```
Request #:      HUTRR34
Title:          Addition of usages related to multi-touch digitizers
Spec Release:   27 Feb 2009
Received:       29 Jan 2009
Requester:      Reed Townsend
Company:        Microsoft
Phone:          425-705-0751
FAX:
email:          reedt@microsoft.com
-----------------
CurrentStatus:  Adopted
Priority:       Normal
Submitted:      4 Feb 2009
Voting Starts:  19 Feb 2009
Voting Ends:    26 Feb 2009
Required Voter: Nathan Sherman, MICROSOFT
Required Voter: Steve McGowan, INTEL
Required Voter: Mark Lavelle, LOGITECH
----------------
```

Summary:

We would like to propose adding usages to the HID spec to better support multi-touch
digitizers.

Background:

Today, it is not uncommon for devices to support reporting multiple simultaneous contacts,
and reporting that information via HID is difficult.

Proposal:

All changes are localized to Chapter 16 Digitizer (0x0D) in the HID Usage Tables document
v1.12.

New usages to be added to table 18: Digitizer Page

```
0x51 Contact identifier       DV   16.6
0x0E Device configuration      CA   16.7
0x52 Device mode               DV   16.7
0x53 Device identifier         DV   16.7
0x54 Contact count             DV   16.6
0x55 Contact count maximum     SV   16.6
0x23 Device settings           CL   16.7
```

New sections referenced by the above usages:

Section 16.6   Multi-touch digitizer usages

Contact identifier DV - An identifier associated with a contact. The id persists for the
duration of that contact's detection, but may be reused for another contact once the
original is no longer detected. Detection is assumed to extend from contact down to
contact up notifications (or for devices that support hover detection, contact in-range to
out-of-range).

Contact count DV - The current number of contacts the digitizer detects and is reporting.

Contact count maximum SV - Used to report the maximum number of concurrent contacts a
digitizer is capable of detecting.

Section 16.7   Device configuration usages

Device configuration CA - CA for the top-level collection housing a configuration feature
report. A device configuration feature report is used to support changing the digitizer's

behavior dynamically.

Device mode DV - The current input mode configuration for a device. 0 represents
reporting as a mouse, 1 represents single input device (e.g. a HID single touch or pen
device), and 2 represents multi-input device (e.g. HID touch device supporting contact
identifier and contact count maximum). For example, having a mouse collection and
specifying mouse mode allows broad down-level device support across hosts.

Device identifier DV/SV – This is a static value (SV) when it is part of a digitizer or
mouse top-level collection. It is required when there are multiple digitizer top-level
collections of the same kind in a report descriptor. This usage uniquely identifies the
digitizer top-level collection and should appear in a feature report. If the device can
function as a mouse, the mouse collection should have the same device identifier as the
corresponding digitizer collection. Devices with only one digitizer top-level collection
do not need to have a device identifier usage.

When the usage is part of a device settings logical collection, it is a dynamic value (DV)
. It allows the host to select the device it wants to configure. A value of 0 indicates
all collections. A non-zero value indicates the top-level collection with matching device
identifier.

Device settings CL – The logical collection containing the device configuration usages (
Device identifier and device mode).

Notes on Approval Procedure:

HID WG Online Voting Procedures

1. Votes are on a per company basis.

2. Each Review Request shall have attached a Required Voter List that is the
result of recruiting by the HID Chair and submitter of members of the USB IF.
Required Voter List must include the HID Chair plus 2 companies (other than
the submitter) plus any others designated by the HID Chair at the Chair's
discretion. The Required Voter List ensures that a quorum is available to
approve the Request.

3. Impose a 7-calendar-day posting time limit for new Review Requests. HID
Chair or designate must post the RR within 7 calendar days. HID Chair or
designate must work with the submitter to make sure the request is valid prior
to posting. Valid review request must include all fields marked as required in
the template. A new template will be adopted that requires at least the
following fields: Change Text, Required Voter List, Review Period End Date and
Voting End Date, Submittal Date, Submitter, Review Request Title and RR Number.

4. If a RR approval process stalls, the HID Chair may call a face-to-face
meeting or conference call to decide the issue. Submitter may request that this
take place.

5. Impose a minimum 15-calendar-day review period on a posted RR prior to the
voting period. At HID Chair discretion, changes to the RR may require this
review period to restart.

6. The Chair will accept votes via documentable means such as mail or e-mail
during the 7 calendar days after the close of the review period. If a Required
Voter does not vote during the period, then there is no quorum and the Chair
may pursue the absent required voter and extend the voting period. The Chair
may designate a substitute for the absent voter and extend the voting period
if necessary.