

Specifications



- . You have been tasked to model the behavior of a retirement home (RSA) under the case of a pandemic virus spreading.
- . The virus is estimated to infect one patient every 20 hours with an exponential distribution.
- . People treated in the Intensive Care Units (ICUs) can heal in 1.5 days.
- . People treated outside of the ICU heal in 3 days.
- . If not treated, people don't heal.
- . Luckily, the virus is not deadly.
- . Unluckily, people healed from the virus can be re-infected.

- The RSA has 100 patients, 1 ICU and can perform 6 tests per day.
- The test is executed randomly on a patient (that can be healthy or ill)
 - If there is at least 1 ill person, there is a 15% possibility that the test is executed on an ill person, and then that ill person can be treated.
 - If an ICU is available, the ill person is treated in the ICU after the test
- If needed, it is possible to:
 - Add up to 2 more ICUs
 - Increase the tests executed up to 24 per day
- The head of the RSA would be happy if you could guarantee that the probability of having less than 50 ill patients is less than 50% in a 6 months period of analysis.
 - Find the combination of ICUs and test per day that satisfies the head of the RSA with the minimum number of new ICUs

- Identify **Places**, **global variables** and **Activities** of the SAN
- Build the SAN
- Write the reward
 - Watch out for the time unit
- Write the study
- Simulate