Service

HiPath 4000
Troubleshooting

Service Manual

A31003-H3130-S100-4-7620

SIEMENS

F3000

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F3000
SWU-DP
PARTNER NOT READY

Type:	Service-specific (Format 00)
Short text:	Standby partner failure
Cause:	Standby partner failure.
Action:	Replace partner data processor (DP).

F3002
SWU-DP
WD0 INT DEF

Type:	Service-specific (Format 18)
Short text:	Watchdog 0 INT test negative
Cause:	Watchdog 0 INT test negative
Action:	Replace DP.

F3004
SWU-DP
WD1 INT DEF

Type:	(Format 18)
Short text:	Watchdog 1 INT test negative
Cause:	Watchdog 1 INT test negative
Action:	Replace DP.

F3008
SWU-DP
MBTO INT DEF

Type:	Service-specific (Format 18)
Short text:	Multibus timeout
Cause:	Multibus timeout. Interrupt test negative.
Action:	Replace data processor (DP).

F3010
SWU-DP
NMI DEFECT

Type:	Service-specific (Format 18)
Short text:	Interrupt logic defective
Cause:	Interrupt logic defective
Action:	Replace DP.

F3011
SWU-DP
CHKSUM ERROR

Type: Service-specific (Format 22)

Short text: Checksum error

Cause: RTO detected a checksum error during system startup. A hard restart with a reload and a new checksum test are initiated.

Action: Check that the PABX completes the restart. Contact your next level of support if the system fails to restart.

F3050
SWU-MEM
1 BIT ERROR

Type: Service-specific (Format 1D)

Short text: 1-bit error

Cause: 1-bit error, corrected in memory. Event signal came from routine test organization RTO (AMO FUNSU / MEM1AREQ).

Action: Replace M2M board if necessary. The RTO can be temporarily deactivated with the FUNSU AMO (notify your next level of support).

F3059
SWU-MEM
PARITY ERROR

Type: Service-specific (Format 1D)

Short text: Parity error

Cause: Parity error in board test by RTO (test only if RTO is activated via AMO FUNSU / MEMACEA or if a test is called up with AMO DIAG-TSU: CC, ...).
Word (2 bytes) 1 and 2 specify the corrupt memory cell as a basis / offset address (in accordance with the error address output of AMO TSU). The following FF value is a filling character and is therefore not relevant.
Example:
F3059 ...
... Format:1D
... 0100 0000 FF

Action: When the error occurs for the first time, a reload is triggered in the half going into standby mode in the case of a DUPLEX system. In the case of SIMPLEX systems, only the error is signaled. Consequently, you should start a reload at a convenient time. Switching off the RTO memory test does not solve the problem as the errored cell (with the bit inverter) can often be used for an update on the hard disk, or by the program that is running. This results in a reload probably during operating times. Replace board firmware if error recurs. See SW Systems Service. The RTO memory test can be temporarily deactivated with the MEMACEA parameter of the FUNSU AMO (notify your next level of support).

F3100
SWU-IP
PROM ERROR

Type:	Service-specific (Format 1E/22)
Short text:	IP board defective
Cause:	

Format 1E: PROM error. IP has found an internal error, but has booted and has reported this error. Replace IP board if error is repeated. Event signal came from interface processor (IP).

Format 22: Event signal came from routine test organization.

Action:	Replace IP board if error is repeated.

F3101
SWU-IP
RAM ERROR

Type: Service-specific (Format 1E/22)

Short text: IP board defective

Cause: Format 1E: RAM error. IP has found an internal error, but has booted and has reported this error. Event signal came from interface processor (IP).

Format 22: Event signal came from routine test organization.

Action: Replace IP board if error is repeated.

F3102
SWU-IP
TIMER ERROR

Type:　　　　　　　Service-specific (Format 1E/22)
Short text:　　　　　IP board defective
Cause:　　　　　　Format 1E: Timeout. IP has found an internal error, but has booted and has reported this error. Event signal came from interface processor (IP).
Format 22: Event signal came from routine test organization.
Action:　　　　　　Replace IP board if error is repeated.

F3103
SWU-IP
FW ERROR

Type: Service-specific (several formats apply)

Short text: IP board defective

Cause: Firmware error in interface processor (IP). Formats 1E and 22 are relevant to this message. In format 22, byte 1 contains HEX value 'EE for differentiation. The following is valid for format 1E: IP has found an internal error, but has booted and has reported this error.

The following applies to format 22: Event signal came from routine test organization. Operating error in IP firmware. IP has not reacted to a status query.

Action: Check that the IP firmware version is compatible with the SRP currently installed. Replace IP board if error is repeated.

F3104
SWU-IP
DEF

Type:	Service-specific (Format 22/29)
Short text:	IP board defective
Cause:	Bytes 0 and 1 contain information on the error (read in reverse order).

Format 29: IP board is defective.

Format 22: Event signal came from routine test organization. IP did not react to a status query.

Action:	Replace IP board if error is repeated.

F3106
SWU-IP
IEC BUS DOWN

Type: Service-specific (Format 22)
Short text: IEC bus defective
Cause: Error on IEC bus. Message after a soft restart. The error is evaluated by error analysis.

Action: If the error persists after the restart, check the IEC bus cable and the IP boards.

F3108
SWU-IP
HW ERROR

Type:	Service-specific (Format 1E/22)
Short text:	IP board defective.

Format 1E: Hardware error. IP has found an internal error, but has booted and has reported this error. Event signal came from interface processor (IP).

Format 22: Event signal came from routine test organization.

Action:	Replace IP board if error is repeated.

F3109
SWU-IP
BACK ON-LINE

Type: Service-specific (Format 29)
Short text: IP board defective
Cause: Slave interface processor (IP) has reported to master processor again.
Event signal came from interface processor (IP).
Action: If error occurs repeatedly, save the error message data and contact your
next level of support.

F3110
SWU-IP
SLAVE IP DOWN

Type: Service-specific (Format 22)
Short text: IP board defective
Cause: Slave interface processor is down. The error is evaluated by error analysis.

Action: Check the connections between the IP boards. Replace IP board if error is repeated.

F3150
SWU-INT
WATCHDOG 0

Type: Diagnosis-specific (several formats apply)
Short text: Watchdog 0 timeout
Cause: Repetitive error loop in high-priority task (between 0 and 34), OS deadlock, or WD0 task no longer being polled.
Action: Save diagnosis data (stack messages and task information messages) and contact your next level of support.
Interpretation of auxiliary data:

Up to SP300-V3.4:

In the case of watchdog timeouts, first the stack is output with the time of the of the interrupt (Format 14) and then the actual WD message with the action taken (Format 1B).

From SP300E-V1.0:

Format 28. For watchdog timeouts, up to 5 stack messages can be output before the actual watchdog task information message. The number of task information messages is limited to 10. Task information messages and the appropriate stack messages are output in the following sequence: running task, clock task, WD0 task, nucleus task, tasks in the nucleus queue or tasks in the OS ready queue. The tasks in the OS ready queue are output in order of priority (lowest priority first).
The WD timeout was only caused by the running task. However, the error cause must always be determined on the basis of the interrelationships of the tasks in the stack. Please note that although tasks awaiting resource allocation are not listed, they may still be the cause of the watchdog timeout.
The system responds with a soft restart. The first task information message contains the action initiated.

The individual fields are:
PROC Physical processor number, not used
CELL PHYS not used
NMI LOG ADDR Address at which program sequence was interrupted
(only useful for running task)
NMI LOG STACK Stack address (only useful for running task)
NMI PHYS ADDR not used
NMI PHYS STACK not used
TASK START ADDR Start address of task or FFFFH:FFFFH
STATIC PRIO Static task priority assigned by user
DYNAMIC PRIO Dynamic task priority assigned by OS
'RUN-TASK' Task designation, e.g. 'running task' (always output first)
BP, IP, CS, FLAG Processor register information (only useful for running task)
subsequent bytes 28 bytes of internal OS data
Please also refer to the section entitled "SW/Interrupt/Stack message interpretation"

From Sp300 E V2.0: Format 28. Additional output:
MESSAGE ID All error messages belonging to the same event have the
same message ID value.
Please also refer to the section entitled "SW/Interrupt/Stack message interpretation"

F3151
SWU-INT
WATCHDOG 1

Type:	Diagnosis-specific (several formats apply)
Short text:	Watchdog 1 timeout
Cause:	Repetitive error loop in high-priority task (between 35 and 192).
Action:	Save diagnosis data (stack messages and task information messages)

and contact your next level of support.

Interpretation of auxiliary data:

Up to SP300-V3.4:

In the case of watchdog timeouts, first the stack is output with the time of the of the interrupt (Format 14) and then the actual WD message with the action taken (Format 1B).

From SP300E-V1.0:

Format 28. For watchdog timeouts, up to 5 stack messages can be output before the actual watchdog task information message. The number of task information messages is limited to 10. Task information messages and the appropriate stack messages are output in the following sequence: running task, clock task, WD0 task, nucleus task, tasks in the nucleus queue or tasks in the OS ready queue. The tasks in the OS ready queue are output in order of priority (lowest priority first).

The WD timeout was only caused by the running task. However, the error cause must always be determined on the basis of the interrelationships of the tasks in the stack. Please note that although tasks awaiting resource allocation are not listed, they may still be the cause of the watchdog timeout.

The system responds with a soft restart. The first task information message contains the action initiated.

The individual fields are:

PROC Physical processor number, not used

CELL PHYS not used

NMI LOG ADDR Address at which program sequence was interrupted
(only useful for running task)

NMI LOG STACK Stack address (only useful for running task)

NMI PHYS ADDR not used

NMI PHYS STACK not used

TASK START ADDR Start address of task or FFFFH:FFFFH

STATIC PRIO Static task priority assigned by user

DYNAMIC PRIO Dynamic task priority assigned by OS

'RUN-TASK' Task designation, e.g. 'running task' (always output first)

BP, IP, CS, FLAG Processor register information (only useful for running task)

subsequent bytes 28 bytes of internal OS data

Please also refer to the section entitled "SW/Interrupt/Stack message interpretation"

From Sp300 E V2.0: Format 28. Additional output:

MESSAGE ID All error messages belonging to the same event have the same message ID value.
Please also refer to the section entitled "SW/Interrupt/Stack message interpretation"

F3153
SWU-INT
MULTIBUS TIMEOUT

Type: Diagnosis-specific (several formats apply)
Short text: Timeout on multibus
Cause: Up to SP300-V3.4:
With DP486 processors: reset time of the MBU is too long for initializing the Dual-Port RAM controller.
Multibus user not responding or does not exist.
From SP300 EV1.0:
Format 28. Multibus user not responding or does not exist.
Action: Up to SP300-V3.4:
Load new firmware on the MBU if required (see HW Systems Service)
From SP300 EV1.0:
Save diagnosis data (stack messages and task information messages) and contact your next level of support.
Interpretation of auxiliary data:

From SP300 EV1.0:
Up to 5 stack messages are output before the actual information message.
The system responds with a soft restart. The task information message contains the action initiated.
The individual fields are:
PROC Physical processor number
CELL PHYS Physical address
NMI LOG ADDR Address at which program sequence was interrupted
NMI LOG STACK Stack address at time of interrupt
NMI PHYS ADDR not used
NMI PHYS STACK not used
TASK START ADDR not used
STATIC PRIO not used
DYNAMIC PRIO not used

From Sp300 E V2.0: Format 28. Additional output:
MESSAGE ID All error messages belonging to the same event have the same message ID value.
Please also refer to the section entitled "SW/Interrupt/Stack message interpretation".

F3155
SWU-INT
PARTNER INACTIVE

Type: Diagnosis-specific (Format 00)
Short text: Error in active controller
Cause: Central error in the active controller. Non-active controller realizes that the active partner controller has reset the active line.
Action: Save error message data and contact your next level of support.

F3157
SWU-INT
2BIT

Type:	Service-specific (several formats apply)
Short text:	2-bit error
Cause:	2-bit error
Action:	Switch off power and replace M2M board. Contact your next level of support if this does not work.

F3158
SWU-INT
DATA BLOCKED

Type:	Service-specific (Format 18)
Short text:	Non-maskable interrupt blocked (NMI)
Cause:	A non-maskable interrupt cannot be acknowledged..
Action:	Switch off power and replace data processor. Contact your next level of

support if this does not work.

F3159
SWU-INT
NO DATA

Type:	Service-specific (Format 18)
Short text:	No readable data (non-maskable interrupt has occurred)
Cause:	The data processor (DP) board may be defective.
Action:	Check DP board. Switch off power and replace if necessary. Contact your

next level of support if this does not work.

F3171
SWU-INT
WD CLOCK

Type:	Service-specific (Format 18)
Short text:	Clock failure
Cause:	Failure of watchdog clock.
Action:	Switch off power and replace data processor (DP). Contact your next

level of support if this does not work.

F3172
SWU-INT
DP PARITY ERROR

SP300E V2.0 / R 6.5 and earlier

Type: Service-relevant (Format 28)
Short text: Parity error
Cause: Parity error (checksum error) in the case of read and write procedure for DPxx board types (not as a result of an RTO test). The program uses a faulty cell with the bit kipper. The parity error is thus detected and a spontaneous interrupt (NMI) is generated. See SW system service.
Action: In general, the corrupt contents of a memory cell are only taken into consideration by a reload. If this error occurs repeatedly, replace the board. Bytes 1, 2 and 3 indicate the incorrect memory address in reverse order of the board to exchanged. Contact your next level of support if this action does not provide a solution.

SP300E V3.0/R6.6 and later

Type: Service-relevant (Format 47)
Short text: Parity error, see F3176.
Cause: The cause can be limited to the RAM chip. See F3176.
System reaction: RELOAD only when DUPLEX system is on standby.
No ACTION in the case of simplex systems
Action: See F3176
Interpretation of auxiliary data: See F3176

F3173
SWU-INT
MEM PARITY ERROR

Type: Service-specific (Format 28)

Short text: Parity error in memory board

Cause: Up to SP300-V3.4:

Parity error in read/write operation (not in connection with RTO). Affects M8M and MIP board types. Program used an unstable memory cell which corrupted the stored bits, causing a non-maskable interrupt (NMI). See SW Systems Service..

From SP300E-V1.0:

Parity error in read/write operation (not in connection with RTO). System responds with a hard restart.

Action: The contents of the memory cell can only be restored by a reload.

Replace board if error occurs repeatedly. Contact your next level of support if this does not work.

Interpretation of auxiliary data:

Up to SP300-V3.4:

Bytes 1, 2 and 3 indicate the memory address of the board at which the error occurred, read in reverse order.

From SP300E-V1.0:

PROC Physical processor number

CELL PHYS Physical address of corrupted memory cell

NMI LOG ADDR Address at which program sequence was interrupted

NMI LOG STACK Stack address at time of interrupt

NMI PHYS ADDR not used

NMI PHYS STACK not used

TASK START ADDR not used

STATIC PRIO not used

DYNAMIC PRIO not used

F3174
SWU-INT
DISALLOWED ADDRESS

Type: Service-specific (several formats apply)
Short text: Error in RAM of DP386
Cause: Only for DP386. Processor attempted to access an invalid address outside the 24 megabytes of the on-board RAM.
Action: Save error message data and contact your next level of support.

F3175
SWU-INT
POWER FAIL

Type: Service-specific (several formats apply)

Short text: Power failure

Cause: A power failure has been detected. This message is output, if an interrupt has occurred due to a short-term power failure. No consequences for user.

Action: Check the power supply units. Old hardware versions: check the Faston connectors on the backplane and make sure that all boards and PSUs are locked into their slots correctly.

F3176
SWU-INT
DP NMI PCI

Type: Service-relevant (Format 47)

Short text: Non Maskable Interrupt at the peripheral computer interface bus (PCI BUS)

Cause: The Pentium CPU and the connected units, such as memory or hard disk, LAN controller, etc. are connected via the peripheral computer interface bus (PCI BUS).
The PCI NMI error (non maskable interrupt) occurs in the event of component or bus communication faults.
The error with format 47 only occurs in the case of Pentium boards.

System reaction: Soft restart

Action: If this error occurs repeatedly, replace the Pentium processor board.

Interpretation of auxiliary data: The supplementary data represents extracts from the "Configuration space" of the PCI bus system and can only be interpreted by the hardware specialists. They should always be seen in conjunction with the associated stack messages.

F3177
SWU-INT
RTM RESET

Type:	Diagnosis-relevant	(Format 0)
Short text:	RTM failure interrupt was triggered.	
Cause:	The RTM failure interrupt was triggered because:	

1. the RTM loadware executed a self-reset after a hard restart or Rload in order to reset all settings

2. the RTM loadware detected a fatal error that can only be fixed with a self-reset.

3. The RTM was disconnected during operation.

System reaction: In case 1, no further action is involved.

In cases 2 and 3, a hard restart is executed in order to put the RTM back in service. The hard restart leads to a switchover on a duplex system with a switchover-capable standby BP.

Action: If the RTM detects a fatal error again after the hard restart in case 2, then the RTM is probably defective and should be replaced.

Interpretation of auxiliary data:

None.