

ASHRAE TC ACTIVITIES SHEET

DATE: 29JAN 2001

TC NO. TC 1.5

TC TITLE: Computer Applications

CHAIR: D. Branson

VICE CHAIR/SECRETARY: D. Barrett

TC MEETING SCHEDULE

Location, past 12 mo.	Date	Location, next 12 mo.	Date
Minneapolis	Jun 2000	Cincinnati	Jun 2001
Atlanta	Feb 2001	Atlantic City	Jan 2002

TC SUBCOMMITTEES

Subcommittee	Chair
Emerging Applications	Pornsak Songkakul
Handbook	Mike Pouchak
Internet	Walter Grondzik
Policy and Software Quality	Brian Kammers
Program	Wayne Webster
Research	James Watts

RESEARCH PROJECTS

Project Title	Contractor	Monitoring Committee Chair	Report Made at Meeting?
TRP-1017	Texas A&M	James Watts	Yes
TRP-1049		Ron Nelson	Yes
TRP-1032		Dave Branson	No

LONG RANGE RESEARCH PLAN

Rank	Title	W/S Written	Approval	To R&T
1	Prototype demonstration of IFC/aecXML interoperability in support of HVAC&R activities.	No	No	No
2	On-line development of standards	No	No	No
3	Retooling the HVAC education process to better Use Computer-Aided Design	No	No	No
4	A Multimedia database for examining and comparing HVAC design alternatives	Yes	No	No
5	Software tool to aid the development of work statements that have software deliverables	No	No	No

HANDBOOK RESPONSIBILITIES

Year & Volume	Chapter Title	No.	Deadline	Approval	Handbook Committee Liaison
2003 Applications	Computer Applications		2003	No	Ken Cooper

STANDARDS ACTIVITIES

None

TECHNICAL PAPERS FROM SPONSORED RESEARCH (PAST 3 YRS, PRESENT, PLANNED)

Title	When Presented

From TRP - 833: Demonstration of Knowledge Based to Aid Building Operators in Responding to Real-Time Pricing Electricity Rates	
From TRP - 808: Demonstration Knowledge-Based Tool (KB) for Diagnosing HVAC O&M Problems in Small Office Buildings.	

TC SPONSORED SYMPOSIA (PAST 3 YRS, PRESENT, PLANNED)

Title	When Presented
Whole Building Calibration Techniques: Fact or Fantasy? - Hydeman	Minneapolis 06/00
Tools & Techniques for Calibration of Component Models - Hydeman	Atlanta 01/01
Computers and HVAC Education - Nelson	Chicago 01/99
The Great Energy Predictor Shoot-out II	San Antonio 6/96

TC SPONSORED SEMINARS (PAST 3 YRS, PRESENT, PLANNED)

Title	When Presented
The Demise of 2D CAD Design - Barrett	TBD
Where Is ASHRAE going with the Web – Dunn	Atlanta 01/01
Data Visualization for Building Operations – Kammers	Atlanta 01/01
A Virtual Office Conducting Business from Cyberspace – Barrett	Atlanta 01/01
Automated Recognition of data patterns for HVAC and Building Diagnostics – Brambley	Atlanta 01/01
A Practical Guide to the Net: Inter, Intra or What? – Pouchak	Atlanta 01/01
Applications of Internet and Electronic Media for Chapters and Regions – Hydeman	Atlanta 01/01
ASHRAE Evolves Policy & Media through Time – Schwedler	Atlanta 01/01
How Could Electronic Media Assist the Development and Implementation of ASHRAE Standards – Hydeman – 15 persons	Minneapolis 06/00
What is the Future Relationship Between DDC & The Web – Branson – 85 persons	Minneapolis 06/00
How Could Electronic Media Assist the Development and Implementation of ASHRAE Standards - Hydeman	Dallas 02/00
What is the Future Relationship Between DDC & the Web - Branson	Dallas 02/00
Where is ASHRAE Going With the Web - Dunn	Dallas 02/00
Data Visualization for Building Operations - Kammers	Dallas 02/00
Business in the Year 2000? or 1900? - Schwedler	Chicago 01/99
Does Your TC or Chapter Need Members? Retention? Communication? Action? Try Computer and the Web?	Toronto 06/98
Use of Internet for Collaborative Efforts in HVAC - Branson	Toronto 06/98
Emerging Applications: From PID to Fuzzy Logic & Beyond - Sun	San Francisco 01/98
Demonstration of Inter-Operable Computer Applications for the HVAC Industry - Forester	San Francisco 01/98
Use of the Internet by Technical Committees - Schwedler	San Francisco 01/98

TC SPONSORED FORUMS (PAST 3 YRS, PRESENT, PLANNED)

Title	When Presented
What Type of Software do ASHRAE Members Want from ASHRAE? - Kammers	TBD
ASHRAE An Electronic Society - What Pieces of the Connectivity Puzzle Are Still Missing? - Branson	TBD
Should ASHRAE Establish Guidelines for Electronic Media that contains Manufacturers Product Information – Sun	Atlanta 01/01
What will you want from your Web Handbook? – Schwedler	Atlanta 01/01
Should ASHRAE provide Open Source Software a la LINUX? – Kammers	Atlanta 01/01
How Should ASHRAE’s Commercialization Policy be Applied in the Age of Electronic Media and Networks - Webster	Minneapolis 06/00
Great Research!!! Can We Do It Without Software? - Branson	Atlanta 01/01
What is the Members View of Electronic Media Support for Standards – Hydeman –18 persons	Minneapolis 06/00
Sensors for HVAC: Problems, Needs & Technology – Brambley – 80 persons	Minneapolis 06/00

Now that You Know ASHRAE's Web Plans - Pouchak	Minneapolis 06/00
Sensors for HVAC: Problems, Needs & Technology - Brambley	Dallas 02/00
What is the Members' View of Electronic Media Support for Standards? - Hydeman	Dallas 02/00
What is the Members' Response to ASHRAE's Web Plan? - Sun	Seattle 06/99
What Support Is Needed For ASHRAE Software? - Kammers/Webster	Chicago 01/99
Computer-Based Training - What Subjects Should ASHRAE Put on the Web or CDs? - Culp	Toronto 06/98
Should ASHRAE Sponsor a Cyberspace Virtual Chapter? - Hallstrom	Toronto 06/98
Who Should Champion the Transfer of Technology on the Internet? - Branson	Toronto 06/98
What Would You Do If You Had Internet Access for Your Building Control System - Songkakul	San Francisco, 01/98
What Do ASHRAE Members Want Form The ASHRAE Homepage - Linton	San Francisco 01/98
What ASHRAE members want/ need from Manufacturer's World Wide Web Site	Boston 06/97
What to ASHRAE Members want from the ASHRAE Web page	Boston 06/97
How Can User Interfaces for HVAC Software be Improved	Philadelphia 01/97
What Should ASHRAE's Role Be In The Industry Alliance for Interoperability?	San Antonio 06/96
What Do ASHRAE Members Want/Need from the World Wide Web?	San Antonio 06/96
HVAC, Virtual Reality, and You	San Antonio 06/96
What are the CAD/Simulation Tool Needs of ASHRAE Members?	San Antonio 06/96

JOURNAL PUBLICATIONS (PAST 3 YRS, PRESENT, PLANNED)

Title	When published
What HVAC Applications Would Benefit from Computer-Aided Instruction - Culp	TBD
Diagnostics for Outdoor Air Ventilation and Economizers - Brambley, Pratt, Chassin, Katipamula and Hatley	10/98

SUBMITTED BY: Duane Barrett -- TC 1.5 Secretary

TC 1.5 (Computer Applications) Minutes

Atlanta 01/2001

Monday – Jan 29th, 2000 6:30 p.m. -- 9:00 p.m.

General

- **Call to order** at 6:30 p.m.
- **Introductions/Sign up sheet** – TC info passed out by Chair
- **Agenda Review** – no additions made
- **Roll Call** (Branson, Barrett, Grondzik, Kammers, Nelson, Watts, Hydeman, Pouchak, Briggs)
Quorum established
- **Minneapolis Minutes Approval** –
Motion by Kammers/Second by Grondzik; Motion passed by unanimous voice vote with Chair not voting

Chair's Report – Dave Branson

Announcements –

- CLIMA2000 Meeting Sept. 15-18th - Napoli Italy
- ASHRAE asked Chair to provide historic information regarding past Research from TC1.5. How was it used etc. (966, 883, 820, 624)

Action Item Review -

- Chair fulfilled writing to letters to ASHRAE
- Article for 966 has been put on hold pending other research
- Section liaisons were invited

Section Liaisons:

- Research Liaison - Bodh
 - Research funding has been reduced to 2.8mil.
 - Make sure that the value of Research is outlined.

Subcommittee Reports

Program - Mark Hydeman (Attachment A)

Motion by Hydeman/Second by Briggs to accept program Motion passed by vote of hands (8-0-0) with Chair not voting

- Program packages to Mark Hydeman by Feb. 5th.
- Symposiums are restricted to 12 images.
- If presenters require anything other than a projector, you must request them from Judy Marshal when your program is approved.
- Reviewed current Atlanta programs.

Research – Jim Watts (Attachment B)

17 Work statements will be reviewed tomorrow. Most likely none will be funded until August.

- PMS was created for the IFC/aecXML RTAR. (Rob Hitchcock, Duane Barrett, Mark Hydeman)
- 1017RC was voted 4-0-1 to accept work from contractor.
- Pouchak motioned/ Briggs seconded. To approve final deliverables from contractor with the exception of the paper that is pending. **Motion passed by vote of hands 9-0-0 chair voting**

1032 update – Branson, reported going well having monthly teleconferences.

- RP-966 update – A follow-up contract was granted to actually apply this research toward existing software projects.
- Proposed research topics review (See attachment B)

Emerging Applications – Pornsak Songkakul (Attachment F)

- No new research activities to submit
- Announcement of the XML Definitions for HVAC&R GPC
- An IFC update was given at sub committee meeting.

Policy and Software Quality - Brian Kammers (Attachment C)

No attendance of this sub-committee.

Motion by Kammers to drop PASQ, second by Barrett, **Motion passed by vote of hands 9-0-0 chair voting**

- *Kammers to write letter explaining why this was dropped.*

Internet – Walter Grondzik (Attachment D)

Internet advisory group met Saturday with special pubs.

<<insert report from Walter>>

Handbook – Mike Pouchak (Attachment E)

Jan 2002 is the final goal for the TC.

Feb 2001 will be subcommittee review

Threaded discussions will be included on the website.

Request that members review the outline on the last page of hand-out and submit any further ideas to Mike.

Standards

Did not meet

Webmaster report (Ron Nelson)

All program chairs send info to Ron for updating info on site.

(Thank you Ron for doing such a great job!)

Liaisons

Duane Barrett, SPC – 134P Received comments from 2nd review and will apply edits.

IAI/aecXML – update, Rob Hitchcock

Duane Barrett - XML Definitions for HVAC&R GPC liaison

Old Business

New Business

- Meeting times for Cincinnati.
- TC1.5 needs an org chart created that outlines our ASHRAE liaison's etc.

Committee	Day	Time	Chair
Internet	Sunday	1:30 – 3:00	Walter Grondzik
Emerging Applications	Sunday	3:00 – 4:00	Pornsak Songkakul
1032 PMS	Sunday	4:00 – 5:00	Dave Branson
1228 PMS	Sunday	5:00 – 6:30	Charlie Culp
Research & Program	Sunday	6:30 – 8:30	Jim Watts & Mark Hydeman
Handbook	Monday	4:30 – 6:30	Mike Pouchak
Main TC	Monday	6:30 - 9:00	Dave Branson

Other Business

Adjournment

Motion by Kammers/Second by Barrett; Motion passed unanimously by voice vote with Chair not voting; adjourned at 8:15 P.M.

**Program Subcommittee Report, Jan 28th 2001, 6:30-8:30pm (Atlanta)
Mark Hydeman, Program Chair**

- 1) New rules of operation for the Program Subcommittee
 - A) We will submit one symposium per meeting or no-one leaves the room
 - B) Those that try to leave are automatically volunteering to chair the symposium
 - C) Don't even think about encroaching on Research
 - D) Each person (including corresponding members and visitor) got one vote towards program prioritization. We will try two votes in Cincinnati.
 - E) In the event of a tie, symposium will be selected over seminars, and seminars will be selected over forums. Programs previously prioritized but not selected will have a 1/2 point bonus.
 - F) The rules may spontaneously change at the whim of the subcommittee chair
- 2) Review of programs at Minneapolis/Atlanta

Minneapolis -- Seminar: Application of Electronic Media to the Development and Processing of Standards
Hydeman/Taylor/Jarnagin (Wednesday AM). This was a very lively program and was well received.

Minneapolis -- Building Control on the Web. Dave Branson reported that this program was very successful and inspired an article that was published in the December 2000 ASHRAE Journal (DDC and the web.)

Seminar 20 on RP1017 10-12 362W

Seminar 27 Interoperable Computer Applications for the HVAC Industry
Hydeman/Hanninen/Livchak/Hitchcock/Haves Tuesday 8am-10am RM360W

Forum 28 What Does the ASHRAE Membership Need From the Computer Applications Handbook Chapter?
Mike Pouchak Tuesday 11:15am-12:05am RM368W
- 3) Programs for Cincinnati (see next sheet)
- 4) Jim Gartner of TC 1.4 came to ask us for a speaker and co-sponsorship for a proposed Cincinnati seminar, "Maximizing Facilities Performance Utilizing Computerization." He got the speaker but not the co-sponsorship (the program already had 2 other co-sponsors).

Type	Title	Chair	Speakers	Notes
Sem	Pattern Recognition Based Fault Detection and Diagnosis for Building Operation	Brambly	3	4.11 cosponsor
Sem	Use of the Internet for International Collaboration	Dwyer	4	
Sem	Future NET gains for the AE office	Kammers	5	
For	Opportunities and issues with the future NET	Culp		On heels of seminar or not at all
Sem	Network Applications of Internet, Intranet and Building Automation	Pouchak	4	
Sem	eASHRAE: A Virtual Look at Virtual Products	Schwedler	0	Or Pouchak

Type	Title	Chair	Speakers	Notes
Sym	Tools and Techniques for Calibration of Component Models	Reddy (w/4.7)		
Sym	1017 RP (Akleman and Haberl)	Watts	3	3 papers by Haberl and co
Sym	Interoperable Computer Applications	Branson	2	RP 1032 and Seminar on Interoperable Software papers by Forrester and Hitchcock
Sem	Where is ASHRAE going with the web	Dunn		
Sem	ASHRAE Evolves Policy & Media Through Time	Schwedler		
Sem	Uses and Benefits of Electronic Collaboration, Newsrooms & Groupware	Pouchak		
Sem	Seminar.com: Potential & Pitfalls of Moving Business to the Internet	Grondzik	0	
Sem	Computer Applications - Buzzword Bingo	Schwedler		
Sem	Cool Stuff that ASHRAE Could be Doing Using the Internet	Grondzik		
Sem	We are not alone in the universe emerging applications around the world	Forrester	0	
Sem	Next generation of AEC application development	Pornsak	0	

Sem	Internet technology for HVAC/R business Use IT or lose it	Dwyer
Sem	Internet based training	Gronzik
Sem	A Day in the life of ASHRAE members in the YEAR 2010	Culp
For	Great Research: Can we do it Without Software?	Branson
For	What will you want from your Web Handbook?	Schwedler
For	Collaborative Web Based Benchmarking	Norford
For	Should ASHRAE Establish Guidelines for Electronic Media that Contains Manufacturer's Product Information?	Sun/Grondzik
For	How Should ASHRAE Handle the Age of Electronic Media and Networks	Webster
For	What do you want from ASHRAE's Website?	Haberl

Research Subcommittee Meeting Minutes
ASHRAE Winter Meeting, Atlanta, GA
Sunday, January 29, 2001

1. Call to Order/Introductions

The meeting was called to order at 7:31 p.m.

2. 1017-RP Status - "Multimedia Enhancements to the Handbook CD-ROM"

The Project Monitoring Committee voted to accept the final report of Texas A&M by a vote of 4-0-1 (one member was absent and did not send an e-mail response). The only task to complete is one or more papers for ASHRAE Transactions and a symposium. The contractor plans to write at least two, and perhaps three papers altogether. A Symposium description was also passed on to the Programs Subcommittee Chair which would include two authors from Texas A&M. A third author will also be needed.

In the way of project follow-up, the society's Handbook Committee took the initiative to schedule a Seminar (#20) for this meeting to introduce the subject and solicit feedback. In addition, a copy of the CD was passed out to each TC Chair at the 6:30 Chairmen's Breakfast meeting. Much work remains to establish procedures and plans for each TC to contribute similar enhancements for their own Handbook chapters. Jim Watts agreed to discuss such issues as process definition, standardized formats, and needed ASHRAE staff skills with the Handbook Committee's technical group (SPO2). Jeff Haberl also agreed to write an RTAR describing a research project to develop a "toolkit" to facilitate the development of similar Handbook enhancements by other TCs.

3. 1049 RP Report - "Building System Design Synthesis and Optimization"

Ron Nelson reported that a change in project contractors was made. The capabilities of the new contractors are very impressive. Among other functionality, the software will support automatic configuration and optimization of airflow systems. About two years remains before project completion. TC 1.5 is jointly participating in this project with TC 4.7.

4. 1032 RP Report - "Identification and Computer-Based Preservation of Building Design and Commissioning Information"

Dave Branson reported that the project was going well with monthly teleconferences. Extensive data schemata were being developed that might contribute to other society efforts to develop extensible data models. Project Monitoring subcommittee meets tomorrow night. Mark Hydeman has volunteered to join the subcommittee.

5. 1228 RP Report - "Case Studies of ASHRAE Software Projects Using 'The Software Guide'" (966 Follow-up)

A new contract has been awarded to the original contractor to perform a retroactive application of 966's results to completed research projects that included software deliverables. The contractor will conclude with a paper describing the result. Charlie Culp (Chair), Brian Kammers, and Bob Old agreed to comprise the Project Monitoring Subcommittee.

6. ____ WS Report - "Prototype Demonstration of IFC / aecXML Interoperability in Support of HVAC&R Activities"

The RAC approved the RTAR describing this proposed project as a "priority project". A draft Work Statement (WS) was prepared before the RTAR was submitted last summer. Jim Watts agreed to review the draft WS and make any suggestions before sending it to the Proposal Evaluation Subcommittee (PES) for final preparation. If submitted to RAC before May 15, 2001, it will be considered for approval at the ASHRAE Summer Meeting. Robert Hitchcock (Chair), Duane Barrett, Mark Hydeman, and Rob Briggs agreed to comprise the PES.

7. Proposed Research

The various subcommittees of TC1.5 suggested no new research projects. Please bring new ideas in the form of an RTAR to the summer meeting for potential inclusion in the 2002 Research Plan. Please use the attached RTAR list as a starting point for format.

For the record, the current list of RTARs submitted as part of TC 1.5's 2001 research plan is as follows:

1. Prototype demonstration of IFC interoperability in support of HVAC&R activities (prioritized by RAC)
2. On-line Development of Standards
3. Retooling the HVAC Education Process to Better Use Computer-Aided Design
4. A Multimedia Database for Examining and Comparing HVAC Design Alternatives
5. Software Tool To Aid in the Development of Work Statements That Have Software Deliverables

8. Adjournment

The meeting was adjourned at 8:00 p.m.

RESEARCH TOPIC ACCEPTANCE REQUEST

Title: **Prototype Demonstration of IFC/aecXML Interoperability in Support of HVAC&R Activities**

TC/TG: **TC 1.5**

Research Category: **Design, Commissioning, and O&M Tools**

TC/TG Priority: **1**

Estimated Cost: **\$115,000**

Background / State-of-the-art:

The Industry Foundation Classes (IFC) data model has been developed by the International Alliance for Interoperability (IAI, 1999) to facilitate data and information transfer between multiple participants in a building project across the life cycle. Demonstrations of this interoperability to date have focused on transfer of geometric CAD-related data. Yet, the true added value of interoperability will be the transfer non-geometric building information (e.g., HVAC equipment performance and operation data) in addition to geometric data. This level of interoperability would support data sharing between the owner and design team, between design team members, and from design to downstream participants in construction, commissioning, and operation phases of the building life cycle. In addition to developing the IFC, an effort is now underway within the IAI to develop XML schemata for facilitating communication of HVAC&R data using the Internet. This effort is called aecXML and is intended to complement interoperability based on the IFC.

Justification of Need / Advancement to State-Of-The-Art:

There is a need to demonstrate both the feasibility and value of the transfer of non-geometric information, using IFC and aecXML, in support of HVAC&R activities and applications. Such a demonstration would more concretely illustrate the benefits of this level of interoperability, generating interest both in further development of the underlying IFC data model and in commercial implementation of interoperable tools.

To date, the IFC data model has focused on geometric information. For interoperability to benefit ASHRAE and the HVAC&R industry, this model must be extended to more fully address the data requirements of this community. A tangible demonstration of interoperability would attract more involvement from ASHRAE members. It would also help create market demand for interoperable tools that support HVAC&R activities. Interoperability can ultimately lead to an improved building design, delivery, and operation process by dramatically improving the flow of information between project participants and phases; better designs, in less time, with reduced error, that operate as designed.

Objective:

Develop a prototype software demonstration of interoperability between HVAC&R applications using the IFC and aecXML data models. Document the potential costs and benefits of moving from current practice to improved information management through interoperability.

Contributors:

Robert Hitchcock, 510-486-4154

Duane Barrett, 256-722-8551

Mark Hydeman, 415-972-5498

RESEARCH TOPIC ACCEPTANCE REQUEST

Title: On-line development of standards.

TC/TG: 1.5

Research Category: High Risk, Innovative, and Emerging Technologies

TC/TG Priority: 2

Estimated Cost: \$75,000

Background / State-of-the-art:

Other societies are experimenting with online standards development. ASHRAE has a need to improve on the present manual method of developing standards by use of online techniques. The present process is very inefficient and expensive, as illustrated by the problems associated with development of Standard 90.1. This work statement authorizes a survey of other societies' and organizations' automated standards development processes and intends to bring the best practices into ASHRAE as a coherent and formalized standards development process.

Justification of Need / Advancement to State-Of-The-Art:

By providing a formal computer-based process in the development of standards, ASHRAE will reduce the time and cost resources necessary to manage and develop those standards.

Objective:

- a. Perform a survey of other societies and organizations to determine how they develop online standards.
- b. Develop a process for online circulation, review, comments and approval of standards in accordance with ANSI specifications.
- c. Recommend a technology solution for implementation of 'objective b' based on ASHRAE's current and proposed computer resources.
- d. Prototype the recommended process on two (2) sample standards and evaluate the results.

Contributors:

Mick Schwedler, 608-787-4339
Walter Grondzik, 850-599-8782
Bob Old
Henry Amistadi, 207-759-5546
Fred Buhl
David Bornside
David Branson, 806-748-0040
Art Hallstrom

RESEARCH TOPIC ACCEPTANCE REQUEST

Title: Retooling the HVAC Education Process To Better Use Computer-Aided Design.

TC/TG: 1.5

Research Category: High Risk, Innovative, and Emerging Technologies

TC/TG Priority: 3

Estimated Cost: \$150,000

Background / State-of-the-art:

The education of new engineers and architects in the design of HVAC systems generally uses techniques that have been around since the 1040-50's. In order for ASHRAE members to use the full power of computers, the entire process of design (i.e. plumbing, lighting, electrical layout, HVAC ducting, etc.) needs to be re-evaluated.

Justification of Need / Advancement to State-Of-The-Art:

This project will define the possible new tools that could be used to educate engineers and architects in the design of MEP systems. ASHRAE members and the HVAC&R industry can try out these tools through the demonstration model. This would encourage the widespread adaptation of these and similar tools in the education process.

Objective:

1. Identify current design methodologies and processes.
2. Identify new technologies for performing the same tasks that maximize productivity through computer technology (ex. 3-D visualization, automated layout and configuration, etc.).
3. Develop an education demonstration model that would use the new technologies. The model will be widely distributed by ASHRAE to help change the industry.

Contributor:

Jeff Haberl, (409) 845-6507

RESEARCH TOPIC ACCEPTANCE REQUEST

Title: A multimedia database for examining and comparing HVAC design alternatives.

TC/TG: 1.5

Research Category: Design and O&M Tools

TC/TG Priority: 4

Estimated Cost: \$100,000

Background / State-of-the-art:

Design is frequently accomplished by modifying existing designs to fit the context of the current problem.

Justification of Need / Advancement to State-Of-The-Art:

This project will allow an engineer to easily gain access to information-rich databases of existing designs that are relevant to a problem under consideration. These designs will be presented in a graphic, multimedia format, providing images and schematics that are of greatest interest and impact during design. HVAC engineers can quickly scan, search, retrieve, and compare a broad range of existing solutions that can be used as a basis for new design or as a starting point for generating new ideas. Ultimately the designs stored in the database should be directly accessible by commercial CAD systems for adaptation and modification.

Objective:

- a. Identify a broad range of existing HVAC systems that represent good design practice and successful implementation.
- b. Obtain and/or generate descriptive information about each of the installations (e.g., schematics, photographs, simulations, performance statistics).
- c. Create a prototype CD-ROM-based database that allows the rapid retrieval of HVAC system descriptions by key features.

Contributor:

Walter Grondzik, (904) 599-3244

RESEARCH TOPIC ACCEPTANCE REQUEST

Title: Software Tool To Aid The Development Of Work Statements That Have Software Deliverables

TC/TG: 1.5

Research Category: Design and O&M Tools

TC/TG Priority: 5

Estimated Cost: \$45,000

Background / State-of-the-art:

The current process required to assure that ASHRAE receives quality software deliverables is somewhat complex for the general membership. In addition it is not linear in nature. Both of these attributes indicates that an automated process would benefit the developers of work statements.

Justification of Need / Advancement to State-Of-The-Art:

This project only focuses on the part of the work statement development related to software. It is not intended to automate the entire work statement development process. This would have to be the subject of another project.

This would be a follow up project to previous research. The research project RP-966 was intended to create a process that aided the Society in the area of software quality. The purpose was to create a procedure for ASHRAE members to develop work statements that required software as a deliverable.

The most unique part of the research would be the development of a complete work statement. It is the intent of this one page work statement proposal to use the results of RP-966 to create a work statement for the automation of the RP-966 process. This would be the first use of the process created in RP-966. It will provide experience that should help determine if the process is suitable to the Society.

An automated process would be simpler to use and therefore the membership would be more likely to follow the procedure.

Objective:

- a. Improve the quality of software delivered to ASHRAE through research projects.
- b. Simplify the development of work statements that include software deliverables.
- c. Utilize ASHRAE's investment in RP-966.
- d. Test the process in RP-966 by using it to develop a work statement for software creation that aids in the development of work statements that include software.
- e. Improve the level of consistency and compliance with the work statement process relative to software deliverables.

Contributor:

Brian Kammers, PE, (414) 274 - 5985

Emerging Applications Subcommittee
4:00-5:00 PM, Sunday 28th, 2001
ASHRAE 2001 Winter Meeting, Atlanta, GA
Room 262 W

Agenda:

1. The meeting was called to order at 4:10 p.m.

2. Welcome/Introductions/Additions to Agenda

3. Review of Past/Current Program Activities and their status

Programs which are still on the list.

- **Seminar:** Data Visualization for Building Operations – Kammers
- **Symposium (TC 4.7):** Tools & Techniques for Calibration of Component Models – Agami Reddy (4 papers are being reviewed)
 - **Forum:** Does ASHRAE Commercialization Policy Need to Be Changed Because of the web? – Kammers (Title is changed to How ASHRAE commercialization policy should be applied in the electronic age?)
 - **Forum:** Collaborative web-based benchmarking – Norford
 - **Seminar: Seminar.com** Potentials and pitfalls of moving the business to the Internet - Hydeman
 - **Seminar:** Computer applications: Buzzwords Bingo – Schwedler

4. Discussion of Future/New Program Topics

- **Seminar:** Next generation of AEC applications development, Songkakul
- **Symposium:** Interoperable Computer Applications for the HVAC Industry, Hydeman
- **Seminar:** We're not alone in the Universe: Emerging Applications Around the World, Forrester

5. Review/Status report of Proposed Research Activities

6. Discussion of New Research Topics

No new research topics

7. Liaison Reports

- International Alliance for Interoperability (Rob Hitchcock): Less concentration on the Ifc technical development. Extension to the building services domain is also slow. New projects have to find their own funding for the development activities. Activities are focused on implementation of software based on the IFC model. Three CAD vendors including AutoDesk have developed software that support the IFC 1.5.1. There is also a middle-ware tool, BSPROCOM Server, that supports IFC. BSPROCOM provides COM services for developing building services applications. LBNL BLISS project is also developing software which supports the IFC. More activities are oversea. AECXML continues to make progress. Common schema are being extracted from the IFC object model.
- International Building Performance Simulation Association (IBPSA): There was an IBPSA meeting on Saturday before the ASHRAE meeting started. There were demonstrations of different simulation and building performance tools from different IBPSA members around the world. Contact Rob Hitchcock if you need more information.
- GPC XML is forming at this meeting. The first meeting will be on Monday, January 29.

9. Old Business

No old business

10. New Business

No new business

11. Adjourn at 5:00 p.m.

Policy and Software Quality Subcommittee

Meeting Agenda

Sunday January 28, 2001

Georgia World Congress Center, Atlanta, GA

3:00-4:00 p.m. in Room 262W

- I. Meeting was call to order at 3:00 p.m. by Duane Barrett sitting in for Chairman Brian Kammers. There were no attendees.

- II. Research Topics
 - A. Since there was no one except the Duane Barrett standing in as a substitute for the Chairman, no one put forth any ideas for research project.

- III. Program Topics
 - A. Since there was no one except the Duane Barrett standing in as a substitute for the Chairman, no one put forth any ideas for forums, seminars, or symposiums.

- IV. Other Business
 - A. Recommendation to be given to the TC 1.5 Committee - Computer Applications. Drop the Policy and Software Quality subcommittee. TC 1.5 will continue to provide the Society with assistance and expertise with issues related to Software, Policies, and Electronic Communication. The TC will form ad hoc groups as necessary or provide individuals to participate on other committees.

- V. Adjourn 3:15 p.m.

Internet Subcommittee of ASHRAE TC 1.5 (Computer Applications)

Winter Meeting, Atlanta, Sunday 28 January 2001

1. The meeting was called to order at 1:30 pm by Walter Grondzik, subcommittee Chair.
 2. Attendees introduced themselves (see TC 1.5 master roster for list of attendees).
 3. A copy of the TC 1.5 WWW site page describing the subcommittee's role was provided to attendees.
 4. Potential program ideas related to the Internet and HVAC&R interests were discussed. The following programs were suggested:
 - What's going on in the HVAC industry with respect to the Internet?
 - Internet technology for HVAC&R business productivity – Use IT or lose it.
 - Internet applications for the A&E office – The next step.
 - Internet based training.
 - Paired programs to address XML.
- [These program ideas were discussed and passed on to the TC 1.5 Program Subcommittee for consideration and prioritization.]
5. Potential research opportunities related to the general interest area of the subcommittee were discussed. The following issues were raised:
 - The time lag of ASHRAE research is such that project proposals in quickly-evolving areas (such as computer applications) are often behind the curve. As a means of moving beyond this constraint, research in computer applications might envision future applications, not just deal with current applications.
 - Collaborative research, reaching outside of ASHRAE, might be a way to proceed and avoid the inertia noted in the above concern.
 - A research project on BACNet linkages to buildings via the Internet was suggested.
 - A research project on BACNet XML schema for Web browsers was suggested.
 - A Poster Session presentation on utility/customer information transfer was noted – Utility/Customer Information Services.
 6. Several who attended the Saturday meeting of the Electronic Communications Subcommittee of Special Publications summarized issues related to ASHRAE's WWW site and its ongoing development.
 7. The formation and initial meeting of a proposed Guideline Project Committee (GPC) to address XML issues was announced. Attendance by interested parties was encouraged.
 8. The meeting was adjourned at 2:45 pm.

Handbook Subcommittee

January 29, 2001 Atlanta Rm 210E 4:30 – 6:30 P.M. Atlanta, GA

General

- **Call to order** at 4:30 p.m.
- **Introductions/Sign up Sheet**- TC info passed out by Chair
- **Attendance list** was distributed
- **Agenda Review**- no revisions made
- **Minutes** – no changes made
-

Schedule of Milestones-

Upcoming Meetings Cincinnati June 23-27, 2001; Atlantic City January 12-16, 2002; Honolulu June 22-26, 2002
Updated schedule

Date	Milestone
March 8, 2003	Complete chapter submitted to ASHRAE
June 2002 – Honolulu	Final TC 1.5 vote to approve chapter (must be complete by July 1, 2002) & sent to HB committee liaison (Jarnigan).
January 2002 –Atlantic City	TC 1.5 final review- Public Comments incorporated-
June 2001 –Cincinnati	Second Draft Available for TC 1.5 review
January 2001-Atlanta	First Draft Available for TC 1.5 review

Chapter Drafts and previous Chapter products were reviewed and discussed. Items that need action:

1. Brambly to create DDC / Web paragraphs based on ASHRAE articles.
2. Branson to create paragraphs on Automation Integration, Protocols, convergence, and integration overview.
3. Branson to solicit Ken Sinclair for Automation topics of componentization and integration issues.
4. Branson to forward Pouchak 28 page submittal and actual published for 1999 Handbook computer chapter
5. Branson to contribute section to Media BroadBand Network topics, Networking components section.
6. Javascripting topics– Kammers
7. Remote Monitoring and Control - Kammers
8. Bacnet Models – Old
9. Security models – Old
10. Newsgroups - Old
11. Open Source discussion - Old
12. Barrett/Kammers to create XML / HVAC XML applications discussion for handbook.
13. Hitchcock to be solicited for Interoperable computer applications for the HVAC Industry (seminar topic)

Input email in Word 6.0 format to

TC 1.5 web handbook site: http://www.ashraex.org/tc1_5/handbook.htm

Adjournment at 6:30 p.m.

Mike Pouchak, Chair

Name	Affiliation	Phone	TC	Res	Prg	PSQ	Emg	Hbk	Int	Email
Henry Amistadi	Scientific Computing		X				X		X	
Duane Barrett	Bentley Systems, Incorporated		X	X	X	X	X	X	X	
Bruce Billedeaux	Armstrong Service. Inc.						X			
Al Black	McClure Engineering Associates		X							
David Branson	Compliance Services Group, Inc.			X	X		X	X	X	
Rob Briggs	Pacific Northwest Lab		X	X	X					
J. Patrick Carpenter	Kling Lindquist		X							
Charles W. Coward	Waddell Engineering Company						X			
Robert Diamond	MLM Building Services								X	
Wayne Dunn									X	
Tim Dwyer	CIBSE/ASHRAE Group		X				X		X	
Jim Forester	Marinsoft		X	X	X		X			
Walter Grondzik	Florida A&M University		X						X	
Kristin Heinemeier	Honeywell			X	X					
Rob Hitchcock	Lawrence Berkeley National Lab		X	X	X		X			
Mark Hydeman	Taylor Engineering		X	X	X		X	X		
Brian Kammers	Johnson Controls Inc.		X	X	X		X	X	X	
Satheesh Kulankara	York International								X	
Phylroy Lopez	Natural Resources Canada						X	X		
Larry Luskay	PECI			X	X					
Itzhak Maor	PWI Energy. Inc.		X							
Maria Mottillo	Natural Resources Canada						X			
Ron Nelson	Iowa State University		X	X	X					
Bob Old	Siemens Building Technologies		X	X	X			X	X	
Vernon Peppers	Peppers Engineering		X							
Michael Pouchak	Honeywell, Inc.		X	X	X			X		
Mick Schwedler	The Trane Company		X						X	
Steve Selkowitz	Lawrence Berkeley Laboratory		X							
Klaus Sommer									X	
Pornsak Songkakul	Siemens Building Technologies		X	X	X				X	
Stuart Waterbury, PE	Architectural Energy								X	
James Watts	Ingersoll-Rand Energy Systems		X	X	X					
Wayne Webster			X	X	X					