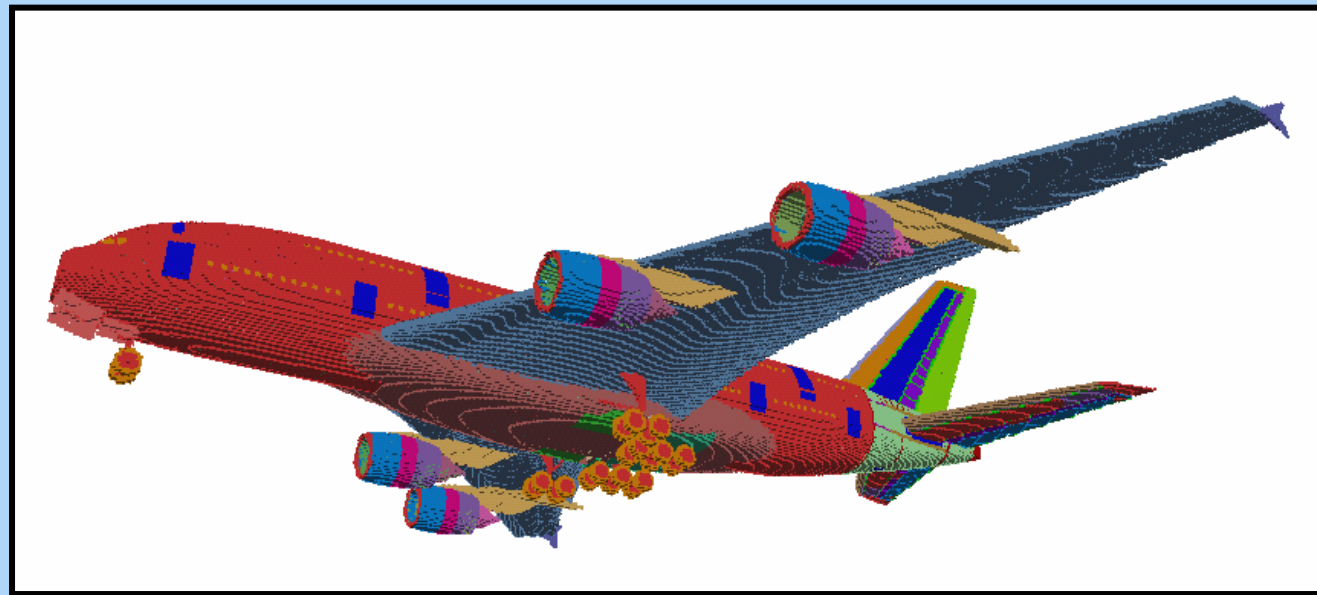


COREGRID IAB Meeting

Barcelona, June, 15th 2005



guillaume.alleon@eads.net

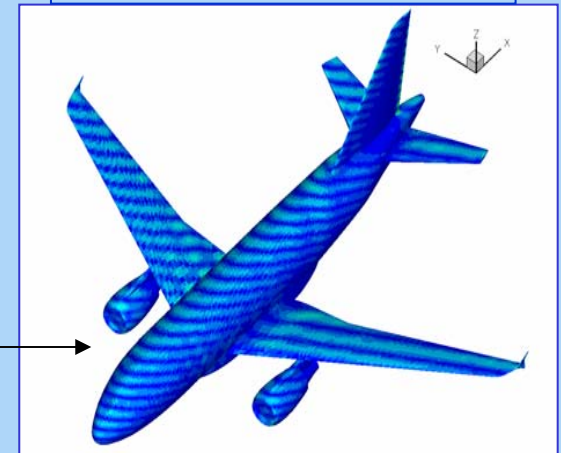
Evolution of needs / evolution of computing capabilities



Size of the problem (Number of Unknowns in k dof)

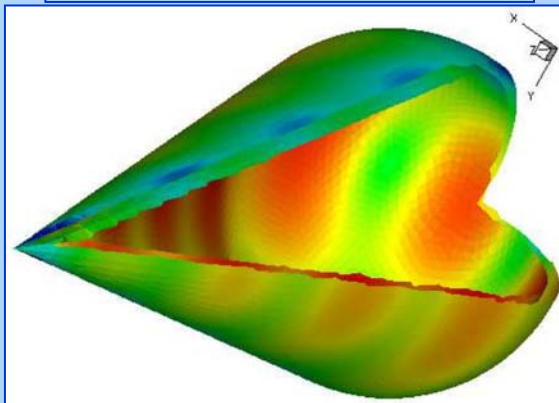
Current commercial software:	10 k dof
In-house ASERIS using Parallelism	100 k dof
“breakthrough” FMM (Basic)	1 000 k dof
FMM with Parallelism	40 000 k dof

A380 antenna siting

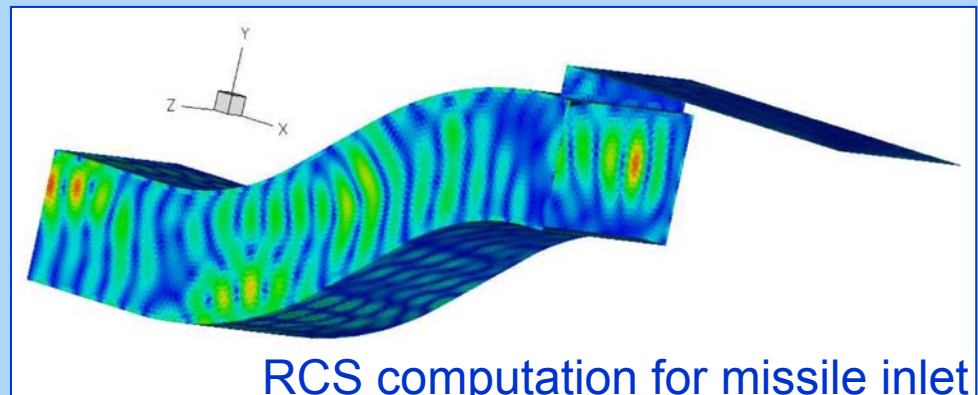


Current needs = from 50 k dof up to 25 000 k dof

Coating optimisation for strategic missile



RCS computation for missile inlet



Similar needs in Acoustics: nacelle optimisation, new configuration for power plant

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Coupled Application Needs

Virtual organisation

- Authentication (X509 v3)
- Confidentiality (TLS)
- Integrity (WS-Security)
- Authorisation (PBAC)

- Billing and QOS (Account and resource allocation service)

Analysis services

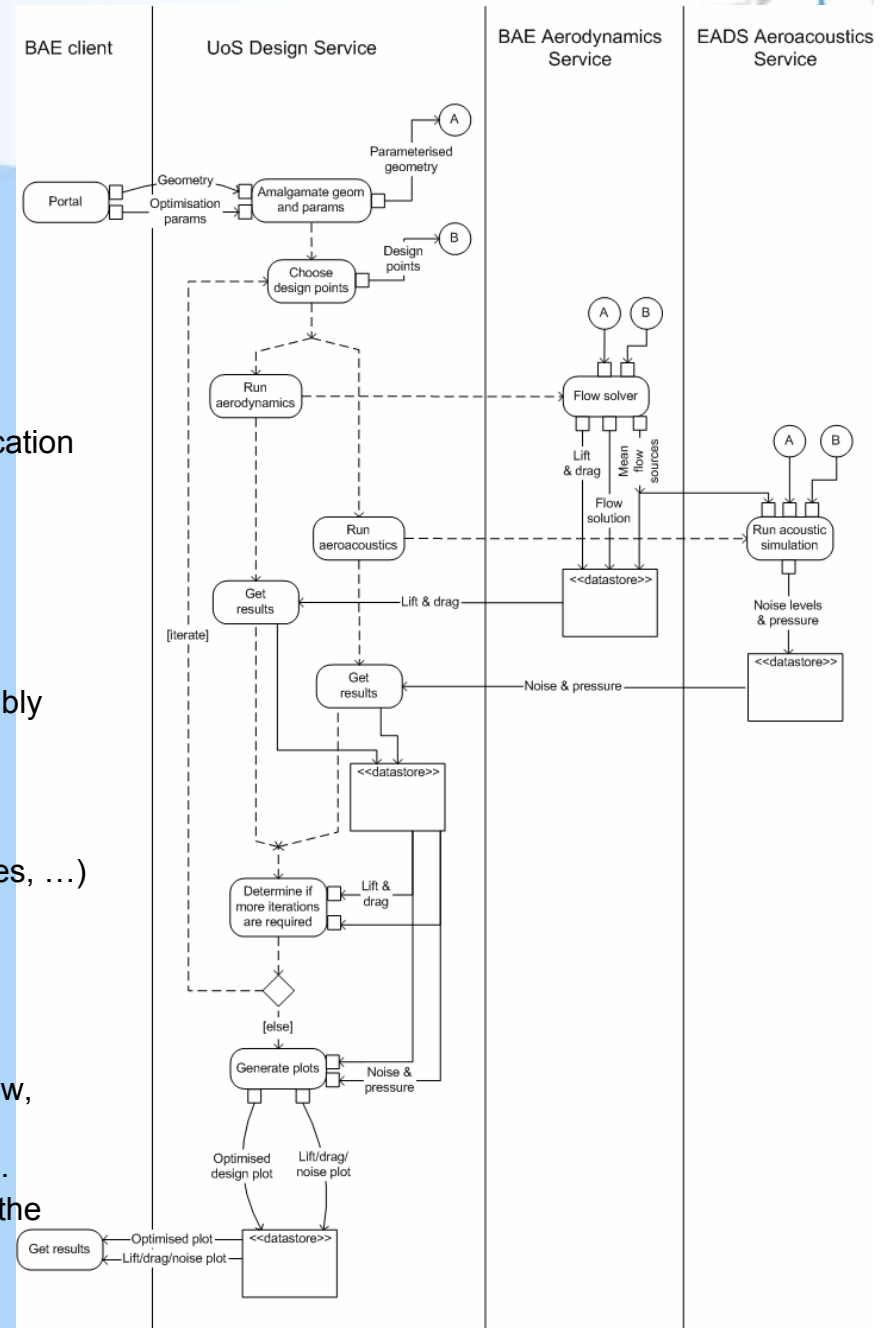
- Legacy codes to deploy - Licensing
- Some are HTC (P2P)
- Seamless access to software (service) possibly outside the company

Data access and integration

- Management of heterogeneous data (DB, files, ...)
- How to manage efficiently distribution

Workflow

- How to schedule these jobs
- How to handle different level priority (workflow, queue, ...)
- What about fault-tolerance, checkpointing, ...
- How to steer workflow (what is the status of the workflow, of the different tasks, ...)





CoreGrid & EADS Research



- Data Management: a distributed file system prototype inspired from P2P technologies is currently under development for Airbus,
 - WP 4
- Coupled applications and their environment are facing issues that are addressed in several CoreGrid WPs.
 - Resource Management & Scheduling (WP 6)
 - Problem Solving (WP 7)

Expectation from the IAB meetings

- Have the CoreGrid virtual institute considering the EADS requirements if found useful – Bring you to the real world & possibly give you our views.
- This can lead to more technical discussion, experimental set-up,
- Enable collaboration (training session, joint work, ...)
 - we are a « private » research center ;-)
- Feed back from possible input (user's scenarios)
- Participation to standardization bodies