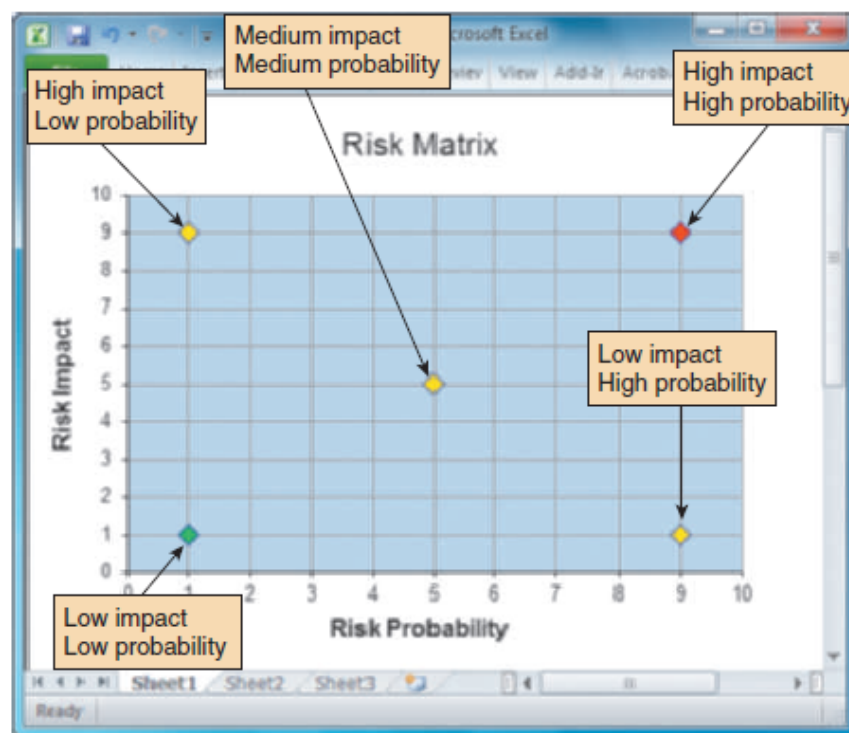


Determine Continuous Assessment Technique **Business Value**

This assessment could be developed through the use of a matrix based on a value index dimension and a risk index dimension.

- Conducted by both business clients and IT

Risks are normally classified as time (schedule), cost (budget), and scope but they could also include client transformation relationship risks, contractual risks, technological risks, scope and complexity risks, environmental (corporate) risks, personnel risks, and client acceptance risks.



Assigned the risk factors and Business Value adjustment likewise.

Phase F Step : Estimate Resource Requirements, Project Timings, and Availability of Delivery Vehicles

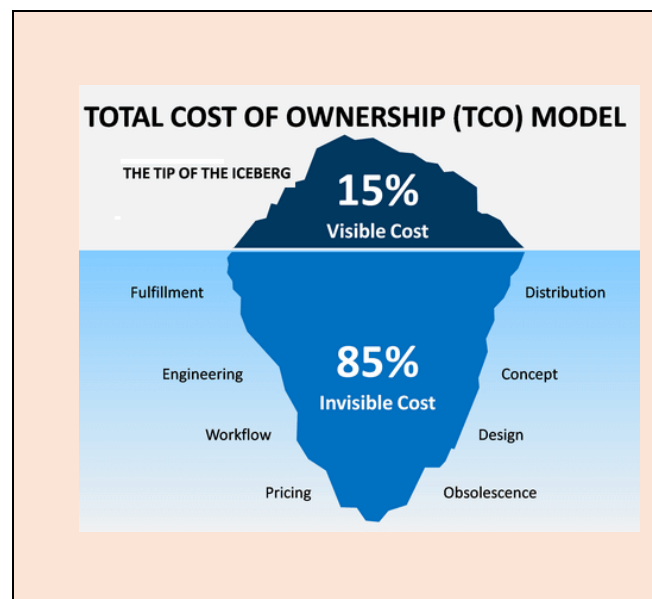


Estimate

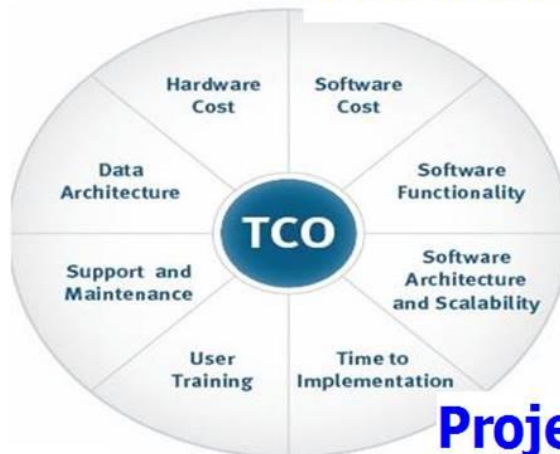


Resource

Requirements, Project Timings, and Availability / Delivery Vehicles



Resource Requirements



Project Timings

Delivery Vehicles

Determined the required resources and times for each project and project increment and provide the initial cost estimates for the projects.

The costs were broken down into capital (to create the capability) and operations and maintenance (to run and sustain the capability). Costs are inclusive of all capability expenses including business process development, interoperability requirements, training, new personnel, facilities, and so on, keeping in mind that the actual cost estimate will be refined by the project once it has been established.

Using dependencies, opportunities were identified where the costs associated with delivering new and / or better capability can be offset by sun-setting existing systems.

Think of Resources needed, Project Timings,
What is available and what more Delivery Vehicles
needed

Acquiring includes :

Component

Planned Change

Unplanned

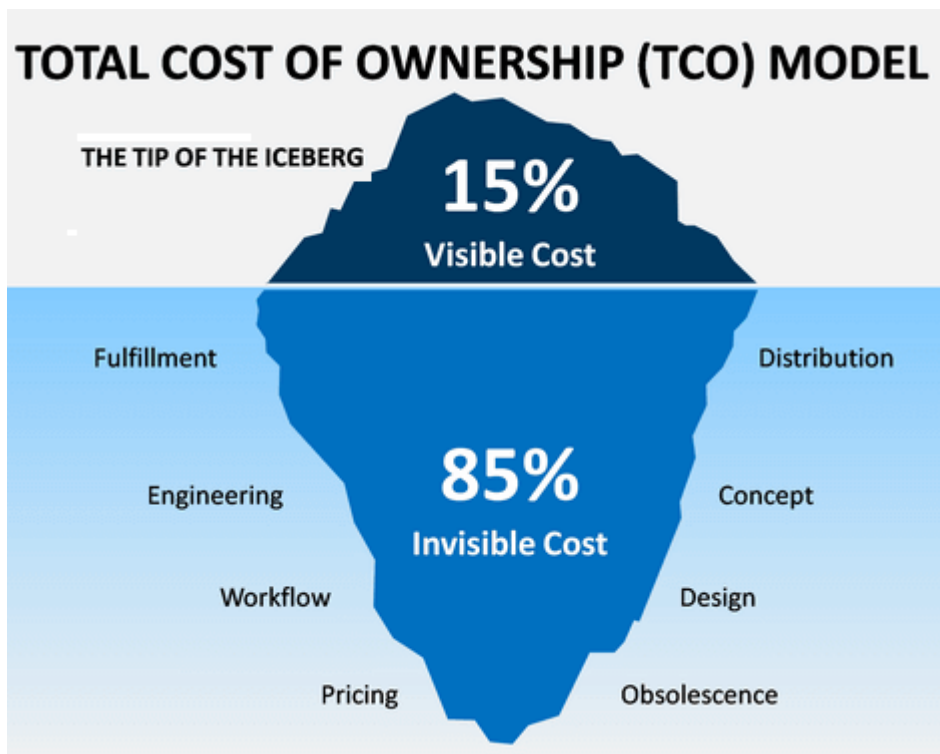
Category	Considerations	Change Considerations
Security Components	<p>How does one propagate a security change throughout the system?</p> <p>Who is responsible for making changes, end users, or security stewards?...</p>	<p>What should happen when security is breached?</p> <p>What should happen if a security component fails?...</p>
Data Assets	<p>How does one add new data elements?</p> <p>How does one import /export or load/unload data?</p> <p>How is backup managed while running continuously?</p> <p>How is data change propagated in distributed environment?...</p>	<p>What are your backup procedures and are all the system capabilities there to backup in time?</p>

Software Assets	<p>How does one introduce a new application into the systems?</p> <p>What procedures do you have to control software quality?</p> <p>How does one propagate application changes in a distributed environment?</p> <p>How does one restrict unwanted software introduction given the internet? ...</p>	<p>What do you want to happen when an application fails?</p> <p>What do you want to happen when a resource of the application fails?...</p>
Hardware Assets	<p>How do you assess the impact of new hardware on the system, especially network load?</p>	<p>What do you want to happen when hardware outages occur?</p>
Networking Assets	<p>How do you assess the impact of new networking</p>	<p>What do you want to happen when networking outages</p>

components?

How do you
optimize your
networking
components?...

occur?





Determine **Personnel and Infrastructure** **(Capital) Costs**

Against each SBB, determined what the costs will be in terms of personnel and infrastructure. Ensured that all infrastructure costs are captured, including office space, furniture, and so on. For IT infrastructure costs, included hardware and software that has to be acquired.

- Determined what the costs will be in terms of personnel and infrastructure
- Ensured that all infrastructure costs are captured, including office space, furniture, and so on, charging them against the activities or against the project
- Aggregated the SBB costs to come up with a total for capital costs for the project and project increment and then add this project capital cost to the list of projects

Determine Operations and Maintenance



Costs

These costs are associated with the total cost of ownership for a SBB. This cost estimate has ensured that there are sufficient resources available to service the SBB while in the field, so it should address the entire SBB lifecycle.

Total Cost of Ownership

In addition to direct costs, systems developers must identify and document indirect **expenses that contribute to the total cost of ownership (TCO)**. TCO is especially important if the development team is assessing several alternatives.

After considering the indirect costs, which are not always apparent, a system that seems inexpensive initially might actually turn out to be the most costly choice. One problem is that cost estimates tend to understate indirect costs such as user support and downtime productivity losses. Even if accurate figures are unavailable, systems analysts **should try to identify indirect costs and include them in TCO estimates**.

Notice that the **primary emphasis is on business improvement**, rather than operational efficiency. As the Web site points out, the strategic role of IT investments should be included, even when the specific benefits are difficult to quantify.

- Costs are associated with the **total cost of ownership for a SBB**
- **Triggered after** the SBB has been handed over to operations management from the project delivery organization
- Ensured that the cost estimate will **provide sufficient resources** available to service the SBB while in the field, so it should address the entire SBB lifecycle
- **Operations and maintenance costs were added** to the SBB construction cost to give a total cost of ownership

- Total cost of ownership is now added to the list of projects

Determine Transition Architecture / **Project Increment**



Timings

- Created an initial estimate of the time that the projects and project increments will take

This gross estimate is included in every SBB being envisaged.



Assess Best

Delivery Vehicle

Assessed suitably on whether the delivery vehicle should be internal, by contract, or a combination thereof

- Used this estimate to look at the resources available within the organization and determined whether the delivery vehicle should be internal, external or both

Phase F Step : Prioritize the Migration Projects through the conduct of a Cost / Benefit Assessment and Risk Validation



Prioritize the Migration Projects through the Conduct of a Cost / Benefit Assessment and Risk Validation

Cost Benefit Analysis

Cost	Organizational Total
Cost for 5-Years	760,390
Net Profit for 5-Years	463610
ROI (Return On Investment)	0.61
IRR (Internal Rate of Return)	32.89%
Pay back period:	2.81
NPV	302492

Derived Cost Benefit Analysis for the Migration Projects

Validated the Risk Assessment

Prioritized the Projects on above basis

Prioritized the projects by ascertaining the business value of the artifacts delivered by the projects against the cost of delivering them.



Derive Cost Benefit Analysis Projects

for the Migration

The important part of this step is to discover all costs, and ensure that executives deal with the net benefit (cost savings over time - cost of initiative over time).

Cost Benefit Analysis

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Analyst's Toolkit describes three popular tools, which are payback analysis, return on investment (ROI), and net present value (NPV). These tools, and others, can be used to determine total cost of ownership (TCO)

Cost-Benefit Analysis Checklist

Companies use all three financial analysis tools to evaluate various development strategies.

The best way to apply the tools is to develop a cost-benefit checklist with the following steps :

- List each development strategy being considered.
- Identify all costs and benefits for each alternative. Be sure to indicate when costs will be incurred and benefits realized.
- Consider future growth and the need for scalability.
- Include support costs for hardware and software.
- Analyze various software licensing options, including fixed fees and formulas based on the number of users or transactions.
- Apply the financial analysis tools to each alternative.
- Study the results and prepare a report to management.

- Initiated the cost / benefit analysis and drive the return on investment
- Return on investment is clear and takes into account the stakeholders for which it is being prepared
- Sensitivity to stakeholders' concerns is important. Noted this.
- Discovered all costs, and ensure that the business deals with the net benefit (cost savings over time — cost of initiative over time)

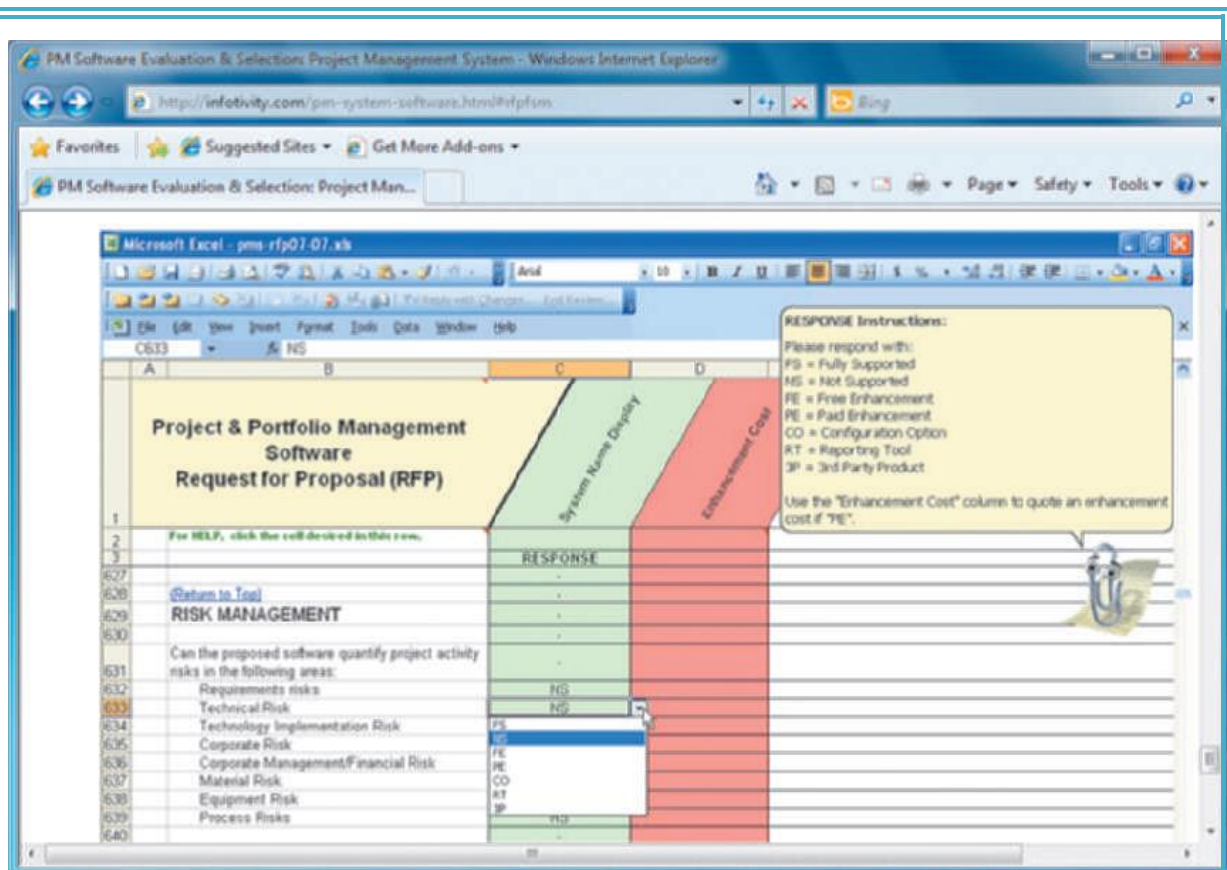


Validate the Risk Assessment

In this activity the EA reviewed the risks documented in the Gaps, Solutions, and Dependencies Report and ensured that the risks for the project artifacts have been mitigated as much as possible.

Risk Analysis

Risk Name	Impact	Probability	Our priority	Mitigation Plan
Misunderstanding Client requirements	HIGH	MEDIUM	1	Customer feedback Analysis
Inappropriate staffing	HIGH	MEDIUM	3	Provide training regularly
Inadequate security	HIGH	LOW	4	Regular security system check
Exceeding schedules and budgets,	HIGH	MEDIUM	5	Make effective plan
team's lack of general expertise	HIGH	MEDIUM	2	Recruit skilled & experienced team members



A Tool from Infotivity Technologies

- Reviewed the risks documented in the Gaps, Solutions, and Dependencies Report
- Ensured that the risks for the project artifacts have been mitigated as much as possible
- Updated the project list with risk-related comments



Prioritize the Projects

Prioritization criteria included the key business drivers identified in Phase E as well as those relating to individual stakeholders' agendas, such as :

- Reduction of costs
- Consolidation of services
- Ability to handle change
- A goal to have a minimum of "interim" solutions (they often become long-term / strategic!)

It is a business decision as to whether to :

- Fund Project X
- Cancel Project Y
- Re-scope Project Z to include the dependent functionality Project X was to deliver

– Using the previously calculated net benefits, and the Gaps, Solutions, and Dependencies Analysis got consensus amongst the stakeholders to agree upon a prioritization of the projects

– Prioritization criteria included the key business drivers identified in Phase E as well as those relating to individual stakeholders' agendas

– Ensured that foundation projects are identified

Took note of :

- Often invisible to the end client but an essential intermediary be understood and supported by senior management

- List of projects should clearly highlight dependencies
- Stakeholders have reviewed the risk assessment and there was no need to revise it as necessary ensuring that there is a full understanding of the residual risk associated with the prioritization and the projected funding line
- Updated and reordered the list of projects with their priority

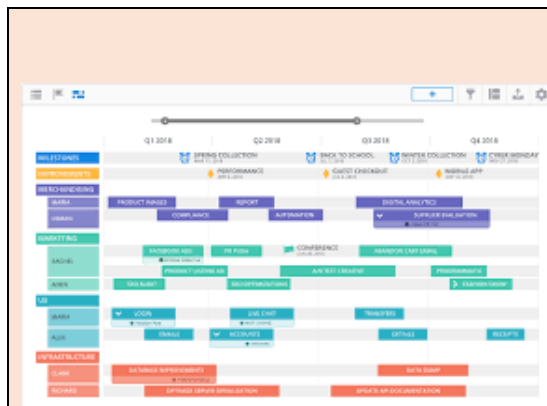
Phase F Step : Confirm Transition Architecture Increments / Phases and Update Architecture Definition Document



Confirm Transition Architecture



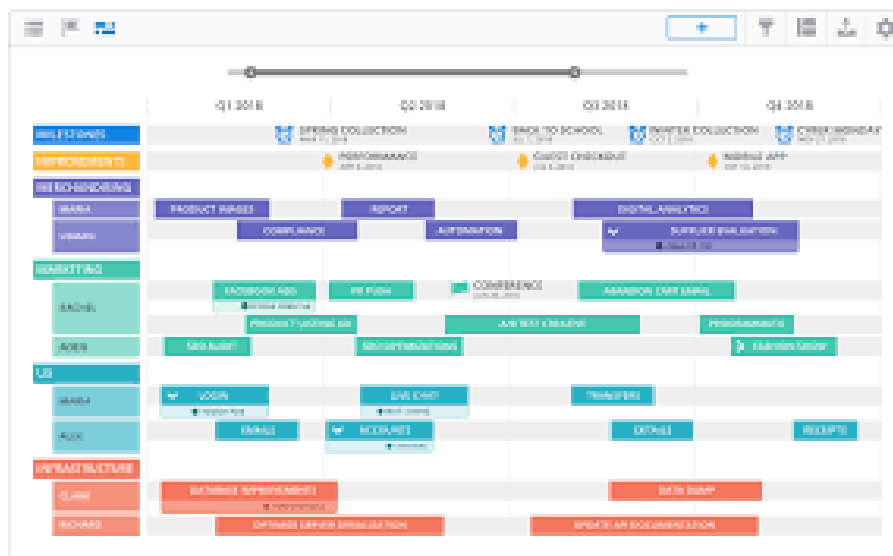
Increments / Phases and Update Architecture Definition Document



Transition Roadmap

Architecture Definition - Project Objectives by Increment (Example Only)				© The Open Group
Project	April 2007/2008	April 2008/2009	April 2009/2010	Comments
	Transition Architecture 1: Preparation	Transition Architecture 2: Initial Operational Capability	Transition Architecture 3: Benefits	
Enterprise e-Services Capability	Training and Business Process	e-Licensing Capability	e-Employment Benefits	
IT e-Forms	Design and Build			
IT e-Information Environment	Design and Build Information Environment	Client Common Data Web Content Design and Build	Enterprise Common Data Component Management Design and Build	
...

Confirmed the proposed **Transition Architecture** increments and content. Reviewed the work to date to assess what the Transition Architecture time-spans should be, taking into consideration the business value (or capability) increments to be delivered and all other factors.



Confirm Transition Architecture

Time-Spans

The first activity is to agree to a time-span of an increment.

For example, in a government agency the tendering process may end up determining how long an increment will be; in other enterprises it could be the budgetary cycle and in another support of a corporate strategic objective. In most cases, a budgetary cycle will be the key factor influencing the delivery of an increment, with the rationale being that if a future increment's funding is delayed, at least there will be a solid delivery of business capability by the preceding increment.

- Agreed to a time-span of an increment
- Took into account the area where the architecture has to be implemented and

the results of the analysis of the organization list of events and timings affected by planning, budgetary, acquisitions cycles and pre-requisites



Confirm Business Value Delivered by the Increments

For example, the implementation of e-Government could start in the first increment with the issuance of "licenses" with each subsequent increment delivering ever-increasing levels of functionality.

- Reviewed gap analyses, dependencies, and prioritized portfolios / projects
- Validated that discrete business outcomes can be delivered in increments

- Performed at the portfolio level as entire projects may be re-scheduled to allow others to move forward more rapidly
- Important to align the architectures of the foundation projects to ensure that they flexibly deliver the requisite support to achieving the business outcomes

Update Previously Created Architecture Deliverables

Refer to : Part IV: Architecture Content Framework > Architectural Deliverables

Updated the Transition Architectures to reflect the revised Direction

- Updatde the Architecture Definition, assigning project objectives and aligning projects and their deliverables with the Enterprise Architecture increments
- The Enterprise Architecture Definition is technology-aware but, as much as possible, technology-independent

Phase F Step : Generate the Architecture Implementation Roadmap (Time-Lined) and Migration Plan



Generate the Architecture Implementation



Roadmap (Time-Lined) and Migration Plan



Planning till Handing over – CD / CI

This step generated the Implementation and Migration Plan sequence and details.

Confirmed Enterprise Architecture State Evolution

Detailed Implementation and Migration Plan

Roll-up plans: Project Schedules

Migration Details

Architectural State using the Technical Reference Model					© The Open Group
Sub-Domain	Service	Transition Architecture 1	Transition Architecture 2	Transition Architecture 3	
Infrastructure Applications	Information Exchange Services	Solution System A (replace)	Solution System B-1 (transition)	Solution System B-2 (new)	
	Data Management Services	Solution System D (retain)	Solution System D (retain)	Solution System D (retain)	
.	

Transition Architectures for delivery, construction, design, and planning

There are four **Transition Architectures** in each **Microservice and Data Architecture Slices** being managed concurrently, namely **delivery, construction, design, and planning**. The main feature of architecture planning is that there will be a great deal of concurrent activity and the Implementation and Migration Plan will be the "glue" holding all of these artifacts together.



Planning till Handing over – CD / CI



Confirm Enterprise Architecture

Evolution

There was a need to **confirm the actual evolution of the architecture** to coordinate the development of several concurrent instances of the various architectures. Resources had to be assigned to move the architectures ahead in a coherent manner, taking advantage of opportunities and innovations as well as coping with significant business events such as mergers, acquisitions, and the sell-off of certain lines of business.



Enterprise Architecture State Evolution

This snapshot described the functionality (in terms of implemented SBBs) delivered by the Enterprise Architecture at a **particular point in time**.

This was effectively done through the use of the Foundation Architecture Technical Reference Model (TRM) and showed how the capabilities in each area evolve through the **Transition Architectures**.



Detailed Implementation and Migration

Plan

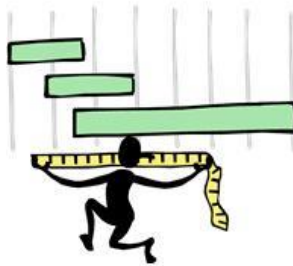
In Phase E and in previous steps within Phase F, most of the portfolio planning actions were completed and this step brings all the detail together into an overall plan.

Ensured that all external dependencies are captured and included. For example, a delay in passing a certain piece of legislation may free up resources that can be used on another priority project.

Conducted resource levelling to ascertain the overall availability of resources with precedence being given to the priorities previously allocated.

- Formally integrated all of the projects, project increments, and activities as well as dependencies into a project plan

- Determined what can be done internally or externally with contract support



Incorporate Project

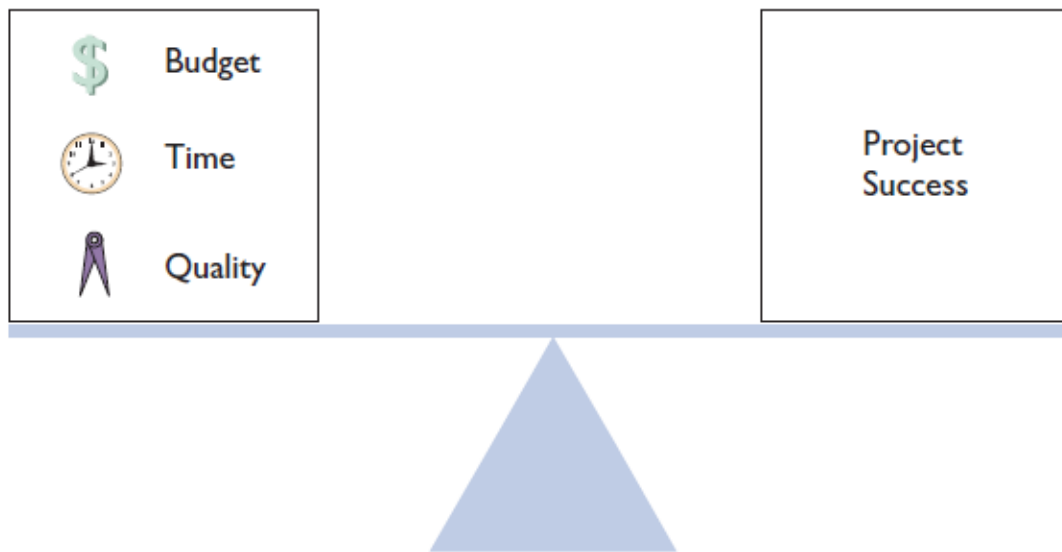
Schedules

- Roll-up plans for the Implementation and Migration Plan incorporated
- Assessed and adjusted to ensure that the plan has the best chance for success
- Created finalized Implementation and Migration Plan



Plan the Migration

Details



- A Building Block is delivered when it becomes part of the corporate infrastructure and handed over to the operations management function
- Migration Plan focused on the planning steps for actual handover of the constructed building blocks and their integration into the infrastructure
- Migration Plan is catering for the ongoing operations and maintenance of the delivered building block
- Ensured that either the project and / or operations management have the resources to ensure that the building block is effectively sustained
- Important that deliverables are quickly but systematically placed into service

Phase F Step : Establish the Architecture Evolution Cycle and Document Lessons Learned



Establish the Architecture Evolution



Cycle and Document Lessons Learned



Next time – ToDo, Not ToDo

Document **finalized** in this Phase :

Architecture Definition Document :

Plus its companion : **Architecture Requirements Specification**

Covering the Work Packages which **are becoming Work Contracts**

Architecture Contracts, which are part of Phase G are also initiated towards the end of this Phase



This Phase does not have TOGAF recommended Artifacts. Such Artifacts should have become SBB – Solution Building Blocks before we enter this Phase.

This treats the strategic Enterprise Architecture Definition and **Transition Architectures** as configuration items that are managed in accordance with an accepted standard such as Information Technology Infrastructure Library (ITIL) that is now the basis for BS 15000 and ISO 20000.

Enterprise Architectures must be kept up-to-date or they will slowly become irrelevant, superseded by portfolio and / or project architectures. The time required to translate a change from the strategic to the project architecture is significant and must be understood and catered for within the organization.

Confirm the Enterprise Architecture Evolution



Cycle

The set of architectures are dynamic and the transformation cycle will have to be subject to strict control in order to ensure that the architectures remain relevant and provide the critical guidance to the projects designing and delivering the SBBs.

There will also be a need to closely coordinate with the Enterprise Continuum and the ABBs and SBBs being actually deposited through the portfolio/project and Operations Management Frameworks. This will be part of the Architecture Governance phase.

Took action, noting the following :

- No point in creating a family of architecture artifacts that are not being maintained as they will become obsolete relatively quickly
- Has to be a regular update mechanism built into the architecture transformation process

Confirm the Enterprise Architecture Management



Processes

Confirmed, after noting that :

- Release management is important so that all parties are able to contribute in a timely manner
- Configuration management is also critical to ensure that the Enterprise Continuum and architectures are coordinated and that the architectures accurately reflect current and planned reality



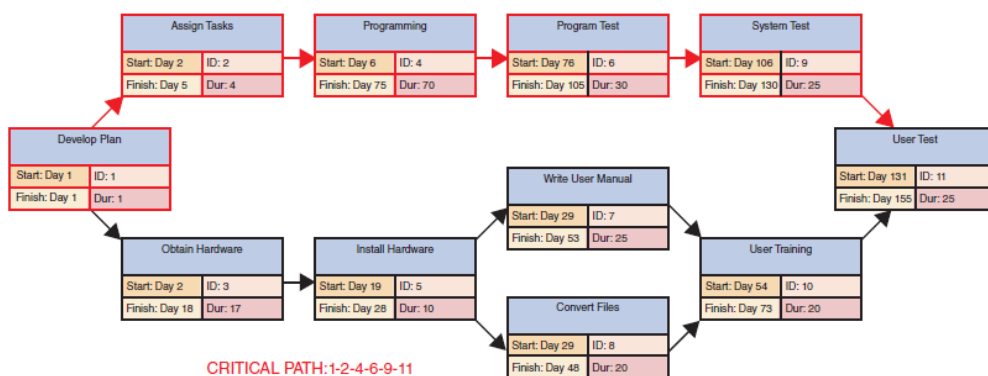
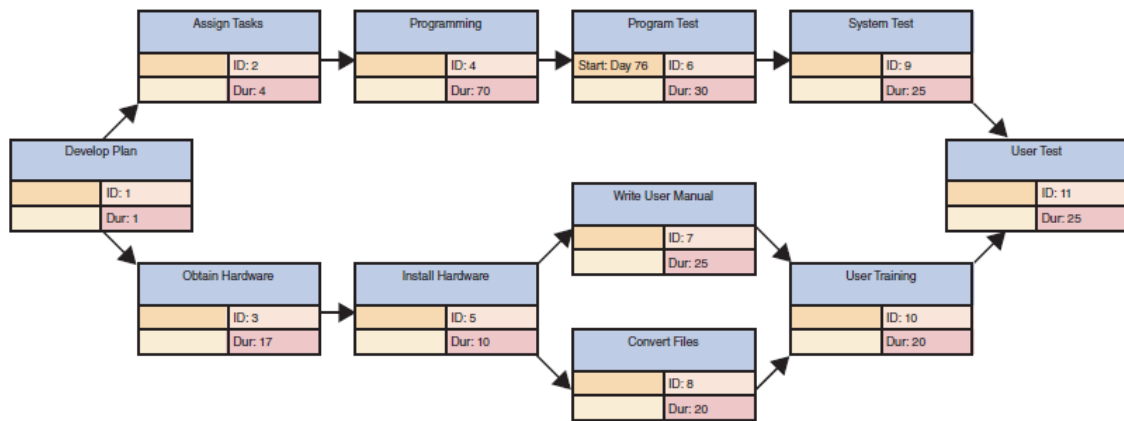
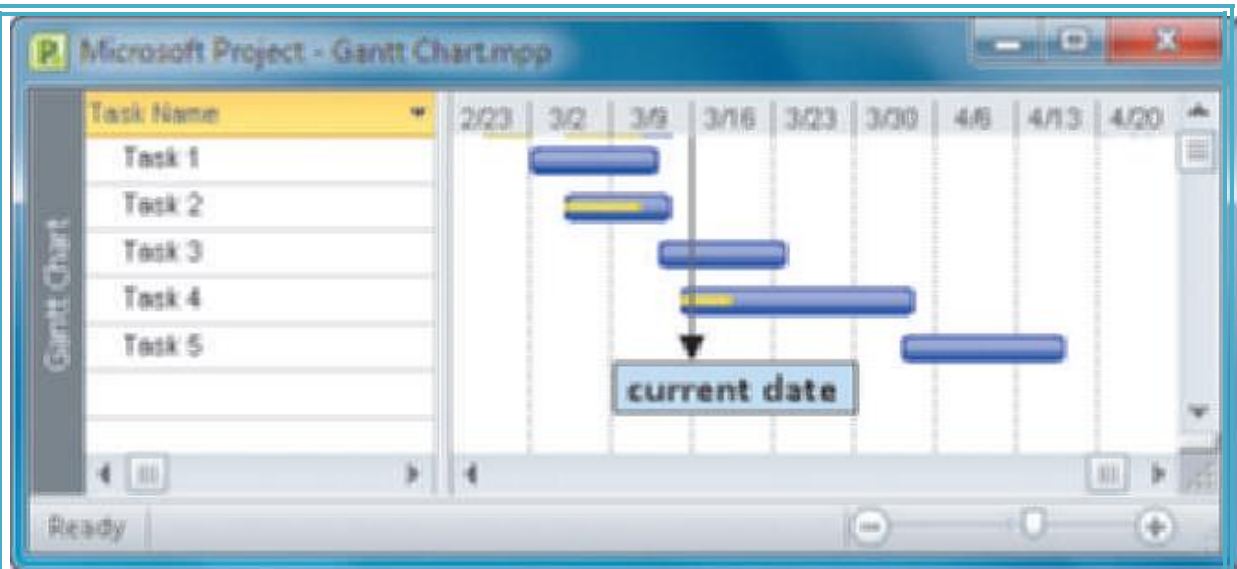
Document Lessons

Learnt

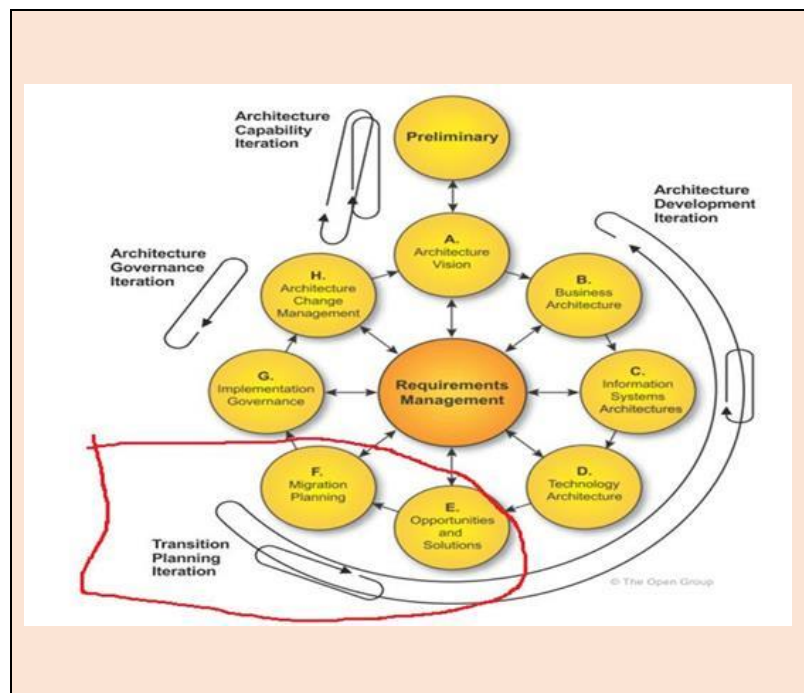
- Documented lessons learned and treat as governance artifacts
- Action via change requests, or changes in processes, business units or whatever is needed to improve the development and implementation of Enterprise Architecture – will be taken care of

A **work breakdown structure (WBS)** involves breaking a project down into a series of smaller tasks.

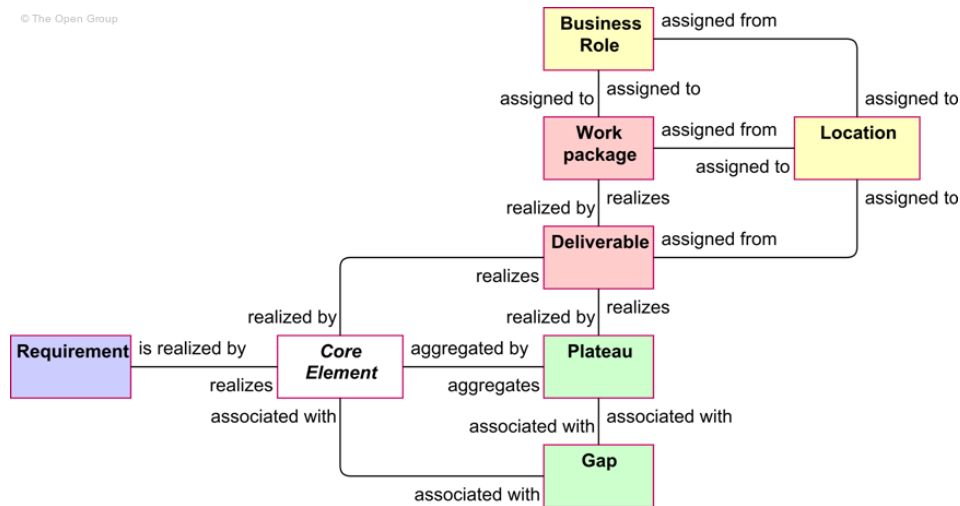
These could be Gantt charts or PERT/CPM charts. Prepared something provided by Microsoft Project.



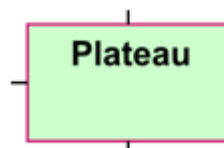
Microsoft Project - VLS Project Managemen...		
	Task Name	Duration
1	Reserve the meeting room	1 day
2	Order marketing materials	9 days
3	Brief the managers	2 days
4	Send out customer e-mails	3 days
5	Burn sample DVDs	3 days
6	Load the new software	2 days
7	Do a dress rehearsal	1 day



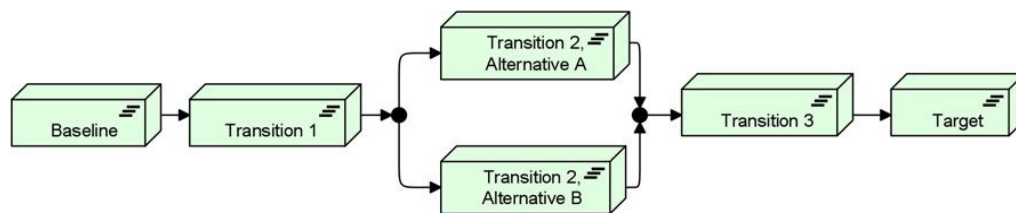
Migration Planning addresses the formulation of a set of detailed sequence of transition architectures with a supporting Implementation and Migration Plan.



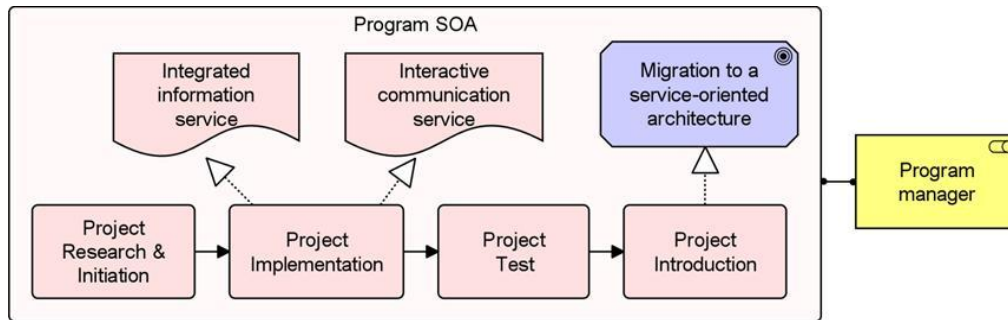
Here is the



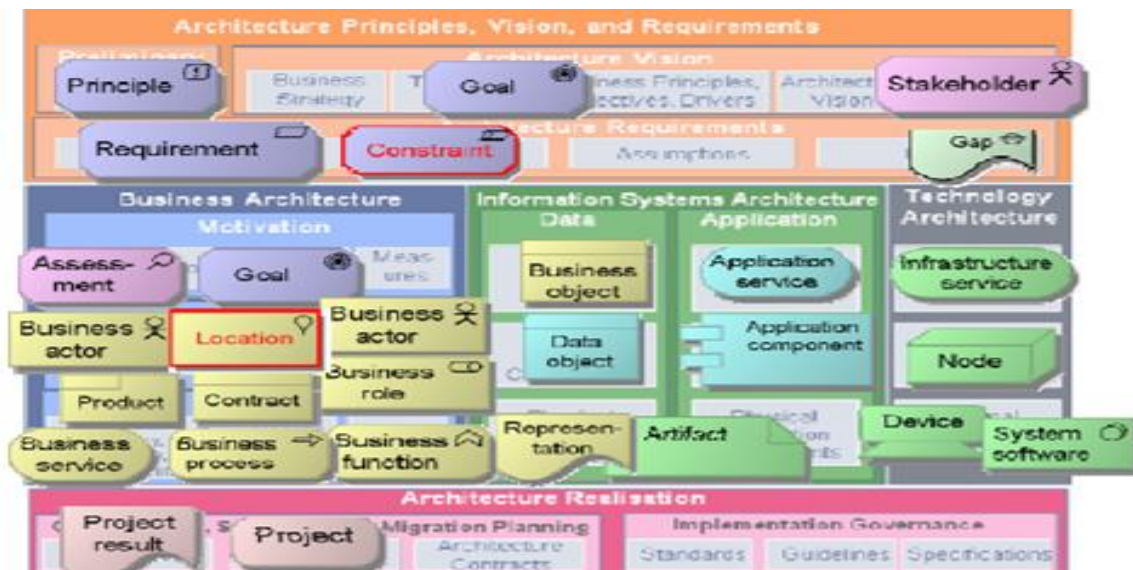
that reaches the Migration Planning stage



A plateau is defined as a relatively stable state of the architecture that exists during a limited period of time. That is, stable till it is delivered.



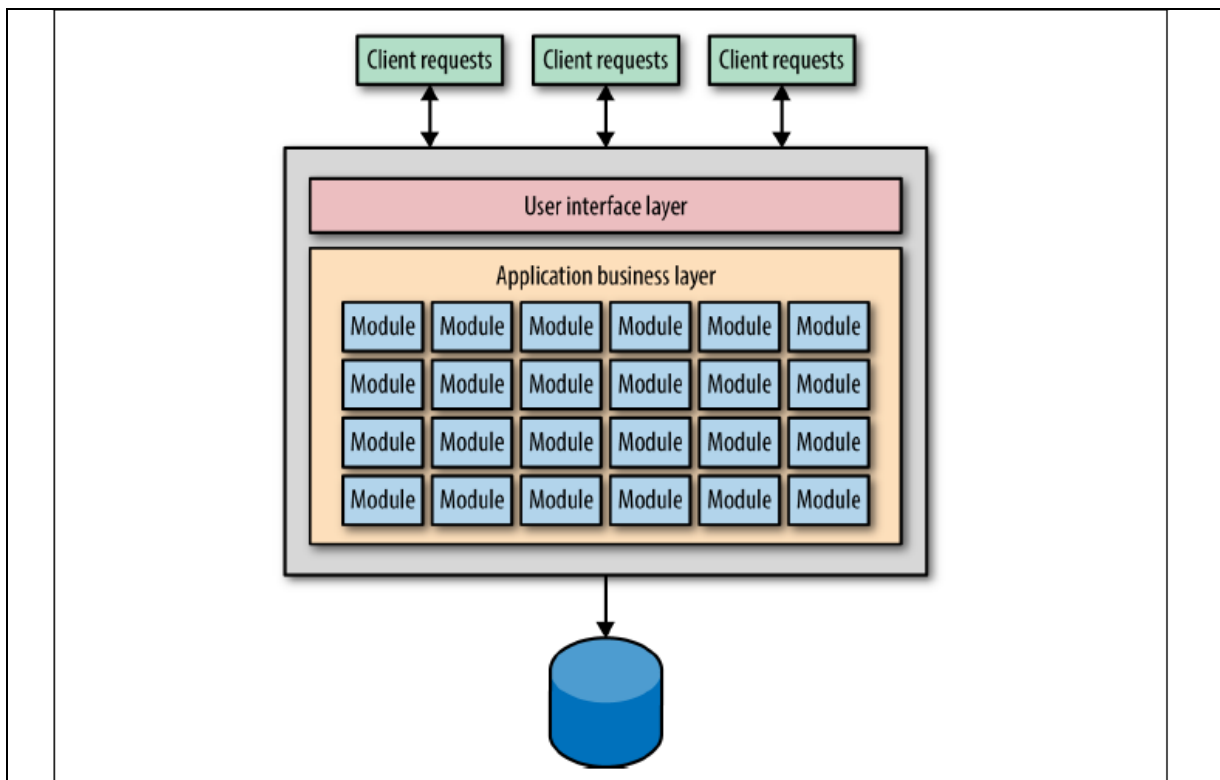
Project Viewpoint



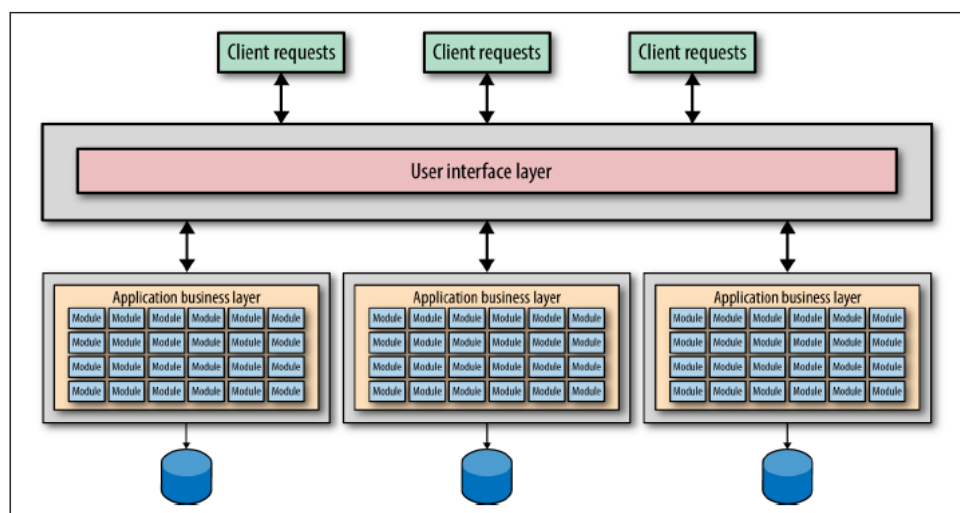
Archimate across Phases

Migration Planning							
Architecture Initiatives	Start	End	#	High level technology implementation projects/ activities	Start	End	Resource #
Architecture Initiative 1	1 Mo	10 Mo					9-11 resources
			1	Select Enterprise Portal, CM, eCommerce, Search, and Integration tool that meets your business, technical and architectural requirements	1	1	
			2	2	4	

← The table shows the template for the **Migration Plan** which details high level break-up of activities, start and end dates, and resources needed.



A monolith architecture as the starting point for migration, "share everything"



The service-based, "share as little as possible" end result of the migration