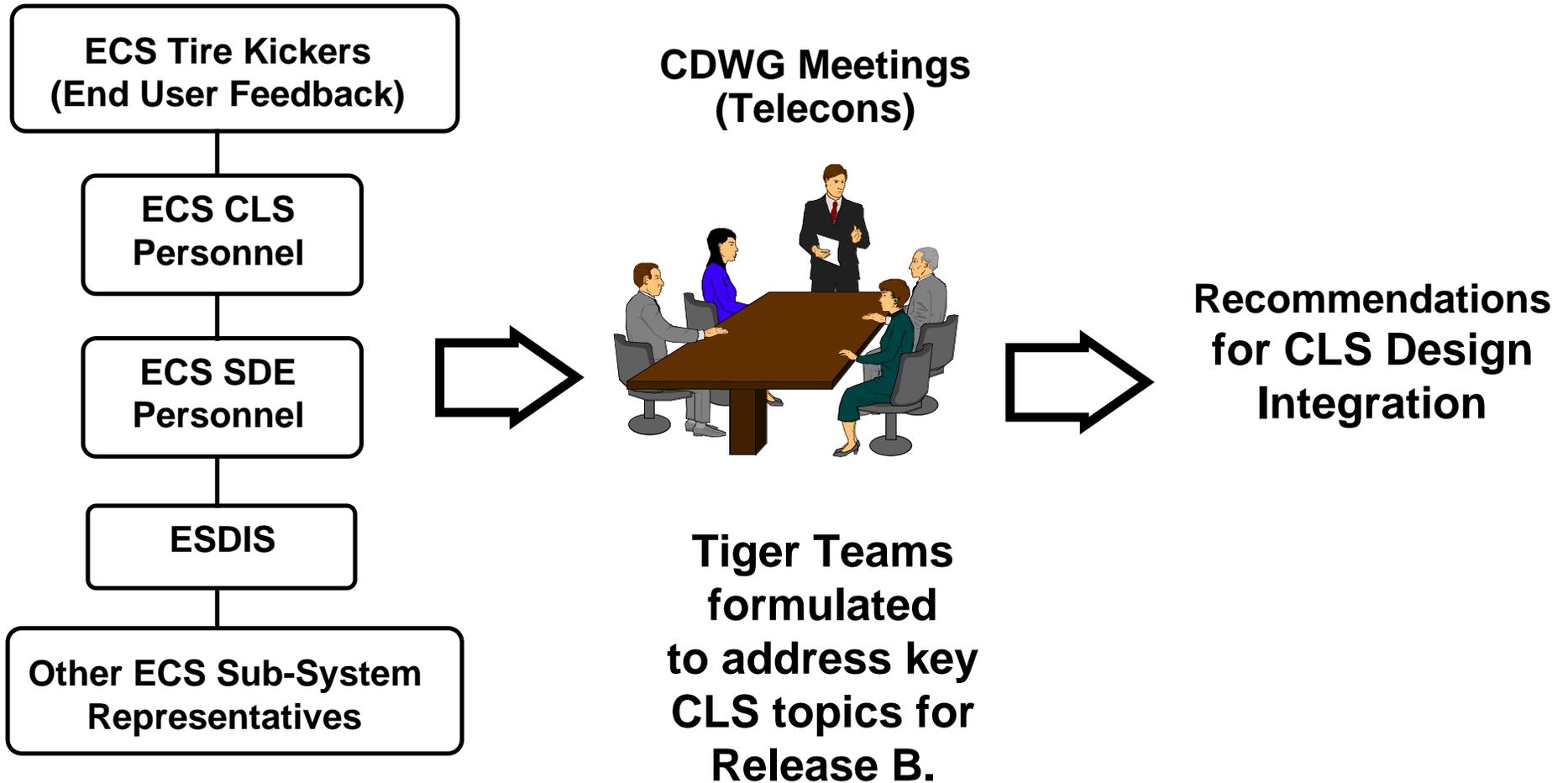


Client Design Working Group

Edmund Dombrowski

January 28, 1997

Client Design Working Group



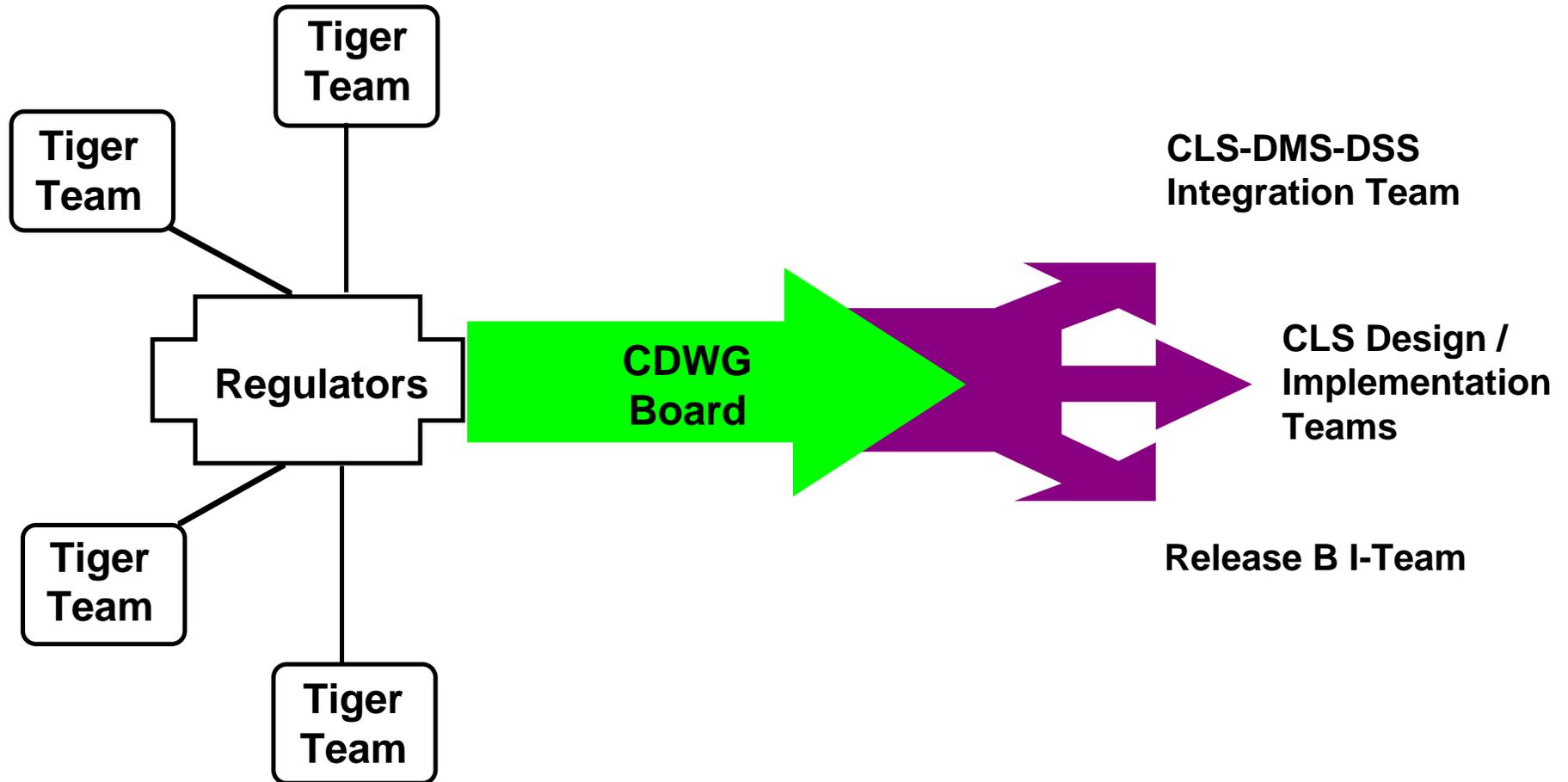
CDWG Goals



- **CLS Tool Functional Descriptions Based on End-User Inputs.**
- **CLS Level 3 and 4 Requirements Analysis.**
- **CLS Tool Integration.**
- **Client Screen Design and Human Factors Analysis:**
 - **Screen Mock-Ups and Functional Flows.**
- **Sub-System Interaction Mapping (CLS, DMS, DSS, CSS, MSS, etc.).**

The Primary focus of the CDWG is to appropriately match all CLS requirements to the proposed ECS system builds (Release B) as well as to introduce End-User preferences in terms of Client Screen functionality and overall system interaction. CDWG deliverables include final recommendation documents with client functional flows and screen specifications as needed. The CDWG is a joint SDE and CLS team effort. CDWG team leads and CLS development personnel are working together on the integration of CDWG specifications into the Release B Client Design.

CDWG Team Interaction and Process



SPECIAL / CRITICAL

Sect	CDWG Topic	C o d e	Begin Date	End Date	Tiger Team Lead	Tiger Team Members	Regulator
5.3	<u>CLS Tool Integration</u>	P	5/10/96 UPDATED 01/06/97		K. Bryant & J. Masek	J. Lowry, J. Masek, R. Pfister, J. Poston Day, L. Case, N. Hinds, D. Jackson, E. Rezac	R. Ross
6.1	<u>ECS Requirements</u>	O	5/10/96 UPDATED 12/31/96		L. Page	K. McDonald, R. Pfister, G. Tadmor, J. Poston Day, J. Ujhazy, D. McCartney, D. Roos, E. Rezac, R. Ross, S. Chen	R. Ross
1.10	<u>Search and Display of Other Data Model Attributes</u>	O	10/15/96 UPDATED 1/6/97		E. Dombrowski	D. Baldwin, L. Case C. Craig, D. Ziskin, M. Wingo, G. Fargion, A. Racel, M. Hoyer, S. Khalsa, P. Hagan, D. Emmitt	K. Hassan
5.1	<u>DeskTop Tool Integration</u>	O	6/17/96		K. Bryant & J. Masek	J. Lowry, R. Pfister, J. Poston Day, N. Hinds, R. Pfister, E. Dombrowski	K. Hassan
5.2	UI Complexity & HFE Analysis		TBD	TBD	K. Bryant & J. Masek	J. Lowry, R. Pfister, J. Poston Day, L. Case, N. Hinds, E. Dombrowski, A. Racel, D. Jackson, J. Miller, L. Rosser	K. Hassan
7.1 & 7.2	<u>DPRT & DART</u>	C	12/5/96	12/31/96	J. Lowry	J. Ujhazy, L. Rosser	T. Wingo

BASIC / CORE

Sect	CDWG Topic	C o d e	Begin Date	End Date	Tiger Team Lead	Tiger Team Members	Regulator
6.6	<u>Data Model Tracking</u>	C	5/10/96	11/26/96	M. Muganda	L. Case, J. Dreisbach, J. Hylton, T. Meyer, M. Wingo, A. Racel, G. Lake	S. Diamond
1.12	Find Box for Attribute Value Searches	C	EP7	EP7		Provided in EP7	
1.6	<u>Guide Search Results</u>	O	6/17/96		R. Ross	L. Case, M. Kumar, D. Ziskin, R. Pfister, R. Ross, L. Li	R. Ross
6.3	<u>Aliasing Service</u>	P	9/19/96 UPDATED 01/22/97		J. Burt	R. Pfister, S. Amer, E. Rezac, S. Chen, E. Dombrowski, J. Closs, N. El Saleous	K. Hassan
2.5	<u>Product Order</u>	P, D	11/27/96 UPDATED 1/23/97		S. Diamond	J. Daucavage, M. Daily, R. Pfister, J. Poston Day, J. Lowry, B. Whittier, M. Hoyer, S. Harrison, F. Corprew, R. Yang	T. Wingo
1.9	<u>Browse (Web & X)</u>	P	12/5/96 UPDATED 01/21/97		G. Fargion	D. Case, J. Daucavage, C. Justice, N. El-Saleous, A. Racel, D. Jackson, E. Dombrowski, D. Emmitt, L. Marsans, M. Hoyer, R. Pfister	J. Miller
1.11	<u>Timeline</u>	P	10/3/96 UPDATED 1/16/97		G. Fargion	J. Miller, M. Hoyer	J. Miller
6.4	<u>Naming Conventions</u>	O, D	12/6/96		K. Hassan	R. Pfister, B. Whittier, K. Bryant, M. Wingo, S. Sorlie, P. Detweiler, B. Barkstrom	R. Ross
6.8	<u>Help/Tutorial</u>	P, S	12/2/96 UPDATED 01/21/97		T. Blackwell	J. Lowry, D. Jackson, J. Poston Day, R. Ross	S. Diamond
3.2	<u>User Profile (Local Save of Profile for Guests)</u>	P, S	12/6/96 UPDATED 1/22/97		T. Wingo	D. Jackson, J. Jong, S. Chen, D. Jackson, P. Kulkarni, S. Ho, X. Yuan, T. Tian, J. Dennison	J. Miller
1.2	<u>Metadata Exceptions</u>	P, S	11/13/96 UPDATED 1/22/97		J. Miller	K. Bryant, J. Poston Day, R. Ross, P. Hagan, (K. Cox), D. Emmitt, R. Pfister	T. Wingo

ADVANCED FEATURES & SERVICES

Sect	CDWG Topic	Code	Begin Date	End Date	Tiger Team Lead	Tiger Team Members	Regulator
2.1	<u>Subsetting</u>	C	5/10/96	11/26/96	G. Fargion	K. McDonald, D. Baldwin, E. Dombrowski, M. Hoyer, A. Racel, J. Daucavage, D. Ziskin, S. Graves, R. Yang	J. Miller
1.7	<u>Advanced Product Specific Metadata (Advanced Search)</u>	C	6/17/96	11/26/96	G. Tadmor	D. Baldwin, M. Hoyer, B. Whittier, L. Reich, J. Pisarcik, S. Diamond, Rogard Ross	S. Diamond
2.6	<u>Direct Order of Specific Granule</u>	P	6/17/96		S. Diamond	E. Dombrowski, N. La Belle-Hamer, B. Whittier, T. Blackwell, D. Baldwin, G. McConaughy, J. Poston Day, A. Syyid, R. Pfister	S. Diamond
6.2	Subscriptions	D	TBD	TBD	TBD	H. Wolf, N. Hinds, A. Racel, M. Hoyer, J. Poston Day	TBD
1.3	<u>Direct SQL/ESQL Entry by User</u>	D	TBD	TBD	TBD	S. Chen, J. Miller	TBD
2.2	Subsampling		TBD	TBD	TBD	S. Paus, S. Amer, D. Ziskin, R. Whittier, N. El Saleous, D. Emmitt	TBD
2.3	Averaging		TBD	TBD	TBD	T. Blackwell, S. Amer, R. Yang, N. El Saleous	TBD
2.4	Format Translations		TBD	TBD	TBD	D. Minor, R. Yang	TBD
2.7	<u>GUI Extensibility for Display of Large Number of Data Sets</u>		TBD	TBD	TBD	S. Chen, C. Craig, M. Dally, K. Bryant	TBD
2.9	<u>Auto/Manual Decompression of Ordered Products</u>	S	TBD	TBD	TBD	E. Rezac	TBD
2.8	<u>User Notification of Product Order & Billing Options; Tracking</u>	S	TBD	TBD	TBD	R. Pfister	TBD
6.7	Command Language	S	TBD	TBD	TBD	TBD	TBD
*	<u>Coverage Tool</u>		1/10/97 NEW	TBD	TBD	R. Pfister	TBD
*	<u>User Preference Tool</u>		TBD	TBD	J. Burt	R. Ross, J. Miller, T. Blackwell	TBD
*	<u>Scalability of Attributes & Valids</u>		TBD	TBD	TBD	R. Pfister	TBD

LATE B/SERC

Sect	CDWG Topic	Code	Begin Date	End Date	Tiger Team Lead	Tiger Team Members	Regulator
1.1	<u>Coincident Search</u>	C	5/10/96	11/26/96	Gil Tadmor	L. Case, R. Pfister, C. Craig, D. Baldwin, D. Emmitt, L. Reich	J. Miller
4.2	<u>User Statistical Reports</u>	C	5/10/96 UPDATED 12/31/96	10/01/96	J. Ujhazy	P. Miller, J. Miller, N. La Belle-Hamer, M. Benson, W. North	J. Miller
4.1	<u>Report Generation</u>	C	6/17/96	11/26/96	T. Wingo	R. Pfister, L. Marsana, J. Miller, B. North, A. Racel, Y. Zhao	T. Wingo
1.4	Research Planning		TBD	TBD	TBD	S. Chen, R. Pfister, A. Siyyid	TBD
1.5	<u>Access to Content Based Metadata (Data Mining)</u>	P	7/22/96 UPDATED 1/21/97		G. Fargion	R. Pfister, M. Hoyer, B. Harberts, P. Agbu, M. Kafatos, D. King, R. Rymon, D. Emmitt	P. Hagan
6.5	User Entries to Product Metadata		TBD	TBD	TBD	D. Ziskin, M. Kafatos, M. Wingo	TBD
3.1	Session Management	S	TBD	TBD	TBD	TBD	TBD
1.8	Search Refinement Process	S	TBD	TBD		B. Whittier, C. Craig	TBD

CDWG Team Summary



Before Oct 1996:

Subsetting - P
Coincident Search - P

Legend:

O **Open**
Team is still meeting and discussing design issues.

P **Pending**
Team has made final recommendations. Regulators finish issue tracking and present report to Board for closure.

C **Closed**
Board approves report and recommends actions. Web population is complete.

Oct 1996 - Jan 1997

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Subsetting - C
Coincident Search - C
Advanced Search (PSA) - C
User Statistical Reports - C
Report Generation - C
DAR Review - C
DPR Review - C
Data Model Tracking - C
Find Box for Attribute Value Searches - C

Product Order - P
Direct Order - P
Browse - P
Access to Content Based Metadata (Data Mining) - P
Aliasing - P
Timeline - P
User Profile - P
Metadata Exceptions - P
CLS Tool Integration - P
Help / User Tutorial - P

ECS Requirements - O
Search and Display (Data Model) - O
Naming Conventions - O
DeskTop Tool Integration - O
Guide Search Results - O

CDWG Phase 2 and Implementation Support



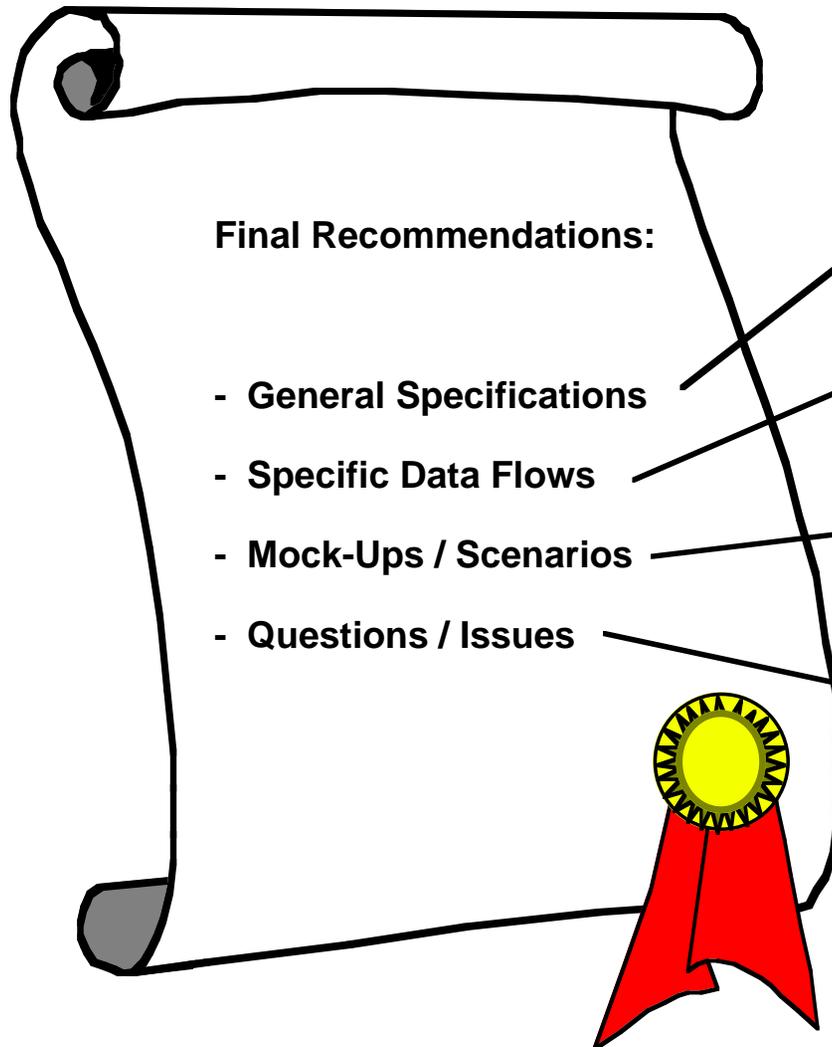
CDWG Phase 2 (Post Workshop):

- **Close All Pending Teams (Early February).**
- **Initiate Advanced Features and Services Tiger Teams.**
- **Continue with Results Integration.**

SDE Support for CLS Implementation Teams:

- **Initiate Integrated CLS-SDE teams.**
- **Organize and Deploy CLS Reference Notebooks:**
 - **Requirements analysis, User Feedback, CDWG topic results.**

CDWG Team Results



Final Recommendations:

- General Specifications
- Specific Data Flows
- Mock-Ups / Scenarios
- Questions / Issues

Topic review; Discussion of Key Features; End-User Preferences.

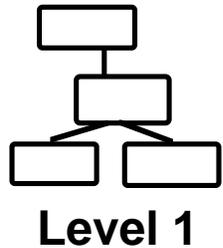
Functional Flows; Discussion of Key CLS sub-system interactions.

Screen Mock-Ups as needed; Science scenarios or sample steps through the proposed system.

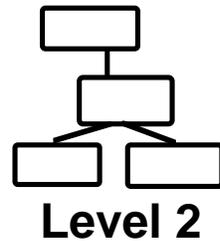
Outstanding Issues or Questions needing resolution or specific actions.



CDWG Results Integration

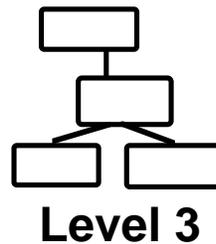


Product Order

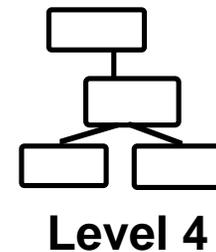


Product Order
Main Functions

CDWG Level of
Integration to
CLS Design

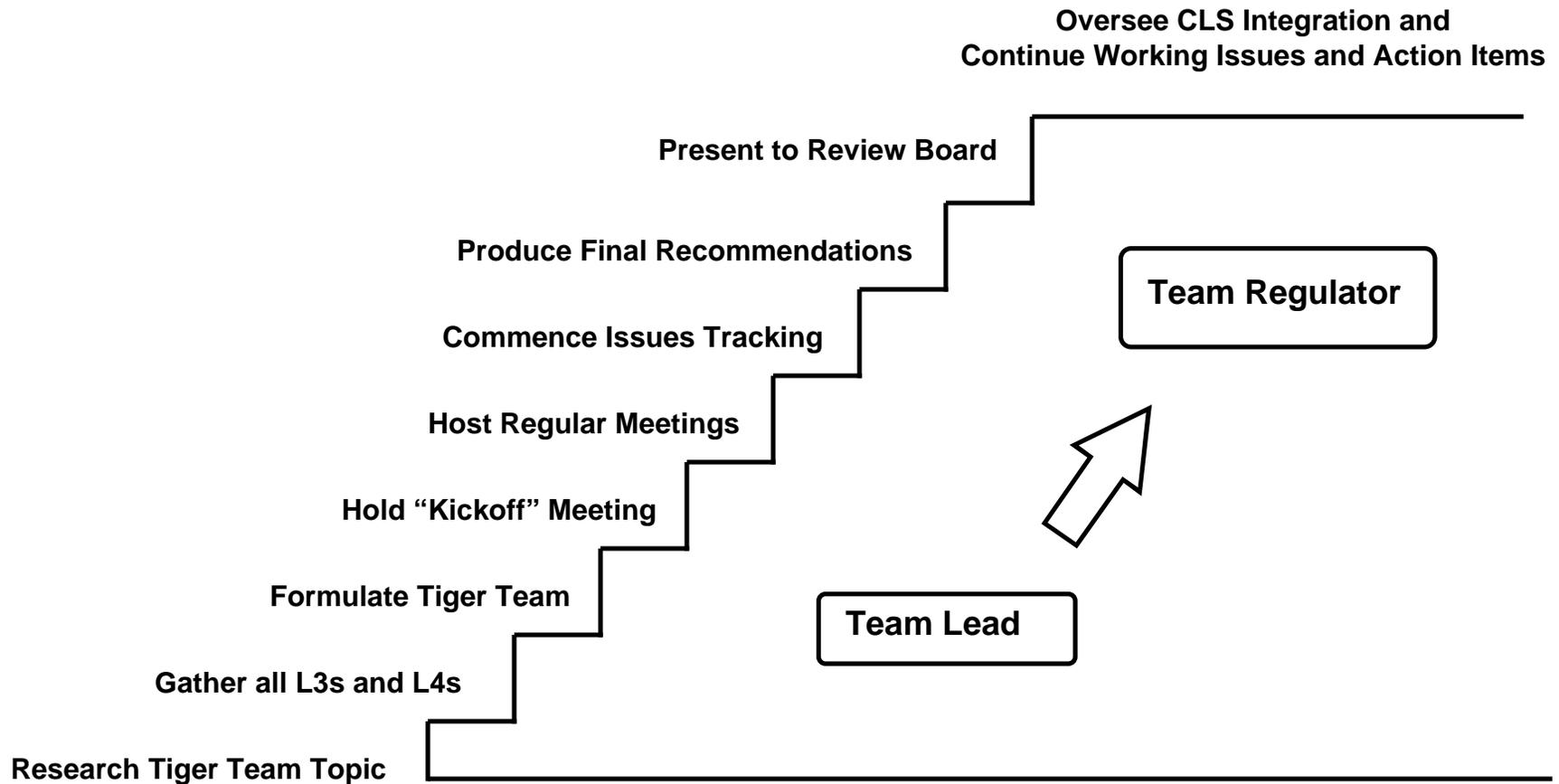


Product Order
Sub-Functions



Product Order
Implementation
Features

CDWG Examples: “A Few Weeks in The Life”



Browse (Web & X) Tiger Team



Issues Tracking	Team Feedback	Final Recommendations UPDATED 1/21/97
Telecon Meetings UPDATED 01/08/97	Background Material	Participants

The Browse Tiger Team web page will host all related materials for the Browse Tiger Team and will serve as the main conduit for information exchange. The Tiger Team is lead by Giulietta Fargion (gfargion@eos.hitc.com, phone: (301) 925-0807). For any questions or additional comments, please contact Giulietta.

The table above contains links to telecon information and minutes, background materials and comments and postings from team members. The goal of the Tiger Team is to draft a recommended workflow for the CDWG board specifying the level of effort for the Release B client and subsystems.

[ECSINFO](#) | [CDWG HOME](#)

URL: <http://ecsinfo.hitc.com/sec6/sec6.html>

Point of Contact: Giulietta Fargion, gfargion@eos.hitc.com

Curator: Susan Jacinto, susanj@eos.hitc.com

Revised: December 5, 1996

Browse Tiger Team



Draft Final Recommendations

1. Functionality vs. Requirements

Integrated Browse & Visualization Tool- L3 Req.
Integrated Browse Release B0 & B1 Release - L4 Req.
Visualization Tool - Release A & Release B - L4 Req.

2. Findings

Links to Other services
Multiple Level Function Flows
Overlay Requirement
Ease of Use
The Relevance of a Generic Browse Tool

3. Open Issues

Metadata Updates
European and Japanese Dataset Browse

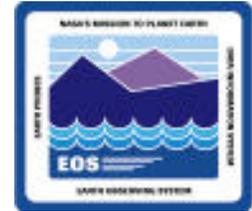
4. Potential Integrated Browse Solution

Appendix I : Structure Analysis of the Browse

a. Links to Other Services

In order for the JEST browse tool to be effective, it must also be closely linked with ECS services such as:

- searching (i.e., an excellent browse capability will have desirable effect of narrowing the search scope). Integration with the other search features, such as an aid for search refinement, is desirable.
- subsetting (i.e., identifying area of interest and/or latitude and longitude range)



Browse Results : Tool Functionality

R	3D display
R	image display
R	pan
R	zoom
R	animation
R	grid coordinates
R	pixel tracking (lat., long)
R	metadata display
D	image overlay
R*	graphics overlay
R	reference map
R	color tables - manipulation/support
R	browse description
R	browse linked with incremental search support
D	tracking digital value
R	browse for data from other international systems
R	contrast control
R	multiple image display (in separate windows)
R	legends for images
D	multiple display of disparate browse images
D	browse parent window with browse children windows
D	movie loop -- people were requesting the ability to create a movie loop

Functionality vs. Requirements

Presently ECS has requirements for two browse tools: an integrated browser with “JEST” and a stand-alone tool “EOSView”.

JEST operates on readily available EOS data (i.e., browse and metadata). The tool functionality, and therefore, the workload, is mostly borne by the client-side.

EOSView is geared towards supporting granules pulled from the archives, but it can also view browse images. It is suppose to be an HDF-EOS File Examiner, and support other advanced data services.

Potential Browse Tool Integration



The screenshot displays the HDF Viewer interface, which is divided into several sections:

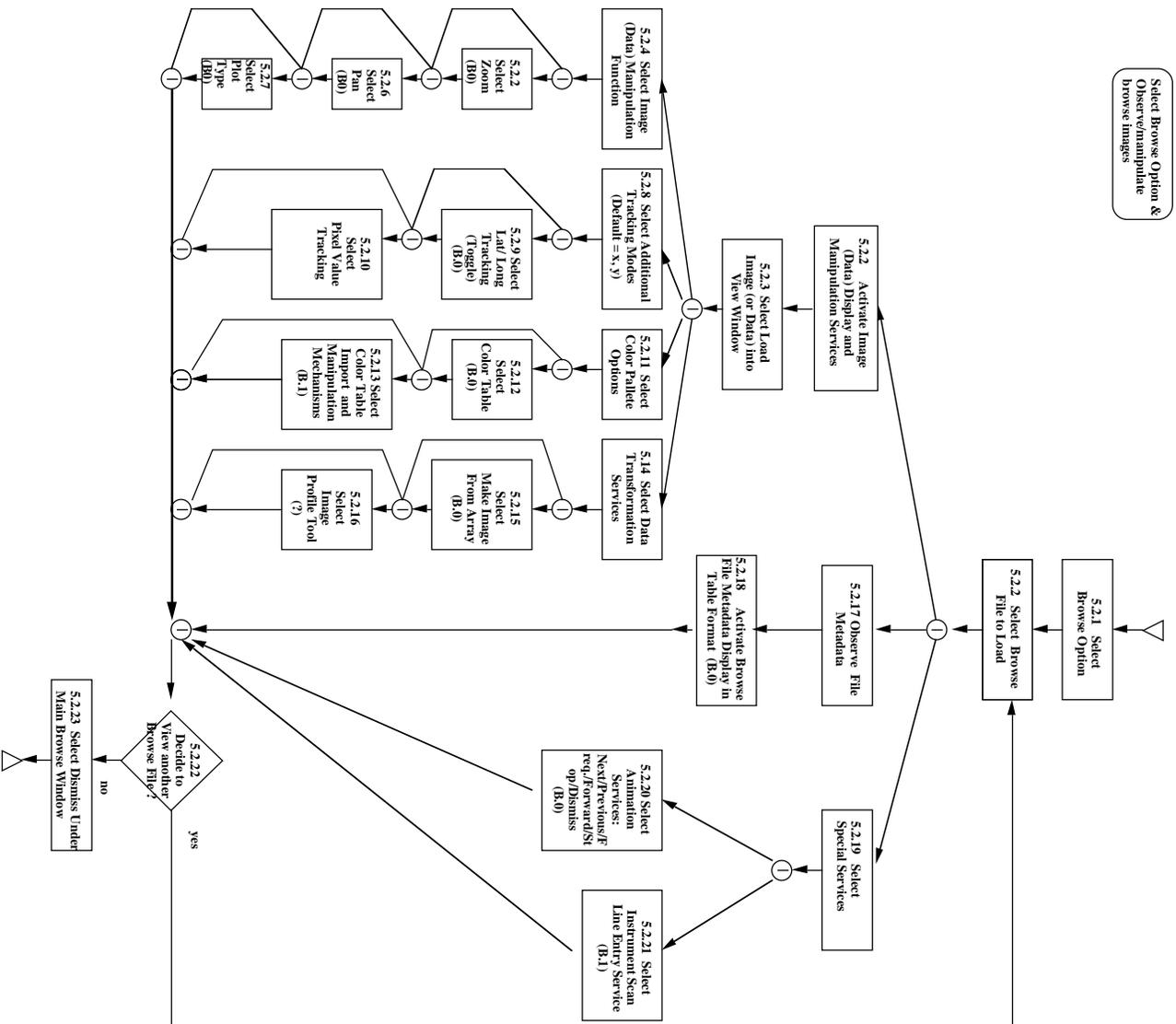
- Hierarchy of the HDF:** A tree view on the left showing the file structure, including folders for 'Annotations', 'Rasters', and 'GR[GR]'. The selected item is 'R8[8-bit Raster Image # 0]'. Below this, the file path is shown as 'java-hdb/testfiles/hdfann.hdf' with 'Load File' and 'Clean' buttons.
- HDF File Annotation:** A text area containing metadata:

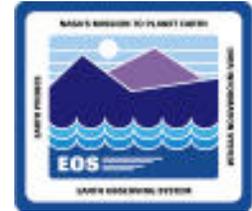

```

      ----- HDF File Annotation -----
      data_source=AVHRR Pathfinder
      data_product=Land 10-Day Browse
      granule_size=0.350
      geo_flag=0
      day_night_flag=0
      granule_version=1

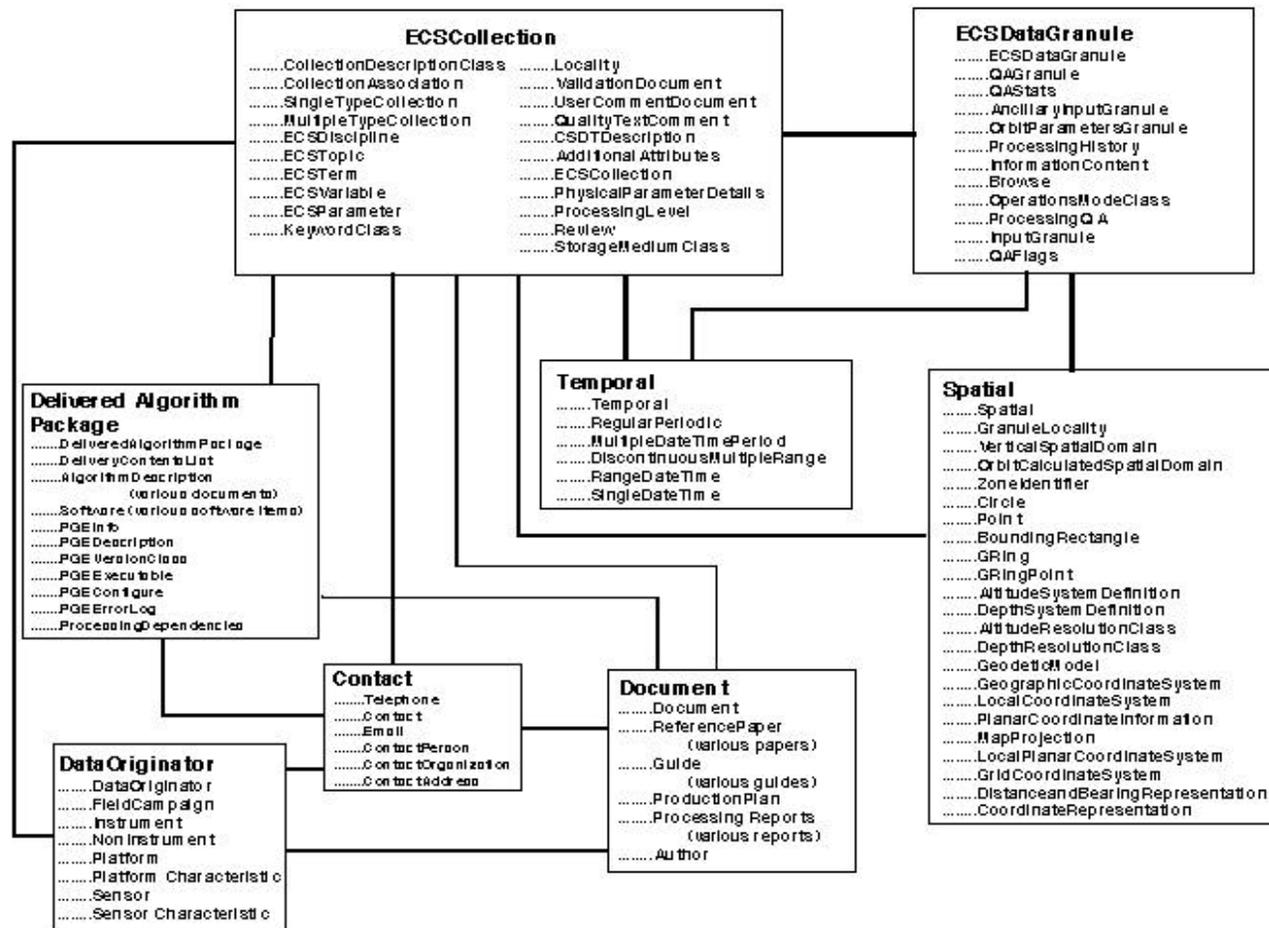
      THIS IS A DISPLAY PRODUCT ONLY! NOT FOR RESEARCH PURPOSES
      This is a browse product for a Pathfinder AVHRR Land 10-day composite
      data set. These data are subsampled every 8th pixel of every 8th line
      from the original 8km data set. The data are flagged as follows:
      
```
- Data Table:** A table titled 'Browse Data Table (for AVHRR Pathfinder)' with columns labeled 'R8', 'T8', 'DN', 'T1', 'T2', 'T3', 'T4', 'T5', and 'T7'. The table contains numerical data for various rows, with some rows highlighted in cyan.
- Image from HDF:** A large window showing a satellite image of Earth. The left side shows a global view with a red box highlighting a region over the Americas. The right side shows a zoomed-in view of this region, displaying a grayscale image with some color overlays. Below the image are zoom controls (100%, 200%, 500%, 800%, 1000%) and navigation buttons (Spreadsheet, Next, Previous, Backward, Forward, Stop, Dismiss).

Browse: Level 3 Flow





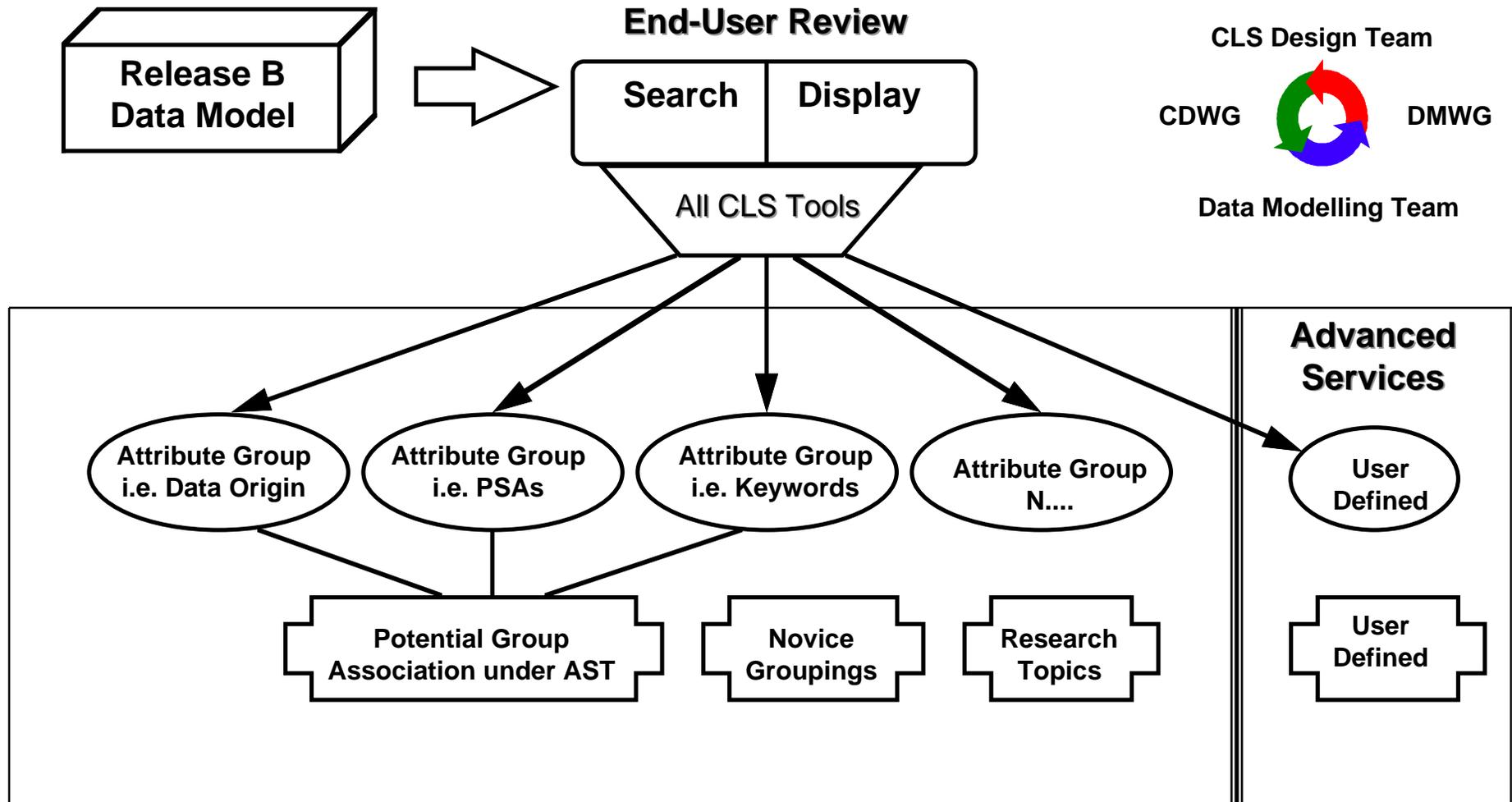
Search and Display Team Progress



Search and Display of Other Data Model Attributes CDWG:

- Review Complete Release B Data Model from the End-User Perspective.
- Choose logical search and display only attributes (Phase 1).
- Group attributes for selection purposes - across modules and provide end-user mock-ups (Phase 2).
- Specify logical group associations for the Attribute Selection Tool.
- Discuss and specify necessary functionality for special attribute selection tools, i.e. PSA tool.

Search and Display Team Approach and CLS Integration



CLS Design Team
 CDWG  DMWG
 Data Modelling Team

Attribute Selection Tool