

# Documenting Open Source Migration Processes for Re-use

Onkgopotse Molefe  
Prof Aurna Gerber  
Prof Alta van der Merwe  
CSIR (Meraka Institute)  
South Africa

# Overview

- Introduction
- Background
  - Open source software (OSS)
  - Process modeling, process model (PM) and process reference models (PRMs)
- Research process followed
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- PRMs
  - Extracted, generic process models
- Conclusion

# Introduction

- **CSIR adopted Open Source Software (OSS) through project Vula**
  - Vula is the brand name for CSIR migration project to OSS
  - Launched in June 2006 by Dr Sibusiso Sibisi (CSIR President, CEO).
- **CSIR's OSS adoption was inspired by these advantages:**
  - Free to use
  - Copy and share
  - Often more secure than proprietary software
  - Customizable to suit a particular business or users needs
  - Supports older hardware platforms
- **Also:**
  - Due to National Open Source Policy and Strategy, adopted by cabinet in 2006, revised in 2007.
  - Other governmental organizations in support of the policy were SITA, DST, WRC and CSPI.

# Research Problem

- After project **Vula** commenced, it became apparent that there are very limited resources available (locally or internationally), that documented process related information about organizational OS migrations (*Microsoft Windows to Ubuntu Linux migration*).
- Publications found, were mostly discussing the characteristics and advantages of OSS, as well as literature about OSS development.

# Research Problem (cont.)

- **This limited documentation (resources) is:**
  - Hindering many organizations from adopting OSS (in fact, the number of medium to large organizations without some OSS installations, is surprisingly low)
- **Why?**
  - Because project managers and their teams fail to carefully estimate the costs, effort and time-span associated with planning and the implementation of OSS migration projects.
  - Migration process have to be determined from scratch when planning the OSS migration project.

# Background OSS

- **Open Source Software (OSS)**
  - Is software that is acquired at little or no financial cost.
  - It is licensed in a manner that allows users to:
    - study it,
    - edit or improve it,
    - as well as redistribute it without having to pay any royalties to those that developed the software in the first place.
- **Six Reasons that attract many to OSS, are:**
  1. Lower or free license costs
  2. Easy access to source code
  3. Total cost of ownership
  4. Security
  5. Reliability
  6. Stability

*\*References clearly stated in paper*

# Background PM & PRMs

- **Process Modeling** is the procedure of constructing the process model using a standard notation.
- **Process Model (PM)** are used to capture, track and analyse an organization's practices from the highest level down to the lower levels.
- **Process Reference Models (PRMs)** are reusable process model structures, known as a set of generic process models, a universal model or a set of process model patterns) comprises of informative material in a library or knowledge repository regarding a set of generic processes discovered during a certain activity within a specific environment.
- PRMs can simplify the process of migrating to OSS.

*\*References clearly stated in paper*

# Research Process Followed

- Data collection:
  - Qualitative study
  - Case study, CSIR was the environment of study
    - Questionnaire was used to gather data from users about proprietary applications currently used and to suggest OSS alternatives, to customize Vula CD to meet users needs.
    - Interviews (Pre-migration and Post-migration interviews).
      - Migrated users were interviewed to get direct feedback on OSS usage (issues, challenges experienced with OSS)
  - A systematic approach for process reference model extraction by Van der Merwe and Kotze 2008.



# A systematic approach by Van der Merwe and Kotze 2008

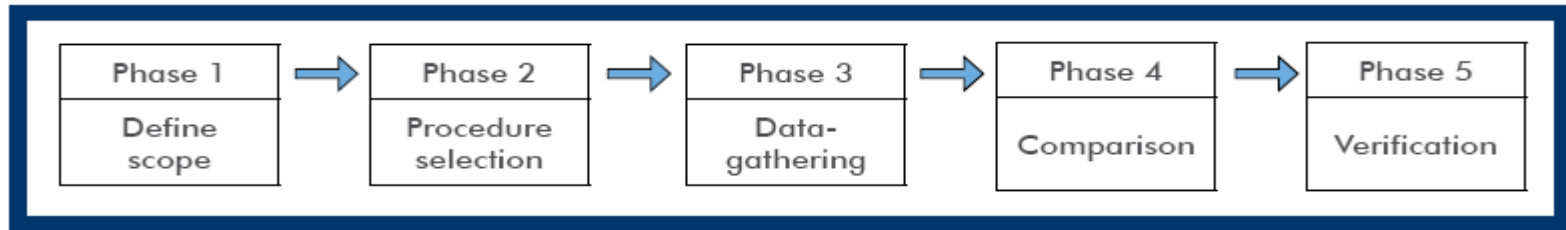
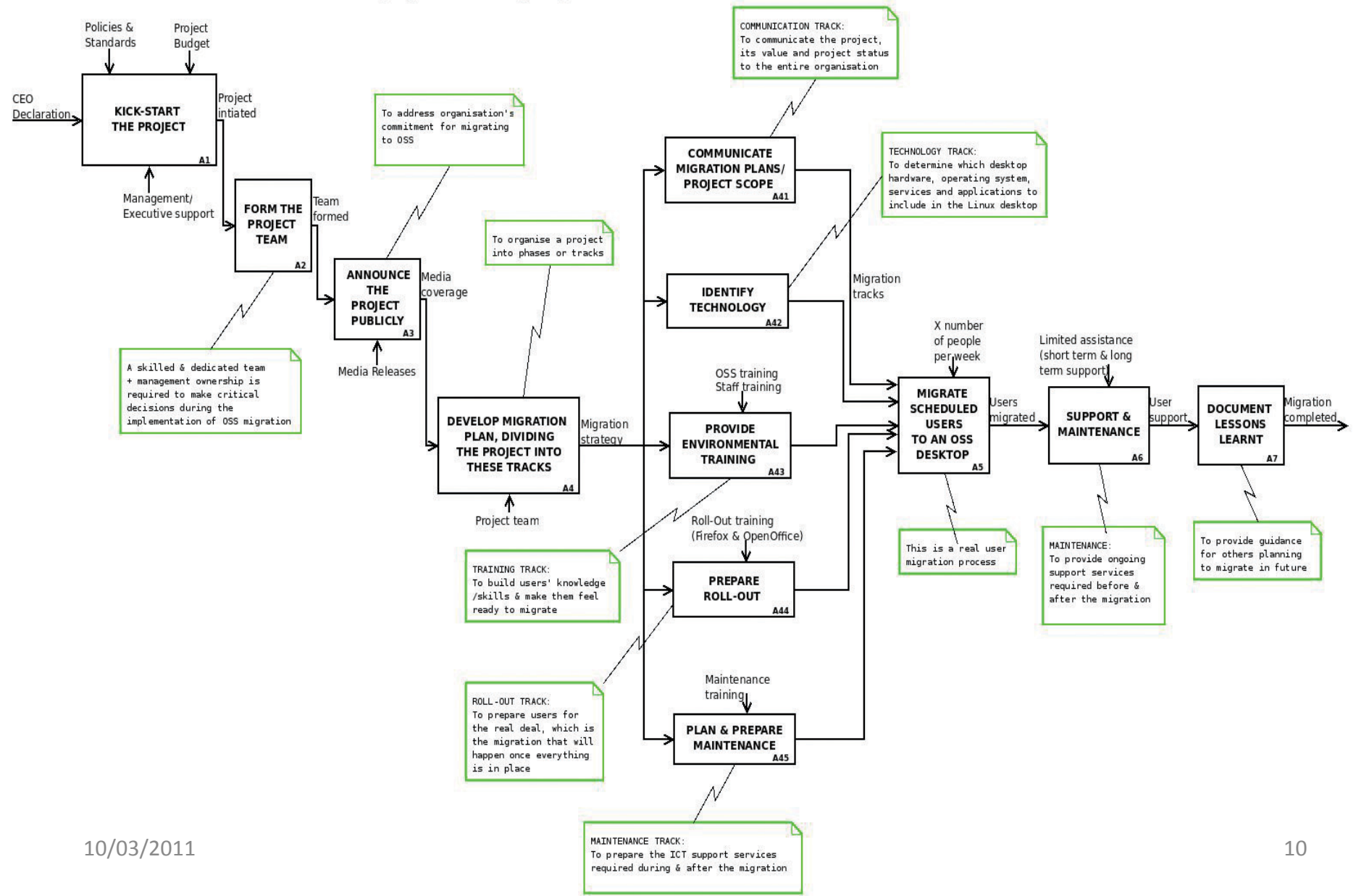


Figure 1: Approach adapted from Van der Merwe and Kotzé (2008)

- **Phase 1 to 3**, the process models for the OSS migration project were identified from Vula (in Slide 10).
- In **phase 4**, the generic process models (that is PRMs depicted in Slide 11) were extracted.
- The verification of the extracted PRMs (**phase 5**) remains a future work.

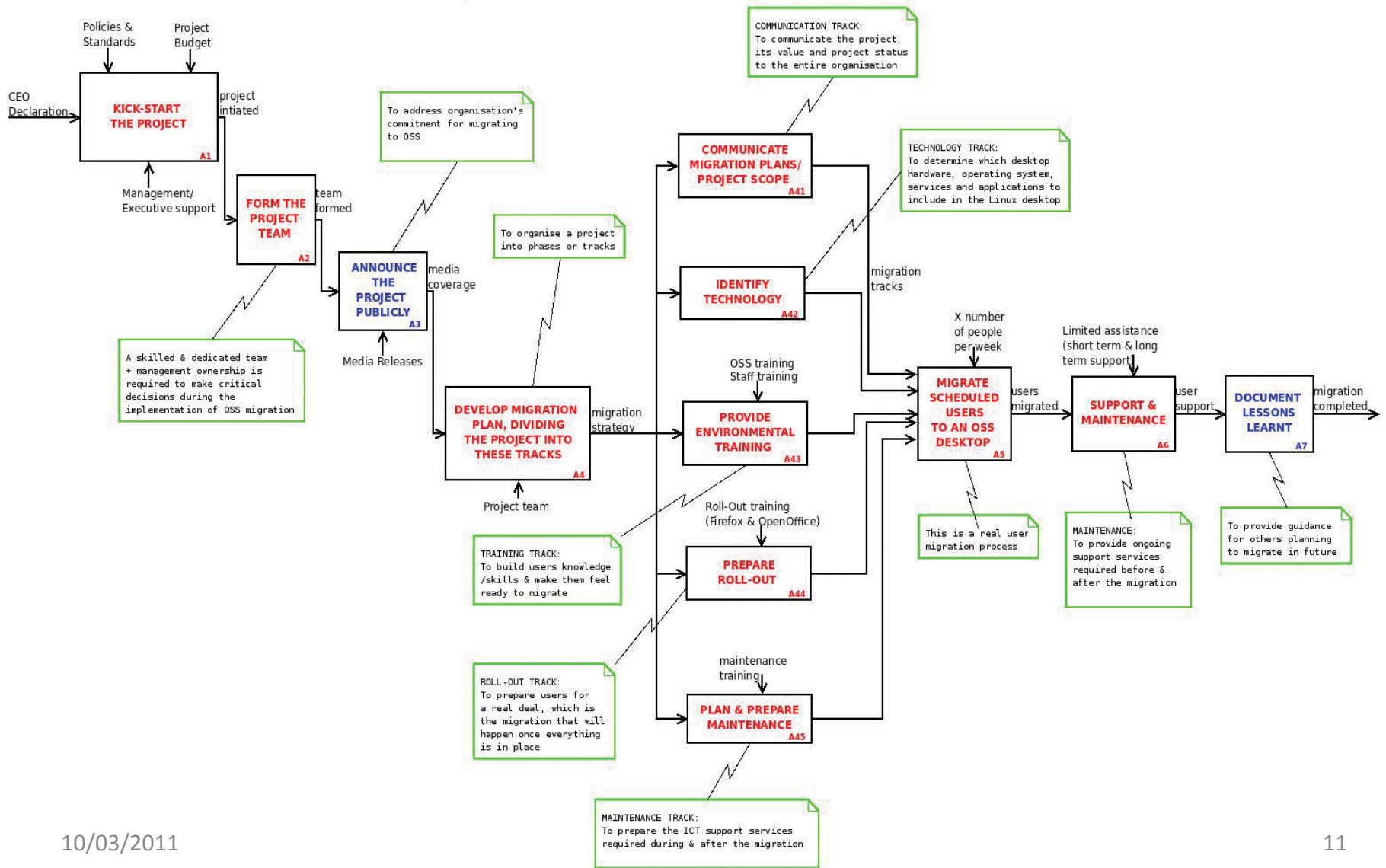
# The OSS Migration High-Level PM Diagram

## MIGRATE TO OPEN SOURCE: Overall Process Overview (High-Level Diagram)



# The OSS migration PRMs

## MIGRATE TO OPEN SOURCE: Overall Process Overview Generic process models



- For illustrative purposes, this paper just present the high-level process diagram.
- The rest of the process models are available at <http://to-be-determined/generic-process-models-4-os-migration>

# Data Analysis

- Focus group discussion
  - Was held with Vula project manager and team members, to analyse overall collected migration process models and to verify generic ones (PRMs).
  - Reasons as to why some processes are generic and some are not (see Table 4 as an example, page 9 of the handouts).

# Contribution made

- The study made two contributions:
  1. It identified OSS migration process models for a specific project (Microsoft Windows to Vula Ubuntu Linux)
  2. From these it extracted a set of PRMs, which can be re-used in future migration projects to OSS.

# Conclusion

- It is strongly believed that these PRMs can guide future OSS migration projects.
- However, their verification of their general appropriateness remains a task for future research
  - Our ICT unit is currently pursuing this, advancing on the success and lessons learnt from project Vula.
  - Testing a second open source operating system which will be deployed largely for PC basic users.

# Future Research

- For future research, we intend to test the model and the Vula CD in Higher Educational Institutions, Health institutions, SMMEs, rural communities with ICT projects:
  - To reach a point where we can have a fully generic, working OSS migration model.
  - To gain more insight on what people think of OSS (thereby encouraging and promoting the use of OSS).
- Visit other labs in Europe and Africa to see how they do OSS projects that side



- *To have a common document that can serve as a guide to help project managers and teams with the planning and implementation of an OSS migration project.*

# It is through project Vula that CSIR wanted:

1. To be one of the largest organizations to have adopted OSS in SA
2. To share the knowledge of the migration process acquired (or data collected) during the project with the public instead of keeping it confidential
3. To enable other organizations to executing more effective OSS migration projects
4. To remove uncertainty with regards to aspects about the adoption and usage of OSS
5. To empower users and scientists in using OSS and not only just proprietary softwares
6. To foster local ICT skills development and
7. To further socio-economic development
8. In addition, CSIR with more than 4000 employees, will save substantially on annual proprietary software licensing fees. It was envisioned that Project Vula will not only benefit the CSIR, but it should also act as an opportunity to educate (or develop) emerging young software developers in OSS acquisition and development.

# THANK YOU LADIES & GENTLEMEN

Vula CDs and Poster available on each table, kindly take one please. For more info please visit:

<http://vula.csis.co.za>

Or contact:

E-mail: [omolefe@csis.co.za](mailto:omolefe@csis.co.za)