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Accredited Standards Committee*
INCITS, *Information Technology*

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INCITS SUBGROUP ANNUAL REPORT

Annual Report for INCITS Committee H3
Covering the period from June 1 2006 – May 31, 2007
Computer Graphics and Image Processing

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Informal Description of Work

INCITS Technical Committee H3, Computer Graphics and Image Processing, is responsible for the development and maintenance of national standards relating to the field of computer graphics and imaging. It also serves as US Counterpart to ISO/IEC JTC 1 SC 24 (Computer Graphics, Image Processing, and Environmental Data Representation). Its scope includes the following topics:

- Development of the reference model for computer graphics;
- Standardization of methodologies for computer graphics programming;
- Standardization of functional specifications of computer graphics facilities, including those needed for image processing, graphical data bases and graphical user interfaces;
- Standardization of programming language bindings for computer graphics functional definitions;
- Standardization of graphical information exchange, including computer graphics metafiles and computer graphics device interfaces;
- Methods and procedures for testing and validation of implementations of computer graphics standards;
- Specification techniques for computer graphics standards; and
- Providing US input to the standardization of procedures for the registration of items and administration of those parts of the procedures for which the US National Body is responsible.
- Development of standards that are used for environmental representation.

To the greatest extent practical, standards developed by H3 are device-independent, machine-independent, and operating-system-independent. Furthermore, whenever possible, the committee aims to develop and adopt international standards, rather than US versions that differ from the internationally accepted versions.

1. Executive Summary

INCITS H3 has continued to remain active in the development of computer graphics and imaging standards through the past reporting period. The committee has continued to experience change both within its membership and the manner in which it executes its program of work. These changes continually require the committee to reevaluate and provide for increased communication and harmonization with reduced physical personal contact. In addition, changes to the structure and active programme of work within SC24 combined with continued advancements in computing technologies, computer graphic and imaging application areas (especially with respect to geospatial and metadata) as have also influenced the standardization efforts and requirements within the committee.

As in previous years, H3 remains largely and almost exclusively involved in the development of ISO standards in conjunction with ISO/IEC JTC 1 SC 24. In addition, standards development activities have continued to migrate away from internal developments towards more focused cooperative standardization activities in conjunction with industry and consortia partners. Among the successes for H3 within this arena over the past year have been the continued efforts to coordinate with the Web3D consortium (as a liaison and in coordination with SC24) to continue to progress Extensible 3D (X3D) enhancements and to coordinate with the SEDRIS Organization (as a liaison and in coordination with SC24) to continue to progress the SEDRIS family of standards. In addition, many of the standards communities utilizing SC24 standards have been active in the registration of graphics, imagery data, and imagery data format profiles resulting in several ballot activities and updates to the ISO/IEC International Registry of Items. The market relevance of these standards combined with the fact that the committee members have been able to continue to quickly progress standards sets the stage for continued development activities along these same lines throughout the remainder of 2007. H3 has found that its experience in conformance and validation, its long history and technical expertise in the development of computer graphics and imaging standards, and its consumer/user base is well applied to these types of efforts and in effect adds to the viability, enhancement, and maintenance aspects of the published ISs.

INCITS H3 has benefited from continued work with INCITS L1 and closer coordination with INCITS L1 and the GeoINT Standards Working Group (GWG), will strengthen coordination on US positions for the oversight of standards within ISO/IEC JTC 1 SC24 and ISO TC 211. New potential lays in INCITS H3 interaction with the Web3D Consortium and its work with the Web3D X3D Earth developments.

INCITS H3 continues to feel that the following issues are essential to the successful continuance and effectiveness of the committee:

- Increased participation, recruitment, and involvement of technical experts.
- Continued coordination activities between SC24 and other ISO/IEC TCs and consortia.
- Maintaining and establishing cooperative partnerships with outside standards organizations, commercial and industry partners, government functions, and the users of graphics and imaging technologies.
- Maintaining and expanding the education of the membership with regard to ANSI and ISO standards development processes.
- Continued mechanization and electronic communication/distribution.

Primarily during this reporting period H3 members worked to continue to progress the X3D and SEDRIS work items and the ISO/IEC Procedures for the registration of items. H3 members were instrumental in all these efforts, and in many cases provided Conveners, Rapporteurs, and Document Editors. H3 also continues to provide the Secretariat for ISO/IEC JTC 1 SC 24 WG 8.

H3 oversees 40 projects (17 Ms, 1 MIs, 5 M-STs, 16 Ls, and 1 TIB). As the published standards continue to age, H3 continues to be increasingly involved in Reaffirmation, Technical Corrigenda, and Amendment work. H3 also believes strongly in the value of profiles and registration as a way of identifying useful subsets of standard functionality.

H3 currently has eight principal committee members. Although there is still some work to be done, the final publication of the SEDRIS standards may have some impact on the H3 membership and the committee will need to address long term viability and objectives.

The current program of work for Technical Committee INCITS H3 can be found on the web at the following URL: http://www.incits.org/tc_home/h3sd4.htm.

2. Significant Accomplishments

2. Significant Accomplishments

As in previous years, INCITS H3 has continued to develop and progress standards in conjunction with its ISO/IEC counterpart ISO/IEC JTC 1 SC 24. Primary accomplishments associated with the H3 program of work are identified in the paragraphs below.

SEDRIS Technology

Members of H3, along with H3's Environmental Representation Task Group H3.9, devoted much effort over the course of this reporting period to support the progression of the SEDRIS technology standards. H3 members were instrumental in helping to progress the following standards:

Standard	Status
ISO/IEC 18023-1 (SEDRIS, Part 1)	Published 15-May-2006
ISO/IEC 18023-2 (SEDRIS, Part 2)	Published 13-July-2006
ISO/IEC 18023-3 (SEDRIS Part 3)	Published 13-July-2006
ISO/IEC 18024-4 (SEDRIS C binding)	Published 15-May-2006
ISO/IEC 18026 (SRM)	Published 15-June-2006
ISO/IEC 18042-4 (SRM C binding)	Published 1-August-2006

While there were no meetings of the H3.9 or the SC 24 WG 8 throughout the year, SC24 WG 8 was supported at the annual SC 24 plenary. At the June 2006 WG8 meetings and SC24 plenary in Prague, it was determined that quite a bit of work would be required to amend the SRM (18026) standard. A combined NWIP/PDam for 18026 Amd 1 SRM was developed and is currently being balloted within INCITS H3. These anticipated changes to the SRM will impact the SRM C binding (18042-4) and a revised C binding is currently in development; the work has been completed, and is awaiting ballot. A revised edition of the EDCS C binding (18041-4) has also been initiated, and is awaiting ballot. It was also determined during the reporting period that EDCS Clause 10 should be revised to better handle the addition or changing of EDCS concepts through registration. The H3.9 membership gathered the pertinent information and determined the path for revising the standard. At this time the revision has not been accomplished, but it is expected that a draft will be ready by the July 2007 SC 24 meeting in Tokyo.

INCITS H3 has continued to support efforts to register new entries to ISO/IEC 18025: 2005, Information technology – Environmental Data Coding Specification (EDCS).

Additional information related to SEDRIS and SC24/H3 standardization of SEDRIS technologies is available from the SEDRIS website (<http://www.sedris.org>).

Basic Image Interchange Format (BIIF)

Members of H3 have continued to support the BIIF program element within the H3 program of work (ISO/IEC 12087-5). In March of 2004, SC24 approved the progression of two BIIF profiles for inclusion into the ISO/IEC International Register of Graphical Items. These profiles were 1) JPEG 2000 (a profile using the JPEG 2000 proforma intended to be used in BIIF applications) and 2) CGM (a profile using the CGM proforma intended to be used in BIIF applications).

BIIF continues to be widely used domestically by the NGA and internationally within the NATO imaging community. Several internationally operated commercial satellite imaging companies now provide ISO/IEC 12087-5 BIIF-formatted imagery products as a delivery option using the NSIF Profile of BIIF (NSIF01.00). These companies are now in the process of implementing JPEG 2000 (ISO/IEC 15444-1) image compression capabilities per the registered BIIF Profile for JPEG 2000 (BPJ2K01.00).

Internationally, ISO/IEC JTC1 SC24 WG7 continues a close working relationship with the NATO Air Force Armaments Group (NAFAG) Joint Intelligence, Surveillance, and Reconnaissance Capability Group (JISRCG). The JISRCG (a restructured organization replacing NATO Air Group 4) was formed to better enable achievement of Intelligence, Surveillance and Reconnaissance (ISR) within NATO and between NATO and national forces by developing and providing technical interoperability through standardization and technical capabilities demonstrations that support ISR in operationally-relevant situations. In particular, WG7 works with the JISRCG's NATO Secondary Imagery Format (NSIF) and NATO Standardized Imagery Library Interface (NSILI) Custodian Support Teams (CSTs), and with the U.S. National Imagery Transmission Format Standard (NITFS) Technical Board (NTB). H3 currently anticipates a new edition of the NSIF profile for ISO/IEC 12087-5, which will also apply to US MIL-STD 2500C-US National Imagery Transmission Format. H3 is also working with the US National Geospatial Intelligence Agency (NGA) to register a Symbology and Annotation of Mapping and Imagery (SAMI) profile for CGM.

INCITS H3 has become aware of the IEC TC 11 Powerlines work item proposal to use satellite imagery. INCITS H3 sees high value in the possibilities to coordinate ISO IEC JTC 1 12087-5 and/or JPEG 2000 with this work item.

Extensible 3D (X3D)

Over the course of the reporting period, members of INCITS H3 continued to support the work of ISO/IEC JTC 1 SC 24's WG6, Multimedia Presentation and Interchange working group. Significant accomplishments in this area included:

The following International Standards were published within this reporting period:

- ISO/IEC 19775-1:2004/Am1:2006

The following document has been approved as an International Standard and is in the process of being published:

- ISO/IEC 19776-1:2005/Am1:2006
- ISO/IEC 19776-2:2005/Am1:2006

The following documents have been approved for progression to FDIS. FDIS text has been sent to ITTF:

- ISO/IEC 19776-3:200x

A new work item proposal for revision to ISO/IEC 19775 has been approved. CD text for the revision to ISO/IEC 19775-1 was balloted and approved for progression to FCD. FCD text was prepared and is currently being balloted. An editing meeting to process comments on the FCD text has been scheduled for the WG6 meeting that is being held in conjunction with the SC24 meeting in Tokyo in July, 2007. CD text for a revised ISO/IEC 19775-2 is in preparation within the Web3D Consortium.

New work item proposals for revising the three parts of ISO/IEC 19776 to coincide with the changes in ISO/IEC 19775 have also been approved. CD text for the revision of ISO/IEC 19776-2 is expected to be submitted to SC24 in June 2007. CD text for the other two parts is expected sometime later in 2007.

Procedures for the Registration of Graphical Items (ISO/IEC 9973)

H3 supported the ISO/IEC JTC1 SC24 WG7 revision of ISO/IEC 9973 (Edition 2). FDIS ballot was approved by INCITS H3 in September 2006; currently awaiting word of final ITTF publication.

INCITS H3/L1 Cooperative liaison to support the SC24/TC211 JTF

Following the September 2005 ISO/TC211 Plenary held in Montreal, a Joint Task Force between ISO/TC211 and ISO/IEC JTC 1/SC24 was established to facilitate coordination. With co-chairs from the H3 and L1 committees and a large H3/L1 cross membership, the H3 and L1 chairmen proposed that the two identified JTF co-chairs serve as primary liaisons between the two INCITS committees and that any requirement(s) for special INCITS coordination be based upon their recommendations.

SC24 Meeting, Prague (Czech Republic), June 2006

SC24 met in WG and plenary sessions in Prague (Czech Republic) in June of 2006. The meetings were well attended by members of INCITS H3 serving on the USNB delegation and as WG6 and WG7 Convenors. WG7 Convenership has since been successfully transferred to Korea.

3. Significant Challenges

H3 continues to face challenges in the areas of membership and officership as well as fluctuating levels of participation and retention of subject matter experts with respect to historical projects/published standards. These challenges are addressed briefly in the paragraphs below.

Issue: Marketing/Business Development

Summary: For the last several years, H3 has discussed actively working with INCITS to market and publicize activities with respect to its program of work along with INCITS.

Status: As reported last year, H3 has not made significant progress with respect to this action. H3 did identify the following initial POCs: Rob Cox (SEDRIS) and Dick Puk (VRML/Web3D), but time constraints as well as a suspected lack of prioritization/consideration for this activity by the POCs' organizations have likely resulted in the low activity.

Plan: The H3 chair has discussed the potential for press release and joint press release regarding Web3D standardization activities with the Web3D representatives. It is desirable to attempt to reinstate this activity with the identified H3 POCs and establish communications between the H3 POCs and INCITS. In order to establish an effective activity, initial coordination may need to be initiated by INCITS with some periodic reminder mechanism to track events to support press releases and significant events on an annual basis.

Issue: Membership/Levels of Participation (Continuous)

Summary: H3 members continue to face economic pressures, which prevent them from participating fully in the committee and taking on additional responsibility and while the membership level in general tends to stay relatively stable, the composition of the membership continues to fluctuate based on the new and current work items within the committee. Another complicating factor in this equation is the fact that as more projects are coordinated with industry partners, there is a perception that fewer individuals are required to support the progression from within H3 directly.

Status: There remains a heightened awareness within the committee, which in turn causes the membership to understand the importance of levels of participation and the need to solicit new members. The current members tend to be dedicated and fully support the entire program of work within the committee; however, increased work such as identification and marketing of new opportunities and

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coordination with other domestic and international committees tends to be limited.

Plan: This issue is reported annually and while there is still no concrete plan in effect to solve this problem, the focus on awareness is a first step and is being combined with a continued emphasis to work and meet electronically (web meetings, phone cons, etc.), with the primary goal being to support the need to meet and converse frequently while at the same time trying to reduce financial and time burdens on individuals. With respect to the solicitation of new members, H3 continues to express to its industry partners the importance of H3 membership towards the final standardization and publication of National and International standards.

Issue: Increasing Maintenance Activity (Continuous)

Summary: As the projects within the committee continue to age, H3 is faced with the need to make recommendations and support revisions/updates while at the same time the membership is turning over and the committee loses subject matter expertise.

Status: This issue is not resolved.

Plan: With respect to the management of the maintenance projects, H3 continues to employ the transition to stabilized standards, where applicable. With respect to subject matter expertise, H3 draws upon the available knowledge base of its well experienced members as well as trying to keep in touch with the industrial application base in the formulation of its opinions on reaffirmation, revision, or withdraw decisions.

4. Expected Challenges

With respect to the structure of the H3 committee, expected challenges within the next reporting period will continue to be centered on the determination and execution of an effective organization to support the balance of maintenance and new work items and the development of new work items within the scope of H3 and its task groups. Closer coordination with INCITS committees regarding synergistic projects is essential, but time consuming to the members of H3 that are already loaded with industry jobs and the progression of the H3 program of work.

As more standards within the H3 program of work start to reach IS status, it is anticipated that relationships and potentially joint discussion with respect to tighter coordination will be realized. With respect to image processing, H3 no longer has a dedicated task group to identify and progress imagery standards, however dedicated experts remain involved in the imagery work and maintenance within the committee. Internationally, there is some desire to update imagery standards within the SC24 programme of work and investigate new imagery standards supporting metadata and advanced sensors. It will be a challenge for H3 to identify, recruit, and support the initiation and progression of these activities. Finally, in 2007, the SEDRIS work item continued to be the largest developmental body of work within the committee. Review and comment resolution was intensive due to the size of the documents; however, the work was well managed (both domestically and internationally). Now that the SEDRIS family of standards has been published, there will be some work associated with amendment to the SRM as well as registration, but it is unclear as to whether or not the work will continue to sustain the number of experts directly participating within H3 and if so, over what period of time.

5. Committee Activities

a. Previous Year's Meetings:

Due to scheduling conflicts, much of the work in H3 and H3.9 was coordinated via email review and conducted via letter ballot. H3 and H3.9 did not have face to face meetings during this reporting session.

b. Next Year's Planned Meetings:

Meeting Number	Date	Location
60 (H3, H3.9)	Fall 2007	TBD

6. Liaison Activities

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The current list of H3 liaisons is provided below. Generally H3 liaisons are identified to coordinate standards development activities (e.g., consortium partners) or to facilitate communication and exchange of information in related technologies or areas of work with in H3's scope. In general, liaison assignees retain membership in both H3 and the liaison committee. H3 is not anticipating the assignment of additional liaisons within the next reporting cycle.

Liaison Org: INCITS L1
H3 Appointee: Laura Moore, NGA
Purpose: Coordinate geospatial standards and initiatives between L1 and H3.

Liaison Org: INCITS L3
H3 Appointee: Bill Protzman
Purpose: Coordinate audio and picture coding initiatives with H3 graphics/imaging standardization initiatives.

Liaison Org: Web 3D Consortium (VRML and X3D)
H3 Appointee: Richard Puk, Intelligraphics Inc.
Purpose: Support coordination between VRML and 3D projects with H3 standardization activities.

Liaison Org: CGM Open Consortium (CGM)
H3 Appointee: Vacant
Purpose: Support coordination with continued progression of CGM and WebCGM.

Liaison Org: SEDRIS Organization
H3 Appointee: Vacant
Purpose: Support continued progression of work between H3 and the SEDRIS Organization.

Liaison Org: Open GIS Consortium
H3 Appointee: Charles Roswell, NGA
Purpose: Coordinate geospatial standards and initiatives between the Open GIS Consortium and H3.

7. Membership and Officers

Membership in INCITS H3 and its task groups has remained stable in this reporting year. The overall membership tends to be directly proportional to the currently active projects.

a. Officers:

The following table depicts the officer staffing for INCITS H3.

Position	Training Date	Name and organization represented
Chair H3	07/12/2005	William Protzman, DCS Corp.
Vice Chair H3		Vacant
Secretary H3	07/12/2005	William Protzman, DCS Corp.
International Rep H3		William Protzman, DCS Corp.
Vocabulary Rep H3		Vacant
Chair H3.9	03/29/2001	Rob Cox, SAIC
Vice Chair H3.9	03/29/2001	Louis Hembree, NRL
Secretary H3.9		Vacant
International Rep H3.9		Performed by H3 IR
Vocabulary Rep H3.9		Vacant

b. Membership:

**NCITS H3, Computer Graphics and Image Processing Technical Committee
Membership List**

Status Key (P - Principal, A - Alternate, A# - Additional Alternate, O - Observer, L - Liaison, Pet - Petitioning, Term - On Termination List)

Name	Company	Address	Phone/Fax	Email	Status	Comments
Gifford, Tim	AFTS	7061 University Blvd. Winter Park, FL 32792-6720	P: 407-677-0153 x238 F: 407-678-1854	giffordt@aftsusa.com	P	
Wentz, Gary	AFTS	7061 University Blvd. Winter Park, FL 32792-6720	P: 407-677-0153 x218 F: 407-678-1854	Wentzg@aftsusa.com	A	
Ratell, Kathleen	Booz, Allen & Hamilton	Booz, Allen & Hamilton 8283 Greensboro Dr McLean, VA 22162	P: 703-902-7058 F:	rattell_kathleen@bah.com	L	NCITS L3 Liaison
Protzman, William	DCS Corporation	1330 Braddock Place Alexandria, VA 22314	P: 571-227-6181 F: 509-479-7481	wprotzman@dcscorp.com	P	
Glasow, Jerry	DMSO	DMSO 1901 North Beuregard St Suite 500 Alexandria, VA 22311	P: 703-824-3416 F: 703-998-0667	jerry.glasow.ctr@dmsomil	P	
Leite, Michael	DMSO	Defense Modeling & Simulation Office 1901 N. Beuregard Street, Suite 500 Alexandria, VA 22311-1705	P: 703-824-3416 P: 703-998-0660 F: 703-998-0667	michael.leite.ctr@osd.mil	A	
Smith, Jerry	DoD/DISA	DISA-GE33 5600 Columbia Pike Falls Church, VA 22041-2717	P: 703-681-2388 F: 703-681-0518	smith5j@ncr.disa.mil	P	
Kerr, Stephen	DoD/DISA (JITC)	JITC (DISA) Attn: OST/GIS Fort Huachuca, AZ 85613-7020	P: 520-538-5154 F: 520-538-4375	Stephen.w.Kerr@nga.mil kerrs@fhu.disa.mil	A	
Puk, Richard F	Intelligraphics Inc.	7644 Cortina Court Carlsbad, CA 92009-8206	P: 760-753-9027 F: 760-753-9027	puk@igraphics.com	P	
Moore, Laura	NGA	National Geospatial-Intelligence Agency OGMT L-66 3838 Vogel Road US - Arnold MO 63010-6238	P: 314-263-4567 x166 F: 314-263-8069	laura.a.moore@nga.mil	P	
Roswell, Charles	NGA	NGA/OGMT MS P-106 12310 Sunrise Valley Drive Reston, VA 20191	P: 703-814-4566 F: 703-814-4526	roswellc@nga.mil	A	
Cox, Rob	SAIC	SAIC 12901 Science Drive Orlando, Florida 32826-3014	P: 407-243-3609 F: 407-243-3352	coxr@saic.com	P	
Shen, David	SAIC	SAIC 12901 Science Drive Orlando, Florida 32826-3014	P: 407-243-3755 F: 407-243-3352	david.t.shen@saic.com	A	
Lever, John	US Navy (NAVO)	Naval Oceanographic Office, Code 0T1 1002 Balch Blvd. Stennis Space Center, MS 39522-5001	P: 228-688-4248 F: 228-688-4569	john.a.lever@navy.mil	A	
Hembree, Louis	US Navy (NRL)	NRL 7 Grace Hopper Ave. Monterey, CA 93943-5502	P: 831-656-4787 F: 831-656-4769	Louis.Hembree@nrlmry.navy.mil	P	

**NCITS H3.9, Computer Graphics and Image Processing, Environmental Representation Task Group
Membership List**

Status Key (P - Principal, A - Alternate, A# - Additional Alternate, O - Observer, L - Liaison, Pet - Petitioning, Term - On Termination List)

Name	Company	Address	Phone/Fax	Email	Status	Comments
Gifford, Tim	AFTS	7061 University Blvd. Winter Park, FL 32792-6720	P: 407-677-0153 x238 F: 407-678-1854	giffordt@aftsusa.com	P	
Wentz, Gary	AFTS	7061 University Blvd. Winter Park, FL 32792-6720	P: 407-677-0153 x218 F:	Wentzg@aftsusa.com	A	
Protzman, William	DCS Corporation	1330 Braddock Place Alexandria, VA 22314	P: 571-227-6181 F: 509-479-7481	wprotzman@dcscorp.com	P	
Leite, Michael	DMSO	Defense Modeling & Simulation Office 1901 N. Beuregard Street, Suite 500 Alexandria, VA 22311-1705	P: 703-824-3416 P: 703-998-0660 F: 703-998-0667	michael.leite.ctr@osd.mil	P	
Puk, Richard F	Intelligraphics Inc.	7644 Cortina Court Carlsbad, CA 92009-8206	P: 760-753-9027 F: 760-753-9027	puk@igraphics.com	P	
Moore, Laura	NGA	National Geospatial-Intelligence Agency OGMT L-66 3838 Vogel Road US - Arnold MO 63010-6238	P: 314-263-4567 x166 F: 314-263-8069	laura.a.moore@nga.mil	P	
Roswell, Charles	NGA	NGA/OGMT MS P-106 12310 Sunrise Valley Drive Reston, VA 20191	P: 703-814-4566 F: 703-814-4526	roswellc@nga.mil	A	
Cox, Rob	SAIC	SAIC 12901 Science Drive Orlando, Florida 32826-3014	P: 407-243-3609 F: 407-243-3352	coxr@saic.com	P	
Shen, David	SAIC	SAIC 12901 Science Drive Orlando, Florida 32826-3014	P: 407-243-3755 F: 407-243-3352	david.t.shen@saic.com	A	
Hembree, Louis	US Navy (NRL)	NRL 7 Grace Hopper Ave. Monterey, CA 93943-5502	P: 831-656-4787 F: 831-656-4769	Louis.Hembree@nrlmry.navy.mil	P	

8. Future Trends and Related Activities

a. Trends:

Technical Trends

Hardware advances in the areas of memory capacity, CPU performance, and graphical integrated circuits continue to make higher performance graphics more affordable and more widely utilized. Capabilities found previously in only very high-end systems are now cost effective for a wide variety of users. The timetables for US and international standards development continue to be severely strained in trying to keep pace with these activities.

Increasing workstation price/performance and incredibly powerful custom hardware change the face of H3 standards implementation possibilities. The conflicting market goals of increasingly popular low price/low performance PC's and increasingly powerful workstation hardware platforms challenge the developers to equally satisfy the whole spectrum of platforms.

The prominence and wide spread utilization of the internet as a means to distribute, present, and interact with application data continues to present new and varied requirements for the development of graphical technologies. As new applications and application technologies are developed, it becomes increasingly important to provide a solid basis, which can be depended upon by the user community.

Integration of graphics, windowing, and imaging concepts into coordinated and complimentary standards is a very large challenge that a committee with the scope of H3 (and JTC 1 SC 24) is in a position to address.

Administrative Trends

It continues to be very challenging to interface with all of the organizations that need to be aware of H3's projects and vice versa. H3 continues to work through INCITS management, its ISO counterparts, and identified liaison organizations to facilitate this communication, but unfortunately, the lack of time, resources, and even awareness can provide barriers to accomplishing this goal.

During this reporting period, H3 has continued to leverage from both commercial and Government standards development efforts. As a whole the committee has been quite successful in these endeavors, but continues to strive to determine the best ways to optimize and manage these types of efforts in order to make them successful. If these types of efforts are not managed effectively then

delays in arriving at acceptable published standards can be as great if not greater than if the standards were developed without initial contributions.

Current Levels of Participation within H3 and SC 24
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Due to the rapid changes in technology and the fact that H3 has managed to meet less frequently, communicate electronically, and rapidly develop standards through cooperative efforts with outside organizations, it is logical that the internal structure of H3 will continue to remain steady and possibly reduce over the next few years. This is primarily due to the fact that as projects are initiated and completed, the member companies within the cooperative partnerships will most likely not be interested in joining ANSI technical committees. However, what is important is that H3 continue to develop cooperative partnerships and participate in the standardization of relevant technologies in a manner which justly and fairly supports both the consumers and users of the technology. H3 will continue to recruit technical experts and new member organizations, but it is relevant to point out that contributing to the success of ISO/IEC JTC 1, as currently defined seems to be applied more to the harvesting and standardization of commercial technologies as opposed to the internal development of new work items within ISO. H3 believes that this is an extremely important goal and has attempted to meet the challenges imposed by that goal. However, it needs to be stated that the ISO SCs and INCITS TCs must continue to play an important role in the refinement and development of technologies, where applicable, within their scope and that rubber stamping industry practice and de facto standards is not always in the best interest of the consumer.

b. Related Activities:

SC24 Counterpart

Over the past year, H3 continued to provide technical experts to support ISO/IEC JTC 1 SC 24 and ISO/IEC JTC 1 SC 24 working groups in the development and progression of International Standards. This support came in the form of providing Document Editors as well as by participating in various SC24, WG, and RG meetings.

Currently, H3's Dr. Richard Puk (Intelligraphics) serves as the SC24 WG6 Convener and H3's Mr. Tim Gifford (AFTS) provides the WG8 Secretariat. The position of WG7 Convener had been provided by Mr. Steven Kerr (US DoD/DISA) and was successfully transferred to Mr. Yun Koo Chung of Korea.

The next SC24 and SC24 WG meetings are scheduled for July 2007 in Tokyo Japan. The SC24 meeting for 2008 is scheduled for the US and H3 has provided its intent to host the meeting to INCITS. Meeting plans to hold the meeting in Monterey, CA are currently being finalized. The 2009 SC24 meeting is

scheduled to be held in Europe.

Graphics, Imaging, and Windowing

INCITS H3, as counterpart to ISO/IEC JTC 1 SC 24 plans to continue to support future and current standardization efforts with regard to computer graphics and imaging. H3 believes that it, along with SC 24, has achieved a critical transition, to quickly and efficiently market and participate in the standardization of pertinent technologies within its scope for JTC 1. This transition has been successfully demonstrated with the VRML and BIIF standards, both of which reached ISO publication within a 14 to 24 month timeframe from the issuance of the CD. For both of these standards, the historical as well as standardization lifecycle support and maintenance expertise (e.g. conformance, validation, profiling, and testing) contributed by H3 and SC 24 provide for the viability and longevity of the resulting implementations and applications. It is believed that both of these work items will continue to evolve and provide for new work within the committee over the next few years.

Web3D, VRML/Other

At the SC24 plenary in 2005, the Web3D Consortium reported its work on future amendments to X3D that will further augment the X3D standards. Since then, it has become clear from work on X3D Amendment 1 that supporting two complex amendments would become unwieldy. Therefore, the Web3D Consortium submitted NPs requesting projects to revise both parts of ISO/IEC 19775 and all three parts of ISO/IEC 19776. These project proposals are being balloted with the ballots closing June 2006. A ballot of the CD text for ISO/IEC 19775-1r1 and ISO/IEC 19775-2r1 is expected to in July, 2006.

The Korean National Body reported its interest in developing two additional efforts that fall within the scope of SC24/WG6:

- Developing a standardized method for defining the properties of materials in X3D.
- Developing an extension to provide motion capture capability for H-Anim characters.

Both of these efforts will be coordinated with the Web3D Consortium. Interest that was expressed by the Khronos Group towards standardizing some of their specification through SC24 in a manner similar to that used by the Web3D Consortium is still there. The topic is on the Agenda for the Khronos Group Board of Directors which is meeting in mid-June 2006.

More information on these and other Web3D activities can be found at the Web3D Consortium Web site at: <http://www.web3d.org>

Image Processing

The data format technology used in ISO/IEC 12087-5:BIIF is aging. While BIIF

formatted imagery will be viable for many years to come, ISO/IEC SC 24 WG7 sees the need to look toward standardizing a future imagery format(s). Rather than initiate an activity to design a replacement for BIFF, WG7 plans to look at work being done by other standards bodies and within industry consortia (e.g. SC29 JP2, JPX; DICOM; GeoTIFF; HDF; OGC's GMLJP2, and others). Additional topics that the future standard needs to address include the nuances for supporting image data from spectral, radar, laser, polarimetric and other advanced remote sensors; integration of advancing image compression standards (SC 29); incorporation of geographic information (TC 211); the potential for medical application, and imagery library related application.

At the 2004 meeting in Breckenridge, a study group was formed to investigate a concept for extending ISO/IEC 12087-2, PIKS, to address Visual Information Processing Kernel System (VIPKS). As of the 2005 Sydney meetings, the study work had been solely done within the Republic of Korea and the leader, Dr. Yun Koo Chung, emphasized that he needed significant support and feedback from the other national bodies to continue working this new candidate area for standardization. Following the Sydney meeting, Dr Chung submitted notification of his inability to continue to serve as the leader for the VIPKS Study Group, and the SC 24 Secretariat requested its members to nominate a candidate to function as the group leader. Due to the lack of nominations, the Study Group will be disbanded.

Metafiles and Interfaces

CGM and the Web

H3 continues to monitor and support the use of the International Standard Computer Graphics Metafile (ISO/IEC 8632) over the web through the [CGM Open Consortium, Inc](http://www.cgmpopen.org/) (see <http://www.cgmpopen.org/>), which was formed as an organization of vendors and users of CGM technology. This non-profit international consortium has the stated mission of promoting the Computer Graphics Metafile (CGM) as an open and interoperable standard for the exchange of graphical information. W3C and SC 24 experts continue to support profile of CGM for use on the web, WebCGM, which was developed and adopted as a [W3C Recommendation](#) in January 1999.

At the SC24 meeting in Breckenridge Colorado in July of 2004, Mr. Lofton Henderson presented a report on the status and on-going activities of the CGMOpen Consortium (now a part of OASIS). The primary effort is a second generation of the WebCGM Profile being developed in conjunction with the World Wide Web Consortium. Discussion was undertaken as to possible approaches to ISO standardization. Mr. Henderson indicated that there would need to be additional discussions within the CGMOpen Consortium about the advisability of ISO standardization.

9. Other Administrative Information

INCITS H3 does not collect and/or retain funds from the membership to support its operation.

There are currently no procedural matters of note.