NAME
ibv_poll_cq − poll a completion queue (CQ)

SYNOPSIS
#include <infiniband/verbs.h>

int ibv_poll_cq(struct ibv_cq *cq*, **int** *num_entries*,
        struct ibv_wc *wc*);

DESCRIPTION
ibv_poll_cq() polls the CQ *cq* for work completions and returns the first *num_entries* (or all available completions if the CQ contains fewer than this number) in the array *wc*. The argument *wc* is a pointer to an array of ibv_wc structs, as defined in <infiniband/verbs.h>.

```
struct ibv_wc {
        uint64_t          wr_id;       /* ID of the completed Work Request (WR) */
        enum ibv_wc_status    status;      /* Status of the operation */
        enum ibv_wc_opcode    opcode;       /* Operation type specified in the completed WR */
        uint32_t          vendor_err;    /* Vendor error syndrome */
        uint32_t          byte_len;      /* Number of bytes transferred */
        union {
                __be32            imm_data;       /* Immediate data (in network byte order) */
                uint32_t          invalidated_rkey; /* Local RKey that was invalidated */
        };
        uint32_t          qp_num;        /* Local QP number of completed WR */
        uint32_t          src_qp;        /* Source QP number (remote QP number) of completed WR (valid on
        int             wc_flags;      /* Flags of the completed WR */
        uint16_t          pkey_index;    /* P_Key index (valid only for GSI QPs) */
        uint16_t          slid;        /* Source LID */
        uint8_t           sl;          /* Service Level */
        uint8_t           dlid_path_bits; /* DLID path bits (not applicable for multicast messages) */
};
```

The attribute wc_flags describes the properties of the work completion. It is either 0 or the bitwise OR of one or more of the following flags:

IBV_WC_GRH GRH is present (valid only for UD QPs)

IBV_WC_WITH_IMM Immediate data value is valid

IBV_WC_WITH_INV Invalidated RKey data value is valid (cannot be combined with IBV_WC_WITH_IMM)

IBV_WC_IP_CSUM_OK TCP/UDP checksum over IPv4 and IPv4 header checksum are
        verified. Valid only when **device_cap_flags** in device_attr indicates current QP is supported by
        checksum offload.

Not all *wc* attributes are always valid. If the completion status is other than **IBV_WC_SUCCESS**, only the following attributes are valid: wr_id, status, qp_num, and vendor_err.

RETURN VALUE
On success, **ibv_poll_cq**() returns a non-negative value equal to the number of completions found. On failure, a negative value is returned.

NOTES
Each polled completion is removed from the CQ and cannot be returned to it.

The user should consume work completions at a rate that prevents CQ overrun from occurrence. In case of a CQ overrun, the async event **IBV_EVENT_CQ_ERR** will be triggered, and the CQ cannot be used.

IBV_WC_DRIVER1 will be reported as a response to IBV_WR_DRIVER1 opcode.

SEE ALSO

  ibv_post_send(3), **ibv_post_recv**(3)

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