New Technology Integration Services from InfoMall

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- (InfoMall is built...using InfoLink Picture Slide)

Technology Integration Services from InfoMall

- “NPAC believes an important **logistics** and **decision-support** tool on the **NII** will be **Technology Integration Systems**, analogous to **multimedia encyclopedias**, where entries are broadly **hyperlinked** to the rest of the **world**...”

InfoMall

- is **Virtual Organizations**, analogous to shopping malls, to best develop dual-use applications involving complex emerging technologies.
- was conceived by **Geoffrey C Fox** at the Northeast Parallel Architectures Center (NPAC) at Syracuse University.
- works by having an **Electronic** shopping mall of integrated multimedia information.
- this has been demonstrated as a prototype system for the USAF Rome Laboratory

- (InfoMall Picture Slide)

InfoMall Components

- **InfoMarket** is process of linking technology product developers with customers.
- **InfoSchool** is the process of technology education and training.
- **InfoTeams** are product and business developers.
- **InfoTech** is the activity of gathering, evaluating and integrating the world's best technologies.
- **InfoWare** is the technologies Warehouse managed by InfoTech.
- **InfoLink** (not shown) is the underlying technology integration services that make it all work - analogous to the power utilities and communications links in a shopping mall.

InfoMall Provides New Capabilities:

- **scientists** and **engineers** can work together across sites;
- **line managers** can control work in progress, online;
- **program managers** can identify synergistic opportunities;
- **customers** can access products and product catalogs;
- **strategic planners** can review material **electronically** across programs and identify market opportunities;
- **marketing managers** can advertise cheaply and effectively and can conduct broad market research.

InfoMall Mechanisms

- Electronic Mall (InfoLink) uses the **Internet**, the **World Wide Web** (WWW) (CERN, Switzerland) and **Mosaic** software (NCSA, Illinois) - the best technology available — **worldwide**.
- Mosaic, WWW and Internet make a **working prototype** of the National Information Infrastructure **(NII)**,
- *"linking everybody to everybody else, anywhere, anytime,..."*;
- ATM based networks like NYNET will give the necessary real-time, multimedia, information delivery system.

Technology Integration Servers

- are examples of **future NII services,**
- **package**, **integrate** and **deliver** multimedia **information** and
- can be located **anywhere**, *maintained by anybody*, **anytime**,... (almost).

To Demonstrate InfoMall, NPAC developed:

- A **Technology Integration Server** for Rome Laboratory.
- with special focus on **3 HPCC** areas: Software Engineering; Broadband networking; and Distributed Computing,
- demonstrating **Technology Integration products**: reviews; glossaries; directories; software evaluations; simulation and modeling on demand.
- with a broad look at **50** Rome Laboratory Technology areas,
- integrating with **National** and **Worldwide Technology** and the National Software Exchange.

Demonstrated Capabilities (1):

- a **Prototype Technology Information Server** for Rome Laboratory,
- with "clickable access" to other **USAF** resources,
- online **technology data** sheets,
- integrated (well chosen) hyperlinks to other sites and activities
- and other organizational guide information.
- system designed and built at NPAC by Wojtek Furmanski and Ken Hawick.

Description of color slide:

- (InfoMall/Rome Lab Integration Map Slide)
- InfoMall **InfoLinks** Rome Lab, Industry, Academia and other sites nationally and world-wide.
- "Click" on **Rome Lab** to go to following slide

color slide marker

- InfoMall/Rome Lab Integration Map Slide

Description of color slide:

- (InfoMall/Rome Lab + Rome Lab Home Page Slide)
- a Local guide to Rome-specific technology products, contacts and organizational information - linked to (relevant parts of) the world.
- "Click" on any of listed technologies to go to following slide

color slide marker

- InfoMall/Rome Lab + Rome Lab Home Page Slide

Description of color slide:

- (InfoMall/Rome Lab + Rome Lab + Listed Technologies Slide)
- the listed entries are Rome Laboratory Technology Data Sheets, describing the specialist field of activity at Rome, together with applications.

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- InfoMall/Rome Lab + Rome Lab + Listed Technologies Slide

Description of color slide:

- (InfoMall/Rome Lab + Rome Lab + Listed Technologies Slide + Virtual Environments Example)
- this is an example of a value-added Technology Data Sheet — where we have added context to the document, hyper-linking it to other relevant activities at other locations.
- it is also possible to cross reference entries to glossaries and acronym lists.
- (end of sequence)

color slide marker

- InfoMall/Rome Lab + Rome Lab + Listed Technologies Slide + VR Example

Demonstrated Capabilities (2):

- **Online Multimedia Encyclopedia Review Articles,**
- by internationally acknowledged **experts** chosen and commissioned by NPAC to review:
- Software Engineering; Broadband Networking and Distributed Computing,
- with this information **integrated** with Rome Laboratory technology, by NPAC.

Description of color slide:

- (InfoMall/Rome Lab Consultants Overview Slide)
- this shows a gallery of some of the consultants we involved in this project.
- "Click" on **Kolawa's picture or name** to go to following slide

color slide marker

- InfoMall/Rome Lab Consultants Overview Slide

Description of color slide:

- Consultant report by Adam Kolawa on "Commercialization of Technology Products"
- "click" on **ParaSoft** to access Kolawa's own organization's server and the following slide

color slide marker

- Consultant report by Adam Kolawa

Description of color slide:

- Consultant report by Adam Kolawa — linked to ParaSoft"
- shows ParaSoft's own organisation information server (in Pasadena)
- (end of sequence)

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- Adam Kolawa + ParaSoft

Demonstrated Capabilities (3):

- **Glossaries** of terminology are a way of cross referencing information.
- examples demonstrated include **HPCC Terminology** and **USAF Acronyms.**
- entries are "clickable" and can "point" to cross-reference explanatory-articles.
- glossaries can be **textual** or **multimedia** or both, and can provide searchable access online.
- cross-referencing tools allow semi-automatic collation of hyper-links to assist the developer.

Description of color slide:

- Ken Hawick's **Glossary** of **HPCC Terminology**
- "click" on (blue) highlighted entries to get to cross-references.
- **BLAS** and **NSE** have been "clicked" pulling up windows on their entries at ORNL/UTK.

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- Glossary of HPCC Terminology

Demonstrated Capabilities (4):

- Product and Company surveys are a mechanism to review a whole industry.
- example demonstrated is High Performance Computing Systems and Corporations.
- entries cross link HPC systems, by machine architecture, application sector, corporation history,...
- with cross-references and links to glossaries, performance benchmark results maintained at other sites,
- and to vendors' own server one exists.

Description of color slide:

- Ken Hawick's Survey of HPC Systems and Corporations
- shows a typical entry for a computing corporation and some of its products.

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- Computer Corporation and its Computer Products

Demonstrated Capabilities (5):

- Demonstration **Navigation aids** to browsing **USAF sites** and their **technologies**.
- in addition to the prototype server built for Rome Lab, mock-up Technology Information Server "home-pages" were constructed for other USAF sites.
- Information system can be **maintained** by the **owner** and be accessible as a **distributed database**.
- NPAC can assist in **integrating** the information with the world.

Description of color slide:

- USA Map and Home Pages for many USAF Labs and Centers.
- "click" on USA map to access sites.
- overlapped windows shows how a **strategic planner** can review material that is physically maintained by sites **across** the **USA** - or the **world**.

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- USA Map and Home Pages for many USAF Labs and Centers

Demonstrated Capabilities (6):

- **Product Demonstration** capabilities for **USAF products**.
- **Online access** to product **reviews** and **advertising** material,
- and the product itself if software.
- Demonstrates high degree of **customer–friendly** access.
- Order-by-internet possible.

Description of color slide:

- Product Demonstration of PROTO Software Development Environment.
- **PROTO** (developed by Rome Lab and ISSI) is shown here used for a Space Debris Hazard analysis simulation.
- access through **Technology Integration System** allows *"try before you buy"* advertising as well as simulation on demand - remotely.
- Cross references (highlighted in blue) hyperlink to InfoMall, Rome Lab and ISSI,...

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- Product Demonstration of PROTO Software Development Environment

For more information contact:

- Professor Geoffrey C Fox (email gcf@npac.syr.edu)
- or for general information email infomall@npac.syr.edu.
- Access to the prototype NPAC server can be enabled on request.

To Summarize: InfoMall

- applies the electronic shopping mall (InfoLink) concept to make virtual corporations work,
- facilitating **exchange** of multimedia information **across** organizations and **between** organizations,
- with potential to save **time** and **money** by faster and better **technology transfer**.
- The HPCC technology for doing this exists already.
- **NPAC**, through InfoMall, is in a **unique** position to **"hook organizations up"** and welcome them to the Mall...