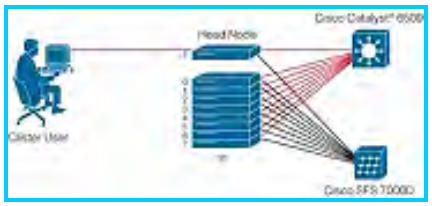
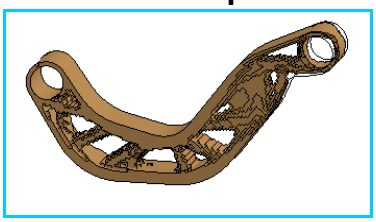
Engineering FEA Information Journal &Website Resource
www.feainformation.com

December 2011

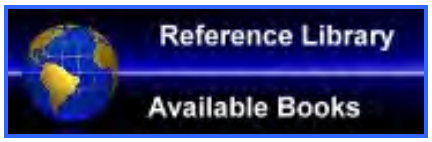
Cisco UCS C200 M2



LS-TaSC Update



Hybrid Dummy Models Update



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FEA Information Inc. Announcements

Wishing everyone a wonderful New Year.

We are starting a new area so that Platinum Sponsors have a full page where you can learn about their products and offerings. We felt for 2012 this was an important step to bring you complete information on their products and services. It will be finalized through the month of January, with updated information.

With 2012 there are a number of great events, conferences and training that will be taking place so check in with those sections monthly as we add more.

Sincerely, **Marsha J. Victory,** President, FEA Information Inc
mv@feainformation.com


Paja


Cody & Cajun


Prinze – Quincy - Dusty


Shane


Hero


Timber

Thanks to the FEA sponsors, I can continue to sponsor horses.

FEA Information

Participants

BETA CAE Systems SA
http://www.beta-cae.gr

CRAY
http://www.cray.com

DatapointLabs
Data Point Labs

ESI GROUP
http://www.esi-group.com

eta
http://www.eta.com

gns
http://www.gns-mbh.com/

GRIDCORE
http://gridcore.se

http://www.hengstar.com/

JSOL
http://www.jsol.co.jp/english/cae

LSTC
Livermore Software Technology Corp.
http://www.lstc.com

Oasys
http://www.oasys-software.com/dyna/en/

LSTC's Hybrid Dummy Models Update

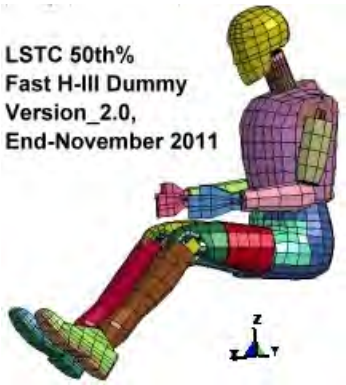
Updated versions of LSTC's coarse-mesh 5th% and 50th% Hybrid-III Dummy Models have just been released.

Lumbar Curvature

Previous version of these models used to be called "Rigid_FE". That name gave the false impression that these were rigid models despite containing large deformable FE content. Therefore, the name of the new releases was changed to "FAST".

5th %

As in the previous models, most of the important injury channels found in standard physical Hybrid-III dummies are represented in these new models.



50th %

The following are some of the improvements in the new models:

a) Most of the external limbs together with the shoes are now modeled with deformable elements. Much better performance in external contact and significantly improved lower tibia response are expected due to this change.

b) The "Knee Slider" mechanism has been incorporated. This has been a long standing user request.

c) The ability to make rotations to the Lumbar Spine has been incorporated in

both models and functionality was added to LS-PrePost to make the rotations in pre-positioning. This can be used to make small rotations to the upper body, to match model "head target" to that of a test. With the development of some additional methodology in the near future, it can also be used to place the dummy in "out-of-position" scenarios. The actual, continuous rotation of the Lumbar that was implemented is far more real than the use of fictitious joints to do the same.

d) The Upper Neck Extension and Flexion calibrations, as well as the Thorax calibration have been repeated with great care. These are the most important channels for calibration of these models.

The newly released FAST Hybrid-III models are much improved over previous versions. A large part of the improvements is based on great customer feedback.

The models are computationally inexpensive. A 150-millisecond simulation with either of the models inside a simplified vehicle model with seat-belts and airbag runs in approximately 20-minutes on a commonly available dual-core workstation. Hence the term "FAST" has been used in the name of each dummy. These models are ideal for restraint system development and many other common uses.

We encourage everyone to try them out with full confidence. We will continue to work on improvements to the models and welcome user suggestions and feedback.

Thank you for the numerous and detailed feedback on past models!

Thank you for the numerous and detailed feedback on past models!

Model Statistics:

Number of Nodes	7402
Number of Solid Elements	2644
Number of Shell Elements	1624
Number of Beam Elements	3
Number of Spring Elements	7
Number of Conc. Masses	32
Total Elements	4310
Assigned Time-Step of Computation	1.0 microsecond

Cisco UCS C200 M2 Server Powered by Intel Xeon Processors: 10 Gigabit Ethernet Matches QDR InfiniBand for Clustered HPC

http://www.cisco.com/en/US/prod/collateral/ps10265/le_32804_pb_hpc10ge.pdf

EXCERPT from pdf brochure:

Equipped with remote direct memory access (RDMA)–capable adapters, Cisco® 10 Gigabit Ethernet fabric delivered outstanding scalability and performance parity **running benchmarks with LS-DYNA**, Schlumberger ECLIPSE®, and ANSYS FLUENT, allowing organizations to replace complex InfiniBand fabrics with standard 10 Gigabit
Ethernet technology while maintaining peak job throughput.

Challenging the Conventional Wisdom for High-Performance Computing (HPC) Interconnects

With horizontal scaling and clusters now dominating high-performance computing (HPC), leading applications require a balanced approach. Fast processors must be built into balanced systems that can handle demanding computational challenges. Those systems must be interconnected with cluster fabrics that offer not only substantial throughput, but also the lowest levels of latency to accelerate message passing interface (MPI) applications. In an industry first, Cisco's latest HPC benchmarks demonstrate that 10 Gigabit Ethernet HPC performance can match and even exceed performance on clusters configured with quad data rate (QDR) InfiniBand.

Cisco 10 Gigabit Ethernet with RDMA Compared to QDR InfiniBand

For at least the past decade, InfiniBand has been regarded as the fabric of choice for HPC clusters. Unfortunately, the addition of InfiniBand to traditional Ethernet networks can bring additional complications to an HPC cluster. InfiniBand requires its own switches and host adapters in addition to the standard Ethernet network that is typically already in place for tasks such as management, OS provisioning, and the launching and monitoring of MPI jobs. Moreover, because InfiniBand is not a TCP/IP network, it requires a different set of management skills and associated training than the ubiquitous Ethernet ecosystem. For example, InfiniBand cannot be managed by traditional

Ethernet IP-based management tools, and InfiniBand-connected servers require gateway devices to access standard Ethernet-based storage.

While popular QDR InfiniBand has an impressive-sounding bandwidth of 40 Gbps, it is usually chosen more for its low latency than for its raw bandwidth capabilities. In fact, InfiniBand's high bandwidth is seldom fully utilized because of limitations in host adapter PCI Express (PCIe) interfaces or application limitations, or both. However, low node-to-node latency is critical for clustered HPC application performance, especially for MPI applications that send significant amounts of communication over the network. Historically, Gigabit Ethernet has compared poorly to InfiniBand in terms of latency, being more than an order of magnitude slower

10 Gigabit Ethernet now presents dramatically better latency and offers a viable alternative technology to QDR InfiniBand. Like InfiniBand, 10 Gigabit Ethernet supports RDMA, allowing direct, zero-copy data transfer between application memory on servers with RDMA-capable adapters. RDMA bypasses the TCP/IP software stack in the Linux kernel, eliminating the need for data to be copied multiple times between buffers and also reducing context switching. With RDMA adapters, the resulting latency for 10 Gigabit Ethernet interconnects is close to that of InfiniBand, essentially removing latency as a factor in application performance in most cases.

10 Gigabit Ethernet Cluster Configuration

Cisco achieved similar or better results than competitors' QDR InfiniBand solutions using a cluster of Cisco UCS™ C200 M2 High-Density Rack- Mount Servers interconnected with a Cisco Nexus® 5596P Switch for MPI traffic (Figure 1). A Cisco Nexus 2000 Series Fabric Extender Gigabit Ethernet switch was used for management (not shown). Each server was connected to the Cisco Nexus 5596UP Switch using 10 Gigabit Ethernet network interface cards (NICs) with RDMA support.

A Cisco UCS C210 M2 Rack-Mount Server was used as a head node, running Platform Cluster Manager (PCM) and Red Hat Enterprise Linux 5.5, and using RAID10 for shared file systems, using Network File System (NFS). Because MPI is a standards-based API, no changes were required to the applications. Only a simple environment variable setting was required at runtime to select the interconnection type.

Cisco UCS C200 M2 High-Density Rack-Mount Server

The cluster was configured with 32 Cisco UCS C200 M2 servers, each with two top-of-the-line Intel® Xeon® processor X5670 CPUs and 96 GB of memory. Each server was configured with a 10 Gigabit Ethernet RDMA NIC, such as the Chelsio T420 adapter or the Mellanox MNPH29D-XTR 10 Gigabit Ethernet ConnectX2 NIC

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Please use link for full article

http://www.cisco.com/en/US/prod/collateral/ps10265/le_32804_pb_hpc10ge.pdf

ITOCHU Techno-Solutions (CTC).

CAE POWER 2011

Review

Ryo Otagaki - ITOCHU Techno-Solutions Corporation(CTC)

Our consolidated seminar, CAE POWER 2011, was held on the 4th and 5th of October in Tokyo, Japan by ITOCHU Techno-Solutions(CTC).

Our Science & Engineering Systems Division of CTC has been providing computer simulation software and consulting services to our customers in Japan since 1959.

The principal aim of this event was to introduce the state-of-the-art solutions and technologies which our customers have developed, and also present our CAE solutions.

On the first day we introduced a keynote lecture about "The Environmental & The Science -Simulation Technology- ", a special lecture about "The Simulation & Integration in Railroad Field", and 30 technical presentations related to CAE. The presentations covered various CAE related topics, new developments, and new applications from academic and industrial engineers:

1. material design and simulation technology
2. fatigue/long-life/measurement technology
3. the efficiency/optimization of the design/production
4. mechanical design & CAE
5. environmental technology & energy
6. the simulation for earthquake resistant & disaster reduction

The exhibition area allowed the attendees to obtain information about the latest software and hardware developments related to our products.

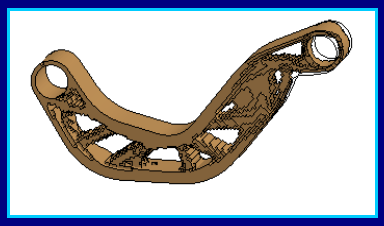
On the next day we had 10 product sessions, the best attended being the LS-DYNA User Conference. In the CTC LS-DYNA User Conference, Mr. Jim Day, from Livermore Software Technology Corporation, introduced "Recent developments in LS-DYNA", and Mr.Tim Palmer, from Engineering Technology Associates, Inc., talked about "Introducing Inventium Suite, PreSys". The LS-DYNA Conference also included 4 user presentations and 3 presentations from CTC with about 100 users registering for these events.

The Conference was a great success with over 850 engineers attending.

We, CTC, hope to be able to continue to offer you this unique opportunity to share your successes, and as a forum for everyone to share their knowledge and technological developments. We would like you to help us make this conference an annual event, and we hope to see you there next year.

ITOCHU Techno-Solutions Corporation(CTC) Science & Engineering Systems Division

http://www.engineering-eye.com/en/index.html



LS-TaSC version 2.1

beta version

Willem Roux - LSTC

We just released the beta version of LS-TaSC version 2.1. This beta version is of interest to people needing bug fixes and the latest features. The current version 2 release as on the web site is still the official release for the moment. The executables for the version 2.1 beta can be found in ftp/user/ls-tasc/v2.1_beta. There will be an article in the FeaInformation newsletter in the near future discussing it in more detail.

The release notes for V2.1:

Version 2.1, started in spring of 2011, is a refinement of version 2. It contains the following major new features:

- Dynamic load case weighting. This algorithm obtains a design equally relevant for all design load cases.
- Forging geometry definition. This geometry definition is similar to a two-sided casting except that a forging thickness is introduced.
  - New minor features are:
  - Castings can have interior holes.
  - Pentahedral elements are supported.
  - The memory footprint is reduced more than a factor of 2 and an option is provided which can be set to reduce memory use by a further factor of 2.
  - *MAT_ELASTIC is supported for the design part.
  - Lightly used elements can be kept instead of deleted.
  - The SIMP algorithm can be switched on and off.
  - Coordinate systems are no longer limited to DIR=X.
  - Restarting was improved to be faster by using more archived results.
  - A fringe plot of the material utilization as considered in the design process can be viewed.
  - The fraction of the original number of elements used in the design can be viewed as a history.

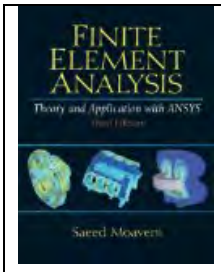
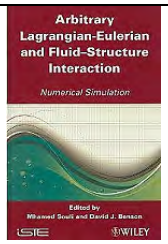
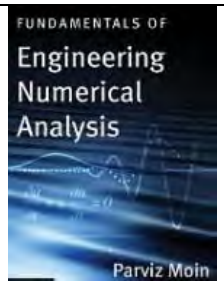
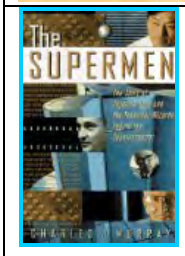
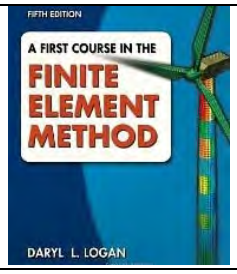
Many thanks are due to David Björkevik for the GUI design and implementation. Valuable feedback from customers and co-workers is also acknowledged.

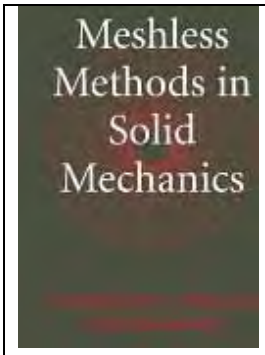
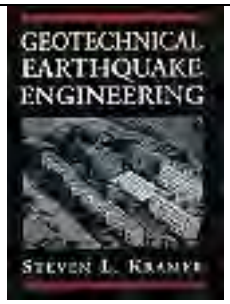
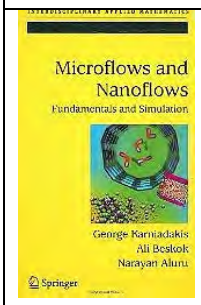
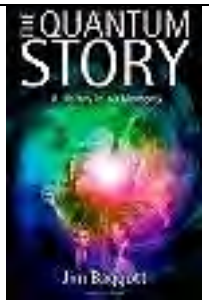
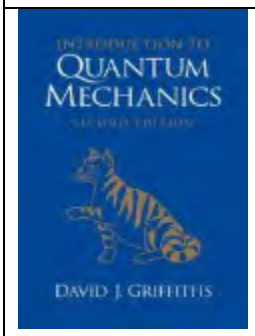
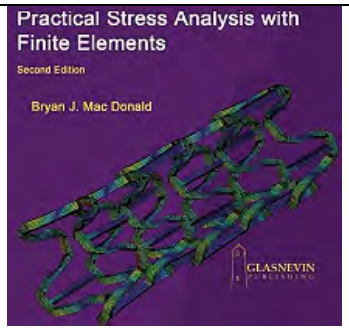
Regards, Willem Roux

Reference Library

Available Books

Library

	Finite Element Analysis Theory and Application with ANSYS (3rd Edition)		Arbitrary Langrangian-Eulerian and Fluid Structure Interaction.
	Isogeometric Analysis: Toward Integration of CAD and FEA		NURBS for Curve & Surface Design: From Projective Geometry to Practical Use
	A First Course in Finite Elements		Engineering Numerical Analysis
	Go To Book at Amazon		A first Course in The Finite Element Method

 Meshless Methods in Solid Mechanics	 Principles of Geotechnical Engineering	 Geotechnical Earthquake Engineering
 Microflows and Nanoflows	 The Quantum Story: A History in 40 Moments	 The Quantum World: Quantum Physics for Everyone
 Introduction to Quantum Mechanics (2nd Edition	 Practical Stress Analysis With Finite Elements	

Solutions

A preprocessor is a program that processes its input data to produce output. This data is then used as input to another program.

BETA CAE Systems S.A.

http://www.beta-cae.gr/

Provides complete CAE pre- and post-processing solutions. ANSA, the world wide standard pre-processor and full product modeler for LS-DYNA, with integrated Data Management and Task Automation. μETA, with special features for the high performance an effortless 3D & 2D post-processing of LS-DYNA results.

Engineering Technology Associates, Inc.

http://www.inventiumsuite.com

PreSys is an advanced Pre/Post Processor. PreSys is a full-featured, core solution that can be used on its own or with a variety of available add-on applications. The system offers advanced automeshing tools to provide the highest quality mesh with little CAD data preparation. It also features a scripting interface and model explorer feature for in-depth data navigation.

Oasys, Ltd

http://www.oasys-software.com/dyna/en/

Oasys Primer is a model editor for preparation of LS-DYNA input decks. - Oasys D3Plot is a 3D visualization package for post-processing LS-DYNA analyses using OpenGL® (SGI) graphics.

JSOL Corporation

http://www.jsol.co.jp/english/cae/

JVISION is a general purpose pre-post processor for FEM software. Designed to prepare data for, as well as support, various types of analyses, and to facilitate the display of the subsequent results.

Livermore Software Technology Corporation

http://www.lstc.com

LS-PrePost is an advanced interactive program for preparing input data for LS-DYNA and processing the results from LS-DYNA analyses.

ETA – DYNAFORM & VPG

http://www.eta.com

Includes a complete CAD interface capable of importing, modeling and analyzing, any die design. Available for PC, LINUX and UNIX, DYNAFORM couples affordable software with today's high-end, low-cost hardware for a complete and affordable metal forming solution.

ETA – VPG

http://www.eta.com

Streamlined CAE software package provides an event-based simulation solution of nonlinear, dynamic problems. eta/VPG's single software package overcomes the limitations of existing CAE analysis methods. It is designed to analyze the behavior of mechanical and structural systems as simple as linkages, and as complex as full vehicles.

OASYS software for LS-DYNA

http://www.oasys-software.com/dyna/en/

Oasys software is custom-written for 100% compatibility with LS-DYNA. Oasys PRIMER offers model creation, editing and error removal, together with many specialist functions for rapid generation of error-free models. Oasys also offers post-processing software for in-depth analysis of results and automatic report generation.

ESI Group Visual-CRASH For DYNA

http://www.esi-group.com

Visual-Crash for LS-DYNA helps engineers perform crash and safety simulations in the smoothest and fastest possible way by offering an intuitive windows-based graphical interface with customizable toolbars and complete session support. Being integrated in ESI Group's Open VTOS, an open collaborative multi-disciplinary engineering framework, Visual-Crash for DYNA allows users to focus and rely on high quality digital models from start to finish. Leveraging this state of the art environment, Visual Viewer, visualization and plotting solution, helps analyze LS-DYNA results within a single user interface.

BETA CAE Systems S.A.– ANSA

http://www.beta-cae.gr

Is an advanced multidisciplinary CAE pre-processing tool that provides all the necessary functionality for full-model build up, from CAD data to ready-to-run solver input file, in a single integrated environment. ANSA is a full product modeler for LS-DYNA, with integrated Data Management and Process Automation. ANSA can also be directly coupled with LS-OPT of LSTC to provide an integrated solution in the field of optimization.

BETA CAE Systems S.A.– μETA

http://www.beta-cae.gr

Is a multi-purpose post-processor meeting diverging needs from various CAE disciplines. It owes its success to its impressive performance, innovative features and capabilities of interaction between animations, plots, videos, reports and other objects. It offers extensive support and handling of LS-DYNA 2D and 3D results, including those compressed with SCAI's FEMZIP software

Gridcore AB

Gompute on demand®

Sweden

Gompute on demand®

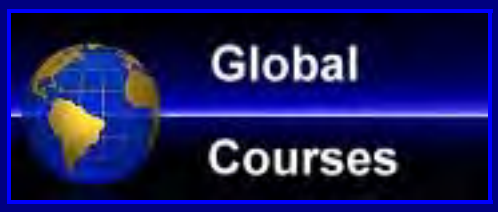
A Cloud HPC service oriented to Technical and Scientific users.

Gompute is owned, developed and operated by Gridcore AB in Sweden. Founded in 2002, Gridcore is active in three areas: Systems Integration, Research & Development and HPC as a service.

Gridcore has wide experience of different industries and applications, developed a stable product portfolio to simplify an engineer/scientist's use of computers, and has established a large network of partners and collaborations, where we together solve the most demanding computing tasks for our customers. Gridcore has offices in Gothenburg (Sweden), Stuttgart (Germany), Durham NC (USA) and sales operations in The Netherlands and Norway.

The Gridcore developed E-Gompute software for internal HPC resources gives end users (the engineers) a easy to use and complete environment when using HPC resources in their daily work, and enables collaboration, advanced application integrations, remote pre/post, accounting/billing of multiple teams, license tracking, and more, accelerating our customers usage of virtual prototyping.

Website: www.gompute.com
Website: www.gridcore.se



Courses - CADFEM GmbH

The Complete Courses Offered Can Be Found At: http://www.cadfem.de
Please check the site for accuracy and changes.
Among the many course offering are the following:

Introduction to simulation with ANSYS Workbench
January 10, 2012
February 21, 2012
March 13, 2012

Introduction to explicit structural mechanics with ANSYS-LS-DYNA and LSTC's LS-DYNA
February 08, 2012
May 09, 2012

Material Modeling with LS-DYNA
March 06, 2012

Modeling joints with LS-DYNA
March 02, 2012

Introduction to simulation of joint and muscle forces with AnyBody
April 25, 2012

Efficient coupling of AnyBody with ANSYS workbench
April 27, 2012

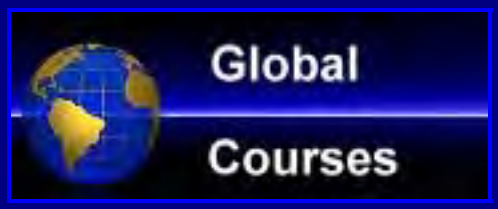
Additional Courses are offered – please check the website for upcoming dates for:

- FTI Forming Suite
- DIGIMAT
- DIFFPACK

Individual Training:

Take advantage of the expertise of our specialists and get to know how simulation processes in your company can be arranged in an optimal way.

Let us combine your expert knowledge in your particular company questions with our experience in handling with ANSYS and ANSYS Workbench. In an individual training we can develop efficient solution approaches hand in hand and we help you to use our software effectively.



Courses - DYNAmore

Germany

The Complete Courses Offered Can Be Found At: http://www.dynamore.de/en

eta/DYNAFORM Stuttgart, Jan. 23

Thermal Stuttgart, Jan. 25

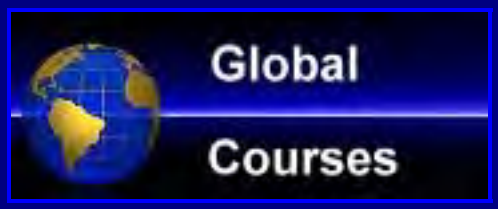
Intro LS-DYNA Stuttgart, Feb. 1

Intro Material Stuttgart, Feb. 3

Material Modeling Stuttgart, Feb. 6

Identification LS-OPT Stuttgart, Feb. 8

Material Failure Stuttgart, Feb. 9:



Courses - LSTC
USA

The Complete Courses Offered Can Be Found At: http://www.lstc.com

Please check the site for accuracy and changes.
Among the many course offering are the following:

Implicit Analysis with LS-DYNA
MI
January 16-17, 2012

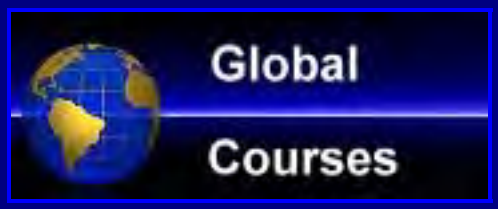
Introduction to LS-PrePost (no charge)
CA
January 30, 2012

Introduction to LS-DYNA
CA
January 31 - February 3, 2012

NVH and Frequency Domain Analysis with LS-DYNA
CA
February 7-8, 2012

ALE/Eulerian & Fluid/Structure Interaction in LS-DYNA
CA
February 20-22, 2012

Smoothed Particle Hydrodynamics (SPH) in LS-DYNA and Element-Free Galerkin (EFG)
CA
February 23-24, 2012



Courses - DYNAmore Nordic AB

Sweden

The Complete Courses Offered Can Be Found At: http://www.dynamore.se

Please check the site for accuracy and changes.
Among the many course offering are the following:

LS-PrePost 3, introduction
March 12, 2012
Anders Jernberg Fars Hatt,
Kungälv

LS-DYNA, introductory course
March 13, 2012
Dr. Jimmy Forsberg Fars Hatt,
Kungälv

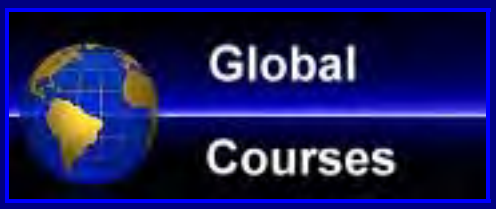
ANSA & Metapost, Introductory course
March 20, 2012
David Karlsson
Linköping

ANSA CFD Meshing
March 22, 2012
David Karlsson
Linköping

LS-DYNA, implicit analysis
March 27, 2012
Dr. Thomas Borrvall
Linköping

LS-DYNA, Simulation of sheet metal forming processes
April 17, 2012
Dr. Mikael Schill
Linköping

LS-DYNA, Material modelling
April 24, 2012
Dr. Thomas Borrvall
Linköping



Courses - AS+

Alliance Services Plus
AS+
France

The complete Training Courses offered can be found at
http://www.asplus.fr/ls-dyna
Please check the site for accuracy and changes.
Among the many course offering are the following

Coming soon …

LS-DYNA Unified Introduction Implicit & Explicit Solver (to be held in Paris)
16-19/01

LS-DYNA Explicit/Implicit solver – Special University Training session (to be held in Toulouse)
15-18/02 – Special University Price
(date to be confirmed)

Other regular courses (in Paris) …

LS-DYNA Introduction Explicit Solver
10-12/09

LS-DYNA Introduction Implicit Solver
24/09

LS-DYNA Unified Introduction Implicit & Explicit Solver
16-19/01, 18-21/06 & 12-15/11

LS-OPT & LS-TaSC Introduction
21-22/03 & 24-25/10

Switch to LS-DYNA
2-3/04 & 10-11/10

Switch from Ls-PrePost 2.X to 3.X
4/04 & 26/09 & 28/11

LS-DYNA Advanced Implicit Solver
25/09

LS-DYNA ALE / FSI
19-20/03 & 22-23/10

LS-DYNA SPH
21-22/05 & 8-9/10

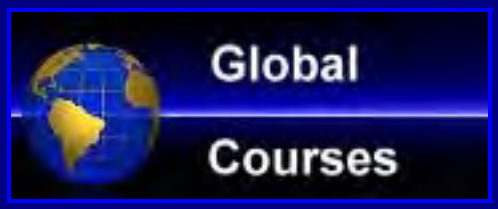
LS-PrePost 3.0 – Advanced meshing capabilities
5/04 & 27/09 & 29/11

LS-DYNA User Options
23-24/05

LS-DYNA – Plasticity, Damage & Failure – By Paul DU BOIS
26-27/11
(date may be changed in Q1)

LS-DYNA – Polymeric materials – By Paul DU BOIS
12-13/12

LS-DYNA – Geo-material modeling
14-15/12



Courses - ETA

USA

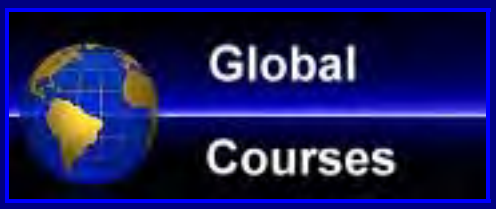
The Complete Courses Offered Can Be Found At: http:www.eta.com

Please check the site for accuracy and changes.
Among the many course offering are the following:

Introduction to DYNAFORM
- January 03-04, 2012
- February 07-08, 2012

Introduction to PreSys
- January 10, 2012
- February 14, 2012

Introduction to LS-DYNA
- January 17-18, 2012
- February 21-22, 2012



Courses – CAE Associates

USA

The Complete Courses Offered Can Be Found At: http://www.caeai.com

Please check the site for accuracy and changes.
Among the many course offering are the following:

CAE Associates

ANSYS Training, CFD and FEA Consultants Serving CT, NJ, NY, MA, NH , VT

1579 Straits Turnpike / Suite 2B / Middlebury, CT 06762 / Phone: 203.758.2914

Feb 28, 2012 2 days
Introduction to Fatigue & Fracture Analysis
Middlebury, CT

Mar 05, 2012 1 day
ANSYS DesignModeler
Middlebury, CT

Mar 06, 2012 2 days
Introduction to ANSYS Mechanical (Workbench)
Middlebury, CT

Apr 12, 2012 2 days
Introduction to CivilFEM
Middlebury, CT

Apr 16, 2012 3 days
Introduction to ANSYS Mechanical APDL Part I (Traditional GUI
Middlebury, CT

Apr 19, 2012 2 days
Introduction to ANSYS Mechanical APDL Part II (Traditional GUI)
Middlebury, CT

May 14, 2012 1 day
ANSYS Workbench Meshing for CFD
Middlebury, CT

May 15, 2012 2 days
Introduction to CFX
Middlebury, CT

Jun 11, 2012 1 day
ANSYS DesignModeler
Middlebury, CT

Jun 16, 2012 2 days
Introduction to ANSYS Mechanical (Workbench)
Middlebury, CT

Oasys LS-DYNA UK Users' Meeting 2012
Wednesday 25th January 2012

The ninth in a series of update meetings for Oasys LS-DYNA Users will be held at our office in Solihull on Wednesday 25th January 2012.

As in previous years, this event will bring together around 70 users of the Oasys and LS-DYNA software to provide information on upcoming features of Oasys and LS-DYNA and to learn more about current and new applications, as well as other related software products.

We are looking forward to talks from the Oasys team at Arup and other invited guests yet to be confirmed. Full agenda will be avialable online soon.
The event will be followed by a complimentary meal at The Boot Inn in Lapworth kindly sponsored by OCSL. Please ensure you register in advance to attend this evening meal.

Registration: This event is free of charge. To register for the event and the evening meal simply send an email with your company/affiliation and contact details to Katherine Groves. Please also let us know if you have any particular dietary requirements when you register.

Please note: in line with our company sustainability policy we do not plan to provide printed copies of the presentations for each attendee at the event; the presentations will be made available to download after the event. If you particularly require a printed copy on the day please let us know when you register.

Training Courses
The following training courses are provisionally scheduled around the time of the Oasys LS-DYNA UK Users' Meeting:

Mon 23rd - Tues 24th Jan
- Blast Modelling with LS-DYNA (with Paul Du Bois and Len Schwer)
- £1,000

Thur 26th Jan
- Penetration Modelling with LS-DYNA (with Paul Du Bois and Len Schwer)
- £600

Fri 27th Jan
- Oasys PRIMER & D-3PLOT - An Introduction to Javascripting
- FREE

The course costs listed above are per attendee and do not include VAT or any travel / accommodation expenses. For more information on all our courses see our training pages.

Venue:
The event will be held at The Arup Campus, Blythe Valley Park, Solihull, B90

8AE. Blythe Valley Park is located at junction 4 of the M42; please click here for a PDF map. Details for public transport to the Blythe Valley Park can be found here (links to the Blythe Valley Park website).

Meal after the event: The meal following the event will be held at The Boot Inn, Old Warwick Road, Lapworth, B94 6JU. As in previous years the meal is kindly sponsored by OCSL. The size of the restaurant is limited so please ensure you confirm to us that you plan to attend to avoid disappointment on the night.

Contact Details

If you would like more information on this event please contact:

Katherine Groves
Oasys LS-DYNA Project Administrator, Arup
T +44 (0) 121 213 3291
E Katherine Groves

12th International LS-DYNA® Users Conference

http://www.ls-dynaconferences.com - Update by Marsha Victory

The 12th International LS-DYNA Users Conference

I am proud to announce that we've passed our last conference of 98 presentations and, at this time, have accepted over 110 papers for presentation. To accommodate our new number of presentations we have reserved extra space. Two new areas will host their own sessions – constitutive modeling, and electromagnetics.

Among the booth and sponsorships now confirmed are:

- ARUP
- BETA CAE Systems, USA, Inc.
- DatapointLabs
- ESI North America
- Engineering Technology Associates
- D3View
- FEA Information
- JSOL
- SGI

Additional will be posted in January 2012.

This conference we will host two Pre-Conference Specials.

Pre Conference	Pre Conference
Paul du Bois	Philip Ho
User Material Dev.in LS-DYNA	New Features of LS-Prepost 3.2
$350.00	$No Fee
registration available Jan.	contact pho@lstc.com to reserve placement

The conference will begin with Plenary and Keynote Addresses June 4th

Dr. Thomas J.R. Hughes - The University of Texas
Dr. David J. Benson - University of California
Kenji Takada - Honda Japan
Paul A. Du Bois

For exhibitor booth and sponsorships please contact me – Marsha vic@lstc.com

Seventh M.I.T. Conference on Computational Fluid and Solid Mechanics

http://www.seventhmitconference.org/

Dear Colleague,

We had a very successful Sixth Conference last June and now all is proceeding very well in the preparation of the Seventh M.I.T. Conference with the Focus on Multiphysics & Multiscale, please see

We would be glad if you would contribute to the Conference, and perhaps even organize a special session focusing on an exciting topic related to your research.

Please note that the Titles and Abstracts for full length papers (to be published in Computers & Structures) are due already in January 2012 !

Best regards,
KJ Bathe

Professor K.J. Bathe, Ph.D., D.Sc., Dr.-Ing. E.h., Dr. h.c. mult.
Massachusetts Institute of Technology, tel. 617.253.6645
http://meche.mit.edu/people/faculty/index.html?id=10
.

Canada	Metal Forming Analysis Corporation - MFAC - Contact: galb@mfac.com
USA	Engineering Technology Associates, Inc Contact: sales@eta.com
USA	SE&CS Contact: len@schwer.net
USA	Predictive Engineering Contact: george.laird@predictiveengineering.com
USA	CAE Associates Contact: info@caeai.com
USA	AEG Product Engineering Services Contact: support@engineering-group.com
USA	APACS Services Inc. Contact: apacs@comcast.net

Consulting - Europe

DENMARK	FaurConAps Contact: faurholdt@faurcon.com
FRANCE	ALYOTECH TECHNOLOGIES Contact: nima.edjtemai@alyotech.fr
FRANCE	ALLIANCE SERVICES PLUS Contact: v.lapoujade@asplus.fr
Germany	CADFEM GmbH Contact: ls-dyna@cadfem.de
Germany	DYNAmore Contact: uli.franz@dynamore.de
ITALY	EnginSoft SpA Contact: info@enginsoft.it
Netherlands	Infinite Simulation Systems, B.V Contact: j.mathijssen@infinite.nl
Sweden	DYNAmore Nordic Contact marcus.redhe@dynamore.se
UK	OVE ARUP & PARTNERS Contact: brian.walker@arup.com

Consulting - Asia Pacific

China	Ove Arup & Partners Contact: stephen.zhao@arup.com
China	ETA China Contact: lma@eta.com.cn
China	Shanghai Hengstar Technology Corp. http://www.hengstar.com
INDIA	nHance Engineering Solutions Pvt Ltd Contact: lavendra.singh@arup.com
INDIA	EASi Engineering Contact: rvenkate@easi.com
JAPAN	JSOL Corporation Contact: cae-info@sci.jsol.co.jp
JAPAN	Itochu Techo-Solutions Corp. Contact: ls-dyna@ctc-g.co.jp
JAPAN	LANCEMORE Contact: info@lancemore.jp
KOREA	THEME Engineering Contact: wschung@kornet.net
KOREA	KOREAN SIMULATION TECHNOLOGIES Contact: young@kostech.co.kr

Software Distributors Global

Alpha Order by Country

Canada	Metal Forming Analysis Corp - MFAC http://www.mfac.com/ galb@mfac.com
China	ETA China http://www.eta.com.cn/ lma@eta.com.cn
China	OASYS Ltd. (software house of Arup) http://www.oasys-software.com/dyna/en stephen.zhao@arup.com
China	Shanghai Hengstar Technology Corp. http://www.hengstar.com
France	ALYOTECH TECH. http://www.alyotech.fr nima.edjtemai@alyotech.fr
France	ALLIANCE SVCE. PLUS - AS+ http://www.asplus.fr/ls-dyna v.lapoujade@asplus.fr
Germany	CADFEM http://www.cadfem.de/en lsdyna@cadfem.de
Germany	DYNAmore http://www.dynamore.de/ uli.franz@dynamore.de
Greece	PhilonNet Engineering Solutions http://www.philonnet.gr stavroula.stefanatou@philonnet.gr

Global

India	OASYS Ltd. (software house of Arup) http://www.oasys-software.com/dyna/en lavendra.singh@arup.com
India	EASi Engineering http://www.easi.com/ rvenkate@easi.com
India	CADFEM Eng. Svce India http://www.cadfem.in/ info@cadfem.in
Italy	EnginSoft SpA http://www.enginsoft.it/ info@enginsoft.it
Japan	JSOL Corporation http://www.jsol.co.jp/english/cae cae-info@sci.jsol.co.jp
Japan	ITOCHU Techno-Solutions Corp. http://www.engineering-eye.com/ ls-dyna@ctc-g.co.jp
Japan	FUJITSU http://jp.fujitsu.com\solutions\hpc\app\lsdyna\

Global

Korea	Theme Engineering http://www.lsdyna.co.kr/ wschung@kornet.net
Korea	Korea Simulation Technologies http://www.kostech.co.kr young@kostech.co.kr
Netherlands	Infinite Simulation Systems, BV http://www.infinite.nl/ j.mathijssen@infinite.nl
Sweden	DYNAmore Nordic http://www.dynamore.se marcus.redhe@dynamore.se
Taiwan	Flotrend Corporation http://www.flotrend.com.tw/ gary@flotrend.tw
Russia	State Unitary Enterprise –STRELA info@ls-dynarussia.com

Global

United Kingdom	OVE ARUP & PARTNERS http://www.oasys-software.com/dyna/en/ dyna.sales@arup.com
USA	Livermore Software Tech. Corp. - LSTC http://www.lstc.com/ sales@lstc.com
USA	Engineering Tech. Assc. Inc. – ETA http://www.eta.com/ sales@eta.com
USA	DYNAMAX http://www.dynamax-inc.com/ sales@dynamax-inc.com

Press Release

ESI

EXCERPT

ESI announces the release of Visual-Environment 7.5, an open and collaborative virtual prototyping platform

http://www.esi-group.com/corporate/news-media/press-releases/2011-english-pr/

The Casting simulation solution in Visual-Environment.

Paris, France – 14 December, 2011 – ESI Group, pioneer and world-leading solution provider in virtual prototyping for manufacturing industries, announces the release of Visual-Environment 7.5, a flexible and open engineering framework within a common platform, addressing multiple simulation domains. Visual-Environment encompasses the entire Computer-Aided Engineering (CAE) process, from interfacing with Computer-Aided Design (CAD) to model set-up and post processing; all using a single core compute model.

“Grupo Antolin uses Visual-Environment for pre and post treatment of virtual vehicle seat prototypes. Thanks to the new enhancements for task automation, accurate safety tools corresponding to our needs, and easy-to-use data export and automation in the post-treatment, we saved about 50% time for each simulation loop,” affirms Franck Chantegret, Simulation Manager, Grupo Antolin Seats Business Unit.

This latest release Visual-Environment 7.5 provides important improvements related to software usability. Pre and post-processing are now visually integrated within the environment for improved user experience. Overall, this new version offers a better look and feel and common windows and page management that deliver enhanced graphic unity to run smooth, flawless workflows.

The increasingly intuitive user interface also offers greater interaction. For example, from the homepage, users can access shortcuts to their most common operations, recently loaded files, and useful quick links such as software highlights and online social networks.

Press Release

Fujitsu

http://www.fujitsu.com/global/news/pr/archives/month/2011/20111205-01.html

EXCERPT:

Fujitsu Launches TC Cloud Services for Analytical Simulations

Enabling computational environments for utilizing analysis applications to be built quickly due to initial operational testing

Tokyo, December 5, 2011 — Fujitsu today announced the launch of three services in Japan, from its TC Cloud family of cloud services for analytical simulations: (1) Analytical Platform Service Standard Class(1), which provides a computational environment for conducting analytical simulations; (2) Analytical Platform Service High-Performance Class; and (3) Analytical Help Desk, which provides support for running analytical simulations.

Analytical Platform Service Standard Class provides access to a computational environment for conducting analytical simulations that is ideal for medium-scale parallel computations. The service is available starting from a single node for a period of at least one month. Analytical Platform Service High-Performance Class, which is intended for large-scale parallel computations, provides a high-performance computing environment connected to a high-speed network. Analytical Help Desk delivers deployment as well as operational support and training for running analytical simulations.

Fujitsu has been testing the operation of analysis applications, sold by Fujitsu and independent software vendors, on these analytical platforms (such as structural analysis, form analysis, electromagnetic wave analysis, and thermal fluid analysis), making it possible for customers to quickly build and utilize computational environments with these applications.

The new service enables customers to optimize their computational resources and flexibly respond to sudden demand by allowing them to quickly scale their resources up or down in accordance with fluctuations in their need to run analyses. ….

Products	BETA CAE Systems S.A.–

Provides complete CAE pre- and post-processing solutions. ANSA, the world wide standard pre-processor and full product modeler for LS-DYNA, with integrated Data Management and Task Automation. μETA, with special features for the high performance an effortless 3D & 2D post-processing of LS-DYNA results.

BETA CAE Systems S.A.– ANSA

Is an advanced multidisciplinary CAE pre-processing tool that provides all the necessary functionality for full-model build up, from CAD data to ready-to-run solver input file, in a single integrated environment. ANSA is a full product modeler for LS-DYNA, with integrated Data Management and Process Automation. ANSA can also be directly coupled with LS-OPT of LSTC to provide an integrated solution in the field of optimization.

BETA CAE Systems S.A.– μETA

Is a multi-purpose post-processor meeting diverging needs from various CAE disciplines. It owes its success to its impressive performance, innovative features and capabilities of interaction between animations, plots, videos, reports and other objects. It offers extensive support and handling of LS-DYNA 2D and 3D results, including those compressed with SCAI's FEMZIP software

Products	CRAY

http://www.cray.com

Cray provides a suite of highly advanced systems – for the single user to large research centers Cray XK6™

The Cray XK6 supercomputer combines Cray's proven Gemini interconnect, AMD's leading multi-core scalar processors and NVIDIA's powerful many-core GPU processors to create a true, productive hybrid supercomputer

Cray XE6™ and Cray XE6m™ Supercomputers - The Cray XE6 scalable supercomputer is engineered to meet the demanding needs of capability-class HPC applications. The Cray XE6m is optimized to support scalable workloads in the midrange market.

Cray XMT™ System - The Cray XMT supercomputing system is a scalable massively multithreaded platform with a shared memory architecture for large-scale data analysis and data mining. The system is purpose-built for parallel applications that are dynamically changing, require random access to shared memory and typically do not run well on conventional systems.

Cray CX1000™ High(brid) Performance Computers - The Cray CX1000 series is a dense, power efficient and supremely powerful rack-mounted supercomputer featuring best-of-class technologies that can be mixed-and-matched in a single rack – creating a customized hybrid computing platform to meet a variety of scientific workloads.

Cray Sonexion 1300™ Storage System - The Cray Sonexion 1300 system is an integrated, high performance storage system that features next-generation modular technology to maximize the performance and capacity scaling capabilities of the Lustre file system.

Cray also offers custom and third-party storage and data management solutions

Products	ETA

http://www.eta.com

ETA is the developer of the Inventium Suite™, PreSys™, VPG and DYNAFORM.

Inventium Suite™ - Inventium Suite™ is an enterprise-level CAE software solution, enabling concept to product. Inventium's first set of tools will be released soon, in the form of an advanced Pre & Post processor, called PreSys.

Inventium's unified and streamlined product architecture will provide users access to all of the suite's software tools. By design, its products will offer a high performance modeling and post-processing system, while providing a robust path for the integration of new tools and third party applications.

The solution will include some progressive new tools, while retaining ETA's legacy software products VPG and DYNAFORM. These two flagship products will be released under the Inventium™ architecture later this year. In the meantime, these applications continue to be available.

PreSys - Inventium's core FE modeling toolset. It is the successor to ETA's VPG/PrePost and FEMB products. PreSys offers an easy to use interface, with drop-down menus and toolbars, increased graphics speed and detailed graphics capabilities. These types of capabilities are combined with powerful, robust and accurate modeling functions.

VPG - Advanced systems analysis package. VPG delivers a unique set of tools which allow engineers to create and visualize, through its modules--structure, safety, drop test, and blast analyses.

DYNAFORM - Complete Die System Simulation Solution. The most accurate die analysis solution available today. Its formability simulation creates a "virtual tryout", predicting forming problems such as cracking, wrinkling, thinning and spring-back before any physical tooling is produced.

Products	ESI Group

http://www.esi-group.com

ESI Group Visual-CRASH For DYNA

Visual-Crash for LS-DYNA helps engineers perform crash and safety simulations in the smoothest and fastest possible way by offering an intuitive windows-based graphical interface with customizable toolbars and complete session support. Being integrated in ESI Group's Open VTOS, an open collaborative multi-disciplinary engineering framework, Visual-Crash for DYNA allows users to focus and rely on high quality digital models from start to finish. Leveraging this state of the art environment, Visual Viewer, visualization and plotting solution, helps analyze LS-DYNA results within a single user interface.

http://www.esi-group.com/products/vibro-acoustics

vibro-acoustic software

With ESI's vibro-acoustic software you no longer have to. Account for noise and vibration right at the design stage - no more costly delays or panic driven test-based solutions. Our vibro-acoustic software has everything you need to diagnose potential noise and vibration problems up front in your development process. Manage risk by identifying possible problem areas that may need more detailed modeling or test based development, while you still have time to make an impact on the product!

VA One : The ONE simulation environment for vibro-acoustic analysis and design

VA One is a complete solution for simulating the response of vibro-acoustic systems across the full frequency range. VA One seamlessly combines Finite Elements (FE), Boundary Elements (BEM) and Statistical Energy Analysis (SEA) in ONE model. It is the only simulation code on the market today that contains the complete spectrum of vibro-acoustic analysis methods within ONE common environment.

Products	GNS

http://www.gns-mbh.com/169.html

GNS - Gesellschaft für Numerische Simulation mbH

Animator4 is a general finite element post-processor and holds a leading position in its field. Animator4 is used worldwide by almost all automotive companies, a great number of aerospace companies, and within the chemical industry.

Generator2. Generator2 is a specialized pre-processor for crashworthiness applications and has become very successful in the field of passenger safety and pedestrian protection. It is mainly used as a positioning tool for finite element component models by a great number of automobile companies throughout the world.

Indeed is an easy-to-use, highly accurate virtual manufacturing software that specializes in the simulation of sheet metal forming processes. Indeed is part of the GNS software suite and works concurrently with all other GNS software products.

OpenForm is extremely easy to handle and can be used as a pre- and post-processor independently of a particular finite element forming simulation package. The software was designed to enable those who are not finite element experts to carry out multi-stage forming simulations with even complex multi purpose finite element codes.

Products	Gompute

http://www.gompute.com

Gompute on demand® - Gridcore AB in Sweden

A Cloud HPC service oriented to Technical and Scientific users.

Gompute is owned, developed and operated by Gridcore AB in Sweden. Founded in 2002, Gridcore is active in three areas: Systems Integration, Research & Development and HPC as a service.

Gridcore has wide experience of different industries and applications, developed a stable product portfolio to simplify an engineer/scientist's use of computers, and has established a large network of partners and collaborations, where we together solve the most demanding computing tasks for our customers. Gridcore has offices in Gothenburg (Sweden), Stuttgart (Germany), Durham NC (USA) and sales operations in The Netherlands and Norway.

Website: www.gridcore.se

The Gridcore developed E-Gompute software for internal HPC resources gives end users (the engineers) a easy to use and complete environment when using HPC resources in their daily work, and enables collaboration, advanced application integrations, remote pre/post, accounting/billing of multiple teams, license tracking, and more, accelerating our customers usage of virtual prototyping.

Products	JSOL

HYCRASH

Stamping-Crash Coupled Analysis

http://ls-dyna.jsol.co.jp/en/hycrash/index.html

JSOL Corp. has developed "HYCRASH", easy-to-use one step solver. HYCRASH only requires the panels' geometry to calculate manufacturing process effect, geometry of die are not necessary. Additionally, as this is target to usage of crash/strength analysis, even forming analysis data is not needed. If only crash/strength analysis data exists and panel ids is defined. HYCRASH extract panels to calculate it's strain, thickness, and map them to the original data.

JSTAMP/NV

http://www.jstamp.jp/en/index.html

Integrated Forming Simulation System for Virtual Tool Shop

As an integrated press forming simulation system for virtual tool shop the JSTAMP/NV meets the various industrial needs from the areas of automobile, electronics, iron and steel, etc. The JSTAMP/NV gives satisfaction to engineers, reliability to products, and robustness to tool shop via the advanced technology of the JSOL Corporation.

JMAG

http://www.jmag-international.com/

JMAG uses the latest techniques to accurately model complex geometries, material properties, and thermal and structural phenomena associated with electromagnetic fields. With its excellent analysis capabilities, JMAG assists your manufacturing process

Products	Oasys, Ltd

http://www.oasys-software.com/dyna/en

Oasys Primer is a model editor for preparation of LS-DYNA input decks. - OASYS software for LS-DYNA

Oasys software is custom-written for 100% compatibility with LS-DYNA.

Oasys PRIMER offers model creation, editing and error removal, together with many specialist functions for rapid generation of error-free models. Oasys also offers post-processing software for in-depth analysis of results and automatic report generation.

Oasys D3Plot is a 3D visualization package for post-processing LS-DYNA analyses using OpenGL® (SGI) graphics.