

# Chapter 17

## Business Continuity Management of Business Driven IT Landscapes

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### ABSTRACT

*Businesses and enterprises depend more than ever on Information and Communication Technologies (IT) landscapes. Business processes are vulnerable to disruptions caused by failures in IT landscapes. Business Continuity Management addresses this problem and tries to identify potential threats and determine strategies and responses to overcome or mitigate a possible business disruption.*

*The overall objectives of this book chapter are (a) to provide an introduction of Business Continuity Management, (b) to discuss the importance of business continuity in a service-oriented IT environment, (c) highlight and discuss major challenges and approaches to translate business requirements and objectives down to BCM related service level terms and metrics and (e) identify requirements, such as modelling methodologies or analyses, to enable such translations.*

### INTRODUCTION

New emerging technologies, such as virtualisation, web-services and cloud computing have created whole new business ecosystems, in which business processes depend more than ever on IT services provided by partner organisations.

Often, disruptions in services delivery affect immediately thousands of business customers and consumers. For example, on January, 4th 2010, *SalesForce*, a company offering online enterprise support services, experienced an outage for over an hour which effected 68'000 business customers (Miller, 2010). Another example would be *Paypal*, a service to process online payments. *Paypal* was down for 4.5 hours worldwide on August, 4th

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2009. *Paypal* usually processes 2'000 USD per second for its customers.

Disruptions do not only have a financial impact or cause damage to reputation; they may also have legal consequences. In particular key industrial sectors, such as energy, gas, oil, pharmacy or finance, have to demonstrate business continuity competence, which is sometimes required by regulations and laws. An interesting study to quantify IT business continuity risks at Essent Netwerk, a Dutch electricity and gas distributor, revealed, that a four hour outage of an IT landscape would cost 5 million EUR, and might result in a withdrawal of the licences to operate, which would be even worst (Wijnia & Nikolic, 2007).

Business Continuity Management addresses these problems and aims to:

- Identify potential threats to business processes, IT system, services and operations,
- Assess the business impact of an adverse event, estimate probabilities and compute risk exposures,
- Determine strategies and responses to these threats, and model a business continuity plan to overcome or mitigate a possible business disruption.

In service-oriented systems, where business support systems and solutions are provided by partner organisations as services, the Business Continuity Manager has to further define *Service Level Agreements (SLA)*.

However, in order to define adequate SLAs the Business Continuity Manager faces several challenges. First he has to understand the business, business processes and the impact of business disruptions. He has to take not only financial indicators into consideration, but also other non-financial Key Performance Indicators (KPIs), such as customer churn rate, customer satisfaction, etc, other business objectives/targets and legal obligations, e.g. BASEL II (Basel Committee on Banking Supervision, 2005) or Sarbanes Oxley (107th Con-

gress, 2002). Second, he has to determine various Business Continuity Metrics for every business process and business function. For example the Business Continuity Manager has to determine the Maximum Tolerable Outage Time (MTO) of a given business process. Third, the dependency and risk graph is used to translate business-level BCM metrics down to Service Level Agreements terms and penalties. For example the MTO of a business process is translated down to *Return Time Objective (RTO)* or *Recovery Point Objective* of services the process depends on. SLA penalties can be derived from the estimated business impact.

## **BACKGROUND**

Business Continuity Management is standardised by the British Standards Institution (BSI) and formally defined as follows:

*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)*

The business continuity lifecycle is a closed-loop and comprises four groups of activities, which are (1) understanding the organisation, (2) determining Business Continuity Strategies, (3) developing and implementing a BCM response, and (4) exercising, maintaining and reviewing BCM arrangements.

All four activities are organised by a fifth activity, the BC Program Management, which initiates business continuity related projects, assigns responsibilities, observes and manages activities, conducts training, and provides documentation.

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