State-transition table. Column headers (state codes and their descriptions):

- I1 — propagated
- A1 — enrolling
- B1 — enrolled
- C1 — resigning
- D0 — prepare decided
- D1 — prepare sent
- E0 — spontaneous ready recv'd
- E1 — ready recv'd, prepare decided
- E2 — ready recv'd, prepare (re)sent
- F0 — confirm decided
- F1 — confirm sent
- G0 — cancel decided
- G1 — cancel sent
- G2 — cancelling, resign received
- H0 — sub confirmed
- H1 — sub confirmed, prepare decided
- H2 — both confirmed
- J0 — sub cancelled
- J1 — sub cancelled, prepare decided
- J2 — both cancelled
- K0 — confirmed, contradict detected
- K1 — confirmed, contradicted
- L0 — cancelled, contradict detected
- L1 — cancelled, contradicted
- Z — completed and ...
- ZZ — comp...

| | I1 | A1 | B1 | C1 | D0 | D1 | E0 | E1 | E2 | F0 | F1 | G0 | G1 | G2 | H0 | H1 | H2 | J0 | J1 | J2 | K0 | K1 | L0 | L1 | Z | ZZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| receive ENROLL/rsp-req | A1 | | | | | | | | | | | | | | | | | | | | | | | | Z | |
| receive ENROLL/no-rsp-req | B1 | | | | | | | | | | | | | | | | | | | | | | | | Z | |
| receive RESIGN/rsp-req | | $ | C1 | C1 | C1 | C1 | | | | | | G2 | Z | G2 | | | | | | | | | | | Z | |
| receive RESIGN/no-rsp-req | | | | Z | Z | Z | | | | | | Z | Z | Z | | | | | | | | | | | Z | |
| receive VOTE/cancel | | | Z | | Z | Z | | | Z | | | Z | Z | | | | | | | | | | | | Z | |
| receive VOTE/ready/spont | | $ | E0 | | E2 | E2 | | | | | | G0 | G1 | | | | | | | | | | | | Z | ZZ |
| receive VOTE/ready/reply | | $ | | | E1 | E1 | | | E1 | F0 | F1 | G0 | G1 | | | | | | | | | | | | Z | ZZ |
| receive CONFIRMED | L0 | | H0 | | H0 | H0 | H0 | H1 | H1 | H2 | ZZ | L0 | L0 | | H0 | H1 | H2 | | | | | | L0 | L1 | M12 | ZZ |
| receive CANCELLED | Z | | J0 | | J1 | J1 | J0 | J1 | J1 | K0 | K0 | J2 | Z | | | | | J0 | J1 | J2 | K0 | K1 | | | Z | |
| send ENROLLED | | B1 | | | | | | | | | | | | | | | | | | | | | | | | |
| send RESIGNED | | | | Z | | | | | | | | | | | | | | | | | | | | | | |
| send PREPARE | | | | | D1 | | | E2 | | | | | | | | | | | | | | | | | | |
| send CONFIRM | | | | | | | | | | F1 | | | | | | F1 | | | | | | | | | | |
| send CANCEL | | | | | | | | | | | | G1 | | Z | | | | | Z | | | | | | | |
| send CONTRADICTION | | | | | | | | | | | | | | | | | | | | | | Z | | Z | | |
| decide to prepare | | | D0 | | | | E1 | | | | | | | | | | | | | | | | | | | |
| decide to confirm | | | | | | | | | | F0 | F0 | | | | H2 | H2 | | K0 | K0 | | | | | | | |
| decide to cancel | | | G0 | | G0 | G0 | G0 | G0 | G0 | | | | | | L0 | L0 | | J2 | J2 | | | | | | | |
| record contradicted | | | | | | | | | | | | | | | | | | | | | K1 | | L1 | | | |
| receive INF_STATUS/active/y | I11 | A11 | B11 | | D10 | D11 | | | | | | G11 | G11 | | | | | | | | | | | | M11 | M14 |
| receive INF_STATUS/ready/y | I11 | | E11 | | E12 | E12 | E11 | E12 | E12 | F11 | F11 | G11 | G11 | | | | | | | | | | | | M11 | M14 |
| receive INF_STATUS/conf/y | I12 | | H11 | | H12 | H12 | H11 | H12 | H12 | F12 | F12 | L11 | L11 | | H11 | H12 | H2 | | | | | | L11 | L12 | M12 | M14 |
| receive INF_STATUS/cancel/y | I11 | | J11 | | J11 | J11 | J11 | J12 | J12 | K11 | K11 | G12 | G12 | | | | | J11 | J12 | J2 | K11 | K12 | | | M11 | |
| receive INF_STATUS/active | | | B1 | | | | | | | | | G0 | G1 | | | | | | | | | | | | Z | ZZ |
| receive INF_STATUS/ready | | | | | | | | | | | | G0 | G1 | | | | | | | | | | | | Z | ZZ |
| receive INF_STATUS/unknown | | | | | | | | | | | | Z | Z | Z | | | | | | | | | | | Z | Z |
| disruption I | Z | Z | Z | Z | Z | Z | Z | Z | Z | F5 | F5 | Z | Z | Z | Z | Z | F5 | Z | Z | Z | F5 | F5 | Z | Z | | |
| disruption II | | | B5 | | D5 | D5 | B5 | D5 | D5 | | | G5 | G5 | G5 | E5 | E5 | | E5 | E5 | G5 | | | G5 | G5 | | |
| disruption III | | | | | | | E5 | E7 | E7 | | | | | | B5 | D5 | | B5 | D5 | | | | | L1 | | |
| disruption IV | | | | | | | | | | | | | | | | B5 | | | B5 | | | | | | | |
| disruption V | | | | | | | | | | | | | | | | | | | | | | | | | | |
| reply timeout | | | | | | | | | | | F5 | | G5 | | | | | | | | | | | | | |

|  | enrolled, disrupted | enrolled, querying | preparing, disrupted | preparing, querying | ready, disrupted | ready, querying | ready, prepare decided, disrupted | ready, prepare decided, querying | confirming, disrupted | confirming, querying | cancelling, disrupted | cancelling |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | **B5** | **B6** | **D5** | **D6** | **E5** | **E6** | **E7** | **E8** | **F5** | **F6** | **G5** | **G6** |
| receive RESIGN/rsp-req | C1 | C1 | C1 | C1 |  |  |  |  |  |  | G2 | Z |
| receive RESIGN/no-rsp-req |  |  | Z | Z |  |  |  |  |  |  | Z | Z |
| receive VOTE/cancel | Z | Z | Z | Z |  |  |  |  |  |  | Z | Z |
| receive VOTE/ready/spont | E0 | E0 | E2 | E2 |  |  |  |  |  |  | G5 | G6 |
| receive VOTE/ready/reply |  |  | E1 | E1 |  |  | E1 | E1 |  |  | G5 | G6 |
| receive CONFIRMED | H0 | H0 | H1 | H1 | H0 | H0 | H1 | H1 | ZZ | ZZ | L0 | L0 |
| receive CANCELLED | J0 | J0 | J1 | J1 | J0 | J0 | J1 | J1 | K0 | K0 | Z | Z |
| decide to prepare |  |  |  |  |  |  |  |  |  |  |  |  |
| decide to confirm |  |  |  |  | F0 | F0 | F0 |  |  |  |  |  |
| decide to cancel | G0 | G0 | G0 | G0 | G0 | G0 | G0 | G0 |  |  |  |  |
| record contradicted |  |  |  |  |  |  |  |  |  |  |  |  |
| send SUP_STATUS/active/y | B6 |  |  |  | E6 |  |  |  |  |  |  |  |
| send SUP_STATUS/preparing/y |  |  | D6 |  |  |  | E8 |  |  |  |  |  |
| send SUP_STATUS/cancelling/y |  |  |  |  |  |  |  |  |  |  | G6 |  |
| send SUP_STATUS/confirming/y |  |  |  |  |  |  |  |  | F6 |  |  |  |
| receive INF_STATUS/active/y | B11 | B11 | D11 | D11 |  |  |  |  |  |  | G11 | G11 |
| receive INF_STATUS/ready/y | E11 | E11 | E12 | E12 | E11 | E11 | E12 | E12 | F11 | F11 | G11 | G11 |
| receive INF_STATUS/conf/y | H11 | H11 | H12 | H12 | H11 | H11 | H12 | H12 | F12 | F12 | L11 | L11 |
| receive INF_STATUS/cancel/y | J11 | J11 | J11 | J11 | J11 | J11 | J12 | J12 | K11 | K11 | G12 | G12 |
| receive INF_STATUS/active | B1 | B1 | D1 | D1 |  |  |  |  |  |  | G5 | G6 |
| receive INF_STATUS/ready | E0 | E0 | E1 | E1 | E0 | E0 | E1 | E1 | F5 | F6 | G5 | G6 |
| receive INF_STATUS/unknown | Z | Z | Z | Z | Z | Z | Z | Z | Z | Z | Z | Z |
| receive INF_STATUS/inaccessible | B5 | B5 | D5 | D5 | E5 | E5 | E7 | E7 | F5 | F5 | F5 | F5 |
| disruption I | B5 | B5 | D5 | D5 | E5 | E5 | E7 | E7 | F5 | F5 | G5 | G5 |
| disruption II | Z | Z | Z | Z | Z | Z | Z | Z |  |  | Z | Z |
| reply timeout |  | B5 |  | D5 |  |  |  |  |  | F5 |  | G5 |

State/action transition table (states identified by column codes; column state names given in the legend below).

| action | I11 | I12 | A11 | B11 | D10 | D11 | E11 | E12 | F11 | F12 | G11 | G12 | H11 | H12 | J11 | J12 | K11 | K12 | L11 | L12 | M11 | M12 | M13 | M14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| send ENROLLED | | | B1 | | | | | | | | | | | | | | | | | | | | | |
| send CONFIRM | | | | | | | | | F1 | ZZ | | | | | | | | | | | | | | |
| send CANCEL | | | | | | | | | | | G1 | Z | | | | | | | | | | | | |
| send CONTRADICTION | | | | | | | | | | | | | | | | | | z | | z | | | | z |
| send SUP_STATUS/active | | | | B1 | | | E0 | | | | | | H0 | | J0 | | | | | | | | | |
| send SUP_STATUS/preparing | | | | | D0 | D1 | | E1 | | | | | | H1 | | J1 | | | | | | | | |
| send SUP_STATUS/unknown | z | | | | | | | | | | | | | | | | | | | | z | | | ZZ |
| send SUP_STATUS/inaccessible | | | | | | | | | | | | | | | | | | | | | | | | |
| decide to prepare | | | | | | | E12 | | | | | | | | | | | | | | | | | |
| decide to confirm | | | | | | | F11 | F11 | | | | | H2 | H2 | K0 | K0 | | | | | | | | |
| decide to cancel | | | | | | | G11 | G11 | | | | | L0 | L0 | J2 | J2 | | | | | | | | |
| record contradicted | | I11 | | | | | | | | | | | | | | | K1 | | L1 | | | | M13 | |
| disruption I | Z | Z | Z | Z | Z | Z | Z | Z | F5 | F5 | Z | Z | Z | Z | Z | Z | F5 | F5 | Z | Z | Z | Z | Z | ZZ |
| disruption II | | | | B5 | D5 | D5 | B5 | D5 | | | G5 | G5 | B5 | B5 | B5 | B5 | K0 | K1 | G5 | G5 | | | | |
| disruption III | | | | | | | E5 | E5 | | | | | E5 | D5 | E5 | D5 | | | L0 | L1 | | | | |
| disruption IV | | | | | | | | | | | | | H0 | E5 | J0 | E5 | | | | | | | | |
| disruption V | | | | | | | | | | | | | | H1 | | J1 | | | | | | | | |

Legend (column state names):

- I11: idle, queried
- I12: idle, queried, with confirm
- A11: enrolling, queried
- B11: enrolled, queried
- D10: preparing, not sent, queried
- D11: preparing, queried
- E11: ready, queried
- E12: ready, prepare decided, queried
- F11: confirming, queried
- F12: both confirmed, queried
- G11: cancelling, queried
- G12: both cancelled, queried
- H11: sub confirmed, queried
- H12: sub confirmed, queried, prepare decided
- J11: sub cancelled, queried
- J12: sub cancelled, queried, prepare decided
- K11: confirmed, contradiction detected, queried
- K12: confirmed, contradiction, queried
- L11: cancelled, contradict detected, queried
- L12: cancelled, contradiction, queried
- M11: cancelled, contradiction recorded, queried
- M12: unknown, queried
- M13: unknown, queried with confirm
- M14: unknown, query s… (confirm…)

Column state descriptions (diagonal headers):
- i1 = aware
- a1 = enrolling
- b1 = enrolled
- c1 = resigning
- d1 = preparing
- d2 = re-voting cancel after ready
- e0 = spontaneous ready decided
- e1 = ready decided, prepare rcvd
- e2 = ready sent
- e3 = ready sent, prepare recv'd again
- f0 = confirming
- f1 = confirm complete
- g1 = cancelling
- g2 = cancel recv'd in ready state
- h0 = auto confirmed decided
- h1 = auto confirmed
- h2 = both confirmed
- j0 = auto cancelled decided
- j1 = auto cancelled
- j2 = both cancelled
- k0 = auto cancel decided, contradicted
- k1 = auto cancel, contradicted
- l0 = auto confirm decided, contradicted
- l1 = auto conf, co… (truncated)
- z = comp… (completed, truncated)

| event | i1 | a1 | b1 | c1 | d1 | d2 | e0 | e1 | e2 | e3 | f0 | f1 | g1 | g2 | h0 | h1 | h2 | j0 | j1 | j2 | k0 | k1 | l0 | l1 | z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| send ENROLL/rsp-req | a1 | | | | | | | | | | | | | | | | | | | | | | | | |
| send ENROLL/no-rsp-req | b1 | | | | | | | | | | | | | | | | | | | | | | | | |
| send RESIGN/rsp-req | | | c1 | | c1 | | | | | | | | | | | | | | | | | | | | |
| send RESIGN/no-rsp-req | | | | | z | | | | | | | | | | | | | | | | | | | | |
| send VOTE/cancel | | | z | | z | z | | | | | | | | | | | | | | | | | | | |
| send VOTE/ready/spont | | | | | | | e2 | | | | | | | | | | | | | | | | | | |
| send VOTE/ready/reply | | | | | | | | e2 | | e2 | | | | | | | | | | | | | | | |
| send CONFIRMED | | | | | | | | | | | | z | | | | h1 | z | | | | | | l1 | | |
| send CANCELLED | | | | | | | | | | | | | | z | | | | j1 | | z | k1 | | | | |
| receive ENROLLED | | b1 | | | | | | | | | | | | | | | | | | | | | | | z |
| receive RESIGNED | | | z | | | | | | | | | | | | | | | | | | | | | | z |
| receive PREPARE | | | d1 | c1 | | | e1 | | e3 | | | | | | h0 | h1 | | j0 | j1 | | | | | | z |
| receive CONFIRM | | | | | | | | | f0 | | | | | | h2 | z | h2 | k0 | k1 | | k0 | k1 | | | z |
| receive CANCEL | | g1 | g1 | z | g1 | g1 | g2 | g2 | g2 | g2 | | | g1 | g2 | l0 | l1 | | j2 | z | j2 | | | l0 | l1 | z |
| receive CONTRADICTION | | | | | | | | | | | | | | | | z | | | z | | z | z | z | z | z |
| decide to vote ready | | | e0 | | e1 | | | | | | | | | | | | | | | | | | | | |
| decide to confirm autonomously | | | | | | | | h0 | h0 | | | | | | | | | | | | | | | | |
| decide to cancel autonomously | | | | | | | | j0 | j0 | | | | | | | | | | | | | | | | |
| remove ready vote decision | | | | | | | | | | d2 | f1 | | g1 | | | | | | | | | | | | |
| receive SUP_STATUS/active/y | | b11 | b11 | c11 | | | e11 | | | | | | | | h11 | h11 | h2 | j11 | j11 | j2 | | | | | m11 |
| receive SUP_STATUS/preparing/y | | d11 | d11 | c12 | d11 | d11 | e12 | e12 | e12 | e12 | | | | | h11 | h11 | h2 | j11 | j11 | j2 | | | | | m11 |
| receive SUP_STATUS/confirming/y | | | | | | | f11 | f11 | f11 | f11 | f11 | f12 | | | h2 | h2 | h2 | k11 | k11 | k11 | k11 | k11 | | | m11 |
| receive SUP_STATUS/cancelling/y | | g11 | g11 | z | g11 | g11 | g11 | g11 | g11 | g11 | | | g11 | g11 | l11 | l11 | l11 | j2 | j2 | j2 | | | l11 | l11 | m11 |
| receive SUP_STATUS/active | | | b1 | c1 | d1 | d2 | e0 | | e2 | | | | | | h0 | h1 | h2 | j0 | j1 | j2 | | | | | z |
| receive SUP_STATUS/preparing | | | b1 | c1 | d1 | d2 | e0 | e1 | e2 | e3 | | | | | h0 | h1 | h2 | j0 | j1 | j2 | | | | | z |
| receive SUP_STATUS/unknown | | | z | z | | | z | z | z | z | | | g1 | g2 | l0 | l0 | | z | z | z | | | | z | z |
| disruption I | | z | z | z | z | z | e5 | e5 | e5 | e5 | z | z | z | e5 | h5 | h5 | h5 | j5 | j5 | z | k5 | k5 | l5 | l5 | |
| disruption II | | a5 | b5 | | b5 | d5 | | | | | e5 | f1 | g1 | g2 | | | h2 | | | j5 | | | | | |
| disruption III | | | | | d5 | | | | | | f0 | | | | | | | | | j2 | | | | | |
| reply timeout | | a5 | | z | | | | | e5 | | | | | | | h5 | | | j5 | | | k5 | | l5 | |

| | enrolling, disrupted | enrolling, querying | enrolled, disrupted | enrolled, querying | preparing, disrupted | preparing, querying | ready, disrupted | ready, querying | auto confirmed, disrupted | auto confirmed, querying | auto cancelled, disrupted | auto cancelled, querying | auto cancel, contradicted, disrupted | auto cancel, contradicted, querying | auto conf, contradicted, disrupted | auto conf, contradicted, dis... |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **a5** | **a6** | **b5** | **b6** | **d5** | **d6** | **e5** | **e6** | **h5** | **h6** | **j5** | **j6** | **k5** | **k6** | **l5** | **l6** |
| send INF_STATUS/active/y | a6 | | b6 | | d6 | | | | | | | | | | | |
| send INF_STATUS/ready/y | | | | | | | e6 | | | | | | | | | |
| send INF_STATUS/conf/y | | | | | | | | | h6 | | | | | | l6 | |
| send INF_STATUS/cancel/y | | | | | | | | | | | j6 | | k6 | | | |
| receive ENROLLED | b1 | b1 | | | | | | | | | | | | | | |
| receive PREPARE | d1 | d1 | d1 | d1 | | | e2 | e2 | h5 | h6 | j5 | j6 | | | | |
| receive CONFIRM | | | | | | | f0 | f0 | z | z | k0 | k0 | k5 | k6 | | |
| receive CANCEL | g1 | g1 | g1 | g1 | g1 | g1 | g2 | g2 | l0 | l0 | z | z | | | l5 | l6 |
| receive CONTRADICTION | | | | | | | | | z | z | z | z | z | z | z | z |
| receive SUP_STATUS/active/y | b11 | b11 | b11 | b11 | | | e11 | e11 | h11 | h11 | j11 | j11 | | | | |
| receive SUP_STATUS/preparing/y | d11 | d11 | d11 | d11 | d11 | d11 | e12 | e12 | h11 | h11 | j11 | j11 | | | | |
| receive SUP_STATUS/confirming/y | | | | | | | f11 | f11 | h2 | h2 | k11 | k11 | k11 | k11 | | |
| receive SUP_STATUS/cancelling/y | g11 | g11 | g11 | g11 | g11 | g11 | g11 | g11 | l11 | l11 | j2 | j2 | | | l11 | l11 |
| receive SUP_STATUS/active | b1 | b1 | b1 | b1 | | | e5 | e2 | h5 | h1 | j5 | j1 | | | | |
| receive SUP_STATUS/preparing | b1 | b1 | b1 | b1 | d1 | d1 | e5 | e2 | h5 | h1 | j5 | j1 | | | | |
| receive SUP_STATUS/inaccessible | a5 | a5 | b5 | b5 | d5 | d5 | e5 | e5 | h5 | h5 | j5 | j5 | k5 | k5 | l5 | l5 |
| receive SUP_STATUS/unknown | z | z | z | z | z | z | z | z | z | z | z | z | z | z | z | z |
| decide to vote ready | | | | | e5 | | | | | | | | | | | |
| decide to confirm autonomously | | | | | | | h0 | h0 | | | | | | | | |
| decide to cancel autonomously | | | | | | | j0 | j0 | | | | | | | | |
| remove ready vote decision | | | | | | | | | | | | | | | | |
| disruption I | z | z | z | z | z | z | e5 | e5 | h5 | h5 | j5 | j5 | k5 | k5 | l5 | l5 |
| disruption II | a5 | a5 | b5 | b5 | d5 | d5 | | | | | | | | | | |
| reply timeout | | a5 | | b5 | | d5 | | e5 | | h5 | | j5 | | k5 | | l5 |

| | enrolled, queried | resigning, queried | resigning, prepared, queried | preparing, queried | spontaneous ready, queried | requested ready, queried | confirming, queried | confirming complete, queried | cancelling, queried | auto confirmed, queried | auto cancelled, queried | auto cancel, contradicted, queried | auto conf, contradicted, queried | unknown |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **b11** | **c11** | **c12** | **d11** | **e11** | **e12** | **f11** | **f12** | **g11** | **h11** | **j11** | **k11** | **l11** | **m11** |
| send ENROLL/rsp-req | | | | | | | | | | | | | | |
| send ENROLL/no-rsp-req | | | | | | | | | | | | | | |
| send RESIGN/rsp-req | | c1 | c1 | | | | | | | | | | | |
| send RESIGN/no-rsp-req | | | z | z | | | | | | | | | | |
| send VOTE/cancel | | | | z | | | | | | | | | | |
| send VOTE/ready/spont | | | | | | | | | | | | | | |
| send VOTE/ready/reply | | | | | | e2 | | | | | | | | |
| send CONFIRMED | | | | | | | | z | | h1 | | | l1 | |
| send CANCELLED | | | | | | | | | z | | j1 | k1 | | |
| send INF_STATUS/active | b1 | | | d1 | | | | | | | | | | |
| send INF_STATUS/ready | | | | | e2 | | | | | | | | | |
| send INF_STATUS/unknown | | | | | | | | | | | | | | z |
| send INF_STATUS/inaccessible | | | | | | | | | | | | | | |
| decide to vote ready | e11 | | | e12 | | | | | | | | | | |
| decide to confirm autonomously | | | | | h11 | h11 | | | | | | | | |
| decide to cancel autonomously | | | | | j11 | j11 | | | | | | | | |
| remove ready vote decision | | | | | | | f12 | | | | | | | |
| major disruption | z | z | z | z | e5 | e5 | z | z | z | h5 | j5 | k5 | l5 | z |
| medium disruption | b5 | | | b5 | | | e5 | f1 | e5 | | | | | |
| minor disruption | | | | d5 | | | f0 | | g1 | | | | | |