

LS-DYNA®

International Conferences

2013

China & Int'l Conference

2014

US & Int'l Conference

2015

European & Int'l Conference



LSTC US - DYNAMORE Germany – Dalian Fukun China

- **LS-DYNA R7 Three New Solvers for Multiphysics Purposes**
- **LS-OPT Version 5.0**
- **Comet Solutions Expands Presence in China**

FEA Information Inc. is a publishing company founded April 2000, incorporated in the State of California July 2000, and first published October 2000. The initial publication, FEA Information News continues today as FEA Information Engineering Solutions. The publication's aim and scope is to continue publishing technical solutions and information, for the engineering community.

FEA Information Inc. Publishes:

FEA Information Engineering Solutions
FEA Information Engineering Journal
FEA Information China Engineering Solutions

FEA Information Engineering Solutions:

A monthly publication in pdf format sent via e-mail, additionally archived on the website FEA Publications. www.feapublications.com

FEA Information China Engineering Solutions

The first edition was published February 2012. It is published in Simplified and Traditional Chinese in pdf format. Published : February, April, June, August, October, December. The China Solutions is archived on the website FEA Publications. www.feapublications.com
To sign up for the Traditional, or Simplified edition write to yanhua@feainformation.com

FEA Information Engineering Journal: ISSN #2167-1273, first published February, 2012

Available on www.feaij.com

All company or product names mentioned in the FEA Information Engineering Solutions are trademarks, or registered trademarks of their respective owners.

Information provided in the FEA Information Engineering Solutions is accurate at time of publication from articles submitted and company websites but is subject to change without advance notice. All articles and/or information should be verified for changes with the respective company named in the article.



Platinum Participants



www.beta-cae.gr



www.cray.com



DatapointLabs

www.datapointlabs.com



www.eta.com



www.esi-group.com



www.gns-mbh.com



<http://gridcore.se>



www.hengstar.com/



www.jsol.co.jp/english/cae



LSTC
Livermore Software
Technology Corp.

www.lstc.com



[www.oasys-
software.com/dyna/en/](http://www.oasys-software.com/dyna/en/)



kaizenat.com



www.dfe-tech.com

LANCEMORE Co.

www.lancemore.jp/index_en.html



The performance engineering workspace

www.cometsolutions.com

Table of Contents

03	Global Solution Leaders
04	Table of Contents
05	Announcements
07	LS-DYNA R7 Three New Solvers for Multiphysic Purposes
08	US & Int'l LS-DYNA® Users
09	CHINA & Int'l LS-DYNA® Users
10	LS-DYNA Classes Kaizenat – India
11	Review 9th European LS-DYNA Users' Conference
12	Comet Solutions Expands Presence in China Market
14	LS-OPT® Version 5.0
17	CAE Associates ANSYS e-Learning
18	Cray Lustre Storage Solution
20	Solutions Participant
32	Distribution & Consulting
44	Cloud Service - LS-DYNA
45	Training Classes
47	Social Media Listings
49	THUMS
50	GOMPUTE
51	Reference Library
56	Employment – Resume
57	Site Showcase

Announcements

Not to Miss Articles

LS-DYNA R7 Three New Solvers for Multiphysic Purposes

The LS-DYNA International Users' Conferences:

- US & Int'l LS-DYNA® Users Conference
- CHINA & Int'l LS-DYNA® Users Conference
- European & Int'l & LS-DYNA® Users Conference (Introduction in July Issue)

Comet Solutions Expands Presence in the China Market

LS-OPT® Version 5.0

Sincerely, Marsha Victory, Trent Eggleston

FEA Information



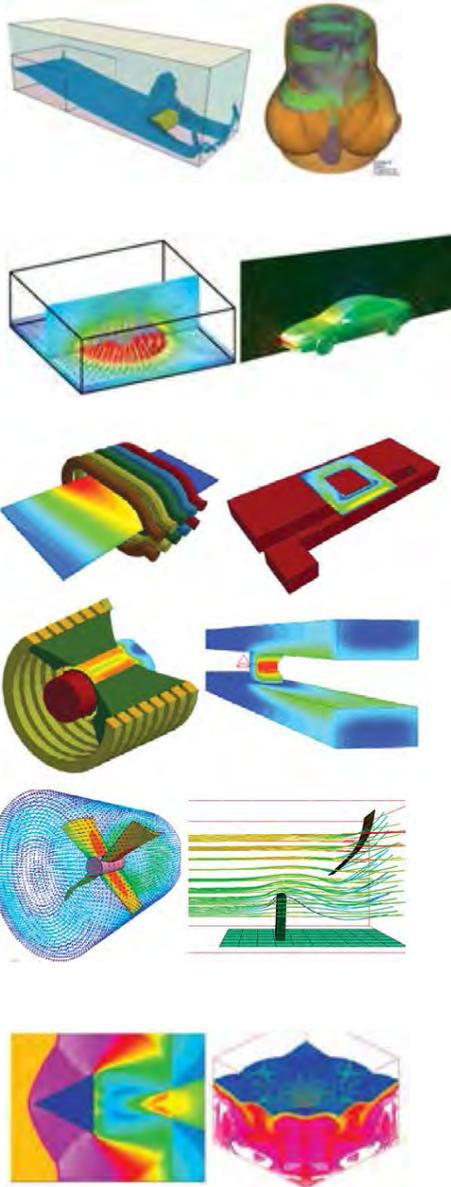
My pony Sir Cody, during a riding lesson for a friend's daughter.

May 2013 FEA Information Engineering Solutions

07	ANSA & μ ETA v14.1.0 Dummy Positioning & Restraining
12	Cray XC30-AC supercomputer
15	DatapointLabs Material Properties to Industries
18	Fujitsu Receives Supercomputer Order from Nagoya University
21	GNS - Gesellschaft für Numerische Simulation mbH
22	ETA - PreSys - engineering simulation

LS-DYNA R7 Three New Solvers for Multiphysic Purposes

Incompressible CFD (ICFD)



Electromagnetics (EM)

CESE/Compressible CFD and Chemistry

Incompressible CFD: The incompressible flow solver is based on state of the art Finite Element technology applied to fluid mechanics. It is fully coupled with the solid mechanics solver. This coupling permits robust FSI analysis via either an explicit technique when the FSI is weak, or using an implicit coupling when the FSI coupling is strong. In addition to being able to handle free surface flows, there is also a bi-phasic flow capability that involves modeling using a conservative level-set interface tracking technique. Basic turbulence models are also supported. This solver is the first in LS-DYNA to make use of a new volume mesher that takes nice surface meshes bounding the fluid domain as input.

The Electromagnetism Solver: solves the Maxwell equations in the Eddy current (induction-diffusion) approximation. This is suitable for cases where the propagation of electromagnetic waves in air (or vacuum) can be considered as instantaneous. Therefore, the wave propagation is not solved. The main applications are magnetic metal forming or welding, induced heating, and so forth. The EM module allows the introduction of a source of electrical current into solid conductors and the computation of the associated magnetic field, electric field, as well as induced currents.

CESE/ Compressible CFD: The CESE solver is a compressible flow solver based upon the Conservation Element/Solution Element (CE/SE) method, originally proposed by Dr. Chang in NASA Glenn Research Center. This method is a novel numerical framework for conservation laws. It has many non-traditional features, including a unified treatment of space and time, the introduction of conservation element (CE) and solution element (SE), and a novel shock capturing strategy without using a Riemann solver.

Register Now for the Following Classes – Contact classes@lstc.com

California - Jul 30th-Aug 2nd LS-DYNA

California - Aug 8th-9th Contact

California - Aug 13th-14th Composite Materials

California - Aug 26th-28th ALE/Eulerian/FSI

Michigan - Aug 19th LS-PrePost

Michigan - Aug 20th-23rd LS-DYNA

classes@lstc.com

**US & Int'l LS-DYNA® Users
Conference – 13th
June 08-10, 2014**



LSTC US & DYNAmore Germany
The 13th US & International LS-DYNA® Users Conference
June 08-10, 2014 Dearborn, MI

Welcome and Call For Papers

Livermore Software Technology Corporation (LSTC) is pleased to bring engineers, professors, students, consultants, industry leaders and interested parties together at the 13th International LS-DYNA® Users Conference to be held at the Adoba Hotel (formerly the Hyatt Regency) Dearborn, MI.

Abstract Deadline: 11/11/2013	email your abstract to: papers@lstc.com	Notification: No later than 12/15/2013
Paper Deadline: March 05, 2014	The presenter of each accepted paper will receive free admission to the conference, provided that the presenter registers for a room at the Adoba Hotel under LSTC Conference registration.	

Application Areas Being Accepted for Paper Submission:

• Aerospace	• Heat Transfer	• Seismic Engineering
• Automotive Crashworthiness	• Impact and Drop Testing	• Ship Building
• Ballistic and Penetration	• Manufacturing Processes	• Transportation
• Biomechanics	• Metal Forming	• Virtual Proving Ground
• Civil Engineering	• Modeling Techniques	
• Compressible Fluid Dynamics	• Nuclear Applications	
• Electromagnetics	• Occupant Safety	

Abstract Length: Approximately 300 words; please include figures, if possible
Paper Length: Maximum of 3000 words, single-spaced, on 8-1/2" x 11" paper
Format: A MS Word template will be provided
Contact: papers@lstc.com

Livermore Software Technology Corporation
(925) 449-2500 www.lstc.com www.ls-dynaconferences.com

**CHINA & Int'l LS-DYNA® Users
Conference – 1st
October 16, 2013**

**LSTC US & Dalian Fukun Technology, Ltd. China
The 1st China & International LS-DYNA® Users Conference
Oct. 16 at Dalian, China.**



**The 1st China & US LS-DYNA® Users Conference
Dalian Fukun China & LSTC US
Oct. 16th-18th, 2013 - Dalian, China**

Dalian Inn Fine Hotel, Dalian China.

Join us to meet LSTC Developers, Dalian Developers, Professors, Engineers all dedicated to the growth of LS-DYNA and alliance partners products in the China market. Expected are attendees from Taiwan, Thailand, Korea, US, and other countries.

Learn new LS-DYNA features, share your LS-DYNA experience with developers, professors, and engineers from industry experts, end users and LSTC/Dalian developers.

China was chosen due to the rapid growth in CAE technology. LS-DYNA, as the leading finite element software in the industry, has been well acknowledged and widely adopted in China and worldwide, in various industries such as Automotive, Aerospace and Aeronautics, and Electrical & Electronics.

Headquartered in Livermore, California, Livermore Software Technology Corporation (LSTC) develops LS-DYNA and a suite of related and supporting engineering software products: LS-PrePost, LS-OPT, LS-TaSC and LSTC's ATD and Barrier Models.

The conference will be held regularly and be China's main LS-DYNA Conference platform for researchers and engineers to exchange ideas, new developments and to encourage communications between software developers, users, and others in industry and academia

We welcome all LS-DYNA users to share their knowledge by submitting papers.

Site: www.dalianfukun.com/conference

Contact us: chinaconf@lstc.com

For any queries, Reach training@kaizenat.com, 080 6535 1801/2, 0 95910 73900

A great opportunity for training on best practices of LS-DYNA, covering various topics, by Dr. Al Tabiei, who for the past 20 years has been teaching and offering consultancy to eclectic groups like consortium of engineers, enterprises, research organizations, universities, and labs spanning across 15 countries.

Kaizenat is pleased to present Dr. Al Tabiei, who is in India to offer 2 days classes on LS-DYNA Advanced options.

Day 1 Introduction

- The nonlinear finite element dynamic equations
- Time integration and time step, difference between explicit and implicit time integration

0930hrs-1300hrs

- Material model technology, some common material models will be discussed
- Element technology, what element formulation should be selected
- (Spring elements, truss elements, beam elements, shell elements & solid elements)

Lunch break

Hourglass technology, what hourglass energy should be used

1400hrs-1730hrs

- Contact technology, what contact should be used
- Quasi-static simulation using explicit FE

Day 2 Damping and dynamic relaxation.

0930hrs-1300hrs

- Multi-step analysis & Stress initialization.
- Filtering Impact Data Reduction-FFT

Lunch Break

- Intermittent Eigen value, Frequency Response, Random Vibration, Battling Divergence

1400hrs-1730hrs

- Guidelines for FE Modelling and simulation.
- Questions & Answers
- There will be several cases illustrated to reinforce the lectures and the concepts presented.
- Lunch & two sessions of coffee with snacks for both the days is included in the fee mentioned
- Course certificate by Dr. Al Tabiei will be provided

Course 1 July 22nd-23rd

The ARAI, Vetal Hill, Off Paud Road, Kothrud, Pune, India

Course 2 July 25th-26th

Ivy-the unwind island, Marathahalli Ring Road. Opp. Prestige Tech Park, Kadubisanahalli-Bangalore

Review

Conference website: <http://arup.cvent.com/euroconference>

The 9th European LS-DYNA Users' conference was hosted at Manchester Central Convention Complex, UK from the 2nd – 4th June 2013.



The event, kicked off by a special guest presentation from Chris Boardman MBE, brought together around 300 delegates to catch up with colleagues from academia and industry, hear from the software developers and present their work.

Twenty-four organisations also exhibited and a Gala Dinner was held on the Monday night at the Museum of Science and Industry; a venue that perfectly reflected the topics being discussed during the two days.

We would like to thank everyone who attended and presented and especially thank all of our sponsors and exhibitors for their contribution to the success of the event.

Papers

The full suite of papers from the conference will shortly be available to download from www.dynalook.com



Comet Solutions® Intensifies Pursuit Of High-Growth Opportunities Throughout China Adds Four New Distribution Partners and Establishes Chines Trading Company

www.cometsolutions.com

**Cincinnati, OH and Shanghai, China —
May 13, 2013**

Comet Solutions, Inc., the innovative provider of Comet® software for design process automation across repeatable simulation workflows starting early in the product design cycle, is excited to announce several major changes which expand the company's presence in the China market.

Establishes Trading Company For Greater Control Over China Expansion Plans

Effective April 1, 2013, Comet established a Wholly Foreign Owned Enterprise (WFOE), Comet Solutions (China) Co., Ltd. Last year, the company opened a China Representative Office. Strong sales results led to the recent decision to establish a trading company, which enables more flexibility to pursue Comet's growth strategy in China, especially through hiring personnel and expanding partner relations.

Adds Four New Distribution Partners

Comet has expanded its sales channels in China from a single partner to distribution agreements with four new partners, all whose deep CAE experience, services capabilities, and commitment to customer success make them ideally suited to deliver design automation solutions based on Comet software. Dan Meyer, President and CEO of Comet Solutions, remarked, "Our company is committed to expanding the availability of its software in China through partners. We believe that partners are key to serving the market because they provide the local relationships, technical services, training, and support that are essential for our customers in China to be successful using Comet software on their engineering projects."

The four new distribution partners, all of which provide solutions for CAD, CAE, and PLM, are:

- Anwise Technology, based in Beijing.
- Chengdu CAE Technology, based in Chengdu.
- DEMX, based in Shanghai.
- Flyond Technology, based in Beijing.

The addition of these four partners not only gives Comet more geographic coverage, but also increases its industry coverage, including automotive, aviation, power transmission, and ship building.

Relocates China Office To Central Shanghai Location and Opens New Technical Center

Comet has moved its China office to a central Shanghai location near the famous Shanghai Stadium. In addition, the company has founded a Technical Center at this office to better serve the needs of multiple distribution partners and a rapidly growing customer base in China. The Technical Center provides technical sales support, services, and training, and serves as a hub for Comet user events. A team of application engineers with extensive CAE industry experience staffs the Technical Center.

Comet's revenue in China grew over 50% in 2012, serving high-profile customers such as Tangshan Locomotive, China Academy of Space Technology, and Shanghai Institute of Technical Physics. Commented Meyer, "China is the world's fastest growing large economy and is in the midst of tremendous spending in sectors which demand advanced engineering solutions, such as high-speed rail, aircraft, space, and automotive. With our recent expansion in China, we are now well-

positioned for continued high company growth."

Comet is looking to other parts of the Asia-Pacific region, besides China, to continue its trajectory as one of the fastest growing companies in the PLM industry. Last year, the company announced a partnership with JSOL's Engineering Technology Division to bring Comet software to the Japan market. The company also anticipates launching sales through partners in India in 2013. Comet is successfully pursuing its strategy to expand resources in sales, marketing, and customer support following a new equity capital round that closed in early 2012.

About Comet Solutions, Inc.

Comet Solutions® is a pioneer in model-based engineering and Abstract Engineering Model® technology. Comet® software is a tool-open and extensible performance engineering workspace that enables automation of design and modeling tasks, and concurrent engineering. With Comet, companies simplify the complex process of engineering product systems and make Computer-Aided Engineering more impactful to the delivery of innovative, higher quality, and cost-effective products. For more about Comet Solutions' products, send email to info@cometsolutions.com or visit the company's website at www.cometsolutions.com.

Nielen Stander, Senior Scientist, LSTC

Livermore Software Technology Corporation is pleased to announce the release of LS-OPT® Version 5.0.

LS-OPT® is a simulation-based Multidisciplinary Optimization tool with integrated reliability and robust design features.

The main focus of Version 5 has been the development of a new graphical user interface to accommodate Process Optimization. Problem setup has been simplified while transparency of the setup and job monitoring has been significantly enhanced.

Process Simulation and Optimization

Although any solver step which involves pre- or post-processing can be considered a simple process, Process Simulation and Optimization applies mainly to manufacturing. Some of the typical LS-DYNA® applications are in sheet metal forming but there are more complex manufacturing processes in which LS-DYNA® can be used as part of a multi-disciplinary process employing multiple solvers and user-defined tools.

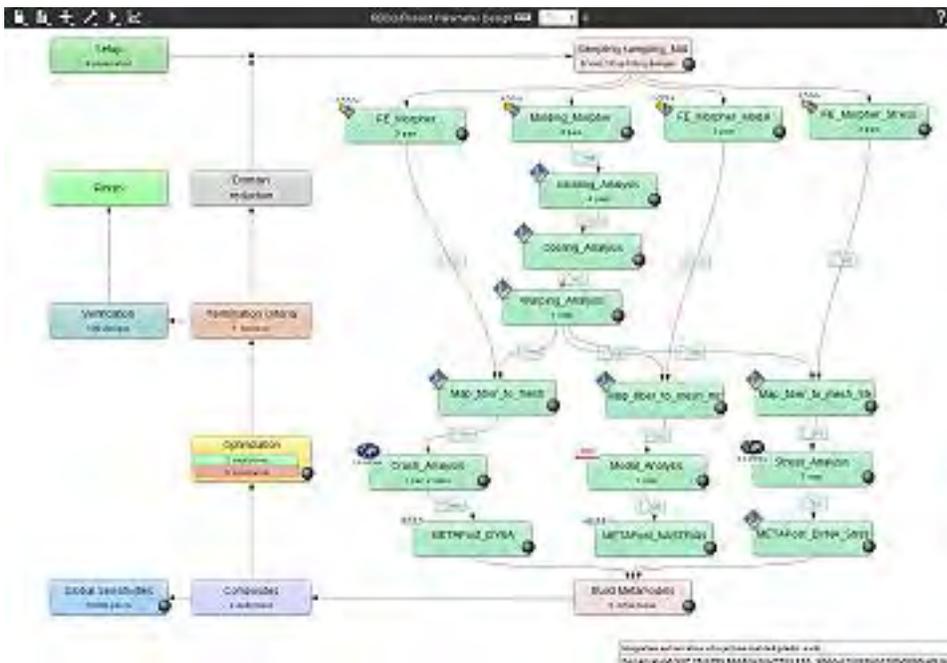


Figure 1: Flowchart-based GUI of LS-OPT® Version 5. The interconnected stages between Sampling and Metamodels represent the flow of multidisciplinary solution stages.

An example is the design of an injection molding process for plastic parts (Figure 1). In addition to geometric and sizing parameters, the manufacturing of a part can be subject to design changes which affect the optimality of the final design. This example requires a geometric preprocessor, a molding analysis, warping analysis and material mapping utilities. The manufacturing stages are typically followed by multiple parallel load cases such as impact, durability and vibration, using LS-DYNA® and other solvers and post-processors.

In this example the process flow must be allowed to merge and branch.

The new LS-OPT® GUI has been designed around a graphical flowchart created (e.g. by adding, moving, cloning and connecting stages) by the user during the setup phase. Transparency is enhanced by allowing the user to easily verify the parameter status of source files (Figure 2). This feature facilitates troubleshooting during the setup phase.

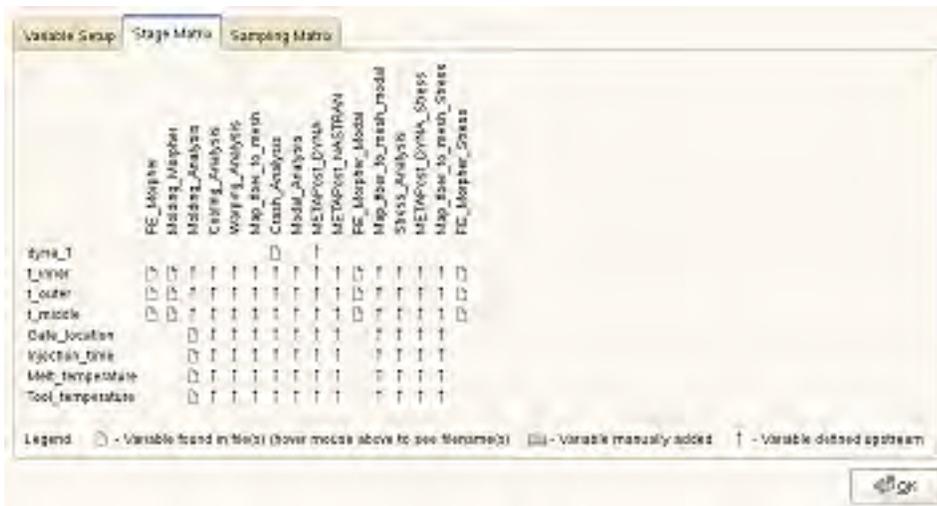


Figure 2: Chart for visualizing parameter definitions and file sources for each stage during the setup phase. Hovering the mouse over an icon displays the names of the corresponding source files.

During run-time the user can follow the progress of each step in the iterative design process when running solver jobs locally or remotely. The stage-based simulation progress monitor allows detailed monitoring of the simulation progress, including the logs of

individual LS-DYNA® jobs. Features have also been added to monitor progress and completion of any particular optimization phase (e.g. sampling, meta-modeling or optimization) in the process flow.

Although the different solution stages can be executed in the same run directory for a particular design, file operations can be defined to also copy or move files between stage directories.

To enhance the load balancing of the simulations, stage-based computing resource limits can be specified to set e.g. the number of cores, solver licenses, disk space, memory limits, etc. Resource definitions apply to individual or multiple stages, while cpu's per solver job can be specified to accommodate e.g. LS-DYNA® MPP runs. These features vastly improve the load balancing of concurrent simulation runs especially where different load cases are run on different servers or clusters.

Nielen Stander nielen@lstc.com
Livermore, CA June, 2013

Additional LS-OPT 5 enhancements are described in the LS-OPT User's Manual available from the LSTC website indicated below.

Downloads of LS-OPT® Version 5.0 are available for Linux and Microsoft Windows (32/64 bit) operating systems at <http://www.lstc.com/download/ls-opt>.

The contributions and dedication of developers are hereby gratefully acknowledged

- Anirban Basudhar,
- Trent Eggleston,
- Åke Svedin,
- Katharina Witowski,
- Christoffer Belestam
- David Björkevik

CAE Associates' ANSYS e-Learning Series Marked One Year Anniversary June 17, 2013

This July, CAE Associates ANSYS eLearning Series marks its one year anniversary. We are excited to continue to offer these webinars. New topics are will be premiering throughout the summer.

Drawing on 30+ years of providing Engineering Advantage to our ANSYS community, members of our technical staff have developed a series of 30 minute online webinars. The goal is to help our customers get the most of their software investment through:

- Focused content based on usability.
- Feedback generated topics, applicable to you.
- Live software demonstrations.
- Presentations developed by our senior engineers that, like you, use ANSYS daily to solve real-world engineering problems.

The "ANSYS e-Learning" series continues with the sessions listed below. There is no charge to

attend. Please visit our website to see more details and to register:

- Combining Different Mesh Types in Workbench - June 25th or 27th
- Fracture Mechanics in ANSYS Workbench 14.5 - July 16th or 18th
- Working with Joints in ANSYS Mechanical - August 6th or 8th
- Using the ANSYS Remote Solve Manager for Efficient Solutions - August 27th or 29th

1579 Straits Turnpike / Suite 2B
Middlebury, CT 06762

Phone: (203) 758-2914 / FAX: 203.758.2965

CAE Associates / CFD Analysis and FEA
Consultants Serving CT, NJ, NY, MA, NH, VT
& the World

www.cray.com News Release

SEATTLE, WA and LEIPZIG, GERMANY -- (Marketwired) -- 06/18/13 -

Cray Launches Complete Lustre Storage Solution Across HPC and Big Data Computing Markets

At the 2013 International Supercomputing Conference in Leipzig, Germany, global supercomputer leader Cray Inc. (NASDAQ: CRAY) today announced the launch of Cray Cluster Connect -- a complete Lustre storage solution for x86 Linux clusters. A compute agnostic storage and data management offering, Cray Cluster Connect allows customers to utilize their Linux compute environment of choice, while also leveraging Cray's scalable storage expertise in "Big Data" and supercomputing.

"Cray has a long, rich history in the HPC storage space, and we have built some of the largest and fastest Lustre file systems in the world," said Barry Bolding, Cray's vice president of storage and data management. "With Cray Cluster Connect, we are applying our Lustre expertise and innovation, and taking all that we have learned, developed and invested in parallel storage solutions to an expanded customer base. We can now deliver end-to-end, Lustre storage solutions for customers' existing x86 Linux environments. With the launch of Cray Cluster Connect, our storage and data management solutions are no longer limited to Cray supercomputer customers."

Available now, Cray Cluster Connect provides customers with a complete, end-to-end Lustre solution consisting of hardware, networking, software, architecture and support. Compatible with commodity x86 Linux clusters to high-end supercomputers, Cray Cluster Connect is designed to provide an optimal experience and a single point of service. Cray performs comprehensive testing and full qualification of systems at scale, ensuring a reliable and available storage solution. Customers also receive a trusted single point of service and support, available globally, covering all aspects of their Lustre storage solution, including hardware, software and integration.

With Cray Cluster Connect, customers can choose from a wide range of storage options, including block storage components from DataDirect Networks and NetApp, as well as the Cray Sonexion storage system. Cray Cluster Connect includes the Lustre Client by Cray for x86 Linux, a choice of Cray supplied Lustre storage systems (both appliance and component-based offerings), and also data management and storage connectivity tools for data movement, archiving and managemet

"Based on its acceptance in research environments, Lustre is already the most commonly named technology for scaling data infrastructures in the high performance computing industry," said Addison Snell, CEO of Intersect360 Research. "With the supported, optimized Cray Cluster Connect solution, Cray is leveraging its storage experience and has the opportunity to increase Lustre's presence in commercial environments with a wider range of production workloads in HPC and Big Data."

"Sophisticated, scale-out file system technologies deliver the highest customer value when the efficient, high performance storage is combined with deep systems-level architecture, delivery and support expertise," said Jeff Denworth, VP of Marketing for DataDirect Networks. "DDN is pleased to further its partnership with Cray through today's Cluster Connect announcement. A broad number of industries and applications can now easily implement and benefit from DDN file storage technologies that have been tested at the highest levels of the scalability spectrum where Cray has a rich history of proven performance and expertise."

"NetApp is pleased to be part of the Cray Cluster Connect solution," said Dave Mooney, Vice President, Worldwide E-Series Sales Specialist Team, NetApp. "Our E-Series technology enables this end-to-end solution for production-level Lustre

environments -- providing the performance needed in high performance environments with ease-of-use and data protection through our Dynamic Disk Pool technology."

The introduction of Cray Cluster Connect is the Company's latest storage and data management offering. Cray offers an appliance option using Cray Sonexion -- a scale-out storage system that vastly reduces deployment time and simplifies storage management for petascale solutions. Cray Sonexion addresses a broad range of customers as it provides performance scalability from five gigabytes per-second to one terabyte per-second in a single file system and performs optimally at scale. Cray is also an original founder and board member of OpenSFS -- a consortium focused on advancing Lustre capabilities and keeping Lustre open -- and will follow the OpenSFS roadmap for Lustre.

Additional information on the Cray Cluster Connect and Cray's scalable storage solutions can be found on the Cray website.

About Cray Inc. (full information can be found at www.cray.com) Global supercomputing leader Cray Inc. (NASDAQ: CRAY) provides innovative systems and solutions...

Cray is a registered trademark of Cray Inc. in the United States and other countries, and Sonexion is a registered trademark of Cray Inc. Other product and service names mentioned herein are the trademarks of their respective owners.

BETA CAE Systems S.A.

www.beta-cae.gr

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 or 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

CRAY

<http://www.cray.com/Products/Products.aspx>

www.cray.com

The 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

relationship analytics. uRiKA enables enterprises to discover unknown and hidden relationships in Big Data, perform real-time analytics on Big Data graph problems, and realize rapid time to value on Big Data solutions.

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.

The uRiKA graph appliance complements an existing data warehouse or Hadoop cluster.

Cray XMT™ System YarcData uRiKA™ Graph Appliance

The YarcData uRiKA graph appliance is a purpose built solution for Big Data

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

DatapointLabswww.datapointlabs.com

Testing over 1000 materials per year for a wide range of physical properties, DatapointLabs is a center of excellence providing global support to industries engaged in new product development and R&D.

The company meets the material property needs of CAE/FEA analysts, with a specialized product line, TestPaks®, which allow CAE analysts to easily order material testing for the calibration of over 100 different material models.

DatapointLabs maintains a world-class testing facility with expertise in physical properties of plastics, rubber, food, ceramics, and metals.

Core competencies include mechanical, thermal and flow properties of materials with a focus on precision properties for use in product development and R&D.

Engineering Design Data including material model calibrations for CAE Research Support Services, your personal expert testing laboratory Lab Facilities gives you a glimpse of our extensive test facilities Test Catalog gets you instant quotes for over 200 physical properties.

ETA – Engineering Technology Associates
etainfo@eta.com

www.eta.com

Invention Suite™

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

Invention'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.

PreSys

Invention'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

ESI Groupwww.esi-group.com

Visual-Environment: Visual-Environment is an integrated suite of solutions which operate either concurrently or standalone within a common environment. It aims at delivering an open collaborative engineering framework. As such, it is constantly evolving to address various disciplines and available solvers.

Visual-Crash is a dedicated environment for crash simulation: It helps engineers get their job done in the smoothest and fastest possible way by offering an intuitive windows-based graphical interface with customizable toolbars and complete session support.

For LS-DYNA users, Visual-Crash DYNA allows to focus and rely on high quality digital models, from start to finish as it addresses the coupling with competitive finite element or rigid body based software. This very open and versatile environment simplifies the work of CAE engineers across the enterprise by facilitating collaboration and data sharing.

Further tools are integrated in Visual-Environment enhancing CAE engineers work tasks most efficiently.

Visual-Mesh generates 1D, 2D and 3D elements for any kind of simulation.

Visual-Mesh provides automatic and guided surfaces clean up, application specific mesh generation and intuitive post mesh editing features..

Visual-Viewer is a complete, productive and innovative post-processing environment for CAE applications.

Visual-Viewer delivers a dedicated plotting and animation control solution. It offers a multi page, multi plot environment, allowing to group data into pages and plots. It is designed with a Windows GUI based on an intuitive and sleek user interface.

Visual-Process Executive is an advanced CAE environment for process customization and automation.

VisualDSS is an End-to-End Decision Support System for CAE. Manufacturers widely resort to Simulation-Based Design to gain a competitive edge in product development.

GNS - Gesellschaft für Numerische Simulation mbH

www.gns-mbh.com

Animator4

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.

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

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

A pre- and post-processor independently of a particular finite element forming simulation package. The software is extremely easy to handle and can be used as 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.

Compute on demand®/ Gridcore AB Sweden

www.gompute.com www.gridcore.se

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) an 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

JSOL Corporation

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

HYCRASH

Easy-to-use one step solver, for Stamping-Crash Coupled Analysis. 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

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

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

Livermore Software Technology Corp.

www.lstc.com

LS-DYNA

A general-purpose finite element program capable of simulating complex real world problems. It is used by the automobile, aerospace, construction, military, manufacturing, and bioengineering industries. LS-DYNA is optimized for shared and distributed memory Unix, Linux, and Windows based, platforms, and it is fully QA'd by LSTC. The code's origins lie in highly nonlinear, transient dynamic finite element analysis using explicit time integration.

LS-PrePost

An advanced pre and post-processor that is delivered free with LS-DYNA. The user interface is designed to be both efficient and intuitive. LS-PrePost runs on Windows, Linux, and Macs utilizing OpenGL graphics to achieve fast rendering and XY plotting.

LS-OPT

LS-OPT is a standalone Design Optimization and Probabilistic Analysis package with an interface to LS-DYNA.

The graphical preprocessor LS-OPTui facilitates definition of the design input and the

creation of a command file while the postprocessor provides output such as approximation accuracy, optimization convergence, tradeoff curves, anthill plots and the relative importance of design variables.

LS-TaSC

A Topology and Shape Computation tool. Developed for engineering analysts who need to optimize structures, LS-TaSC works with both the implicit and explicit solvers of LS-DYNA. LS-TaSC handles topology optimization of large non-linear problems, involving dynamic loads and contact conditions.

LSTC Dummy Models

Anthropomorphic Test Devices (ATDs), as known as "crash test dummies", are life-size mannequins equipped with sensors that measure forces, moments, displacements, and accelerations.

LSTC Barrier Models

LSTC offers several Offset Deformable Barrier (ODB) and Movable Deformable Barrier (MDB) model.

Oasys, Ltd

www.oasys-software.com/dyna

Oasys LS-DYNA® Environment

The Oasys Suite of software, exclusively written for LS-DYNA®, is at the leading edge of the market and is used worldwide by many of the largest LS-DYNA® customers.

Oasys PRIMER is a model preparation tool that is fully compatible with the latest version of LS-DYNA®, eliminating the risk of data loss or corruption when a file is manipulated, no matter what operations are performed on it:

Key benefits:

- Maintains data integrity
- Finds and fixes model errors (currently over 5000 checks)
- Specialist tools for dummy positioning, seatbelt fitting, mechanisms, interior head impact etc.
- Connection manager for spotwelds, bolts, adhesive etc.
- Intelligent editing, deletion and merging of data
- Customisable with macros and JavaScript.

Oasys D3PLOT is a powerful 3D visualization package for post-processing LS-DYNA® analyses

Key benefits:

- Fast, high quality graphics
- Easy, in-depth access to all LS-DYNA® results.
- User defined data components
- Customisable with JavaScript.

Oasys T/HIS is an X-Y graph plotting package for LS-DYNA®

Key benefits:

1. Automatically reads all LS-DYNA® results.
2. Wide range of functions and injury criteria.
3. Easy handling of data from multiple models
4. Scriptable for automatic post-processing

Oasys REPORTER is an automatic report generation tool, for use with LS-DYNA®, which allows fast automatic report creation for analyses.

Shanghai Hengstar

www.hengstar.com

Center of Excellence

Hengstar Technology is the first LS-DYNA training center of excellence in China. As part of its expanding commitment to helping CAE Engineers, Hengstar Technology will continue to organize high level training courses and seminars in 2012.

The lectures/training are taught by senior engineers and experts mainly from LSTC, Carhs, OEMs, and other consulting groups.

On Site Training

Hengstar also provides customer customized training programs on-site at the company facility.

Training is tailored for company needs using LS-DYNA or the additional software products by LSTC.

Distribution & Support

Hengstar Distributes and supports LS-DYNA, LS-OPT, LS-PrePost, LS-TaSC. Hongsheng Lu, previously was directly employed by LSTC before opening his distributorship in China for LSTC software.

Hongsheng travels to LSTC often to keep current on the latest software features and support to continue to grow Hengstar as a CAE consulting group.

Comet Solutions

www.cometsolutions.com

Comet enables rapid and robust design space exploration from concept discovery and selection through concept validation using a model-based engineering approach. We empower our customers to discover an array of possible design concepts, evaluate which ones are feasible, then select the best.

Comet software is a tool-open, extensible, vendor-neutral performance engineering

workspace that lets engineers and engineering project teams readily carry out multi-fidelity, multi-physics modeling and simulation.

In the Comet workspace, companies can better leverage all of their simulation assets – “best practices” expertise, COTS as well as in-house engineering tools, and product performance data.

Canada **Metal Forming Analysis Corp MFAC** galb@mfac.com

www.mfac.com

LS-DYNA LS-OPT LS-PrePost LS-TaSC
 LSTC Dummy Models LSTC Barrier Models eta/VPG
 eta/DYNAFORM INVENTIUM/PreSys

United States **CAE Associates Inc.** info@caeai.com
www.caeai.com

ANSYS Products CivilFem Consulting ANSYS
 Consulting LS-DYNA

United States **DYNAMAX** sales@dynamax-inc.com
www.dynamax-inc.com

LS-DYNA LS-OPT LS-PrePost LS-TaSC
 LSTC Dummy Models LSTC Barrier Models

**United
States**

ESI-Group N.A

www.esi-group.com

QuikCAST

SYSWELD

PAM-RTM

PAM-CEM

VA One

CFD-ACE+

ProCAST
Process

Visual-

VisualDSS

Weld Planner

Visual-Environment

IC.IDO

**United
States**

Engineering Technology Associates – ETA

www.eta.com

etainfo@eta.com

INVENTIUM/PreSy

NISA

VPG

LS-DYNA

LS-OPT

DYNAform

**United
States**

Gompute

www.gompute.com

info@gompute.com

LS-DYNA Cloud Service

Additional software

Additional Services

**United
States**

Comet Solutions

steve.brown@cometsolutions.com

Comet Software

United
States

Livermore Software Technology Corp

sales@lstc.com

LSTC www.lstc.com

LS-DYNA

LS-OPT

LS-PrePost

LS-TaSC

LSTC Dummy Models

LSTC Barrier Models

TOYOTA THUMS

United
States

Predictive Engineering

george.laird@predictiveengineering.com

www.predictiveengineering.com

FEMAP

NX Nastran

LS-DYNA

LS-OPT

LS-PrePost

LS-TaSC

LSTC Dummy Models

LSTC Barrier Models

France**DynAS+**v.lapoujade@dynasplus.comwww.dynasplus.com

LS-DYNA

LS-OPT

LS-PrePost

LS-TaSC

DYNAFORM

VPG

MEDINA

LSTC Dummy Models

LSTC Barrier Models

Germany**CADFEM GmbH**lsdyna@cadfem.dewww.cadfem.de

ANSYS

LS-DYNA

optiSLang

ESAComp

AnyBody

FTI FormingSuite

Germany

DYNAmore GmbHuli.franz@dynamore.dewww.dynamore.de

PRIMER	LS-DYNA	FTSS	VisualDoc
LS-OPT	LS-PrePost	LS-TaSC	DYNAFORM
Primer	FEMZIP	GENESIS	
TOYOTA THUMS		LSTC Dummy & Barrier Models	

Germany

GNSmbox@gns-mbh.comwww.gns-mbh.com

Animator	Generator	Indeed	OpenForm
----------	-----------	--------	----------

The
Netherlands**Infinite Simulation Systems B.V**j.mathijssen@infinite.nlwww.infinite.nl

ANSYS Products	CivilFem	CFX	Fluent
LS-DYNA	LS-PrePost	LS-OPT	LS-TaSC

Italy**EnginSoft SpA**info@enginsoft.itwww.enginsoft.it

ANSYS

MAGMA

Flowmaster

FORGE

CADfix

LS-DYNA

Dynaform

Sculptor

ESAComp

AnyBody

FTI Software

AdvantEdge

Straus7

LMS Virtual.Lab

ModeFRONTIER

Russia**STRELA**info@dynamore.com

LS-DYNA

LS-TaSC

LS-OPT

LS-PrePost

LSTC Dummy Models

LSTC Barrier Models

Sweden**DYNAmore Nordic**marcus.redhe@dynamore.sewww.dynamore.se

ANSA

μETA

LS-DYNA

LS-OPT

LS-PrePost

LS-TaSC

FastFORM

DYNAform

FormingSuite

LSTC Dummy Models

LSTC Barrier Models

Sweden**GRIDCORE**info@gridcore.comwww.gridcore.se

LS-DYNA Cloud Service

Additional software

Switzerland

DYNAmoreSwiss GmbH

info@dynamore.chwww.dynamore.ch

LS-DYNA

LS-OPT

LS-PrePost

LS-TaSC

LSTC Dummy Models

LSTC Barrier Models

UK

Ove Arup & Partners

dyna.sales@arup.comwww.oasys-software.com/dyna

LS-DYNA

LS-OPT

LS-PrePost

LS-TaSC

PRIMER

D3PLOT

T/HIS

REPORTER

SHELL

FEMZIP

HYCRASH

DIGIMAT

Simpleware

LSTC Dummy Models

LSTC Barrier Models

Australia LEAP

www.leapaust.com.au

ANSYS Mechanical	ANSYS CFD	ANSYS EKM	Recurdyn
ANSYS DesignXplorer	ANSYS HPC	FlowMaster	Ensign
LS DYNA	DYNAform	Moldex 3D	FE-Safe

China ETA – China

lma@eta.com.cn

www.eta.com/cn

Inventium	VPG	DYNAFORM	NISA
LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
		LSTC Barrier Models	LS-TaSC

China Oasys Ltd. China

Stephen.zhao@arup.com

www.oasys-software.com/dyna

PRIMER	D3PLOT	HYCRASH	T/HIS	REPORTER	SHELL
LS-DYNA		LS-OPT		LSTC Dummy Models	LS-PrePost
DIGIMAT		FEMZIP		LSTC Barrier Models	LS-TaSC

China Shanghai Hengstar Technology

info@hengstar.com

www.hengstar.com

LS-DYNA	LS-TaSC	LSTC Barrier Models	
LS-DYNA Courses	LS-OPT	LSTC Dummy Models	LS-PrePost

India	Oasys Ltd. India	lavendra.singh@arup.com		
	www.oasys-software.com/dyna			
	PRIMER	D3PLOT	T/HIS	
		LS-OPT	LSTC Dummy Models	LS-PrePost
		LS-DYNA	LSTC Barrier Models	LS-TaSC

India	CADFEM Eng. Svce	info@cadfem.in		
	www.cadfem.in			
	ANSYS	VPS	optiSLang	ESAComp
	LS-DYNA		LS-OPT	LSTC Dummy Models
	FTI FormingSuite		AnyBody	LSTC Barrier Models
				DIGIMAT
				LS-PrePost
				LS-TaSC

India	Kaizenat Technologies Pvt. Ltd	support@kaizenat.com		
	http://kaizenat.com/			
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
	Dedicated to LSTC Software		LSTC Barrier Models	LS-TaSC

Japan	ITOCHU	LS-dyna@ctc-g.co.jp		
	www.engineering-eye.com			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	CmWAVE	

Japan	JSOL			
	www.jsol.co.jp/english/cae			
	JSTAMP	HYCRASH	JMAG	
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	TOYOTA THUMS	

Japan	FUJITSU			
	http://jp.fujitsu.com/solutions/hpc/app/lldyna			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	CLOUD Services	

Japan	LANCEMORE	info@lancemore.jp		
	www.lancemore.jp/index_en.html			
	Consulting LS-DYNA			

Korea	THEME	wschung@kornet.com		
	www.lsdyna.co.kr			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	Planets
	eta/DYNAFORM	FormingSuite	Simblow	TrueGRID
	JSTAMP/NV	Scan IP	Scan FE	Scan CAD
	FEMZIP			

Korea	KOSTECH	young@kostech.co.kr		
	www.kostech.co.kr			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM
	eta/DYNAFORM	DIGIMAT	Simuform	Simpack
	AxStream	TrueGrid	FEMZIP	

Taiwan	Flotrend	gary@flotrend.tw		
	www.flotrend.com.tw			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM

Taiwan	APIC			
	www.apic.com.tw			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM

Germany

Gridcore www.gridcore.se

Sweden

Gridcore www.gridcore.se

United States

Gompute www.gompute.com

Training Classes

Germany CADFEM GmbH

Training Classes

The Complete Courses Offered Can Be Found At: www.cadfem.de

Training Classes

Germany DYNAmore

Training Classes

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

Training Classes

United States LSTC

Training Classes

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

Training Classes

Sweden DYNAmore Nordic

Training Classes

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

Training Classes

France DynAS+

Training Classes

The complete Training Courses offered can be found at www.dynasplus.com

Training Classes**Thailand****Training Classes**

Complete Courses offered can be found at: <http://www.dfe-tech.com/training.html>

Training Classes**United States ETA****Training Classes**

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

Training Classes**United States CAE Associates****Training Classes**

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

Training Classes**France Alyotech Technologies****Training Classes**

For course location visit www.alyotech.fr



FACEBOOK

BETA CAE SYSTEMS SA

<http://www.facebook.com/pages/BETA-CAE-Systems-SA/193472524006194>

Cray Inc.

<http://www.facebook.com/crayinc>

ESI Group

<http://www.esi-group.com/corporate/facebook/>



TWITTER

BETA CAE SYSTEMS SA

<http://twitter.com/betacae>

Cray Inc.

http://www.twitter.com/cray_inc

ESI Group

<http://twitter.com/ESIGroup>

ETA

http://twitter.com/ETA_Inc

GNS

<https://twitter.com/gnsmbh>

**LINKEDIN**

BETA CAE SYSTEMS SA

http://www.linkedin.com/company/beta-cae-systems-s.a.?trk=fc_badg

Cray Inc.

<http://www.linkedin.com/company/4936>

ETA

<http://www.linkedin.com/groupRegistration?gid=1960361>

Oasys

http://www.linkedin.com/groups/Oasys-LSDYNA-Environment-Software-4429580?gid=4429580&trk=hb_side_g

**YOUTUBE**

BETA CAE SYSTEMS SA

<http://www.youtube.com/user/betacae>

Cray Inc.

<http://www.youtube.com/user/crayvideo>

ESI Group

<http://www.youtube.com/ESIGroup>

ETA

<http://www.youtube.com/user/etainfo1>

**NEWS FEEDS**

ETA: <http://eta.com/company/news-eta?format=feed&type=rss>

Total Human Model for Safety - THUMS

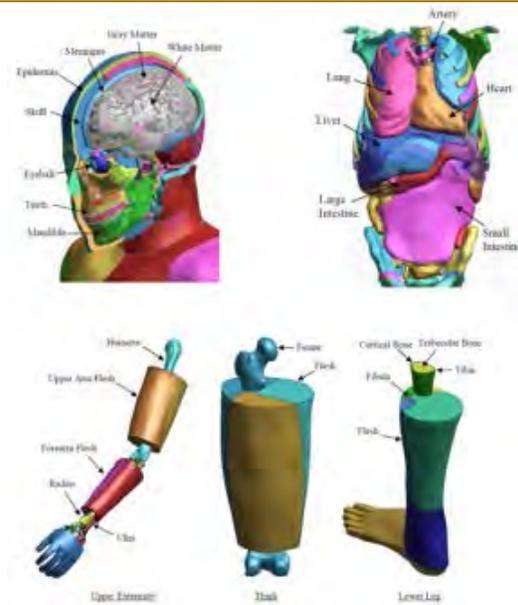
LSTC is the US distributor for THUMS



About

The Total Human Model for Safety, or THUMS®, is a joint development of Toyota Motor Corporation and Toyota Central R&D Labs. Unlike dummy models, which are simplified representation of humans, THUMS represents actual humans in detail, including the outer shape, but also bones, muscles, ligaments, tendons, and internal organs. Therefore, THUMS can be used in automotive crash simulations to identify safety problems and find their solutions.

THUMS is limited to civilian use and may under no circumstances be used in military applications.

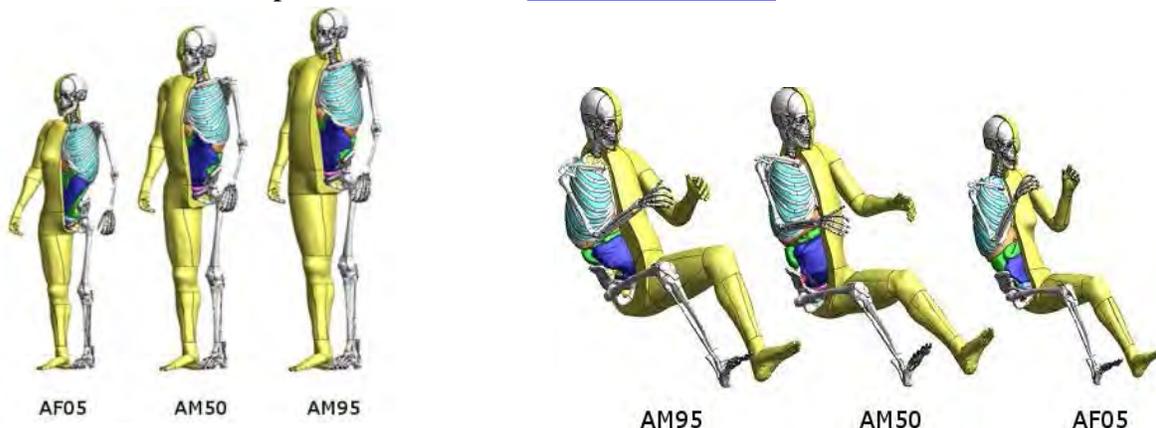


Model Details: Each of the different sized models is available as sitting model to represent vehicle occupants and as standing model to represent pedestrians.

The internal organs were modeled based on high resolution CT-scans.

LSTC is the US distributor for THUMS. Commercial and academic licenses are available.

For more information please contact us at THUMS@lstc.com.



THUMS®, is a registered trademark of Toyota Central R&D Labs.

HPC on-demand for academic users

**Run your LS-DYNA simulations and pay for what you use
on a turn-key environment**

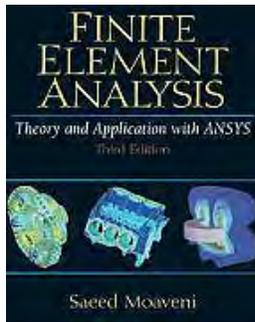


- For LSTC academic customers.
- Run your simulations from 0.05 €CCH without reservation
- Remote visualization using LS-PrePost
- Avoid installation and maintenance costs
- Other simulation applications also ready to use
- Global connectivity, remote graphics and collaborative environment
- Large number of cores available

For more information please visit: www.gompute.com

Price for computing-core/hour (CCH). Licenses and account set up are not included. Pricing valid only for universities, academic centers and research institutes. The following are trademarks or registered trademarks of Livermore Software Technology Corporation in the United States and/or other countries: LS-DYNA, LS-OPT, LS-PrePost, LS-TaSC. Gompute is owned and operated by Gridcore AB, 2012 All rights reserved.

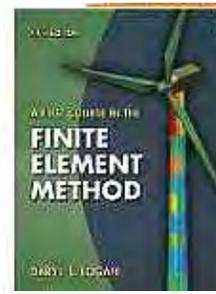
Time-Domain Finite Element Methods for Maxwell's Equations in Metamaterials (Springer Series in Computational Mathematics)	<i>Jichun Li</i>
Finite Element Analysis: A Primer (Engineering)	<i>Anand V. Kulkarni - V.K. Havanur</i>
Finite Element Methods for Engineers	Roger T. Fenner
July 2013 Finite Element Mesh Generation	<i>Daniel Lo</i>
January 2013 The Finite Element Method: Theory, Implementation, and Applications (Texts in Computational Science and Engineering)	<i>Mats G. Larson -, Fredrik Bengzon</i>
January 2013 Finite and Boundary Element Tearing and Interconnecting Solvers for Multiscale Problems (Lecture Notes in Computational Science and Engineering)	<i>Clemens Pechstein</i>
January 2013 Structural Analysis with the Finite Element Method. Linear Statics: Volume 2: Beams, Plates and Shells (Lecture Notes on Numerical Methods in Engineering and Sciences)	<i>Eugenio Oñate</i>
Elementary Continuum Mechanics for Everyone: With Applications to Structural Mechanics (Solid Mechanics and Its Applications)	<i>Esben Byskov</i>



[Finite Element Analysis
Theory and Application
with ANSYS \(3rd Edition\)](#)
Saeed Moaveni



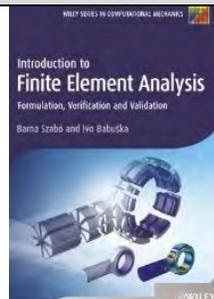
[Practical Stress
Analysis with Finite
Element](#)
Bryan J Mac Donald



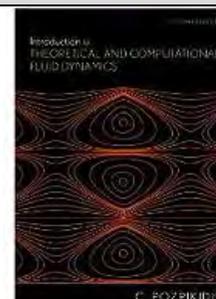
[A First Course in
the Finite Element
Method](#)
Daryl L. Logan



[Finite Element
Modelling Techniques
in MSC.NASTRAN
and LS/DYNA](#)
Sreejit Raghu



[Finite Element
Analysis/formulation
& verification](#)
B. A. Szabo

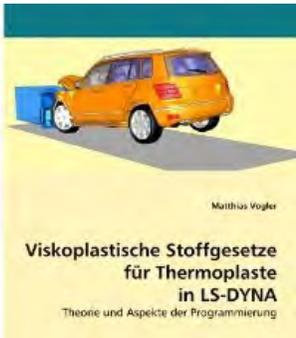


[Introduction to
Theoretical and
Computational Fluid
Dynamics](#)
C. Pozrikidis

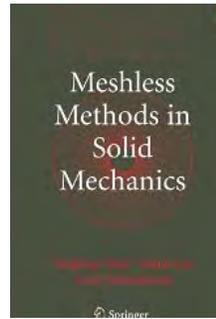
Reference Library

Recommended Reading

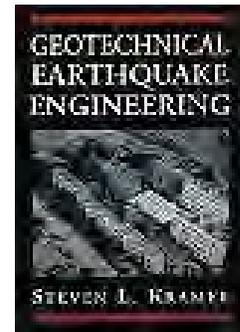
Reference Library



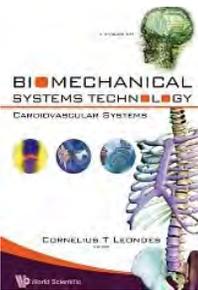
[Viskoplastische Stoffgesetze für Thermoplaste in LS-DYNA: Theorie und Aspekte der Programmierung](#)
Matthias Vogler



[Meshless Methods in Solid Mechanics](#)
Youping Chen



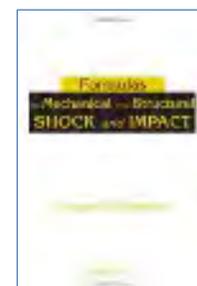
[Geotechnical Earthquake Engineering](#)
Steven Lawrence Kramer



[Biomechanical Systems Technology: Computational Methods](#)
Cornelius T. Leondes



[Numerical response of steel reinforced concrete slab subjected to blast and pressure loadings in LS-DYNA.](#)
Vivek Reddy

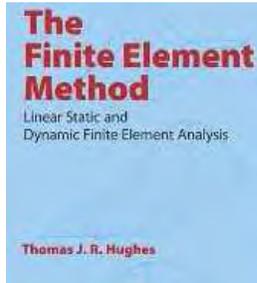


[Formulas for Mechanical and Structural Shock and Impact](#)
Gregory Szuladziniski

Reference Library

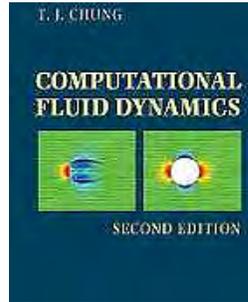
Recommended Reading

Reference Library



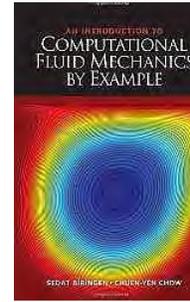
[The Finite Element Method](#)

Thomas J. R. Hughes



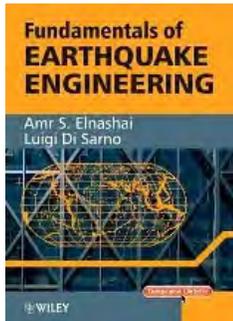
[Computational Fluid Dynamics](#)

T. J. Chung



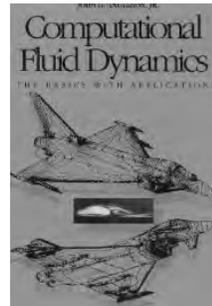
[An Introduction to Computational Fluid Mechanics by Example](#)

Sedat Biringen



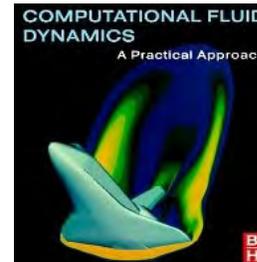
[Fundamentals of Earthquake Engineering](#)

Amr S. Elnashai



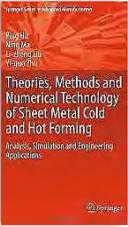
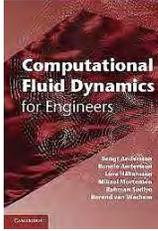
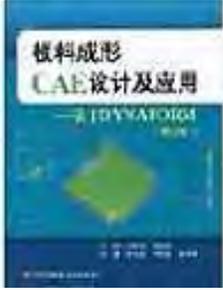
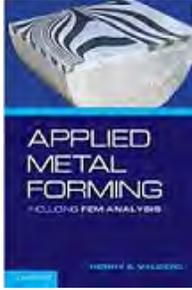
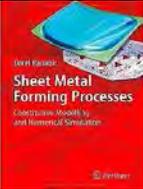
[Computational Fluid Dynamics](#)

John David Anderson



[Computational Fluid Dynamics: A Practical Approach \[Paperback\]](#)

Guan Heng Yeoh

			
<p><u>Theories, Methods...</u></p> <p>Ping Hu, Ning Ma, ...</p>	<p><u>CFD for Engineers</u></p>	<p><u>CAE design and sheet metal forming...</u></p> <p>Li Fei Zhou Deng</p>	<p><u>Applied Metal Forming</u></p>
			
<p><u>Micro Metal Forming (Lecture Notes in Production Engineering)</u></p>	<p><u>The Finite Element Method: Theory, Implementation, and Applications (Texts in Computational Science and Engineering) [Hardcover]</u></p>		

For full resume contact: mLgreer@msn.com

Mark Greer

2516 W. Country Bend Drive • South Jordan, UT 84095 • (801) 446-8300 • mLgreer@msn.com

MANAGEMENT: Program / Product Marketing, Alliance Marketing, MarCOM, Pre-Sales

PROFILE

Talented and accomplished Marketing professional with over 20 years of experience directing programs and projects. Consistent record of achieving dramatic increases in revenue. Expertise in facilitating Go-to-Market strategy, directing product launches, and supporting corporate sales efforts. Adept at managing effective teams. Ability to thrive in multi-tasking, entrepreneurial environment.

Product Marketing • Brand Management • Marketing Communications • Alliance/Partner Marketing
Consultative Sales • Go-to-Mkt Strategy • Distribution • Promotions • Problem Solving • Event Mgt
Competitive Analysis • Product Positioning • Negotiations • Process Improvement • Campaign Mgt

PROFESSIONAL EXPERIENCE

Symantec, Lindon, UT

2011 - Present

Sr., Product Marketing Manager

- Implemented cross-marketing web program to foster interest and drive upgrades from point solution to mid-range and flagship product offerings.
- Created / directed sales enablement direct marketing strategies to promote field sales campaigns, generated qualified sales leads and product intro opportunities
- Defined and drove product vision based on market trends and competitive insights; managed social media outreach (e.g. Twitter, Facebook, etc.)

Pearson Data Solutions, Sandy, UT

2009 - 2011

Program | Product Marketing Manager

- Responsible for building and implementing corporate communications strategies (press/analyst relations, messaging, branding), online strategies, product marketing, and lead generation, awareness and adoption programs.
- Created, fostered brand / solution awareness for state education agencies (SEA) for securing multi-million dollar/multi-year statewide longitudinal data and data warehouse systems.
- Supervised project and content localization for worldwide marketing / sales initiatives.

GERMANY **CADFEM GmbH** www.cadferm.de



TAIWAN **Flotrend Corporation** www.flotrend.com.tw



KOREA Kostech www.kostech.co.kr



JAPAN Lancemore Co. www.lancemore.jp

