



ISO/IEC JTC 1/SC 2/WG 2 **N2953**  
DATE: 2006-02-16

**ISO/IEC JTC 1/SC 2/WG 2**  
**Universal Multiple-Octet Coded Character Set (UCS) - ISO/IEC 10646**  
**Secretariat: ANSI**

**DOC TYPE:** Meeting Minutes

**TITLE:** Unconfirmed minutes of WG 2 meeting 47  
ETSI Campus, Sophia Antipolis, France; 2005-09-12/15

**SOURCE:** V.S. Umamaheswaran, Recording Secretary, and Mike Ksar, Convener

**PROJECT:** JTC 1.02.18 – ISO/IEC 10646

**STATUS:** SC 2/WG 2 participants are requested to review the attached unconfirmed minutes, act on appropriate noted action items, and to send any comments or corrections to the convener as soon as possible but no later than 2006-04-10.

**ACTION ID:** ACT

**DUE DATE:** 2006-04-10

**DISTRIBUTION:** SC 2/WG 2 members and Liaison organizations

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**ISO**  
**International Organization for Standardization**  
**Organisation Internationale de Normalisation**

ISO/IEC JTC 1/SC 2/WG 2  
Universal Multiple-Octet Coded Character Set (UCS)

ISO/IEC JTC 1/SC 2/WG 2 **N2953**

Date: 2006-02-16

<b>Title:</b> Unconfirmed minutes of WG 2 meeting 47 ETSI Campus, Sophia Antipolis, France; 2005-09-12/15
<b>Source:</b> V.S. Umamaheswaran ( <a href="mailto:umavs@ca.ibm.com">umavs@ca.ibm.com</a> ), Recording Secretary Mike Ksar ( <a href="mailto:mikeksar@microsoft.com">mikeksar@microsoft.com</a> ), Convener
<b>Action:</b> WG 2 members and Liaison organizations
<b>Distribution:</b> ISO/IEC JTC 1/SC 2/WG 2 members and liaison organizations

## 1 Opening and roll call

The convener opened the meeting at 10:05h. He welcomed the delegates to Sophia Antipolis. Mr. Jan Van den Beld from Ecma International - our host will be here on Wednesday. Ecma used to be the SC2 secretariat prior to our current secretariat. The main focus of this meeting will be to progress FPDAM2 to FDAM2 after addressing the various ballot comments. All new contributions should be given directly to the convener in soft copy form. Printouts of documents for the meeting have been sent for copying and will be ready by lunchtime. Soft copies are available in CD ROM and memory sticks for those who want to copy to their PCs. The meeting this time is only four days. It could have been extended by one more day, but would have increased the meeting costs for the delegates. The ETSI meeting facilities are open from 8 am to 8 pm. The ISO/IEC 14651 editing meeting will be on Tuesday after lunch. Having experts not at the meeting participating in the ad hoc meetings via remote connections, based on our Xiamen experience did not work out well. Experts who are here have to speak on behalf of those who are not here. On Wednesday Ecma is hosting a reception in the evening. We will be bussed leaving from ETSI at 6:30pm Wednesday for an evening reception. We can stay late on Monday and Tuesday.

Mr. Van den Beld from Ecma International addressed the delegates on Wednesday. In the old days, I was involved in SC2 and had the maximum combination of jobs in SC2 - at one time I was the chair and secretary of SC2 at the same time. I knew Messrs. Willy Bohn, Bruce Paterson, Mike Ksar and many others, including Dr. Umamaheswaran here. In the evening I would like to have opportunity to meet with many of you. Ecma international created the parent standards that led to 8859-xx series. SC29 was split off from SC2 some years ago. I hope you like the meeting facilities and are enjoying the facilities. Hope you will have an enjoyable evening.

Mr. Mike Ksar: On behalf of WG2 I would like to thank you for finding this hosting facilities. I would like to thank Ms. Isabelle and your office for the assistance in getting the visas for the delegates. We really appreciate your support.

### *Facility fees:*

Delegates were advised as part of the meeting notice about a facility fee of 50 EUR per day to be paid by the attending delegates to ETSI. The amount was collected by Mr. Michel Suignard and handed over to ETSI. ETSI provided receipts for the delegates.

There were no ad hocs announced at the beginning of the meeting; a few ad hocs did meet during the meeting and are noted under the relevant sections in this document.

### **1.1 Roll Call**

Input document:  
[N2951](#) Updated WG2 Experts List; Ksar; 2005-09-07

The following 31 delegates representing 8 national bodies, 2 liaison organizations, and 1 guest were present at different times during the meeting.

Name	Representing	Affiliation
Alain LaBonté	Canada Editor 14651	Secrétariat du Conseil du trésor du Québec
V. S. (Uma)	Canada; Recording Secretary	IBM Canada Ltd.
Umamaheswaran	China	Xinjiang Informationization Office
GAO Xia	China	Council for Mongolian Language, Government of Inner Mongolia, China
HEXIGEDUREN	China	Ethnic Affairs Committee
JIA Jiehua	China	Inner Mongolia University
JIA Lasen	China	General Administration of Press and Publications
LIU Xiaokai	China	Department of Computer Sciences, Xinjiang University
SLAMU Wushouer	China	Chinese Electronics Standardization Institute
CHEN Zhuang	Contributing Editor	
Erkki I. Kolehmainen	Finland	Research Institute for the Languages of Finland
Klaas Ruppel	Finland	Research Institute for the Languages of Finland
Andreas Stötzner	Germany	SIGNA
Jan Van den Beld	Host	Ecma-International
Michael Everson	Ireland; Contributing Editor	Evertime
LU Qin	IRG Rapporteur	Hong Kong Polytechnic University
Kazuhito OHMAKI	Japan	National Institute of Advanced Industrial Science and Technology
Masahiro SEKIGUCHI	Japan	Fujitsu Limited
Taichi KAWABATA	Japan	NTT Cyber Solutions Laboratories
Yasuhiro ANAN	Japan	Microsoft Japan
Dae Hyuk AHN	Korea (Republic of)	Microsoft Korea
Kyongsok KIM	Korea (Republic of)	Pusan National University
Seung Jae LEE	Korea (Republic of)	National Institute of the Korean Language
Taik-Joo NAM	Korea (Republic of)	Korean Agency for Technology and Standards
Tatsuo KOBAYASHI	SC2 Chair, Japan	Justsystem Corporation
C. C. HSU	TCA	Taipei EC/EDI Committee; IBM Taiwan Corporation
TSENG Shih-Shyeng	TCA	Academia Sinica
WEI Lin-Mei	TCA	CMEX
Asmus Freytag	USA Liaison - The Unicode Consortium; Contributing Editor	Unicode Inc.
Ken Whistler	USA; Contributing Editor	Sybase Inc.
Mike Ksar	USA; Convener	Microsoft Corporation
Michel Suignard	USA; Project Editor	Microsoft Corporation

A printout of document [N2951](#) containing the WG2 experts list was circulated for delegates to mark any corrections and indicate their attendance at this meeting. Delegates were also requested to give their business cards to the secretary to avoid inaccuracies in the attendance list and in the experts list. The drafting committee consisted of the recording secretary, the convener, the project editor and contributing editors.

## 2 Approval of the agenda

Input document:

[N2955](#) Preliminary Agenda Meet 47; Ksar; 2005-09-09

Mr. Mike Ksar reviewed the agenda items. The following are some of the modifications to the agenda:

Added to item 7.2.7 document N2931

Added item 7.4.14 OI Chiki N2984

SC2 to SC22 liaison will be under item 12.3

Agenda item 8.2.2 will be taken up before 8.2.1 and 8.2.3.

Myanmar delegation is not attending. Myanmar topic will be discussed.

The agenda was approved with the above updates. Additional changes made during the progress of the meeting are included in the appropriate sections in this document. Some of the agenda items have been reorganized or renumbered in these minutes.

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### 3 Approval of minutes of meeting 46

Input document:

[N2903](#) Draft minutes – SC2/WG2 meeting 46 – Xiamen, China; Uma/Ksar; 2005-08-22

Carried forward to next meeting.

### 4 Review action items

Input document:

[N2903A](#) Action items from meeting 46 – Xiamen, China – part of N2903.pdf; Uma/Ksar; 2005-08-22

Dr. Umamaheswaran reviewed the action items documented in document N2903A (which is a copy of section 15 from document N2903). The results are captured in the following sections. Out of 6 action items from before meeting 46, 4 were completed, 1 was dropped, and 1 is carried forward. Out of 52 new action items from meeting 46, 49 were completed and 3 are carried forward. The carried forward items are listed along with new action items from this meeting in section 14 on page 49.

#### 4.1 Outstanding action items from meeting 43, 2003-12-09/12, Tokyo, Japan

Item	Assigned to / action (Reference resolutions in document N2554, and unconfirmed minutes in document N2553 for meeting 43, with any corrections noted in section 3 of document N2653 from meeting 44)	Status
<b>AI-43-7</b>	<b>IRG Rapporteur (Mr. Zhang Zhoucai)</b>	
<b>c</b>	Per discussion on document N2526 on Ideographic Strokes versus Ideographs, IRG should separate the candidate characters for being Strokes versus ideographs. M44, M45, M46 – in progress.	Completed; Strokes are in a separate block. A set of Strokes is being prepared.
<b>d</b>	With reference to document N2571, IRG is encouraged filter the input on Ancient Ideographs before WG2 considers them. M44, M45, M46 – in progress.	Completed; Ancient ideographs are treated as separate script.
<b>AI-43-9</b>	<b>The Irish national body (Mr. Michael Everson)</b>	
<b>d</b>	To update the roadmap to provide some guidelines for differentiating Ideographic Strokes from Ideographs addressing concerns expressed in document N2526. M44, M45, M46 – in progress.	In progress.

#### 4.2 Outstanding action items from meeting 44, 2003-10-20/23, Mountain View, CA, USA

Item	Assigned to / action (Reference resolutions in document N2654, and unconfirmed minutes in document N2653 for meeting 44, with any corrections noted in section 3 of document N2753 from meeting 45).	Status
<b>AI-44-5</b>	<b>IRG Rapporteur (Mr. Zhang Zhoucai)</b>	
<b>a</b>	To respond to resolution <b>M44.17 (IRG Action Items)</b> -- WG2 instructs IRG to review and report to the next WG 2 meeting on the following:	Dropped; Replaced by

Item	Assigned to / action (Reference resolutions in document N2654, and unconfirmed minutes in document N2653 for meeting 44, with any corrections noted in section 3 of document N2753 from meeting 45).	Status
	... ... item 1 – Clarification - in document N2667, for each of the eight dictionary entries, extract from the SuperCJK database additional information in the format (such as ddddd.ddd for HYD) identified in the Editor's Note on page 2 in document SC2 N3673 (FPDAM-1 to ISO/IEC 10646-2), and prepare input suitable for adding to the CJKU_SR.txt file, for consideration at the next WG 2 meeting in June 2004. M45, M46 – In progress	AI-45-6.
<b>AI-44-7</b>	<b>The Irish national body (Mr. Michael Everson)</b>	
<b>b</b>	To resolve differences between documents N2619 and N2620 on Saurashtrian script working with the authors of these documents and to submit an updated document. M45, M46 – In progress	Completed; see document N2969R.

#### 4.3 Outstanding action items from meeting 45, 2004-06-21/24, Markham, Ontario, Canada

Item	Assigned to / action (Reference resolutions in document N2754, and unconfirmed minutes in document N2753 for meeting 45 - with any corrections noted in section 3 of document N2903 from meeting 46).	Status
<b>AI-45-6</b>	<b>IRG Rapporteur (Dr. Qin Lu)</b>	
	<i>To take note of and act upon the following items.</i>	
<b>a.</b>	M45.33 (CJK Ideograph source visual reference information): WG2 accepts the proposal to add visual reference information requested in document N2830, for those CJK unified ideographs that do not currently have it, similar to the information in the standard for the 'CJK unified ideographs' block. Further, WG2 instructs the IRG to prepare an assessment report including a proposed implementation plan for discussion at the next WG2 meeting in January 2005. M45, M46 – In progress	Noted; See assessment report in document N2968.

#### 4.4 New Action items from meeting 46, 2005-01-24/28, Xiamen, Fujian Province, China

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - this document you are reading)	Status
<b>AI-46-1</b>	<b>Meeting Secretary - Dr. V.S. UMaaheswaran</b>	
<b>a.</b>	To finalize the document N2904 containing the adopted meeting resolutions and send it to the convener as soon as possible.	Completed; see document N2904.
<b>b.</b>	To finalize the document N2903 containing the unconfirmed meeting minutes and send it to the convener as soon as possible.	Completed; see document N2903.
<b>AI-46-2</b>	<b>Convener - Mr. Mike Ksar</b>	
<b>a.</b>	To add the following carried forward scripts to next meeting agenda: <ul style="list-style-type: none"> <li>a. Ol Chiki script – document N2505</li> <li>b. Manichaeian script – document N2544</li> <li>c. Saurashtra script – documents N2607, N2619</li> <li>d. Avestan and Pahlavi – document N2556</li> <li>e. Dictionary Symbols – document N2655</li> <li>f. Myanmar Additions – documents N2768, N2827</li> <li>g. Invisible Letter – document N2822</li> <li>h. Palestinian Pointing characters - document N2838</li> <li>i. Babylonian Pointing characters – document N2759</li> <li>j. Bantu Phonetic Click characters – document N2790</li> <li>k. Samaritan Pointing - 12 Hebrew characters – document N2758</li> <li>l. Dominoe Tiles and other Game symbols – N2760</li> </ul>	Completed.
<b>AI-46-3</b>	<b>Editor of ISO/IEC 10646: Mr. Michel Suignard with assistance from contributing editors</b>	
	<i>To prepare the appropriate AM, DAM or PDAM texts, sub-division proposals, collection of editorial text for the next edition, corrigendum text, or entries in collections of characters for future coding, with assistance from other identified parties, in accordance with the following:</i>	Completed. See document N2936 on FPDAM2 (SC2 N3788) and SC2 N3790 on FDAM1. (See also document

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - this document you are reading)	Status
		N2937).
a.	M46.1 (Defect in Annex E.2): With reference to the potential defect in Annex E.2 (reported in document N2877), WG2 instructs its editor to: <ul style="list-style-type: none"> <li>a. Remove the current list of characters listed in the annex, and,</li> <li>b. Provide suitable explanatory text explaining the precautions to be taken regarding mirroring of glyphs when a script may be rendered in either left to right or right to left direction,</li> </ul> for inclusion in Amendment 1 to ISO/IEC 10646: 2003.	
b.	M46.2 (Defect in glyph for Y with Hook): With reference to the defect in the glyph for 01B3 LATIN CAPITAL LETTER Y WITH HOOK (reported in document N2859), WG2 instructs the editor to change the glyph to Y with the hook on the right, and include this correction in Amendment 1 to ISO/IEC 10646: 2003.	
c.	M46.3 (Discrepancy between names and glyphs for some arrows): With reference to the discrepancy between glyphs and character names for four arrows (reported in document N2868), WG2 instructs its editor to correct the glyphs by swapping the glyph for 2B00 with the glyph for 2B01, and the glyph for 2B08 with the glyph for 2B09, and include this correction in Amendment 1 to ISO/IEC 10646: 2003.	
d.	M46.4 (Defect in glyphs for four KangXi radicals): With reference to the defect on four KangXi radicals (reported in documents N2882 and N2659), WG2 instructs the editor to use the appropriate font in preparing the charts showing the glyphs for U+2F35, U+2F61, U+2F71 and U+2FCD, and include this correction in Amendment 1 to ISO/IEC 10646: 2003.	
e.	M46.5 (Tifinagh – changes in Amendment 1): With reference to document N2862 and ballot comments in document N2879 from several national bodies on Tifinagh script, WG2 resolves to make the following changes: <ul style="list-style-type: none"> <li>a. 2D34 is renamed from TIFINAGH LETTER YAGGH to TIFINAGH LETTER YAGHH</li> <li>b. 2D35 is renamed from TIFINAGH LETTER KABYLE YAJ to TIFINAGH LETTER BERBER ACADEMY YAJ</li> <li>c. 2D3F is renamed from TIFINAGH LETTER YAKKH to TIFINAGH LETTER YAKHH</li> <li>d. 2D41 is renamed from TIFINAGH LETTER KABYLE YAH to TIFINAGH LETTER BERBER ACADEMY YAH</li> <li>e. 2D46 TIFINAGH LETTER TUAREG YAKH – remove parenthetical annotation</li> <li>f. 2D53 add annotation to read TIFINAGH LETTER YU (Tuareg yaw)</li> <li>g. 2D58 TIFINAGH LETTER AYER YAGH (Adrar yaj)– remove ‘staggered five-points’ in the parenthetical annotation</li> <li>h. 2D6F is renamed from TIFINAGH MODIFIER LETTER LABIALIZATION to TIFINAGH MODIFIER LETTER LABIALIZATION MARK (tamartart).</li> </ul>	
f.	M46.6 (Other changes in Amendment 1): In response to FPDAM1 ballot responses in document N2881 WG2 resolves to make the following changes: <ul style="list-style-type: none"> <li>a. 19DE NEW TAI LUE SIGN LE is renamed to NEW TAI LUE SIGN LAE</li> <li>b. 19DF NEW TAI LUE SIGN LEW is renamed to NEW TAI LUE SIGN LAEV</li> <li>c. HEBREW POINT QAMATS QATAN is moved from 05BA to 05C7</li> <li>d. Accept a new format for documenting collections to permit inclusion of additional usage information in the IICORE collection; the principle and procedures document is to be updated to capture this additional format for collections</li> <li>e. CJK BASIC STROKES is changed to CJK STROKES in the block name, collection name and character names associated with code positions 31C0 to 31CF; along with: <ul style="list-style-type: none"> <li>i. 31C3 CJK BASIC STROKE XG-2 is renamed to CJK STROKE BXG</li> <li>ii. 31C4 CJK BASIC STROKE SZ is renamed to CJK STROKE SW</li> <li>iii. 31C9 CJK BASIC STROKE SZZG is changed to CJK STROKE SZWG</li> </ul> </li> <li>f. The set of HKSCS-2004 source references is expanded to 123 from the current 42 in line with the Approval HKSCS 2004 (which is in the process of being published) set from HKSAR</li> <li>g. Missing source reference information for JIS X 0213-2000 / 2004 will be added to complete the set</li> <li>h. 1015A GREEK ACROPHONIC HERMIONE ONE is renamed to GREEK ACROPHONIC HERMIONIAN ONE.</li> </ul>	
g.	M46.7 (Annex P text for HKSCS characters): WG2 accepts in principle the proposed clarification text regarding HKSCS CJK Ideographs 9FB9, 9FBA and 9FBB in	

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - this document you are reading)	Status
	document N2925, and instructs its editor to prepare and include appropriate text in Annex P. WG2 further accepts to include this text in Amendment 1 to ISO/IEC 10646: 2003.	
h.	M46.8 (Disposition of FPDAM1 ballot comments): With reference to the FPDAM1 ballot comments in document N2879 and their proposed dispositions in document N2881, and based on the discussion at the meeting, WG2 accepts the final disposition of comments in document N2926, which includes the responses to ballot comments having corresponding additional documentation or defect reports, some of which are captured in individual resolutions in this document.	
i.	M46.9 (Progression of Amendment 1): WG2 instructs its editor to prepare the FDAM text based on the disposition of comments in document N2926 and other resolutions from this meeting for additional text for inclusion in Amendment 1 to ISO/IEC 10646: 2003, and forward to SC2 secretariat for FDAM processing, with unchanged schedule. (Note: the total number of characters in FDAM1 remains unchanged from FPDAM1 at 1273.)	
j.	M46.10 (Characters in identifiers): WG2 accepts the proposal for an informative annex on 'Characters in Identifiers' in document N2895, and instructs its editor to prepare appropriate text and include it in Amendment 2 to ISO/IEC 10646: 2003. Further, SC2 secretariat is requested to forward document N2895 to SC22.	
k.	M46.11 (Block names and Annex L revision): WG2 accepts the recommendations in document N2919 on adding rules for naming of blocks, collections and named UCS Sequence Identifiers in Annex L and changing the status of Annex L to be Normative. WG2 further instructs its editor to prepare appropriate revised text, including separating the informative and normative portions, for inclusion in Amendment 2 to ISO/IEC 10646: 2003.	
l.	M46.12 (17-plane restriction): WG2 accepts in principle the recommendation to permanently reserve all code positions beyond Plane 16 from document N2920 and instructs its editor to prepare appropriate text and include it in Amendment 2 to ISO/IEC 10646: 2003.	
m.	M46.13 (Named USIs): WG2 accepts in principle the recommendations in document N2921 for a new normative clause and relevant naming rules for named UCS Sequence Identifiers, and instructs its editor to prepare appropriate text and a set of named UCS Sequence Identifiers that have been accepted to date, and include these in Amendment 2 to ISO/IEC 10646: 2003.	
n.	<p>M46.14 (Phags-pa – changes): With reference to changes requested to Phags-pa encoding in PDAM 2 ballot comments from China in document N2876, and the details given in documents N2869, N2870, N2871 and N2912, WG2 accepts the ad hoc group recommendations in document N2922. The following are the main changes:</p> <ul style="list-style-type: none"> <li>a. The following four new characters are added:  PHAGS-PA LETTER ALTERNATE YA  PHAGS-PA LETTER VOICELESS SHA  PHAGS-PA LETTER VOICED HA  PHAGS-PA LETTER ASPIRATED FA,  extending the range of assigned code positions to A877.</li> <li>b. U+A85A PHAGS-PA LETTER –A is renamed to PHAGS-PA LETTER SMALL A</li> <li>c. The entire range A840 to A877 including the above additions is re-ordered based on ordering in document N2870; the new order, glyphs and names are shown in the consolidated charts in document N2924.</li> <li>d. Add the following six variation-selector-sequences:  &lt;A856, FE00&gt; Phags-pa letter reversed shaping small a  &lt;A85C, FE00&gt; Phags-pa letter reversed shaping ha  &lt;A85E, FE00&gt; Phags-pa letter reversed shaping i  &lt;A85F, FE00&gt; Phags-pa letter reversed shaping u  &lt;A860, FE00&gt; Phags-pa letter reversed shaping e  &lt;A868, FE00&gt; Phags-pa letter reversed shaping subjoined ya  (Note: these variation-selector sequences do not select absolute glyph forms; rather, they select a form that is reversed from the normal form predicted by the preceding letter.)</li> </ul>	
o.	M46.15 (Additional Kannada characters): WG2 resolves to add the following four Kannada characters to the Kannada block to Amendment 2 to ISO/IEC 10646: 2003, with their glyphs from document N2860: OCE2 KANNADA VOWEL SIGN VOCALIC L	

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - this document you are reading)	Status
	0CE3 KANNADA VOWEL SIGN VOCALIC LL 0CF1 KANNADA SIGN JIHVAMULIYA 0CF2 KANNADA SIGN UPADHMANIYA	
p.	M46.16 (Mathematical horizontal brackets): WG2 resolves to add the following five Miscellaneous Technical Symbols to Amendment 2 to ISO/IEC 10646: 2003, with their glyphs from document N2842: 23DC TOP PARENTHESIS (for mathematical formulas) 23DD BOTTOM PARENTHESIS (for mathematical formulas) 23DE TOP CURLY BRACKET (for mathematical formulas) 23DF BOTTOM CURLY BRACKET (for mathematical formulas) 23E0 TOP TORTOISE SHELL BRACKET (for mathematical formulas)	
q.	M46.17 (Counting Rod Numerals): WG2 resolves to create a new block 1D360-1D37F named 'Counting Rod Numerals' and populate it with the following eighteen Counting Rod Numerals, with their glyphs from document N2816, and include it in Amendment 2 to ISO/IEC 10646: 2003: 1D360 COUNTING ROD UNIT DIGIT ONE 1D361 COUNTING ROD UNIT DIGIT TWO 1D362 COUNTING ROD UNIT DIGIT THREE 1D363 COUNTING ROD UNIT DIGIT FOUR 1D364 COUNTING ROD UNIT DIGIT FIVE 1D365 COUNTING ROD UNIT DIGIT SIX 1D366 COUNTING ROD UNIT DIGIT SEVEN 1D367 COUNTING ROD UNIT DIGIT EIGHT 1D368 COUNTING ROD UNIT DIGIT NINE 1D369 COUNTING ROD TENS DIGIT ONE 1D36A COUNTING ROD TENS DIGIT TWO 1D36B COUNTING ROD TENS DIGIT THREE 1D36C COUNTING ROD TENS DIGIT FOUR 1D36D COUNTING ROD TENS DIGIT FIVE 1D36E COUNTING ROD TENS DIGIT SIX 1D36F COUNTING ROD TENS DIGIT SEVEN 1D370 COUNTING ROD TENS DIGIT EIGHT 1D371 COUNTING ROD TENS DIGIT NINE	
r.	M46.18 (26 additional Mathematical characters): WG2 resolves to add the following twenty-six mathematical characters with their glyphs from document N2874, with assignments in different blocks, in Amendment 2 to ISO/IEC 10646: 2003: 4 in Combining Diacritical Marks for Symbols: 20EC COMBINING RIGHTWARDS HARPOON WITH BARB DOWNWARDS 20ED COMBINING LEFTWARDS HARPOON WITH BARB DOWNWARDS 20EE COMBINING LEFT ARROW BELOW 20EF COMBINING RIGHT ARROW BELOW (these are combining characters) 6 in Miscellaneous Technical: 23E1 ELECTRICAL INTERSECTION 23E2 WHITE TRAPEZIUM 23E3 BENZENE RING WITH CIRCLE 23E4 STRAIGHTNESS 23E5 FLATNESS 23E6 AC CURRENT 1 in Miscellaneous Symbols: 26B2 NEUTER 3 in Miscellaneous Mathematical Symbols-A 27C7 OR WITH DOT INSIDE 27C8 REVERSE SOLIDUS PRECEDING SUBSET 27C9 SUPERSET PRECEDING SOLIDUS 10 in Miscellaneous Symbols and Arrows: 2B14 SQUARE WITH UPPER RIGHT DIAGONAL HALF BLACK 2B15 SQUARE WITH LOWER LEFT DIAGONAL HALF BLACK 2B16 DIAMOND WITH LEFT HALF BLACK 2B17 DIAMOND WITH RIGHT HALF BLACK 2B18 DIAMOND WITH TOP HALF BLACK 2B19 DIAMOND WITH BOTTOM HALF BLACK	

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - this document you are reading)	Status
	2B20 WHITE PENTAGON 2B21 WHITE HEXAGON 2B22 BLACK HEXAGON 2B23 HORIZONTAL BLACK HEXAGON and, 2 in Mathematical Alphanumeric Symbols: 1D7CA MATHEMATICAL BOLD CAPITAL DIGAMMA 1D7CB MATHEMATICAL BOLD SMALL DIGAMMA	
s.	M46.19 (Latin phonetic and orthographic characters): With reference to document N2906, WG2 resolves to add to Amendment 2 to ISO/IEC 10646: 2003: a. the following 14 Latin characters in the Latin Extended-B block, with their glyphs as shown on page 3, right hand column in document N2906: 0242 LATIN CAPITAL LETTER B WITH STROKE 0243 LATIN CAPITAL LETTER U BAR 0244 LATIN CAPITAL LETTER TURNED V 0245 LATIN CAPITAL LETTER E WITH STROKE 0246 LATIN SMALL LETTER E WITH STROKE 0247 LATIN CAPITAL LETTER J WITH STROKE 0248 LATIN SMALL LETTER J WITH STROKE 0249 LATIN CAPITAL LETTER SMALL Q WITH HOOK TAIL 024A LATIN SMALL LETTER Q WITH HOOK TAIL 024B LATIN CAPITAL LETTER R WITH STROKE 024C LATIN SMALL LETTER R WITH STROKE 024D LATIN CAPITAL LETTER Y WITH STROKE 024E LATIN SMALL LETTER Y WITH STROKE 024F LATIN SMALL LETTER V WITH CURL (The above makes the Latin Extended-B collection a 'fixed collection'), and, b. the following seven combining characters in the Combining Diacritical Marks Supplement block, with their glyphs as shown on page 3, left hand column, in document N2906: 1DC4 COMBINING MACRON-ACUTE 1DC5 COMBINING GRAVE-MACRON 1DC6 COMBINING MACRON-GRAVE 1DC7 COMBINING ACUTE-MACRON 1DC8 COMBINING GRAVE-ACUTE-GRAVE 1DC9 COMBINING ACUTE-GRAVE-ACUTE 1DCA COMBINING LATIN SMALL LETTER R BELOW	
t.	M46.20 (More Latin phonetic and orthographic characters): WG2 resolves to create a new Latin Extended-C block and corresponding collection at the range 2C60-2C7F and populate it with the following five characters as proposed in document N2847, in Amendment 2 to ISO/IEC 10646: 2003: 2C60 LATIN CAPITAL LETTER L WITH DOUBLE BAR 2C61 LATIN SMALL LETTER L WITH DOUBLE BAR 2C62 LATIN CAPITAL LETTER L WITH MIDDLE TILDE 2C63 LATIN CAPITAL LETTER P WITH STROKE 2C64 LATIN CAPITAL LETTER R WITH TAIL	
u.	M46.21 (Modifier Tone Letters): WG2 resolves to add the following four Modifier Tone Letters with their glyphs from document N2883, in Amendment 2: A717 MODIFIER LETTER DOT VERTICAL BAR A718 MODIFIER LETTER DOT SLASH A719 MODIFIER LETTER DOT HORIZONTAL BAR A71A MODIFIER LETTER LOWER RIGHT CORNER ANGLE (these characters are NOT combining)	
v.	M46.22 (Miscellaneous new characters for Amendment 2): WG2 resolves to add the following new characters in Amendment 2 to ISO/IEC 10646: 2003: a. 05BA HEBREW POINT HOLAM HASER FOR VAV with glyph from document N2840, and b. 214D AKTIESELSKAB with its glyph similar to glyph number 3 for A/S on page 3 in document N2889.	
w.	M46.23 (Balinese script): WG2 resolves to encode the Balinese script proposed in document N2908 in a new block 1B00 – 1B7F named 'Balinese', and populate it with 121 characters (some of which are combining) with names, glyphs and code position assignments as shown on pages 10 and 11 in document N2908. Further WG2	

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - this document you are reading)	Status
	accepts to include it in Amendment 2 to ISO/IEC 10646: 2003.	
x.	M46.24 (Disposition of PDAM2 ballot comments): With reference to the PDAM2 ballot comments in document N2876 and their proposed dispositions in document N2880, and based on the discussion at the meeting, WG2 accepts the final disposition of comments in document N2927, which includes the responses to ballot comments having corresponding proposals for new scripts or characters, several of which are captured in individual resolutions in this document.	
y.	M46.25 (Progression of Amendment 2): WG2 instructs its editor to prepare the FPDAM2 text based on the disposition of comments in document N2927 and the various resolutions from this meeting for additional text, characters or scripts for inclusion in Amendment 2 to ISO/IEC 10646: 2003, and forward to SC2 secretariat for FPDAM processing, with unchanged schedule. (Note: 210 new characters are added, none removed, raising the total from 1125 to 1335 characters in Amendment 2.)	
z.	Along with the co-editors, work with relevant experts and get consistent fonts for Arabic and Arabic Supplement code charts.	
aa.	With reference to discussion on US FPDAM1 ballot comment T.10, add text to clarify what is included as CJK Source Information in the standard.	
<b>AI-46-4</b>	<b>Ad hoc group on principles and procedures (lead - Dr. V.S. UMaaheswaran)</b>	
	<i>To take note of and act upon the following items.</i>	
a.	Reflect the new format used for IICORE collections in Amendment 1 text.	Completed; see document N2986
b.	Align Annex L copy in P&P document with the updates to Annex L in the standard.	Completed; see document N2986
<b>AI-46-5</b>	<b>Ad hoc on Roadmap (Mr. Michael Everson)</b>	
a.	Change the block name from CJK Basic Strokes to CJK Strokes.	Completed. Will be reflected in document N2986.
b.	Update the roadmap reflecting the proceedings of meeting M46.	Completed. Will be reflected in document N2986.
<b>AI-46-6</b>	<b>IRG Rapporteur (Dr. Lu Qin)</b>	
	<i>To take note of and act upon the following items.</i>	
a.	M46.31 (New target for CJK Extension C1 work): With reference to item 2 in document N2917, WG2 approves the extension of the target completion date for CJK Extension C1 to the end of 2005.	Noted; On new schedule approved by WG2 at M46.
b.	To take note of the specific shapes required for the characters, which are source references from JIS standards, per comment J1 in FPDAM1 ballot response from Japan in document N2879, when the next edition of the standard is to be published.	Noted; completed according to Member Body feedbacks.
c.	To review and feedback on document N2864 - Proposal to add a block of CJK Basic Strokes to the UCS; Thomas Bishop and Richard Cook – individual contribution; 2004-10-25, in view of the text accepted for FDAM1.	In progress.
d.	M46.33 (Future meetings): WG 2 meetings: Meeting 47 – 2005-10-10/14 (to be confirmed), ETSI, Sophia Antipolis, France (Host: ECMA) Meeting 48 – Spring 2006, Canada (Tentative), backup US; along with SC2 plenary Meeting 49 – Fall 2006, Asia (seeking Host) Meeting 50 – Spring 2007, Europe (seeking Host) IRG meeting: IRG #24: Japan, 2005-05-23/27 IRG #25: Mountain View, CA, USA (Unicode Consortium), 2005-12-12/16 (tentative)	Noted.

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - this document you are reading)	Status
<b>AI-46-7</b>	<b>Israel (SII)</b>	
a.	<p>To take note of M46.32 (Ballot comment from Israel): With reference to the input and request to delete all Hebrew related proposals from Amendment 1 from Israel, WG2 appreciates the input but cannot accommodate the request for the following reasons:</p> <ul style="list-style-type: none"> <li>• Although the Hebrew additions were submitted in several documents, the bulk of the proposal is in Amendment 1 with a minor addition in Amendment 2. So the changes are processed in a manner which is already as less disruptive as possible.</li> <li>• The additions are not invalidating existing data.</li> <li>• The Hebrew block is not just covering the need of the Modern Hebrew community, but also the need of the Biblical Hebrew community, which has expressed a strong interest in getting these additions and is awaiting the adoption of these characters. Because the additions do not invalidate Modern Hebrew there is no need to postpone them.</li> </ul> <p>The ISO amendment process is giving all the interested parties, including Israel, sufficient time to provide feedback; therefore it does not seem necessary to postpone further the additions of these characters.</p>	Noted.
b.	<p>Is invited to review and feedback on the following WG2 proposals on Hebrew characters:</p> <p>2838            Proposal to add Palestinian Pointing to ISO/IEC 10646; Elaine Keown; 2004-07-20</p> <p>2839            Proposal to add Babylonian Pointing to ISO/IEC 10646; Elaine Keown; 2004-07-17</p> <p>2758            Proposal for an additional 12 Hebrew characters; Elaine Keown - individual expert; 2004-05-12</p>	No feedback.
<b>AI-46-8</b>	<b>Chinese national body (Messrs, Chen Zhuang, Woushoeur Silamu)</b>	
a.	<p>M46.30 (Additional characters for Uighur, Kazakh and Kirghiz): With reference to proposed additions to the Arabic script in document N2897 to support Uighur, Kazakh and Kirghiz, WG2 invites China to take into account the ad hoc discussions during meeting 46, and provide the requested clarification on rendering rules.</p>	In progress.
<b>AI-46-9</b>	<b>Ireland (Mr. Michael Everson)</b>	
a.	<p>Is invited to get additional testimonial from the Indonesian national body in support of the Balinese Script proposal.</p>	Completed; see letter in document N2974.
<b>AI-46-10</b>	<b>All national bodies and liaison organizations</b>	
	<i>To take note of and act upon the following items.</i>	
a.	<p>M46.26 (Hangul transliteration rules): WG2 notes the input on Hangul transliteration rules from ISO TR11941: 1996 in document N2918, which have been used to arrive at the names for Hangul characters in ISO/IEC 10646: 2003 and invites all national bodies and liaison organizations to take note.</p>	Noted.
b.	<p>M46.29 (Myanmar extensions): With reference to proposed additions to Myanmar script in documents N2768 and N2827, WG2 invites national bodies and liaison organizations to provide feedback to the authors by 2005-07-31, and invites Myanmar national body to prepare revised proposals based on input received at meeting 46 and any other feedback.</p>	Noted.
c.	<p>To review and feedback on document N2864 - Proposal to add a block of CJK Basic Strokes to the UCS; Thomas Bishop and Richard Cook – individual contribution; 2004-10-25, in view of the text accepted for FDAM1.</p>	Noted.
d.	<p>M46.33 (Future meetings): WG 2 meetings:</p> <p>Meeting 47 – 2005-10-10/14 (to be confirmed), ETSI, Sophia Antipolis, France (Host: ECMA)</p> <p>Meeting 48 – Spring 2006, Canada (Tentative), backup US; along with SC2 plenary</p> <p>Meeting 49 – Fall 2006, Asia (seeking Host)</p> <p>Meeting 50 – Spring 2007, Europe (seeking Host)</p> <p>IRG meeting:</p> <p>IRG #24:            Japan, 2005-05-23/27</p> <p>IRG #25:            Mountain View, CA, USA (Unicode Consortium), 2005-12-12/16 (tentative)</p>	Noted.
e.	<p>To take note to restrict their ballot comments to the content of the document under ballot. All proposals for new characters or new material for the standard should be</p>	To remind NBs again.

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - this document you are reading)	Status
	made as independent contributions outside the ballot comments. The project editor has the prerogative of ruling such proposals to be 'out of order, as not related to the text under ballot' and ignore them completely.	
f.	To review and feedback on document N2890 - Proposed joint (Unicode, ISO/IEC) font license agreement; Canada; 2005-01-07.	Noted. The convener had communicated with ITTF.
g.	<p>In addition to the proposals mentioned in the items above, the following proposals have been carried forward. All national bodies and liaison organizations are invited to review and comment on them.</p> <ul style="list-style-type: none"> <li>a. Ol Chiki script – document N2505</li> <li>b. Manichaeian script – document N2544</li> <li>c. Saurashtra script – documents N2607, N2619</li> <li>d. Avestan and Pahlavi – document N2556</li> <li>e. Dictionary Symbols – document N2655</li> <li>f. Invisible Letter – document N2822</li> <li>g. Palestinian Pointing characters - document N2838</li> <li>h. Babylonian Pointing characters – document N2759</li> <li>i. Bantu Phonetic Click characters – document N2790</li> <li>j. Samaritan Pointing - 12 Hebrew characters – document N2758</li> <li>k. Dominoe Tiles and other Game symbols – N2760</li> </ul>	US feedback on Saurashtra script - see document N2875.

## 5 JTC1 and ITTF matters

### 5.1 Process for acquiring code tables to print 10646

Input document:

[N2890](#) Proposed joint (Unicode, ISO/IEC) font license agreement; Canada; 2005-01-07

Regarding the font license document from Canada, the convener has corresponded with ITTF and determined that there is no need to have ISO added to the font license document.

## 6 SC2 matters

<http://std.dkuug.dk/JTC1/SC2/open/pow.htm> contains the program of work of SC2.

ITTF is in the process of publishing Amendment 1.

(Note: Amendment 1 has been subsequently published - see notice of publication [SC2/02n3823.pdf](#).)

### 6.1 Ballot results FPDAM2

Input documents:

[N2936](#) ISO/IEC 10646: 2003/FPDAM 2, Information technology -- Universal Multiple-Octet Coded Character Set (UCS) -- AMENDMENT 2: N'Ko, Phags-Pa, Phoenician and Cuneiform; SC2 Secretariat; 02n3788; 2005-04-01

[N2959](#) 10646 FPDAM2 ballot results; SC2 Secretariat; 2005-08-02

Of the 32 P members, 12 had not voted, 4 had abstained, 3 (Canada, Germany and Japan) have *disapproved* and 13 had *approved* (Ireland and USA had comments). Disposition of comments were discussed under item 7.1 below.

## 7 10646: 2003

### 7.1 Disposition of FPDAM2 ballot comments

Input documents:

[N2936](#) ISO/IEC 10646: 2003/FPDAM 2, Information technology -- Universal Multiple-Octet Coded Character Set (UCS) -- AMENDMENT 2: N'Ko, Phags-Pa, Phoenician and Cuneiform; SC2 Secretariat; 02n3788; 2005-04-01

[N2959](#) 10646 FPDAM2 ballot results; SC2 Secretariat; 2005-08-02

[N2980](#) Proposed Disposition of Comments FPDAM2; Michel Suignard; 2005-09-09

Mr. Michel Sugnard: We will take the comments alphabetically by national body. Comments were received from Canada, Germany, Ireland, Japan and USA.

#### 7.1.1 Canada - Disapproval

Technical Comments:

A. N'Ko script

a. Removal of six characters - rationale is given in document N2982. See discussion under item 7.2.2 below on page 16.

Disposition: Not accepted. Diacritics will not be unified. Old forms will be retained with possible name changes.

b. Bidi property change

BiDi properties of the letters and digits should be changed to R (from AL for letters and AN for digits).

Disposition: Accept in principle; information noted by Unicode liaison representative.

B. Cuneiform script

Proposes removals, renaming and glyph changes to the script.

Disposition: Similar comment from Ireland and US. Accepted in principle. The fonts have to be made consistent for Cuneiform.

Dr. Asmus Freytag: Mr. Michael Everson is cleaning up the font collection. There is late expert input from Mr. Michael Everson for glyph and name changes. An ad hoc group should be assigned the task of examining the comments and task it to come up with final list and recommendation before end of the meeting.

The difference between the current chart and the replacement chart were produced before the meeting ended.

Relevant resolution:

*M47.12 (Cuneiform script):* Unanimous

With reference to changes requested on the Cuneiform script in the ballot comments from several national bodies in document N2959, WG2 accepts to replace tables 199-205 Rows 20-24 Cuneiform in Amendment 2, with new code table and names list (including name changes and character reassignments) based on Irish national body comments in document N2959. The final list of changes is in document N2990 (pages 7 and 8) and the revised charts are in document N2991 (pages 456 to 468).

Dr. Umamaheswaran: Canada's 'Disapproval' position stays.

### 7.1.2 Germany - Disapproval

Technical Comments:

1. Remove the Phoenician block

Germany's PDAM ballot position has not been addressed adequately. Same technical objections are still valid.

Discussion:

- a. Mr. Michel Suignard: For Phoenician script, as said in the PDAM disposition of comments (SC2 N3787), the document N2907 is not supporting the position of Germany's PDAM ballot comments. There is no new evidence presented either in favour of or against current encoding. So there is no reason to reverse the previous decision to maintain the Phoenician script in the Amendment
- b. Mr. Andreas Stötzner: I recognize that WG2 is not accepting the German comment on Phoenician. I still need to go back to committee members to be able to change our position.
- c. Mr. Mike Ksar: The FDAM ballot is for two-month ballot. Germany has the option of voting 'yes' on the FDAM vote, if they are satisfied with the explanations.

2. N'Ko script - support of Canada's comments.

Mr. Andreas Stötzner: For N'Ko we are satisfied with the explanation at this meeting (see discussion under item 7.2.2 below on page 16).

Mr. Michel Suignard: Germany has the option of withdrawing the comment on N'Ko.

Mr. Andreas Stötzner: Yes - Germany withdraws the comment on N'Ko.

### 7.1.3 Ireland - Approval with comments

Technical comments:

T.1 Name changes for a few N'Ko characters.

(covered by discussion under item 7.2.2 below on page 16).

Disposition: Accepted in principle.

T2. Table 80 - Row 23: Miscellaneous Technical.

Either add BOTTOM TORTOISE SHELL BRACKET or delete TOP TORTOISE SHELL BRACKET from U+23E0 pending further study; it will affect code positions of six other characters starting at U+23E1. Document N2842 was the source for TOP BRACKET.

Discussion:

- a. Mr. Michael Everson: Just like several other characters even though the particular source of Math software did not include the bottom bracket, we should recognize that these come in pairs and should include these.
- b. Dr. Asmus Freytag: I have contacted the Math user community about the use of the bottom bracket questioned in the Irish comment. The use of the lower or upper forms is based on which part of the equation one annotates. They could not understand why we would entertain encoding only one form. I will update the original proposal.
- c. Dr. Ken Whistler: The US national body does not have a position on this. We are not opposed to this.
- d. Dr. Asmus Freytag: The logical position would be 23E1. However, some other character is assigned to it. We may have to move current 23E1 Electrical Intersection to 23E7 and assign 23E1 to Bottom Tortoise Shell Bracket.

Disposition: Accept in principle. See revised document [N2842](#)(revised).

Relevant resolution:

*M47.9 (Bottom Tortoise Shell Bracket):*

Unanimous

With reference to document N2842 and the Irish ballot comment T.2 in document N2959 regarding Bottom Tortoise Shell Bracket, WG2 accepts for inclusion in Amendment 2: 23E1 BOTTOM TORTOISE SHELL BRACKET, with glyph shown in document N2842, and move the character ELECTRICAL INTERSECTION currently encoded at 23E1 to new code position 23E7 in the Miscellaneous Technical block.

T3. Cyrillic character additions.

14 new Cyrillic characters from document N2933 are proposed. It was pointed out that an update ([N2933R](#)) to the referenced document is posted and it proposes only 10 characters.

Mr. Michael Everson: Ireland withdraws the four characters that are not in N2933R. We will accept the ten in N2933R.

Disposition: Accepted in principle. See discussion under item 7.2.4 below on page 19.

T4. Latin character additions for Uighur.

Request to add H, K and Z with descenders (referencing document [N2931](#)).

See discussion under item 7.2.7 below on page 20.

Disposition: Accepted in principle.

T5. Add Inverted Interrobang punctuation character

See discussion under item 7.2.5 below on page 19.

Disposition: Accept in principle for a future Amendment

T6. Does not favour alteration or deletion of Table 197 - Row 09: Phoenician.

Disposition: Noted

T7. Tables 199-205 - Rows 20-24: Cuneiform.

A number of changes are requested; similar comment from Canada and US.

Disposition: Accepted. See relevant resolution M47.12 on page 13.

#### **7.1.4 Japan - Disapproval**

Technical Comments

**J1.** On the cover page, change N'Ko to N'Ko.

Disposition: This is really editorial. Accepted.

**J2.** On "Page 9, Clause 7, in the introductory text, a single quotation mark before NOTE1 should be a double quote.

Disposition: This is really editorial. Accepted.

**J3.** Two occurrences of the term "must not" in the fourth paragraph in new sub clause 28.1.2 should be changed to "shall not".

Disposition: Accepted.

**J4.** Suggest rewriting definition in sub clause 28.1.2 with proposed text. Also, the use of Full Stop in collection name should be more restrictive.

Discussion:

- a. Mr. Michel Suignard: Collection "301 BMP-AMD.7" - will cause problem with proposed rewording. I have suggested slight alteration to text proposed by Japan. We could suggest use of Full Stop as being *in front of a digit*.
- b. Mr. Masahiro Sekiguchi: If we remove this statement re: full stop completely we will end up in getting too broad an opening. One option is to keep the Japan proposal noting the exception; or slightly modify to include the full stop appearing *between digits or letter and digit*. Japan has not discussed this.
- c. Dr. Ken Whistler: My preference is to state *directly after an alphanumeric and before a digit*. Restricting to digits alone may tie up the committee by limiting itself.
- d. Dr. Asmus Freytag: I would even make it to *between alphanumerics* - not restrict to just digits. There is no reason for being as restricted as it is now.
- e. Mr. Masahiro Sekiguchi: A more general rule is better than noting exceptions. The word *alphanumeric* should be modified to *Digits and Letters*.
- f. Mr. Michel Suignard: I can work with Japan and get the wordings sorted out correctly.

Disposition: Accepted in principle. It will also show examples (see document [N2990](#) for final text).

**J5.** Change "must" to "shall" in several identified sub-clauses under clause 28.

Disposition: Accepted

**J6.** Proposed new text fro clause 28.1.3.4 to clarify and avoid confusion

Disposition: Accepted in principle. Editor has proposed text slightly modified from input from Japan (see document [N2990](#) for final text).

**J7.** Proposed replacement text for paragraph referencing UAX 31 in Annex U

Disposition: Accepted.

**J8-J9.** Several characters in Cuneiform code chart appear too wide. They should fit in the cell.

Disposition: Accepted in principle. The contributing editor has reduced the character size to fit in the cells in the revised chart proposed by Ireland.

Mr. Masahiro Sekiguchi: Japan reverses its vote to *approval*.

### **7.1.5 USA - Approval with comments**

Technical Comments:

US withdrew comments T.2, T.3 and T.8

T.1 Format characters

Remove 1D159 MUSICAL SYMBOL NULL NOTEHEAD introduced in Amendment1 from the list of format characters because it is a base character.

Disposition: Accepted

T.4 Request for four new small Latin, Greek and Cyrillic letters; urgency is also indicated.

See discussion of document N2942 under item 8.2.1 below on page 34.

Disposition: Accepted.

T.5 Cuneiform - proposed revisions

Similar comment from Canada and Ireland.

Disposition: Accepted: See relevant resolution M47.12 on page 13.

T.6 Add Dotted Square used in mathematics

See discussion of document N2943 under item 7.2.6 below on page 20.

Dispostiion: Accepted.

T.7 Swap Glyphs for two Byzantine musical symbols 1D09C and 1D09F to reflect their names

Disposition: Accepted. Swap the glyphs.

T.9 Proposed new text splitting sub-clause 28.1.3

Disposition: Accepted.

T.10 Proposed text to include in Guideline 8 in Annex L

Disposition: Accepted.

T.11 N'Ko script - do not want significant modification without consensus of interested parties.

Disposition: Noted. See discussion under item 7.2.2 below below.

The three editorial comments E.1, E.2, and E.3 were all accepted.

*Project editor's editorial/corrigenda comments:*

E.1 Tables on Variation selectors is incorrectly formatted - comment originally from ITTF

Mr. Michel Suignard: Numbering of non-code chart tables interferes with the Table numbering of code charts. At this point the easiest solution is to move from a table format to a list format, which is much less constrained.

Disposition: Accepted in principle. Change to list format.

E.2 Remove spurious *small* in descriptions of several Phags-pa variants (originally from Mr. Andrew West).

See discussion under item 7.2.1 below.

Disposition: Accepted.

See progression of Amendment 2 under item 7.3 below on page 22.

## **7.2 Additional Feedback on FPDAM2**

The following agenda items address documents in support of some of the national body ballot comments. Also reference document [N2980](#) - proposed disposition of comments.

### **7.2.1 Phags-pa script**

Input documents:

[N2936](#) ISO/IEC 10646: 2003/FPDAM 2, Information technology -- Universal Multiple-Octet Coded Character Set (UCS) --

AMENDMENT 2: N'Ko, Phags-Pa, Phoenician and Cuneiform; SC2 Secretariat; 02n3788; 2005-04-01

[N2972](#) Comments on Phags-Pa; Andrew West; 2005-08-17

[N2979](#) Phags-pa Glyphs - Summary of issues in N2972 on Phags-pa; Andrew West; 2005-09-01

[N2980](#) Proposed Disposition of Comments FPDAM2; Michel Suignard; 2005-09-09

See also document [N2980](#) last page item E.2, the term SMALL should be removed from 2nd, 3rd, 4th and 5th entries in Phags-Pa pages 1 and 2.

Mr. Chen Zhuang: We have reviewed the documents. We continued the dialog with the project editor. We agree to the proposed change for the glyph for A857 but disagree with the proposed glyph for A86D - stay with what is in document [N2936](#). Glyphs for A844 and A852 must have the short tails - but can be shorter than the one in current FPDAM. For all the other glyphs we can agree for shortened tails.

Relevant resolution:

*M47.10 (Phags-Pa):*

Unanimous

With reference to the Phags-Pa glyph corrections in document N2972 and N2979, WG2 accepts the new glyphs proposed in document N2991 for A843, A844, A845, A852, A856, A857, A859, A863, A864, A867, A868, A870, and A871 for Amendment 2. WG2 also accepts (with reference to editor's note E.2 on the last page of document N2980) to remove the erroneous word 'SMALL' in the Description of variant appearance column (on pages 1 and 2 of FPDAM-2 text) in the second, third, fourth and fifth entries in the table describing Mongolian variation sequences.

### **7.2.2 N'Ko script**

Input documents:

[N2932](#) Encoding of N'Ko in ISO/IEC 10646; Mamady Doumbouya - President; N'Ko Institute; 2005-03-12

[N2949](#) For a Correct Encoding of N'Ko - Feedback on N2932; François Yergeau, Patrick Andries; 2005-07-12

[N2973](#) N'Ko suggest character name correction; Mamady Doumbouya; President N'Ko Institute; 2005-08-16

[N2977](#) Clarification on the identity and use of three N'Ko letters; Everson, Mamady Doumbouya, Mamadi Baba Diané, & Karamo Jammeh; 2005-08-26

[N2982](#) Comments on N2977 – N'ko glyphs and Latin Long S; P. Andries & F. Yergeau – Individual Contribution; 2005-09-05

#### Discussion:

- a. Mr. Alain LaBonté: There are two main points in document [N2949](#). The authors would like to see more evidence of use of the old characters simultaneously with new characters; and why the Latin diacritics cannot be used? Even within the same script we have an example of unified use like trema and diaeresis .
- b. Mr. Erkki Kolehmainen: The trema and diaeresis has problems in sorting etc., they are not entirely without problems.
- c. Dr. Asmus Freytag: It is not only in the same script - both trema and diaeresis are used for example in German. We do have a lot of other cases. It is not the same case in N'Ko. Different origins and different behaviour - even if it is slight. Two experts in one country have been expressing different judgements. I would encourage WG2 to determine based on judgement on one side or the other, and agree with larger number of national bodies.
- d. Mr. Alain LaBonté: There are not too many countries participating in this discussion. It is the principle we have to look at.
- e. Dr. Umamaheswaran: The N'Ko institute letter is also pointing to the use of older forms for indicating development of N'Ko script.
- f. Dr. Ken Whistler: It is perfectly OK to have older forms of characters; it does not cause damage to the encoding of the script. Chinese has a lot of these.
- g. Mr. Alain LaBonté: Glyphs are being encoded and is against the encoding principle. The old characters are glyphs and when we are asking for more evidence of simultaneous use for these we have not been given any convincing evidence.
- h. Mr. Mike Ksar: How many implementations of N'Ko do exist? What is the fuss?
- i. Mr. Erkki Kolehmainen: We had a discussion on principles this morning on diacritical marks. We can weigh on basis of pros and cons for at least the diacritical marks.
- j. Dr. Ken Whistler: I like to point out that there are two separate issues - exactly opposite in terms of principles. As far as old forms are concerned, they are glyphic variations of corresponding new forms. The diacritics on the other hand - the issue is that they are identical to the existing ones and they should not be disunified. The character glyph model is being applied in different ways. Where there are good reasons, old forms have been encoded separately. Basing on arguments that these are font extensions etc. is not a good approach to solve the problems. There are competing claims being made that these are characters versus glyphs -- we have to use our judgement on the basis of what the users need. Based on that the current encoding is correct.
- k. Mr. Alain LaBonté: In the case of long S, as an example, use of simultaneous use is clear. We seek evidence of use of these separate characters in the same text / word. In the opinion of some experts such use does not exist.
- l. Mr. Michael Everson: In N'Ko practice it does not exist. The inventor of the script revised the script at some point in time; he reformed the script. Some members of the community did not like the reform and do not use these forms. They are also on keyboards. It does not make sense not to encode these. It may be the case that use of old and new forms in Latin etc. in the same word can be found. I have discussed these with the user communities -- problem with sorting etc. -- the users understand the impacts.
- m. Dr. Asmus Freytag: For a small user community, asking a font based solution may be considered to be arrogant on our part. Mr. Michael Everson has visited the user community and explained the pros and cons to them. As far as UTC is concerned, we have discussed the issues, and weighing all the factors with the documents at hand, we decided to accept the current encodings and encourage WG2 to do the same.
- n. Mr. Alain LaBonté: I would like to hear opinions from the national bodies who have been neutral so far.
- o. Mr. Yasuhiro Anan: If the three of those old characters are introduced will it cause any problems regarding normalization or other such issues?
- p. Mr. Michael Everson: These characters are for use within N'Ko.
- q. Mr. Michel Suignard: IDN is still on version 3.2 of Unicode and when they do upgrade, these old forms may map to the new forms within *stringprep*. However such equivalences/maps are at a higher-level protocol. Germany also had comments supporting the Canadian comments.

- r. Mr. Andreas Stötzner: The German committee wanted some input on whether there was sufficient discussion within the user community on the various points.
- s. Mr. Erkki Kolehmainen: What I have heard so far is sufficient for our accepting our current position. Germany seems to be seeking sufficient justification also.
- t. Mr. Mike Ksar: As far as diacritics are concerned we may be able to justify based on the guidelines we discuss with principles under agenda item 8.1 (see page 32). As far as different forms of the same character are concerned, in the past WG2 has encoded characters such as these with different names for the different forms. My question is if we exclude these old forms from the script from this amendment, pending further discussion / evidence, will it break the encoding of the script implementation. If it will break some implementation then we may have to deal with them right now.
- u. Dr. Asmus Freytag: We have already been presented with an example of similar situation today - existence of a keyboard layout, which includes the three old and three new forms. It is a small community and I think it will be a hardship for them to support and change their implementations.
- v. Mr. Michael Everson: Existing implementations of N'Ko are all using Arabic code points - because N'Ko is not encoded yet. They change the fonts for the glyphs and use the Arabic script code points. Fonts are available based on these. UNESCO is funding a project to develop a Unicode encoded fonts. Postponing these characters will not be beneficial for the user community; there will be penalty to the user community if these are held back for migrating to the N'Ko based encoding. I have presented the keyboard information in Xiamen.
- w. Mr. Mike Ksar: Do you have any information / documentation on UNESCO project for N'Ko? Are the Canadian authors aware of the keyboard layouts? Are they aware of the UNESCO project? I am trying to provide additional evidence of use of these characters from the user community to be able to satisfy the request from the Canadian experts.
- x. Mr. Michael Everson: Others can provide such documentation.
- y. Mr. Erkki Kolehmainen: UNESCO is funding on the basis of a project being done once and not additional steps be needed for changes etc. The expectation is to do in one step.
- z. Mr. Tatsuo Kobayashi: As SC2 Chair, I also request a clear statement of relationship with UNESCO. If we don't have a relation with UNESCO can we get some documentation about UNESCO activities in WG2 documentation? It is better to have some clear documentation on UNESCO's interest related to encoding. Some supporting letter from UNESCO supporting encoding of minority scripts including N'Ko will be useful.

Disposition:

- a. On the basis of the guidelines for encoding of the diacritic and disunification, we will go ahead and encode the N'Ko diacritics separately as part of the set of N'Ko diacritics.
- b. We will accept the three old forms in the current amendment with possible modified names.
- c. We request the authors to provide more evidence of use as additional information to include in WG2 document registry.

Relevant resolution:

*M47.17 (N'Ko):*

Accept: China, Finland, Ireland, Japan, Korea (Republic of), Taipei Computer Association (Liaison), the Unicode Consortium (Liaison) and the USA  
 Abstain: Canada

WG2 accepts new names for the following four N'Ko characters for inclusion in Amendment 2 based on Irish comment T.1 in document N2959:

07E8 NKO LETTER JONA JA  
 07E9 NKO LETTER JONA CHA  
 07EA NKO LETTER JONA RA  
 07F6 NKO SYMBOL OO DENNEN

Action item: Mr. Michael Everson to request Ms. Deborah Anderson to send for WG2 records supporting documentation regarding UNESCO project about N'Ko, and to get the authors of N'Ko proposal to provide more evidence of simultaneous use of old and new forms.

### 7.2.3 Letter of support for Balinese script

Input document:

[N2974](#) Letter of support – Balinese; Badan Standardisasi Nasional – T.A.R. Hanafiah; 2005-08-16

Document [N2974](#) is the letter that WG2 had requested of the author of Balinese script proposal, from the Indonesian standards body in support of the proposal.

- a. Mr. Tatsuo Kobayashi: I would like to express my thanks to Mr. Michael Everson to have encouraged the Indonesian standards body to send in this letter of support.
- b. Mr. Michael Everson: Thank you. Also, Indonesia is now a P member of SC2.

#### 7.2.4 Additional Cyrillic characters

Input document:

[N2933](#) Proposal to Encode Additional Cyrillic Characters; Lorna Priest; L2-05/080; 2005-08-09

A revised document [N2933R](#) has been produced with updated code positions. Document on WG2 web site is the latest one.

Mr. Michael Everson: The proposal is to add six characters at 04FA to 04FF and four characters at 0551 to 0553, for a total of ten.

Discussion:

- a. Mr. Michel Suignard: Are these to be included in current amendment or next?
- b. Dr. Asmus Freytag: These characters do not pose any architectural considerations. The UTC has considered these and found no problem accepting these. The expectation of finding additional evidences is possibly not realistic in that all the evidences to be found have been found. It may not be worth keeping this awaiting for another two years.
- c. Mr. Mike Ksar: This seems to be a mature set of characters. As the editor has cautioned us the next AMENDMENT ballot is a yes or no on Amendment 2. The contributors have done a good job on getting this contribution. Unfortunately it was not ready at the last meeting.

Disposition: We accept it in current amendment - from document N2933R.

Relevant resolution:

*M47.6 (Additional Cyrillic characters):*

Unanimous

With reference to document N2933, WG2 accepts the following ten (10) additional Cyrillic characters, with their glyphs as shown in document N2933 page 3, and modified during resolution of Irish ballot comment T.1 in document 2959, for inclusion in Amendment 2 to the standard:

04FA CYRILLIC CAPITAL LETTER GHE WITH STROKE AND HOOK  
04FB CYRILLIC SMALL LETTER GHE WITH STROKE AND HOOK  
04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
04FD CYRILLIC SMALL LETTER HA WITH HOOK  
04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
04FF CYRILLIC SMALL LETTER HA WITH STROKE

in the Cyrillic block, and

0510 CYRILLIC CAPITAL LETTER REVERSED ZE,  
0511 CYRILLIC SMALL LETTER REVERSED ZE,  
0512 CYRILLIC CAPITAL LETTER EL WITH HOOK,  
0513 CYRILLIC SMALL LETTER EL WITH HOOK  
in the Cyrillic Supplement block.

#### 7.2.5 Inverted Interrobang character

Input document:

[N2935](#) Proposal to add INVERTED INTERROBANG, punctuation character for use in Spanish; Michael Everson; 2005-04-01

Mr. Michael Everson: The interrobang inverted is a fusion of the Inverted question mark and inverted exclamation mark. Invented by Mr. Martin Speckter, it is to be used with Spanish. Having this character used in English text including this character will permit us to correctly translate into Spanish.

Discussion:

- a. Dr. Ken Whistler: The US national body has not approved this character, but does not object to this either.
- b. Mr. Alain LaBonté: Is there evidence that it is used in Spanish? We do have similar position with and/or versus or. In French we end up in having et/ou artificially. This new character may introduce similar ambiguity.
- c. Dr. Asmus Freytag: I have seen this character in use - don't have the evidence at hand. There is a very small group of users using this character. It is being refused in some publications because it is not quite popular. The official UTC position is similar to the US position.
- d. Dr. Ken Whistler: The interrobang exists as a character in standard. The question now is whether the inverted version is needed or not, rather than questioning the interrobang character itself.

- e. Mr. Michel Suignard: I was wondering should we be accepting this to postpone to the next Amendment.
- f. Dr. Umamaheswaran: Given that this character is not related to part of Amendment 2 text, it would be prudent to postpone it to the next Amendment.

Disposition: Accept this character for next Amendment. Change 2064 to 2E18 INVERTED INTERROBANG in document N2935.

Relevant resolution:

*M47.19 (Inverted Interrobang character):* Unanimous  
With reference to document N2935 on Inverted Interrobang character, WG2 accepts to encode in a future Amendment to the standard:  
2E18 - INVERTED INTERROBANG; with its glyph as shown in document N2935 in the Supplemental Punctuation block.

Mr. Mike Ksar: Do we start up a new project sub division for Amendment 3 along with a project schedule?

- a. Dr. Ken Whistler: Would we rather accept the formation of a new amendment now, so that we can get the draft resolution.
- b. Dr. Umamaheswaran: There are also a number of other scripts that are potential for inclusion in Amendment 3.

Disposition: A new amendment will be started at this meeting.

### 7.2.6 Dotted Square character

Input document:

[N2943](#) Proposal to add Dotted Square; UTC/US NB; 2005-05-12

Dr. Asmus Freytag: This is a request for a character DOTTED SQUARE used in mathematics. It is a symbol, used in a particular way. It is not a format or control character. We do have a dashed square but not a dotted square. It should have been asked at the same time as the other Math characters that are in Amendment 2. The request for this character came much later.

Mr. Michael Everson: It is a good idea.

Disposition: Accept the proposed character.

Relevant resolution:

*M47.8 (Dotted Square):* Unanimous  
With reference to document N2943, WG2 accepts for inclusion in Amendment 2:  
2B1A - DOTTED SQUARE; with its glyph as shown in document N2943, in the Miscellaneous Symbols and Arrows block.

### 7.2.7 Latin characters for Uighur

Input document:

[N2931](#) Proposal to Encode Additional Latin Orthographic Characters for Uighur Latin Alphabet; Lorna Priest; L2-05/029; 2005-08-09

[N2992](#) Proposal to encode additional Latin characters for Uighur and Kazak Latin Alphabet; China; 2005-09-14

#### **Document N2931:**

Discussion:

- a. Dr. Asmus Freytag: The UTC has discussed this document and has accepted these characters. We have not had any objections or comments from our membership on this proposal.
- b. Prof. Woushoeur Silamu: China supports the same six characters with the same names.

Disposition: Accept with changes; move to 2C67 to 2C6C. Glyphs and Names as in section D.1 of document N2931.

#### **Document N2992:**

Prof. Woushoeur Silamu presented document N2992 in support of the characters proposed and accepted from document N2931. It elaborates on the use of these characters and gives a number of references related to the topic.

Mr. Mike Ksar: Thank you for the contribution that provides additional supporting material. This document will be posted to WG2 web site for information.

Disposition: Accept the proposal with code points moved.

Relevant resolution:

*M47.7 (Additional Latin characters in support of Uighur & Kazakh):*

Unanimous

With reference to documents N2931 and N2992, on additional Latin characters in support of Uighur, WG2 accepts the following six (6) Latin characters, with their glyphs as shown in document N2931 on page 3, for inclusion in Amendment 2 to the standard:

2C67 - LATIN CAPITAL LETTER H WITH DESCENDER  
2C68 - LATIN SMALL LETTER H WITH DESCENDER  
2C69 - LATIN CAPITAL LETTER K WITH DESCENDER  
2C6A - LATIN SMALL LETTER K WITH DESCENDER  
2C6B - LATIN CAPITAL LETTER Z WITH DESCENDER, and  
2C6C - LATIN SMALL LETTER Z WITH DESCENDER  
in the Latin Extended-C block.

## 7.2.8 Latin phonetic and orthographic characters

Input document:

[N2945](#) Proposal to Encode Additional Latin Phonetic and Orthographic Characters; Lorna Priest, Peter Constable (L2-097R); 2005-08-09

Dr. Ken Whistler: The US and UTC have reviewed these twelve proposed characters. There are two groups:

- The five on the right column are for extensions of IPA for representations of tones in a number of languages. Illustrations of these are in document [N2945](#). The little arrows cannot be unified with those in the standard, being shorter and used for different function. The exclamation points are also indicated for tone indicators for DownSet and UpSet in African transliteration. These are requested as modifier letters.
- The characters on the left column and the two Ws. Some of these are uppercase forms of existing lowercase forms, and has been adopted into an orthography. The M with hook has been in the IPA but used in uppercase form in some orthographies. There are two historic usage case-less forms in Mayan languages. V and W with the hooks appear in African orthographies.

Examples of use of all these characters are in document N2945. We feel that these are all well-attested and can be accepted. The US national body will not be opposed to including in current Amendment. However there is no particular urgency for rushing these.

Discussion:

- a. Mr. Michael Everson: I am less confident with the characters for Mayan. I am not sure if we will not discover the cased versions of these. The names have only *Letter* in them. The document shows samples of usage in old days. I will double check with the some documents I have.
- b. Dr. Asmus Freytag: The comments are all good. However, it affects only a part of the proposal. I would like to get agreement on the modifier letters so that it can fill the block.
- c. Mr. Michael Everson: I have no problems with other characters.
- d. Dr. Umamaheswaran: We can provisionally accept these for the next Amendment. Since there is no urgency we should not go ahead with these in Amendment 2.
- e. Mr. Andreas Stötzner: I share the concern with Mr. Michael Everson regarding the uppercase lowercase usage.
- f. Mr. Mike Ksar: I share the view of Dr. Asmus Freytag to fill the modifier letter block. Should some of these be in current amendment?
- g. Dr. Umamaheswaran: Not in Amendment 2.
- h. Mr. Michel Suignard: We should not include these in Amendment 2. There is no urgency like stability or something else affecting these.
- i. Mr. Michael Everson: My preference is that there could be casing and would like name change to include *Small Letter* for the two Mayan characters.
- j. Dr. Umamaheswaran: We should leave these names alone.
- k. Dr. Ken Whistler: Our preference is to leave these names alone. The authors claim that they are case-less.
- l. Mr. Michael Everson: Ireland will request to change it to *Small* in the ballot comments.
- m. Mr. Mike Ksar: We will accept without change in names.

Disposition: Accept the 12 characters; glyphs as in document N2945 for Amendment 3. Code positions for the seven Latin letters would be 2C6D -2C73 (shifted down by 2 code positions from the proposal).

**(Note: The above acceptance was missed while drafting the resolutions adopted in meeting M47 - the characters are included in PDAM3 ballot document. WG2 should adopt the following at M48 -- Recording secretary.)**

#### **RESOLUTION M48.x (Latin phonetic and orthographic characters):**

With reference to documents N2945 on additional Latin phonetic and orthographic characters, WG2 accepts the following seven (7) Latin characters and five (5) Modifier Tone Letters, with their glyphs as shown in document N2945, for inclusion in Amendment 3 to the standard:

2C6D	LATIN CAPITAL LETTER ALPHA
2C6E	LATIN CAPITAL LETTER M WITH HOOK
2C6F	LATIN LETTER TRESILLO
2C70	LATIN LETTER CUATRILLO
2C71	LATIN SMALL LETTER V WITH RIGHT HOOK
2C72	LATIN CAPITAL LETTER W WITH HOOK
2C73	LATIN SMALL LETTER W WITH HOOK
in the Latin Extended-C block, and	
A71B	MODIFIER LETTER RAISED UP ARROW
A71C	MODIFIER LETTER RAISED DOWN ARROW
A71D	MODIFIER LETTER RAISED EXCLAMATION MARK
A71E	MODIFIER LETTER RAISED INVERTED EXCLAMATION MARK
A71F	MODIFIER LETTER LOW INVERTED EXCLAMATION MARK
in the Modifier Tone Letters block.	

### **7.3 Progression of Amendment 2**

Output document:

- [N2990](#) Approved Disposition of Comments FPDAM2; Project Editor – Michel Suignard; 2005-09-14  
[N2991](#) Charts – FDAM2; Contributing Editor – Asmus Freytag; 2005-09-14

Document N2980 containing the proposed disposition of comments on FPDAM2 was discussed. There will be more characters added as part of the discussions at this meeting, in addition to those in the disposition of comments. Document [N2990](#) will contain final disposition of comments. Document [N2991](#) will contain the final charts.

Disposition: FPDAM2 progresses to FDAM2.

Relevant resolution:

*M47.18 (Progression of Amendment 2):*

Accept: China, Finland, Ireland, Japan, Korea (Republic of), Taipei Computer Association (Liaison), the Unicode Consortium (Liaison) and the USA  
Abstain: Canada

WG2 instructs its editor to prepare the FDAM text based on the disposition of comments in document N2990, the updated code charts in document N2991, and other resolutions from this meeting for additional text for inclusion in Amendment 2 to ISO/IEC 10646: 2003, and forward to SC2 secretariat for FDAM processing, with unchanged schedule.

(Note: the total number of characters added in FDAM2 has changed to 1365.)

### **7.4 Proposed Additions to repertoire**

#### **7.4.1 Devanagari characters for Sindhi**

Input document:

- [N2934](#) Proposal to add four characters for Sindhi to the BMP of the UCS; Michael Everson; 2005-03-30

Mr. Michael Everson: GGA, JJA, DDDA and BBA used in Sindhi can be written using the Arabic script or Devanagari script. The Arabic script users have a means of representing these. In Devanagari script a horizontal bar below is often used. However it interacts with the letters as well as with some vowel marks. It also clashes with ordering using horizontal bars. Examples of clashes are shown in the document. The proposal is to encode these as separate characters instead of using combining marks.

Discussion:

- a. Dr. Ken Whistler: The US knows about this particular set for a long time - we were waiting for a full case to be made such as in this paper. This document fully justifies separate encoding. These are good candidates for separate encoding. In terms of UTC, the Government of India

also requested these characters for Sindhi. WG2 may have seen the TDIL documents earlier containing these characters.

(For example: [http://tdil.mit.gov.in/prop\\_uni/Deva.pdf](http://tdil.mit.gov.in/prop_uni/Deva.pdf) or section 3.2.4 in on Sindhi in <http://tdil.mit.gov.in/DesignGuides/Jan02.pdf> -- No contributions have been submitted to WG2... Uma).

- b. Mr. Mike Ksar: WG2 is seeing this proposal for the first time. If there is no emergency for these we can put into the next Amendment.
- c. Dr. Asmus Freytag: My draft was based on assuming these may be in Amendment 2.
- d. Mr. Mike Ksar: To be consistent with treatment with other similar proposals it should go into the next Amendment.
- e. Dr. Ken Whistler: US would not be opposed to including these in Amendment 2. But for consistency and for reasons of no demonstrated urgency these can go to the next Amendment.

Disposition: Accept 4 characters 097B, 097C, 097E and 097F, with glyphs from document N2934, for Amendment 3.

Relevant resolution:

M47.22 (Sindhi characters):

Unanimous

With reference to document N2934, WG2 accepts the following four (4) Sindhi characters for inclusion in a future amendment to the standard:

097B - DEVANAGARI LETTER GGA  
097C - DEVANAGARI LETTER JJA  
097E - DEVANAGARI LETTER DDDA  
097F - DEVANAGARI LETTER BBA

in the Devanagari block, with glyphs similar to those in figure 2 of document N2934.

#### 7.4.2 Carian, Lycian, Lydian scripts

Input document:

[N2938](#) Proposal to add Carian; Everson; 2005-04-27  
[N2939](#) Proposal to add Lycian; Everson; 2005-04-27  
[N2940](#) Proposal to add Lydian; Everson; 2005-04-27

Mr. Michael Everson: These three proposals, on Carian, Lycian and Lydian are preliminary proposals. These are derived from Greek. However, they have different properties that make them unique. Ms. Deborah Anderson and I were tasked to investigate if these can be unified with Greek or not. Lydian has strong R to L directionality. Lycian has L to R directionality. Carian, when it is found in Egypt along with Egyptian text, it has also L to R directionality. Outside of that it is R to L. Repertoire for Carian is very different from Lycian - a good deal larger. There are 45 characters that are in the catalog but not well understood. The scholars usually study all these three together. We may include these three into a single proposal in a future updated proposal much like what was done for Tagalog proposals.

Discussion:

- a. Mr. Mike Ksar: Several of the Lydian characters seem to be mirrors of Carian.
- b. Mr. Michael Everson: Yes. An attempt to unify them earlier did not pan out. In the literature the charts always have these three separately shown, whereas others may be shown mixed.
- c. Mr. Andreas Stötzner: The Lydian seem to have strong link to Etruscan / Old Italic. Have you checked this?
- d. Mr. Michael Everson: No. We can check that.
- e. Mr. Mike Ksar: If the German experts can add some value you can send contributions as feedback to the authors, before the meeting, so that other experts can study these.

Action item: National bodies to review and feedback.

#### 7.4.3 Greek epigraphical characters

Input document:

[N2946](#) Proposal to add Greek epigraphical characters to the UCS; Nick Nicholas; 2005-05-22

The proposal is to add six Greek epigraphical characters from Mr. Nick Nicholas from Australia.

Discussion:

- a. Mr. Andreas Stötzner: I have not seen any examples in this document.
- b. Mr. Michael Everson: There have been examples submitted in documents to UTC/ L2 docs.
- c. Mr. Mike Ksar: The relevant example documents should be passed on to WG2 also.

- d. Dr. Asmus Freytag: We can provide examples for delegates to look at. We can submit these example documents later.
- e. Mr. Andreas Stötzner: For example the HETA seems very near a Greek character Drachma etc.
- f. Dr. Ken Whistler: Page 4 does reference possible similarity with other encoded characters.
- g. Mr. Michael Everson: I can contact the contributor and get some examples submitted.
- h. Dr. Ken Whistler: The US committee has considered these and a trail of preceding documents. The considerations are very complex and the outcome is that the proposed six are possible candidates for inclusion in the standard. However, we can wait for additional examples. I would like to warn everyone that even with additional examples there is still some considerable debate among experts.
- i. Dr. Asmus Freytag: We could go either way on this - we could put it into current collection and await ballot comments. Or we wait for some examples and load ourselves with other things to do. If we take them out now these may come back as part of ballot response.
- j. Dr. Umamaheswaran: The request is to provide examples to WG2. Even if the ballot comments come in asking for adding them, there will be request for examples at that time.
- k. Mr. Mike Ksar: We can wait for national body feedback or await ballot comments. Do we want to include in next amendment or wait to add later?
- l. Mr. Masahiro Sekiguchi: We can include these in the next amendment and invite ballot comments or await more input and add at the next ballot stage.
- m. Dr. Ken Whistler: In terms of US national body we had the opportunity to consider these documents and we have found these six characters to be acceptable. We realize that other national bodies have not seen these.
- n. Mr. Erkki Kolehmainen: We could put into the next amendment and will give national bodies a chance to comment on these.
- o. Mr. Mike Ksar: We have included such characters before into PDAMs and await national body comments.
- p. Mr. Michael Everson: I will take an action item to make the relevant background information available to WG2.

Disposition: Accept for inclusion six characters; glyphs based on document N2946. in Amendment 3.  
Action item: Mr. Michael Everson to provide example document to WG2.

Relevant resolution:

*M47.23 (Greek epigraphical characters):*

Unanimous

With reference to document N2946, WG2 accepts the following six (6) Greek epigraphical characters for inclusion in a future amendment to the standard:

- 0370 - GREEK CAPITAL LETTER HETA
- 0371 - GREEK SMALL LETTER HETA
- 0372 - GREEK CAPITAL LETTER ARCHAIC SAMPI
- 0373 - GREEK SMALL LETTER ARCHAIC SAMPI
- 0376 - GREEK CAPITAL LETTER PAMPHYLIAN DIGAMMA
- 0377 - GREEK SMALL LETTER PAMPHYLIAN DIGAMMA

in the Greek and Coptic block, with glyphs based on those in document N2946.

#### 7.4.4 Lepcha script

Input document:

[N2947](#) Proposal for encoding the Lepcha script in BMP; Everson; 2005-07-04

Mr. Michael Everson: WG2 has not seen this before. A preliminary version of the proposal was on my web site. UTC has seen the proposal a few years ago. Government of India proposed an encoding of Lepcha to UTC. The encoding model and the repertoire has been stable for all this time. Only three characters came to light recently. Leiden University has largest collection of Lepcha literature in the world. This has also been implemented. The proposal has had several reviews and would like to propose encoding this script in the next Amendment.

Discussion:

- a. Dr. Ken Whistler: The US national body has reviewed this proposal and agree that these can go to Amendment 3. There is a disagreement on two characters. There is a question of C4 and C5 - are these glyphic variations of the same character or not? We did not approve the C5 character in the US and UTC. We could go ahead and entertain the comment on C5 from national bodies.
- b. Dr. Umamaheswaran: Did you have any feedback or comment from the Government of India on this? You mentioned that they had a contribution.

- c. Mr. Michael Everson: Government of India proposal was based on mapping to Devanagari ISCII model. That would have introduced considerable mapping problems, duplication etc. I had written a feedback to their contribution to UTC.
- d. Mr. Mike Ksar: I hope the Government of India does provide feedback on this document during ballot stage.
- e. Dr. Lu Qin: Looking at this document it looks like it is a live language and people are using it. If it is so how is India handling it now? Will India be voting against this?
- f. Dr. Ken Whistler: Government of India is on record of wanting to have an encoding of Lepcha. Government of India will be in favour of an encoding - but they may differ in some details. The UTC has undertaken a dialog with the Government of India. Of the many minority scripts, Government of India has taken note of this script.

Disposition: Accept for Amendment 3; 1C00-1C4F -- a new block called LEPCHA -- populate with 74 characters; some are combining. Glyphs and names as in document N2947R.

Relevant resolution:

*M47.24 (Lepcha script):*

*Unanimous*

WG2 resolves to encode the Lepcha script proposed in document N2947 in a new block 1C00 – 1C4F named 'Lepcha', in a future amendment to the standard, and populate it with seventy four (74) characters (some of which are combining) with the names, glyphs and code position assignments as shown on pages 17 and 18 in document N2947.

#### 7.4.5 Vai script

Input document:

[N2948](#) Proposal for encoding the Vai script in SMP; Michael Everson, Charles Riley & José Rivera; 2005-0801

Mr. Michael Everson: Vai script is used to write the Mande language Vai in Liberia. About 100 000 users. It is a syllabary. It was ideographic or logographic in nature early in its history - most of these disappeared in the script. Some of these survived. Additional characters for foreign words were included in one of the stages of its history. Characters found from Ndole and from Massaquoi's 1911 and 1962 Liberian standardization effort are all blended together in this proposal. There exists a set of digits that look similar to the Indic digits. These are not in current use. These are not included till more evidence of their use / need is found.

Discussion:

- a. Mr. Michel Suignard: Some of these characters look like others and why can't we unify these? 08, 09 and 0A for example. Another set of characters of concern for security considerations.
- b. Mr. Michael Everson: Some rest on different base line - others have different properties.
- c. Mr. Mike Ksar: Why are there some holes in col A60?
- d. Mr. Michael Everson: Start of col A61 begins the set of logograms.
- e. Dr. Ken Whistler: If you see at the bottom of the page, items 6 and 7 - there are two combining marks used in Vai. These have been verified to be unifiable with the Generic Diacritical Marks by applying guidelines we accepted earlier in the meeting. The judgment for N'Ko is different from the judgement for Vai script.

Disposition: Accept for Amendment 3. Block A500 to A61F. Block name is VAI. 284 characters are requested. Glyphs and names as in document [N2948R](#).

Relevant resolution:

*M47.25 (Vai script):*

*Unanimous*

WG2 resolves to encode the Vai script proposed in document N2948 in a new block A500 – A61F named 'Vai', in a future amendment to the standard, and populate it with two hundred and eighty four (284) characters with the names, glyphs and code position assignments as shown on pages 22 through 27 in document N2948.

#### 7.4.6 Medievalist characters

Input document:

[N2957](#) Preliminary proposal to encode medievalist characters in the UCS; Everson; 2005-08-02

Mr. Michael Everson: This is a preliminary proposal for a set of characters used by specialists in medieval European philology and linguistics. The first two pages explain the reasons for asking for all these kinds of characters. In some contexts these could be construed as Fancy Texts. The background information is a must read. A large number of references are given. It contains a large number of diacritics used by Medievalists. There are also a number of letters that could be used by medievalists - to show the readings. I have not added the 50 to 80 pages of examples to this

document. We will be adding the examples to show uses of these characters, and where they are used etc. We hope it will be ready by the next meeting. Some of the Claudian letters have been included in Amendment 2.

Discussion:

- a. Mr. Michel Suignard: I see a lot of characters looking like duplicates.
- b. Mr. Michael Everson: Our judgment of some of these characters are such that they look like the hooks used with Vietnamese etc. and we do not want these to be confused with Vietnamese.
- c. Dr. Asmus Freytag: Some of these characters may look like Math symbols and are these the same as taken from the printer set?
- d. Mr. Michel Suignard: There is a lot of room for confusion / spoofing etc. I want everyone to be aware that UCS is under attack from point of view of security for the large number of look-alikes and the potential for spoofing.
- e. Dr. Asmus Freytag: I am also not comfortable for example the three dots etc. look similar to the Mathematical symbols. The argument of some property being associated with some of these characters is not convincing due to similar Math use. We need to review these carefully for some of these confusables. This document reflects some necessary work to help the scholars and is very good from that point of view.
- f. Dr. Ken Whistler: It is a concern. We have to note that there are many different users - there are some aiming at fewer distinction between characters due to security consideration and those who want more extensions for the special purpose uses etc. We have to somehow resolve the two ends of the spectrum.
- g. Mr. Michael Everson: No one is saying anything about the letters - only about the little dots.

Action item: National bodies to review and feedback.

#### 7.4.7 Uralic characters

Input document:

[N2958](#) Report on progress in implementing the Uralic Phonetic Alphabet with indication of the need for additional characters and symbols; Juhani Lehtiranta, Klaas Ruppel, Toni Suutari, Trond Trosterud; 2005-07-22

[N2989](#) Proposal to encode additional Uralicist characters; Ad hoc on Uralicist; 2005-09-12

Mr. Erkki Kolehmainen: UPA had included characters for Uralistics. Several characters are identified as missing for actual users. These are indicated in the document [N2958](#). We would like to have these as encoded and the data being collected and encoded by end of the year. We are now entering the data and others who have to maintain, recall etc. of the data at the administrative level. I would like to have an ad hoc at this meeting and see if we can come up with a concrete proposal for acceptance at this meeting.

Discussion:

- a. Mr. Mike Ksar: As you know it is difficult to include something in the FDAM, especially characters are not easily addable to the DAM stage.
- b. Dr. Asmus Freytag: As to the Math symbols, I had some feedback from the experts - they are agreeable to suggestions. The UTC has not seen this. At least those who had a chance to look at the document have not objected to it. If we can accommodate the urgency it would be better. WG2 has to decide on it. The timing is unfortunate.
- c. Dr. Umamaheswaran: We can certainly come up with a polished proposal based on the ad hoc. Not sure if Finland is asking for inclusion in the current FDAM2.
- d. Mr. Erkki Kolehmainen: Finland wants to include in FDAM2.
- e. Mr. Mike Ksar: If these are accepted for a future amendment you may be able to use the code positions along with the risk of its possible changes.

An ad hoc group met and discussed the document.

#### **Document [N2989](#):**

Mr. Erkki Kolehmainen: The ad hoc met and discussed the Finnish proposal in document N2958. Most of the characters in the document can be represented with what is in the standard. There was another letter that was unified. The remaining six characters are proposed to be included in Amendment 2 due to the urgency of their need. These six were not included in UPA earlier. We had suspected their existence but additional evidence was not available at that time.

1DFE, 1DFF - two combing marks; 2C77, 2CCA - tailless PHI and Vertical bar with Horizontal Stroke; and A720 and A721 - two modifier letters

Discussion:

- a. Mr. Mike Ksar: I want to remind you that it will be a Yes or No vote if we include in Amendment 2. I want national bodies to respond keeping this in mind.
- b. Dr. Asmus Freytag: This is a typical case of completing an existing repertoire. We had a similar situation with Math repertoire. This would be a good time to show responsiveness for WG2 to show responsiveness to the user community. There is no other user community for these other than the ones asking for it.
- c. Mr. Michael Everson: I favour adding to Amendment 2.
- d. Dr. Ken Whistler: US national body has not taken a decision on it. The US national body should not have a problem adding these to Amendment 2.
- e. Mr. Andreas Stötzner: I am in favour of this proposal too. The name of the TAILLESS PHI does not seem to be consistent.
- f. Mr. Masahiro Sekiguchi: Even though I do not like characters being added to Final DAM stage, I understand that these characters are urgently required. I am not sure. The comment on the character name is potentially problem indicator.
- g. Prof. Kyongsok Kim: We do not have much to say.
- h. Mr. Klaas Ruppell: I thought the name was supposed to describe the shape of the character.
- i. Mr. Mike Ksar: We have naming guidelines for naming characters and we follow these.
- j. Mr. Michael Everson: We very often name character based on its usage, sometime by describing its shape. Both possibilities are there. We could have used PRETZEL !! The name in this case is descriptive of its origin. Annotations can be added to explain its usage in the future if there is a problem. The point to focus on is the urgency of the user community versus can we risk going straight to FDAM stage.
- k. Dr. Asmus Freytag: The German delegate is asking questions to get things clarified rather than objecting to the proposal.
- l. Mr. Masahiro Sekiguchi: The character naming issue is just an example. The Amendment 2 stage is in the final stage and all we have is a Yes or No possible response. There still seems to be some question on the name. It is not appropriate to go ahead only without stable text in final DAM stage. These six characters, I am not confident that these are stable. The fact that we needed ad hoc indicates that there are some unstable things. Under ordinary conditions these should not go into FDAM stage - however due to urgency of the situation I have some doubts. I cannot discuss the name etc. nor the technical details. I have some concern about the process used to arrive at these six characters.
- m. Mr. Erkki Kolehmainen: I would like to inform our Japanese colleague that there was no disagreement in the ad hoc on the repertoire. When we presented earlier version it was not final. We needed to have the ad hoc to finalize the details. All these characters were mentioned in our earlier presentation.
- n. Dr. Umamaheswaran: How serious would it be if we go with these characters in the next amendment versus in Amendment 2.
- o. Mr. Erkki Kolehmainen: The information is going to be published worldwide by many experts. I would certainly not like to see that happen. Under the circumstances when there is no doubt about the technical validity of these we would like see these go ahead.
- p. Mr. Andreas Stötzner: There is no opposition from Germany. I am fully aware of the need for these characters.
- q. Dr. Ken Whistler: On the urgency issue, there is a significant difference between suggesting when one is working on a data archive one could use the code points with more risk. On a publicly available data etc. it would not be appropriate to recommend use of code positions in a non-conformant manner.
- r. Mr. Mike Ksar: I want to remind you again that it will be a Yes or No vote if we include in Amendment 2.

*The discussion was postponed and continued after adopting WG2 guidelines in document N2997 (see item 9.3 on page 40) on dealing with such urgent user requirements at the FDAM stage.*

Discussion:

- a. Mr. Mike Ksar: The request to add 6 characters to FDAM from document N2989, the Uralicist ad hoc report, can be entertained now. We have adopted a principle, which allows us to adopt these into Amendment 2.

- b. Dr. Ken Whistler: After consultation with several people and discussion over several days, it seems to me that the six Uralicist characters do meet the criteria and we can go ahead with including in Amendment 2.
- c. Mr. Masahiro Sekiguchi: After hearing more about what the ad hoc did, I have no problem in accepting these in Amendment 2.
- d. Mr. Erkki Kolehmainen: I want to point out that there are some minor glyph adjustments to be made.
- e. Mr. Michael Everson: The proposal meets all the criteria we adopted and due to the demonstrated urgency we would support including these.
- f. Prof. Kyongsok Kim: If we do not include at this point - we would have more chance to fix some potential errors such as in name. Since I do not have expertise on the proposal, I cannot comment on it. From the procedure point of view I am not sure we should go ahead.
- g. Mr. Mike Ksar: My reading from what I have heard from various experts, the proposal from the ad hoc is mature enough and be ready to go ahead.
- h. Mr. Erkki Kolehmainen: In my opinion the set of characters qualifies for direct addition to the Amendment.2.
- i. Prof. Kyongsok Kim: Because it is according to the adopted P&P, I would have no objection to including them.

Disposition: Accept the 6 characters in Amendment 2; glyphs and names in document N2989.

Relevant resolution:

*M47.11 (Uralicist characters):*

Unanimous

With reference to document N2989, WG2 accepts six (6) Uralicist phonetic characters for encoding in the standard:

1DFE - COMBINING LEFT ARROWHEAD ABOVE  
 1DFF - COMBINING RIGHT ARROWHEAD AND DOWN ARROWHEAD BELOW  
 in the Combining Diacritical Marks Supplement block,  
 27CA - VERTICAL BAR WITH HORIZONTAL STROKE  
 in the Miscellaneous Mathematical Symbols-A block, and  
 2C77 - LATIN SMALL LETTER TAILLESS PHI  
 in the Latin Extended-C block, and  
 A720 - MODIFIER LETTER STRESS AND HIGH TONE  
 A721 - MODIFIER LETTER STRESS AND LOW TONE  
 in a new Latin Extended-D block from A720 to A7FF

In view of the technical completeness of the proposal and the urgency expressed by the user community for the need of these characters to complete the Uralic Phonetic Alphabet set of characters, WG2 further resolves to include these in Amendment 2 to the standard.

#### 7.4.8 Todo Mongolian punctuation marks for Phags-Pa

Input document:

[N2963](#) Proposal on Encoding Three Todo Mongolian Punctuation Marks in the BMP of ISO/IEC 10646; China & Mongolia; 2005-08-05

Mr. Chen Zhuang: The request is for three Todo Mongolian punctuation marks, further to the joint Mongolia and China proposal based on document N2922 discussed in Xiamen. Todo Mongolian used the punctuation marks from Mongolian. Three new symbols are needed for use in Phags-Pa.

Discussion:

- a. Dr. Ken Whistler: The Chinese punctuation marks are already encoded in the standard. This is a good example where the unification with existing punctuation marks would be appropriate.
- b. Dr. Asmus Freytag: We should be able to document that Chinese punctuation marks is used with several other scripts also. The first example in a presentation at the last IUC had shown the Chinese punctuation mark - you would see fonts containing these.
- c. Mr. Mike Ksar: The input from the meeting is that you can unify the proposed characters:
  - Todo Comma One can be unified with Comma - 002C
  - Todo Comma Two can be unified with Ideographic comma - 3001
  - Todo Full Stop can be unified with Ideographic Full Stop - 3002
- d. Mr. Andreas Stötzner: Is there any reason why Mongolian cannot use the existing Chinese punctuation marks for these?
- e. Mr. Chen Zhuang: No more reasons at the moment.

Action item: China to take the feedback.

Relevant resolution:

*M47.30 (Todo Mongolian punctuation marks):*

Unanimous

With reference to document N2963 on three punctuation marks for Todo Mongolian, WG2 rejects the request since these characters can be unified with already coded characters in the standard as follows:

TODO COMMA ONE with 002C - COMMA

TODO COMMA TWO with 3001 - IDEOGRAPHIC COMMA

TODO FULL STOP with 3002 - IDEOGRAPHIC FULL STOP

#### 7.4.9 Myanmar additions revisited

Input document:

[N2768](#) Proposal of Myanmar Script Extensions: Mon, Shan, and Karen (Kayin); Myanmar Unicode and NLP Research Center; 2004-05-31

[N2827](#) Proposal of 4 Myanmar semivowels; Myanmar Unicode & NLP Research Center; 2004-06-21

[N2966](#) Recommendation on Myanmar encoding – referring to N2768 & N2827; Dept of Language Commission and Myanmar Computer Federation; 2005-07-30

Mr. Mike Ksar: Mr. Yasuhiro Anan, who was the Myanmar ad hoc chair, is not here to be able to communicate the information. Mr. Michael Everson was going to visit Myanmar and will communicate with the national body experts the current status. The topic is still under review.

Discussion:

- a. Mr. Michael Everson: The Unicode consortium has set up a new discussion list [seasia@unicode.org](mailto:seasia@unicode.org) for discussion of SE Asian scripts. Delegates are free to participate in it.
- b. Dr. Ken Whistler: The US national body started reviewing these proposals. One of the reasons the seas list was started was to discuss and determine what precisely is being asked for and what the solution could be.

Action item: Mr. Michael Everson is invited to communicate to the Myanmar experts on the status in WG2.

#### 7.4.10 Saurashtra script

Input document:

[N2969](#) Final revised proposal to encode the Saurashtra script in the UCS; Michael Everson and Jeyakumar Chinnakkonda Krishnamoorthy; 2005-08-31

Mr. Michael Everson: Document [N2969](#) is an update of documents N2607 of August 2003. It is mostly unchanged, but contains additional information regarding formation of conjuncts in response to Mr. Peter Constable - regarding Upakshara. Had consultations with Dr. Peri Bhaskara Rao and have responded to his concerns. This script has also been implemented based on the previous draft. The repertoire and names have been stable. Would like to see this script go into the new Amendment.

Discussion:

- a. Dr. Ken Whistler: US national body had seen an earlier version of the standard and had raised a number of questions, which have been answered in this draft. I agree with Mr. Michael Everson's assessment that this proposal is mature. It is appropriate to go ahead with this proposal in the next Amendment.
- b. Dr. Umamaheswaran: This is a very well done proposal and we should go ahead with including this in the next Amendment.

Disposition: Accept for Amendment 3. New block, A880 to A8DF; 81 characters at A880 to A8C4, and A8CE-A8D9, from pp 11-12 in document [N2969R](#).

Relevant resolution:

*M47.26 (Saurashtra script):*

Unanimous

WG2 resolves to encode the Saurashtra script proposed in document N2969 in a new block A880 – A8DF named 'Saurashtra', in a future amendment to the standard, and populate it with eighty one (81) characters (some of which are combining) with the names, glyphs and code position assignments (A880 to A8C4 and A8CE to A8D9) as shown on pages 11 and 12 in document N2969.

#### 7.4.11 3-Malayalam digits and 3 fraction symbols

Input document:

[N2970](#) Proposal to add 3 Malayalam Numbers 10, 100, 1000 and 3 Fraction symbols 1/4, 1/2 and 3/4; UTC, USA, Kerala State IT Mission & other experts - Uma; 2005-08-23

Dr. Umamaheswaran: The proposal is for three Malayalam numerals 10, 100 and 1000 and three fractions 1/4, 1/2 and 3/4. The document contains the background information and evidences.

Discussion:

- a. Dr. Ken Whistler: The US national body has reviewed these characters and these are appropriate to be included. There is no need to process these urgently.
- b. Mr. Michael Everson: The Irish national body certainly agrees that these characters be added to the standard and is required for Malayalam. To allow for more review in view of the complete collection of fractions it will be prudent to include in next Amendment.
- c. Mr. Michel Suignard: Due to the shape of the 1/4 symbol confusion with the zero glyph, it may be prudent to process at least the 1/4 fraction right away.
- d. Mr. Michael Everson: In the absence of demonstrated urgency we should not rush these currently. I would like to get the community review the glyphs that I am charged with producing.
- e. Dr. Asmus Freytag: Per UTC decision three numbers were accepted. I do not have recollection about the three fractions.
- f. Mr. Mike Ksar: The consensus seems to be for a future Amendment.

Disposition: Accept for future Amendment. Glyphs to be based on Figure 2 in document N2970.

Relevant resolution:

*M47.21 (Malayalam numerals):*

Unanimous

With reference to document N2971, WG2 accepts the following six (6) Malayalam numerals for inclusion in a future amendment to the standard:

0D70 MALAYALAM NUMBER TEN  
0D71 MALAYALAM NUMBER ONE HUNDRED  
0D72 MALAYALAM NUMBER ONE THOUSAND  
0D73 MALAYALAM FRACTION ONE QUARTER  
0D74 MALAYALAM FRACTION ONE HALF  
0D75 MALAYALAM FRACTION THREE QUARTERS

in the Malayalam block, with glyphs similar to those in figure 2 of document N2971.

#### 7.4.12 Mahjong symbols

Input document:

[N2975](#) Proposal to add Mahjong symbols to ISO/IEC 10646; TCA – Contribution from liaison member; 2005-08-22

Mr. Shih-ShyengTseng: Mahjong is a popular game in Taiwan and many of the Chinese communities in the world. It is played on the computers and on the Internet and a number of books have been written on them. 42 symbols used on the Mahjong tiles is proposed for inclusion in the standard.

Discussion:

- a. Mr. Masahiro Sekiguchi: I am not so sure why these symbols are required as characters. In Japan we do play the Mahjong game and we do have a number of publications in Japan using these symbols. Our requirement for having these as text characters is not so strong. They do the publications using their own way. The justification only points to use of these in the games and probably justifies the use of these in the plain text. If it is to be encoded, we need to add another symbol - Reversi to the set.
- b. Mr. Michael Everson: I have made similar proposal for Dominoe Symbols. The request at that time was to investigate use of these in plain text. I am working on these and have produced a larger set. The reverse side of the dominoes set would also be needed. We have seen at least the use of and possibly interchange of several similar symbols - such as checkers, chess etc. The proposal from TCA has to show examples of use of these symbols in tiles etc. At this time I would suggest further investigation and input from TCA.
- c. Dr. Lu Qin: These symbols are part of the Chinese culture. The fact that graphic forms are used is because these are not available as coded characters. If these are encoded probably the images may not be required. I have seen many books written on the topic. Making these as characters would make it easier for searching and other such operations.
- d. Dr. Ken Whistler: I would like to concur with many of the comments made. First I would like to query, like playing cards, if the Mahjong tiles come in sets of four. The proposal does not talk about the necessity or no necessity of these sets, and the colours and examples of use of these sets. Is there a requirement to distinguish all the 144 symbols in plain text or only the base set proposed is required in plain text. The glyphs that are shown are possibly high quality symbols for putting on Mahjong tiles. However such symbols are not appropriate for text element symbols. I would like to see designs of symbols suitable for text that are easily distinguishable at relatively small point size than being high quality graphic images.

- e. Mr. Andreas Stötzner: I would like to concur with the comments -- I would like to know how these symbols are used in publications. Would like to see examples of the published versions.
- f. Mr. Chen Zhuang: China would invite Japan to propose additional symbols to play Mahjong.
- g. Mr. Masahiro Sekiguchi: Mahjong title set in Japan is the same set - with some design variations. it should not be a super set or subset of the Chinese Mahjong symbols set.
- h. Mr. Michael Everson: The western versions of Mahjong have additional markings to assist in interpreting the Han characters.
- i. Mr. Mike Ksar: I would suggest to TCA to take the feedback and enhance the proposal to address some of the questions raised.

Action item: TCA is invited to update the proposal.

#### 7.4.13 Four Tibetan characters for Balti language

Input document:

[N2985](#) Proposal to add four Tibetan characters for Balti; Michael Everson; 2005-09-05

Mr. Michael Everson: Four additional Tibetan characters are proposed, based on work being done with some users in Baltistan. Balti language is written in Arabic script. Some Balti users would like to write these also in Tibetan script. KKA, KHHA, GHHA and RRA are four sounds that cannot be currently written using the existing Tibetan script. These are reversed forms of corresponding Tibetan characters - similar to other such Tibetan characters used for writing borrowed words from Sanskrit. There is a combining mark TASA-PHRU with specific use and is not appropriate to be used for these letters KHHA and GHHA etc. The proposal is to encode these as four new characters fully formed. This is the first time these are being proposed. I would like to invite the national body feedback on these. Names of experts who were consulted is in the proposal summary form.

Discussion:

- a. Mr. Mike Ksar: I would like the experts to take these and study them.
- b. Mr. Chen Zhuang: We will study and feedback.

Action item: National bodies to review and feedback.

#### 7.4.14 OI Chiki script

Input document:

[N2984](#) Final proposal to encode the OI Chiki script; Everson; 2005-09-05

Mr. Michael Everson: Jan 1999 was the first time this proposal was introduced. Initial set of 43 characters grew to 48 characters in November 2002. It still has 48 characters. The code charts have been rearranged. Some of the characters that were thought to be combining were not. The script is an alphabetic script. It has some tone marks and modifiers. There is no inherent vowel and no virama. So the Brahmic model was inappropriate for it. Text of the proposal has clarifications and additional explanatory material. A keyboard mapping is also shown. An outstanding question - which I would not want to stand in the way of progressing this proposal -- From page 7, there is a set of High Ellipses. These should be probably in the generic punctuation. At this time I am not concerned if these are not encoded now. 1C7B, 1C7C etc are tone marks.

Discussion:

- a. Dr. Umamaheswaran: Is the baseline like Latin writing or like Devanagari?
- b. Dr. Lu Qin: There are sequences of three dots versus four dots. Are these different symbols?
- c. Mr. Michael Everson: These are lead types.
- d. Dr. Asmus Freytag: There are different possibilities. These could be hardware etc.
- e. Dr. Ken Whistler: Being lead type - it is certainly some one picked up one with three dots and some with four dots etc. to fill the space with something other than with space.
- f. Dr. Asmus Freytag: Also the thickness of the dots varies. I can show you lots of such examples in German print.
- g. Mr. Michael Everson: These characters are not requested in the proposal.
- h. Mr. Mike Ksar: If you were to encode in the generic diacritic space, how many dots would you put in it?
- i. Mr. Michael Everson: I would put three.
- j. Dr. Ken Whistler: US national body has seen an earlier version - has no set position on its encoding. My personal assessment is that this can go ahead to Amendment 3.
- k. Dr. Umamaheswaran: I would support going ahead with this for Amendment 3.

Disposition: New block OL CHIKI 1C50 to 1C70; 48 characters with glyphs as in document N2984.

Relevant resolution:

*M47.27 (OI Chiki script):*

Unanimous

WG2 resolves to encode the OI Chiki script proposed in document N2984 in a new block 1C50--1C7F named 'OI Chiki', in a future amendment to the standard, and populate it with forty eight (48) characters with the names, glyphs and code position assignments as shown on pages 11 and 12 in document N2984.

#### 7.4.15 Progressing accepted additions

Output documents:

[N2993](#) Repertoire Charts PDAM3; Contributing Editor – Asmus Freytag; 2005-09-16

[N2999](#) Proposed Modification to Program of Work; Project Editor – Michel Suignard; 2005-09-15

WG2 agrees to process the newly accepted additions of scripts and characters into a new Amendment. A project subdivision and draft of PDAM 3 is to be sent to SC2 secretariat. Document [N2993](#) contains the charts reflecting output from this meeting.

Relevant resolution:

*M47.29 (Amendment 3 – subdivision and PDAM text):*

Unanimous

WG2 instructs its editor to prepare a project sub division proposal and PDAM text based on the various resolutions from this meeting accepting characters for inclusion in a future amendment to ISO/IEC 10646: 2003, and forward them to the SC2 secretariat for simultaneous ballot of sub division approval and PDAM registration (see documents N2993 and N2999). The proposed completion dates for the progression of this work item are: PDAM 2006-02-15, FPDAM 2006-09-15, and FDAM 2007-02. (*Note: A total of 517 characters were accepted for inclusion in Amendment 3 at this meeting.*)

## 8 Architecture issues

### 8.1 Disunification of combining diacritical marks

Input document:

[N2976](#) Proposal to clarify principles for disunification of combining diacritical marks; USA (INCITS/L2) and the UTC; 2005-08-26

[N2978](#) Response to US/UTC proposal (N2976) on principles for disunification of combining diacritical marks; Ireland – NSAI/ICTSCC/SC4 – Member Body Contribution; 2005-08-27

[N2981](#) Comments on N2976 on Criteria for disunifying diacritics; P. Andries and F. Yergeau – individual contribution; 2005-09-05

#### **Document [N2976](#):**

Dr. Ken Whistler: This document is on clarifying principles of disunifying combining diacritical marks. The US national body is requesting that we add a set of criteria to the P&P document to make it clear to those who are preparing new contributions, on what to do with edge cases when diacritical marks are being considered for encoding. The background information shows several examples indicating the complexity associated with it. A diacritical mark can be similar to others -- in some cases we decided to encode separately; in other cases to unify with existing ones. The 0324 is a good example - where in individual scripts they have superficially similar behaviour but are encoded separately. To make it clear that the generic diacritic marks starting at 0300 are primarily used with Latin, Greek and Cyrillic(?). There are also other diacritic marks for Arabic / Syriac scripts which are differently encoded from the generic ones. From the past history of the standard, while the generic marks can be used in principle with any script, the practice has been to encode separately for some cases. There are also security related issues identified in the document. The US is asking that we add a set of principles for WG2 to follow to aid in dealing with diacritical marks - these will go as additions to the other criteria for disunification that do exist currently. Items a, b c and d are reasons when diacritical marks may be encoded separately.

#### **Document [N2978](#):**

Mr. Michael Everson: Irish national body is in broad agreement with the proposal from the US. The US national body proposal shows the general principle with four sub items. It would be simpler to merge item d with the main criterion so that shape-related stuff will be together. Document N2978 is proposed reorganizing of the US proposal. We certainly believe that this set of principles should be added to the P&P document.

Discussion:

**Document [N2981](#):**

Mr. Alain LaBonté -- briefly explained the gist of the document - an experts' contribution from Messrs Patrick Andries and François Yergeau, Canada.

**Discussion:**

- a. Mr. Masahiro Sekiguchi: Which document am I looking at?
- b. Mr. Mike Ksar: Document N2978 is feedback from Ireland on document N2976 with suggested text for the guidelines.
- c. Dr. Asmus Freytag: I would like to point out that earlier contributions from Messrs, Patrick Andries et al, and the document from Ireland and have been discussed at the UTC and afterwards among experts. The conclusion these experts have come to is - if there is a defect it is in the "often cited wording from the Unicode Standard". Unicode consortium is planning to revise it. One of the primary arguments is that with open font technology that one can create correct rendering with diacritic marks. What you miss in the process by strong unification is that for a script which is unrelated to the Latin, Greek and Cyrillic, you lose the association to the character identity in that script. As we learn more about the various scripts, any aspect affecting the identity of characters due to strong unification is less desirable. UTR 23 addresses some of the issues. One can always come to different judgements. We would like WG2 to consider and come up with wiser decisions. Scripts not only have momentary shape etc. but also have historical origins. We hope ISO/IEC 10646 and Unicode last a long time - In the cases we have seen, strong unification across scripts that are not fundamentally related to each other is not the right direction. It is a judgement call.
- d. Mr. Erkki Kolehmainen: It strikes to me that Umlaut and Trema - are functionally different items within the same script. Finland can support the Irish suggested modifications.
- e. Mr. Michel Suignard: At some point we have to decide whether the generic diacritic marks is to be narrowed down to specific scripts and are not broadly applicable. We may have to add a clause to the standard to limit the scope of the genericity.
- f. Mr. Alain LaBonté: If we set a precedent, we seem to be changing the rule after the fact. If we preclude the use of the generic diacritic marks we may disturb the existing implementations.
- g. Mr. Michael Everson: The reason we are writing down these criteria is to describe / acknowledge the kinds of decision WG2 and UTC have made in the past. The current wording in the standard causes problems in precluding possible disunification as well.
- h. Dr. Asmus Freytag: We need to distinguish here between three different kinds of statements:
  - You may create text that contains marks from generic diacritic marks set. We are not attempting to change that. Applying any diacritic mark to any character is legal.
  - Noting that the general diacritic marks come from the Latin set as the primary set does not preclude it from using with others. It is a judgement call by the committee.
  - To clarify the situation, the "...is permitted..." phrase is being taken to mean "... must use ". We want to prevent such over-interpretation of the text.
- i. Mr. Michel Suignard: Clause 24 - does not have any statement like what is in the Unicode standard in terms of wordings. In ISO/IEC 10646 it is blank statement. It would be better if we do clarify in the standard the intended scope of the generic diacritical marks.
- j. Mr. Mike Ksar: It is always a judgement call from WG2 whether or not to use a generic diacritic mark. It is not a hard rule. We don't want to make it a hard rule either. We want to clarify the past practice of using our judgement. We had lot of discussion in the past on scripts like Tifinagh.
- k. Mr. Alain LaBonté: There should not be a rule that we should or should not disunify. About 12 years ago we had similar discussion on trema and diaereses. At least do not make a rule that it should be disunified because it is a different script.
- l. Dr. Ken Whistler: The intent is not to change what is in the standard now. We want a clarification in the P&P document to guide us in the future. These are not rules, but a set of guidelines to be added to the P&P.
- m. Mr. Michel Suignard: We could leave it in the P&P or have additional clarification text to the clause on combining marks in the standard.
- n. Dr. Umamaheswaran: Could we do some wordsmithing to the proposed text in document N2978 to address some of the concerns raised in document N2981?
- o. Mr. Mike Ksar: We can accept in principle the set of guidelines to be included in P&P document. An ad hoc can address to improve the wordings to see if the concerns raised in N2982 can be addressed.

Disposition: Accept the set of guidelines to be included in the P&P, based on documents N2976 and N2978. The ad hoc could not agree on any suitable adjustments to accommodate concerns in document N2982.

Relevant resolution:

*M47.2 (Combining diacritic marks):*

Unanimous

With reference to documents N2976 and N2978, WG2 acknowledges the need for additional guidelines when considering generic diacritical marks that may be used across different scripts, and accepts the text proposed in document N2978 as additional guidelines for inclusion in its principles and procedures.

## 8.2 Case folding stability

### 8.2.1 Adding lowercase characters

Input document:

[N2942](#) Proposal Summary form for 9 lowercase characters; Freytag; 2005-08-12

[N2956](#) Unicode Liaison Report; Asmus Freytag; 2005-08-12

Dr. Asmus Freytag: In the context of using ISO/IEC 10646 and Unicode it is important to have case-less comparisons. From security considerations the case-less comparison has to be stable, just like Normalization was stable. A number of new members of the Unicode are concerned with Internet security dealing with items such domain names etc. Case Folding is required to be stable by such users. Case folding is done in the direction to lowercase. We are almost there in being able to provide such Case Stability guarantee. By adding a few missing characters to the standard we can guarantee the stability. The characters are identified in document [N2942](#). If we guarantee stability, either we add lowercase characters for existing uppercase characters now, or never! There is little doubt as to what the lowercase characters are for the ones identified in this document.

Discussion:

- a. Mr. Masahiro Sekiguchi: I am not comfortable with the proposal. My main concern is that why these lowercase characters were missing.
- b. Dr. Asmus Freytag: We have in the past been very careful in wanting to see a certain amount of documented use of characters. The lowercase forms of these characters are rare. Even the uppercase of these characters are rare. Once you add to the IDN considerations, we cannot wait for evidence of use of the lowercase. They have to be encoded as pairs. Until recently the concerns of the IDN registration (and such users) were not brought to our attention. The security considerations have taken up much of the UTC time. The user community of our standard has been asking for it. The first two we had added A with Stroke and T with Diagonal Stroke that is used traditionally only as uppercase; we did not have firm indication of use of lowercase versions, so we waited. However, with the case-pairing stability requirement we cannot wait any longer.
- c. Mr. Masahiro Sekiguchi: I am not objecting to the idea you have explained. In other words, your statement sounds something like we should add a new rule or criterion such as 'if we are adding a new character it should be in pairs. If we do not add lowercase characters....' etc.. This paper is titled "we need 9 new characters "; however, the idea seems to be far reaching. Is that what you want?
- d. Dr. Asmus Freytag: The missing part of the requirement is in the liaison statement (see document [N2956](#)). It explicitly asks for the Stability Policy. This new requirement was brought to the UTC 's attention very suddenly.
- e. Mr. Michel Suignard: The IDN community is concerned with security of the domain names. IETF has created a working group - to be able to jump from an earlier Unicode/ 10646 version to later version. Once you do that some of the case folding operations become unstable. The request was not have such instability into the future. The Case Folding always is *toLowercase* in the case of IDN.
- f. Mr. Masahiro Sekiguchi: In general others can be doing lower to upper.
- g. Dr. Asmus Freytag: The default case folding is *ToLowercase*. We would like to ensure stability of that.
- h. Prof. Kyongsok Kim: Is the reason for the new lowercase characters the Case Folding stability, or the user's ability to enter the character?
- i. Mr. Michel Suignard: When you do *stringprep* for example the uppercase characters do not get converted if there is no lowercase character today. If later you introduce a new lowercase character you will not get the mapping to the new lowercase. For example Palochka. In Unicode TR 36, at this time, we have excluded such characters.

- j. Mr. Michael Everson: While we have not seen examples for all the lowercase characters in the list, there is some evidence for many. For Palochka and reversed C - we do have examples. We are not introducing these arbitrarily.
- k. Mr. Erkki Kolehmainen: The stability considerations are so important that it overrides any consideration as to whether the lowercase version exists or not.
- l. Mr. Mike Ksar: IDN is driving the case folding stability. We have to cater to the different user groups.
- m. Dr. Umamaheswaran: Do we need a clause in the standard for Stability Principle in addition to adding a set of new characters?
- n. Mr. Andreas Stötzner: Some characters could be miniscule even if they are called capital. Could these be in the symbols group?
- o. Dr. Ken Whistler: This is something that could be added to the P&P and not necessarily as a normative clause in the standard.
- p. Mr. Taichi Kawabata: Can these new proposed characters with strokes for example be described as combining sequences?
- q. Dr. Asmus Freytag: We do not use a sequence using strokes. The uppercase has already been encoded.
- r. Mr. Michel Suignard: Case is not a property in the standard today - so the principle could be included in the P&P document.
- s. Mr. Masahiro Sekiguchi: There are characters without cases - we had a case-less glottal stop, we had uppercase glottal stop and now have a new lowercase Glottal Stop. This could be an exception.
- t. Dr. Umamaheswaran: The short answer is yes; it is the only known exception.
- u. Mr. Andreas Stötzner: If it is a letter it has a case - otherwise it is a symbol. My statement is related to Latin and the like scripts.
- v. Mr. Erkki Kolehmainen: For the example of Glottal Stop we have to be more careful as to whether the character has a case or it is case-less etc.
- w. Dr. Asmus Freytag: There are two more documents we have to discuss for specific characters. We seem to have all agreed to the urgency aspect. Once we adopt the policy we can still encode an uppercase character, but if it is not accompanied by its lowercase counter part we cannot encode its lowercase counterpart in the future. It is an *either or* situation. In terms of some of the examples presented, the orthographies are also changing - not just our standard. The writing systems used in many cases by small groups have added lowercase forms for scripts, which are traditionally uppercase using. Another example is the Euro Sign, which got adopted by a large community of users. The lowercase characters are also being added as orthography changes. We can adopt the stability policy first and then look at the characters proposed. There are other papers for some of the other characters.
- x. Mr. Erkki Kolehmainen: If we do have a lowercase now, we can add the uppercase later. However, the reverse is not true.
- y. Dr. Ken Whistler: The case of Glottal Stop and Claudian letters were special in the sense that their identify was questioned and needed more evidence.

Disposition: Accept the principle of Case Folding Stability. Dr. Umamaheswaran to prepare the text to be added to the P&P document. Accept the characters proposed.

See relevant resolution M47.1 below for the stability policy and relevant resolution M47.5 on page 36 for the character additions.

Relevant resolution:

*M47.1 (Case Folding stability):*

Unanimous

WG2 acknowledges the need for guaranteeing stability of case folding of characters in scripts having two cases, and accepts to adopt the guidelines in the following text in its principles and procedures:

#### Stability of Case Folding

For text containing characters from scripts having two cases (bicameral scripts), case folding is an essential ingredient in case-insensitive comparisons. Such comparisons are widely applied, for example in Internationalized Domain name (IDN) lookup, or for identifier matching in case-insensitive programming and mark-up languages. Because such operations require stable identifiers and dependable comparison results it is important that the standard be able to provide the guarantee of complete stability. For historic reasons, and because there are many characters with lowercase forms but no uppercase forms, the case folding is typically

done by a *lowercasing* operation, and this also matches the definition used by the Unicode Standard for *case folding*.

In order to guarantee the case-folding stability, WG2 adopts the following principle when evaluating proposals for encoding characters for bicameral scripts:

"Subsequent to the publication of Amendment 2 of ISO/IEC 10646: 2003, if a character already has an uppercase form in the standard but no lowercase form, its corresponding lowercase form can not be added to the standard; the only way a lowercase form can be added, if proved to be absolutely essential, is by entertaining a new pair of uppercase and lowercase forms for encoding. If only a lowercase form exists and an uppercase form is deemed to be needed it can be added without affecting the stability of case folding."

Note that all the characters having only the uppercase forms in the current standard have been dealt with by resolution M47.5 (on page 36).

### 8.2.2 Glottal Stop character

Input document:

[N2962](#) Proposal to add LATIN SMALL LETTER GLOTTAL STOP to the UCS; Canada (SCC) and Ireland (NSAI); 2005-08-08

Mr. Michael Everson: 0294 Glottal Stop is used in some minority scripts. It was used in a case-less manner. Some Canadian Aboriginal user communities added the cased version of this character. We added the 0241 Capital Glottal Stop to the standard. However, it produces the mapping of the capital to the case-less version. The proposal is to add the lowercase Glottal Stop and adjust its case pairing to the Capital Glottal stop and leave the case-less Glottal Stop alone.

Dr. Asmus Freytag: There are two issues here. The first issue is the case of the 0294 Glottal Stop. It has been used either as case-less or cased (lower) depending on the orthography. Such issues can be dealt with by localizing the differences but that puts a penalty on one user community or the other. The UTC decided to accept the proposed character. The second issue is the proposed location 0242. That code position has a character allocated. The current 0242 to 024E allocations should move down one, and the current 024F then moves to 2C74 (*Note: all these code positions were additions in Amendment 2*).

Disposition: Accept 0242 LATIN SMALL GLOTTAL STOP with Glyph as shown in N2962R; move the current 0242 to 024E down one, and move current 024F to 2C74. See relevant resolution M47.5 on page 36.

### 8.2.3 Claudian Latin letters

Input document:

[N2960](#) Proposal to encode Claudian Latin letters to the UCS; Everson; 2005-08-08

Mr. Michael Everson: Proposed are the letters Reversed C, Turned F or digamma inversum and Half H, introduced by Roman emperor Claudius into Latin. The Roman numeral Reversed One Hundred already exists at 2183. Turned Capital F also exists at 2132. The proposed shapes are smaller versions of their capital counterparts.

Dr. Asmus Freytag: The UTC has a proposed name change - Turned Small F for 214E.

Disposition: Accept; names with one modification and code positions from document N2942, Glyphs from N2960. Half H-s from document N2960 (not in document 2942).

Relevant resolution:

*M47.5 (Glottal Stop, Claudian and other characters):*

Unanimous

With reference to documents N2942, N2960, and N2962, WG2 accepts the following reassignment of fourteen (14) characters and addition of eleven (11) new characters in Amendment 2 to the standard:

- a. Move the characters currently encoded in positions from 0242 to 024E down by one code position to 0243 to 024F, and move the character currently encoded at 024F to 2C74.
- b. 0242 - LATIN SMALL LETTER GLOTTAL STOP; with its glyph from document N2962 in the Latin Extended block; (at the code position 0242 vacated as a result of a. above)
- c. 037B - GREEK SMALL REVERSED LUNATE SIGMA SYMBOL; with its glyph from document N2991 in the Greek and Coptic block
- d. 037C - GREEK SMALL DOTTED LUNATE SIGMA SYMBOL; with its glyph from document N2991 in the Greek and Coptic block

- e. 037D - GREEK SMALL REVERSED DOTTED LUNATE SIGMA SYMBOL; with its glyph from document N2991 in the Greek and Coptic block.
- f. 04CF - CYRILLIC SMALL LETTER PALOCHKA; with its glyph from document N2991 in the Cyrillic block
- g. 214E - TURNED SMALL F; with its glyph from document N2962 in the Letterlike Symbols block
- h. 2184 - LATIN SMALL LETTER REVERSED C; with its glyph from document N2962 in the Number Forms block
- i. 2C75 - LATIN CAPITAL LETTER HALF H; with its glyph from document N2962 in the Latin Extended-C block
- j. 2C76 - LATIN SMALL LETTER HALF H; with its glyph from document N2962 in the Latin Extended-C block
- k. 2C65 - LATIN SMALL LETTER A WITH STROKE; with its glyph from document N2991 in the Latin Extended-C block
- l. 2C66 - LATIN SMALL LETTER T WITH DIAGONAL STROKE; with its glyph from document N2991 in the Latin Extended-C block

### 8.3 Korean Clause 26.1

Input documents:

[N2937](#) Working Draft ISO/IEC 10646: 2003 plus Amendment 1 merged and combined; Michel Suignard; 2005-04-11

Output documents:

[N2994](#) Request to clarify text on conjoining Jamo – clause 26.1; Unicode Consortium and INCITS/L2 (US); 2005-09-14

[N2995](#) A report of trial email on WG2 N2918 to DPRK; Kyongsok KIM; 2005-09-15

[N2996](#) Clause 26.1 – 10646: 2003; Kyongsok KIM, Dae Hyuk Ahn; 2005-09-15

Mr. Michel Suignard: We had an ad hoc discussion on some Korean issues on how the Hangul characters are treated in the standard. During the discussion it was pointed out that Clause 26.1 has some issues with it, in light of changes that have been made to the standard. For example we have added a Syllables Block. Clause 26.1 is OK for Modern Hangul. However what is there is not quite right for Older Hangul. Complete syllables are more than what we have defined to be a Hangul Syllable right now -- complex sequences of Jamo components are possible and are not currently recognized in the standard. As a minimum the Old Hangul has to be recognized as complete syllables. Now that normalization exists, once we pass an old Hangul through NFC, we get sometime get characters that could be a sequence containing a complete syllable. We have some inconsistencies in the definition arising out of normalization. I would request this committee to give me the possibility to propose some additional text in the next Amendment. National bodies will have a chance to make their comments during the PDAM ballot.

Discussion:

- a. Mr. Mike Ksar: I appreciate the work of the ad hoc and bringing out the problem.
- b. Prof. Kyongsok Kim: Current clause 26.1 can be applied to old and modern Hangul syllables.
- c. Mr. Michel Suignard: The current definition does not allow multiple / double characters etc.
- d. Prof. Kyongsok Kim: Two 1100 is equivalent to 1101. Even Modern Hangul has the problem. Here 'a jansen' etc. means one or more code points. The current sentence will not be true even for modern Hangul if the 'a' is interpreted to be only one.
- e. Mr. Michel Suignard: If it is not correct for modern Hangul, then all the more reason to fix it.
- f. Mr. Michael Everson: The language as it is written, it does not allow us to interpret the way you have interpreted the 'a' component as potentially multiple. The editor has correctly identified the defect. We could let the editor to fix it or wait for national body to identify the problem. We can take up the details when we have suggested written text. It would be more productive than pretending that there is no defect.
- g. Mr. Masahiro Sekiguchi: I am confused hearing the discussion. 'a Jamo' is interpreted as a single code position - and based on that the current definition is in error. The Korean delegate's interpretation is 'a Jamo' may consist of multiple code points. is my understanding correct?
- h. Mr. Michel Suignard: To some extent you are right. Some Jamo characters do have multiple code positions. There is certain confusion in the wordings in the standard right now and needs fixing. The Unicode book on the other hand is much more precise. I would like to take a subset of that precise text and clarify what is in clause 26.1.
- i. Prof. Kyongsok Kim: Since many delegates do not understand the nuances of Hangul, I would suggest an ad hoc. Other experts can get educated on the issues and be able to meaningfully respond / participate to the suggestion.
- j. Mr. Mike Ksar: I agree - that is the way we normally do. The editor's suggestion is that he will prepare the draft text. We can take that contribution and discuss that. We may not have any

- time to an ad hoc today. We can have discussion via email before the next meeting. Korea can also make any contributions.
- k. Prof. Kyongsok Kim: We do not want to take any final decisions at this meeting. We would like to make some proposals too.
  - l. Mr. Mike Ksar: The discussion between the experts can be informal and more contributions can be made with email participation etc.
  - m. Mr. Mike Ksar: Let the editor provide his contribution, you can provide yours and we can have a discussion on it.
  - n. Mr. Michel Suignard: I would like to be able draft the text to go into the amendment ballot.
  - o. Dr. Umamaheswaran: If the editor could work with Prof. Kyongsok Kim and come up with draft text before the end of the meeting we could accept for including it in Amendment 3 text.
  - p. Dr. Ken Whistler: We could identify the problem that needs to be addressed in the Amendment.
  - q. Prof. Kyongsok Kim: We do not have an agreement that there is even a defect.
  - r. Mr. Michel Suignard: There is an explanation missing. There is certainly a defect arising out of normalization. We have to fix it.
  - s. Mr. Mike Ksar: Can we go ahead by proposing some text and have discussion before we agree on whether to including it in the Amendment?
  - t. Mr. Michel Suginard: I would like to propose some text for inclusion in the Amendment and ballot comments can be made on that starting text. I am not creating this out of the void. The concepts all exist. A subset applicable to ISO/IEC 10646 is what I would include in the Amendment text.
  - u. Dr. Asmus Freytag: UTC view is that there is a synchronization difference between ISO/IEC 10646 and Unicode. Would it help the committee to deal with this issue?
  - v. Dr. Umamaheswaran: It would help to include within the scope of the text.
  - w. Prof. Kyongsok Kim: It is not so important for me to define the text at this time; we have to define the contents first. We could provide some text and editor can propose some text.
  - x. Mr. Michel Suignard: I would like to be instructed to prepare some text to put into PDAM to address the defect I just identified. The national bodies can make ballot comments to propose alternative text.
  - y. Dr. Umamaheswaran: If we take a resolution that there is a defect and the PDAM can include a fix for that defect then the editor can have the instruction to include the proposed corrigendum text.
  - z. Prof. Kyongsok Kim: We do not agree that there is a defect - so it is not appropriate to have such a resolution.
  - aa. Mr. Mike Ksar: If we record that there is an area of concern regarding clause 26.1, and we invite Korea and national bodies to provide contributions. We could take such a resolution.
  - bb. Prof. Kyongsok Kim: I am confused - what is the difference between an action item and a resolution.
  - cc. Mr. Mike Ksar: An action item is not visible beyond WG2. Resolution is visible at SC level.
  - dd. Mr. Masahiro Sekiguchi: The editor says that he can provide text and we can make meaningful comments on it. I would like to have some detailed explanation and proposed text from the editor on the problem.
  - ee. Mr. Michel Suignard: What is considered to be a standard Hangul Syllable block? Not in terms of putting together the jansengs. There is nowhere a connection made to jamos etc. that also participate in the Syllable formation in practice. The definition in the standard is incomplete. That is the gist of the problem.
  - ff. Mr. Mike Ksar: There is a disagreement on whether the current definition is a defect. You are talking about a clarification.
  - gg. Mr. Dae Hyuk Ahn: The Korean implementations exist for a long time. If any changes are being made it can impact the implementations and the caution is not to be in a rush.
  - hh. Mr. Mike Ksar: I would like to proceed on the basis that there is some concern regarding clause 28.1 and some clarification is needed. We need text for such a clarification.
  - ii. Mr. Masahiro Sekiguchi: I sense that Prof. Kyongsok Kim is objecting to the suggestion of 'defect' being there. We could use the words 'possibility of need for clarification'.
  - jj. Mr. Mike Ksar: We can delegate drafting a suitable resolution to Dr. Umamaheswaran. Including inviting the Korea and other national bodies for contributions.
  - kk. Mr. Erkki Kolehmainen: It is not just potential need for clarification - there is clearly need for clarification.

- ll. Mr. Tatsuo Kobayashi: Was what Mr. Michel Suignard discussed formally communicated to us? If not, in general it would be better to submit a formal defect report.
- mm. Dr. Asmus Freytag: I will submit a defect report.
- nn. Dr. Umamaheswaran: A draft resolution may be like - "WG2 recognizes that there is a need to provide some clarification regarding Clause 26.1 on Hangul Syllables, and invites Korea, other national bodies and liaison organizations to provide contributions to improve Clause 26.1".

*(The discussion was picked up after receiving additional contributions.)*

Mr. Mike Ksar: I received document N2994 from the UTC liaison requesting a clarification of text in the standard related to Clause 26.1. Korea will be providing additional input as document N2995 and N2996.

Document N2994 contains a request from UTC to WG2 to clarify text on conjoining Jamo. Document N2996 is about item 8.3, whereas N2995 is about sending the information to DPRK. DPRK is another reason why it is important to have a resolution

Discussion:

- a. Prof. Kyongsok Kim: Most of the points in N2996 have been discussed earlier. The document has some clarification text that could be used for explaining what constitutes a Hangul Syllable and what would be its components in the standard. The current content in the standard has been there since 1992, based on contributions made to WG2 at that time from Korea. Until now, no one else has raised any concern about the current wording of Clause 26.1.
- b. Mr. Michel Suignard: No one has considered adding sequences to the standard. There is a new clause 35 on normalization in the standard that did not exist in 1992. What you have in this documentation does not address the conflict arising out of normalization. Some of the statements in this paper are in contradiction with what is in the standard. I want to get these addressed.
- c. Prof. Kyongsok Kim: Regarding normalization - one cannot apply normalization to illegal sequences.
- d. Mr. Mike Ksar: We need these base documents to be able to go ahead with preparing clarification text. We do have contributions from Korea and the US/UTC towards clarifying the text related to Hangul.
- e. Dr. Ken Whistler: The US national body welcomes the material especially in section 4 of the input from Korea, to begin solving the clarification needed. This contribution helps us to move forward.
- f. Mr. Masahiro Sekiguchi: I am confused a little bit now. Yesterday I expressed that I do not see the problem clearly. Document N2994 states that there are some implementation issues; it does not state what the problem is.
- g. Dr. Asmus Freytag: Since the issue was raised at the meeting, the document had to be prepared quickly. However, if you read the text of the referenced sections along with document N2994, you will see the problem. Document N2994 did not copy the lines of relevant text - neither from 10646 nor from the Unicode standard. The Unicode standard is available on line. In this committee, some experts do not have the understanding of scope, applicability etc. of normalization. It is defined to be across all scripts and is used in environments where no changes that would destabilize the normalization are permitted. Document N2994 is sufficient to be able point to where the problem is and with further reading to be able to address these. It gives enough information to the editor to be able to propose some text.
- h. Mr. Mike Ksar: There are some concerns regarding conflict between normalization and how the Hangul processing is defined in the standard.
- i. Mr. Michael Everson: Just because some text has been in the standard for a long time, it does not mean that there is no problem in the standard.
- j. Mr. Erkki Kolehmainen: We are seeking a solution that we will have ample time to review.
- k. Mr. Mike Ksar: I hope we will have contributions that we will be able to discuss at the next meeting.

Relevant resolution:

*M47.28 (Hangul clarification):*

Unanimous

With reference to documents N2994 and N2996, WG2 recognizes there is a need for some clarification regarding Hangul syllables and invites interested experts to participate in the discussion. WG2 also instructs its editor to draft appropriate clarification text to address the different items in these documents for further discussion and adding to the agenda for the next meeting.

**Document N2995** is for Information, to inform DPRK for example.

Prof. Kyongsok Kim: I tried by email, but could not get through to DPRK.

Discussion:

- a. Mr. Masahiro Sekiguchi: We may be able to get Chinese assistance in reaching DPRK experts.
- b. Mr. Tatsuo Kobayashi: DPRK attended in Japan and SC2 secretariat had sought the assistance of China to help with communications.
- c. Dr. Lu Qin: I can provide the fax number from IRG records.
- d. Mr. Mike Ksar: I will try to send the fax and if it fails I will seek assistance of Mr. Chen Zhuang.
- e. Mr. Tatsuo Kobayashi: I can also ask SC2 secretariat on how to reach DPRK.

Action item: Convener to get this forwarded to DPRK's attention.

## 9 Publication items and Standing documents

### 9.1 Working draft of combined ISO/IEC 10646: 2003 and Amd 1

Input document:

[N2937](#) Working Draft ISO/IEC 10646: 2003 plus Amendment 1 merged and combined; Michel Suignard; 2005-04-11

Mr. Mike Ksar: This is a consolidated text of ISO/IEC10646:2003 and Amendment 1. It does not include the charts. It is for information to WG2.

Mr. Michel Suignard: Please check for spelling errors etc. I would be integrating Amendment.2 also into a combined text document and will be distributed for information to WG2. It will not include the charts either.

Action item: National bodies to review and feedback.

### 9.2 Roadmap Snapshot

Input document:

[N2986](#) Snapshot of Roadmaps; Uma; 2005-09-23

Dr. Umamaheswaran is preparing a snapshot of the roadmaps, to replace the current one at the WG2 site; this document is almost ready to be posted.

Relevant resolution:

*M47.37 (Roadmap snapshot):*

Unanimous

WG2 instructs its convener to post an updated snapshot of the roadmaps (document N2986) as soon as it is ready to the WG2 web site.

### 9.3 Guidelines to handle urgent requests at FDAM stage

Input document:

[N2997](#) Proposed addition to P&P – guidelines for handling requests to add to FDAM; Uma; 2005-09-23

Dr. Umamaheswaran: We are facing the situation of not being able to entertain urgent requests such as the one from Finland. We need a set of guidelines to allow us to respond in a timely manner to the users as well as our liaison communities. I have had several discussions on the problem and possible approaches to address the issues with several of the experts present. I am planning to put together some principles to address the situation if WG2 would like it.

Discussion:

- a. Mr. Mike Ksar: We did some research into the JTC1 procedure, but there was nothing there that could help with the situation.
- b. Mr. Jan van den Beld: In the days of TC97 there used to be situation where too many last minute changes and multiple FDISs were causing problems. That is why the current rules were established.  
Rule of practice - do what you do with consensus if it is not editorial; or call it editorial if it is a

minor correction. These are the two options. SC2 is in a special situation - it has more P members than even JTC1. The entire community of ISO.

- c. Mr. Alain LaBonté: The wisdom of consensus decision is workable. All national bodies must be involved. As long as you do not make noise it may be OK. But one should know that it will be against the procedure.
- d. Mr. Erkki Kolehmainen: I recall the Redmond meeting when the SC2 chair did not want to entertain a WG2 resolution. The SC2 chair even went to ITTF to recommend against that resolution. Common sense prevailed in ITTF. In the case of our standards, unlike other standards, implementation cannot be compliant with the standard till a character gets into the standard. This is not the same case with most other standards; the only option available is to use the PUA code points and be prepared to migrate. The urgency of user community has to be considered.
- e. Mr. Michael Everson: I remember the quote "if it is not forbidden it is allowed". In the case of FDAM progression, we do have at least one national body voting consistently and there is a risk of national bodies voting against at the FDAM stage.
- f. Mr. Alain LaBonté: At the FDAM stage it is 67 % P-members, and no more than 25% Negatives including all the members. There is a risk involved with these numbers. There is also a minimum number of P members who have to vote.
- g. Mr. Mike Ksar: I am aware of that.
- h. Dr. Asmus Freytag: This has been a very useful discussion. Once a while the WG has to take a look at such items. We are lucky to have Mr. Jan van Den Beld at this meeting with us. We would support the objective of Dr. Umamaheswaran's contribution.
- i. Dr. Ken Whistler: I am very much looking for Dr. Umamaheswaran to come up with the set of guidelines which will assist us in deciding what is allowed and what is not allowed.
- j. Mr. Erkki Kolehmainen: We are also in exceptional situation that WG2 has to maintain synch with the Unicode standard.

Dr. Umamaheswaran: I worked with several of the experts here and have drafted document [N2997](#) outlining a set of guidelines for WG2 to adopt for meeting urgent requirements.

Discussion:

- a. Dr. Ken Whistler: The US national body is pleased with the proposed guideline and it helps us to go forward smoothly.
- b. Mr. Erkki Kolehmainen: We should be able to meet our customer requirements in a timely manner. I do have some editorial suggestions.
- c. Dr. Asmus Freytag: We should add technical corrigendum of low impact also, in addition to the small collections. This is a set of principles for our own work, but is also visible to others who want to know how we work.
- d. Mr. Michael Everson: We have no objection to this from being able to meet the user requirements.
- e. Dr. Umamaheswaran: The proposal for editorial corrections can be done to the document N2997. Keep in mind the words that go into the P&P has to be only the necessary minimum as proposed in the last section.
- f. Mr. Mike Ksar: Any other comments? Is there any objection to going ahead with adopting this principle? We are probably one of the few WGs who has a set of P&P for our work. The SC2 chair can possibly inform other SCs in JTC1 who may want to use a similar procedure.
- g. Mr. Erkki Kolehmainen: There is also compliance requirement, which is additional.
- h. Dr. Asmus Freytag: We are very different from other ISO standards in many respects. Our procedures are also unique in many ways -- I would be uncomfortable if this is taken up to improve JTC1 procedures etc.
- i. Mr. Mike Ksar: Your input is noted.
- j. Mr. Michael Everson: I would not like to elevate this to JTC1 level.
- k. Mr. Erkki Kolehmainen: Indeed we should inform JTC1 to avoid any potential problems regarding how we operate. We should not go the next step.
- l. Mr. Tatsuo Kobayashi: I want to know that this process does not conflict with JTC1 procedure. Can you make these standing documents visible?
- m. Mr. Mike Ksar: They are already on the web site. We request that we simply point to our use of the P&P in our work.

Disposition: Accept with modifications.

*Note: there is a typo in the approved resolution text below. 'N2987' should be document 'N2997'. The correct text has been used for updating the P&P document N3002. -- - Recording secretary.*

Relevant resolution:

*M47.3 (Adding to FDAM):*

Unanimous

With reference to document N2997, WG2 acknowledges the need for additional guidelines on handling requests with some urgency in providing solutions, and accepts the text proposed in document N2987, modified per discussions at M47, for inclusion in its principles and procedures.

#### **9.4 Proposed additions to Principles & Procedures**

Input document:

[N2987](#) Proposed additions to P&P N2952; US and Unicode - Uma; 2005-09-05

Dr. Umamaheswaran: The contribution is from US and UTC containing some text to be included in the P&P document. The text has been reviewed by Messrs. Ken Whistler and Mark Davis - I was tasked to produce this contribution.

Discussion:

- a. Dr. Asmus Freytag: Suggest modifying the text to remove the specific cases studied.
- b. Mr. Erkki Kolehmainen: If you want to keep the text with items a. b. c. then it should be moved to below for better readability.

Disposition: Accept with modifications; update and include in new P&P document.

Relevant resolution:

*M47.4 (Disunification, Stability of Identifiers):*

Unanimous

With reference to document N2987, WG2 accepts the text proposed in document N2987, modified per discussions at M47, for inclusion in its principles and procedures.

#### **9.5 Updated Principles and Procedures**

Input document:

[N2952](#) Updated Principles & Procedures – replaces N2902, N2652R, N2352R, N2002 and N1876; Uma - Ad hoc group on Principles & Procedures; 2005-09-15

Dr. Umamaheswaran has prepared a revised Principles and Procedures document incorporating all the accepted changes from earlier meetings, and some of the additions accepted at this meeting. The format of the summary form has also been updated.

Action item: Dr. Umamaheswaran to create a new version (document N3002) incorporating additional material accepted at this meeting and send to convener for posting.

Relevant resolution:

*M47.36 (Principles and procedures):*

Unanimous

WG2 accepts the draft updates to its principles and procedures as presented in document N2952 and instructs its convener to post a revised document N3002 based on discussions at M47 and the proposal summary form to the WG2 web site.

#### **9.6 FDAM1 publication delay**

Mr. Mike Ksar: Ballot on FDAM1 closed end of last week and it passed. Even though we submitted this in April. I was disappointed with ITTF with the process of publication ITTF rejected the first PDF version. ITTF sent it back to us stating that PDF Version 1.3 was needed instead of version 1.5. ITSIG should update the set of tools to let the editors use the latest set of tools. For some reason they even changed the content of the text submitted by the editor. I am in the process of putting this issue of processing delays and other considerations to JTC1. ITTF has to step up. We are disappointed with what they did. The document was sent for ballot in July. We need support from JTC1 to push for removing delays at ITTF.

Discussion:

- a. Mr. Jan van den Beld: We have similar problems at Ecma too. When we submit - specifically large documents - to ITTF we do run into similar issues with them.
- b. Mr. Michael Everson: At one time ITTF told me that 'we insist that you should give the document to us in .doc format'. I do not let them edit that document. No one has come to me so far asking for specific versions of pdf. A project editor can refuse.

#### **9.7 Request to make 10646 freely available**

Discussion:

- a. Mr. Jan van den Beld: There is council decision adopted in 1998 from Berlin to make a standard freely available if another identical publication is available free of charge. It was the

case for an Ecma fast tracked document. Unlike the Ecma fast tracked standards ISO/IEC 10646 and Unicode are not identical.

- b. Dr. Asmus Freytag: The practical effect of ISO/IEC 10646 not being available freely on the web for references to ISO/IEC 10646 is far less compared to the Unicode standard. The number of environments exclusively referencing to ISO/IEC 10646 is 1 to 100 compared to Unicode. From Unicode consortium point of view, publishing ISO/IEC 10646 and calling it Unicode standard is going to be confusing from the Unicode users.
- c. Mr. Mike Ksar: The response from ITTF is that ISO/IEC 10646 is one of their best sellers.

Relevant resolution:

*M47.31 (10646 free availability):*

Unanimous

WG2 requests SC2 to request to JTC1 to make ISO/IEC 10646: 2003 and its amendments freely available on the web.

## 10 IRG status and reports

### 10.1 Summary Report and Resolutions

Input document:

[N2968](#) IRG Summary Report at WG2 meeting 47; IRG Rapporteur; 2005-08-10

[N2967](#) IRG 24 Resolutions; IRG Rapporteur; 2005-08-10

Dr. Lu Qin presented the summary report.

*Next IRG meetings needing WG2 approval:*

IRG meeting 25 in Berkeley, CA (host: Unicode Consortium) 2005-11-28/12-02

IRG 26 Hue, Vietnam - 2006-06-12/16

IRG27 Taipei, IRG 28 - Hangzhou.

Disposition: Approve the meetings.

*CJK ext C1* should be ready for WG2 by meeting 48 - on schedule.

Discussion:

- a. Mr. Masahiro Sekiguchi: Japan is concerned about the quality of C1 draft. I would like to inform you that C1 work may be delayed again.
- b. Mr. Mike Ksar: How many characters are in C1?
- c. Mr. Chen Zhuang: About twenty thousand ideographs.
- d. Mr. Masahiro Sekiguchi: At the moment we are pushing for getting the work on time. However it may take a year or so.
- e. Dr. Lu Qin: There were concerns. IRG will make every effort to complete at the next meeting. The quality and stability concerns are always there. However there is no burning issue where we can estimate a delay.
- f. Mr. Mike Ksar: At the next WG2 meeting - or after your next IRG meeting we will know if there is a schedule change. I thank you for your hard work and pulling the team together over the last year and three months. I am sure all the IRG members in addition to WG2 appreciate your effort.

*CJK ext C2*: IRG would like to start discussion at meeting IRG 26. If ext C1 takes more time C2 will be postponed.

Relevant resolution:

*M47.32 (CJK Ext C2):*

Unanimous

WG2 takes note of item 3 in document N2968 and authorizes IRG to start its deliberations regarding CJK Extension C2.

*IDS work* is related to C2. Work is progressing on Old Hanzi and CJK strokes. Oracle script will be tackled first - starting at next IRG.

Discussion:

- a. Mr. Michael Everson: I would be interested to learn about Oracle and C2 extensions.
- b. Dr. Lu Qin: When more information is available I can let you know.
- c. Dr. Ken Whistler: If IRG could let us know what is the rationale for starting with Oracle Bones script from among the three old Hanzi scripts.

- d. Dr. Lu Qin: There is one contribution on chin-wan. We need to start with one script to establish some principles. For ancient scripts there are many variants. These could be very different from modern script. We would like to start with one and we don't have the resources to work on all three.
- e. Dr. Ken Whistler: Why work on the earliest of the script? Oracle Bones may be a good choice for working on a suitable model.

*CJK Ext.B visual reference information:* This topic was an action item on IRG; expected to have some results at IRG 27 - towards end of 2006. More reasonable edited information is expected around mid 2007.

IRG documents are on line - <http://www.cse.cuhk.edu.hk/~irg>.

Discussion:

- a. Mr. Michel Suignard: Within the context of UTS 36 on security, CJK characters that are considered to be safe. One would assume that IICORE would be considered to be safe. Would it be worth asking IRG to define the set of Han characters that could be good candidate for IETF work like what is recommended in RFC 3743 - guidelines for IDN for C,J and K - for use in Domain name for CJK. It is a union of characters used in various countries. It is different widely from IICORE. It could be worthwhile for IRG to look at these. We do have identifiers annex and the corresponding UTR. Ext A was quite in synch. Ext B is out of synch. My expectation was for the IICORE would be suitable for Identifiers.
- b. Dr. Lu Qin: As IRG rapporteur I can say that for the IICORE collection the principles of gathering characters is clear -- first level is characters from national standards, and educational and administration requirements for each IRG member. Additional ones are from newspapers etc. I am surprised that this set in the IETF work is different from IICORE. Personally I would like to know what these RFC characters are and comment on them or ask IRG to review. UTR 36 also has the relevant pointer. UTR characters list also contains something called *safe* characters for IRG experts to look at.
- c. Mr. Mike Ksar: As we have seen in earlier discussions, security issues are addressed whenever we have collections and it is an important part.

Action item: IRG to review and feedback on UTS 36 for safe characters and to RFC 3743.

## 11 Defect reports

### 11.1 Corrigendum – redundant entry in collection 340

Input document:

[N2965](#) Editorial Corrigendum – 10646:2003 – Redundant entry in collection 340; Canada – Uma; 2005-08-22

Dr. Umamaheswaran: There is a redundancy in the collection 340 definition; the request is to remove the redundancy.

Disposition: Accept and include in Amendment 2.

*Note: there is an error in the following approved resolution text and title. '370' should be '340'. The editor has fixed the correct collection - 340 in FDAM 2 text. -- Recording Secretary.*

Relevant resolution:

*M47.13 (Redundant line collection 370 definition):*

Unanimous

WG2 accepts to remove the redundant entry D4 C1 in definition of collection 370 and include this correction in Amendment 2.

### 11.2 Correct glyph shape for Malayalam digit zero

Input document:

[N2971](#) Correct the glyph shape of Malayalam digit zero - Editorial Corrigendum; UTC (prepared by: V.S. Umamaheswaran); 2005-08-23

Dr. Umamaheswaran: An error in the shape of character of digit zero was brought to the attention of Unicode. The current shape is that of a 1/4.fraction.

Discussion:

- a. Mr. Masahiro Sekiguchi: I would like to get confirmation from our experts in Japan. I would like to have some time to review this.

- b. Dr. Asmus Freytag: Unicode received this in May; we went out to a Public Review issue on this and based on the feedback received we have issued an Erratum to Unicode Standard. We prefer to have this accepted by WG2.
- c. Mr. Michel Suignard: We also found this as a result of security review. It was an anomaly that this shape was different compared to other Indic scripts. It is fairly urgent that the glyph is corrected as soon as possible from the vendors' point of view.
- d. Mr. Masahiro Sekiguchi: Officially we received this only last month - we need some time to review this.
- e. Mr. Mike Ksar: This is an editorial correction requested. An editor has some degree of freedom to correct such errors. We could not review this in January meeting because we did not have the input. WG2 has the option of also accepting the recommendation from Unicode based on well-conducted research.
- f. Dr. Umamaheswaran: The evidence presented here is well researched and is from Kerala IT Mission.
- g. Mr. Erkki Kolehmainen: I would like to point out that this is not only an UTC internal review -- it has been a public review issue as well.
- h. Mr. Masahiro Sekiguchi: Such changes could be considered to be technical changes -- and if it is part of FDAM there could be some concerns. Now it is clarified that is editorial it could be accepted. An amendment should not contain editorial changes.
- i. Mr. Mike Ksar: We have included such editorial changes in amendments in the past.
- j. Mr. Masahiro Sekiguchi: I am afraid that such changes could be considered to be technical.
- k. Mr. Mike Ksar: The changes to shapes of non-Han characters are considered to be editorial.
- l. Mr. Michel Suignard: In Amendment 1 we had several such editorial changes to help us simplify the process. We have been doing this for many years. So why are we opening up the issue now?
- m. Mr. Erkki Kolehmainen: It does not make sense to keep amendments and corrigenda separately - it is a matter of convenience.
- n. Mr. Masahiro Sekiguchi: Given the explanation, it is OK with me.
- o. Dr. Asmus Freytag: In order to facilitate synchronization process I would like to remind the WG2 delegates that the Unicode consortium does have a Public Review process and it includes the WG2 distribution list. All experts are invited to participate in this review as well.

Disposition: Accept the corrigendum in Amendment 2.

Relevant resolution:

*M47.14 (Glyph correction for Malayalam digit zero):*

Unanimous

WG2 accepts the proposed corrected glyph for U+0D66 MALAYALAM DIGIT ZERO similar to that in document N2971 and to include the corrected glyph in Amendment 2.

### **11.3 Musical symbols**

Input document:

[N2983](#) Defect report and proposal to add one musical multiple rest character; P. Andries; 2005-09-07

Dr. Umamaheswaran: The document contains a proposal to correct one glyph and to add a new character.

Discussion:

- a. Dr. Ken Whistler: The symbol as is currently named is misleading. It is not an appropriate action to change the glyph, but to simply annotate the use of the character. There is discussion going on - and I believe that there is no action to be taken in ISO/IEC 10646, but to be taken up in the Unicode standard as explanatory text.
- b. Mr. Michel Suignard: If anything we could entertain annex information or annotation to the character, if such text is proposed. We can await further input. At this time we will not change the name. We will do nothing for now.
- c. Mr. Mike Ksar: The name change is not something we entertain. Do we want to add something in Annex P?
- d. Dr. Ken Whistler: We can add in Annex P the phrase - "This character is used as double rest in American usage or breve rest in British usage".
- e. Mr. Masahiro Sekiguchi: I support the idea to add something in Annex P.
- f. Dr. Umamaheswaran: The request is also to add a new character in the next Amendment.
- g. Dr. Ken Whistler: The evidence presented here for a symbol for a Multiple Measure Set symbol is sufficient to go ahead and await ballot comments.

Disposition: Accept an appropriate annotation to be added (by the editor) in Annex P for U+1D13A. Include in next in Amendment. Accept the new character - 1D129 MUSICAL SYMBOL MULTIPLE MEASURE REST with glyph shown in document N2983.

Relevant resolution:

*M47.20 (Musical symbols):*

Unanimous

With reference to document N2983, WG2 resolves to:

Add appropriate informative text in Annex P for U+1D13A MUSICAL SYMBOL MULTI REST to indicate that it is used as a rest corresponding in length to a breve note, which is usually called double rest in American usage or breve rest in British usage

Add 1D129 MUSICAL SYMBOL MULTIPLE MEASURE REST with glyph as shown in document N2983 in the Musical Symbols block

in a future amendment to the standard.

#### 11.4 *Tai Xuan Xing symbols*

Input document:

[N2988](#) Proposal to correct the Character Names for Tai Xuan Jing; Taichi Kawabata; 2005-09-12

Output document:

[N2998](#) Annotations for character names re N2988; Japan; 2005-09-15

Tai Xuan Jing symbols are encoded in code positions 13D00 to 13DFF from document N2415 per resolution M42.16. All the characters of Earth and Human in their names have Earth and Human flipped from what they should be. The solution is either to change the names or to add a note. Swapping the glyphs is not an option because the swapped glyphs have been encoded elsewhere. These are already in the published standard.

Discussion:

- a. Mr. Mike Ksar: We cannot fix using name change. The only option is annotation.
- b. Dr. Asmus Freytag: We cannot change the glyphs either.
- c. Dr. Umamaheswaran: We should process the annotation in Amendment 2.
- d. Mr. Taichi Kawabata: We should wait.
- e. Dr. Ken Whistler: Waiting for the next amendment is not going to buy us anything.
- f. Mr. Masahiro Sekiguchi: I do not see such an urgent need to fix these. They are not frequently used yet.
- g. Mr. Mike Ksar: As Dr. Ken Whistler stated, waiting would not buy you anything.
- h. Dr. Asmus Freytag: It is unfortunate that this has happened. In general we are not collectively having national body experts do a good job. The editors cannot do such checking without help from experts. We do distribute the charts and names lists for national body feedback at the meeting and not wait till ballot stage. These characters have been published already. It is a disservice to our user community from holding back such information about the error from them. In UTC once we are aware of such situation we take less than 24 h to inform our users. Not doing so in ISO/IEC 10646 will be a disservice. This is an informative addition and if the wording is to be fixed we can do that using due process even if it is in Amendment.2.
- i. Dr. Umamaheswaran: This is a technical defect and the fix is to use the editorial changes. I think it will be a disservice to our user community not to let our users know at the earliest possible opportunity.
- j. Mr. Masahiro Sekiguchi: Even if it is annotation to Annex P the informative section change it is not simply editorial. If WG2 wants to include in Amendment 2 Japan can provide the appropriate text to be included in Annex P. I would like to work with the editor on the annotation text.
- k. Mr. Erkki Kolehmainen: If we are sure that the name changes are certainly in error, then we should not delay it at all.
- l. Mr. Mike Ksar: If you are willing to give us the annotation and if you are sure of the names are wrong (which you are) and If we have a consensus at this meeting that we can include this editorial change in Amendment 2 we should go ahead.

Disposition: WG2 accepts to prepare appropriate annotation text to be included in Annex P, and include it in Amendment.2; reference document [N2998](#) prepared by Japanese experts.

Relevant resolution:

*M47.15 (Defect in names of Tai Xuan Jing symbols):*

Unanimous

With reference to technical defect in names of Tai Xuan Jing symbols reported in document N2988, WG2 resolves to add an informative annotation and additional text in Annex P, based on input in document N2998 for inclusion in Amendment 2.

## 12 Liaison reports

### 12.1 Unicode Consortium

Input document:

[N2956](#) Unicode Liaison Report; Asmus Freytag; 2005-08-12

The biggest part of document N2956 is on the stability policies. The document I have has less number of pages than the liaison report that I have to present.

We have published Unicode Version 4.1, and several other resources and reports. Links are provided in the document. We are developing Ideographic Variation Database, information would be sent to WG2. Mr. Michel Suignard has mentioned (under agenda item 12.2 below ) about the work on security in UTR 36 and UTR39. The stability policies have been subject of our deliberations at this meeting. Several of these policies are common with WG2's. Others are related to properties. Some new ones have been proposed to WG2 and WG2 has accepted these,

In addition the liaison report also identifies some defects in glyphs for some code positions.

*Glyph Defect: U+33AC Square GPA:* The representative glyph for this character was not reflecting the decomposition.

Disposition: WG2 accepts to fix the glyph from all Uppercase version GPA to Mixed case version GPa. in Amendment 2.

*Glyph Defect: 06DF, 06E0, 06E1:* The person who drew the original set of glyphs for these three Arabic characters, drew the glyphs from just the names. An expert who is working on type setting the Koran discovered the errors.

Our request is to fix the glyph errors from those shown on the left column with those in right column.

Disposition: Accept for Amendment 2.

*Glyphs for 17D2 and 10A3F:* These characters are normally invisible in regular use. They are never expected to be used in regular scripts. When they are made visible, use the DASHED box to indicate invisibility, the dotted circle and a plus - as a convention to indicate its nature. The request is to change the glyph for 17D2 to add the square dashed box in it, and, change glyph for 10A3F Kharoshti Virama also to the same glyph as for 17D2 to be consistent for all such invisible characters.

Disposition: Accept for Amendment 2.

Relevant resolution:

*M47.16 (Miscellaneous glyph defects):* Unanimous

WG2 accepts the proposed corrected glyphs for 33AC, 06DF, 06E0, 06E1, 17D2 and 10A3F (taking note of the new convention of using dashed square boxes to indicate invisible characters, from document N2956, and 1D09F and 1D09C (from US T.7 resolution in document N2990) for inclusion in Amendment 2.

### 12.2 IETF

Mr. Michel Suignard: IDN (Internationalized Domain Name) recommendation there was considerable concern on the use of UCS in IDN because it is easy to get security problems with confusable characters, similar characters etc. IRTF (Research branch of IETF) is looking at IDN in view of Security considerations. UTR 36 addresses the concerns. When we have several characters that look like others it is pretty easy to get *phishing* attacks. The decision was to create a new WG to address the IDN etc. The second aspect was a presentation to the security group due to use of large repertoire in names, identifiers etc. It could be email identifiers, local names, domain names etc. Each delegate can discuss within their national bodies about the implications of UCS in email contexts. IETF is working on many of these aspects. IETF is meeting in Vancouver in November. There is an ICANN meeting also in Vancouver. Both IETF and ICANN are chasing the same turf. For good or bad reasons identification using email addresses are being viewed by limiting the repertoire. If one uses characters beyond the ASCII set, we can get some interesting aspects.

### 12.3 SC22 and SC29

Mr. Mike Ksar: I submitted a report from SC2 to SC22; reported on what we do here, I informed them about SC2 work on ISO/IEC 14651. There is a SC22 rapporteur's group and they have balloted on ISO/IEC 15897. A question was asked why we did not report on that standard; I told them that it is not in SC2.

I am also liaison from SC29 WG11 - MPEG and SC2 in both directions. I am not formally liaison from SC2 to SC29. The SC29 standard of our interest is a version of the Open Type font standard - ISO/IEC 14496-Part 22 -- to make OpenType an ISO standard. Currently it is on a 3 month ballot. They normatively reference ISO/IEC 10646 and Unicode from there.

### 13 Other business

Input document:

[N2964](#) Updated User's Agreement Related to Phags-pa Script; China and Mongolia; 2005-08-05

There was no discussion. The document is for information of delegates.

#### 13.1 Future Meetings

##### 13.1.1 Meeting 48 – 2006-04-24/28 - US in Mountain View, CA; along with SC2 plenary

The US national body will be hosting meeting 48.

##### 13.1.2 Meeting 49 – Fall 2006, Japan

Discussion:

- a. Mr. Tatsuo Kobayashi: I talked with Japan and Korea. Mr. Masahiro Sekiguchi has some ideas on possible Asia meeting.
- b. Mr. Masahiro Sekiguchi: Japan is willing to host the meeting in Tokyo -- 11 to 15 September 2005.
- c. Mr. Mike Ksar: My preference is sometime in September, I have commitments in October.
- d. Dr. Asmus Freytag: I prefer to have the meeting moved a week or two later. It is soon after the start of school following the Labour Day.
- e. Mr. Masahiro Sekiguchi: We have national holidays during the week of 18th of September.
- f. Prof. Kyongsok Kim: Korea is willing to host the next Asia meeting. We should avoid first two weeks of October. Later in October is OK.

Disposition: WG2 will go with tentative date of Monday 25 Sept 2006 to Thursday 28 Sept 2006 in Japan.

##### 13.1.3 Meeting 50 – Spring 2007, Europe

Mr. Mike Ksar: We await a host from Europe. Germany is considering hosting us.

Relevant resolutions:

*M47.33 (Future meetings):*

*Unanimous*

WG 2 meetings:

Meeting 48 – 2006-04-24/28, Mountain View, US; along with SC2 plenary

Meeting 49 – 2006-09-25/28, Tokyo, Japan

Meeting 50 – Spring 2007, Europe (seeking Host)

IRG meeting:

IRG #25 - 2005-11-28/12-02, Berkeley, CA, USA (host: Unicode Consortium)

IRG #26 - 2006-06-12/16, Hue, Vietnam

IRG #27 - 2006-11-27/12-01 (to be confirmed), Taipei, Taiwan (host: TCA)

IRG #28 - 2007 May / June, Hangzhou, China (place to be confirmed)

### 13.2 Closing

#### 13.2.1 Approval of Resolutions of Meeting 47 (N2954)

Output document:

[N2954](#) Resolutions – meeting 47; Ksar; 2005-09-15

Experts from Canada, China, Finland, Ireland, Japan, Korea (Republic of), Taipei Computer Association (Liaison), the Unicode Consortium (Liaison) and the USA were present when the following resolutions were adopted.

Draft resolutions N2954-Draft prepared by the drafting committee was reviewed and adopted with corrections. The final resolutions are in document [N2954](#).

## Appreciation

Relevant resolutions:

*M47.34 (Appreciation to DKUUG for web services):*

By Acclamation

WG 2 thanks DKUUG, for its continued support of the web site for WG 2 document distribution and the e-mail server.

*M47.35 (Appreciation to Host):*

By Acclamation

WG 2 thanks Ecma-International and its staff, in particular Mr. Jan Van den Beld and Ms. Isabelle Walch for hosting the meeting and their kind hospitality; and European Telecommunications Standards Institute (ETSI) and its staff, in particular Ms. Geneviève Georges and Ms. Elodie Rouveroux for providing excellent meeting facilities.

### 13.3 Adjournment

Meeting closed at 16:35

## 14 Action Items

All action items recorded in the minutes of the previous meetings from M25 to M42, M44 and M45, have been either completed or dropped. Status of outstanding action items from earlier meeting M43, and new action items from the latest meeting M47 are listed in the tables that follow.

- Meeting 25, 1994-04-18/22, Antalya, Turkey (document N1033)
- Meeting 26, 1994-10-10/14, San Francisco, CA, USA (document N1117)
- Meeting 27, 1995-04-03/07, Geneva, Switzerland (document N1203)
- Meeting 28, 1995-06-22/26, Helsinki, Finland (document N 1253)
- Meeting 29, 1995-11-06/10, Tokyo, Japan (document N1303)
- Meeting 30, 1996-04-22/26, Copenhagen, Denmark (document N1353)
- Meeting 31, 1996-08-12/16, Québec City, Canada (document N1453)
- Meeting 32, 1997-01-20/24, Singapore (document N1503)
- Meeting 33, 1997-06-30/07-04, Heraklion, Crete, Greece (document N1603)
- Meeting 34, 1998-03-16/20, Redmond, WA, USA (document N1703)
- Meeting 35, 1998-09-21/25, London, UK (document N1903)
- Meeting 36, 1999-03-09/15, Fukuoka, Japan (document N2003)
- Meeting 37, 1999-09-17/21, Copenhagen, Denmark (document N2103)
- Meeting 38, 2000-07-18/21, Beijing, China (document N2203)
- Meeting 39, 2000-10-08/11, Vouliagmeni, Athens, Greece (document N2253)
- Meeting 40, 2001-04-02/05, Mountain View, CA, USA (document N2353), and
- Meeting 41, 2001-10-15/18, Singapore (document 2403)
- Meeting 42, 2002-05-20/23, Dublin, Ireland (document N2453)
- Meeting 44, 2003-10-20/23, Mountain View, CA, USA (document N2653)
- Meeting 45, 2004-06-21/24, Markham, Ontario, Canada (document N2753)

### 14.1 Outstanding action items from meeting 43, 2003-12-09/12, Tokyo, Japan

Item	Assigned to / action (Reference resolutions in document N2554, and unconfirmed minutes in document N2553 for meeting 43, with any corrections noted in section 3 of document N2653 from meeting 44)	Status
<b>AI-43-9</b>	<b>The Irish national body (Mr. Michael Everson)</b>	
d	To update the roadmap to provide some guidelines for differentiating Ideographic Strokes from Ideographs addressing concerns expressed in document N2526. M44, M45, M46, and M47 – in progress.	

### 14.2 Outstanding action items from meeting 46, 2005-01-24/28, Xiamen, China

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - with any corrections noted in section 3 of document N2953 from meeting 47).	Status
<b>AI-46-6</b>	<b>IRG Rapporteur (Dr. Lu Qin)</b>	
	To take note of and act upon the following items.	
c.	To review and feedback on document N2864 - Proposal to add a block of CJK Basic Strokes to the UCS; Thomas Bishop and Richard Cook – individual contribution; 2004-10-25, in view of the text accepted for FDAM1. M47 – in progress.	
<b>AI-46-8</b>	<b>Chinese national body (Messrs, Chen Zhuang, Woushoeur Silamu)</b>	
	M46.30 (Additional characters for Uighur, Kazakh and Kirghiz): With reference to proposed additions to the Arabic script in document N2897 to support Uighur, Kazakh and Kirghiz, WG2 invites China to take into account the ad hoc discussions during meeting 46, and provide the requested clarification on rendering rules. M47 – in progress.	

Item	Assigned to / action (Reference resolutions in document N2904, and unconfirmed minutes in document N2903 for meeting 46 - with any corrections noted in section 3 of document N2953 from meeting 47).	Status
<b>AI-46-10</b>	<b>All national bodies and liaison organizations</b>	
	To take note of and act upon the following items.	
<b>e.</b>	To take note to restrict their ballot comments to the content of the document under ballot. All proposals for new characters or new material for the standard should be made as independent contributions outside the ballot comments. The project editor has the prerogative of ruling such proposals to be 'out of order, as not related to the text under ballot' and ignore them completely. (To remind national bodies one more time).	

### 14.3 New action items from meeting 47, 2005-09-12/15, Sophia Antipolis, France

Item	Assigned to / action (Reference resolutions in document N2954, and unconfirmed minutes in document N2953 for meeting 47 - this document you are reading)	Status
<b>AI-47-1</b>	<b>Meeting Secretary - Dr. V.S. UMaaheswaran</b>	
<b>a.</b>	To finalize the document N2954 containing the adopted meeting resolutions and send it to the convener as soon as possible.	Completed; see document N2954.
<b>b.</b>	To finalize the document N2953 containing the unconfirmed meeting minutes and send it to the convener as soon as possible.	Completed; see document N2953.
<b>c.</b>	To alert and ensure WG2 adopts a resolution that was missed at M47 for 12 characters accepted for amendment 3: <i>M48.x (Latin phonetic and orthographic characters):</i> With reference to documents N2945 on additional Latin phonetic and orthographic characters, WG2 accepts the following seven (7) Latin characters and five (5) Modifier Tone Letters, with their glyphs as shown in document N2945, for inclusion in Amendment 3 to the standard: 2C6D LATIN CAPITAL LETTER ALPHA 2C6E LATIN CAPITAL LETTER M WITH HOOK 2C6F LATIN LETTER TRESILLO 2C70 LATIN LETTER CUATRILLO 2C71 LATIN SMALL LETTER V WITH RIGHT HOOK 2C72 LATIN CAPITAL LETTER W WITH HOOK 2C73 LATIN SMALL LETTER W WITH HOOK in the Latin Extended-C block, and A71B MODIFIER LETTER RAISED UP ARROW A71C MODIFIER LETTER RAISED DOWN ARROW A71D MODIFIER LETTER RAISED EXCLAMATION MARK A71E MODIFIER LETTER RAISED INVERTED EXCLAMATION MARK A71F MODIFIER LETTER LOW INVERTED EXCLAMATION MARK in the Modifier Tone Letters block.	
<b>AI-47-2</b>	<b>Convener - Mr. Mike Ksar</b>	
<b>a.</b>	<i>M47.37 (Roadmap snapshot):</i> WG2 instructs its convener to post an updated snapshot of the roadmaps (document N2986) as soon as it is ready to the WG2 web site.	Completed; document N2986 is posted to WG2 site.
<b>b.</b>	To communicate to SC2 secretariat on <i>M47.31 (10646 free availability):</i> WG2 requests SC2 to request to JTC1 to make ISO/IEC 10646: 2003 and its amendments freely available on the web.	Completed via resolution document.
<b>c.</b>	Add the topic on Hangul clarification to next meeting's agenda and arrange to get the following resolution sent to DPRK for their review and feedback: <i>M47.28 (Hangul clarification):</i> With reference to documents N2994 and N2996, WG2 recognizes there is a need for some clarification regarding Hangul syllables and invites interested experts to participate in the discussion. WG2 also instructs its editor to draft appropriate clarification text to address the different items in these documents for further discussion and adding to the agenda for the next meeting.	
<b>d.</b>	To add the following carried forward scripts to next meeting agenda: a. Manichaeian script – document N2544 b. Avestan and Pahlavi – document N2556 c. Dictionary Symbols – document N2655 d. Myanmar Additions – documents N2768, N2827, N2966	

Item	Assigned to / action (Reference resolutions in document N2954, and unconfirmed minutes in document N2953 for meeting 47 - this document you are reading)	Status
	<ul style="list-style-type: none"> <li>e. Invisible Letter – document N2822</li> <li>f. Palestinian Pointing characters - document N2838</li> <li>g. Babylonian Pointing characters – document N2759</li> <li>h. Bantu Phonetic Click characters – document N2790</li> <li>i. Samaritan Pointing - 12 Hebrew characters – document N2758</li> <li>j. Dominoe Tiles and other Game symbols – document N2760</li> <li>k. Four Tibetan characters for Balti -- document N2985</li> <li>l. Mahjong Symbols -- document N2975</li> <li>m. Medievalist characters -- document N2957</li> <li>n. Carian, Lycian and Lydian scripts -- documents N2938, N2939 and N2940</li> <li>o. Unconfirmed minutes of Meeting 46 -- document N2903</li> </ul>	
<b>AI-47-3</b>	<b>Editor of ISO/IEC 10646: Mr. Michel Suignard with assistance from contributing editors</b>	
	<i>To prepare the appropriate amendment texts, sub-division proposals, collection of editorial text for the next edition, corrigendum text, or entries in collections of characters for future coding, with assistance from other identified parties, in accordance with the following:</i>	Completed; see document SC2 N3832 and SCe 3823 on FDAM2 and documents SC2/N3816 (WG2 N2999) and N3817 on PDAM3.
<b>a.</b>	<p><i>M47.5 (Glottal Stop, Claudian and other characters):</i> With reference to documents N2942, N2960, and N2962, WG2 accepts the following reassignment of fourteen (14) characters and addition of eleven (11) new characters in Amendment 2 to the standard:</p> <ul style="list-style-type: none"> <li>a. Move the characters currently encoded in positions from 0242 to 024E down by one code position to 0243 to 024F, and move the character currently encoded at 024F to 2C74.</li> <li>b. 0242 - LATIN SMALL LETTER GLOTTAL STOP; with its glyph from document N2962 in the Latin Extended block; (at the code position 0242 vacated as a result of a. above)</li> <li>c. 037B - GREEK SMALL REVERSED LUNATE SIGMA SYMBOL; with its glyph from document N2991 in the Greek and Coptic block</li> <li>d. 037C - GREEK SMALL DOTTED LUNATE SIGMA SYMBOL; with its glyph from document N2991 in the Greek and Coptic block</li> <li>e. 037D - GREEK SMALL REVERSED DOTTED LUNATE SIGMA SYMBOL; with its glyph from document N2991 in the Greek and Coptic block.</li> <li>f. 04CF - CYRILLIC SMALL LETTER PALOCHKA; with its glyph from document N2991 in the Cyrillic block</li> <li>g. 214E - TURNED SMALL F; with its glyph from document N2962 in the Letterlike Symbols block</li> <li>h. 2184 - LATIN SMALL LETTER REVERSED C; with its glyph from document N2962 in the Number Forms block</li> <li>i. 2C75 - LATIN CAPITAL LETTER HALF H; with its glyph from document N2962 in the Latin Extended-C block</li> <li>j. 2C76 - LATIN SMALL LETTER HALF H; with its glyph from document N2962 in the Latin Extended-C block</li> <li>k. 2C65 - LATIN SMALL LETTER A WITH STROKE; with its glyph from document N2991 in the Latin Extended-C block</li> <li>l. 2C66 - LATIN SMALL LETTER T WITH DIAGONAL STROKE; with its glyph from document N2991 in the Latin Extended-C block</li> </ul>	
<b>b.</b>	<p><i>M47.6 (Additional Cyrillic characters):</i> With reference to document N2933, WG2 accepts the following ten (10) additional Cyrillic characters, with their glyphs as shown in document N2933 page 3, and modified during resolution of Irish ballot comment T.1 in document 2959, for inclusion in Amendment 2 to the standard:</p> <ul style="list-style-type: none"> <li>04FA CYRILLIC CAPITAL LETTER GHE WITH STROKE AND HOOK</li> <li>04FB CYRILLIC SMALL LETTER GHE WITH STROKE AND HOOK</li> <li>04FC CYRILLIC CAPITAL LETTER HA WITH HOOK</li> <li>04FD CYRILLIC SMALL LETTER HA WITH HOOK</li> </ul>	

Item	Assigned to / action (Reference resolutions in document N2954, and unconfirmed minutes in document N2953 for meeting 47 - this document you are reading)	Status
	04FE CYRILLIC CAPITAL LETTER HA WITH STROKE 04FF CYRILLIC SMALL LETTER HA WITH STROKE in the Cyrillic block, and 0510 CYRILLIC CAPITAL LETTER REVERSED ZE, 0511 CYRILLIC SMALL LETTER REVERSED ZE, 0512 CYRILLIC CAPITAL LETTER EL WITH HOOK, 0513 CYRILLIC SMALL LETTER EL WITH HOOK in the Cyrillic Supplement block.	
c.	<i>M47.7 (Additional Latin characters in support of Uighur &amp; Kazakh):</i> With reference to documents N2931 and N2992, on additional Latin characters in support of Uighur, WG2 accepts the following six (6) Latin characters, with their glyphs as shown in document N2931 on page 3, for inclusion in Amendment 2 to the standard: 2C67 - LATIN CAPITAL LETTER H WITH DESCENDER 2C68 - LATIN SMALL LETTER H WITH DESCENDER 2C69 - LATIN CAPITAL LETTER K WITH DESCENDER 2C6A - LATIN SMALL LETTER K WITH DESCENDER 2C6B - LATIN CAPITAL LETTER Z WITH DESCENDER, and 2C6C - LATIN SMALL LETTER Z WITH DESCENDER in the Latin Extended-C block	
d.	<i>M47.8 (Dotted Square):</i> With reference to document N2943, WG2 accepts for inclusion in Amendment 2: 2B1A - DOTTED SQUARE; with its glyph as shown in document N2943, in the Miscellaneous Symbols and Arrows block.	
e.	<i>M47.9 (Bottom Tortoise Shell Bracket):</i> With reference to document N2842 and the Irish ballot comment T.2 in document N2959 regarding Bottom Tortoise Shell Bracket, WG2 accepts for inclusion in Amendment 2: 23E1 BOTTOM TORTOISE SHELL BRACKET, with glyph shown in document N2842, and move the character ELECTRICAL INTERSECTION currently encoded at 23E1 to new code position 23E7 in the Miscellaneous Technical block.	
f.	<i>M47.10 (Phags-Pa):</i> With reference to the Phags-Pa glyph corrections in document N2972 and N2979, WG2 accepts the new glyphs proposed in document N2991 for A843, A844, A845, A852, A856, A857, A859, A863, A864, A867, A868, A870, and A871 for Amendment 2. WG2 also accepts (with reference to editor's note E.2 on the last page of document N2980) to remove the erroneous word 'SMALL' in the Description of variant appearance column (on pages 1 and 2 of FPDAM-2 text) in the second, third, fourth and fifth entries in the table describing Mongolian variation sequences.	
g.	<i>M47.11 (Uralicist characters):</i> With reference to document N2989, WG2 accepts six (6) Uralicist phonetic characters for encoding in the standard: 1DFE - COMBINING LEFT ARROWHEAD ABOVE 1DFF - COMBINING RIGHT ARROWHEAD AND DOWN ARROWHEAD BELOW in the Combining Diacritical Marks Supplement block, 27CA - VERTICAL BAR WITH HORIZONTAL STROKE in the Miscellaneous Mathematical Symbols-A block, and 2C77 - LATIN SMALL LETTER TAILLESS PHI in the Latin Extended-C block, and A720 - MODIFIER LETTER STRESS AND HIGH TONE A721 - MODIFIER LETTER STRESS AND LOW TONE in a new Latin Extended-D block from A720 to A7FF In view of the technical completeness of the proposal and the urgency expressed by the user community for the need of these characters to complete the Uralic Phonetic Alphabet set of characters, WG2 further resolves to include these in Amendment 2 to the standard.	
h.	<i>M47.12 (Cuneiform script):</i> With reference to changes requested on the Cuneiform script in the ballot comments from several national bodies in document N2959, WG2 accepts to replace tables 199-205 Rows 20-24 Cuneiform in Amendment 2, with new code table and names list (including name changes and character reassignments) based on Irish national body comments in document N2959. The final list of changes is in document N2990 (pages 7 and 8) and the revised charts are in document N2991	

Item	Assigned to / action (Reference resolutions in document N2954, and unconfirmed minutes in document N2953 for meeting 47 - this document you are reading)	Status
	(pages 456 to 468).	
i.	<p><i>M47.13 (Redundant line collection 340 definition):</i>  WG2 accepts to remove the redundant entry D4 C1 in definition of collection 340 and include this correction in Amendment 2.  <i>Note: '340' was erroneously recorded as '370' in the approval resolutions document N2954</i></p>	
j.	<p><i>M47.14 (Glyph correction for Malayalam digit zero):</i> WG2 accepts the proposed corrected glyph for U+0D66 MALAYALAM DIGIT ZERO similar to that in document N2971 and to include the corrected glyph in Amendment 2.</p>	
k.	<p><i>M47.15 (Defect in names of Tai Xuan Jing symbols):</i> With reference to technical defect in names of Tai Xuan Jing symbols reported in document N2988, WG2 resolves to add an informative annotation and additional text in Annex P, based on input in document N2998 for inclusion in Amendment 2.</p>	
l.	<p><i>M47.16 (Miscellaneous glyph defects):</i> WG2 accepts the proposed corrected glyphs for 33AC, 06DF, 06E0, 06E1, 17D2 and 10A3F (taking note of the new convention of using dashed square boxes to indicate invisible characters, from document N2956, and 1D09F and 1D09C (from US T.7 resolution in document N2990) for inclusion in Amendment 2.</p>	
m.	<p><i>M47.17 (N'Ko):</i> WG2 accepts new names for the following four N'Ko characters for inclusion in Amendment 2 based on Irish comment T.1 in document N2959:  07E8 NKO LETTER JONA JA  07E9 NKO LETTER JONA CHA  07EA NKO LETTER JONA RA  07F6 NKO SYMBOL OO DENNEN</p>	
n.	<p><i>M47.18 (Progression of Amendment 2):</i>  WG2 instructs its editor to prepare the FDAM text based on the disposition of comments in document N2990, the updated code charts in document N2991, and other resolutions from this meeting for additional text for inclusion in Amendment 2 to ISO/IEC 10646: 2003, and forward to SC2 secretariat for FDAM processing, with unchanged schedule.  (Note: the total number of characters added in FDAM2 has changed to <b>1365</b>.)  (Items AI-47-3 a through n above are all for Amd 2.)</p>	
o.	<p><i>M47.19 (Inverted Interrobang character):</i>  With reference to document N2935 on Inverted Interrobang character, WG2 accepts to encode in a future Amendment to the standard:  2E18 - INVERTED INTERROBANG; with its glyph as shown in document N2935 in the Supplemental Punctuation block.</p>	
p.	<p><i>M47.20 (Musical symbols):</i>  With reference to document N2983, WG2 resolves to:  a. Add appropriate informative text in Annex P for U+1D13A MUSICAL SYMBOL MULTI REST to indicate that it is used as a rest corresponding in length to a breve note, which is usually called double rest in American usage or breve rest in British usage.  b. Add 1D129 MUSICAL SYMBOL MULTIPLE MEASURE REST with glyph as shown in document N2983 in the Musical Symbols block.  in a future amendment to the standard.</p>	
q.	<p><i>M47.21 (Malayalam numerals):</i> With reference to document N2970, WG2 accepts the following six (6) Malayalam numerals for inclusion in a future amendment to the standard:  0D70 MALAYALAM NUMBER TEN  0D71 MALAYALAM NUMBER ONE HUNDRED  0D72 MALAYALAM NUMBER ONE THOUSAND  0D73 MALAYALAM FRACTION ONE QUARTER  0D74 MALAYALAM FRACTION ONE HALF  0D75 MALAYALAM FRACTION THREE QUARTERS  in the Malayalam block, with glyphs similar to those in figure 2 of document N2970.</p>	
r.	<p><i>M47.22 (Sindhi characters):</i> With reference to document N2934, WG2 accepts the following four (4) Sindhi characters for inclusion in a future amendment to the standard:  097B - DEVANAGARI LETTER GGA  097C - DEVANAGARI LETTER JJA  097E - DEVANAGARI LETTER DDDA  097F - DEVANAGARI LETTER BBA  in the Devanagari block, with glyphs similar to those in figure 2 of document N2934.</p>	

Item	Assigned to / action (Reference resolutions in document N2954, and unconfirmed minutes in document N2953 for meeting 47 - this document you are reading)	Status
s.	<p><i>M47.23 (Greek epigraphical characters)</i>: With reference to document N2946, WG2 accepts the following six (6) Greek epigraphical characters for inclusion in a future amendment to the standard:</p> <p>0370 - GREEK CAPITAL LETTER HETA  0371 - GREEK SMALL LETTER HETA  0372 - GREEK CAPITAL LETTER ARCHAIC SAMPI  0373 - GREEK SMALL LETTER ARCHAIC SAMPI  0376 - GREEK CAPITAL LETTER PAMPHYLIAN DIGAMMA  0377 - GREEK SMALL LETTER PAMPHYLIAN DIGAMMA</p> <p>in the Greek and Coptic block, with glyphs based on those in document N2946.</p>	
t.	<p><i>M47.24 (Lepcha script)</i>: WG2 resolves to encode the Lepcha script proposed in document N2947 in a new block 1C00 – 1C4F named 'Lepcha', in a future amendment to the standard, and populate it with seventy four (74) characters (some of which are combining) with the names, glyphs and code position assignments as shown on pages 17 and 18 in document N2947.</p>	
u.	<p><i>M47.25 (Vai script)</i>: WG2 resolves to encode the Vai script proposed in document N2948 in a new block A500 – A61F named 'Vai', in a future amendment to the standard, and populate it with two hundred and eighty four (284) characters with the names, glyphs and code position assignments as shown on pages 22 through 27 in document N2948.</p>	
v.	<p><i>M47.26 (Saurashtra script)</i>: WG2 resolves to encode the Saurashtra script proposed in document N2969 in a new block A880 – A8DF named 'Saurashtra', in a future amendment to the standard, and populate it with eighty one (81) characters (some of which are combining) with the names, glyphs and code position assignments (A880 to A8C4 and A8CE to A8D9) as shown on pages 11 and 12 in document N2969.</p>	
w.	<p><i>M47.27 (Ol Chiki script)</i>: WG2 resolves to encode the Ol Chiki script proposed in document N2984 in a new block 1C50--1C7F named 'Ol Chiki', in a future amendment to the standard, and populate it with forty eight (48) characters with the names, glyphs and code position assignments as shown on pages 11 and 12 in document N2984.</p>	
x.	<p><i>M47.29 (Amendment 3 – subdivision and PDAM text)</i>: WG2 instructs its editor to prepare a project sub division proposal and PDAM text based on the various resolutions from this meeting accepting characters for inclusion in a future amendment to ISO/IEC 10646: 2003, and forward them to the SC2 secretariat for simultaneous ballot of sub division approval and PDAM registration (see documents N2993 and N2999). The proposed completion dates for the progression of this work item are: PDAM 2006-02-15, FPDAM 2006-09-15, and FDAM 2007-02. (Note: A total of 517 characters were accepted for inclusion in Amendment 3 at this meeting). Items AI-47-o through x are all for Amd 3.</p>	
y.	<p><i>M47.28 (Hangul clarification)</i>: With reference to documents N2994 and N2996, WG2 recognizes there is a need for some clarification regarding Hangul syllables and invites interested experts to participate in the discussion. WG2 also instructs its editor to draft appropriate clarification text to address the different items in these documents for further discussion and adding to the agenda for the next meeting.</p>	
<b>AI-47-4 Ad hoc group on principles and procedures (lead - Dr. V.S. UMaMaheswaran)</b>		
	<p><i>To take note of and act upon the following items.</i></p>	<p>Completed; see document N3002.</p>
a.	<p><i>M47.1 (Case Folding stability)</i>: WG2 acknowledges the need for guaranteeing stability of case folding of characters in scripts having two cases, and accepts to adopt the guidelines in the following text in its principles and procedures:</p> <p><i>Stability of Case Folding</i>  For text containing characters from scripts having two cases (bicameral scripts), case folding is an essential ingredient in case-insensitive comparisons. Such comparisons are widely applied, for example in Internationalized Domain name (IDN) lookup, or for identifier matching in case-insensitive programming and mark-up languages. Because such operations require stable identifiers and dependable comparison results it is important that the standard be able to provide the guarantee of complete stability. For historic reasons, and because there are many characters with lowercase forms but no uppercase forms, the case folding is typically done by a <i>lowercasing</i> operation, and this also matches the definition used by the Unicode Standard for <i>case folding</i>.</p>	

Item	Assigned to / action (Reference resolutions in document N2954, and unconfirmed minutes in document N2953 for meeting 47 - this document you are reading)	Status
	<p>In order to guarantee the case-folding stability, WG2 adopts the following principle when evaluating proposals for encoding characters for bicameral scripts:</p> <p>"Subsequent to the publication of Amendment 2 of ISO/IEC 10646: 2003, if a character already has an uppercase form in the standard but no lowercase form, its corresponding lowercase form can not be added to the standard; the only way a lowercase form can be added, if proved to be absolutely essential, is by entertaining a new pair of uppercase and lowercase forms for encoding. If only a lowercase form exists and an uppercase form is deemed to be needed it can be added without affecting the stability of case folding."</p>	
b.	<p><i>M47.2 (Combining diacritic marks):</i> With reference to documents N2976 and N2978, WG2 acknowledges the need for additional guidelines when considering generic diacritical marks that may be used across different scripts, and accepts the text proposed in document N2978 as additional guidelines for inclusion in its principles and procedures.</p>	
c.	<p><i>M47.3 (Adding to FDAM):</i> With reference to document N2997, WG2 acknowledges the need for additional guidelines on handling requests with some urgency in providing solutions, and accepts the text proposed in document N2997, modified per discussions at M47, for inclusion in its principles and procedures.</p> <p><i>Note: the second reference to document N2997 was erroneously recorded as N2987 in the approved resolution document N2954.</i></p>	
d.	<p><i>M47.4 (Disunification, Stability of Identifiers):</i> With reference to document N2987, WG2 accepts the text proposed in document N2987, modified per discussions at M47, for inclusion in its principles and procedures.</p>	
e.	<p><i>M47.36 (Principles and procedures):</i> WG2 accepts the draft updates to its principles and procedures as presented in document N2952 and instructs its convener to post a revised document N3002 based on discussions at M47 and the proposal summary form to the WG2 web site.</p>	
<b>AI-47-5</b>	<b>IRG Rapporteur (Dr. Lu Qin)</b>	
	<i>To take note of and act upon the following items.</i>	
a.	<p><i>M47.32 (CJK Ext C2):</i> WG2 takes note of item 3 in document N2968 and authorizes IRG to start its deliberations regarding CJK Extension C2.</p>	
b.	<p>With reference to discussion in meeting 47, regarding IICORE and safe characters for security, IRG is requested to review and feedback on UTS 36 for safe characters and to RFC 3743.</p>	
<b>AI-47-6</b>	<b>TCA (Mr. Shih-ShyengTseng)</b>	
a.	<p>To prepare a revised proposal on Mahjong symbols based addressing the concerns and feedback received at meeting M47 on document N2975.</p>	
<b>AI-47-7</b>	<b>Chinese national body (Messrs, Cheng Zhuang)</b>	
a.	<p>To take note of resolution <i>M47.30 (Todo Mongolian punctuation marks):</i> With reference to document N2963 on three punctuation marks for Todo Mongolian, WG2 rejects the request since these characters can be unified with already coded characters in the standard as follows:</p> <p>TODO COMMA ONE with 002C - COMMA  TODO COMMA TWO with 3001 - IDEOGRAPHIC COMMA  TODO FULL STOP with 3002 - IDEOGRAPHIC FULL STOP</p>	
<b>AI-47-8</b>	<b>Ireland (Mr. Michael Everson)</b>	
a.	<p>To request Ms. Deborah Anderson to send supporting documentation for WG2 records regarding UNESCO project about N'Ko script; and to get the authors of N'Ko proposal to provide more evidence of simultaneous use of old and new forms included in the script.</p>	
b.	<p>To communicate to Myanmar on the status of their documents N2768, N2827, N2966 in WG2.</p>	
c.	<p>To work with the author Mr. Nick Nicholas to provide supporting examples for Greek epigraphical characters proposed in document N2946, and accepted per resolution M47.23.</p>	
<b>AI-47-9</b>	<b>All national bodies and liaison organizations</b>	
	<i>To take note of and act upon the following items.</i>	
a.	<p><i>M47.33 (Future meetings):</i>  WG 2 meetings:  Meeting 48 – 2006-04-24/28, Mountain View, US; along with SC2 plenary  Meeting 49 – 2006-09-25/28, Tokyo, Japan</p>	

Item	Assigned to / action (Reference resolutions in document N2954, and unconfirmed minutes in document N2953 for meeting 47 - this document you are reading)	Status
	Meeting 50 – Spring 2007, Europe (seeking Host) IRG meeting: IRG #25 - 2005-11-28/12-02, Berkeley, CA, USA (host: Unicode Consortium) IRG #26 - 2006-06-12/16, Hue, Vietnam IRG #27 - 2006-11-27/12-01 (to be confirmed), Taipei, Taiwan (host: TCA) IRG #28 - 2007 May / June, Hangzhou, China (place to be confirmed)	
b.	<i>M47.28 (Hangul clarification)</i> : With reference to documents N2994 and N2996, WG2 recognizes there is a need for some clarification regarding Hangul syllables and invites interested experts to participate in the discussion. WG2 also instructs its editor to draft appropriate clarification text to address the different items in these documents for further discussion and adding to the agenda for the next meeting.	
c.	To review and feedback to the editor on document N2937: Working Draft ISO/IEC 10646: 2003 plus Amendment 1 merged and combined; Michel Suignard; 2005-04-11.	
d.	To take note of important changes in document N3002 and new format for proposal summary form, prepared according to resolution <i>M47.36 (Principles and procedures)</i> : WG2 accepts the draft updates to its principles and procedures as presented in document N2952 and instructs its convener to post a revised document N3002 based on discussions at M47 and the proposal summary form to the WG2 web site.	
e.	In addition to the proposals mentioned in the items above, the following proposals have been carried forward from earlier meetings. All national bodies and liaison organizations are invited to review and comment on them. <ul style="list-style-type: none"> <li>l. Manichae script – document N2544</li> <li>m. Avestan and Pahlavi – document N2556</li> <li>n. Myanmar Additions – documents N2768, N2827, N2966</li> <li>o. Dictionary Symbols – document N2655</li> <li>p. Invisible Letter – document N2822</li> <li>q. Palestinian Pointing characters - document N2838</li> <li>r. Babylonian Pointing characters – document N2759</li> <li>s. Bantu Phonetic Click characters – document N2790</li> <li>t. Samaritan Pointing - 12 Hebrew characters – document N2758</li> <li>u. Dominoe Tiles and other Game symbols – N2760</li> <li>v. Four Tibetan characters for Balti -- document N2985</li> <li>w. Mahjong Symbols -- document N2975</li> <li>x. Medievalist characters -- document N2957</li> <li>y. Carian, Lycian and Lydian scripts -- documents N2938, N2939 and N2940</li> </ul>	

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