

Presentation of JTC1 SC24 : “Computer graphics, image processing and environmental data representation”

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Ha-Jine Kimn: JTC1 SC24 Computer Graphics,
Image Processing and Environmental Data
Representation

Outlines :

- About JTC 1/SC 24
- What SC24 is doing?
- Marketing Strategies & Issues
- Importance of Collaborative Work

SC24 Status :

Chairman : **Ha-Jine Kimn**, Secretariat : **David Hyde**

Three working groups :

WG6 : Multimedia Presentation and Interchange

WG7 : Image Processing and Interchange

WG8 : Environmental Representation

Membership : **34 Nations**

- Actively Participating 6 National Bodies :

Australia, China, Japan, Korea, UK, US

- **24 Observing Nations + 10 Participating Nations**

Liaisons :

6 internals to ISO & IEC :

ISO TC211, Joint Steering Group on Spatial Standards and Interoperability, JTC 1/SC29, ISO TC130, IEC TC100, ISO TC215 Health Informatics.

11 externals :

Forums in **geospatial, navigation, virtual environments and simulation** technologies :

W3C, Web3D, Khronos Group, SISO, SEDRIS Organization, MEDSEC, Open GIS Consortium, Digital Geographic Information Working Group (DGIWG), NATO Air Group IV and Modeling and Simulation Co-ordination Office, IHO, WMO etc.

SC24 Area of Work :

- Area of Work (JTC 1 N 7752, 2005) - Standardization of interfaces for information technology based applications relating to :
 - **computer graphics,**
 - **image processing,**
 - **virtual reality,**
 - **Environmental data representation and**
 - **interaction with, and visualization presentation of information.**

Inclusions :

Included are the following related areas :

Modeling and simulation related reference models;
Application program interfaces; Functional specifications; Representation models; Interchange formats, encodings and their specifications including metafiles; Device interfaces; Testing methods; Registration procedures; Presentation and support for creation of multimedia and hypermedia documents.

Exclusions :

Excluded are the following related area :

Character and image coding; Coding of multimedia and hypermedia document interchange formats, JTC 1 work in user system interfaces and document presentation; **ISO TC207** work on ISO14000 environmental management, **ISO TC 211** work on geographic information and geomatics; Software environments as described by **ISO/IEC JTC 1 SC22**.

What SC24 is doing?

- A mapping method to **simplify the use of SEDRIS.**
 - **Templates for SEDRIS DRM (ISO/IEC TR 24788)**
- Amendments of **SRM (ISO/IEC 18026, 18042-4:2006/Am.), SEDRIS.**
- Standards projects emanating from the **Web3D Consortium.**
- Standards projects emanating from the **World Wide Web Consortium.**
- Standardization of APIs to enable authoring and playback of dynamic media emanating from the **Khronos Group.**

3 Published Standards since July 2010 :

- **ISO/IEC 18026 ed. 2 on SRM**
- **ISO/IEC 19776-1.2 on X3D XML**
- **ISO/IEC 19775-2.2 on X3D SAI**

10 Documents progressed to ITTF since July 2010 :

1 FDIS : ISO/IEC 19776-3.2 X3D Encoding compressed binary

1 FDAM : ISO/IEC 18042-4:2006/Am1 SRM C binding

3 FPDAM : ISO/IEC 18023-1/Am1 SEDRIS part 1

ISO/IEC 18023-3/Am1 SEDRIS part 3

ISO/IEC 18024-4.Am1 SEDRIS language binding

1 DIS : ISO/IEC 18026 ed.3 SRM revision

1 FPDAM : ISO/IEC 18025/Am1 EDCS

1 CD : ISO/IEC 18026 ed.3 SRM revision

1 PDAM : ISO/IEC 18025/Am1 EDCS

1 PDTR : ISO/IEC TR24788 Templates for SEDRIS DRM

2 WDs, 5 NWI projects on X3D and Mixed Reality in WG 6 since July 2010 :

- **2 WDs :** Physical unit for X3D objects
Projective Texture Mapping
- **5 NWIs :** SG proposal for Mixed Reality contents and standardization
Mixed Reality function extension in X3D
X3D mobile functions
H-Anim motion data definition
Presenting geometric medical data

4 Amendments concerning SEDRIS in WG 8 since July 2010

- **ISO/IEC 18023-1 : SEDRIS Architecture**
- **ISO/IEC 18023-3 : STF**
- **ISO/IEC 18024-4 : SEDRIS C binding**
- **ISO/IEC 18025 : EDCS**

Focus for Next Work Period :

SC24 follows the developments from its cooperative agreements to build ISO standards from mature consortia recommendations in keeping with JTC 1 objectives:

- **Humanoid Animation standards (WG 6)**
- **X3D standards and amendments (WG 6)**
- **Processing NWIPs on Augmented Reality/Mixed Reality (WG 6)**
- **Templates for SEDRIS DRM (WG 8)**
- **Revision of ISO/IEC 18026 SRM and associated language binding (WG 8)**
- **NWI for the Revision of ISO/IEC 18025 EDCS (WG 8)**
- **Registration of Items by WG6, WG 7 and WG 8**

Market Requirements :

On ICT fields, the standards developed in SC 24 :

- **exchange of mediation** of environmental data
- utilization of **intelligence systems** in M&S
- **geospatial applications** with metadata & data
- **web graphics** technology utilizing **2D/3D** imagery
- **virtual or 3D environments** incorporating imagery, content concepts & interaction

Issues :

- Increasing P members **without commitment** to participate actively ⇒ **potential risks** for balloting NPs or approving at resolution at meetings
- Lack of sufficient number of experts & national bodies to continue in **rapid life cycle** of ICT standardization.
- Lack of support for cooperative development because of **partner's change** of objectives & directions.
- Need to actively expand P-member NBs in **South America & Africa.**

Cooperation & Competition :

Cooperative Works with other JTC 1 SCs, ISO TCs & Industry Consortia sharing common objectives within scope of SC 24 work area :

Actively with ISO TC 211, TC 11, SC 37, NATO JISRCG, Web3D Consortium, W3C, Open CGM, SEDRIS Organization, SISO, IHO, DGIWG, WMO, etc.

JTF team established by SC 24/WG 8 & ISO TC 211 on SEDRIS (2005).

Collaborative Work (2/2) : JSG on Spatial Standards and Interoperability :

- **JSG Meeting (may 2003) on potential harmonization topic** ⇒ Several standards development organizations, most of them in ISO, worked on projects related to **imagery encoding**.
ISO established Steering Committee on Image Technology (SCIT) : the most appropriate forum to resolve harmonization issues in this topic area.

Work Programme Priorities :

- Development of standards processing & describing data from **spectral, optical, radar, laser, polar-metric & advanced remote sensors**
- Application of standardization metadata in support of **data archival, discovery & retrieval**
- Exploitation capabilities to apply to **imagery & remotely sensed data**
- **Revisions** to X3D standards, ISO/IEC 19775 & 19776
- **Speedy implementation** of enhancements & defect correction to SRM, ISO/IEC 18026

Thank you for your attention:

- **Using ISO *Livelink*** – most documents in Public Access Area (especially, JTC 1 SC24 N3223, 3224 and JTC 1 N 10407)
- **Future Plenary Meetings of SC 24:**
 - 2011. 08. 21 – 26 : Rapid City, South Dakota, USA**
 - 2012 : Europe**
 - 2013 : Australia**