

UCSI ENGINEERING CHANGE NOTIFICATION FORM

NOTICE: Any Company or Companies submitting a UCSI ECR proposal must be one of the following: a Promoter or Contributor of the UCSI 3.0 Specifications who have completed the UCSI addendum. If a group of Companies is submitting an ECR proposal, each company must be either a Promoter or Contributor of the UCSI 3.0 Specifications who have completed the USB Power Delivery addendum.

SPECIFICATION REVISIONS AND ADDENDA: At any point in time, there shall only be one current version of the UCSI specification, termed the production version. At the same time, there may also be proposed revisions to the specification's design which are not yet approved and shall be held confidential as deemed necessary by the UCSI 3.0 Promoters and within the Group of Working Committee(s).

PROCEDURES FOR SUBMITTING PROPOSALS: Both members of the USB Implementers Forum as a whole and members of the UCSI 3.0 Promoters may submit requests to revise the UCSI Specification. Such a request may be rejected or may result in a UCSI Engineering Change Notice (ECN), which is the official way USB specifications may be changed.

FORMAT OF PROPOSAL: The originator of a request to alter the UCSI Specification may do so by posting this to the USB Newark Software UCSI working group for review. Once the proposal has been reviewed by the working group it will be passed to the UCSI 3.0 Promoters for approval to publish.

RESUBMISSION AND APPEAL: The originator of a request that was not approved can redraft the original request. Rewritten proposal will be treated as a new proposal and will be evaluated using the procedures described above. The originator of a request that was not approved can also submit an appeal to the UCSI 3.0 Promoters. The appeal must be made in writing and addressed to the Secretary of the USB Implementers Forum.

ABOUT THE ENGINEERING CHANGE REQUEST FORM:

The Purpose of this Engineering Change Request Form is to expedite the review process of the proposal by providing explanations, background information, and examples of the proposed changes at a high level. This form serves as an executive summary to the actual proposal.

STEPS ON HOW TO SUBMIT A USB PD ENGINEERING CHANGE REQUEST:

- 1) Please fill out the Engineering Change Request Form on the following pages completely:
 - a) Detail the names and contact details for each of the ECR contributors
 - b) Update the ECR Title
 - c) Give a minimum of 2-3 sentences for each description on the form outlining the background to the ECR
- 2) For each section/table/figure to be updated:
 - a) Detail the section number, starting page and figure/table number to be updated as appropriate.
 - b) Detail existing text under "From Text"
 - c) Detail changed text under "To Text"
- 3) Save the file as "UCSI 3.x R 1" followed by the ECR Title as per step 1)b)
- 4) Post the ECR in the UCSI Documents section under "ECR | New ECRs".
 - a) This ECR will then be reviewed by the USB Newark Software Working Group.
 - b) Revisions to the ECR originating from the review should be submitted as document revision of the original ECR using "Add new document".

UCSI ENGINEERING CHANGE NOTIFICATION FORM

Name: Jameson Thies Email: jthies@google.com

Company: Google LLC Mailstop:

Address 255 W Tasman Drive
:

City: San Jose State/Province: CA

Country: USA Zip/Postal Code: 95134

Phone FAX:
:

Name: Email:

Company: Mailstop:

Address
:

City: State/Province:

Country: Zip/Postal Code:

Phone FAX:
:

Name: Email:

Company: Mailstop:

Address
:

City: State/Province:

Country: Zip/Postal Code:

Phone FAX:
:

Name: Email:

Company: Mailstop:

Address
:

UCSI ENGINEERING CHANGE NOTIFICATION FORM

City: _____ State/Province: _____
Country: _____ Zip/Postal Code: _____
Phone _____ FAX: _____
: _____

UCSI ENGINEERING CHANGE NOTIFICATION FORM

Title: SET_UOR Allow Data Swaps in One Direction
Applied to: UCSI Specification Version 3.0 Revision 1

Brief description of the functional changes proposed:
--

Update SET_UOR to provide the option to only enable DR swaps in one direction (DFP->UFP or UFP->DFP).

Benefits as a result of the proposed changes:
--

USB devices which favor a data role will be able to issue their policy to the PPM/LPM with one SET_UOR command instead of repeatedly sending the command based on the current data role. This will also help LPM software understand when DR swap is supported, but not currently enabled (respond with Not_Supported vs. Reject).
--

An assessment of the impact to the existing revision and systems that currently conform to the USB specification:
--

There is no impact on devices implementing older versions of the UCSI spec. If the OPM were to keep setting bits 4-5 of SET_UOR USB Operation Role to 0, the command would have the same meaning.

An analysis of the hardware implications:
--

None.

An analysis of the software implications:
--

PPM/LPM implementations would need to separately consider DFP->UFP and UFP->DFP data role swaps. We see some LPMs (PDCs) already separate this configuration.

An analysis of the compliance testing implications:
--

None.

UCSI ENGINEERING CHANGE NOTIFICATION FORM

Actual Change Requested

(a). Section 6.5.9, Page 44, Table 6-20

From Text:

Offset (Bits)	Field	Size (Bits)	Description								
0	Command	8	This field shall be set to SET_UOR.								
8	Data Length	8	This field shall be set to zero.								
16	Connector Number	7	This field indicates the connector whose USB operational mode is to be modified. A value of zero in this field is illegal.								
23	USB Operation Role	3	<table><tr><th>Bit</th><th>Meaning</th></tr><tr><td>0</td><td>If this bit is set, then the connector shall initiate swap to DFP if not already operating in DFP mode.</td></tr><tr><td>1</td><td>If this bit is set, then the connector shall initiate swap to UFP if not already operating in UFP mode.</td></tr><tr><td>2</td><td>If this bit is set, then the connector shall accept role swap change requests from the port partner. If this bit is cleared, then the connector shall reject Role Swap change requests from the port partner.</td></tr></table> It is illegal for the OPM to set /clear Bit0 and Bit1 at the same time. This command is valid only if connector supports PD.	Bit	Meaning	0	If this bit is set, then the connector shall initiate swap to DFP if not already operating in DFP mode.	1	If this bit is set, then the connector shall initiate swap to UFP if not already operating in UFP mode.	2	If this bit is set, then the connector shall accept role swap change requests from the port partner. If this bit is cleared, then the connector shall reject Role Swap change requests from the port partner.
Bit	Meaning										
0	If this bit is set, then the connector shall initiate swap to DFP if not already operating in DFP mode.										
1	If this bit is set, then the connector shall initiate swap to UFP if not already operating in UFP mode.										
2	If this bit is set, then the connector shall accept role swap change requests from the port partner. If this bit is cleared, then the connector shall reject Role Swap change requests from the port partner.										
26	Reserved	38	Reserved and shall be set to zero.								

To Text:

Offset (Bits)	Field	Size (Bits)	Description
0	<i>Command</i>	8	This field shall be set to SET_UOR.

UCSI ENGINEERING CHANGE NOTIFICATION FORM

8	Data Length	8	This field shall be set to zero.										
16	Connector Number	7	This field indicates the connector whose USB operational mode is to be modified. A value of zero in this field is illegal.										
23	USB Operation Role	3	<table><tr><th>Bit</th><th>Meaning</th></tr><tr><td>0</td><td>If this bit is set, then the connector shall initiate swap to DFP if not already operating in DFP mode.</td></tr><tr><td>1</td><td>If this bit is set, then the connector shall initiate swap to UFP if not already operating in UFP mode.</td></tr><tr><td>2</td><td>If this bit is set, then connector shall accept Data Role Swap change requests from the port partner based on the Data Role Swap Policy field. If this bit is cleared, then the connector shall reject Data Role Swap change requests from the port partner.</td></tr></table> It is illegal for the OPM to set Bit0 and Bit1 at the same time. This command is valid only if the connector supports PD.	Bit	Meaning	0	If this bit is set, then the connector shall initiate swap to DFP if not already operating in DFP mode.	1	If this bit is set, then the connector shall initiate swap to UFP if not already operating in UFP mode.	2	If this bit is set, then connector shall accept Data Role Swap change requests from the port partner based on the Data Role Swap Policy field. If this bit is cleared, then the connector shall reject Data Role Swap change requests from the port partner.		
Bit	Meaning												
0	If this bit is set, then the connector shall initiate swap to DFP if not already operating in DFP mode.												
1	If this bit is set, then the connector shall initiate swap to UFP if not already operating in UFP mode.												
2	If this bit is set, then connector shall accept Data Role Swap change requests from the port partner based on the Data Role Swap Policy field. If this bit is cleared, then the connector shall reject Data Role Swap change requests from the port partner.												
26	Data Role Swap Policy	2	This field sets the connectors policy for Data Role Swap messages from the port partner. If Bit 2 of USB Operation Role is not set, this field Shall be ignored. <table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>Accept all role swap requests</td></tr><tr><td>1</td><td>Only accept role swap requests to DFP</td></tr><tr><td>2</td><td>Only accept role swap requests to UFP</td></tr><tr><td>3</td><td>Reserved, Shall not be used</td></tr></table>	Value	Meaning	0	Accept all role swap requests	1	Only accept role swap requests to DFP	2	Only accept role swap requests to UFP	3	Reserved, Shall not be used
Value	Meaning												
0	Accept all role swap requests												
1	Only accept role swap requests to DFP												
2	Only accept role swap requests to UFP												
3	Reserved, Shall not be used												
28	Reserved	36	Reserved and shall be set to zero.										