

Title: CJK & Unihan Group Recommendations for UTC #171 Meeting

Author: Ken Lunde

Date: 2022-04-16

This document provides the CJK & Unihan Group recommendations for UTC #171 based on a meeting that took place from 6 to 9PM PDT on 2022-04-08, which was attended by Yi Bai, Eiso Chan, Lee Collins, John Jenkins, Qin Lu, Ken Lunde, Nat McCully, William Nelson, CheonHyeong Sim, Stephan Hyeonjun Stiller, Michel Suignard, Xieyang Wang, and Yifán Wáng via [Zoom](#). The Chair of the [CJK & Unihan Group](#), Ken Lunde, chaired the meeting with John Jenkins as Vice-Chair.

The CJK & Unihan Group reviewed public feedback and documents that were received since UTC #170. Comments are marked in **green**, and Copy&Paste-ready Recommendations to the UTC are marked in **red**.

PRI #442 Feedback

The single item of [PRI #442](#) (*Unicode 15.0 Alpha Review*) feedback that is in this section was discussed by the group, and for convenience, the following data file, which is a PDF attachment, includes the recommended Unihan database change based on it:

- *Unihan-changes-20220408.txt*

The recommended change is also shown inline, following the Recommendations.

01) 2022-03-05 09:23:50 CST

Date/Time: Sat Mar 5 09:23:50 CST 2022

Name: Ken Lunde

Report Type: Public Review Issue

Opt Subject: **442**

Add 113.0 as a second `kRSUnicode` property value for U+31350 (Extension H). One of its sources, UTC-03123, specifies 113.0 as its radical-stroke count in its `USourceData.txt` record.

Comments: The group discussed this feedback, and agreed that adding 113.0 as a second `kRSUnicode` property value for U+31350 makes sense for the reasons cited. Note that this second property value does not affect the ordering of the Extension H block, but will aid in the discoverability of this particular ideograph.

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the `kRSUnicode` property value change for U+31350 in the Extension H block, based on feedback [Sat Mar 5 09:23:50 CST 2022] in PRI #442, for Unicode Version 15.0.

Action Item for Michel Suignard: Change the kRSUnicode property value of U+31350, based on Section 01 of document L2/22-067, and provide to John Jenkins an updated UniHan15.txt data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the UniHan database to reflect the kRSUnicode property value change for U+31350, based on Section 01 of document L2/22-067, for Unicode Version 15.0.

Current:

U+31350 kRSUnicode 1.4

Adjusted:

U+31350 kRSUnicode 1.4 **113.0**

PRI #445 Feedback

The single item of [PRI #445](#) (*Proposed Update UAX #45, U-source Ideographs*) feedback that is in this section was discussed by the group, and for convenience, the following data files, all of which are PDF attachments, include all of the recommended UniHan database and UAX #45 *USourceData.txt* data file changes based on it:

- *UniHan-additions-20220408.txt*
- *USource-changes-20220408.txt*

These recommended changes are also shown inline, following the Recommendations.

02) 2022-03-03 10:57:55 CST

Date/Time: Thu Mar 3 10:57:55 CST 2022

Name: Andrew West

Report Type: Public Review Issue

Opt Subject: **445**

UTC-00340;V;U+846C;140.9;;𡦵𡦶𡦷𡦸;kLau 1560a;;;

I think it should be U;U+585F

Comments: The group discussed this feedback, and agreed that U+585F should be horizontally-extended to add UTC-00340 as a new U-Source source reference. The table below constitutes a proposal to horizontally-extend U+585F by adding UTC-00340 as a new U-Source source reference, with the code chart excerpt for U+846C shown for reference purposes:

Code Point	Code Chart Excerpt—Version 14.0	U-Source	
		Source Reference	Representative Glyph
U+585F	585F 𡦵 32.10 𡦵 GE-3475 𡦶 H-99DF 𡦷 T3-405E 𡦸 J1-3833	UTC-00340	𡦵
U+846C	846C 𡦵 140.9 𡦵 G0-5461 𡦶 HB1-B8AE 𡦷 T1-6635 𡦸 J0-4172 𡦹 K0-6D77 𡦺 V1-6540		

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the proposal to horizontally-extend U+585F to include UTC-00340 as a new U-Source source reference, based on feedback [Thu Mar 3 10:57:55 CST 2022] in PRI #445 and as amended in Section 02 of document L2/22-067, for Unicode Version 15.0.

Action Item for Michel Suignard: Add UTC-00340 as a new kIRG_USource property value for U+585F, based on Section 02 of document L2/22-067, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the Unihan database to reflect the new kIRG_USource property value for U+585F, based on Section 02 of document L2/22-067, for Unicode Version 15.0.

Action Item for John Jenkins: Update the UAX #45 USourceData.txt data file to reflect U as the status of UTC-00340 and change its code point to U+585F, based on Section 02 of document L2/22-067, for Unicode Version 15.0.

Action Item for John Jenkins: Provide to Michel Suignard an updated UTCHAn.ttf TrueType font that maps U+585F to the representative glyph of UTC-00340, based on Section 02 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Lunde: Convey to the feedback submitter the CJK & Unihan Group comments in Section 02 of document L2/22-067. See feedback [Thu Mar 3 10:57:55 CST 2022] in PRI #445.

New:

U+585F kIRG_USource UTC-00340

Current:

UTC-00340;V;U+846C;140.9;;𐀓𐀔𐀕;kLau 1560a;;;

Adjusted:

UTC-00340;U;U+585F;140.9;;𐀓𐀔𐀕;kLau 1560a;;13;1

Public Feedback

The seven items of public feedback from [L2/22-063](#) that are in this section were discussed by the group, and for convenience, the following data files, all of which are PDF attachments, include all of the recommended Unihan database and UAX #45 *USourceData.txt* data file changes based on them:

- *Unihan-additions-20220408.txt*
- *kMandarin-changes-20220408.txt*
- *USource-changes-20220408.txt*

With the exception of a single *kMandarin* property value change, these recommended changes are also shown inline, following the Recommendations.

Date/Time: Sun Feb 6 09:46:29 CST 2022

Name: Ken Lunde

Report Type: Error Report

Opt Subject: **UAX #45 USourceData.txt errors**

Per the USourceData.txt file for Unicode Version 14.0, the following 11 U-Source ideographs have a status value of G, but are not included in Extension G (their code point fields are also blank, which is what flagged them):

UTC-01024;G;;79.7;;𠂇;UTCDoc L2/12-333 56;;11;2
UTC-01161;G;;118.10;;𠂇𠂇𠂇工口木;UTCDoc L2/12-333 193;;16;1
UTC-01166;G;;152.6;;𠂇𠂇𠂇𠂇;UTCDoc L2/12-333 198;;13;4
UTC-01220;G;;32.11;;𠂇土畢;UTCDoc L2/15-177 19;;14;2
UTC-01244;G;;85.9;;𠂇𠂇𠂇𠂇𠂇𠂇;UTCDoc L2/15-177 43;;12;2
UTC-01256;G;;85.16;;𠂇𠂇𠂇𠂇𠂇土必;UTCDoc L2/15-177 55;;19;2
UTC-01257;G;;85.17;;𠂇𠂇𠂇;UTCDoc L2/15-177 56;;20;3
UTC-01272;G;;86.11;;𠂇𠂇𠂇;UTCDoc L2/15-177 71;;15;4
UTC-01276;G;;86.13;;𠂇𠂇𠂇;UTCDoc L2/15-177 75;;17;4
UTC-01301;G;;167.9;;𠂇金胸;UTCDoc L2/15-177 100;;17;3
UTC-01304;G;;167.11;;𠂇金𠂇谷心;UTCDoc L2/15-177 103;;19;3

I determined that the following six were unified with existing CJK Unified Ideographs per the IRG, and their status and code point fields should therefore be changed as follows:

UTC-01024;U;U+6BC0;79.7;;𠂇;UTCDoc L2/12-333 56;;11;2
UTC-01161;U;U+7BC9;118.10;;𠂇𠂇𠂇工口木;UTCDoc L2/12-333 193;;16;1
UTC-01166;B;U+27C4F;152.6;;𠂇𠂇𠂇𠂇;UTCDoc L2/12-333 198;;13;4
UTC-01220;F;U+2D3EC;32.11;;𠂇土畢;UTCDoc L2/15-177 19;;14;2
UTC-01244;B;U+23D8F;85.9;;𠂇𠂇𠂇𠂇𠂇𠂇;UTCDoc L2/15-177 43;;12;2
UTC-01304;B;U+28B02;167.11;;𠂇金𠂇谷心;UTCDoc L2/15-177 103;;19;3

See:

<https://hc.jsecs.org/irg/ws2015/app/?find=UTC-01024>

<https://hc.jsecs.org/irg/ws2015/app/?find=UTC-01161>

<https://hc.jsecs.org/irg/ws2015/app/?find=UTC-01166>

<https://hc.jsecs.org/irg/ws2015/app/?find=UTC-01220>

<https://hc.jsecs.org/irg/ws2015/app/?find=UTC-01244>

<https://hc.jsecs.org/irg/ws2015/app/?find=UTC-01304>

A six-ideograph horizontal extension proposal can therefore be submitted.

The remaining five seem to have been withdrawn from IRG Working Set 2015, so I suggest that their status fields be changed to N so that they can be considered for re-submission in the future:

UTC-01256;N;;85.16;;𠩺 𠩻 𠩼 𠩽 𠩾;UTCDoc L2/15-177 55;;19;2

UTC-01257;N;;85.17;;𠩿 𠪀;UTCDoc L2/15-177 56;;20;3

UTC-01272;N;;86.11;;𠪁 𠪂;UTCDoc L2/15-177 71;;15;4

UTC-01276;N;;86.13;;𠪃 𠪄;UTCDoc L2/15-177 75;;17;4

UTC-01301;N;;167.9;;𠪅 𠪆;UTCDoc L2/15-177 100;;17;3

That is all.

Comments: The group discussed this feedback, and agreed with all the proposed changes, which entails a six-ideograph horizontal extension and changes the 11 UAX #45 *USourceData.txt* data file records. The IRG deemed these representative glyph differences unifiable according to their current unification rules and principles. The table below constitutes the six-ideograph U-Source horizontal extension proposal:

Code Point	Code Chart Excerpt—Version 14.0	U-Source	
		Source Reference	Representative Glyph
U+6BC0	6BC0 𠩺 79.9 𠩺 𠩻 𠩼 𠩽 𠩾 GE-3E63 HB1-B7B4 T1-645A J0-544C K2-3E73	UTC-01024	𠩺
U+7BC9	7BC9 𠪁 118.10 𠪁 𠪂 𠪃 𠪄 𠪅 𠪆 G1-567E HB1-BF76 T1-7160 J0-435B K0-7569 V1-6227	UTC-01161	𠪁
U+23D8F	23D8F 𠪇 85.8 𠪇 𠪈 𠪉 𠪊 GKX-0631.08 T4-3259 K6-101E H-957B	UTC-01244	𠪇
U+27C4F	27C4F 𠪋 152.7 𠪋 𠪌 GKX-1196.22 T4-4753	UTC-01166	𠪋
U+28B02	28B02 𠪍 167.11 𠪍 GHZ-64252.03	UTC-01304	𠪍
U+2D3EC	2D3EC 𠪎 32.12 𠪎 SAT-00098	UTC-01220	𠪎

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the six-ideograph horizontal extension proposal and the changes to 11 UAX #45 *USourceData.txt* data file records, based on feedback [Sun Feb 6 09:46:29 CST 2022] in document L2/22-063 and Section 03 of document L2/22-067, for Unicode Version 15.0.

Action Item for Michel Suignard: Add the six new kIRG_USource property values, based on Section 03 of document L2/22-067, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the Unihan database to reflect the six new kIRG_USource property values, based on Section 03 of document L2/22-067, for Unicode Version 15.0.

Action Item for John Jenkins: Update the UAX #45 USourceData.txt data file to reflect the changes to 11 records, based on Section 03 of document L2/22-067, for Unicode Version 15.0.

Action Item for John Jenkins: Provide to Michel Suignard an updated UTCHan.ttf TrueType font that maps the six CJK Unified Ideograph code points to their appropriate U-Source representative glyphs, based on Section 03 of document L2/22-067, for Unicode Version 15.0.

New:

U+6BC0	kIRG_USource	UTC-01024
U+7BC9	kIRG_USource	UTC-01161
U+23D8F	kIRG_USource	UTC-01244
U+27C4F	kIRG_USource	UTC-01166
U+28B02	kIRG_USource	UTC-01304
U+2D3EC	kIRG_USource	UTC-01220

Current:

UTC-01024; **G**; ;79.7; ;呈爿;UTCDoc L2/12-333 56;;11;2
UTC-01161; **G**; ;118.10; ;工口木;UTCDoc L2/12-333 193;;16;1
UTC-01166; **G**; ;152.6; ;辛豕;UTCDoc L2/12-333 198;;13;4
UTC-01220; **G**; ;32.11; ;土畢;UTCDoc L2/15-177 19;;14;2
UTC-01244; **G**; ;85.9; ;止止;UTCDoc L2/15-177 43;;12;2
UTC-01256; **G**; ;85.16; ;門土必;UTCDoc L2/15-177 55;;19;2
UTC-01257; **G**; ;85.17; ;爿爿;UTCDoc L2/15-177 56;;20;3
UTC-01272; **G**; ;86.11; ;罔罔;UTCDoc L2/15-177 71;;15;4
UTC-01276; **G**; ;86.13; ;罔罔;UTCDoc L2/15-177 75;;17;4
UTC-01301; **G**; ;167.9; ;金胸;UTCDoc L2/15-177 100;;17;3
UTC-01304; **G**; ;167.11; ;金谷心;UTCDoc L2/15-177 103;;19;3

Adjusted:

UTC-01024; **U**; **U+6BC0**; 79.7;; ☿星爻; UTCDoc L2/12-333 56;; 11; 2
UTC-01161; **U**; **U+7BC9**; 118.10;; ☷☳工口木; UTCDoc L2/12-333 193;; 16; 1
UTC-01166; **B**; **U+27C4F**; 152.6;; ☷辛冢; UTCDoc L2/12-333 198;; 13; 4
UTC-01220; **F**; **U+2D3EC**; 32.11;; ☷土畢; UTCDoc L2/15-177 19;; 14; 2
UTC-01244; **B**; **U+23D8F**; 85.9;; ☷☵☰止; UTCDoc L2/15-177 43;; 12; 2
UTC-01256; **N**; 85.16;; ☷☵☶門☷土必; UTCDoc L2/15-177 55;; 19; 2
UTC-01257; **N**; 85.17;; ☷潭爻; UTCDoc L2/15-177 56;; 20; 3
UTC-01272; **N**; 86.11;; ☷炆囙; UTCDoc L2/15-177 71;; 15; 4
UTC-01276; **N**; 86.13;; ☷炆囙; UTCDoc L2/15-177 75;; 17; 4
UTC-01301; **N**; 167.9;; ☷金胸; UTCDoc L2/15-177 100;; 17; 3
UTC-01304; **B**; **U+28B02**; 167.11;; ☷金☲谷心; UTCDoc L2/15-177 103;; 19; 3

04) 2022-02-13 18:30:55 CST

Date/Time: Sun Feb 13 18:30:55 CST 2022

Name: Paul Masson

Report Type: Error Report

Opt Subject: **Unihan**

U+4F3C is most commonly pronounced sì, but kMandarin for this character is still given as shì in version 14. Shouldn't this be changed or at least both pronunciations given?

Comments: The group discussed this feedback, and noted that the *kMandarin* property value for this ideograph was “SI4 SHI4” up through Version 6.0, and became “shì” in Version 6.1. If “sì” is more common, which appears to be the case per this feedback, then it is a reasonable change, and should therefore be checked by the CLDR-TC.

Recommendations: The group recommends to the UTC the following disposition ➡

Action Item for Peter Edberg: Ask the CLDR-TC to check the proposed kMandarin property value change for U+4F3C, then report back to the UTC. See feedback [Sun Feb 13 18:30:55 CST 2022] in document L2/22-063 and Section 04 of document L2/22-067.

Action Item for Ken Lunde: Convey to the feedback submitter the CJK & Unihan Group comments in Section 04 of document L2/22-067. See feedback [Sun Feb 13 18:30:55 CST 2022] in document L2/22-063.

05) 2022-02-13 18:38:19 CST

Date/Time: Sun Feb 13 18:38:19 CST 2022

Name: Paul Masson

Report Type: Error Report

Opt Subject: **Unihan**

U+78D7 formerly had a kPhonetic value of 269, which was change in version 14 to 1157*. The character clearly does not belong to this group. I would suggest it be given a kPhonetic of 269* since I cannot locate it in Casey.

In fact the entire phonetic group 1157 is far too large compared to Casey. There are 263 characters alone with kPhonetic 1157*. This appears to be a major error for characters not in Casey that were assigned to the same group regardless of phonetics. Someone really needs to figure out when this batch was added and why.

Please feel free to follow up with me on phonetic group 1157. Thank you.

Comments: The group discussed this feedback, and agreed that the best action would be for John Jenkins to contact the feedback submitter to discuss this issue in greater detail, and then to apply any necessary changes to the provisional *kPhonetic* property.

Recommendations: The group recommends to the UTC the following disposition ➡

Action Item for John Jenkins, CJK & Unihan Group: Discuss with the feedback submitter, and make any necessary changes to the provisional kPhonetic property. See feedback [Sun Feb 13 18:38:19 CST 2022] in document L2/22-063 and Section 05 of document L2/22-067.

06) 2022-02-15 23:37:26 CST

Date/Time: Tue Feb 15 23:37:26 CST 2022

Name: Eiso Chan

Report Type: Error Report

Opt Subject: **Radical Errors**

Please update the kRSUnicode for U+3B3A as below. I have mentioned this issue in IRGN2239.

U+3B3A 74.9

U+2D15F is the variant of U+8352 as Moji Joho project shows and it's similar to U+2E3BB, so the best radical should be #140. It's better to change the RS information or add the secondary RS for it.

U+2D15F 140.6

or

U+2D15F 23.7 140.6

Comments: The group discussed this feedback, and agreed that the *kRSUnicode* property value of U+3B3A should be changed from 74.10 to 74.9, and that 140.6 should be added to the *kRSUnicode* property value of U+2D15F. The group also noted that the *kTotalStrokes* property value of U+3B3A should be changed from 14 to 13. The code chart excerpts for U+3B3A and U+2D15F are shown below for reference purposes:

3B3A	𦵱
月 74.10	K3-275E
2D15F	𦵱
匚 23.7	JMJ-059395

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the kRSUnicode and kTotalStrokes property value changes, based on feedback [Tue Feb 15 23:37:26 CST 2022] in document L2/22-063 and as amended in Section 06 of document L2/22-067, for Unicode Version 15.0.

Action Item for Michel Suignard: Change the kRSUnicode and kTotalStrokes property values, based on Section 06 of document L2/22-067, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the Unihan database to reflect the kRSUnicode and kTotalStrokes changes, based on Section 06 of document L2/22-067, for Unicode Version 15.0.

Current:

U+3B3A	kRSUnicode	74.10
U+3B3A	kTotalStrokes	14
U+2D15F	kRSUnicode	23.7

Adjusted:

U+3B3A	kRSUnicode	74.9
U+3B3A	kTotalStrokes	13
U+2D15F	kRSUnicode	23.7 140.6

07) 2022-03-12 04:49:28 CST

Date/Time: Sat Mar 12 04:49:28 CST 2022

Name: Edward

Report Type: Error Report

Opt Subject:

I found out an issue in UniHan Database. Some `kTotalStrokes` values of the characters with the radical 邑 or 阜 may be wrong. For example, `kTotalStrokes` value of U+2B545 隄 is 10, while U+2CBC0 隄 is 9. The radical 阝 has 2 strokes in the blocks from CJKUI to CJK-ExtD, while it has 3 strokes in the blocks from CJK-ExtE to CJK-ExtG. I wonder whether this is wrong. In the other words, the stroke of 阝 is 3 since Unicode® 8.0.0 was published.

That's all.

Comments: The group discussed this feedback, and agreed that it is an intrinsic issue that also affects other radicals and radical-like components, such as 𠂇/𠂇, which can be counted as three or four strokes with a similar dividing line among the CJK Unified Ideographs blocks. Another productive case is 骨/骨, which can be counted as nine or 10 strokes. The group also noted that the `kTotalStrokes` property accommodates multiple property values only when they differ for China and Taiwan, and explicitly does not cover other regions. This is one reason why the new provisional `kAlternateTotalStrokes` property was established for Unicode Version 15.0 (2022). The IRG Convenor, who attended the meeting, recommended that this issue be brought up with the IRG for discussion.

Recommendations: The group recommends to the UTC the following disposition ➡

Action Item for Ken Lunde, CJK & UniHan Group: Prepare and submit a new document for the IRG #59 meeting that outlines the fundamental issue surrounding how the total number of strokes of an ideograph are determined, and how they differ among the CJK Unified Ideographs blocks.

Action Item for Ken Lunde: Convey to the feedback submitter the CJK & UniHan Group comments in Section 07 of document L2/22-067. See feedback [Sat Mar 12 04:49:28 CST 2022] in document L2/22-063.

08) 2022-03-15 05:51:07 CST

Date/Time: Tue Mar 15 05:51:07 CDT 2022

Name: Andrew West

Report Type: Error Report

Opt Subject: **CJK Ext B code chart**

There are two Vietnam ideographs with identical shape but different source references for two different CJK unified ideographs:

VN-058B6 at U+58B6 is 𡗗; G and H glyphs are also 𡗗

VN-2143F at U+2143F is also 𡗗; but G and H glyphs are 𡗗 (one stroke less)

I think the V source glyph for U+2143F should be modified to match the G and H glyphs for U+2143F (and to distinguish it from the V glyph for U+58B6).

Comments: The group discussed this feedback, and agreed that the V-Source representative glyph for U+2143F should be changed so that it aligns with the G- and H-Source representative glyphs. Vietnam already provided an updated font to Michel Suignard that reflects this representative glyph change, and Michel circulated an excerpt for review. The current code chart excerpts for U+58B6 and U+2143F are shown below for reference purposes:

58B6 土 32.12	𡗗	𡗗	𡗗
	G3-337C	H-9C7E	VN-058B6
2143F 土 32.12	𡗗	𡗗	𡗗
	GHZ-10485.11	VU-2143F	H-8CC2

A corrected code chart excerpt for U+2143F, which was supplied by Michel Suignard, is shown below:

2143F 土 32.12	𡗗	𡗗	𡗗
	GHZ-10485.11	VN-2143F	H-8CC2

Recommendations: The group recommends to the UTC the following disposition ➡

Action Item for Ken Lunde: Convey to the feedback submitter the CJK & Unihan Group comments in Section 08 of document L2/22-067. See feedback [Tue Mar 15 05:51:07 CDT 2022] in document L2/22-063.

09) 2022-04-11 09:24:29 CDT

Date/Time: Mon Apr 11 09:24:29 CDT 2022

Name: Jaycee Carter

Report Type: Error Report

Opt Subject: **Unihan_IRGSources.txt and CJK Unified Ideographs code chart**

This is to report an error relating to CJK character stroke counts:

U+5954: kRSUnicode is currently 37.6. This should be 37.5.

U+595F: kRSUnicode is currently 37.9. This should be 37.8.

kTotalStrokes is correct for both characters.

Comments: The group discussed this feedback, which was submitted after the meeting, and agreed that changing the *kRSUnicode* property values for U+5954 and U+595F is appropriate. The current code chart excerpts for U+5954 and U+595F are shown below for reference purposes:

5954 大 37.6	奔	奔	奔	奔	奔	奔
	G0-313C	HB1-A962	T1-4C64	J0-4B5B	K0-5D46	V2-8B43
595F 大 37.9	崩	崩	崩			
	G3-3536	T4-3126	J14-2546			

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the kRSUnicode property value change for U+5954 and U+595F, based on feedback [Mon Apr 11 09:24:29 CDT 2022] in document L2/22-063, for Unicode Version 15.0.

Action Item for Michel Suignard: Change the kRSUnicode property values of U+5954 and U+595F, based on Section 09 of document L2/22-067, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the Unihan database to reflect the kRSUnicode property value change for U+5954 and U+595F, based on Section 09 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Lunde: Convey to the feedback submitter the CJK & Unihan Group comments in Section 09 of document L2/22-067. See feedback [Mon Apr 11 09:24:29 CDT 2022] in document L2/22-063.

Current:

U+5954	kRSUnicode	37.6
U+595F	kRSUnicode	37.9

Adjusted:

U+5954	kRSUnicode	37.5
U+595F	kRSUnicode	37.8

UAX #38 / Unihan Database Documents & Topics

The documents in this section were discussed by the group, and for convenience, the following data files, all of which are PDF attachments, include all of the recommended Unihan database changes and additions based on them:

- *Unihan-changes-20220408.txt*
- *Unihan-additions-20220408.txt*
- *kMandarin-additions-20220408.txt*

With the exception of *kMandarin* property value changes and additions, these recommended Unihan database changes and additions are also shown inline, following the Recommendations.

10) L2/22-070: Feedback on Unihan_Variants.txt

Comments: The group discussed this proposal, which is comprised of two large public feedback items, and which would involve changes to two *kSimplifiedVariant* and 390 *kTraditionalVariant* property values. The changes seem reasonable, given the relationships between simplified and traditional ideographs, but their symmetries will need to be checked after they have been incorporated into the Unihan database and adjusted as necessary.

Recommendations: The group recommends to the UTC the following disposition ➡

Action Item for John Jenkins, CJK & Unihan Group: Update the Unihan database to reflect the *kSimplifiedVariant* and *kTraditionalVariant* property value changes and deal with any symmetries, based on Section 10 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Lunde: Convey to the author of document L2/22-070 the CJK & Unihan Group comments in Section 10 of document L2/22-067.

Current:

U+3CFD	kTraditionalVariant	U+7030
U+4E07	kTraditionalVariant	U+842C
U+4E11	kTraditionalVariant	U+919C
U+4E22	kTraditionalVariant	U+4E1F
U+4E24	kTraditionalVariant	U+5169
U+4E2A	kTraditionalVariant	U+500B
U+4E30	kTraditionalVariant	U+8C50
U+4E48	kTraditionalVariant	U+5E7A U+9EBC U+9EBD
U+4E49	kTraditionalVariant	U+7FA9
U+4E50	kTraditionalVariant	U+6A02
U+4E54	kTraditionalVariant	U+55AC
U+4E71	kTraditionalVariant	U+4E82
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U+4FE6	kTraditionalVariant	U+5114
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U+506C	kTraditionalVariant	U+50AF
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U+51AC	kTraditionalVariant	U+9F15
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U+51B5	kTraditionalVariant	U+6CC1
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U+51C9	kTraditionalVariant	U+6DBC
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U+707E	kTraditionalVariant	U+707D
U+7089	kTraditionalVariant	U+7210
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U+75C7	kTraditionalVariant	U+7665
U+75D2	kTraditionalVariant	U+7662
U+7618	kTraditionalVariant	U+763A
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U+9F17	kTraditionalVariant	U+9780
U+9F39	kTraditionalVariant	U+9F34
U+9F9F	kTraditionalVariant	U+9F9C

Adjusted:

U+3CFD	kTraditionalVariant	U+3CFD	U+7030
U+4E07	kTraditionalVariant	U+4E07	U+842C
U+4E11	kTraditionalVariant	U+4E11	U+919C
U+4E22	kTraditionalVariant	U+4E1F	U+4E22
U+4E24	kTraditionalVariant	U+4E24	U+5169
U+4E2A	kTraditionalVariant	U+4E2A	U+500B
U+4E30	kTraditionalVariant	U+4E30	U+8C50
U+4E48	kTraditionalVariant	U+4E48	U+5E7A U+9EBC U+9EBD
U+4E49	kTraditionalVariant	U+4E49	U+7FA9
U+4E50	kTraditionalVariant	U+4E50	U+6A02
U+4E54	kTraditionalVariant	U+4E54	U+55AC

U+4E71	kTraditionalVariant	U+4E71	U+4E82
U+4E86	kTraditionalVariant	U+4E86	U+77AD
U+4E89	kTraditionalVariant	U+4E89	U+722D
U+4E8E	kTraditionalVariant	U+4E8E	U+65BC
U+4E8F	kTraditionalVariant	U+4E8F	U+8667
U+4EC5	kTraditionalVariant	U+4EC5	U+50C5
U+4EC6	kTraditionalVariant	U+4EC6	U+50D5
U+4ECE	kTraditionalVariant	U+4ECE	U+5F9E
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U+4EF7	kTraditionalVariant	U+4EF7	U+50F9
U+4F17	kTraditionalVariant	U+4F17	U+773E
U+4F18	kTraditionalVariant	U+4F18	U+512A
U+4F19	kTraditionalVariant	U+4F19	U+5925
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U+4F24	kTraditionalVariant	U+4F24	U+50B7
U+4F53	kTraditionalVariant	U+4F53	U+9AD4
U+4F63	kTraditionalVariant	U+4F63	U+50AD
U+4FA0	kTraditionalVariant	U+4FA0	U+4FE0
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U+4FE6	kTraditionalVariant	U+4FE6	U+5114
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U+51B5	kTraditionalVariant	U+51B5	U+6CC1
U+51C6	kTraditionalVariant	U+51C6	U+6E96
U+51C9	kTraditionalVariant	U+51C9	U+6DBC
U+51CF	kTraditionalVariant	U+51CF	U+6E1B
U+51D1	kTraditionalVariant	U+51D1	U+6E4A
U+51E0	kTraditionalVariant	U+51E0	U+5E7E
U+51E4	kTraditionalVariant	U+51E4	U+9CF3
U+51ED	kTraditionalVariant	U+51ED	U+6191
U+5212	kTraditionalVariant	U+5212	U+5283
U+5218	kTraditionalVariant	U+5218	U+5289
U+5220	kTraditionalVariant	U+5220	U+522A
U+522B	kTraditionalVariant	U+5225 U+522B	
U+522E	kTraditionalVariant	U+522E	U+98B3
U+5236	kTraditionalVariant	U+5236	U+88FD
U+5239	kTraditionalVariant	U+5239	U+524E
U+523E	kTraditionalVariant	U+34E8 U+523E	
U+5267	kTraditionalVariant	U+5267	U+5287
U+529D	kTraditionalVariant	U+529D	U+52F8
U+529E	kTraditionalVariant	U+529E	U+8FA6
U+52A8	kTraditionalVariant	U+52A8	U+52D5
U+52B1	kTraditionalVariant	U+52B1	U+52F5
U+52B3	kTraditionalVariant	U+52B3	U+52DE
U+52BF	kTraditionalVariant	U+52BF	U+52E2
U+5300	kTraditionalVariant	U+52FB U+5300	

U+533A	kTraditionalVariant	U+533A	U+5340
U+533B	kTraditionalVariant	U+533B	U+91AB
U+5343	kTraditionalVariant	U+5343	U+97C6
U+5355	kTraditionalVariant	U+5355	U+55AE
U+535C	kTraditionalVariant	U+535C	U+8514
U+5374	kTraditionalVariant	U+5374	U+537B
U+5377	kTraditionalVariant	U+5377	U+6372
U+5382	kTraditionalVariant	U+5382	U+5EE0
U+5386	kTraditionalVariant	U+5386	U+66C6 U+6B77
U+5389	kTraditionalVariant	U+5389	U+53B2
U+538B	kTraditionalVariant	U+538B	U+58D3
U+5398	kTraditionalVariant	U+5398	U+91D0
U+53A6	kTraditionalVariant	U+53A6	U+5EC8
U+53A8	kTraditionalVariant	U+53A8	U+5EDA
U+53A9	kTraditionalVariant	U+53A9	U+5EC4
U+53AE	kTraditionalVariant	U+53AE	U+5EDD
U+53C2	kTraditionalVariant	U+53C2	U+53C3
U+53CC	kTraditionalVariant	U+53CC	U+96D9
U+53D9	kTraditionalVariant	U+53D9	U+6558
U+53E0	kTraditionalVariant	U+53E0	U+758A
U+53F6	kTraditionalVariant	U+53F6	U+8449
U+53F7	kTraditionalVariant	U+53F7	U+865F
U+5401	kTraditionalVariant	U+5401	U+7C72
U+5408	kTraditionalVariant	U+5408	U+95A4
U+542C	kTraditionalVariant	U+542C	U+807D
U+5434	kTraditionalVariant	U+5433 U+5434	
U+548F	kTraditionalVariant	U+548F	U+8A60
U+54A4	kTraditionalVariant	U+5412 U+54A4	
U+54B8	kTraditionalVariant	U+54B8	U+9E79
U+54CD	kTraditionalVariant	U+54CD	U+97FF
U+5570	kTraditionalVariant	U+5570	U+56C9
U+55BD	kTraditionalVariant	U+55BD	U+560D
U+5631	kTraditionalVariant	U+5631	U+56D1
U+56DE	kTraditionalVariant	U+56DE	U+8FF4
U+56ED	kTraditionalVariant	U+56ED	U+5712
U+56F0	kTraditionalVariant	U+56F0	U+774F
U+56FE	kTraditionalVariant	U+56FE	U+5716
U+5742	kTraditionalVariant	U+5742	U+962A
U+574F	kTraditionalVariant	U+574F	U+58DE
U+5757	kTraditionalVariant	U+5757	U+584A
U+575B	kTraditionalVariant	U+575B	U+58C7 U+7F48
U+5815	kTraditionalVariant	U+5815	U+58AE
U+58EE	kTraditionalVariant	U+58EE	U+58EF
U+58F0	kTraditionalVariant	U+58F0	U+8072
U+58F3	kTraditionalVariant	U+58F3	U+6BBC
U+590D	kTraditionalVariant	U+590D	U+5FA9 U+8907 U+8986
U+591F	kTraditionalVariant	U+591F	U+5920
U+5925	kSimplifiedVariant	U+4F19 U+5925	
U+5934	kTraditionalVariant	U+5934	U+982D
U+5938	kTraditionalVariant	U+5938	U+8A87
U+5978	kTraditionalVariant	U+5978	U+59E6
U+59D7	kTraditionalVariant	U+59CD U+59D7	
U+59DC	kTraditionalVariant	U+59DC	U+8591
U+59F9	kTraditionalVariant	U+597C U+59F9	
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U+5B59	kTraditionalVariant	U+5B59	U+5B6B
U+5B6A	kTraditionalVariant	U+5B6A	U+5B7F
U+5B81	kTraditionalVariant	U+5B81	U+5BE7
U+5B9D	kTraditionalVariant	U+5B9D	U+5BF6
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U+5BB6	kTraditionalVariant	U+50A2	U+5BB6
U+5BBE	kTraditionalVariant	U+5BBE	U+8CD3
U+5BF9	kTraditionalVariant	U+5BF9	U+5C0D
U+5BFF	kTraditionalVariant	U+58FD	U+5BFF
U+5C14	kTraditionalVariant	U+5C14	U+723E
U+5C1D	kTraditionalVariant	U+5617	U+5C1D
U+5C3D	kTraditionalVariant	U+5118	U+5C3D U+76E1
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U+5C5E	kTraditionalVariant	U+5C5E	U+5C6C
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U+5E2E	kTraditionalVariant	U+5E2E	U+5E6B
U+5E42	kTraditionalVariant	U+51AA	U+5E42
U+5E72	kTraditionalVariant	U+4E7E	U+5E72 U+5E79
U+5E76	kTraditionalVariant	U+4E26	U+4F75 U+5E76
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U+5E90	kTraditionalVariant	U+5E90	U+5EEC
U+5E94	kTraditionalVariant	U+5E94	U+61C9
U+5E99	kTraditionalVariant	U+5E99	U+5EDF
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U+601C	kTraditionalVariant	U+601C	U+6190
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U+607C	kTraditionalVariant	U+607C	U+60F1
U+60E7	kTraditionalVariant	U+60E7	U+61FC
U+60E9	kTraditionalVariant	U+60E9	U+61F2
U+6120	kTraditionalVariant	U+6120	U+614D
U+620F	kTraditionalVariant	U+620F	U+6232
U+6218	kTraditionalVariant	U+6218	U+6230
U+6237	kTraditionalVariant	U+6236	U+6237
U+624D	kTraditionalVariant	U+624D	U+7E94
U+6251	kTraditionalVariant	U+6251	U+64B2
U+6267	kTraditionalVariant	U+57F7	U+6267
U+6298	kTraditionalVariant	U+6298	U+647A

U+629B	kTraditionalVariant	U+629B	U+62CB
U+62A5	kTraditionalVariant	U+5831 U+62A5	
U+62C5	kTraditionalVariant	U+62C5	U+64D4
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U+631B	kTraditionalVariant	U+631B	U+6523
U+631F	kTraditionalVariant	U+631F	U+633E
U+6321	kTraditionalVariant	U+6321	U+64CB
U+633D	kTraditionalVariant	U+633D	U+8F13
U+636E	kTraditionalVariant	U+636E	U+64DA
U+63B7	kTraditionalVariant	U+63B7	U+64F2
U+643A	kTraditionalVariant	U+643A	U+651C
U+6446	kTraditionalVariant	U+6446	U+64FA
U+6448	kTraditionalVariant	U+6448	U+64EF
U+644A	kTraditionalVariant	U+644A	U+6524
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U+6491	kTraditionalVariant	U+6490 U+6491	
U+6570	kTraditionalVariant	U+6570	U+6578
U+658B	kTraditionalVariant	U+658B	U+9F4B
U+6597	kTraditionalVariant	U+6597	U+9B25
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U+65CB	kTraditionalVariant	U+65CB	U+93C7
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U+65F6	kTraditionalVariant	U+65F6	U+6642
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U+663C	kTraditionalVariant	U+663C	U+665D
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U+6734	kTraditionalVariant	U+6734	U+6A38
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U+6743	kTraditionalVariant	U+6743	U+6B0A
U+6746	kTraditionalVariant	U+6746	U+687F
U+677E	kTraditionalVariant	U+677E	U+9B06
U+6784	kTraditionalVariant	U+6784	U+69CB
U+67DC	kTraditionalVariant	U+67DC	U+6AC3
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U+6807	kTraditionalVariant	U+6807	U+6A19
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U+683E	kTraditionalVariant	U+683E	U+6B12
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U+697C	kTraditionalVariant	U+697C	U+6A13
U+6B22	kTraditionalVariant	U+6B61 U+6B22	
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U+6BA1	kTraditionalVariant	U+6BA1	U+6BAF
U+6BE1	kTraditionalVariant	U+6BE1	U+6C08
U+6C14	kTraditionalVariant	U+6C14	U+6C23
U+6C79	kTraditionalVariant	U+6C79	U+6D36
U+6C84	kTraditionalVariant	U+6C84	U+6F90
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U+6CAA	kTraditionalVariant	U+6CAA	U+6EEC
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U+6D82	kTraditionalVariant	U+5857 U+6D82	
U+6D9B	kTraditionalVariant	U+6D9B	U+6FE4
U+6E0A	kTraditionalVariant	U+6DF5 U+6E0A	
U+6E29	kTraditionalVariant	U+6E29	U+6EAB
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U+6EDA	kTraditionalVariant	U+6EDA	U+6EFE
U+6EE6	kTraditionalVariant	U+6EE6	U+7064
U+6EE8	kTraditionalVariant	U+6EE8	U+6FF1
U+6EE9	kTraditionalVariant	U+6EE9	U+7058
U+6F13	kTraditionalVariant	U+6F13	U+7055
U+706F	kTraditionalVariant	U+706F	U+71C8
U+7076	kTraditionalVariant	U+7076	U+7AC8
U+707E	kTraditionalVariant	U+707D U+707E	
U+7089	kTraditionalVariant	U+7089	U+7210
U+70B9	kTraditionalVariant	U+70B9	U+9EDE
U+70DB	kTraditionalVariant	U+70DB	U+71ED
U+70DF	kTraditionalVariant	U+70DF	U+7159
U+70E9	kTraditionalVariant	U+70E9	U+71F4
U+70EC	kTraditionalVariant	U+70EC	U+71FC
U+70ED	kTraditionalVariant	U+70ED	U+71B1
U+72B9	kTraditionalVariant	U+72B9	U+7336
U+72EC	kTraditionalVariant	U+72EC	U+7368
U+72EF	kTraditionalVariant	U+72EF	U+736A
U+7315	kTraditionalVariant	U+7315	U+737C
U+732A	kTraditionalVariant	U+732A	U+8C6C
U+732B	kTraditionalVariant	U+732B	U+8C93
U+732C	kTraditionalVariant	U+732C	U+875F
U+732E	kTraditionalVariant	U+732E	U+737B
U+73AF	kTraditionalVariant	U+73AF	U+74B0
U+73D0	kTraditionalVariant	U+73D0	U+743A
U+743C	kTraditionalVariant	U+743C	U+74CA
U+7535	kTraditionalVariant	U+7535	U+96FB
U+753B	kTraditionalVariant	U+753B	U+756B
U+75B1	kTraditionalVariant	U+75B1	U+76B0
U+75B4	kTraditionalVariant	U+75B4	U+75FE
U+75C7	kTraditionalVariant	U+75C7	U+7665
U+75D2	kTraditionalVariant	U+75D2	U+7662
U+7618	kTraditionalVariant	U+7618	U+763A
U+76B1	kTraditionalVariant	U+76B1	U+76BA
U+76D6	kTraditionalVariant	U+76D6	U+84CB
U+7726	kTraditionalVariant	U+7725 U+7726	
U+77EB	kTraditionalVariant	U+77EB	U+77EF
U+786E	kTraditionalVariant	U+786E	U+78BA
U+788D	kTraditionalVariant	U+788D	U+7919
U+793C	kTraditionalVariant	U+793C	U+79AE
U+7962	kTraditionalVariant	U+7962	U+79B0
U+7977	kTraditionalVariant	U+7977	U+79B1
U+7980	kTraditionalVariant	U+7980	U+7A1F
U+79C3	kTraditionalVariant	U+79BF U+79C3	
U+79C6	kTraditionalVariant	U+79C6	U+7A08
U+79CB	kTraditionalVariant	U+79CB	U+97A6
U+79CD	kTraditionalVariant	U+79CD	U+7A2E

U+79F0	kTraditionalVariant	U+79F0	U+7A31
U+7A33	kTraditionalVariant	U+7A33	U+7A69
U+7A77	kTraditionalVariant	U+7A77	U+7AAE
U+7A83	kTraditionalVariant	U+7A83	U+7ACA
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U+7B14	kTraditionalVariant	U+7B14	U+7B46
U+7B51	kTraditionalVariant	U+7B51	U+7BC9
U+7BA9	kTraditionalVariant	U+7BA9	U+7C6E
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U+7BF1	kTraditionalVariant	U+7BF1	U+7C6C
U+7C74	kTraditionalVariant	U+7C74	U+7CF4
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U+7CC7	kTraditionalVariant	U+7CC7	U+9931
U+7D2F	kTraditionalVariant	U+7D2F	U+7E8D
U+7F51	kTraditionalVariant	U+7DB2 U+7F51	
U+7F57	kTraditionalVariant	U+7F57	U+7F85
U+7F62	kTraditionalVariant	U+7F62	U+7F77
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U+804C	kTraditionalVariant	U+804C	U+8077
U+8054	kTraditionalVariant	U+8054	U+806F
U+80AE	kTraditionalVariant	U+80AE	U+9AAF
U+80C6	kTraditionalVariant	U+80C6	U+81BD
U+80DC	kTraditionalVariant	U+52DD U+80DC	
U+80E1	kTraditionalVariant	U+80E1	U+885A U+9B0D
U+8109	kTraditionalVariant	U+8108 U+8109	
U+810D	kTraditionalVariant	U+810D	U+81BE
U+8114	kTraditionalVariant	U+8114	U+81E0
U+811A	kTraditionalVariant	U+811A	U+8173
U+814A	kTraditionalVariant	U+814A	U+81D8
U+816D	kTraditionalVariant	U+816D	U+9F76
U+817C	kTraditionalVariant	U+817C	U+9766
U+8191	kTraditionalVariant	U+8191	U+81CF
U+820D	kTraditionalVariant	U+6368 U+820D	
U+8273	kTraditionalVariant	U+8273	U+8277
U+82A6	kTraditionalVariant	U+82A6	U+8606
U+82B8	kTraditionalVariant	U+82B8	U+8553
U+82CF	kTraditionalVariant	U+82CF	U+8607
U+82F9	kTraditionalVariant	U+82F9	U+860B
U+8303	kTraditionalVariant	U+7BC4 U+8303	
U+8346	kTraditionalVariant	U+8346	U+834A
U+8350	kTraditionalVariant	U+8350	U+85A6
U+8363	kTraditionalVariant	U+69AE U+8363	
U+8385	kTraditionalVariant	U+8385	U+849E
U+841D	kTraditionalVariant	U+841D	U+863F
U+8471	kTraditionalVariant	U+8471	U+8525
U+8499	kTraditionalVariant	U+61DE U+6FDB U+77C7 U+8499	
U+8502	kTraditionalVariant	U+8502	U+8646
U+8511	kTraditionalVariant	U+8511	U+884A
U+8616	kTraditionalVariant	U+6AF1 U+8616	
U+866B	kTraditionalVariant	U+866B	U+87F2
U+866C	kTraditionalVariant	U+866C	U+866F
U+867E	kTraditionalVariant	U+867E	U+8766
U+8681	kTraditionalVariant	U+8681	U+87FB
U+8695	kTraditionalVariant	U+8695	U+8836

U+86EE	kTraditionalVariant	U+86EE	U+883B
U+86F0	kTraditionalVariant	U+86F0	U+87C4
U+877C	kTraditionalVariant	U+877C	U+87BB
U+8845	kTraditionalVariant	U+8845	U+91C1
U+8865	kTraditionalVariant	U+8865	U+88DC
U+886E	kTraditionalVariant	U+886E	U+889E
U+8884	kTraditionalVariant	U+8884	U+8956
U+889C	kTraditionalVariant	U+889C	U+896A
U+8A89	kTraditionalVariant	U+8A89	U+8B7D
U+8C37	kTraditionalVariant	U+7A40 U+8C37	
U+8D76	kTraditionalVariant	U+8D76	U+8D95
U+8D8B	kTraditionalVariant	U+8D8B	U+8DA8
U+8E0A	kTraditionalVariant	U+8E0A	U+8E34
U+8E2A	kTraditionalVariant	U+8E2A	U+8E64
U+8E70	kTraditionalVariant	U+8E70	U+8E95
U+8EAF	kTraditionalVariant	U+8EAF	U+8EC0
U+8F9E	kTraditionalVariant	U+8F9E	U+8FAD
U+8FB9	kTraditionalVariant	U+8FB9	U+908A
U+8FC1	kTraditionalVariant	U+8FC1	U+9077
U+8FC7	kTraditionalVariant	U+8FC7	U+904E
U+8FD8	kTraditionalVariant	U+8FD8	U+9084
U+8FD9	kTraditionalVariant	U+8FD9	U+9019
U+8FDC	kTraditionalVariant	U+8FDC	U+9060
U+8FE9	kTraditionalVariant	U+8FE9	U+9087
U+8FF9	kTraditionalVariant	U+8DE1 U+8FF9	
U+9002	kTraditionalVariant	U+9002	U+9069
U+9009	kTraditionalVariant	U+9009	U+9078
U+900A	kTraditionalVariant	U+900A	U+905C
U+9012	kTraditionalVariant	U+9012	U+905E
U+903B	kTraditionalVariant	U+903B	U+908F
U+90C1	kTraditionalVariant	U+90C1	U+9B31
U+90D1	kTraditionalVariant	U+90D1	U+912D
U+91CC	kTraditionalVariant	U+88E1 U+91CC	
U+92AE	kTraditionalVariant	U+92AE	U+947E
U+9645	kTraditionalVariant	U+9645	U+969B
U+968F	kTraditionalVariant	U+968F	U+96A8
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U+96B6	kTraditionalVariant	U+96B6	U+96B8
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U+9709	kTraditionalVariant	U+9709	U+9EF4
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U+9EC4	kTraditionalVariant	U+9EC3 U+9EC4	
U+9EFE	kTraditionalVariant	U+9EFD U+9EFE	
U+9F17	kTraditionalVariant	U+9780 U+9F17	
U+9F39	kTraditionalVariant	U+9F34 U+9F39	
U+9F9F	kTraditionalVariant	U+9F9C U+9F9F	

11) L2/22-084: Proposal to update various readings values for CJK Ext. H in the Unihan Database

Comments: The group reviewed this proposal, which includes proposed reading data for Extension H. The 231 *kMandarin* property value additions are reasonable, but will need to be checked by the CLDR-TC prior to adding to the Unihan database. The 13 *kCantonese* property value additions are also reasonable, and should be added to the Unihan database. However, the group felt that adding the *kKorean* and *kHangul* property values is not appropriate at this time, because they are one-off readings from a larger source, and because adding the latter property values entails modifying the syntax of its property. The group also felt that adding the *kJapaneseKun* property values should be deferred until the new provisional *kJapanese* property has been established, which may happen in Unicode Version 16.0 (2023). Ken Lunde recorded the two Japanese readings in the draft data for the forthcoming *kJapanese* property.

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for Peter Edberg: Ask the CLDR-TC to check the proposed *kMandarin* property value additions, then report back to the UTC. See document L2/22-084 and Section 11 of document L2/22-067.

Action Item for John Jenkins: Update the Unihan database to reflect the *kCantonese* property value additions, based on Section 11 of document L2/22-067, for Unicode Version 15.0.

New:

U+314A8	kCantonese	ji1
U+314B2	kCantonese	go2
U+314EC	kCantonese	ceoi4
U+3154C	kCantonese	lo1
U+3156E	kCantonese	paan1
U+31677	kCantonese	me1
U+317ED	kCantonese	mit1
U+317FD	kCantonese	wo5
U+31838	kCantonese	jyun1
U+318DA	kCantonese	lung5
U+3195C	kCantonese	naa2
U+32003	kCantonese	bang1
U+32054	kCantonese	lai6

12) Representative glyph change for U+32351 in Extension H

Michel Suignard received an email from China dated 2022-04-14 that included a representative glyph correction for the G-Source ideograph of U+32351 (aka GXM-00265) in Extension H. While this representative glyph change necessitates *kRSUnicode* and *kTotalStrokes* property value changes, it does not affect the ordering of the Extension H block. The email included an updated font with the corrected representative glyph. While this is a last-minute change to the Extension H block, given that it does not disturb its ordering, it is completely worthwhile to accept. The images below show the current Extension H code chart excerpt for U+32351 and the corrected representative glyph that includes one less stroke:

32351

鱼 195'.7

𩺰

GXM-00265

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Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the kRSUnicode and kTotalStrokes property value changes for U+32351 (aka GXM-00265) in the Extension H block, based on Section 12 of document L2/22-067, for Unicode Version 15.0.

Action Item for Michel Suignard: Change the kRSUnicode and kTotalStrokes property values of U+32351 in the Extension H block, based on Section 12 of document L2/22-067, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the Unihan database to reflect the kRSUnicode and kTotalStrokes property value changes for U+32351 in the Extension H block, based on Section 12 of document L2/22-067, for Unicode Version 15.0.

Current:

U+32351	kRSUnicode	195' .7
U+32351	kTotalStrokes	15

Adjusted:

U+32351	kRSUnicode	195' .6
U+32351	kTotalStrokes	14

UAX #45 / U-Source Documents & Topics

The documents in this section were discussed by the group, and for convenience, the following data file, which is a PDF attachment, includes all of the recommended UAX #45 *USourceData.txt* data file additions based on them:

- *USource-additions-20220408.txt*

These recommended UAX #45 *USourceData.txt* data file additions are also shown inline, following the Recommendations. In addition, the *UTCHan2022u171-Regular.ttf* TrueType font (PDF attachment) includes the representative glyphs for adding to the UAX #45 *UTCHan.ttf* TrueType font.

13) UAX #45 Data File Editorial Changes

The group discussed a concern that John Jenkins, the editor of UAX #45, raised, which is that it may make sense to allow editorial changes, such as minor corrections or additions, to be applied to the UAX #45 data file, *USourceData.txt*, without prior UTC approval. Two prime examples include the latest fields to be added that are not yet fully-populated, specifically Field 8 (*total strokes*) and Field 9 (*first residual stroke*). Over 400 *USourceData.txt* data file records lack a value for the former field, and over 300 *USourceData.txt* data file records lack a value for the latter field. Adjustments that would necessitate a new horizontal extension, such as changing the status field, Field 1, would still require UTC approval.

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Authorize the UAX #45 editor to apply editorial changes, such as minor corrections or additions, to the UAX #45 data file, USourceData.txt, without prior UTC approval, based on Section 13 of document L2/22-067.

14) L2/22-040: Proposal on encoding the unencoded Chinese characters in Nanmingshi by Qian Haiyue and other resources

Comments: The group reviewed this proposal, and agreed that adding 41 new ideographs to UAX #45 with a status value of N is reasonable. The 41 ideographs, whose representative glyphs are shown below, can therefore be considered as candidates for inclusion in the UTC’s submission for the next IRG working set. Note that six of the ideographs—serial numbers 4, 5, 11, 32, 38, and 41—include a “variant of ...” comment in the general comments field, Field 7, of the proposed UAX #45 *USourceData.txt* additions, which are marked **red** below.

漚潏敕𣎵汭涿炆壺垓督淮雉鎡釤釜
窰畛畧霑鉶炆渠萩授榦槩璽璱櫟轆
錐柔鉍欻洳欒嗜襍視視花

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept 41 new U-Source ideographs as **UTC-03255** through **UTC-03295** with a UAX #45 status value of N, based on document L2/22-040 and as amended in Section 14 of document L2/22-067, for Unicode Version 15.0.

Action Item for John Jenkins: Add 41 new records to the UAX #45 USourceData.txt data file and their representative glyphs to USourceGlyphs.pdf, based on Section 14 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Lunde: Convey to the author of L2/22-040 the CJK & Unihan Group comments in Section 14 of document L2/22-067.

New:

UTC-03255;N;;85.13;;𣎵𣎵𣎵;UTCDoc L2/22-040 1;;16;2
UTC-03256;N;;85.12;;𣎵𣎵𣎵裁;UTCDoc L2/22-040 2;;15;1
UTC-03257;N;;85.7;;𣎵𣎵山水女;UTCDoc L2/22-040 3;;11;2
UTC-03258;N;;167.7;;𣎵𣎵户己金;UTCDoc L2/22-040 4;**variant of U+289D2**;15;4
UTC-03259;N;;85.5;;𣎵𣎵山𣎵𣎵乃;UTCDoc L2/22-040 5;**variant of U+23CB8**;8;4
UTC-03260;N;;85.10;;𣎵𣎵𣎵严永;UTCDoc L2/22-040 6;;13;1
UTC-03261;N;;86.3;;𣎵火巳;UTCDoc L2/22-040 7;;7;5
UTC-03262;N;;33.6;;𣎵士𣎵工;UTCDoc L2/22-040 8;;9;1
UTC-03263;N;;32.9;;𣎵土要;UTCDoc L2/22-040 9;;12;1
UTC-03264;N;;86.8;;𣎵𣎵火女日;UTCDoc L2/22-040 10;;12;3
UTC-03265;N;;85.11;;𣎵𣎵𣎵广佳;UTCDoc L2/22-040 11;**variant of U+3D36**;14;4
UTC-03266;N;;123.8;;𣎵羊佳;UTCDoc L2/22-040 12;;14;3
UTC-03267;N;;167.17;;𣎵金𣎵火犬頁;UTCDoc L2/22-040 13;;25;4
UTC-03268;N;;167.5;;𣎵金𣎵厂彡;UTCDoc L2/22-040 14;;13;1
UTC-03269;N;;167.8;;𣎵𣎵土正金;UTCDoc L2/22-040 15;;16;1
UTC-03270;N;;167.3;;𣎵广金;UTCDoc L2/22-040 16;;11;4
UTC-03271;N;;167.5;;𣎵田金;UTCDoc L2/22-040 17;;13;2
UTC-03272;N;;167.8;;𣎵泊金;UTCDoc L2/22-040 18;;16;4
UTC-03273;N;;85.21;;𣎵雨𣎵𣎵夔;UTCDoc L2/22-040 19;;24;1
UTC-03274;N;;167.6;;𣎵金芝;UTCDoc L2/22-040 20;;14;1
UTC-03275;N;;86.4;;𣎵火今;UTCDoc L2/22-040 21;;8;3
UTC-03276;N;;85.9;;𣎵𣎵𣎵&H6-03;水;UTCDoc L2/22-040 22;;13;4
UTC-03277;N;;75.7;;𣎵𣎵𣎵木火;UTCDoc L2/22-040 23;;11;1
UTC-03278;N;;75.8;;𣎵木受;UTCDoc L2/22-040 24;;12;3
UTC-03279;N;;75.10;;𣎵木𣎵户衣;UTCDoc L2/22-040 25;;14;4
UTC-03280;N;;85.9;;𣎵𣎵木;UTCDoc L2/22-040 26;;13;2
UTC-03281;N;;167.7;;𣎵金坐;UTCDoc L2/22-040 27;;15;3
UTC-03282;N;;167.8;;𣎵𣎵王巨金;UTCDoc L2/22-040 28;;16;1
UTC-03283;N;;75.11;;𣎵木野;UTCDoc L2/22-040 29;;15;2
UTC-03284;N;;86.27;;𣎵革𣎵𣎵𣎵白同𣎵灭;UTCDoc L2/22-040 30;;31;1
UTC-03285;N;;167.11;;𣎵金進;UTCDoc L2/22-040 31;;19;4
UTC-03286;N;;85.5;;𣎵禾水;UTCDoc L2/22-040 32;**variant of U+25778**;10;3
UTC-03287;N;;167.6;;𣎵金此;UTCDoc L2/22-040 33;;14;2
UTC-03288;N;;75.12;;𣎵木欸;UTCDoc L2/22-040 34;;16;4
UTC-03289;N;;85.10;;𣎵𣎵紋;UTCDoc L2/22-040 35;;13;5
UTC-03290;N;;75.30;;𣎵木鸞;UTCDoc L2/22-040 36;;34;5
UTC-03291;N;;154'.14;;𣎵贝睿;UTCDoc L2/22-040 37;;18;2
UTC-03292;N;;113.11;;𣎵𣎵密;UTCDoc L2/22-040 38;**variant of U+30A37**;15;4
UTC-03293;N;;113.11;;𣎵𣎵規;UTCDoc L2/22-040 39;;15;1
UTC-03294;N;;113.8;;𣎵𣎵规;UTCDoc L2/22-040 40;;12;1
UTC-03295;N;;140.5;;𣎵花一;UTCDoc L2/22-040 41;**variant of U+31FC3**;8;3

15) L2/22-085: Proposal to add two ideographs to UAX #45

Comments: The group reviewed this proposal, and agreed that adding two new ideographs to UAX #45 with a status value of N is reasonable. The two ideographs, whose representative glyphs are shown below, can therefore be considered as candidates for inclusion in the UTC’s submission for the next IRG working set. As noted in Section 3 of the proposal, both ideographs include a *kSpoofingVariant* property value in the general comments field, Field 7, of the proposed UAX #45 *USourceData.txt* additions.

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Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept two new U-Source ideographs as **UTC-03296** and **UTC-03297** with a UAX #45 status value of N, based on document L2/22-085 and Section 15 of document L2/22-067, for Unicode Version 15.0.

Action Item for John Jenkins: Add two new records to the UAX #45 USourceData.txt data file and their representative glyphs to USourceGlyphs.pdf, based on Section 15 of document L2/22-067, for Unicode Version 15.0.

New:

UTC-03296;N;;30.3;;𐤁𐤁𐤂;UTCDoc L2/22-085 1;kSpoofingVariant U+20BC7;6;5
UTC-03297;N;;112.3;;𐤁𐤁𐤃;UTCDoc L2/22-085 2;kSpoofingVariant U+25426;8;5

IRG Documents

The documents in this section were discussed by the group, and for convenience, the following data files, all of which are PDF attachments, include all of the recommended Unihan database changes, additions, and removals based on them:

- *Unihan-changes-20220408.txt*
- *Unihan-additions-20220408.txt*
- *Unihan-removals-20220408.txt*

These recommended Unihan database changes, additions, and removals are also shown inline, following the Recommendations.

16) L2/22-038: US/Unicode Activity Report for IRG #58 (IRG N2534)

Comments: This document is the UTC's activity report as delivered during the IRG #58 meeting in March of 2022, and is therefore an FYI document for the UTC.

Recommendations: The group recommends to the UTC the following disposition ➡

No UTC action is required.

17) L2/22-054: G glyph for U+48B4 (IRG N2545)

Comments: The group discussed this document, which is a proposal to correct the G-Source representative glyph for U+48B4 (aka GS-2151) in the code charts, because it is identical to the G-Source representative glyph for U+9097 (aka G0-5A75). Michel Suignard noted that the G-Source representative glyph for U+48B4 in SuperCJK (Version 14, which is the latest version and over 20 years old) is different from that of U+9097, and matches the T-Source representative glyph for U+48B4. Below is the excerpt from SuperCJK Version 14:

048B4 56774 56774 1268.180 63755.080 邑 3	GS-2151 T4-2332	
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We can therefore conclude that the current G-Source representative glyph for U+48B4 is an error. The current code chart excerpts for U+48B4 and U+9097 are shown below for reference purposes:

48B4 邑 163.3	 GS-2151	 T4-2332			
9097 邑 163.3	 G0-5A75	 HB2-CA52	 T2-2272	 J13-7C5C	 K2-6629

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the G-Source representative glyph correction for U+48B4 (aka GS-2151), based on document L2/22-054 (aka IRG N2545) and Section 17 of document L2/22-067, for Unicode Version 15.0.

Action Item for Michel Suignard: Change the G-Source representative glyph for U+48B4 so that it matches its T-Source representative glyph, based on Section 17 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Lunde: Convey to the author of L2/22-054 the CJK & Unihan Group comments in Section 17 of document L2/22-067.

18) L2/22-042: Proposal to disunify U+5F50 into three separate ideographs—redux (IRG N2543)

L2/22-076: Submission of One Character for Macao Supplementary Character Set (MSCS) (IRG N2538R)

L2/22-091: Vietnam Response to IRG N2509

Comments: The group discussed these documents, which involve the disunification of U+5F50 and the encoding of its disunified form, along with an Urgently Needed Character (UNC) request from Macao SAR that corresponds to the disunified form of U+5F50. The IRG already discussed this, and accepted the actions that are recommended below, except for the ones that affect two UCD data files, *NamesList.txt* and *EquivalentUnifiedIdeograph.txt*.

The next available CJK Unified Ideograph code point is U+2B739 at the end of the Extension C block. The new M-Source source reference, MC-00140, is to be assigned to it, and the existing U- and V-Source source references for U+5F50, UTC-01005 and V1-5454, are to be moved to U+2B739. Vietnam assigned a new V-Source source reference to U+5F50, VN-05F50, and also adjusted the Vietnamese readings as expressed with the *kVietnamese* property.

In addition, document L2/22-091 recommends that an annotation (*actually a form of the radical for hand, despite its resemblance in shape to the radical for snout*) and new cross reference (2B739) be added to U+2E95 in the *NamesList.txt* data file, and that the *EquivalentUnifiedIdeograph* property value for U+2E95 (2E95) be changed from U+5F50 (5F50) to U+2B739 (2B739). The group agreed that these UCD changes and additions make sense.

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the disunification of U+5F50, the encoding of its disunified form at code point U+2B739 at the end of the Extension C block, all of the property value changes, additions, and removal, and the UCD changes, based on documents L2/22-042 (aka IRG N2543), L2/22-076 (IRG N2538R), and L2/22-091, and Section 18 of document L2/22-067, for Unicode Version 15.0.

Action Item for Michel Suignard: Apply the property value change, additions, and removal, based on Section 18 of document L2/22-067, and provide to John Jenkins an updated *UniHan15.txt* data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the *UniHan* database to reflect the property value changes, additions, and removal, based on Section 18 of document L2/22-067, for Unicode Version 15.0.

Action Item for John Jenkins: Provide to Michel Suignard an updated *UTCHhan.ttf* TrueType font that maps U+2B739 to the representative glyph of UTC-01005, based on Section 18 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Whistler: Update the pipeline to add the disunified ideograph with code point U+2B739, based on Section 18 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Whistler: Update the *UCD NamesList.txt* data file to reflect the annotation and new cross reference for U+2E95, based on document L2/22-091 and Section 18 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Whistler: Update the *UCD EquivalentUnifiedIdeograph.txt* data file to change the *EquivalentUnifiedIdeograph* property value for U+2E95 to U+2B739, based on document L2/22-091 and Section 18 of document L2/22-067, for Unicode Version 15.0.

New:

U+2B739	kIRG_MSource	MC-00140
U+2B739	kIRG_USource	UTC-01005
U+2B739	kIRG_VSource	V1-5454
U+2B739	kRSUnicode	58.0
U+2B739	kTotalStrokes	3
U+2B739	kVietnamese	kệ kệ

Current:

U+5F50	kIRG_VSource	V1-5454
U+5F50	kVietnamese	kệ

Adjusted:

U+5F50	kIRG_VSource	VN-05F50
U+5F50	kVietnamese	kí mự

Removed:

U+5F50	kIRG_USource	UTC-01005
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New NamesList.txt (U+2E95):

* actually a form of the radical for hand, despite its resemblance in shape to the radical for snout
x 2B739

Current EquivalentUnifiedIdeograph.txt:

2E95 ; **5F50** # CJK RADICAL SNOUT TWO

Adjusted EquivalentUnifiedIdeograph.txt:

2E95 ; **2B739** # CJK RADICAL SNOUT TWO

19) L2/22-077: revised proposal requesting a Horizontal Extension of 51 Hanja chars (previously submitted for ExtF/G/H) (IRG N2512R)

Comments: The IRG already discussed this proposal, which is a revision of an earlier proposal, and accepted the 51-ideograph horizontal extension. The group found no reason for the UTC not to accept it, though the group discovered that one of the code points, U+2DC19, needed to be changed to U+2DC13. This clerical error was present in the proposal's data file and mapping table, though the code chart excerpt in the former was for U+2DC13.

Recommendations: The group recommends to the UTC the following disposition ➡

Consensus: Accept the 51-ideograph horizontal extension proposal, based on document L2/22-077 (aka IRG N2512R) and Section 19 of document L2/22-067, for Unicode Version 15.0.

Action Item for Michel Suignard: Add the 51 new kIRG_KSource property values, based on Section 19 of document L2/22-067, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the Unihan database to reflect the 51 new kIRG_KSource property values, based on Section 19 of document L2/22-067, for Unicode Version 15.0.

Action Item for Ken Lunde: Convey to the author of L2/22-077 the CJK & Unihan Group comments in Section 19 of document L2/22-067.

New:

U+34DC	kIRG_KSource	KC-00281
U+3BF6	kIRG_KSource	KC-08038
U+3C43	kIRG_KSource	KC-08040
U+833E	kIRG_KSource	KC-07631
U+20048	kIRG_KSource	KC-06086
U+20A1C	kIRG_KSource	KC-04987
U+21A5F	kIRG_KSource	KC-00887
U+21C08	kIRG_KSource	KC-07005
U+21FBA	kIRG_KSource	KC-07996
U+23392	kIRG_KSource	KC-08031
U+23F4E	kIRG_KSource	KC-05254
U+25D20	kIRG_KSource	KC-06622
U+26E30	kIRG_KSource	KC-06719
U+27BF8	kIRG_KSource	KC-01963
U+28633	kIRG_KSource	KC-07883
U+28E9A	kIRG_KSource	KC-04362
U+29760	kIRG_KSource	KC-06920
U+2A60F	kIRG_KSource	KC-07876

U+2B249	kIRG_KSource	KC-03662
U+2BD7D	kIRG_KSource	KC-07988
U+2C151	kIRG_KSource	KC-01912
U+2C1E0	kIRG_KSource	KC-01992
U+2C2D6	kIRG_KSource	KC-05339
U+2C5CA	kIRG_KSource	KC-07610
U+2C810	kIRG_KSource	KC-07864
U+2CD34	kIRG_KSource	KC-04669
U+2CF4E	kIRG_KSource	KC-01343
U+2D3EC	kIRG_KSource	KC-00724
U+2D6A7	kIRG_KSource	KC-07492
U+2D7BA	kIRG_KSource	KC-01324
U+2D979	kIRG_KSource	KC-08027
U+2DA74	kIRG_KSource	KC-07477
U+2DA97	kIRG_KSource	KC-07484
U+2DC13	kIRG_KSource	KC-01990
U+2DDC0	kIRG_KSource	KC-06481
U+2DF10	kIRG_KSource	KC-07829
U+2DF78	kIRG_KSource	KC-08204
U+2E05A	kIRG_KSource	KC-08087
U+2E0AE	kIRG_KSource	KC-07853
U+2E516	kIRG_KSource	KC-03766
U+2E640	kIRG_KSource	KC-08149
U+2E680	kIRG_KSource	KC-08153
U+2EA63	kIRG_KSource	KC-08192
U+2F8B1	kIRG_KSource	KC-01326
U+302FC	kIRG_KSource	KC-04955
U+30723	kIRG_KSource	KC-07502
U+30A6D	kIRG_KSource	KC-08098
U+30CF7	kIRG_KSource	KC-07653
U+30DBF	kIRG_KSource	KC-07870
U+31006	kIRG_KSource	KC-07707
U+3105D	kIRG_KSource	KC-08182

20) L2/22-078: IRG Meeting #58 Recommendations and Action Items (IRG N2530)

Comments: While this is mainly an FYI document for the UTC, because all of the necessary actions have been specified under documents that are referenced elsewhere in this document, it is important to point out the future IRG meeting schedule and the IRG Working Set 2021 review schedule, both of which impact UTC experts.

The next two IRG meetings, IRG #59 (**2022-10-17 through 2022-10-21**) and IRG #60 (**2023-03-20 through 2023-03-24**), will be virtual and hosted via Zoom courtesy of the Unicode Consortium. If face-to-face meetings become possible, IRG #61 (**2023-10-16 through 2023-10-20**) will be hosted by Netflix (Los Gatos, California, USA) with Yale University (New Haven, Connecticut, USA) as backup, otherwise it will be virtual and hosted via Zoom courtesy of the Unicode Consortium.

In terms of the IRG Working Set 2021 review schedule, the UTC does not need to submit any revised representative glyphs for its submission, and IRG Working Set 2021 Version 3.0 is scheduled to be available by **2022-04-29**, with **2022-07-08** being the deadline to submit comments

via the [Online Review Tool](#) (ORT). The review assignments have not yet been announced by the IRG Chief Editor. The ORT Manager is scheduled to release Consolidated Comments by **2022-07-22**, with responses from submitters due by **2022-09-16**.

Recommendations: The group recommends to the UTC the following disposition ➡

Action Item for the Editorial Committee: Update the “Calendar of Future Meetings and Events” page to reflect the dates and locations for the three future IRG meetings, IRG #59 through IRG #61, based on Section 20 of document L2/22-067.

21) L2/22-079: CJK editorial group Editorial Report (IRG N2536)

Comments: This is an FYI document for the UTC, because all of the necessary actions have been specified under documents that are referenced elsewhere in this document.

Recommendations: The group recommends to the UTC the following disposition ➡

No UTC action is required.

Other Topics

22) Request to revise UAX 50 for harmonization with Adobe Japan1—Redux

Document [L2/21-222](#), *Request to revise UAX 50 for harmonization with Adobe Japan1*, was discussed during the previous CJK & Unihan Group meeting, which resulted in no action from the UTC during the UTC #170 meeting. The UTC concluded that there was insufficient evidence to warrant changing the *Vertical_Orientation* property values for the following three characters: U+2016 || DOUBLE VERTICAL LINE (from U to R), U+2702 ✂ BLACK SCISSORS (from U to R or Tr), and U+3030 ~ WAVY DASH (from Tr to R). See Section 18 of [L2/22-022](#) for more details.

Nat McCully (Adobe) presented more details, along with a plan to prepare and submit a new document that intends to provide sufficient evidence to change the *Vertical_Orientation* property values of these characters. The group provided feedback, along with a recommendation that tailoring be considered as part of a solution, and cited [Kazuraki SP2N](#) (かづらき SP2N) as an example font implementation that requires tailoring, because virtually every character that it supports—kana, punctuation, symbols, and kanji—needs to be treated as vo=Tu or vo=Tr. The group also recommended that Nat reach out to Microsoft to better understand their concerns surrounding these proposed property value changes.

Recommendations: The group recommends to the UTC the following disposition ➡

No UTC action is required.

23) Code Chart Support for kIRG_KPSource Representative Glyphs

Yi Bai and CheonHyeong Sim, both of whom attended this meeting, have recently reconstructed a font that covers both *kIRG_KPSource* source standards, KPS 9566 (aka KP0 prefix) and KPS 10721 (aka KP1 prefix), in their entirety. For those who are not aware, the code charts currently do not include any representative glyphs from the former standard, and include only a small number of representative glyphs from the latter standard (eight in the [Extension C](#) block, 106 in the [CJK Compatibility Ideographs](#) block, and 49 in the [CJK Compatibility Ideographs Supplement](#) block). The UniHan database includes 4,653 mappings for the former standard and 19,476 mappings from latter standard, so the coverage in the code charts is wildly incomplete.

As conveyed during the meeting, the reconstructed font is based on a font that was produced by the same DPRK entity that provided the font that is currently used in the code charts for a limited number of ideographs: *Pyongyang Informatics Centre*.

Michel Suignard already started to experiment with the reconstructed font, and quickly discovered that its use improved the 155 KP-Source representative glyphs in the CJK Compatibility Ideographs and CJK Compatibility Ideographs Supplement blocks that currently repurpose the T-Source representative glyphs. The five before/after CJK Compatibility Ideographs Supplement code chart excerpts for U+2F84C, U+2F8A0, U+2F8A6, U+2F8A7, and U+2F96C below exemplify the improvement. The group agreed that this is a worthwhile improvement to the code charts.

2F84C 口 30.11	嘆	嘆	2F84C 口 30.11	嘆	嘆
	T6-5136	KP1-3A92		T6-5136	KP1-3A92
	≡ 5606 嘆			≡ 5606 嘆	
	~ 5606 FE01			~ 5606 FE01	
2F8A0 心 61.7	惘	惘	2F8A0 心 61.7	惘	惘
	T6-3136	KP1-42C8		T6-3136	KP1-42C8
	≡ 6081 惘			≡ 6081 惘	
	~ 6081 FE00			~ 6081 FE00	
2F8A6 心 61.10	慈	慈	2F8A6 心 61.10	慈	慈
	T3-4670	KP1-43C1		T3-4670	KP1-43C1
	≡ 6148 慈	H-FC77		≡ 6148 慈	H-FC77
	~ 6148 FE00			~ 6148 FE00	
2F8A7 心 61.10	慌	慌	2F8A7 心 61.10	慌	慌
	T6-526C	KP1-43D2		T6-526C	KP1-43D2
	≡ 614C 慌			≡ 614C 慌	
	~ 614C FE00			~ 614C FE00	

2F96C
糸 120.6

紕

T3-486A

紕

KP1-6725

≡ 7D63 紕
~ 7D63 FE00

2F96C
糸 120.6

紕

T3-486A

紕

KP1-6725

≡ 7D63 紕
~ 7D63 FE00

There are a very small number of edge cases for which the mappings in the reconstructed font and the *kIRG_KPSource* property do not match. There are two inherent difficulties at work here that makes resolving them problematic and prone to error:

- No one outside of DPRK has yet to see actual KPS 9566 and KPS 10721 standards. It is possible to glimpse the former standard via [ISO-IR-202:1998](#), but it is simply a low-resolution scan of only its code table, and lacks any descriptive content.
- As someone with over three decades of East Asian font development and standardization experience, and when one considers the sheer number of ideographs involved, Ken Lunde confidently stated that the likelihood of glyph errors being present in the source font that was used to produce the reconstructed font is non-zero, as is the likelihood of errors in one or both DPRK standards.

In any case, Yi Bai and CheonHyeong Sim plan to prepare and submit a formal proposal that will be discussed during a future CJK & Unihan Group meeting, possibly in time to consider adding complete or near-complete code chart support for *kIRG_KPSource* representative glyphs for Unicode Version 16.0 (2023).

Recommendations: The group recommends to the UTC the following disposition ⇨

Action Item for Michel Suignard, Rick McGowan, Editorial Committee: Integrate the reconstructed DPRK font into the code chart production process for the 155 KP-Source representative glyphs in the CJK Compatibility Ideographs and CJK Compatibility Ideographs Supplement blocks, based on Section 23 of document L2/22-067, for Unicode Version 15.0, and highlight the results during beta review.

24) Update on Licensing the Moji Jōhō Kiban Database from CITPC

The Unicode Consortium began the process of licensing the Moji Jōhō Kiban (文字情報基盤) database from [CITPC](#) (*Character Information Technology Promotion Council*) over a year ago, and they recently agreed to make changes to the agreement per recommendations from the Unicode Consortium's legal counsel.

This good news means that Ken Lunde can finally move forward with three projects that will add significant Japanese content to the Unihan database, with Unicode Version 16.0 (2023) being the target:

- Overhaul and expand the existing provisional *kMorohashi* property to cover over 49,000 CJK Unified Ideographs. This property maps CJK Unified Ideographs to *Dai Kanwa Jiten* (大漢和辞典) index numbers. The plan is to eventually remove the provisional *kIRGDaiKanwaJiten* property.

- Add a new provisional *kMojiJoho* property that will cover over 52,000 CJK Unified Ideographs. This property will map CJK Unified Ideographs, along with SVSes (*Standardized Variation Sequences*) and *Moji_Joho* IVSes (*Ideographic Variation Sequences*), to Moji Jōhō Kiban database serial numbers.
- Add a new provisional *kJapanese* property that will cover over 51,000 CJK Unified Ideographs, which will express Japanese readings using hiragana and katakana. The plan is to eventually remove the provisional *kJapaneseKun* and *kJapaneseOn* properties, which express Japanese readings using uppercase Latin characters.

Recommendations: The group recommends to the UTC the following disposition ➡

No UTC action is required.

That is all.