



# Business Continuity Management

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SAP

# Agenda

TIMELESS BUSINESS   



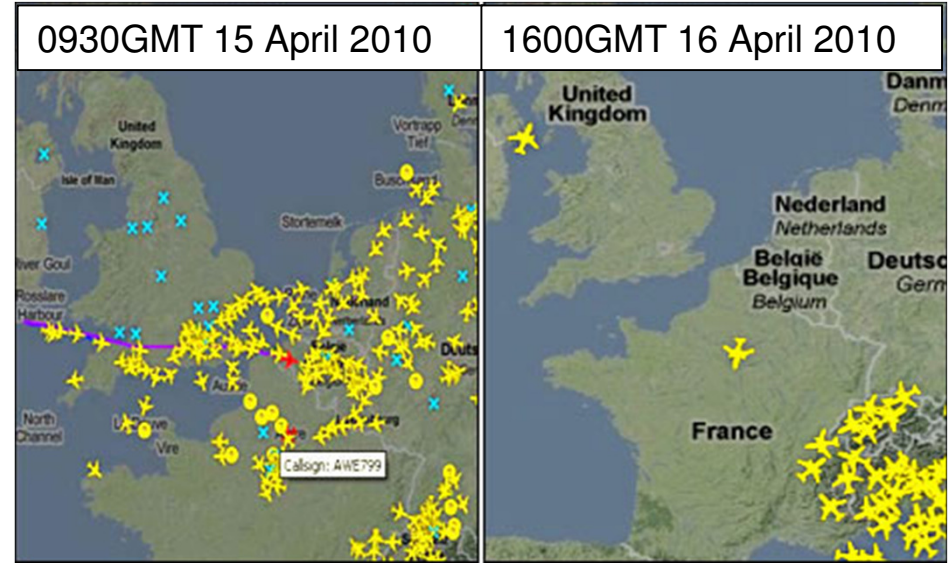
1. Business Continuity Management (BCM)
2. BCM Life Cycle
3. BCM Planning
4. BCM Scope
5. Alignment with the Organization
6. BCM - The Process
7. Business Impact Analyses
8. Business Continuity Plan
9. BCM - The TIMBUS Way

# Background

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Earthquake / tsunami and Nuclear crises in Japan



Impact of ash cloud on airline traffic



Heathrow snow – Christmas chaos in December 2010





## Financial Disasters

- “... one hour downtime of Amazon.com would cost the company 600,000 USD in revenue.... if Cisco Systems were down for a day, the company would lose 70 Million USD in revenues...” R. Nolan and F. W. McFarlan, “*Information technology and the board of directors.*” Harvard business review, vol. 83, no. 10, pp. 96-106, October 2005.

## 3<sup>rd</sup> Party/Customer Impact

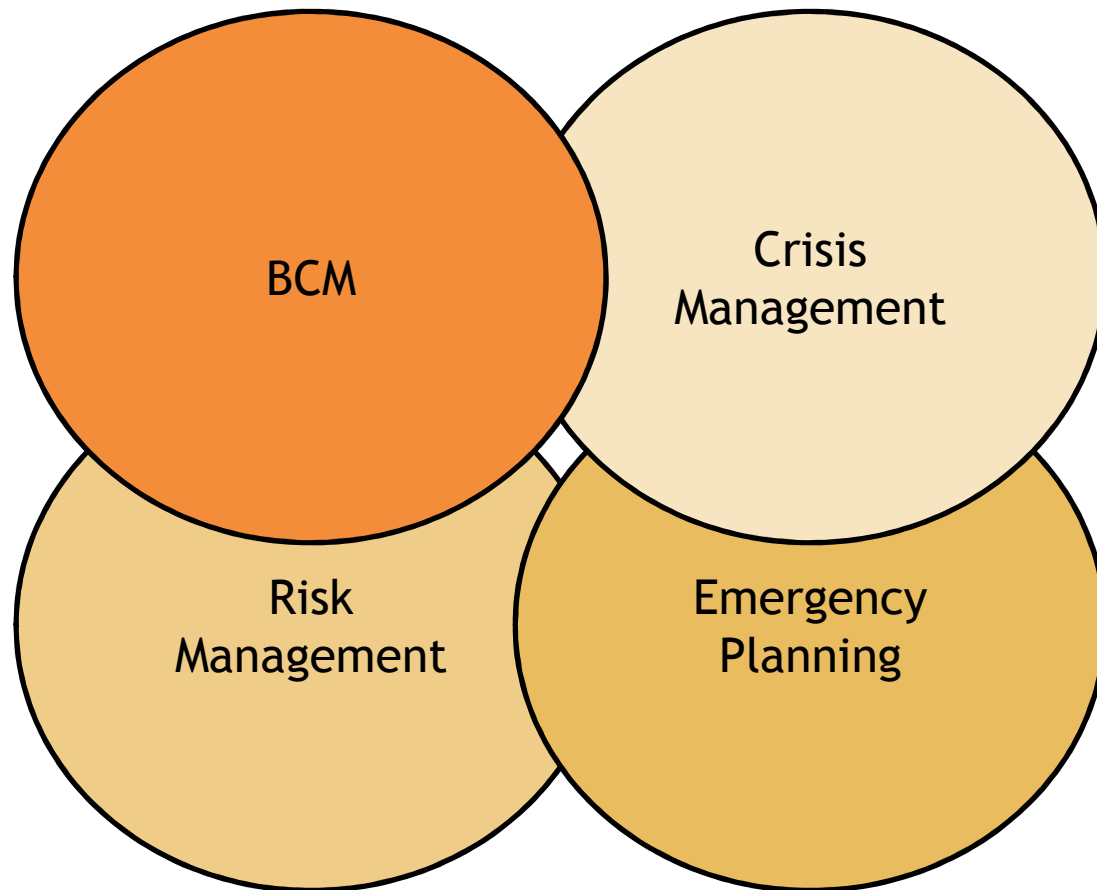
- *365 Main Datacenter*: “Power Outages In San Francisco Bring Down Major Websites: Facebook, USA Today, Craigslist, Technorati, Yelp, TypePad , Six Apart, LiveJournal and Vox”, “<http://laughingsquid.com/massive-power-outages-hit-san-franciscos-soma-district/> , July 24, 2007

## Compliance/Regulations

- *Electricity/Gas Provider*: a 4 hour downtime would cost 5 Million EUR and might result in a withdrawal of the licences to operate.” Y. Wijnia and I. Nikolic, “Assessing business continuity risks in IT,” 2007 IEEE International Conference on Systems, Man and Cybernetics, pp. 3547-3553, October 2007.

# Business Continuity Management (BCM) Origin

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- Evolved from IT and Disaster Recovery
- Identifies vulnerabilities
- Identifies information needed for risk assessment



# Business Continuity Management (BCM)

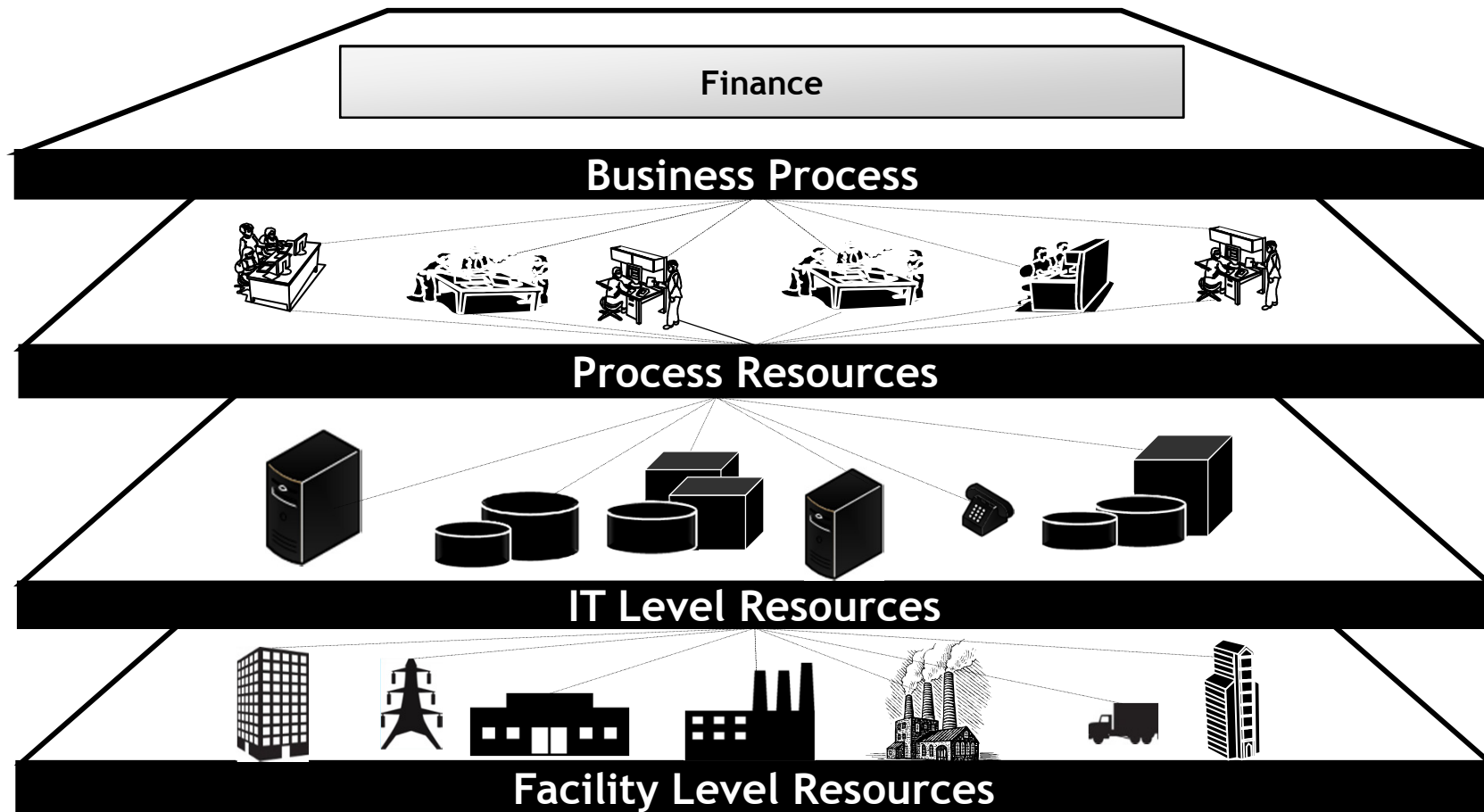
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*A holistic management process that identifies potential threats to an organization and the impacts to business operations that those threats, if realized, might cause, and which provides a framework for building organizational resilience with the capability for an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities (Smith, 2002)*

# BCM - Enterprise Business Landscape

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- BCM is about ensuring continuity for critical business processes during crisis.
- In case of crisis (a terrorist attack, a natural disaster, political unrests, IT infrastructure failure, etc.) businesses often need to continue though some critical resources might not be fully available (staff, office, IT infrastructure, transport, etc.
- Businesses need to concentrate on critical business processes and need to have business continuity plans in place to run these processes.



# BCM Life Cycle I

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# BCM Life Cycle II

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## Understanding the Organization

- Risk Assessment
- Business Impact Analyses

## BCM Strategies

- Organizational/Process/Resource level recovery strategy (recover each critical activity within its Return Time Objective (RTO))

## Developing / Implementing BCM plans

- Business Continuity Plans
- Resource Assignment
- Resource recovery and solutions plan

## Exercising, maintenance and audit

- BCM Exercise / Assessing BCM arrangements and identifying improvements to be made

## Embedding a BCM culture

- Awareness, training and culture

# BCM - Objectives

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- Availability is the main focus
  - Plan is based on “All Hazards” approach
    - It means that it should be applicable to any disaster, and consider “generic” **unavailability**.
- Rather than preparing for specific disasters, the efforts are focused on the mitigation of impacts
  - Unavailability of infrastructure
  - Unavailability of people (human resources)
  - Unavailability of facilities (Offices, data centers)
  - Unavailability of 3rd parties (Vendors / suppliers)
  - Every disaster brings one or more of these impacts

# BCM - People and Infrastructure

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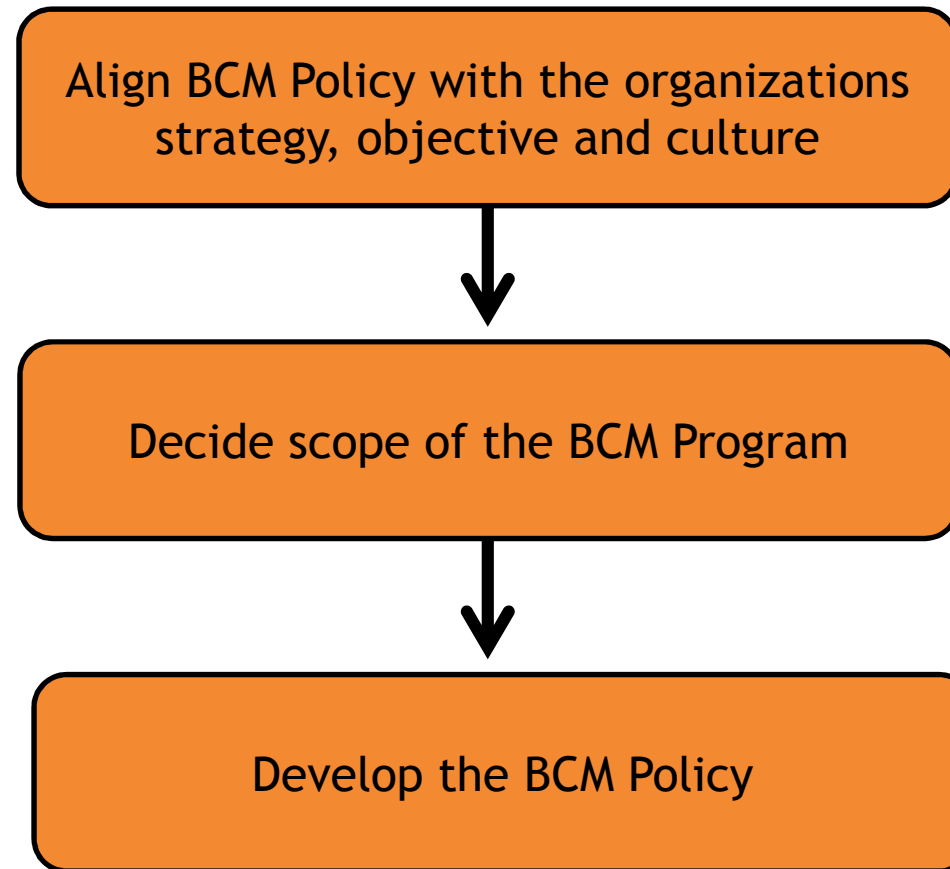
- BCM is relevant to all departments supporting critical services and landscapes
- Critical process / service owners should develop and maintain Business Continuity plans
- Critical systems and landscapes must have sufficient redundancy measures so they can sustain satisfactory operations during the disaster
- Critical processes / data must be stored and processed securely, and it must be backed up or mirrored on the regular basis



**Digital Preservation**

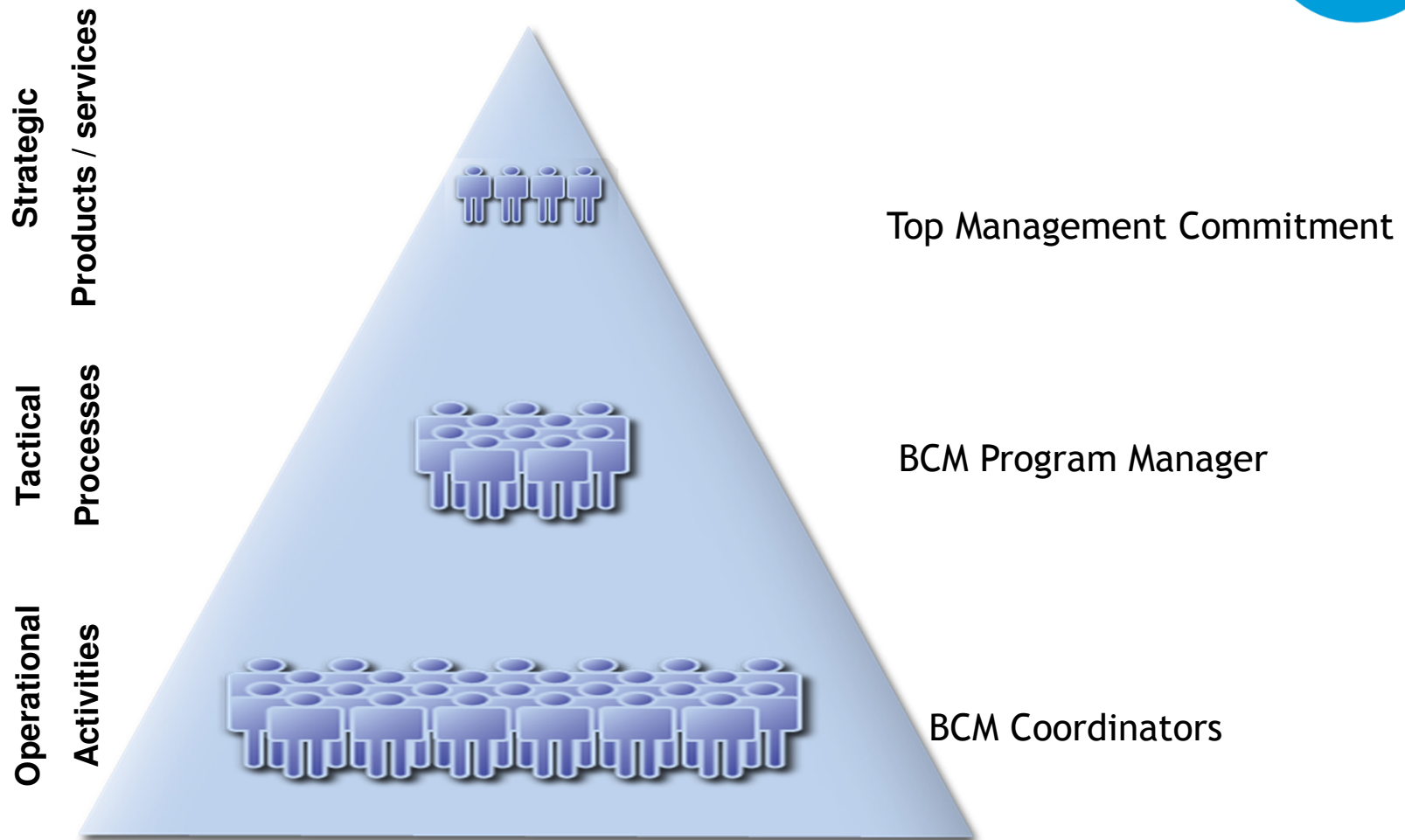
# Business Continuity Policy

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# BCM - Alignment with Organization I

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## Embedding in the organization culture

- Success depends on
  - Integration with management
  - Alignment with priorities
  - Should not be a stand alone project

# BCM - Defining Scope I

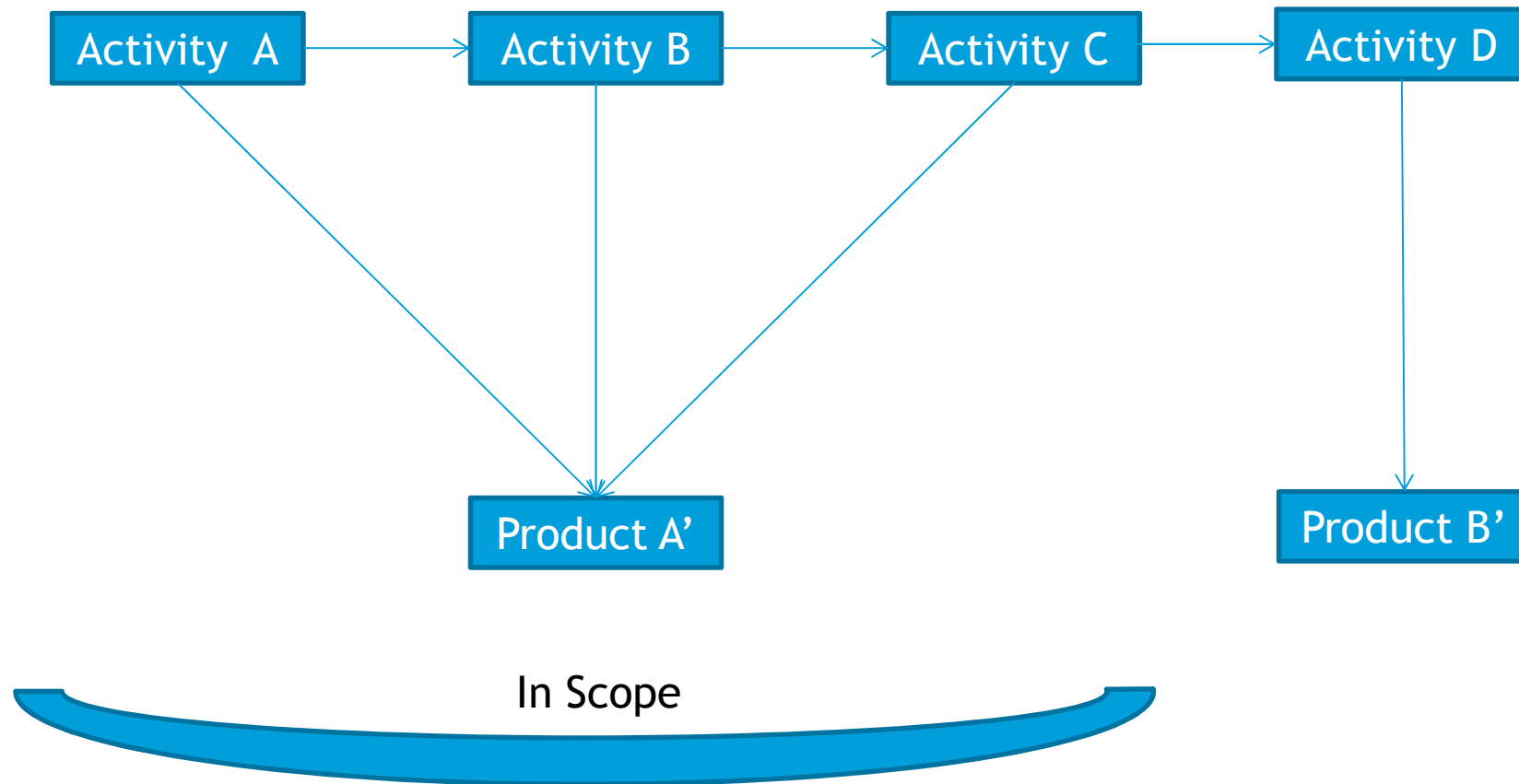
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- What is to be included?
  - Products and services
  - Locations
  - Scale / intensity of the incident
- High level Business Impact Analyses (BIA) can help

# BCM - Defining Scope II

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## BIA is the foundation of BCM

- Identification of critical parts of business
- Identification of threats endangering the business operations as a whole - e.g. a physical disaster
- Analysing the impact of a disruption
  - quantifying and qualifying losses
- Prioritization of business processes
- Provision of data for selecting strategies

# BIA - Identifying Critical Processes

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Criticality depends on:

- Time a process can be unavailable without major consequences
- Service level/quality implications of process delay
- Financial/reputational implications of process delay
- Legal/compliance implications of process delay

# BIA - Impact Assessment

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Documenting the impact over time for each activity / service / product for the following aspects

- Financial
- External - Customer satisfaction
- Legal / regulatory requirements or contracts
- ---

Identification of dependencies



# BIA - Impact Table

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Down Time	Financial	Legal	External	Severity
0h	\$0.00	None	None	0.0
4h	\$1,000.00	Low	Low	6.0
8h	\$1,000.00	Medium	High	16.0
2d 0h	\$1,000.00	Mega	Mega	58.0
3d 4h	\$0.00	Low	Low	2.0



## Maximum Tolerable Period of Disruption - also known as Maximum Allowable Outage

- Length of time the business can bear the disruption?
  - Time after which viability is threatened
- Estimate of the tolerance of the customers / regulators to allow the business to continue
  - MTPD for each individual service/product/activity
  - Seasonality and Variability
    - End of a quarter, end of a financial year



Recovery Point Objective or RPO is all about what is needed to resume production and delivery of goods & services

- the acceptable latency of data that will not be recovered - amount of data that an organization can afford to lose
- Point in time to which systems/data must be recovered after a disaster has occurred.
- The recovery point objective must ensure that the maximum tolerable data loss (MTDL) for each activity is not exceeded.



## RTO - Return Time Objective

- Maximum acceptable time that can elapse before the lack of a business function severely impacts the organization.
- Maximum agreed time for the resumption of the critical business functions.
- Maximum time customer is willing to wait till they move to the competitor.
- The recovery time objective has to be less than the MTPD



## RTO & MTPD

- The shorter the RTO, the greater the costs
- The closer the RTO is to the MTPD the greater the chance that recovery will not be achieved

# Business Continuity Plan

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Also called disaster plan or recovery plan

- Documentation of procedures developed, compiled and maintained in readiness of use in an incident to enable an organization to continue at an acceptable level.
- elaborates on how to operate critical business processes on a pre-determined minimum acceptable level by using an alternative process.
- how to recover the affected business process or the affected components back to normal operations.





## Recovery strategies

- Standby
  - Hot Standby - already operational
  - Cold Standby - not operational
- Diverse Sites
- Replication
- Do Nothing
- Subcontracts
- Subscription services
- Mutual aid agreements
- Insurance



## Diverse Sites

- Suitable for RTO measured in minutes
- Expensive



Both Live

**Slide 28**

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**GW1**

DP Example to be added

Gilani, Wasif, 10/09/2012



## Replication Sites

- Could be a 3<sup>rd</sup> party facility
- Suitable for RTO measured in less than a day
- Staff willing to work elsewhere



One site dormant



## Standby - Moving the people

- May be a 3<sup>rd</sup> party facility , operational at a short notice
- RTO greater than a day
- Staff willing to work elsewhere

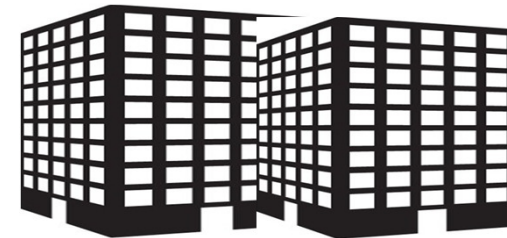
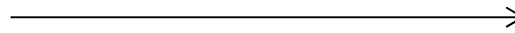
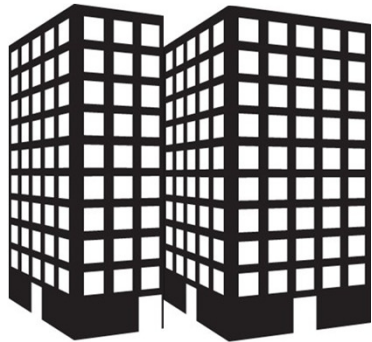


On cold standby



## Subcontract - outsourcing activities

- Arrangement made in advance
- For products / services with shorter RTO
- Suitable for manufacturing
  - designs at subcontractor



Sub contracting

# BCM - Redeployment Strategies

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## **Lists - List of organizations able to supply at short notice**

- Arrangement made in advance
- When RTO in days or weeks
- Not appropriate for specialists



# BCM - Redeployment Strategies

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## Do Nothing - Waiting mode

- Arrangements decided after the incident
- When RTO in months
- Not appropriate for specialists



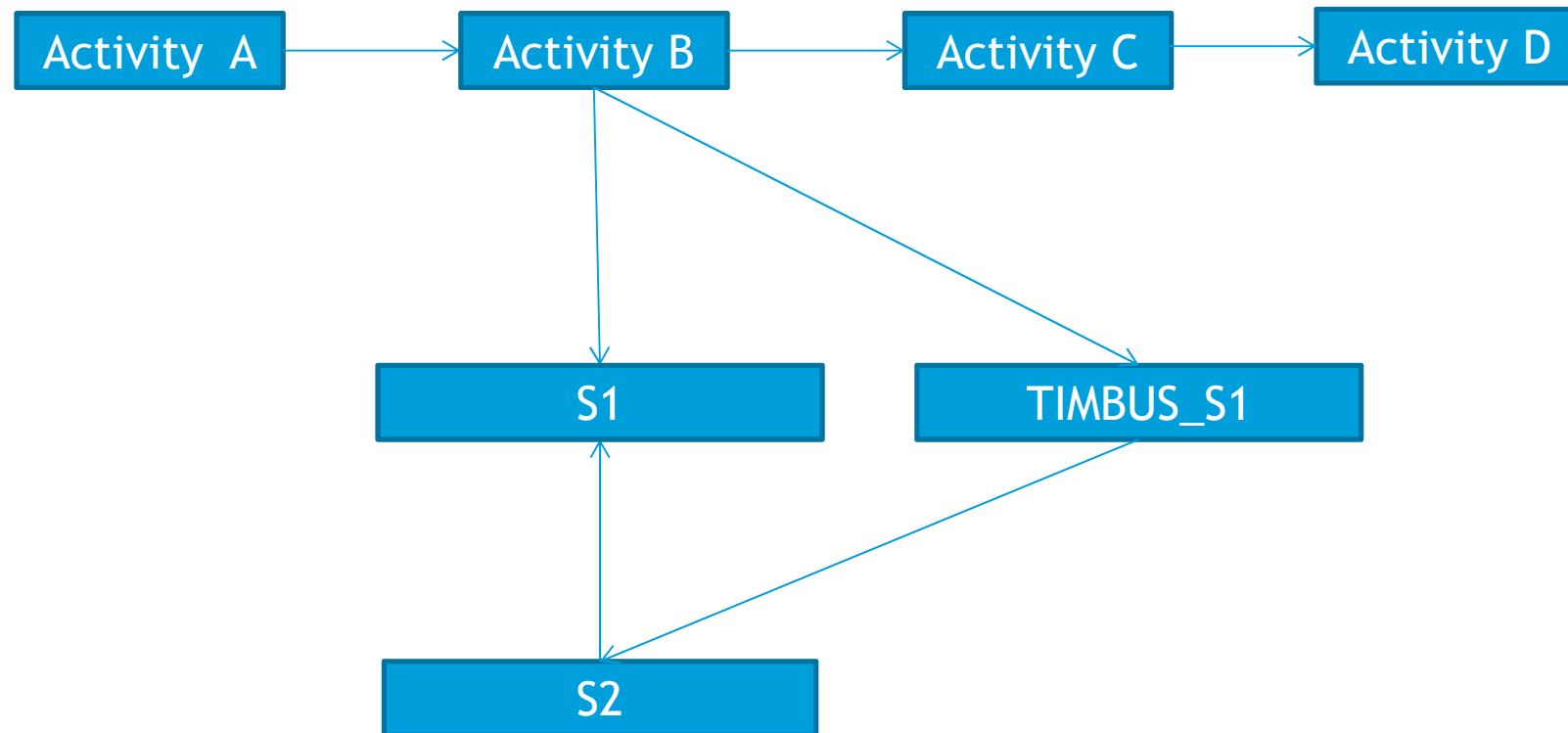


# BCM - Technical Redeployment Strategies

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Digital Preservation -> Cost of Risk vs Cost of mitigation

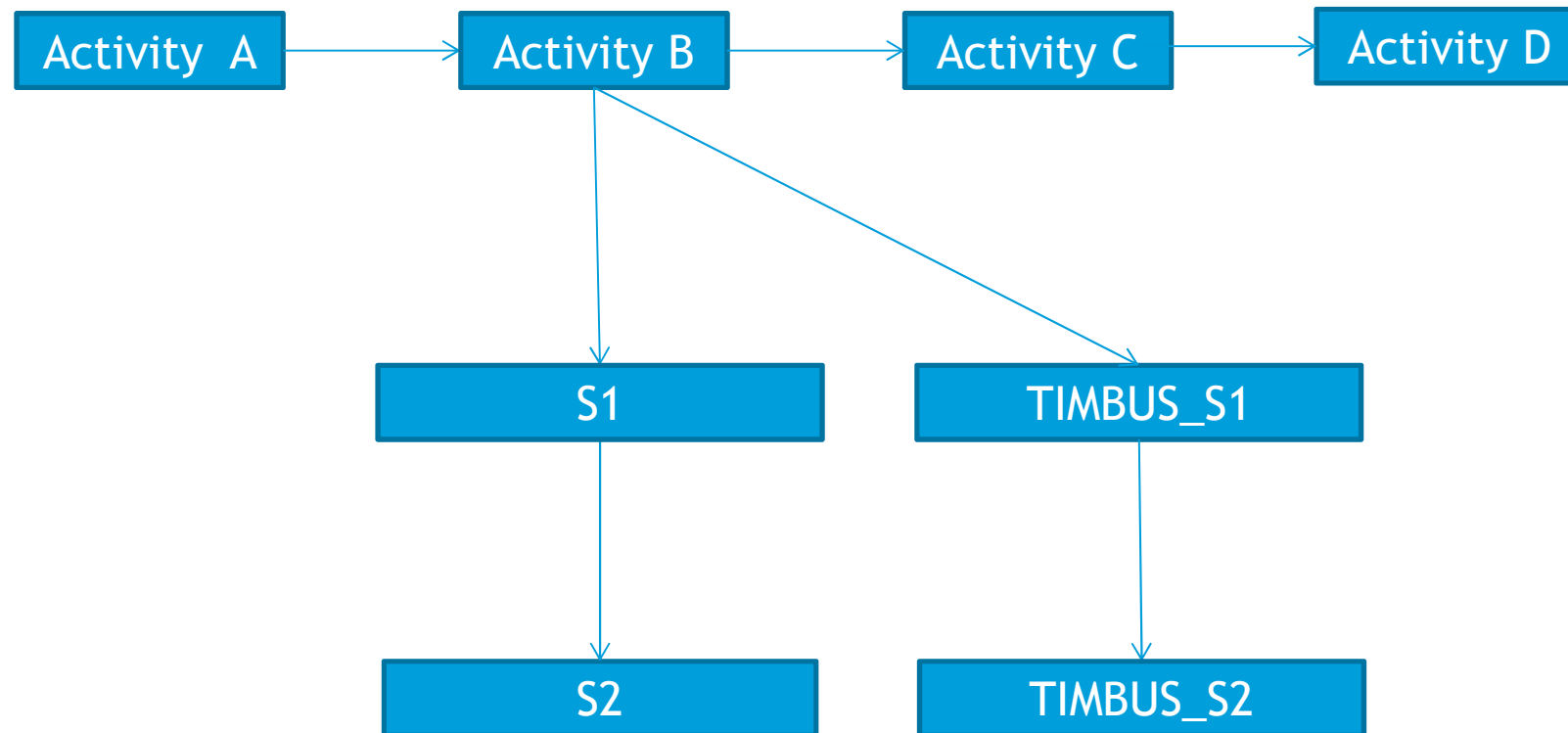


# BCM - Technical Redeployment Strategies

TIMELESS BUSINESS ◀ ● ▶



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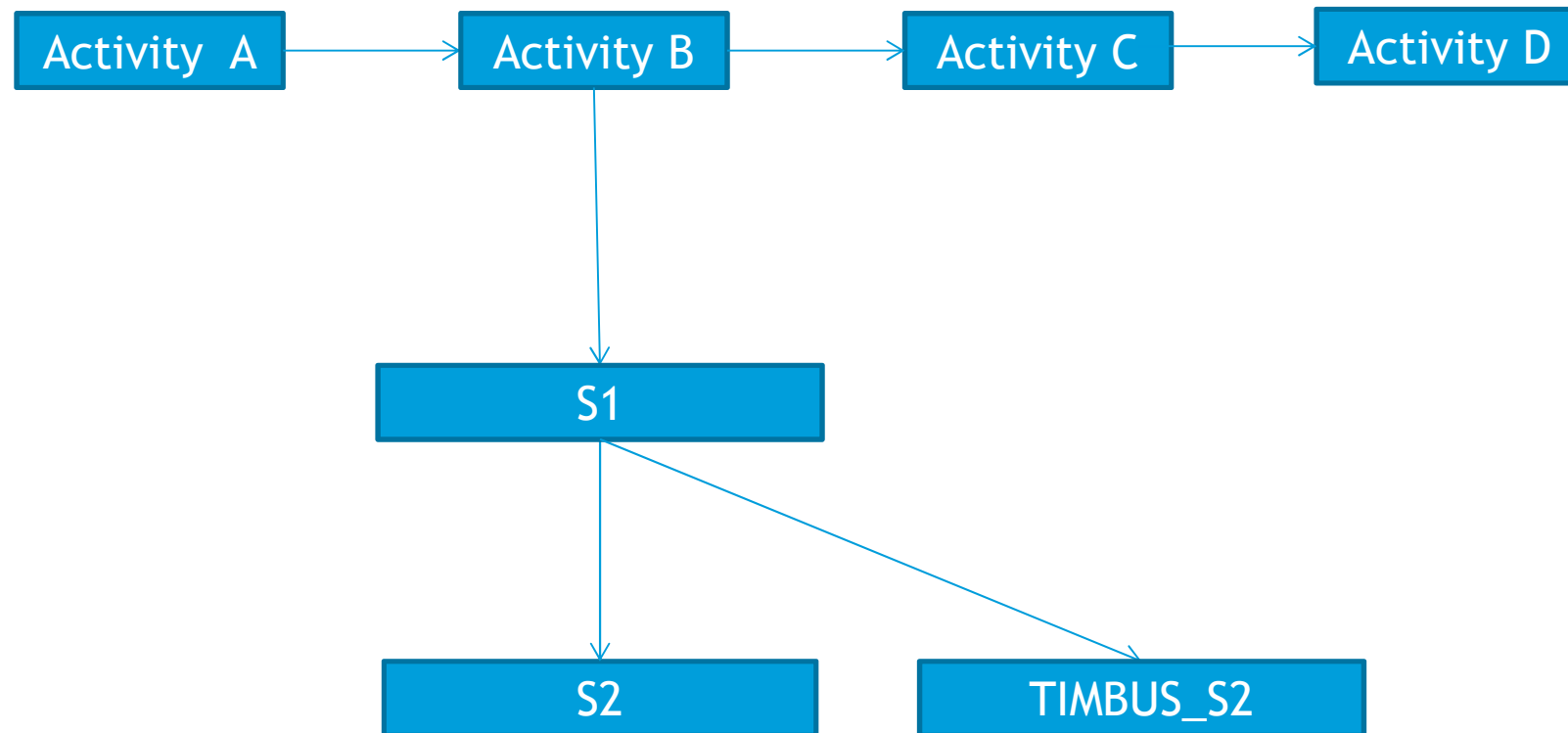


# BCM - Technical Redeployment Strategies

TIMELESS BUSINESS ◀ ● ▶



Digital Preservation -> Cost of Risk vs Cost of mitigation



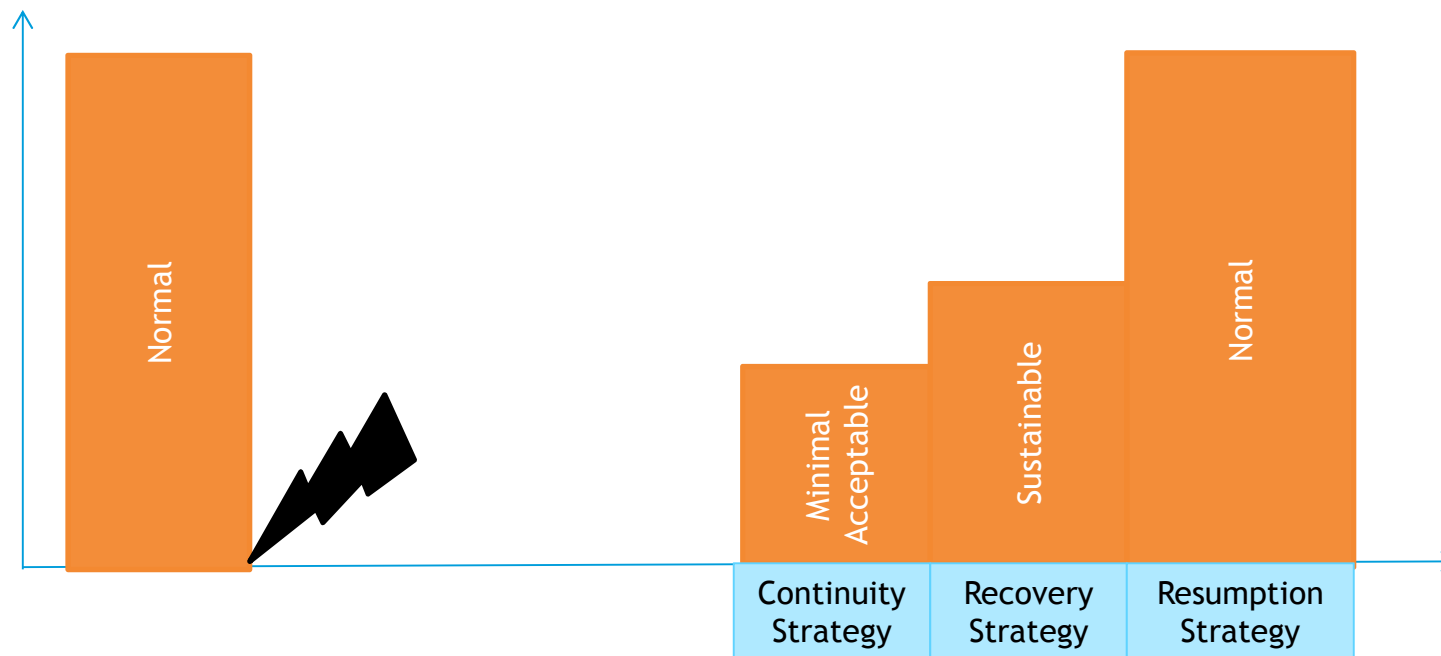
# BCM - Recovery Strategies

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Three phases that may need to be considered when identifying and selecting strategies:

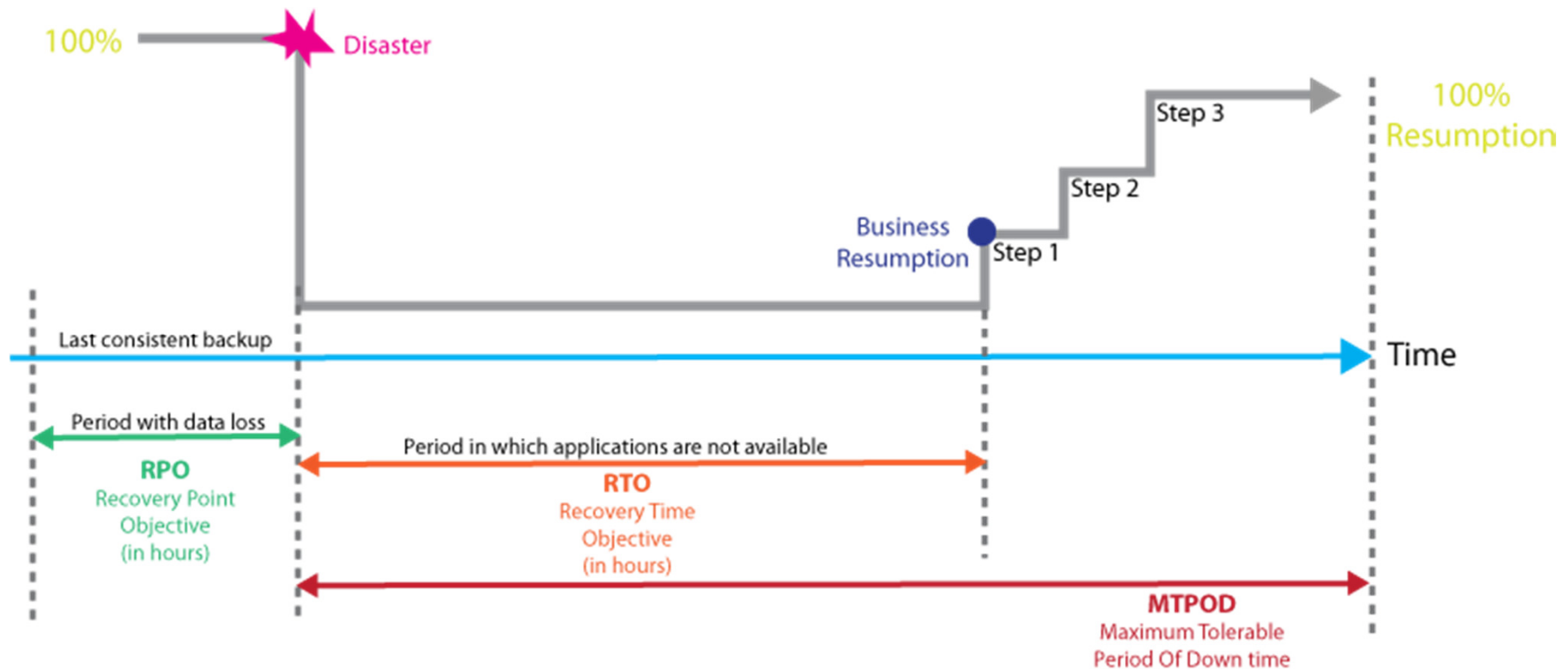
- Continuity - to an initial acceptable level
- Recovery - to a sustainable level
- Resumption - back to the normal level



# BCM - Redeployment Strategies



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# Standards for BCM

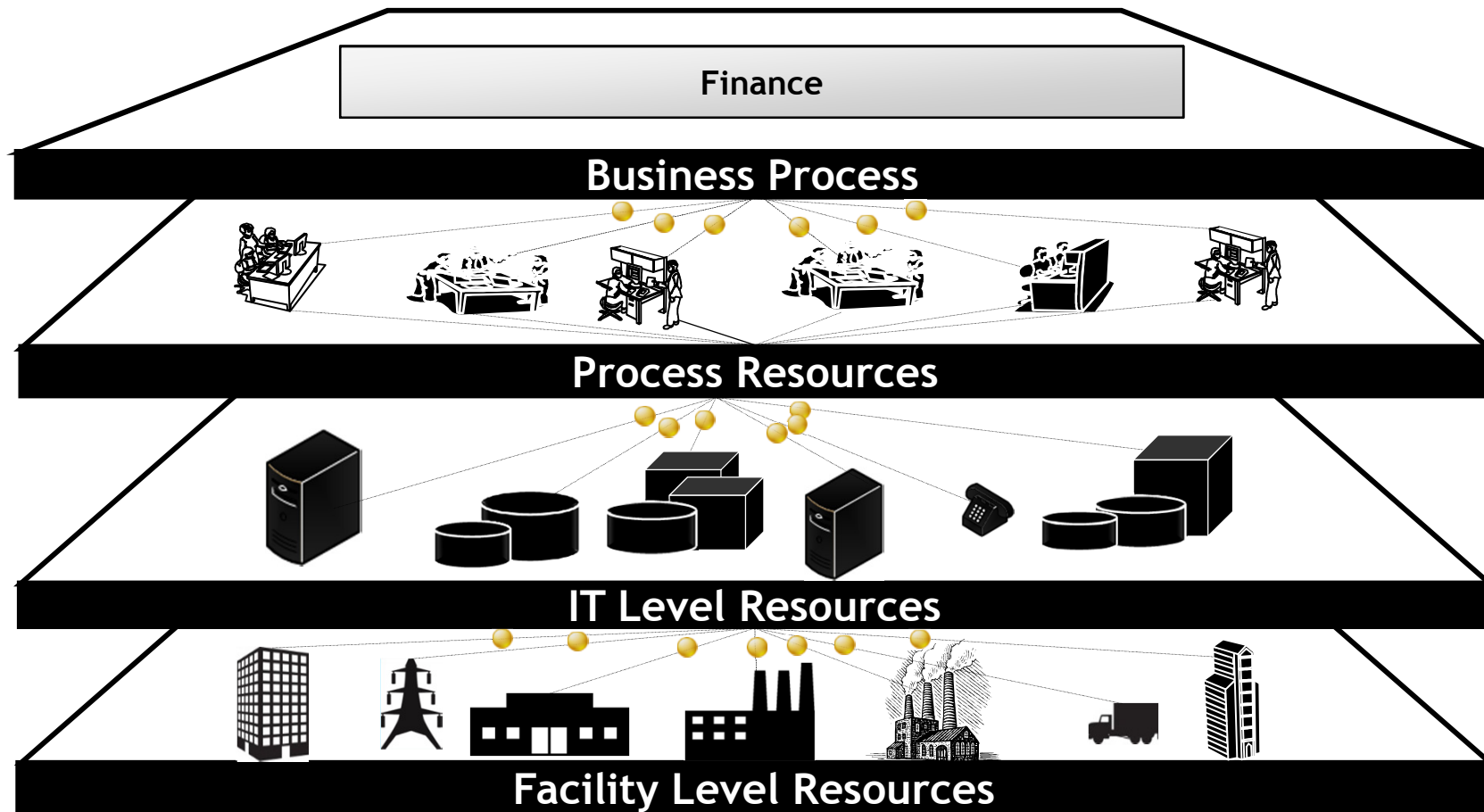
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- BS 25999
- Others in Singapore, Australia, USA
- ISO 22301

# BCM - The Traditional Way

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# BCM - The Traditional Way

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Current Way

1	Management Executive	Risk Title	Risk Id	Glob. Owner	Before Total Loss	Before Exp. Loss	Impact Class	Glob. O
2	James Crawford	Loss or Power Outage in Data Centres	1833	43.750.000,00	4.375.000,00	Cost:Internal		
3		Construction works	44602	10.000,00	6.000,00	Rev.: Future		

**Business Impacts:**

Which direct operational impacts will the disruption of your process have?  
(set of impact types given in matrix, evaluation of each impact type with predefined scale)

weight	>8 hours	>1day	>2days	>1week	>1month
Market share					
reputation					
legal					
contractual					
regulatory					
Customer service					
Goodwill					

Rating:  
N=None  
L=Low  
M=Medium  
H=High  
S=Severe

Which direct financial impact will the disruption of your process have?  
(set of financial thresholds and financial impact types given in matrix)

weight	>8 hours	>1day	>2days	>1week	>1month
Damaged Assets					
Penalties					
Fines					
Lost revenue					
Deferred income					
Add. Expenses					
lawsuits					

Rating:  
1: up to 10 T€  
2: up to 100 T€  
3: up to 500 T€  
4: more than 500 T€

Does these impacts vary/get more severe the longer the disruption lasts?  
(impact evaluation matrix holds columns with different durations)

Are there specific point of times the impacts can be higher?

Do you fear indirect or cumulative financial impacts that should be determined by somebody else?  
(e.g. processes that are successors to your process)

**Evaluation:**

Which risk(s) do you see if your process is interrupted?  
(written description)

**Finance Business Process dependencies**



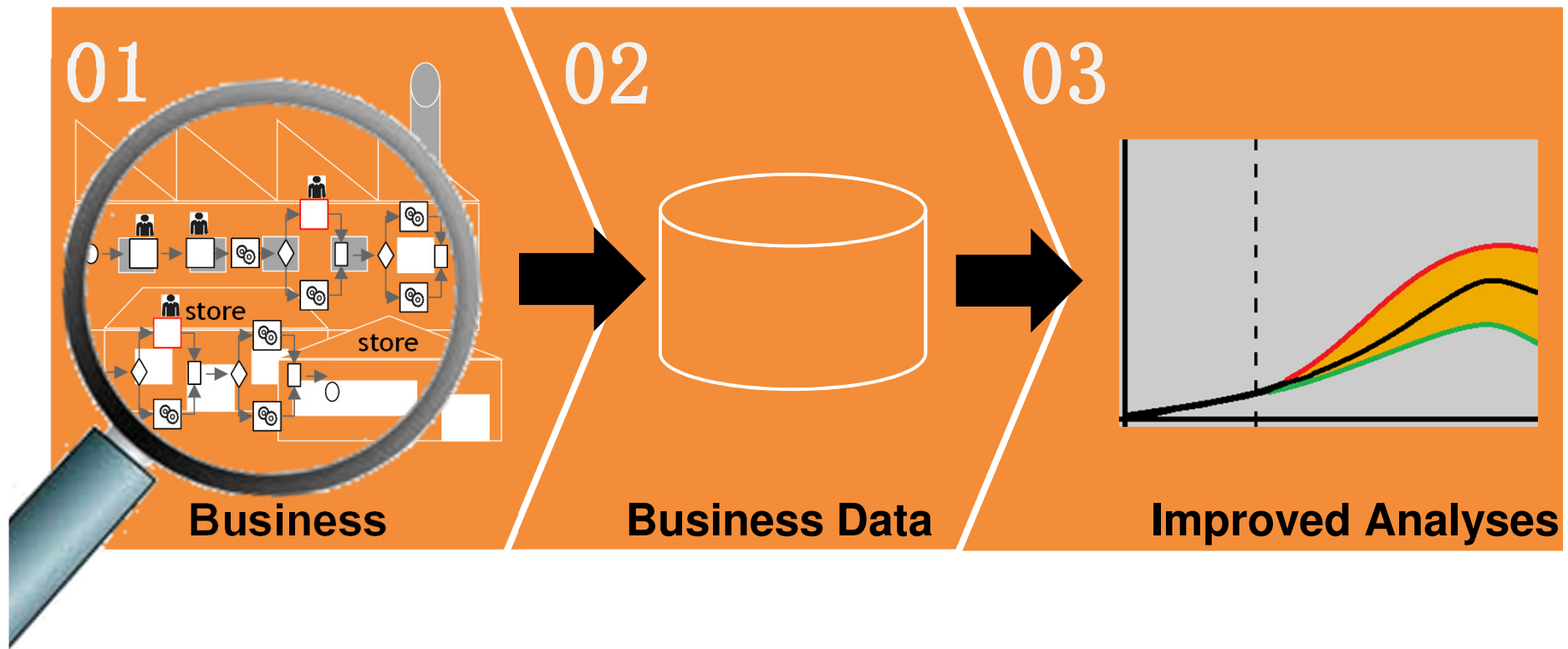


# BCM - The TIMBUS Way



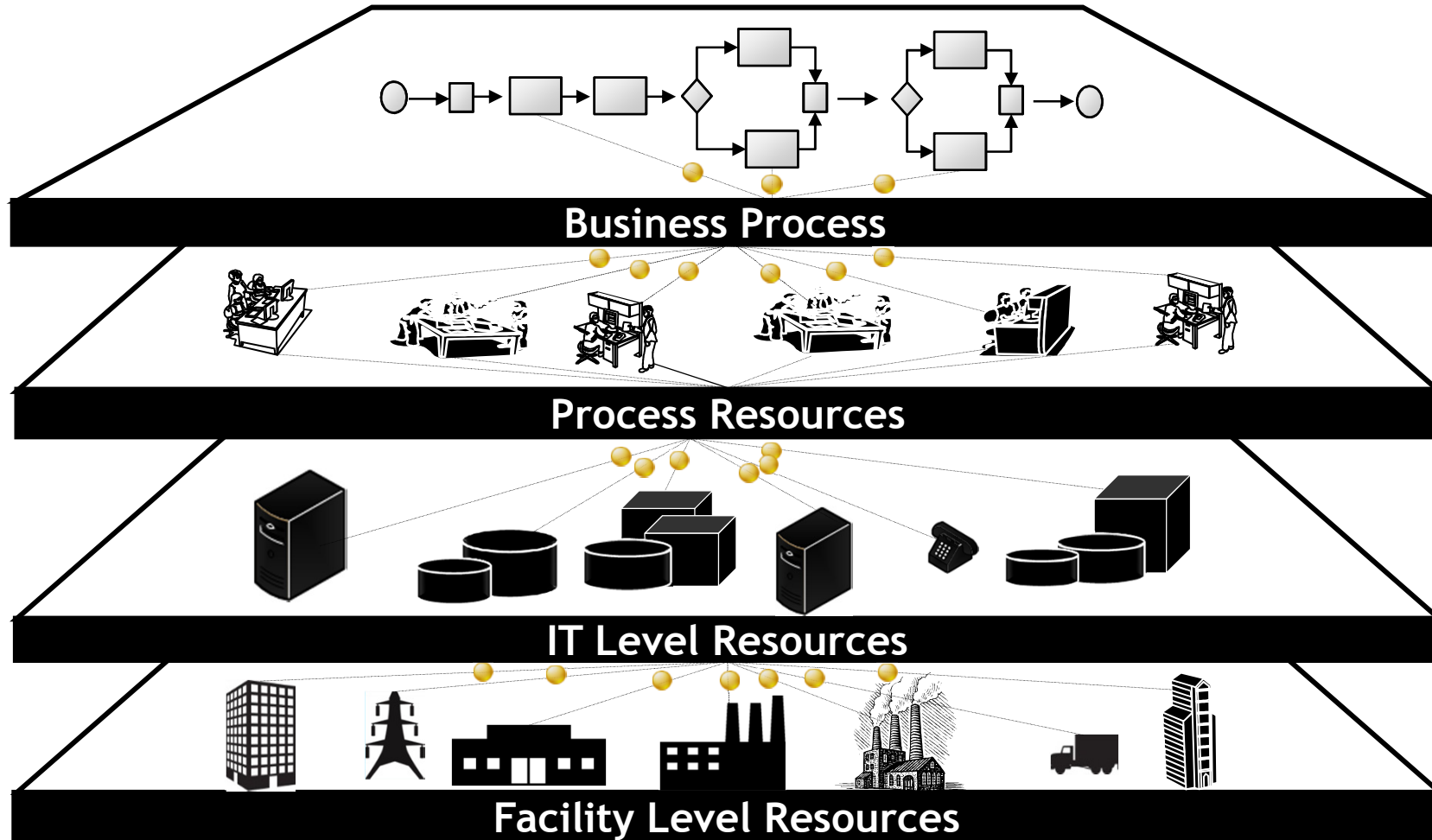
# BCM - The TIMBUS Way

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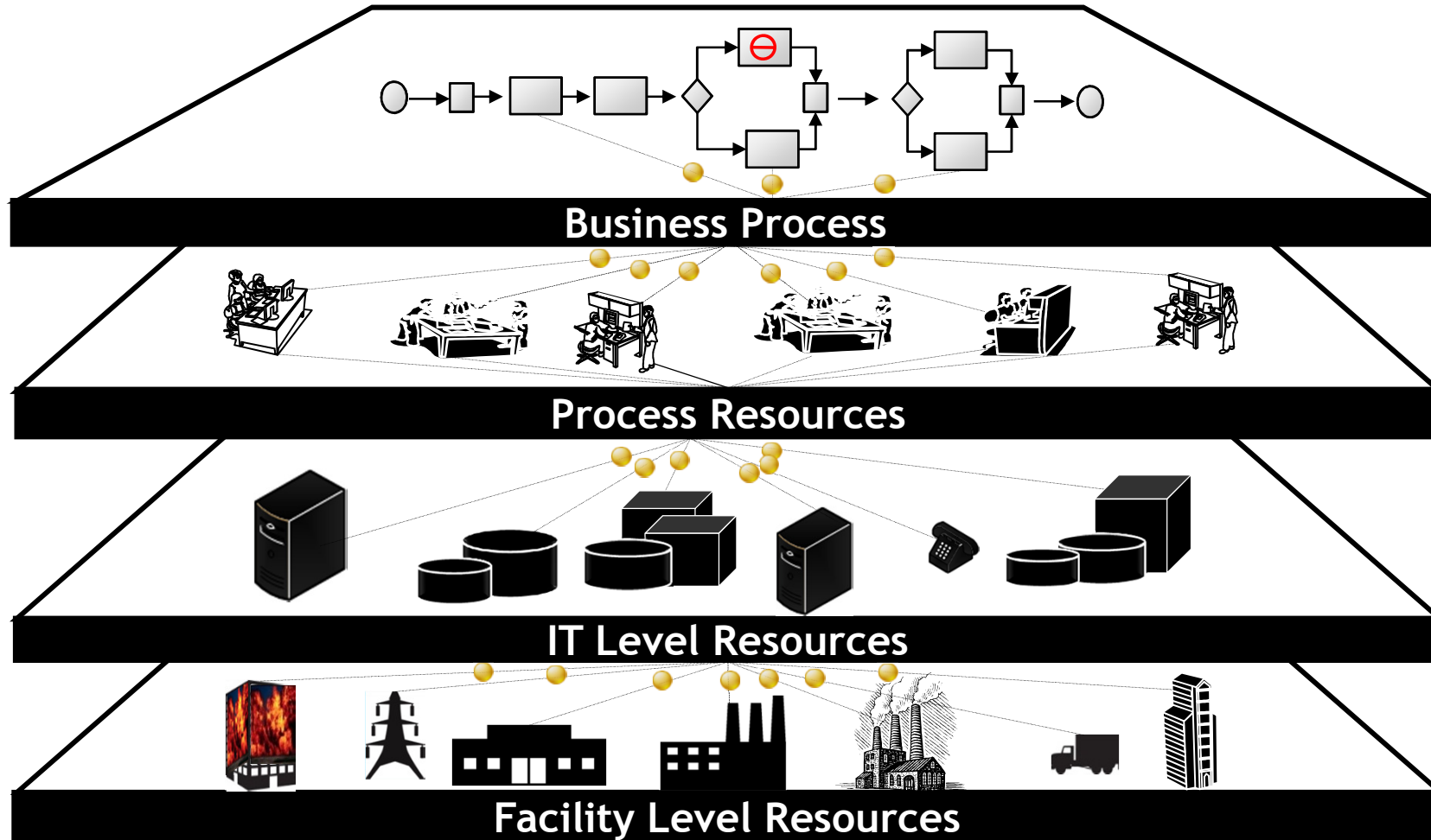
# Process-Oriented BCM I

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# Process-Oriented BCM I

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# Process-Oriented BCM II

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Judgement day - will your business survive?

## Dependency Analysis / Risk Analysis (DA/RA)

- Identify resources, threats
- Dependencies between services
- Risk assessment

## Business Impact Analysis (BIA)

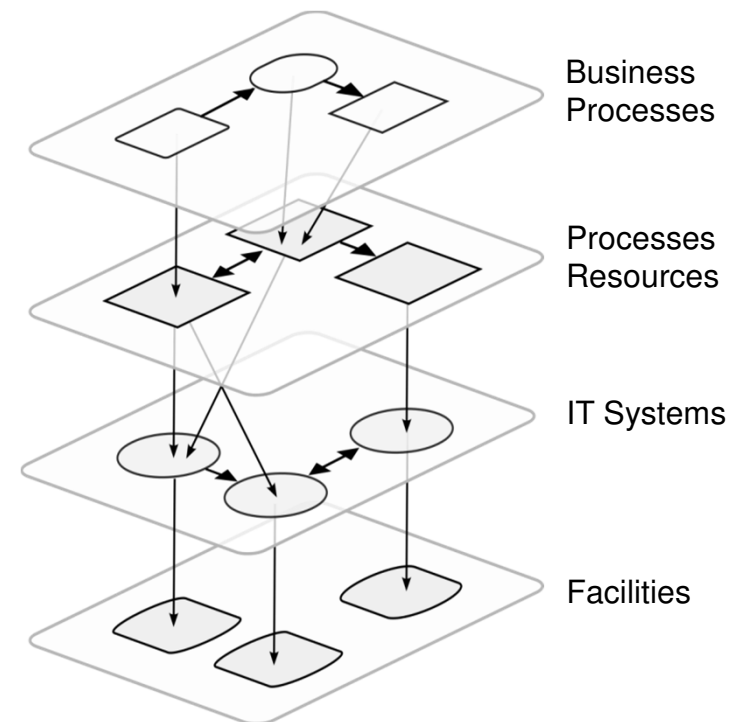
- Financial / nonfinancial losses,
- Legal consequences

## Process metrics translation to services requirements

- Maximum Tolerable Outage Time
- Return Time Objective of Services, ....

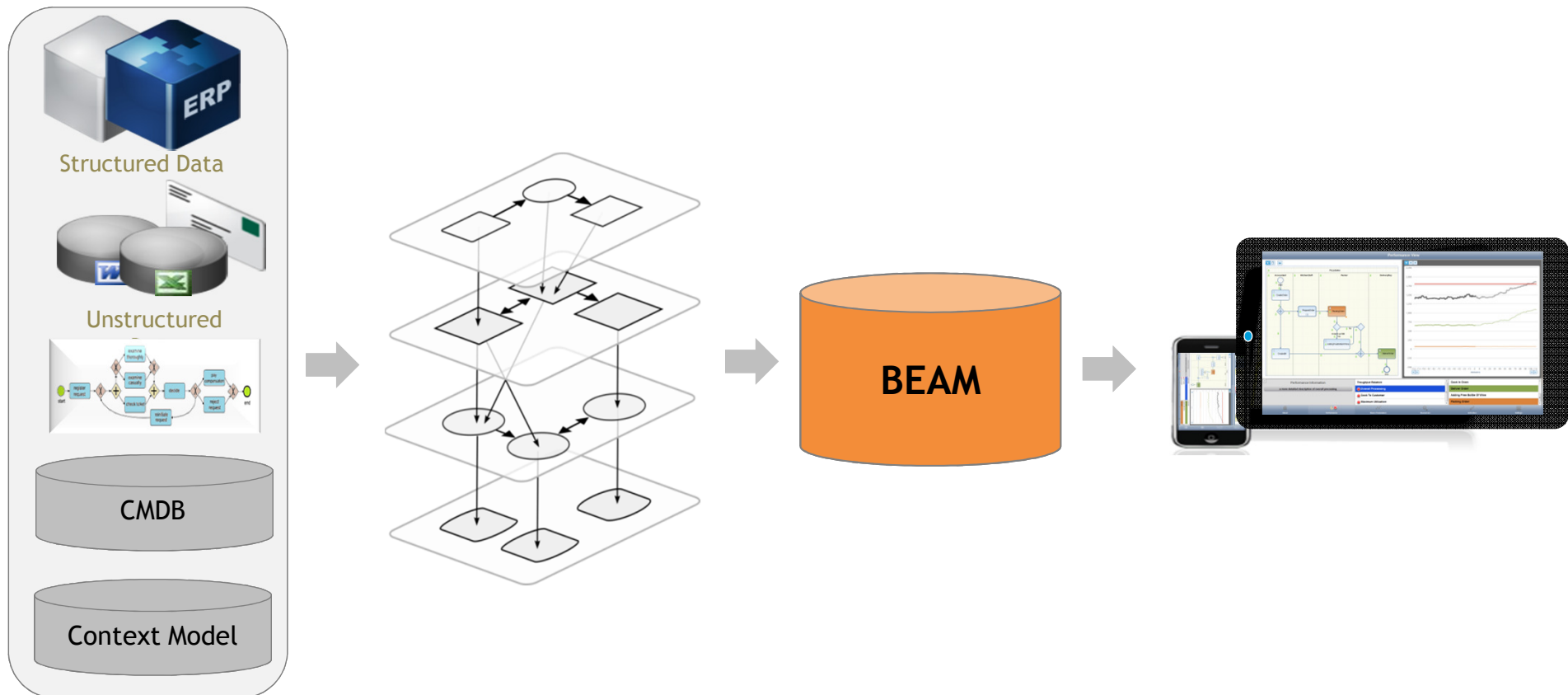
## Mitigation Strategies / Recovery Plans

- Resource Assignment
- Recovery plans



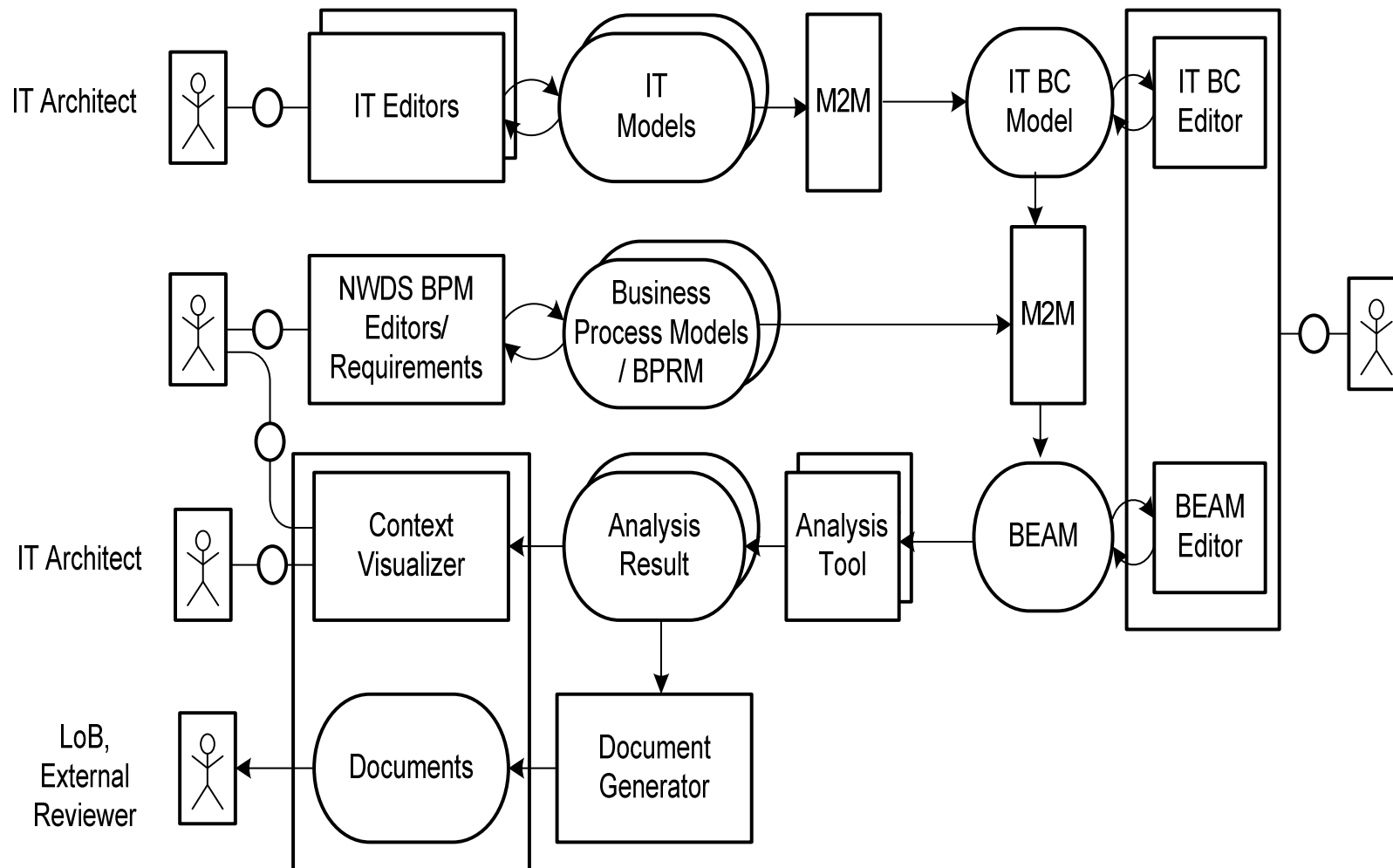
# Process-Oriented BCM - Technical Overview

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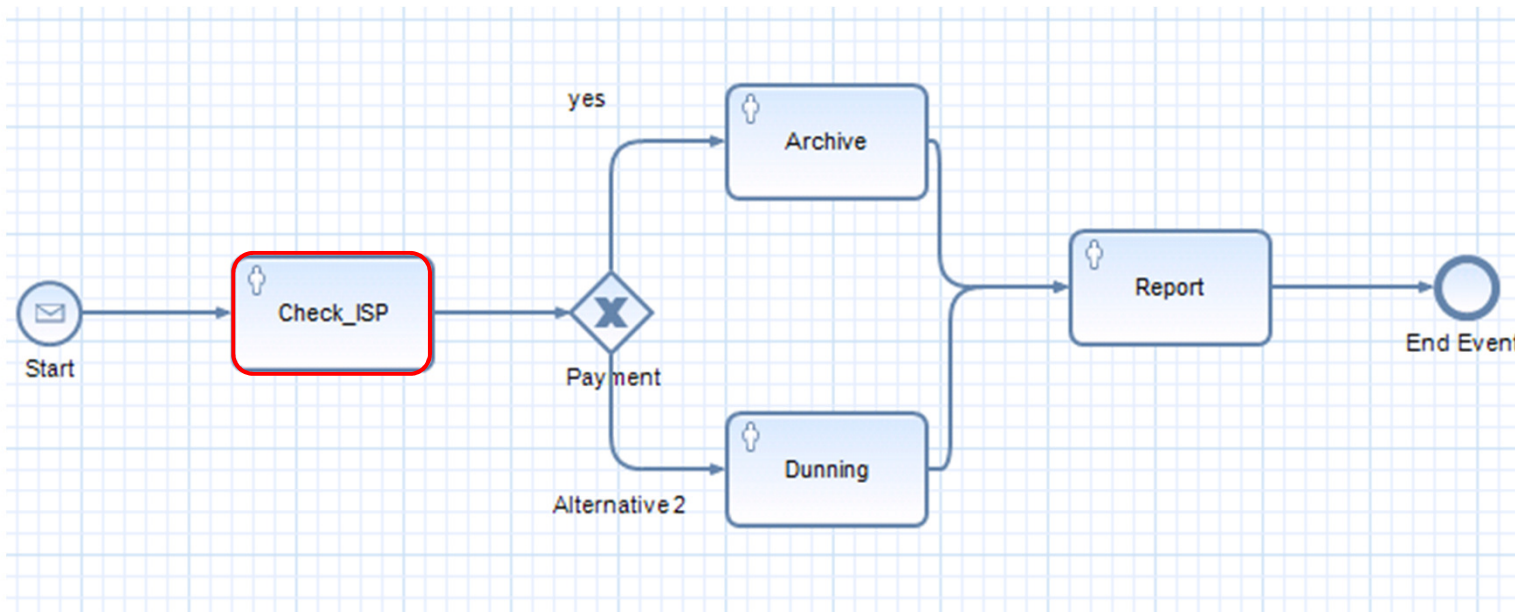
# Process-Oriented BCM - Technical Overview

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# Process-Oriented BCM - BIA

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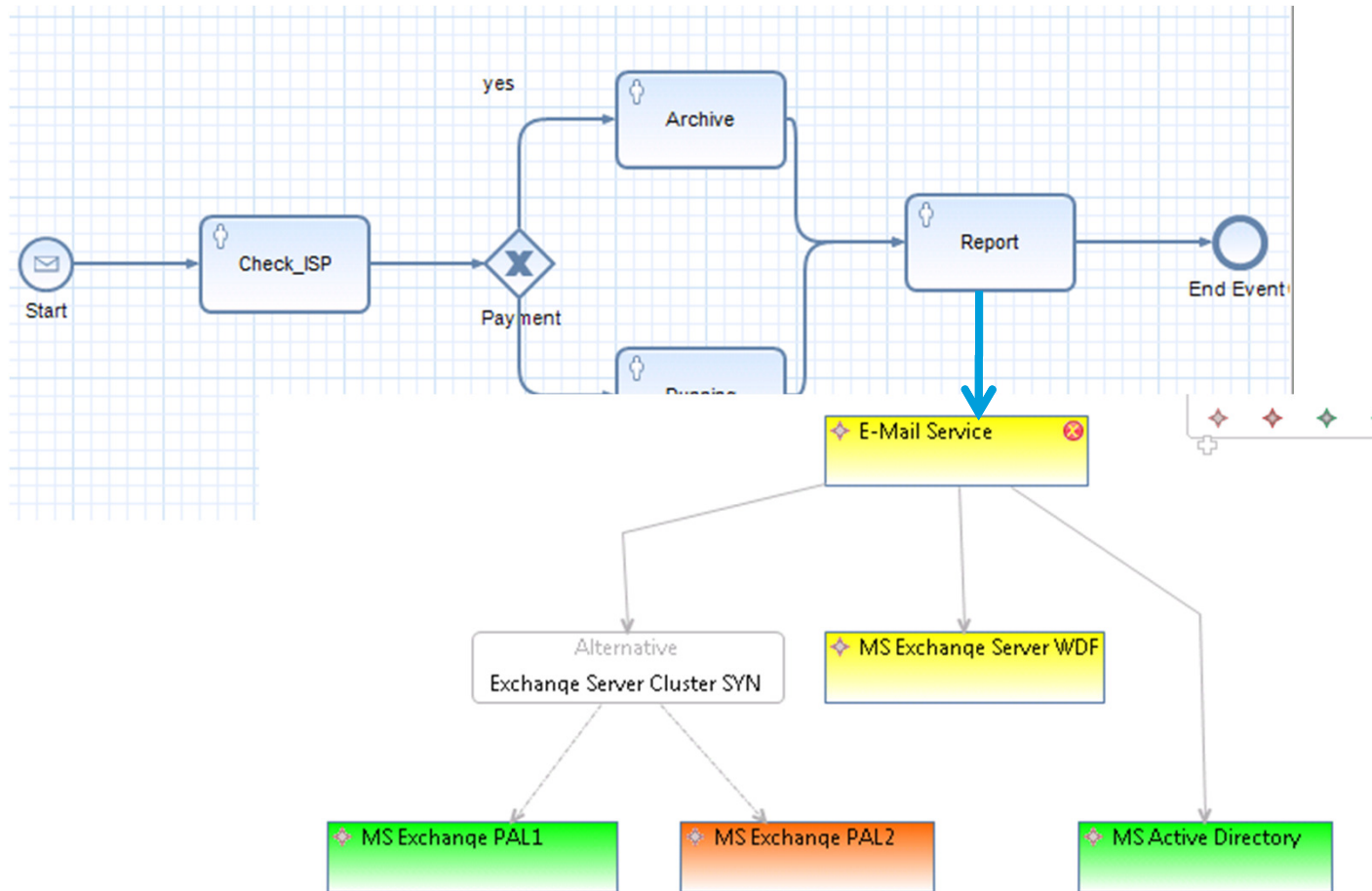


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# Process-Oriented BCM - Dependency Analyses

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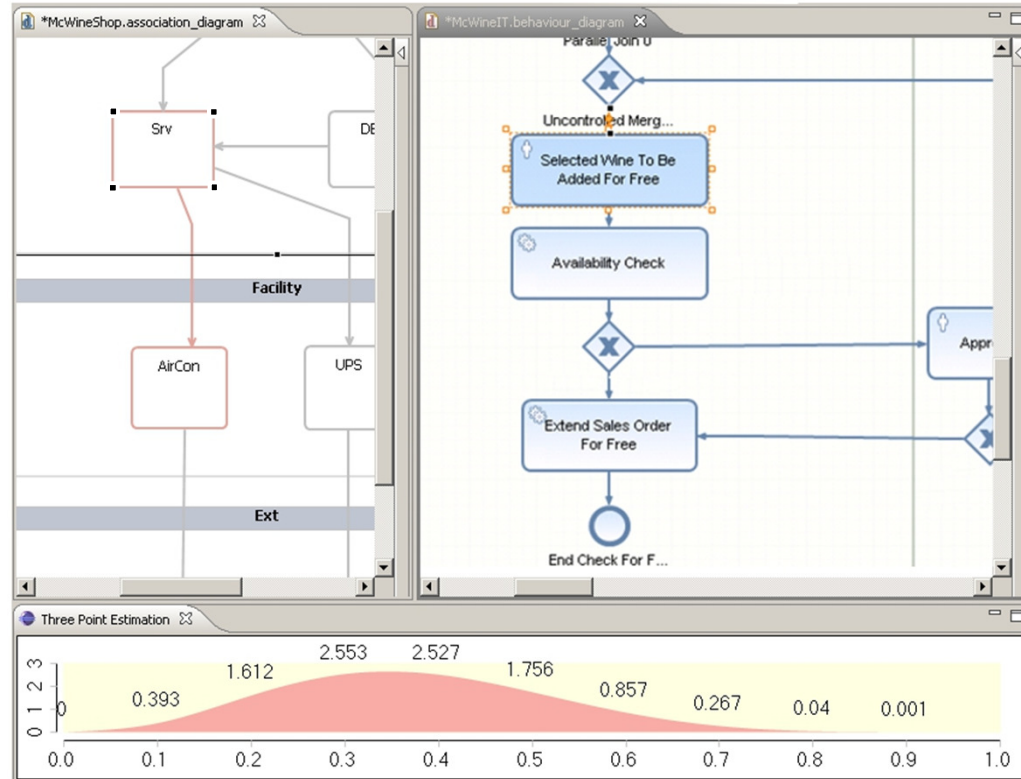


# Process-Oriented BCM - Analyses / Reporting



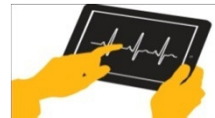
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## Business Impact and Dependency Analysis



# Process-Oriented BCM - Analyses / Reporting

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Let's do a quick analysis

Clearly this disruption is going to have a significant impact on my business KPIs (profit)....

„What if I have sales department closed in London due to fire,“



Business User



Hm...I need to organize a cold standby replica location





# Your Questions?



# Outlook Sub Module 2

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- Presents the process centric BCM workbench being developed within the TIMBUS project.
- Describes TIMBUS approach and the novelty offered with the offered solution.
- A walk through the solution to help understand the usability.