Maximizing ROI on Test and Durability

Product Overview:

nCode Automation is a complete environment for automated data storage, analysis and reporting. It also provides a web-based collaborative interface for sharing test data and associated information throughout an organization.
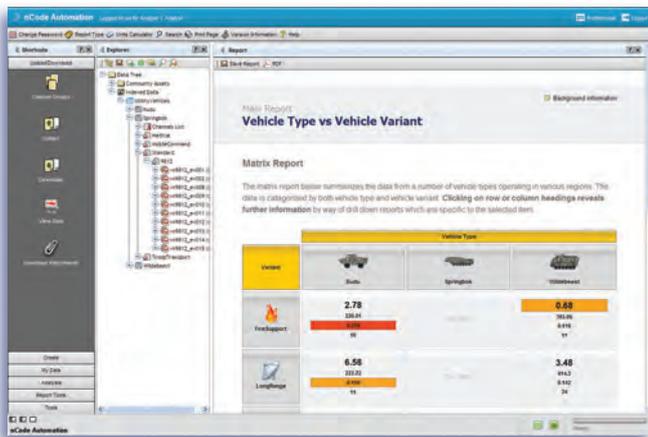
nCode Automation is an environment to learn from large amounts of test and CAE data and share the knowledge. It applies some of the same concepts used in business intelligence to engineering data, enabling data to be processed for trends and identifying relationships that can be used to make better decisions. Engineers can create complex queries without having to learn the structure of the underlying database or how to write SQL. Report layouts can combine analysis tasks with database queries to create a rich, graphical summary of information.

Key Benefits:

- **Spend less time looking for data** and maximize value of testing

- **Improve efficiency** by bringing test and CAE results together

- **Better understand** all your data and expose key information

- **Increase data re-use**

- **Reduce effort** of distributing data and reports to users and suppliers

- **Avoid custom development** and rapidly deploy cost-effective standard product

Key Features:

- **Find the right data** when you need it

- **Easily automate your analysis** and publish results via the web

- **Communicate key information** through interactive reports and email notifications

- **Add** metadata and characteristic values for search and reporting

- **Search** associated documents, images and video

- **Collaborate** by using secure web browser access from anywhere in the world

- **Maintain** full traceability of transactions

Scalable solution for processing engineering data

How do you...

... **maximize value** from all your gigabytes and terabytes of engineering data?

... better re-use this data to **avoid costly re-tests**?

... **find trends and patterns** in all of your measured data?

Built on robust industry-standard technology including J2EE, and leveraging Oracle® and IBM® WebSphere®. It is scalable from desktop to corporate-wide deployment and can be configured and rolled out quickly to your users, giving them controlled access to engineering data and analysis via the web.

Available in 3 editions:

Personal Edition

- Fully integrated add-on for nCode GlyphWorks and nCode DesignLife

- Productivity desktop tool for individual user (no web-access)

Workgroup Edition

- For single department or company site

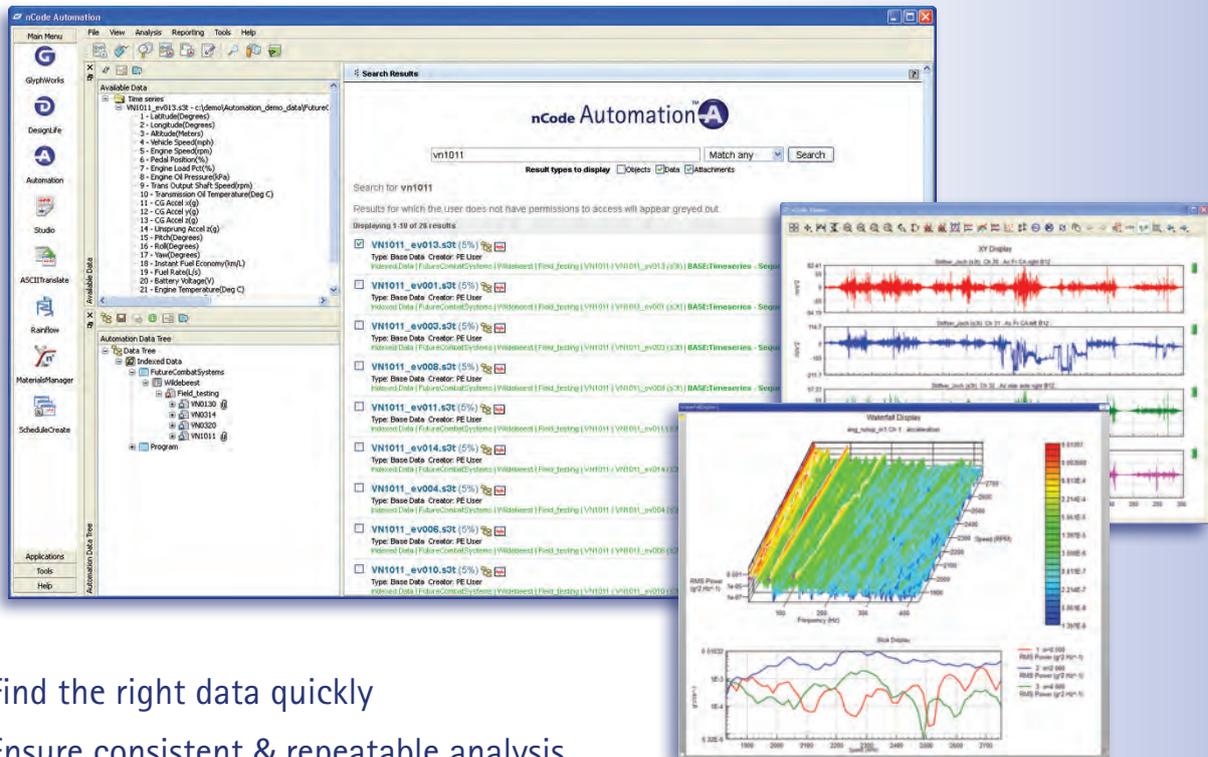- Simple and direct install on a Microsoft Windows® server for rapid deployment

Enterprise Edition

- For corporate systems including global networks

- Uses customer-supplied Oracle database and IBM Websphere web application server

All editions of nCode Automation feature:

- **Search –** Text searching including metadata and contents of attachments (e.g., Microsoft® Word documents, Excel® spreadsheets, Adobe® PDF files)

- **Data Processing –** Runs nCode GlyphWorks process flows to generate additional data

- **Characteristic Values –** Defines configurable metadata values to describe the data

- **Query Templates –** Returns data, tables of values and charts using database queries

- **Report Flows –** Runs GlyphWorks process flows for data analysis as part of report generation

- **Report Templates –** Combines Queries and Report Flows with text editor to create complete report

- **Reports –** Stores saved instances of created reports

Personal Edition

nCode Automation Personal Edition (PE) is a productivity tool for the individual user. It enables you to search, organize and analyze data that is directly accessible from your computer. nCode Automation does not use a remote filestore for this data, therefore internet access is not required. Instead, it "indexes" the data that is available locally, and can be easily installed to help you to rapidly gain more value from your data.

- Find the right data quickly
- Ensure consistent & repeatable analysis
- Manage and understand the analysis results

nCode Automation PE is fully integrated with and is an ideal addition to nCode GlyphWorks. Data that can be analyzed with GlyphWorks can be managed with Automation PE. GlyphWorks analysis processes can be used for batch analysis of a vast amount of data to extract key information into the database. Users can easily set up their own queries to find data that match their exact requirements or investigate trends in long-term measurements. Queries set up in nCode Automation PE can even be run directly in GlyphWorks to pull data directly into an interactive analysis process. CAE model files and results from DesignLife can also be indexed and searched.

Also available through nCode CDS units licensing together with full range of GlyphWorks and nCode DesignLife product options.

Specifications

Platforms
__ Windows XP® (32-bit)
__ Windows XP® Professional x64
__ Windows Vista® (32- and 64-bit)
__ Windows® 7 (32- and 64-bit)

nCode Automation

Workgroup Edition

Automation Workgroup Edition is a cost-effective system that enables a single group or department to access, view, download, and analyze stored data. Easily installed, it is an off-the-shelf solution that extends the capabilities of Personal Edition by enabling data sharing and collaboration using a web application server. Data can either be indexed from a shared location or uploaded into a protected filestore for added security.

- Share data with reduced effort
- Securely manage access to data
- Collaborate on projects via web access

Data, together with documents, images and spreadsheets can be searched and downloaded.

Using nCode Automation Workgroup Edition, engineers can define server-side analysis processes over the web, avoiding time-consuming data transfers and manual analysis tasks. This also helps standardize analysis processes, which improves the quality and repeatability of results. Calculations are very flexible and even allow retrospective analyses to be performed on existing stored data. Workgroup Edition includes a fully featured batch license of nCode GlyphWorks for server-side processing. An FE Data server option enables the results files from leading finite element solvers such as Abaqus .ODB, ANSYS .rst and, NASTRAN .op2 to be managed and visualized across the web. This has primary application for managing inputs and fatigue analysis results from nCode DesignLife.

Multiple analysis processes can be run automatically upon upload of new data, streamlining the entire process.

A new analysis routine can be applied to years of catalogued data, maximizing the value of the tests performed. This functionality ensures a 'future-proof' system that can continue to learn from data and evolve as required.

Workgroup Edition includes required database and web application server. Oracle database can alternatively be used if supplied by the customer. Workgroup Edition is not recommended for more than 20 simultaneous users.

Specifications

Platforms
__ Windows Server® 2003 & 2008
__ Windows XP®
__ Windows Vista®
__ Windows® 7

Provided Third Party Components
__ MySQL (or customer-provided Oracle 10g, 10 XE, 11g, 11 XE)
__ J2EE Application Server: JBoss 4.2.3
__ FileZilla 0.9.37 FTP server

Required Components
__ Browsers: Internet Explorer® 8 or 9, Mozilla® Firefox®, Google Chrome™ browser
__ Java™ Runtime Environment: IBM® JRE 1.6

Data Storage
__ Metadata: Relational database (MySQL or Oracle)
__ Test data: Server-based file storage system (one or more mounted disks)

nCode Automation Enterprise Edition provides a scalable solution for corporate, multi-site or global data access. Requiring IBM Websphere® and an Oracle® database, Enterprise Edition is a world-class solution that extends the capabilities of Workgroup Edition and also includes a fully featured batch license of nCode GlyphWorks for server-side processing.

Enterprise Edition can also use ftps and https for high security data access via the internet, and audit control means that you know exactly who has seen what when. Access authorization can be linked to corporate LDAP login authentication. Data in the filestore can be given permissions even at the channel level, giving ultimate control to who can access what data through a configurable system of roles. Scheduled reports can be automatically run, notifying users via email when specific conditions occur and providing efficient communication of vital information.

Current clients for Automation Enterprise Edition include leading OEMs and suppliers from aerospace and automotive industries worldwide such as Lockheed Martin, Turbomeca, Chrysler and Ford Motor Company.

Specifications

Platforms
__ Windows Server® 2003
__ Windows Server® 2008
__ SUSE® Linux® 10.2 (64-bit)

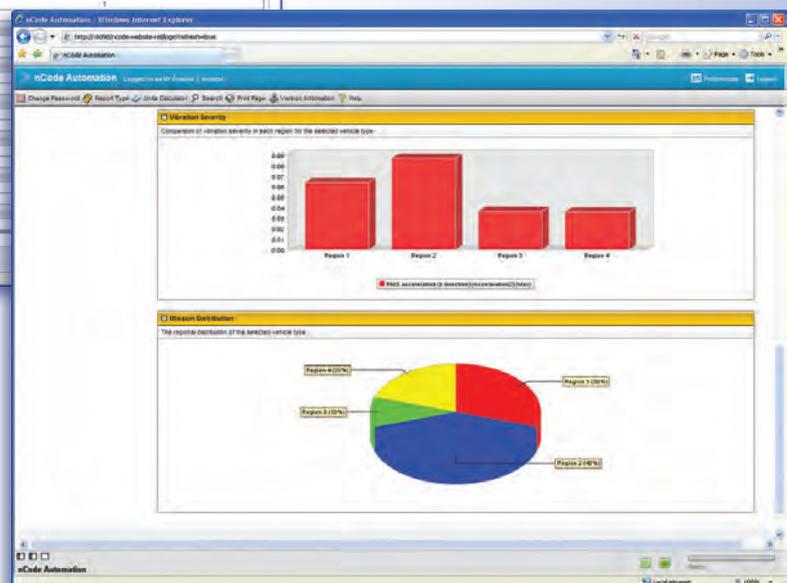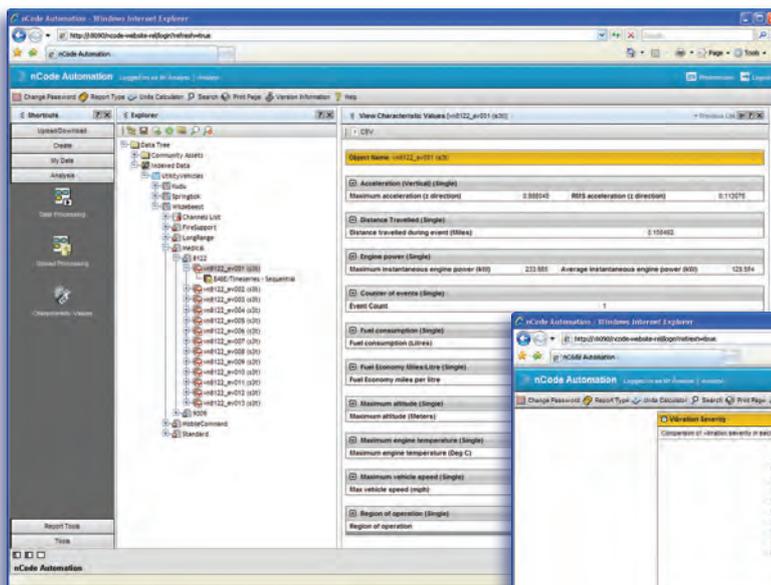### Provided Third Party Components
__ FileZilla 0.9.37 FTP server (optional)

Required Components
__ Browsers: Internet Explorer® 8 or 9, Mozilla® Firefox®, Google Chrome™ browser
__ Database: Oracle 10, 10 XE, 11g, 11 XE
__ J2EE Application Server: IBM® WebSphere 6.1, 7
__ Java™ Runtime Environment: IBM® JRE 1.6 (WebSphere 8.0) or IBM® JRE 1.5 (Websphere 6.1)
__ Security: HTTPS, FTPS capable (customer-supplied certificates), signed applets

Data Storage
__ Metadata: Relational database (Oracle)
__ Test data: Server-based file storage system (one or more mounted disks)

Powerful search, analysis and reporting capabilities for the largest of engineering data challenges.

Architecture and licensing...

nCode Automation features a leading-edge architecture integrated with best-in-class third party software components to provide a system that is scalable from the desktop to a corporate-wide deployment.

Computer Network

nCode Automation Server

Optional
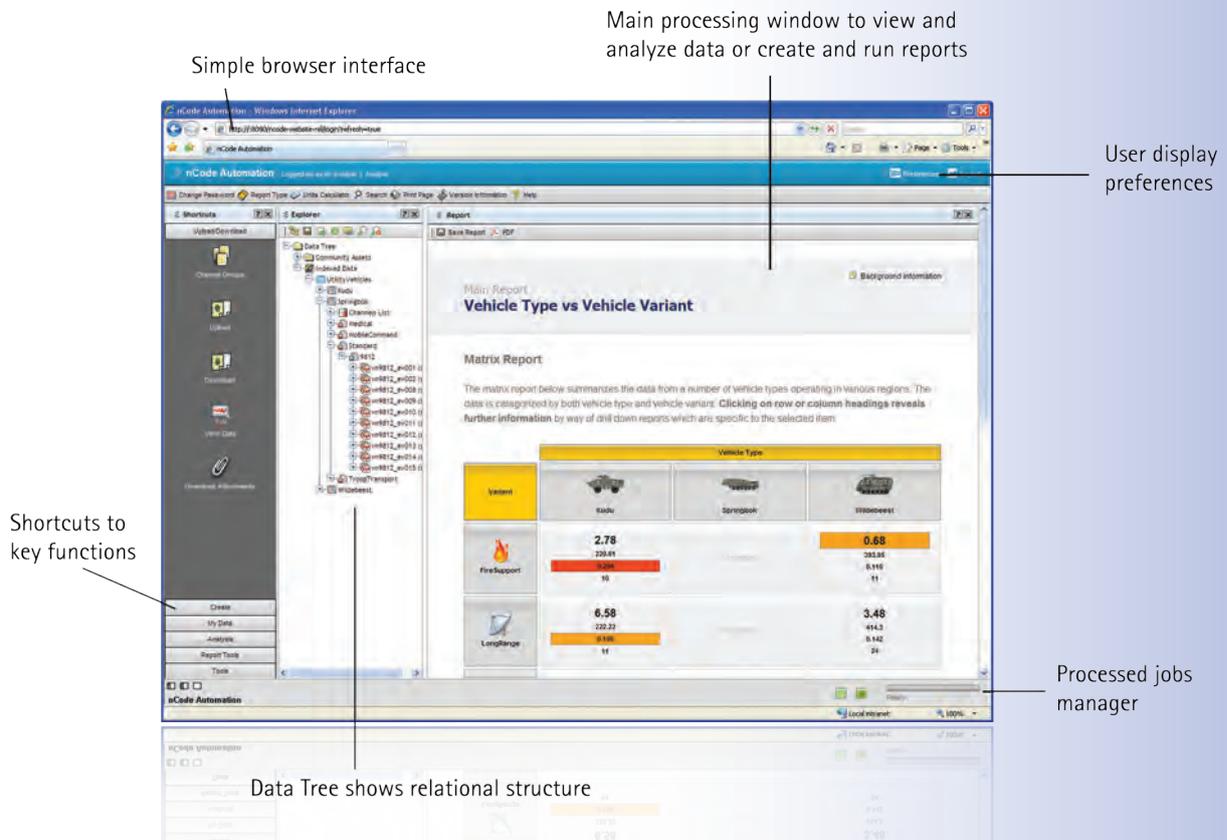Extended Archive

Optional Additional
Processor Queues

- Secure internet-based communications
- Automated data storage
- Automated data analysis
- Automated report generation

Architecture

- **Database:** This stores the Automation system, user information and details about the data. Oracle and MySQL are two supported databases.

- **File Storage System:** This is the files system where all of the actual data is stored – time series, reduced data, pictures, videos, reports, GlyphWorks analysis flow files. It is a central disk protected from general access and controlled by the Automation system.

- **Application Server:** This runs required analysis tasks using tools such as GlyphWorks on data in the file storage system. Application Servers can be distributed across numerous machines to enable load balancing for improved performance.

- **FTP Server:** A third party component that moves data to and from the File Storage System.

- **J2EE Application Server:** It is the operating environment for the web, managing user requests, issuing instructions, talking to the database. JBoss and IBM Websphere are supported.

- **Resources:** This defines the configuration of the system. These resources are installed into the Database and used by the J2EE Container to make the system run. Customers use a configuration of the system to show details about the data that are appropriate for their process.

nCode Automation™

...for Workgroup and Enterprise Editions

Main processing window to view and
analyze data or create and run reports

Simple browser interface

User display
preferences

Shortcuts to
key functions

Processed jobs
manager

Data Tree shows relational structure

Licensing

- **Viewer License:** Enables users to view and download data and reports.

- **Analyst License:** Enables users to upload, create new analysis processes, create new reports in addition to viewing and downloading data and reports.

- **FE Data Server Option:** Enable FE models and results from DesignLife to be managed in Automation. This includes extracting information on the model and generating thumbnail images. Also requires an additional charge per Analyst license.

- **Processing Queue License:** Enables more than one analysis job to be processed simultaneously on the server. Default system is supplied with one queue.

- Licenses for **administrative access** are included.

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nCode Automation™

nCode Automation 9.0 – Features

Feature	Personal	Workgroup	Enterprise
Interface			
Access through nCode desktop	●	●	●
Configurable browser interface	×	●	●
Role based interface layout	×	●	●
Data Input			
Time series data (nCode GlyphWorks supported formats)	●	●	●
Histogram and multidimensional histograms	●	●	●
Multicolumn (table) data	●	●	●
Attachments (documents, pictures, videos, etc.)	●	●	●
Referenced files (binary and text)	●	●	●
Scripted data upload and data processing	×	●	●
Scripted object creation and editing	×	●	●
FTP-base file transfer	×	●	●
Options for automated data upload - temporal (date/time) based and file naming conventions	×	●	●
Indexed local data	●	●	●
Data Output			
Selective channel download	×	●	●
ASCII comma-separated file output	●	●	●
Queries and Search			
Query template builder	●	●	●
Tabular and categorical reports	●	●	●
Color coding of data values in tables	●	●	●
Graphical charts of query results	●	●	●
Free text search for quick and direct access	●	●	●
Analysis			
Display data channels	●	●	●
Automated data statistics generation	●	●	●
Data Processing Manager (to run GlyphWorks analysis processes on server to create new data)	●	●	●
Characteristic Values	●	●	●
nCode GlyphWorks batch license included on server	×	●	●
GlyphWorks or DesignLife license required on local network (additional purchase required)	○	×	×
Additional processing queues and GlyphWorks server licenses	×	○	○
FE Data server option	×	○	○
Reporting			
Report template builder	●	●	●
Dynamic report generation (including text, images)	●	●	●
Include a query in a report to find data	●	●	●
Include a GlyphWorks analysis as part of a report	●	●	●
Download reports	●	●	●
System Management			
System activity audit	×	●	●
Data version control	×	●	●
E-mail notification	×	●	●
Security			
System authentication, process authorization	×	●	●
Object level data security (User/group/world – read/write/delete)	×	●	●
HTTPS browser protocol	×	×	●
Secure FTPS data file transfer protocol	×	×	●
Failed login oversight	×	●	●
Administration			
Named user management	×	●	●
User groups/roles	×	●	●
Administrative Console	×	●	●
LDAP login authentication (based on customer requirements)	×	●	●
System log files	●	●	●
Database			
MySQL	●	●	×
Oracle 10g, 11g, XE (Customer supplied)	×	●	●
J2EE Application Server			
JBoss 4.2.3	●	●	×
IBM Websphere 6.1 or 8.0 (Customer supplied)	×	×	●

○   Additional purchase required   ●   Included   ×   Not included

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...an HBM brand