



Red Ibérica MM5

Palma de Mallorca

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GridSystems

Grid technology available today



InnerGrid 2.0

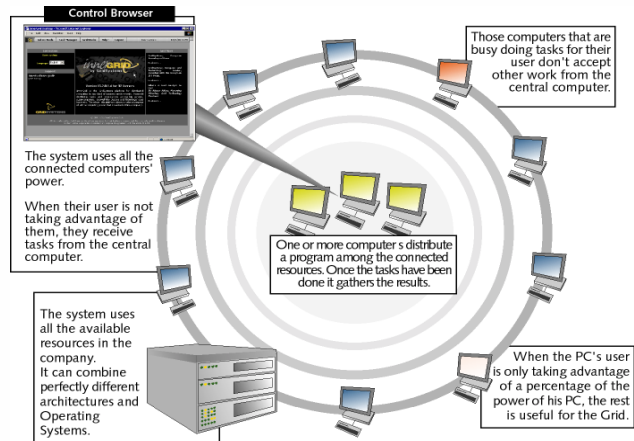
Name	Priority	Group	Agents	Map
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00001	Very low	General	0	Not started
00002	Very low	General	0	Not started
00003	Very low	General	0	Not started
00004	Very low	General	0	Not started
00005	Very low	General	0	Not started
00006	Very low	General	0	Not started
00007	Very low	General	0	Not started
00008	Very low	General	0	Not started
00009	Very low	General	0	Not started
00010	Very low	General	0	Not started
00011	Very low	General	0	Not started
00012	Very low	General	0	Not started
00013	Very low	General	0	Not started
00014	Very low	General	0	Not started
00015	Very low	General	0	Not started
00016	Very low	General	0	Not started
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00039	Very low	General	0	Not started
00040	Very low	General	0	Not started
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00044	Very low	General	0	Not started
00045	Very low	General	0	Not started
00046	Very low	General	0	Not started
00047	Very low	General	0	Not started
00048	Very low	General	0	Not started
00049	Very low	General	0	Not started
00050	Very low	General	0	Not started

- ✓ Turn your networked resources into a virtual supercomputer / mainframe.
- ✓ Integrate to your "grid" all your non-dedicated computers.
- ✓ Easy to install, use and administer.
- ✓ Robust, secure, fault tolerant and multi-platform. (Windows, Linux, Solaris, AIX, HPUX, IRIX and Mac OS X)

Grid technology available today



How it Works



Grid technology available today



InnerGrid 2.0

Suite composed by several products, aimed at solving different user's needs TODAY:

Grid Core:

- Kernel with basic functionality
- Server + Agents

GridDesktop:

- Users can access to the Grid from a Web browser
- **Users can quickly solve their business or research problems**

GridMonitor:

- Administration, Configuration and tuning
- Users and roles management

GridStudio:

- Tool for advanced users
- Creation of new modules to allow the user to add easily new processes to the Grid

Grid technology available today



InnerGrid 2.0 & Research

- Not FLOPS, but FLOPs
- Integrate a group of multi-platform, non-exclusive / non-dedicated and heterogeneous computers in a “grid”
- Build modules and “griddize” your own program
- Build and run the modules remotely, through a web navigator
- Use your “griddized program” to make real-time demos and presentations

Grid technology available today



InnerGrid 2.0 Connectors

- InnerGrid Connectors are specific extensions that “Griddize” the computations of third party applications or in-house development.
- Combined with InnerGrid, they give access to the advantages of Grid to any market.
- Connectors: **Excel, Maya, Autodock, RNA folding, etc...**

Grid technology available today





Grid Universia



Joan Massó, GridSystems President & CEO, and Andrés Pedreño, Universia.net CEO, sign the agreement.

Universia and GridSystems provide access to Grid technology to 600+ Universities.

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InnerGrid 2.0 Applications

Bio-technology:

- o Genetics
- o Image processing...

Aerospace:

- o CFD, CSM, EM...
- o Optimization...

Telecommunications:

- o Network design and optimization
- o Billing, fraud control...

Computational Physics:

- o CFD, CSM, EM...
- o Chemical reactions
- o Meteorology...

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InnerGrid 2.0 & Aerospace Research



InnerGrid 2.0 Aerospace Research

- **Wing configuration analysis**
- **Genetic algorithms**
- **POD (Proper Orthogonal Decomposition)**
- **Electromagnetic field frequency analysis**
- **Parametric model (CFD, CSM, EM, ...) studies**
- **Stochastic models**

InnerGrid 2.0 Aerospace Research

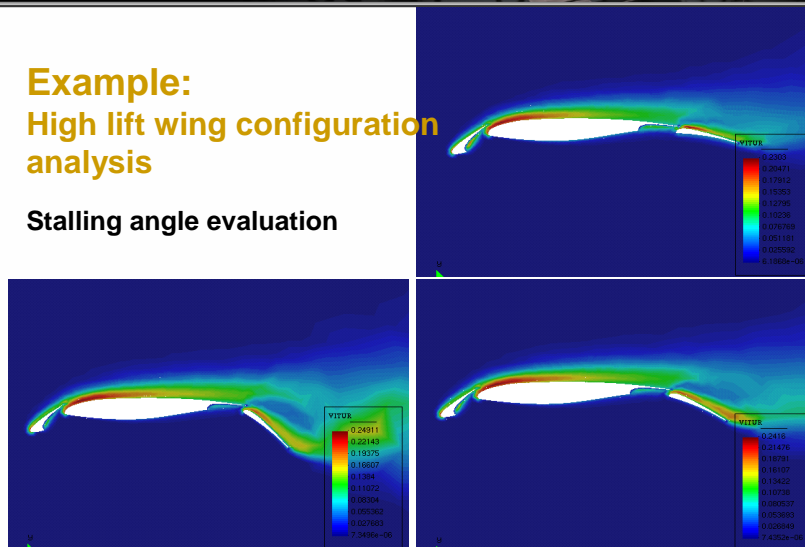
- Independent runs varying model parameters, configurations, geometries, boundary conditions, etc.
 - Solve for different inputs
 - Check physical models and numerical schemes
 - Assess shapes and configurations
 - Optimize shapes and configurations
 - Build a solutions basis (also feedback)

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Example: High lift wing configuration analysis

Stalling angle evaluation



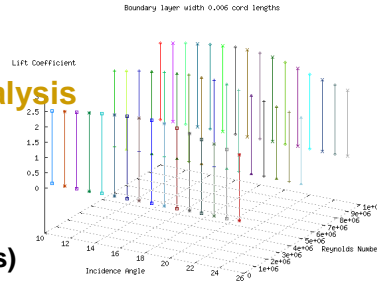
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Example: High lift wing configuration analysis

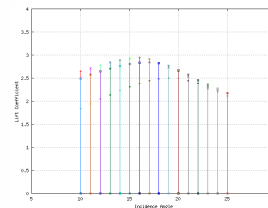
Parameters space:

- o Incidence angle
- o Geometries
- o Space discretizations (meshes)



Sensitivity parameters space:

- o Physical models (law of the wall, low Reynolds models, ...)
- o Inflow conditions (Reynolds number, ...)



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Task Manager - Mozilla

Tasks Help Close

Select task merakParam

Name	Priority	Group	Agents	State	Progress
merakParam	Very low	Universal	9	RUNNING	Executed: 79.28% Running: 9.27% Unassigned: 11.71%

Timing information

Task state:	RUNNING	Speedup:	8 286449
Task start:	22/01/2003 16:27:55	C/T Ratio:	0.4048
Real execution time:	164:27:09	Actual execution time:	00:00:25
Estimated execution time:	61:04:56	Linear execution time:	00:03:32

Execution state

μ -tasks finished:	70	Initial iteration value:	[tri10a, midlift.geo]	Assigned computations:	9
μ -tasks running:	9	Last iteration value:	[tri23a, midlift.geo]	Completed computations:	70
μ -tasks unassigned:	17	Final iteration value:	[tri25z, midlift.geo]	Unassigned computations:	17
				Total computations:	96

Running microtasks

μ -Task	From	To	Agent	OS	Exec. Time
70	[tri21y, midlift.geo]	[tri21y, midlift.geo]	root@sabisti.intranet.gridssystem...	Windows	00:00:02
71	[tri21z, midlift.geo]	[tri21z, midlift.geo]	MINTARA_IG201f_0	Windows	00:00:02
72	[tri22a, midlift.geo]	[tri22a, midlift.geo]	THABIT_IG201f_0	Windows	00:00:02
73	[tri22q, midlift.geo]	[tri22q, midlift.geo]	root@sabisti.intranet.gridssystem...	Windows	00:00:02
74	[tri22u, midlift.geo]	[tri22u, midlift.geo]	ALNILAM_IG201f_0	Windows	00:00:02
75	[tri22x, midlift.geo]	[tri22x, midlift.geo]	root@sabisti.intranet.gridssystem...	Windows	00:00:02

Back to list Refresh Config Result files View logs New task Delete task Start Continue Restart Pause

© 2000-2002 GridSystems S.A. User: administrator 29/01/03 12:54

InnerGrid Task Manager :

Screen capture "on the fly"

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InnerGrid 2.0 Research

Summary:

- o Provides a full optimization of your current computational resources
- o Easy to install, maintain, use
- o Adaptable to your own needs through modules and/or connectors
- o Multi-platform
- o Remote access
- o Available through UNIVERSIA 