



SW3 Event Help

Revision 460

10 July 2022

Revision History

Version	Date	Person	Reason For Changes
457	2021-3-24	MTL	General Update, correct links Match version 457
458	2021-6-07	MTL	Add Event/Event, EXE Event, Timed Events
459	2021-9-30	MTL	Expand Setup and Card set events
460	2022-7-10	MTL	Expand on status

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1 AIM

This help file serves the help manual to SoftWin version 3 (SW3) and can be access via the program be selecting help. The general section described the event mechanism of SW3.

This is followed by the event structures that can be set to be triggered as required:

<u>Counters:</u>	Increment or decrement counters on events.
<u>Event-Events:</u>	Generate events on event triggers.
<u>Exe events:</u>	Start programs or batch files on event triggers.
<u>Timed events:</u>	Generate events on time schedules.
<u>Timers:</u>	Start, stop, cycle on events.

The document SCS_sw3_EmailReport.how2 gives examples using Timed event that triggers an Exe event to Run and a report and Timer Event to start Email.

The document SCS_sw3_Backup.how2 gives example using Timed event that triggers an Exe event to do a backup.

2 EVENTS

Events are messages that are generated by occurrences that happen in the system (e.g. inputs change, counters change, cards are enabled, cards are reported out-of-area, etc.

Some events are automatically generated (e.g. if the event USER OUT-OF-AREA is received from a controller, access checks if this is true. If the User in fact is not out of area, it automatically generates an event USER ENABLED.

Events can increment and decrement counters, can trigger new events and can start programs.

This is achieved by setting event triggers that are compared to events occurring, and when the trigger matches the event occurred, counts are in/decrements, new triggers generated, and programs started.

Events are used as triggers and/or are generated by the following settable (by Administrators) program functions as listed above: Counters, Event-Event, Exe, Timed, Timers.

An event is generated by posting a message on the notice board (by the system or by the above), and consists of 7 parts:

Time Date	This is used for logging functions and presently does not affect counters or events.
Type t	The event type defines what kind of event occurred (e.g., Reader, Input, Operator, Counter),
System n	Defines which one of the Type (e.g., which Reader, Input, Operator, Counter).
Xref x	Some event types use this to give additional information. When used with readers, it indicates a specific User (if zero, all Users).
Status s	What event occurred, e.g., out-of-area, level change, off-line, maximum reached.
Value v	Some event types use this value to indicate more information, e.g. input change –indicates the level of the input change (1 or 2). If value is zero, it is ignored for the event match. In reader event types it can be set with the User trigger group that must match the event (if zero, the User trigger group is ignored).
Alarm a	When the PC receives an event, it is checked whether it is in alarm. Certain events are always alarm (e.g. off-line) and others on only on set time (e.g. inputs). When alarm is detected, the event alarm field is set to 2 and when normal it is set to 1. None is set to 0 and alarm accepted is set to 3.
Zx z	Certain events use additional z1 to z7 parameters that contain additional data. The vending and long Token number data are stored in these parameters.

The description for Type and Status used by the system are in the tables TYPE and STATUS in database REPORT.

E.g.: Reader 5, User 123, Entered	t1, n5, s22, x123 Reader = type 1, System Reader 5, Entered = Status 22, X = User reverence number
E.g.: Input 12, Changed to Closed	t2, n12, s50, v1 Input = type 2, System Input 12, Level Changed = Status 50, V = Level
E.g.: Controller 6, Offline	t4, n6, s2 Controller = type 42, System Controller 6, Offline = Status 2

When the Softcon program ACCESS.EXE starts running, it generates the event:

t4 n0 s3 x0 v0 Controller 0, powered up.

This can be used to reset APB, count the number of times it started, etc.

When access receives the event t4 n0 s3 x0 v0, it automatically generates the event:
t4 n? s6 x0 v0 Controller x, request status for each controller.

Time Date. This is used for logging functions and presently does not affect counters or events.
Type. The event type defines what kind of event occurred:

- 1 Reader - data received from readers or data sent to readers.
- 2 Input - change in monitored inputs or the set-up.
- 3 Output - output being changed.
- 4 Controller - going on/off-line, powered up, set-up.
- 5 Camera.
- 6 Counter - counters changing value, or reaching minimum or maximum.
- 7 Timer.
- 8 Command-button (DDE event message generator). An event string is sent.
- 9 EXE-button. A program is started.
- 10 System.
- 11 Vend base.
- 12 Vend Item.
- 13 Asset receivers.
- 14 Vender.
- 15 Asset Tag.
- 16 GSM.
- 17 Mux.
- 18 PC.
- 101 Photo.
- 102 Database value, reader provides reference (string field gives ID to ACCESS.SQL file).
- 103 Drawing link.
- 500+ Database value (string gives ID to ACCESS.SQL file).

System. Defines which reader, input, output, counter or controller.

Status. What event occurred, e.g. out-of-area, level change, off-line, maximum reached, depending on type, e.g.

- readers: Out of area, Out of time, Access Granted, Card enabled, Card disabled.
- inputs: Level change.
- outputs: Level change.
- counter: Minimum reached, count changed, maximum reached.
- Controllers: On, off-line, powered up.

The complete status list is (unless indicated as level, i.e. is in the state already, the status is edge, i.e. it occurred now):

Controller events:

- 1 On-line.
- 2 Off-line.
- 3 Power-up.
- 4 Set-up.
 - t4 n? s4 x0 All set-up
 - t4 n? s4 x1 Set RTC
 - t4 n? s4 x2 Set holidays
 - t4 n? s4 x3 Time zones
 - t4 n? s4 x10 ACCESS time group
 - t4 n? s4 x11 RD1, RD2 activate
 - t4 n? s4 x12 PIN1, PIN2 activate
 - t4 n? s4 x13 DOOR 1, DOOR 2 open
 - t4 n? s4 x14 Input time groups
 - t4 n? s4 x15 Aux Output time group
 - t4 n? s4 x100 All other set-up
- 5 Reset. Idle
- 6 Request status.
- 7 Cards reset Changes dB type to zero and back to clear
- 8 Cntrl time sync. t4 n? s8 xdate vtime is logged when starting SCS_Client with /cntrltime
- 9 Cntrl time sync error. t4 n? s9 xdate vtime is always logged
- 10 SCS_Server off-line. t10, xref = Operator, n=PC a1

Card / dbEvents (note 2):

- 17 Write (alter) database. t10 s17 n0 vsearch-ref xsearch-data z1data-ref z2data
Table DBT_ALT_DB in access.mdb references the search and data fields.
e.g. _CD_REF 1, F_CD_STATUS 2, F_CD_COUNT 3.
e.g. to set the count of card 1 to 10: event: t10 s17 n0 v1 x10 z13 z210
Thus, v where to search, x for what, z1 which data to change, z2 to what
- 18 Card Absent error.
- 19 Set card properties. t10 n0 s19 xref vtrigger-grp z1area-group z2time-group z3status
(change is audited)
If v>0, set all cards with matching trigger group.
- 20 Card Out-of-area.
- 21 Card Out-of-time.
- 22 Card Entered.
- 23 Card enabled.
- 24 Card disabled.

- 25 Card Expired.
- 26 Card Wrong PIN.
- 27 Card set-up.
- 28 Card at reader (level).
- 29 Card APB error.
- 30 Card Out of count.
- 31 Card Late entered.
- 32 Card Captured.
- 33 Card No host.
- 34 Card Strictly from error.
- 35 Card Not found ([note 1](#)).
- 36 Set-up APB/strict.
- 37 Set-up out count.
- 38 Set-up expire.
- 39 Card Duress.
- 40 Guest request ([note 1](#)).
- 41 Guest reply, value=error code where > 0 pay ([note 1](#)).
- 42 LCD display (V is the line number, data as parameter).
- 43 Parking exit.
- 44 Wrong card format.
- 45 Wrong card facility([note 1](#)).
- 46 Card ATB error.
- 47 Park entry.
- 48 Park exit.
- 49 Card not captured.

I/O events:

- 50 Level changed.
- 51 In value (level).
- 52 Operation change (by time group).
- 53 Do change (to/from external).

Counter events:

- 70 Maximum (level and edge).
- 71 Minimum (level and edge).
- 72 Available (level and edge).
- 73 In maximum.
- 74 In Minimum.
- 75 In Available.

Timer events (See timers for details):

- 80 Timer set.
- 81 Timer start.
- 82 Timer stop.
- 83 Timer status.
- 85 Timer Started.
- 86 Timer Stopped.
- 87 Timer Timed-out.
- 88 Timer Cycling.

PC events:

- 99 Check PC. t18 n? s99 when * with events, sets which PC does the task (e.g. FP add).

Operator events:

- 100 Operator changed.
- 101 Accept alarm.
- 102 Run report. x is the report number.
- 103 Operator controller set-ups. t4 nCntrl s103 xref).
- 104 Operator controllers reset. t4 nCntrl s104 xref.
- 105 Backup. used as trigger to exe event.
- 106 Operator change DT. t10 nPC s106 xoperator voldD z1_oldT.
- 107 Dist Server change DT.
- 108 Dist Server change DT error.
- 109 Visitor registered t10 nPC s109 xCardRef vHostRef z1CurrentOperator z2VisRef

General events:

- 130 Buzzer on.
- 131 Buzzer stop.
- 132 APB reset.
- 133 RAM refresh.
- 134 Net Ping.
- 135 Cards status check.
- 136 Cards expiry check.
- 137 Run exe event.
- 139 Set area count. x0 all cards, or specific; v0 default reset count value, else value.
- 140 Start RAM refresh.
- 141 Reset period count. x and v as 139.
- 142 Reset period status. x0 all cards, or specific; v0 status to alt, v1 status to normal.
- 143 Security shut down.

144 Server off-line. t10, alarm.
 145 Server on-line. t10.
 146 Operator terminates system. t10, xref = Operator, n=PC, v=application.
 147 Operator logged on. t10, xref = Operator.
 148 Operator logged off (default logon).
 149 Password change.
 150 Illegal password change.
 151 Unsuccessful password change.
 152 Illegal logon attempt.
 153 Encoding card. t10, xref=Operator, value=application, z1=User ref programmed.
 154 Printing card. t10, xref=Operator, value=application,
 z1=User ref printed, z2=batch print count, z3=print reason, z4=material batch
 155 LCD display.
 156 Wrong Comms Interface version.
 157 System Auto Log-off.

Camera control events (reserved for future use):

200 PTZ power.
 201 Iris control.
 202 Camera select.
 203 Camera Monitor select.
 220 PTZ zoom.
 221 PTZ focus.
 230 PTZ PAN.
 240 PTZ tilt.
 250 PTZ PAN/TILT.
 251 PTZ PAN/TILT stop.
 252 PTZ position set.
 253 PTZ position go to.
 260 PTZ alarm set.
 261 PTZ alarm reset.

External system link events:

270 Ext Access Log.
 271 Ext Access request.
 272 Ext Access answer.
 273 Ext Access Log.

Vending events (not logged):

300 Vend show funds.
 301 Vend show item.
 302 Vend Funds error.
 303 Vend do.
 304 Vend request.
 305 Vend show value.
 306 Vend show item.
 307 Vend add cash.
 308 Vend item not found.
 309 Vend kM check.

Vending events (logged):

350 Vend PC add cash.
 351 Vend cash added.
 352 Vend filled.
 353 Vend maintained.
 354 Vend cleaned.
 355 Vend vended.
 356 Vended insufficient.
 357 Vended Card unknown ([note 1](#)).
 358 Vended Item unknown.
 359 Vend filling due.
 360 Vend maintenance due.
 361 Vend Clean due.
 362 Vend Clear done.
 363 Vend PPOS sale ([note 1](#)).
 364 Vend PPOS take-on.
 365 Vend PPOS cash-up.
 366 Vend PPOS Entry.
 367 Vend PPOS Exit.
 368 Vend PPOS Take-on.
 369 Vend PPOS Cash-up.

Distribution server events:

400 DistrServer Start.
 401 DistrServer Done.
 402 DistrServer Failed.
 403 DistrServer Modem Connected.
 404 DistrServer Connection Failed.
 405 DistrServer Connection Done.

406 DistrServer Start Listener
 407 DistrServer Received Data.

SMS events:

450 SMS Sent.
 451 SMS Remove on timeout (messages in send queue are removed after time-out, not sent due to error).
 452 SMS Remove Stop (messages in send queue are removed after port is stopped).
 453 SMS Error.
 454 GSM: Incoming call.
 455 GSM: Initialization.
 456 GSM: Card not found.
 457 SMS: Start (has no effect).
 458 GSM: Start (has no effect).

Email events:

460 Email: Sent. t10, n=computer ref, x=Operator ref, v=email_to ref
 461 Email: No dial-up connection.
 462 Email: No SMTP connection.
 463 Email: Send error.
 464 Email: Operator close App.
 465 Email: Attachment error.
 466 Email: Start (has no effect).

Modem events:

500 Scheduled link successful. Schedule reference in v.
 501 Scheduled link error. Schedule reference in v.
 502 Manual link successful. Error in z1 (see SCS_CntrlModem logged messages).
 503 Manual link error. Schedule reference in v.
 504 Modem/Cntrl overrun. Schedule reference in v1. Error in z1 as above.

Fingerprint events:

510 FP Add Record (see [FP events](#) for details).
 If more than 1 PC, the algorithm requires * with a trigger t18 n? s99.
 511 FP Add Record Done.
 512 FP Remove Record.
 513 FP Remove Record Done.
 514 FP Download db.
 515 FP Download dB Done.
 516 FP Clean db.
 517 FP Clean dB Done.
 518 FP Enrol System.
 519 FP Enrol System Done.
 520 FP Enrol User.
 521 FP Error.
 522 FP Reader Setup.
 523 FP Reader Setup Done.
 524 FP Logs.
 525 FP Logs done.

Video capture events:

530 Video capture do (see [video events](#) for details).
 531 Video capture done.
 532 Video capture error.

Asset events:

600 Asset Violation.
 601 Asset Violation Cleared.
 610 Asset Issued.
 611 Asset Returned.
 612 Asset Booked.
 613 Asset Booking removed.
 614 Asset Booking expired.
 615 Asset Late Return.

Controller events:

1020 Out-of-area.
 1021 Out-of-time.
 1022 Entered.
 1025 Expired.
 1026 Reversed.
 1027 Card set-up.
 1050 Level change.

Depending on the version of the SW, certain status shown above may not exist is selection lists.
 These can be added by editing table status in c:\softwin3\database\Report.mdb.

REFERENCE	DESCRIPTION	DESCR_ENG
450	SMS sent	SMS sent
451	SMS remove start on time-out	SMS remove start on time-out
452	SMS remove stop	SMS remove stop
453	SMS error	SMS error
454	GSM Incoming Call	GSM Incoming Call
455	GSM Initialization	GSM Initialization
456	GSM Token Not Found	GSM Token Not Found
457	SMS Send	SMS Send
458	GSM Send	GSM Send
460	E-mail: sent	E-mail: sent
461	E-mail: No dial-up connec	E-mail: No dial-up connec
462	E-mail: No SMTP server connect	E-mail: No SMTP server connect
463	E-mail: Send error	E-mail: Send error
464	E-mail: User close app	E-mail: User close app
465	E-mail: Attachment error	E-mail: Attachment error
466	Email : Send	Email : Send
467	z467	z467
478	z468	z468

When requiring events be generated to trigger another event (e.g. timed event to trigger exe event), use any event that does not do specific function.

When the Softcon program ACCESS.EXE starts running, it generates the event:

t4 n0 s3 x0 v0 Controller 0, powered up.

This can be used to reset APB, count the number of times it started, etc.

When access receives the event t4 n0 s3 x0 v0, it automatically generates the event:

t4 nx s6 x0 v0 Controller x, request status for each controller.

Note 1: parameters Z2 to Z5 contain card data, with Z2 the decimal number of the first 6 (hexadecimal) digits, Z3 the digits 7 to 12, Z4 the digits 12 to 18 and Z5 the last 2 digits. A -1 value in Z2 to Z5 indicates no digits. In the activity display, the Z2 parameter is displayed as the hex string calculated from Z2 to Z5.

Note 2: Card **access control events** of cards in the card database (20 ... 34, 39) generated by the system set the v field with the cards trigger group. The trigger group can be used for special triggers in generating new events, incrementing counters, sending SMS, etc.

2.1 EVENT ALTER DATABASE (ADVANCED)

The alter database event (s17) alters data in any field in any table of any database:

t10 s17 n0 vsearch-ref xsearch-data z1data-ref z2data
v tells where to search, x tells for what, z1 tells which data to change, z2 to what

Such event is typically set in the [event-event set-up](#).

Alter database sets a reference number (e.g. 1, 2, 3) used in the event, to a database field reference.

These database field references are contained in table fields in c:\softwin3\config\database.mdb For example:

- 1 F_CD_REF
- 2 F_CD_STATUS
- 3 F_CD_COUNT

To set the count of User 123 to 10: event: t10 s17 n0 v1 x123 z13 z210
hence t10 s17 n0 vF_CD_REF x123 z1F_CD_COUNT z210

3 COUNTERS

Numerous system counter are available in the system – See SCS_Client

System counters (up to 65000, set in the DATABASE set-up files) keep counts in accordance to set events and can be used in displays and can control outputs and be logged when limits (set maximum and zero) are reached. These counters are set-up via the **COUNTER SET-UP** menu with the data listed below.

- Name.** A descriptive name given to the counter to identify it.
- Now.** The current value of the counter. The value can me set manually and is automatically updated when it increments or decrements as a result of an event trigger.
- Date Time.** The last time the counter now value changed.
- Min.** A pre-set minimum, equal to or below which a counter minimum event is automatically generated when the counter now values changes. The colors of name and now value is set to be in blue when the counter is in minimum.
- Max.** A pre-set maximum, equal to or above which a counter maximum event is automatically generated when the counter now values changes. The colors of name and now value is set to be in red when the counter is in maximum.
- Rep Min.** When the counter value changes and is minimum, the change is set to be logged, displayed, and printed and to trigger other events (or counters). See Event Reporting.
- Rep Now.** When the counter value changes and is not minimum or maximum, the change is set to be logged, displayed, and printed and to trigger other events (or counters). See Event Reporting.
- Rep Max.** When the counter value changes and is maximum, the change is set to be logged, displayed, and printed and to trigger other events (or counters). See Event Reporting.
- TG Min.** When the counter changes and is minimum, the time-group setting sets when the event is an alarm and when the timed report function is active. See event reporting.
- TG Now.** When the counter changes and is not minimum or maximum, the time-group setting sets when the event is an alarm and when the timed report function is active. See event reporting.
- TGMax.** When the counter changes and is maximum, the time-group setting sets when the event is an alarm and when the timed report function is active. See event reporting.

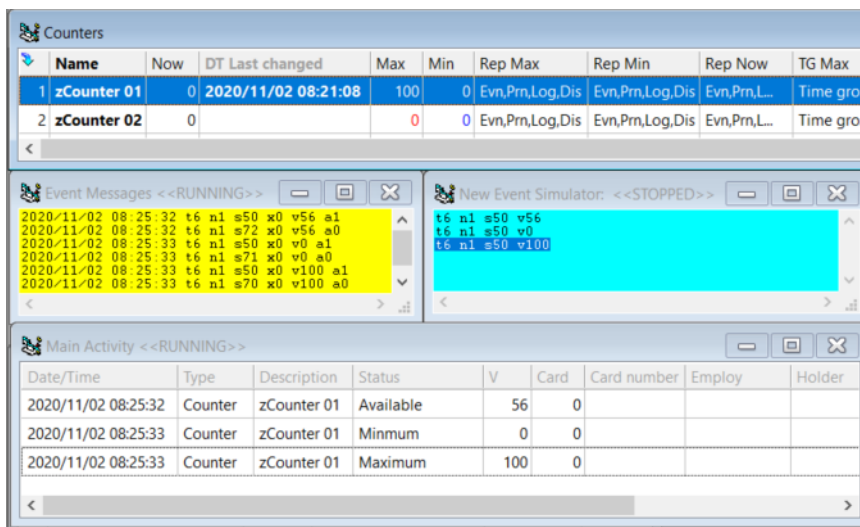
Events that result in the counter incrementing or decrementing are **Added** via the property sheet (right click on the counter). The trigger event is set with **Type**, **System Item** number, **Status**, **Xref**, **Value**, **Alarm** and Z1, Z2 parameters. See events. The value by which the counter is incremented is indicated with a plus (e.g. +1) or decremented with a minus (e.g. -2).

A counter can be a **sum** of counters by setting an & in the +- column. & is only valid for counters. Any event can serve as a trigger. Only the now counts of counters in the triggers with & are used to calculate the value of the counter, all other triggers are ignored in the calculation. The event generated is counter maximum, available or minimum.

To set the value of a counter:

- Event:** **Type** Counter, **system** Counter number, **Status** Level Change, **Value** xyz
e.g. using the event simulator – set the counter to 56, to 0 and to 100.

Note the events generated:



Where **access** must be granted **according to counts**, all functions are done via the PC, using **EVENTS**:

1. Tokens are not enabled in the reader (reader set as [DB location PC](#)).
2. The PC receives from the Comms Interface, the event READER, USER OUT-AREA and automatically does a check to see if User is enabled, that the User is not out-of-area by checking if the Users area group has access to the readers "TO AREA" and that the User is not already in the area (if the User is not pass back and the reader is an APB reader). The event READER/User ENABLED or READER/User DISABLED or READER/User OUT-AREA is issued.
3. An event to open the door must be set to trigger on READER/User ENABLED (with VALUE=trigger group optional) added with COUNTER/IN AVAILABLE or IN MINIMUM.
4. An event to generate READER/User ENTERED must be set to trigger on the door open command, or have the same two triggers as required by the door open. The User ENTERED event must transfer the user number by setting **Xref** equal to the negative of the READER/User ENABLED trigger.

For example, open front door if User is enabled, and count_1 available for trigger group 7, update User location and APB:

Event:	Open-door: algorithm 5*(1+6)									
	Type	output	system	front_door	status	level_change	value	1	xref	-5
ref 1	Type	counter	system	count_1	status	in_available	value	0	xref	0
ref 5	Type	reader	system	reader_in	status	enabled	value	7	xref	0
ref 6	Type	counter	system	count_1	status	in_minimum	value	0	xref	0
Event:	Update: algorithm 2									
	Type	reader	system	reader_in	status	entered	value	0	xref	-2
ref 2	Type	output	system	front_door	status	level_change	value	1	xref	0

Event Open_door triggers Event Update, and the User number is transferred from trigger 5 to trigger 2 to event Update. If exit, the count values in available and in maximum need not be checked (i.e. exit regardless of the count).

ALTERNATIVELY

Event:	Entry: algorithm 5*(1+6)									
	Type	output	system	front_door	status	level_change	value	1	xref	0
	Type	reader	system	reader_in	status	entered	value	0	xref	-5
ref 1	Type	counter	system	count_1	status	in_available	value	0	xref	0
ref 5	Type	reader	system	reader_in	status	enabled	value	6	xref	0
ref 6	Type	counter	system	count_1	status	in_minimum	value	0	xref	0
Counter:	Count_1 is typically set as follows: min 0, present 5, maximum 10									
	Type	reader	system	reader_in	status	entered	value	0	xref	0+1
	Type	reader	system	reader_out	status	entered	value	0	xref	0-1

[Quick Setup Guide for Counter Setup](#)

4 EVENT-EVENT

Select the [event](#) to be viewed or edited with the down key on the list box of the **event name**. The name can be edited with the list box closed.

The **PC** and **Program** that has to receive and process the event generated are selected from the lists. Selection of '**Resolve**' sets that the PC generating the event must process the new event.

The **algorithm** is set with the event **trigger** reference numbers, indicating "AND's" and "OR's", e.g.

- 1+3** trigger 1 or 3 can trigger the event.
- 2*4** trigger 2 and 4 must be valid for the event to be generated.
- 1+2+(5*6)** 1 or 2 or 5 and 6.

The status of a **time group**, i.e. time group now active is true (or 1), or not now active is false (0) can be used in an algorithm and is defined as a T followed by the group number, e.g.

2*4*T10

The event generates when the algorithms of triggers are valid and are set in the row above the triggers.

This is the event message, which is posted on the notice board when the triggers match (and algorithm passes). **Value** and **Xref** can be set to values for further matching on other events or counters, or if set with a preceding ~ (tilde) character, the value equal to the trigger reference value, e.g.

~5 for trigger ref 5

the value of that triggers value or xref is set for the event value or xref.

NOTE THAT VERSION BEFORE 1.55 USED – (minus), now ~ (tilde).

Negative values are sent as negative values (negative values have special meaning in certain events – e.g. in timer events).

The PC and application (program) to which the event must be sent are selected from the lists as specific or all. The PC selection of Resolve sets the current program.

When generating event 19 – **Set User parameters** (type system), the following field of the event generated are:

- Value** of non-zero contains a trigger group setting – all cards that match the non-zero trigger group are changed.
- Z1** sets the card's **area group**. 0 leaves the group unchanged.
- Z2** sets the card's **time group**. 0 leaves the group unchanged.
- Z3** sets the User **status** (0=disable, 1=enable, 2=capture). Values above 2 leaves the status unchanged.

The changed Users are automatically sent to the CntrPs and the changes are logged in the audit file.

When using a **virtual User** (a User that as virtual setting of yes) in a trigger (e.g. ca User rd 100) results in the User that generated the event (e.g. card 5) to be compared with the virtual User. If all non-empty fields of the virtual User match the User (i.e. all non-empty fields in card 100 match the fields in card 5), the trigger is true.

Typical example – any User of department 123 – set a virtual User (e.g. card 100) with department 123 and all other fields of card 100 as empty. See [virtual cards](#).

As example of an event generated: open front door if a card at reader-in with trigger group 50 is enabled and count_1 is available; update the User location and APB:

Event:	Open_door: algorithm 1*5				
	Type output	system front_door	status level_change	value 1	xref ~5
ref 1	Type counter	system count_1	status available	value 0	xref 0
ref 5	Type reader	system reader_in	status enabled	value 50	xref 0
Event:	Update: algorithm 2				
	Type reader	system reader_in	status entered	value 0	xref ~2
ref 2	Type output	system front_door	status level change	value 1	xref 0

Event **Open_door** triggers event **Update** and the user number is transferred from trigger 5.

When requiring a specific PC to perform the event, the algorithm required * with a trigger t18 n? s99 which is type PC (18), the PC and the status: check PC.

5 EXE EVENT

On pre-set **events** (or combination of events), programs can be set to run. For example, when an alarm triggers, start the Write text editor with the document "OCCURANCE.DOC", where the operator has to enter the actions taken in response to the alarm, or start a paging program to call a service technician when certain temperature alarms are detected.

To view or edit an EXE event set-up, click on the **EXE name** list box and select the required EXE event. The description of the EXE event is by clicking on the description (with the list box closed) and editing the name. For each EXE event, the program to be executed (**File name**) is entered with full path, extension and parameters (if required).

The command line can include the trigger information by using **~t, ~n, ~s, ~x, ~v, ~a or ~z1, ~z2**.

The active trigger data is substituted in the string. For example:

C:\WINDOWS\WRITE.EXE C:\SOFTWIN\REPORT\OCCURANCE.DOC.

C:\SOFTWIN\SOFTREP.EXE 14 NP AC p1: ~x. sends the parameters 14 NP AC p1: xref

The PC on which the program is to run (**Run PC**) is selected from the list of PCs.

As for event-event, **algorithm** is set with event **trigger** reference numbers, indicating "AND's" and "OR's", e.g.

1+3 trigger 1 or 3 can trigger the event.

2*4 trigger 2 and 4 must be valid for the event to be generated.

1+2+(5*6) 1 or 2 or 5 and 6

The status of a **time group**, i.e. time group now active is true (or 1), or not now active is false (0) can be used in an algorithm and is defined as a T followed by the group number, e.g.

2*4*T10

Example 1: start a paging program to call a technician when a temperature alarm occurs:

File: C:\page\pager.exe CLIVE temperature_alarm_computer_room

algorithm: 1+5

ref 1	Type input	system computer_1	status level_change	value 2	xref 0
ref 5	Type input	system computer_2	status level_change	value 2	xref 0

Example 2: With the default shipped Softwin3, a timed event (see above) generates a backup event, that triggers the exe event as below.

EXECUTE EVENT

Exe Name: 1 Backup

Algorithm: 1

Run PC: none File: c:\softwin3\backup_c.bat

Add Del

EVENT TRIGGERS									
Ref	Type	System Item	Status	Value	Xref	Alarm	Z1	Z2	
1	System	100	Backup	100	100	0	0	0	Add Del

6 TIMED EVENTS

Events can be set to be automatically generated at certain time(s), for example do APB reset at midnight or clear totals on month end. The events are set via the TIMED EVENTS menu.

Description. The event is given a descriptive name by clicking on the name and overwriting (the drop down box must be closed before the data can be edited. By selecting the down key of the drop down box, the timed event to be displayed/edited is selected by typing in the name (with the drop down box open) or scrolling to the timed event required.

Next. The time and date when the event must be generated next time. This time is used for the start and is used to synchronize the date-time of when to do (e.g. if set to 08:00, it will always be done at 08:00).

The data is in the format yyyy-mm-dd hh:mm (year-month-date space hour: minute).

To set this, the field must be editable (right click on any column header, select properties and change eye icon to a pencil). **NOTE after edit, click on any parameter in the same line.**

Repeat. The event can be repeated after the start. The period is in the same format as start. To repeat once a day set the repeat period to 0000-00-01 00:00. To repeat every month on the last day of the month, set the start date to 31.

End. The last time and date the event is generated automatically. A year of 0000 sets no end.

Last. The time and date of the last executed event. Note that this is when it was done and may not be synchronized at the time indicated in next (e.g. when a skipped event was done).

Skipped. Events that should have been executed while the program was not running can be set to be **all missed done, only last done** or **none done**.

Type, system, Status, Value, Xref, Alarm. Define the event that must be generated. See [Events](#) for more details.

The **PC** that performs the event is selected from the list of PCs.

Example 1: Backup

In the default ship, an event to do backup is generated once a day.

T=System, SystemNr=100 Status=Backup Xref=100 Value=100

Ref	Description	Last Done	Next	PC	End	Repeat	Skipped	Type	Sys	Val...	STAT	Xref	Alarm
1	Backup	2021/06/09 16:45:12	2021/06/10 01:00:00	localhost		0000-00-01 00:00	Not do any ...	System	100	100	Backup	100	Unknown

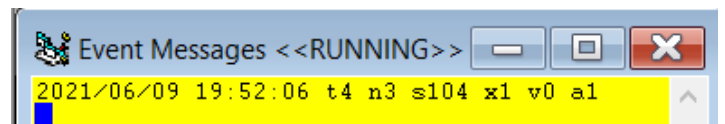
An Exe Event (see below) is triggered with this event to start backup.bat.

Example 2: Reset

At 02:00 and 14:00, reset controller 3.

To see the event, open the Event Messages window in the Tools Menu. If not selectable, enable in the Tools / Test options.

Right click on the controller and select reset.



Note the event:

T4=Type Controller, **N3**=controller 3, **S104**=status Controllers Reset

Create this timed event:

Ref	Description	Last Done	Next	PC	End	Repeat	Skipped	Type	Sys	Val...	STAT
2	Reset Barrier	2021/06/09 19:48:20	2021/06/10 02:00:00	localhost		0000-00-00 12:00	Not do any ...	Controller	3	0	Operator controll...

7 TIMER

The system provides for numerous system timers (up to 65000, set in the Timer table in Access.mdb) that generate set events on time-out. On events, timers are set to start (loads set, pre-set or current values), stop or set current values. Timers can be set or pre-set to cycle.

Typical examples:

- If operator does not accept an alarm within 60 seconds, sound a siren. If not accepted within 2 minutes, send an SMS.
- While a door is open, give an audible alarm every minute, and send an EMAIL if door remains open for longer than 10 minutes.
- After hours – if no motion is detected for more than 10 minutes, enable the alarm system.

These timers are set-up via the **TIMER SET-UP** list editor with the data below. Timing out and events sections describe how the system automatically changes certain data.

The **checking period** (how often) timers are checked are set in the PC set-up, setting which PC does the checking (**Timer Processing**).

A delay can be set after which the checking is started after the programs starts (allowing for events to be received that may stop / reload timers (general set-up).

7.1 TIMER SET-UP (SETUP EDITOR)

- Reference.** Timer (reference) number.
- Name.** Descriptive name given to the timer to identify it.
- Status.** Current status of the timer (automatically changed by the system):
0=stopped 1=running
2=cycling 3=timed-out.
- Status Date Time.** Last time the timer status was changed (automatically updated).
- Event trigger.** Event that caused the timer start event (automatically saved by the system in event-event, cleared if started any other way – e.g. timed event, operator, etc.).
- Timer reload.** A preset reload value in seconds.
- Time remain.** Current value of the timer in seconds.
The value can be set manually or by the system.
The display is only updated when entering the menu, when the timer starts, stops or when timing-out - if the list is set to live, by selecting F5 (refresh).
- Time-out DT.** If status is running or cycling, contains when the time-out will occur if not stopped. Automatically updated when timer is starts running or cycling or when time remain is edited.
- Time-out result.** If not an empty string, the event that is automatically generated when time-out occurs. Event parameters are fixed or can be loaded from the Event trigger, or contain the reload or the stated value by entering a ~ (insert) character as follows (case insensitive):
~t Trigger type. ~s Trigger status.
~n Trigger system number. ~v Trigger value.
~x Trigger xref. ~z1...10 Trigger z.
~R Timer reload value. ~C Timer remain (current value).
- Cycle reload.** Number of pre-set time-out cycles. 0 is not cycle, -1 is endless cycle.
- Cycle remain.** Number of remaining cycles on time-out. 0 is not cycle, -1 is endless cycle. If positive value, automatically decremented by the system when recycle starts.
- Cycles done.** Number of cycles done since started. Automatically incremented when timed-out.
- Cycle result.** If not an empty string, the event automatically generated when cycling occurs, parameters as for time-out result event.

Timing out automatically occurs when timer status is not stopped or timed out (thus running or cycling) and the real time is after the time-out DT. Note that on starting of the client program, timer events are checked for the first time after a pre-set number of seconds (general set-up) after starting (allowing all events, timed events to be completed first). The PC and period of time-out checking is set.

On timing, out, the following is done (in order):

Cycles done is incremented.
Time remain=0.
If cycles remain > 0 Decrement.
If cycles remain <> 0 Time remain=timer reload.

If time remain <> 0: Set timer status=cycling.
 Set time-out DT.
 Generate Cycling event.
 Generate Cycle result event (if rep is event or event-tg active).
 or
If time remain = 0: Set timer status=timed-out.
 Generate timed-out event.
 Generate Timed-out result event (if rep is event or event-tg active).

Timer events: In any of the values below negatives -1 means forever.

Parameter v, x, z1 and z2 set what must be done to the timer

Parameter are checked for legal values and changed if wrong, are indicated in red.

Control events:

80 **Timer set.** The system does the following (in order):
 Load time reload: z1-2 unchanged, with z1. **z1 < -2 set to 0.**
 Load cycle value: z2-2 unchanged, with z2. **z2 < -2 set to 0.**
 Load time remain: v-2 unchanged, with time reload (v-3), with v. **v < -3 set to 0.**
 Load cycle remain: x-2 unchanged, with cycle value (x-3), with x. **x < -3 set to 0.**

81 **Timer start.** Irrespective of the current status, the system does the following (in order):
 (Event-event will have saved the triggering event to event trigger string).
 Load time remain: v-2 unchanged **v < -4, v set to -2**
 v-3 with time reload value
 v-4 recalculate from time-out DT with v.
 Load cycle remain: x-2 unchanged **x < -3 set to -2**
 x-3 with cycle value with x.
 Clear cycles done.
 Set time-out DT (of when time-out will occur, real time plus time remain).
 DT of zero means forever (time remain negative).
 Set status DT with real time.
 If cycles remain=0, set status=running.
 If cycles remain<>0, set status=cycling.
 Generate started event (see below).

82 **Timer stop.** Irrespective of the current status, the system des the following (in order):
 If time remain is not negative, update (seconds from now till time-out date-time).
 Set status DT with real time.
 Set status=stopped.
 Generate Stopped event (see below).
 Set time remain: v-2 unchanged **v < -3 set to -2**
 v-3 with reload value with v.
 Set cycle remain: x-2 unchanged **x < -3 set to -2.**
 x-3 with cycle value with x.

Current Status events:

83 Timer in status. Used as event status trigger (as level 55), being true when v equals timer status (see timer status above).

The following events are automatically generated by timers, with current values loaded:

v time remain x cycles remain q1 time preload q2 cycle value q3 cycles done.

Status changed events:

85 Timer Started. 86 Timer Stopped. 87 Timer Timed-out. 88 Timer Cycling. See timing out above.

Timer generated events are set to be logged, displayed, and printed and to trigger other events.

A corresponding time-group sets when the event is an alarm and when the timed report function is active.

See Event Reporting.

Control Rep, TG	Control events – set, start and stop.
Started Rep, TG	Started.
Cycling Rep, TG	Cycling.
Stopped Rep, TG.	Stopped.
Timed-out Rep, TG.	Timed-out.
Time-out result Rep, TG.	Time-out generated event. Event is only generated if rep is event or event-tg active (or tg 0). Alarm or not is set in event.
Cycle result Rep, TG.	Cycle generated event. Event is only generated if rep is event or event-tg is active (or tg 0). Alarm or not is set in event.

[Quick Setup Guide for Timers](#)