# Cloud Computations for Acoustics with Coupled Physics

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## Abstract

For certain classes of scientific and technical computations the cloud may offer easily accessible, scalable, and affordable gigantic computing power. A power that for these classes may lead to a step change in model and analysis complexity compared to what is feasible with dedicated clusters and similar networked solutions.

Acoustics with or without interaction with coupled physics fields often results in time consuming repeated analyses in three dimensions and in many cases the only way forward is to cut corners by reducing complexity, size, and the number of analysis types.

This paper presents some early experiences with the Amazon EC2 cloud solution for acoustics analyses with COMSOL Multiphysics® software. A general introduction on how to launch COMSOL and handle the installation with respect to running, storage, and communication is followed by detailed analyses for speed-up, and forecasts for future developments.