Practice Guide . . . .
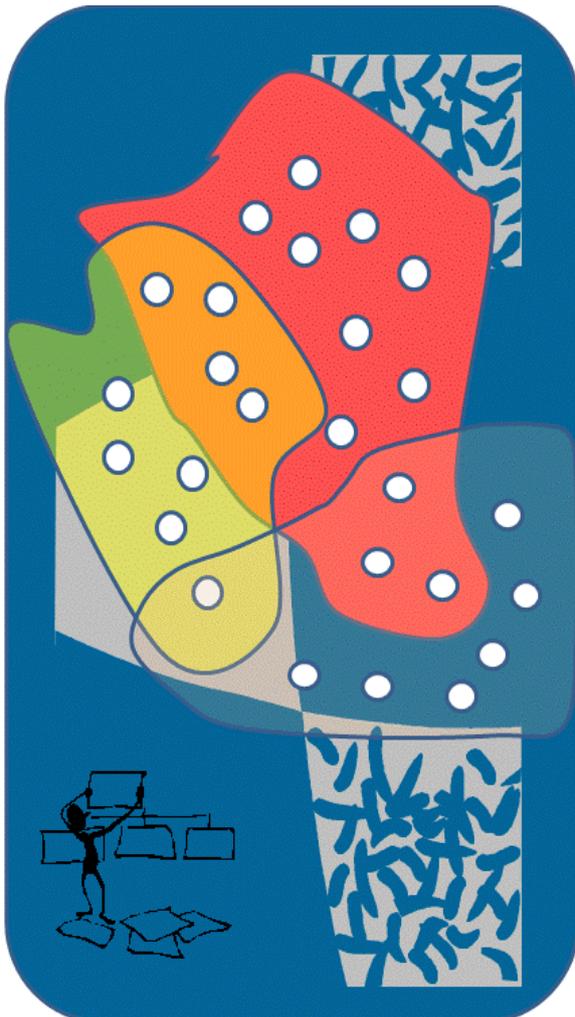## Using Capability Planning and Analysis

This report looks at various ways in which Capability Planning and Analysis might be applied in specialized scenarios and service portfolio planning.
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Independent Guidance *for* Service Architecture and Engineering

Using Capability Planning and Analysis

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Introduction

In an associated report we looked at the activities in Capability Planning and Analysis (CP&A) and considered the various types of meta data that could be collected to aid planning and decision making.

In this report we look at the various uses to which CP& might be applied.

Objectives

There are a number of business and IT objectives that drive a need for CP&A.

- **Business Improvement.** To better understand which as-is capabilities need improving and to plan the set of to-be capabilities. May result in need for Portfolio Rationalization and/or Modernization

- **Portfolio Rationalization.** To determine how capabilities – and often their implementation(s) - can be rationalized to reduce duplication and improve consistency. Providing cost savings and quality improvements.

- **Portfolio Modernization.** To identify as-is capabilities that require modernization in detail, and to plan the to-be.

- **New Venture.** To provide a logical decomposition of the capabilities required in support of a new venture, and to map which as-is capabilities might be reused.

- **Merger and Acquisition.**

    o **Pre M&A.** To determine fit. To consider if the two organizations a good match, what degree of overlap there is, or how one extends the other.

    o **Post M&A.** Portfolio Rationalization of the combined resources as above.

These objectives are likely to shape the approach taken as summarized in Table 1.

Generic Scenarios

Scenarios such as business improvement and new ventures will require a 'top down' approach. Start with the desired business and IT outcomes. Then identify the to-be capabilities that will be needed to achieve these outcomes. Then look at how the as-is capabilities meet these requirements.

Whereas, rationalization and M&A scenarios might be considered more 'bottom-up' in nature. These require an understanding of what as-is capabilities already exist, how they are realized and how they compare. Here, a bottom up approach is not only pragmatic but necessary in terms of understanding the existing portfolio and measuring duplication and consistency.

Of course these scenarios might be combined. For example, in order to support a new venture it may be decided that some M&A activity is the expedient way to take advantage of the opportunity. Or that a goal of M&A is to reduce the combined execution costs by rationalizing duplicated capabilities.

Objective	Approach	Prioritization
Business Improvement	Focus on to-be business outcomes and business value. Compare as-is and to-be. Could be scoped around business process (as in typical business process improvement initiatives)	Highest to-be value Weakest as-is performance
Portfolio Rationalization	Focus on as-is to identify opportunities for rationalization Compare duplicated as-is capabilities to identify candidates for the to-be common implementation Important to have a logical model of capabilities against which overlapping as-is capabilities can be mapped	Highest as-is cost Most inconsistent as-is Most duplicated Common or core capabilities that should be standardized
Portfolio Modernization	Use output of Business Improvement to identify to-be capabilities and as-is problem areas Analyze relevant as-is capabilities to identify more precisely the capabilities requiring modernization	Output from Business Improvement Weakest as-is performance
New venture	Focus on business outcomes and business value. Assess suitability of as-is capabilities (e.g. can as-is common capabilities be reused?)	Essential capabilities Capability gaps
Merger and Acquisition	Instead of as-is and to-be, compare organization A with B. Are the capabilities of A a good fit with B? You might be to looking to see if A is similar to B and hence a good match, or that B extends A to provide a broader offering. May be combined with rationalization	Duplicated capability Consistent capability Capability gaps

Table 1 - Capability Planning & Analysis Scenarios

Table 1 also suggests ways in which capabilities might be best prioritized in order to help reduce the scope of the CP&A activity, or at least the sequencing of deeper analysis.

Specialized Scenarios

Table 1 outlines a set of generic scenarios for CP&A. That is, the need to "improve", "rationalize", "modernize", or "merge" could be applied to many different requirements. They may be thought of as patterns.

CP&A may also be applied in more specialized scenarios. For example

- **SOA Adoption.** Determining the capabilities required to adopt SOA[1].

- **Cloud Computing Adoption.** Managing the adoption of and provision of cloud computing capabilities[2]

- **Mobility.** Determining the capabilities required to support the mobility and location independence of an organizations resource's, such as its workforce, products and services, customers, etc.

Whilst these scenarios are more specialized they are necessarily narrow in scope. These are not so much projects as programs. Programs like SOA Adoption will cut a cross section across the whole of IT, and aspects of the business. Consequently, CP&A is a useful approach to identifying the broad range of diverse capabilities required and planning their provision.

Each of these will encompass elements of the generic scenarios. For example, SOA Adoption can be seen as reusing elements of,

- **Business Improvement.** Improving the business of providing IT services to its business customers. Which requires improvements to IT capabilities and processes, and changes the way business communicates requirements.

- **Portfolio Rationalization.** IT needs to rationalize capabilities such as software development to reduce duplication of resources. It also needs to develop specialization in certain skills such as service development whose resources are effectively "shared" by solution development. (besides the more obvious need to rationalize the hardware and software portfolio as part of SOA)

- **Portfolio Modernization.** IT needs to modernize various capabilities to support new SOA requirements. For example the message bus needs to become a service bus. Application architects need to become service architects.

- **New Venture.** As the organization hasn't done SOA before, it needs to provision new capabilities that it doesn't currently possess, and may result in them providing new types of "products" to its customers – exposing services that until now have only been used internally. And that there may be risk in doing so, like any new venture.

As such, the approach required and the prioritization applied will be similar to those in table 1, but specialized towards the specific domain.

Phasing

In some cases, particularly the specialized scenarios listed earlier, the to-be view may require greater precision as to when a capability is required.

The adoption scenarios may be based on levels of maturity for example, with various capabilities mapped to each level. The as-is and to-be models may then reflect the

current and target levels of maturity respectively. In strategic cases, target levels may also be set for one year and three year horizons, and so forth.

In these cases, it may be necessary to phase the provision or improvement of capabilities, with partial delivery in phase 1, greater delivery in phase 2, and complete delivery in 3. Consequently, this will likely require a more detailed decomposition of the capability as well as a greater understanding of dependencies and their impact on phasing.

There are a number of worked capability dependency examples documented in the Knowledgebase that illustrate the phased delivery concept.

Input to the Service Portfolio Plan

> *CBDI-SAE definition of a Service: A capability offered by a provider to a consumer according to a contract.*

In CBDI-SAE we are primarily interested in how CP&A may drive SOA activities. As can be seen from the CBDI-SAE definition of a service, there is a natural synergy between CP&A and SOA. In the context of SOA service delivery, the output from CP&A is used in Service Portfolio Planning[3]: to align services with the business model:

- The capability decomposition and capability dependency models are used to identify services and service dependencies

- The ranking and prioritization in the CP&A is reflected in the prioritization of SPP activity (triage) and service delivery

In CBDI-SAE we identify a distinct architecture layer and classification for Capability Services[4]. Capability Services can be used to place the service provided by a coarse-grained capability into the service architecture, which in turn reuses various Process and Core Business Services, again as illustrated in Figure 1.
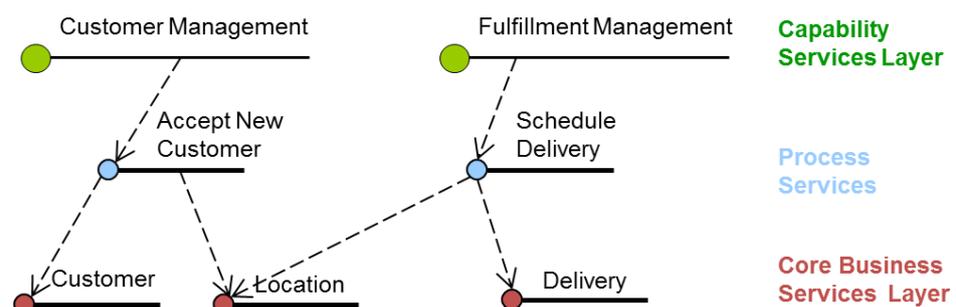

Figure 1 – Service Architecture Layers

It is common to classify these coarse-grained capabilities as independent or stand-alone, and as such they should encapsulate

- the lower-level capabilities within their decomposition

- any associated processes contained within the capability

- any resources – i.e. business types – for which they are responsible

In this case, as illustrated in Figure 2, a logical boundary applies around the set of services contained by the capability. As a consequence, cross-capabilities dependencies on services within that boundary must now be made to the capability service. The capability service now publishes a "collection" of operations that provide access to the services required outside the capability boundary, whilst hiding and encapsulating those that are only used within the boundary.
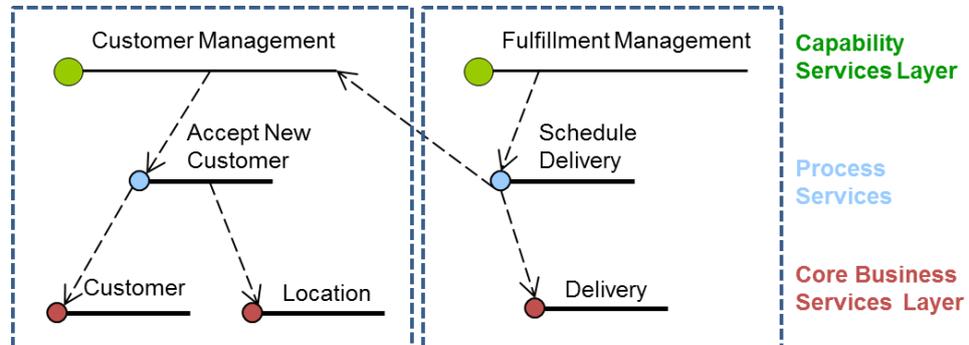

Figure 2 – Capability Boundaries

This is particularly important with regard to,

- **Outsourcing or acquisition.** When a coarse-grained capability is outsourced or acquired then it may be treated as black box. Whilst the internal service architecture may be known, not all these services or all their operations are published to service consumers. Instead the capability service is constructed as a façade, only exposing those services required outside the boundary

- **Encapsulate change.** The internal service architecture within the capability boundary can change without impacting service consumers. As would be necessary in the case of outsourced or acquired capabilities.

Summary

As discussed, CP&A is a generic technique that may be applied in various scenarios and is equally applicable to planning and analyzing business capabilities, IT capabilities, or IT's support of business capabilities.

In an accompanying report we look in greater detail at how CP&A is performed and advise on the different types of meta data that may be collected to support various objectives[5].

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[1] See SOA Adoption - Roadmap Planning Framework Update. CBDI Journal Jan 2011. http://everware-cbdi.com/index.php?cID=28&cType=document

[2] See Business Driven Cloud Strategy. CBDI Journal. Oct 2008. http://everware-cbdi.com/index.php?cID=76&cType=document

[3] Service Portfolio Planning (SPP) is the CBDI-SAE activity of managing a portfolio of services involving the evolution of the service architecture for the portfolio and the plan for service delivery. See Service Portfolio Planning for Cloud Services, CBDI Journal April 2010. http://everware-cbdi.com/index.php?cID=32&cType=document

[4] See Appendix A.1. CBDI-SAE META MODEL FOR SOA VERSION 2.0 http://everware-cbdi.com/index.php?cID=16&cType=document

[5] Capability Planning and Analysis. CBDI Journal. Oct 2011

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