McIDAS-X and McIDAS-V
Information

Dee Wade
Program Manager
Overview

- Welcome New MUG Members
- McIDAS Supported Software Configurations
- 2008 MUG Fees
- Transition to McIDAS-V
Welcome New Users

- VisionTech Inc. – Ibaraki, Japan
- University of Tokyo – Tokyo, Japan
- Tokyo Broadcasting System – Tokyo, Japan
- National Water Commission of Mexico – Mexico City, Mexico
- Environmental Systems and Services – Richmond, Australia
- Hong Kong Observatory – Kowloon, Hong Kong
Welcome New Users

• India Meteorological Department – New Delhi, India
• Chinese Air Force – via Comtrol Corp., Taiwan
• Central Weather Bureau – Taipei, Taiwan
<table>
<thead>
<tr>
<th>Vendor</th>
<th>Operating System</th>
<th>Compilers Supported</th>
<th>Compilers Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple - Mac PPC</td>
<td>OS X v10.4</td>
<td>g77: 3.4.3 - Fink</td>
<td>gcc: 4.0</td>
</tr>
<tr>
<td>Apple - Mac Intel</td>
<td>OS X v10.4</td>
<td>g77: 3.4 - SourceForge</td>
<td>gcc: 4.0</td>
</tr>
<tr>
<td>HP</td>
<td>HP-UX 11.11</td>
<td>HP F90 3.1</td>
<td>HP C/ANSI C 11.11.16</td>
</tr>
</tbody>
</table>
## McIDAS-X

### Supported Configurations

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Operating System</th>
<th>Compilers Supported</th>
<th>Compilers Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM</td>
<td>AIX 5L 5.3.3</td>
<td>XLF 8.1.0</td>
<td>g77: 3.4.4 gcc: 3.4.4</td>
</tr>
<tr>
<td>Microsoft</td>
<td>Windows XP Pro SP2 with SFU 3.5</td>
<td>g77: 3.3 gcc: 3.3</td>
<td></td>
</tr>
<tr>
<td>Red Hat</td>
<td>Linux 4 - Kernel 2.6.9 ELsmp</td>
<td>g77: 3.4.6 gcc: 3.4.6</td>
<td></td>
</tr>
</tbody>
</table>
## Supported Configurations

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Operating System</th>
<th>Compilers Supported</th>
<th>Compilers Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGI</td>
<td>IRIX 6.5.21</td>
<td>F77 7.4.2</td>
<td>g77: 3.3.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ANSI C 7.4.2</td>
<td>gcc: 3.3.2</td>
</tr>
<tr>
<td>SUN</td>
<td>Solaris 10</td>
<td>Sun Studio 11</td>
<td>g77: 3.4.6</td>
</tr>
<tr>
<td></td>
<td>SPARC Platform</td>
<td>Sun Studio 11</td>
<td>gcc: 3.4.6</td>
</tr>
<tr>
<td>SUN</td>
<td>Solaris 10</td>
<td>g77: 3.4.6</td>
<td>gcc: 3.4.6</td>
</tr>
<tr>
<td></td>
<td>x86 Platform</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan</td>
<td>Cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX - one or two machines</td>
<td>$6,300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DX – three to five machines</td>
<td>$12,600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MX – six or more machines</td>
<td>$24,700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McIDAS-XCD, includes updates to DVB-S</td>
<td>$7,940</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDI and SDI-104 (SSEC Data Ingestor), per satellite family</td>
<td>$7,940</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Currently, McIDAS-X support includes support for McIDAS-V
Transition to McIDAS-V

- McIDAS nearly 35 years of development
  - 1st generation 1973
  - Harris/5 computer
Transition to McIDAS-V

- McIDAS nearly 35 years of development
  - 2nd generation 1978
  - Harris/6 computers, distributed system
Transition to McIDAS-V

• McIDAS nearly 35 years of development
  – 3rd generation 1984
    • IBM mainframe 43xx, OS/2 workstation
Transition to McIDAS-V

• McIDAS nearly 35 years of development
  – 4th generation 1992
  • McIDAS-X, Unix environment
Transition to McIDAS-V

• McIDAS nearly 35 years of development
  – 1st generation 1973
    • Harris/5 computer
  – 2nd generation 1978
    • Harris/6 computers, distributed system
  – 3rd generation 1984
    • IBM mainframe 43xx, OS/2 workstation
  – 4th generation 1992
    • McIDAS-X, Unix environment
  – 5th generation 2007
    • McIDAS-V
About McIDAS-V

- McIDAS-V software built on SSEC’s VisAD and Unidata’s IDV libraries
- McIDAS-V 1.0alpha5 just the beginning
  - Emphasis on user interface
  - McIDAS-X bridge
- McIDAS-V open-source
- McIDAS-V user support available through McIDAS Users’ Group
4 Goals for the MUG Meeting

1. Easy installation and configuration of McIDAS-V and the McIDAS-X listener
2. New McIDAS-V GUI
3. McIDAS-V must be able to “bridge” with current McIDAS-X
   - Integrate HYDRA (HYperspectral-viewer for Development of Research Applications) into McIDAS-V
Next Area of Development

- McIDAS-V, without the bridge, must access and output other types of data already available in McIDAS-X
  - Display local and remote image datasets, including archived satellite imagery
  - Plot and contour local and remote McIDAS grid datasets
  - Contour remote datasets and contour and plot local McIDAS point datasets
  - Save the digital data file(s) generated in above
McIDAS-X 2007

McIDAS-X
mctext, mcimage, ADDE servers

Servers
OpenADDE

Data

MUG Packaged
McIDAS-V 2008

McIDAS-V GUI
HYDRA
IDV
VisAD

McIDAS-X
mctext, mcimage, ADDE servers

McIDAS-X Bridge

Servers
OpenADDE, OPeNDAP ...

Data

Commands

MUG Packaged

MUG 2007
McIDAS-V Future

Ported McIDAS-X Functionality

McIDAS-X Bridge

NEW McIDAS-V Functionality

Future Bridges

JAVA Servers

MUG Packaged

McIDAS-X mctext, mcimage, ADDE servers

Other Servers OpenADDE, OPeNDAP

Other Resources IDL, MATLAB, Origami, Database Access ..

Data

Commands
McIDAS-V Development

Six Main Goals - #1

• Develop a powerful and versatile software system for environmental data processing, analysis and visualization
  – Platform independent
  – Interface to wide variety of distributed computing techniques
    • Client/server
    • Cluster computing …
  – Open-source
Support existing and evolving needs of scientific research and algorithm/applications development for new programs, such as NPOESS and GOES-R and for retrospective data, such as GOES and POES

- Display hyperspectral data as images or spectra
- Easily import new data types and formats
- Create output images in commonly used formats
McIDAS-V Development
Six Main Goals - #3

• Enable an environment to support data fusion and algorithm interoperability from existing and future sources
  – User interfaces must allow any data to be fused in any compatible display frame of reference
  – Support a variety of scripting languages and environments
  – Build on the data coordinates already standardized in VisAD and IDV
• Continue to fully support McIDAS Users’ Group and McIDAS-X functionality as they transition to McIDAS-V
  – McIDAS-V will maintain a distributed environment and functionality
  – Must be able to output merged satellite data into a single data file
  – Users will be able to center data by lat/lon, image line/element and file line/element
• Support operational users by providing frameworks in McIDAS-V, thus enabling a natural transition path for research results into operations
  – Unattended automated processing
  – Unattended automated display of products
  – Support legacy scripts through the bridge, providing time for users to convert scripts from McIDAS-X to McIDAS-V
McIDAS-V Development
Six Main Goals - #6

• McIDAS-V will be used to educate students in remote sensing and physical sciences, with students integrally involved in its development, evolution and use
  – Support educators and scientists in development of outreach tools
  – Develop remote sensing and physical science training modules
  – Involve students in testing, reviews of usability, suitability and documentation
Current McIDAS-V Development Team

- Kevin Baggett
- Jon Beavers
- Gail Dengel
- Bruce Flynn
- Rick Kohrs
- Dave Parker
- Tom Rink
- Becky Schaffer
- Jessica Staude

- Tom Whittaker
  - advisor
- Bill Hibbard
  - advisor
- Don Murray
  - Unidata collaborator
- Jeff McWhirter
  - Unidata collaborator