Release Notes of Concept V2.6 Service Release 2

This document contains the following sections:

1. Installation
2. New Features and Functionality in Concept V2.6 Service Release 2
3. Quality improvement and bug fixing
4. Known issues that are not solved with this Service Release

1. Installation

The installation of the Concept V2.6 SR2 requires an installed Concept V2.6 basic version.
The software Concept, the EFB-Toolkit, the Executive Loader, and some firmware are affected.

To install the service release, please run the setup program from the CD-ROM and select the Option "Upgrade Concept V2.6 XL/M/S". The option "Install EXEC components separately" will only update the Executive Loader.

Concept 2.6 SR2 contains all changes from Concept 2.6 SR1 patch a..d. For detailed information see the Doc- files of the patches a..d and of Concept 2.6 SR1.

To use an EFB-Toolkit, that was delivered before the release of the SR2, it must be installed prior to the installation of the SR2.

WIN 2000 users have to have Administrator- or PowerUser rights when installing and running Concept 2.5 or 2.6.

Due to different security permissions, **WIN XP** users must have Administrator rights when installing and running Concept 2.5 or 2.6

Since Concept has been released, the Microsoft Windows versions have changed and different security mechanisms were created and implemented. Concept, originally developped on WIN 3.1 was at that time not designed to support these security levels and an evolvement in this area would require a complete redesign.

1.1 Upgrade to Concept V2.6 SR2 from a version prior to V2.5 SR1

You must convert all applications with the Concept Converter before performing this install. For details please refer to the file "UPGRADE.DOC" in the Concept directory. Existing DFBs must be deleted from the local and global DFB directory before importing the project.

1.2 Upgrade to Concept V2.6 SR2 from version V2.5 SR1 or a later version

- With Concept V2.6 SR 2, it is not necessary to convert existing projects from Concept V2.5 SR1, V2.5 SR2 or V2.6 SR1.

- Upgrade the PLC Exec (firmware) only, if necessary due to a bug fix or new feature usage (e.g. PLC memory defragmentation)

2. New Features and Functionality in Concept Version 2.6 SR2

2.1 New Hardware:

Quantum: 140 NWM 100 00 Ethernet 10/100 FactoryCast Web Server

In order to use the Quantum module "140-NWM-100-00" in Concept V2.6 SR1 you need to import the NWM-100 MDC-file with the ModConnect tool. In Concept V2.6 SR2 we have integrated this module.

2.2 New Firmware/EXEC:

The IEC - PLC EXECs of Concept V2.6 SR 2 are not compatible with EXECs from versions of Concept prior to Concept V2.5 SR1. Therefore an update of the firmware is necessary. See the table below for a complete list of the modifications.

Platform	PLC Name	Concept 2.6 SR2	Comment
Quantum	140 CPU x13 0x	Q186V240.bin	
	140 CPU x13 0xS	Q1SV241E.bin	IEC Only – Stripped Executive
	140 CPU 424 0x	Q486V219.bin	
	140 CPU X34 0x	Q58V118E.bin	Older Hardware Revision
	140 CPU X34 0xA	Q5RV126E.bin	Latest Hardware Revision
Compact	All	CTSX214E.bin	
Momentum	171 CCS 7x0 x0-984	M1LLV207.bin	LL984 Only; XMIT Support
	171 CCC 7x0 10-984	M1LLV207.bin	LL984 Only; XMIT Support
	171 CCS 7x0 x0-IEC	M1IV210E.bin	IEC Only; XXMIT Support only
	171 CCC 7x0 10-IEC	M1IV210E.bin	IEC Only; XXMIT Support only
	171 CCC 9x0 x0-984	M1EV122E.bin	LL984 Only; Ethernet Support
	171 CCC 9x0 30	M1EV122E.bin	IEC Only; Ethernet, with WEB pages
Atrium	180 CCO 121 01	AI3V046E.bin	No XXMIT Support
	180 CCO 241 01	AI5V416E.bin	No XXMIT Support
	180 CCO 241 01-S908	------	No Concept 2.6 Support

2.3 Firmware/EXEC History Tables

The following tables show firmware/exec versions needed for previous versions of Concept.

Concept	Quantum				
Version	140 CPU x13 0x	140 CPU x13 0xS	140 CPU 424 02	140 CPU x34 0x	140 CPU x34a 0x
		(IEC only)			
2.0 A4	CPU 113: @3E_LMS.bin	CPU_LMS.bin	LMS882E.bin	--	
	CPU 213: @37_LMS.bin	CPU_LMS.bin	LMS882E.bin	--	
2.1 B2.1	Q186v220.bin	STRIP_QU.bin	Q486V215.bin	Q586v103.bin	
2.11	Q186v220.bin	STRIP_QU.bin	Q486V215.bin	Q58v103A.bin	
2.2 SR1	Q186v220.bin	qIECv220.bin	Q486V218.bin	Q58V105B.bin	
2.2 SR2	Q186v220.bin	QIECv222.bin	Q486V218.bin	Q58v106C.bin	Q5rv102C.bin
2.5 SR1	Q186v222.bin	QIECv250.bin	Q486V219.bin	Q58v108D.bin	Q5rv102D.bin
2.5 SR2	Q186V230.bin	Q1sv230D.bin	Q486V219.bin	Q58v110D.bin	Q5rv104D.bin
2.6 SR1d	Q186V240.bin	Q1sv240E.bin	Q486V219.bin	Q58v117E.bin	Q5rv123E.bin

Concept	Momentum				
Version	171 CCS 7x0 x0	171 CCS 7x0 x0	171 CCS 7x0 x0	171 CCC 9x0 x0	171 CCC 9x0 30
	171 CCC 7x0 10	171 CCC 7x0 10	171 CCC 7x0 10	(LL984 only)	(IEC only)
	(LL984 only)	IEC only, XMIT,	IEC only + Diagnostics		
		no Diagnostics	no XMIT functionality		
		functionality			
2.0 A4	--	--	--	--	--
2.1 B2.1	M1EXEC.bin	STRIP_M1.bin	--	--	--
2.11	M1EXEC.bin	STRIP_M1.bin	--	--	--
2.2 SR1	M1v203.bin	M1IEC220.bin	M1DIA220.bin	M1EV103.bin	--
2.2 SR2	M1v203.bin	M1IEC222.bin	M1DIA220.bin	M1EV103.bin	--
2.5 SR1	M1v203.bin	M1IEC250.bin	-----	M1EV104.bin	M1EV250.bin
2.5 SR2	M1v203.bin	M1IV204D.bin	-----	M1EV106.bin	M1EV106D.bin
2.6 SR1d	M1LLV207.bin	M1IV209E.bin	-----	M1EV107.bin	M1EV112E.bin

Concept	Compact
Version	
2.0 A4	--
2. 1 B2.1	CTSXV105.bin
2.11	CTSXV105A.bin
2.2 SR1	CTSX200B.bin
2.2 SR2	CTSX201C.bin
2.5 SR1	CTSX202D.bin
2.5 SR2	CTSX205D.bin
2.6 SR1d	CTSX212E.bin

Concept	Atrium		
Version	180 CCO 121 01	180 CCO 241 01	180 CCO 241 01 –s908
2.0 A4	--		
2. 1 B2.1	Atrium.bin		
2.11	Atrium.bin		
2.2 SR1	Atrium.bin	Atr586.bin	
2.2 SR2	AI38v042.bin	AI58v034.bin	AR58v034.bin
2.5 SR1	AI38v042D.bin	AI58v035D.bin	-------
2.5 SR2	AI38v043D.bin	AI58v037D.bin	-------
2.6 SR1d	AI3v046E.bin	Ai5V416E.bin	-------

Additional Execs

The following table describes additional Quantum module executives. These files are not automatically installed as part of the Concept installation. Please copy the .bin files from the Additional Exec Folder found on the Service Release CD#2 to the same directory as the PLC executives and loadables. Use the Exec Loader to download these executives to the appropriate devices as needed.

Module	Description	Exec.	Ver.
140-CHS-110-00	Hot Standby Modul	qchsv104.bin	1.04
140 CRA-93x-00	RIO Drop	qcrav125.bin	1.25
140-CRP-93x-00	RIO Head	qcrpv115.bin	1.15
140-ESI-062-10	ASCII Modul	qesiv103.bin	1.03
140-NOE-2x1-00	TCP/IP Modul	lmstcpip.bin	2.20
140-NOM-21x-00	MB+ Comm. Modul	qnomv215.bin	2.15

NOTE:
All executives delivered on this CD are the latest as of June 2004 . Please see our web page www.schneiderautomation.com for any updates to these executives.

2.4 New Features and Functionality in Concept V2.6 SR 2

PLC Memory Defragmentation for CPU Quantum x34 1xA
For the High End Redesigned Quantum PLCs (140 CPU x34 1xA) a new option "*PLC memory defragmentation*" has been introduced in the PLC selection dialog. This option can be set / reset only in Offline mode and changes of this option require a complete download. If the PLC Memory Defragmentation is enabled the PLC memory will be defragmented after each Download change. The current 'Degree of Fragmentation' is shown in the revised dialog 'Online Memory Statistic'.
In case the user needs to minimize the 'Free IEC Memory' or the 'Free EFB Memory' area, be aware that the Download mechanism needs a few KByte memory in addition than the Memory Statistic screen displays in line 'Used Memory'

Double addresses in Variable editor
If the customer has entered the address of a located Variable and this address is already used or overlaps with another variable the Variable editor shows an error- / warning-message to the user, because this might be not intended.

Show address attributes in status line of FBD-/LD editor
If a direct address is connected to an input-/output-pin of an FFB and this address belongs to a located variable, the symbolic information of this variable is shown in the status line. In the past this information was only shown if a variable was connected.

Multiple address assignments
The variable import creates a new variable in the project, if you import a variable with the same address / data type but with a different name, because variable are distinguished by their names and not by their addresses.
After such an import you have multiple variables with the same address / data type. If this was not intended, it's now possible to remove such multiple variables with the help of the new dialog *"Multiple address assignments"*. (see menu 'Project').

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Extensions in 'Online Backup' function
During the Online Backup it's now possible to

- Exclude global and/or local DFBs from the backup to speed up the backup.
- Make additional copies of the project-file(s) to a different folder by using a user-defined batch file.

Replace of multiple DFBs of the same type
Concept enables the user to replace a single selected DFB by another one. This feature has been extended and works now in all sections of the project, if required (not in DFBs). A new checkbox "Replace in all sections" has been added in the Replace dialog.

New EFBs

- The following instructions from LL984 have been implemented as IEC-EFBs within the LIB984 library in the new group "lib984x".

CMPR	Compare bit pattern in matrix A against bit pattern in matrix B
MBIT	Modifies bit locations within a data matrix
SEARCH	Search the register in a source table for a specific bit pattern
SENS	Examine and report the sense of a specific bit location in a data matrix
XXOR	Exclusive OR operation on the bit pattern in source / destination matrices

- PID_PF: This new EFB is the 'fast' version of the EFB PID_P. The parameter 'TD_lag' of the PID_P didn't work correct. This has been corrected in the new EFB PID_PF.

Save project as
When you are Online connected in status equal with a CPU and you save the project with "Save project as", the project name in the CPU is also changed. That means, that the new project is equal with the CPU.

3. Quality improvement and bug fixing

The following issues have been fixed in V2.6 SR2.

Authorization
Concept 2.6SR1 usability without authorization ended after the third start. (Might require new authorization)

Variable import
The Online status remained on EQUAL, if the address of an existing variable has been modified with the variable import and the option 'Allow modification of existing variable'.

Converter

The Import of a ASC-File can create a project, which can be downloaded but not uploaded.

Section Instantiation
Error during the 'Section instantiation' feature in SFC, if Project browser was closed.

Configuration
- 140-DDO-364 00 module: Wrong default setting for 'Timeout State'. In order to make this change effective, you need to configure the DDO-364 module once again.
- Not able to select a CRM-931-RG module in a SYMAX remote IO rack.
- Momentum CPU 171-CCC-980-30 didn't work with one segment configured.

Hot Stand By
CHS key switch position XFER was still active, although keyswitch was disabled by the command register. Documentation changed.

LD-Editor
- Logic corrupt after 'Insert Row'.
- Erasing a vertical link disconnects a horizontal link.

EFBs
- Problems with RTXMIT in Quantum x34 and Compact .
- EFB 'SERVO' operates inaccurate.
- MSTR Get remote statistics
  Using get remote statistic in a MSTR and changing the offset to something other than 0 caused wrong data to be displayed. The problem appears with the 32 bit CPUs and is solved in the EXECs:
  Quantum 140CPU43412/53414 non A,
  Compact 258, 265, 275 and 285 and
  Atrium 180 CCO 121 01 and 180 CCO 241 01 and 180 CCO 241 11.

Search
- Search window was to small, if long section-/variable names were used.
- Position of variable found in an SFC section was not displayed.

Analyze
- Improved error-message 'Not applicable in this context, Error ID: AI-11417".
- Wrong head slots for Link1/2 in the Peer Cop configuration dialog is now detected during the Analysis of the program.

Memory Prediction (Offline)
The memory prediction of the M1 IEC Ethernet CPUs shows too large values.
Affected CPUs:
171 CCC 960 30-IEC , 171 CCC 980 30-IEC, 171 CCC 960 91 and 171 CCC 980 91

Download / Download Change
- Error "Cannot convert value to string" when downloading a project with IEC upload information and with Init Values for REAL-variable less than E -38.
- If a Download change is aborted due to insufficient memory in the PLC the Online Status is set to 'Modified' instead of 'Not Equal'.
- Atrium crash if an 'OR_BOOL' EFB is exchanged with an 'XPRE_DIA' EFB.
- Concept2.5 SR2: "Error 870" while Download to a PLC with EXEC from CC2.6 SR1

- Concept2.6 SR1: Error "invalid NetBIOS command" during download.
- Concept2.5 SR2: Error “OLF-909 Object not found in database" in Event Viewer.
- CPUx34: Sporadic problem in Download change with more than 2 SFC Sections.
- After a Download Change with more than one section having new logic with open input pins or internal states, the values of the open pins or the internal states could be undefined.
  With SR2 all open inputs and internal states of new added EFBs will be reset during Download Changes.

Online
- GPF during animation of ST section with more than 10.000 statements.
- Error during Online Connect with TCP/IP, if 10 IP-addresses are already in the dialog.
- The Quantum PLC password feature didn’t work if MODSOFT or Proworx was used. A password protected PLC with EXEC Q5rv126.bin now prevents to connect to any Programming tool.

32 Bit Simulator
32 Bit simulator crash, when downloading a project for a 534-14 CPU with the IEC Memory and Global Data Memory was set to the maximum values.

Printing
Error when printing the PLC Configuration of a project with V2.6 SR1 patch d.

Archiving
No ‘Archiving’ possible, if an ‘Inc-file’ with more than 80 Bytes is existing.

4. Known issues that are not solved with this Service Release

Variable Editor and DTY-File
The project contains user defined global data types. The Variables have init values.
If the user copies the global DTY file to the local DFB folder, then the init values in the Variable Editor are lost.

Introducing a new DTY file into a project leads to NOT EQUAL. There is no problem if DDT/INC files are used instead of DTY.

Section Export
The Section Export of FBD sections to ST/IL doesn’t export the logic which is linked to EN/ENO pins. The user gets the message that EN/ENO pins are ignored, the related logic will not be exported.

Health Bit of Ethernet I/O
The Health bit of Ethernet I/O modules doesn’t work if the Timeout value in the Ethernet I/O scanner configuration is Zero.

Re-Enabling of Disabled Variables in RDE of mixed LL/IEC applications
In mixed applications the re-enabling of Disabled Variables (deleting checkmark in disable column) behaves different to IEC only.

It is recommended to Download in two steps: First Download the Configuration and the LL984 logic, secondly Download the IEC logic. This will lead to a correct Release of Disabled Variables.

WIN-NT, no virtual ModbusPlus driver installed
In order to pass program execution to the ModbusPlus device driver Concept (and Modsoft) triggers an MSDOS software interrupt. The default interrupt number for this job is 5C(hex).
If no virtual ModbusPlus driver is installed, the virtual MSDOS environment under Windows NT does have problems with this interrupt. If an exception occurs under described circumstances change the interrupt number to 5D(hex) in the **MODICON.INI**:
[PORTS]
mbp0=5d
If interrupt 5D is caught by the NTVDM.exe the exception fault should no longer occur.

ESI 062 and NOA 611 in the local rack
If ESI-062-00 has a lower slot position in the local rack than NOA611xx the IBS communication will stop after some minutes (2-20min.).
The behavior is not observed if NOA611xx has a lower slot position than ESI06200.

NOA 622
The Generic Bus Table (GBT) is limited to 64 KB !

Hot Stand By
SET_TOD is not running properly in the first section of a Quantum Standby PLC.
PLC clock registers are configured to the Non Transfer Area.
The SET_TOD is programmed in the first section and will be activated each 3s.
However the Standby PLC clock will be synchronized sporadically (a few minutes).

Download Changes must be done with the Primary Controller, not with the Standby controller.
To get identical applications in Primary and Standby controller the user has to perform the XFER mechanism.

Start behavior of digital outputs mapped to 4x registers
In principle all digital outputs mapped to 0x registers are cleared when the controller starts. 4x registers are normalized with the download of the configuration! However if digital outputs are mapped to 4x registers the output value depends on the current value of the assigned register.