

Generating Testcases Overview

input: Activity
unit test: String

input: Activity

Normalisation

Check Design Rules

Parse OCL Expressions

Transform Activity into
Activity Test Case Graph

Add Continuity Constraints

atcg

Rigorous Mathematical Programming

atcg

Transform Variables to
AMPL variables

Transform Local Post-Conditions to
AMPL Constraints

Transform Guards to
AMPL Constraints

ampl

<<centralBuffer>>
ampl: AMPL model

Abstract Test Case Generation

atcg

Depth First Search

Early Infeasible Path
Elimination

Call Solver

ampl

Breadth First Search

atcg

paths

Specific Test Data Generation

Build
Unit Test Model

tests

Build
Unit Test Model

tests

Call Solver

ampl

Unit Test Synthesis

Create C++
Unit Tests

tests

unit test

unit test: String