

CODESYS RUNTIME

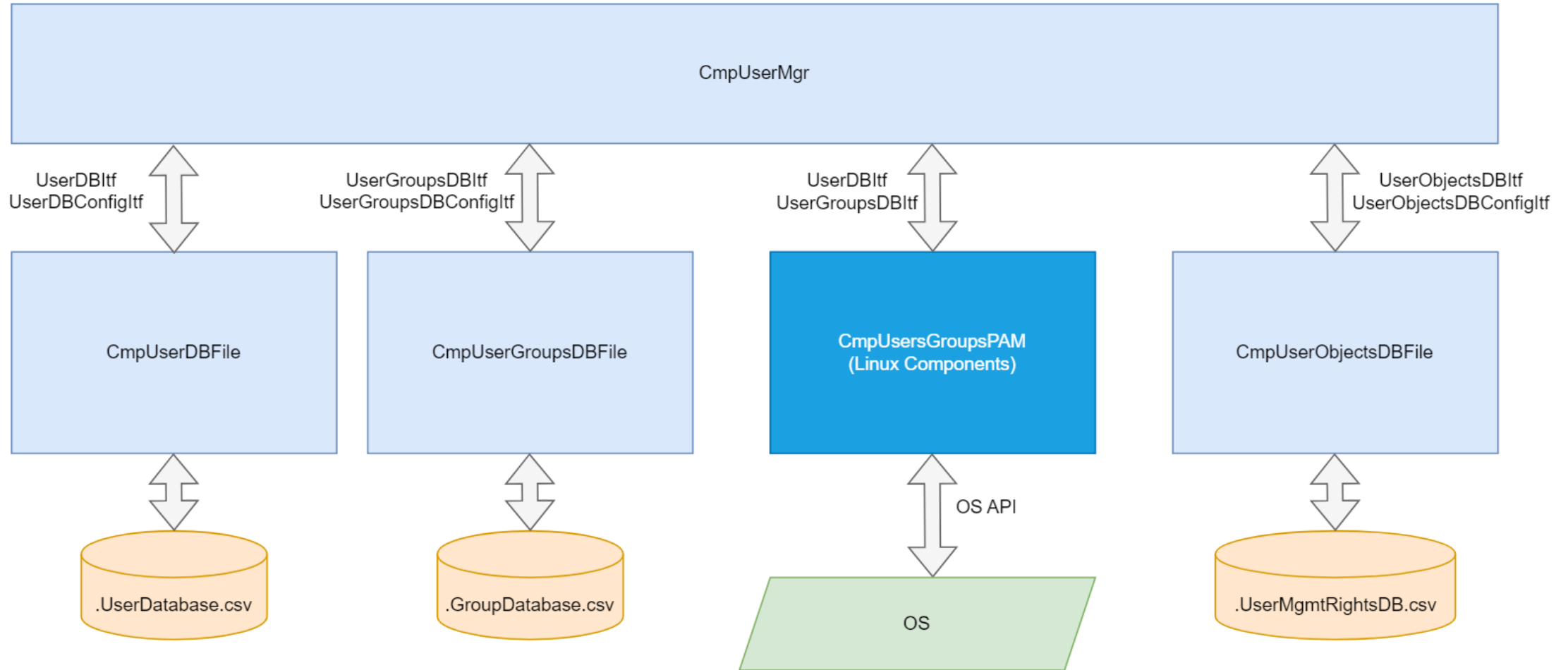
Runtime Toolkit

CODESYS Feature Briefing, March 2024
Andreas Kehrer, Product Manager

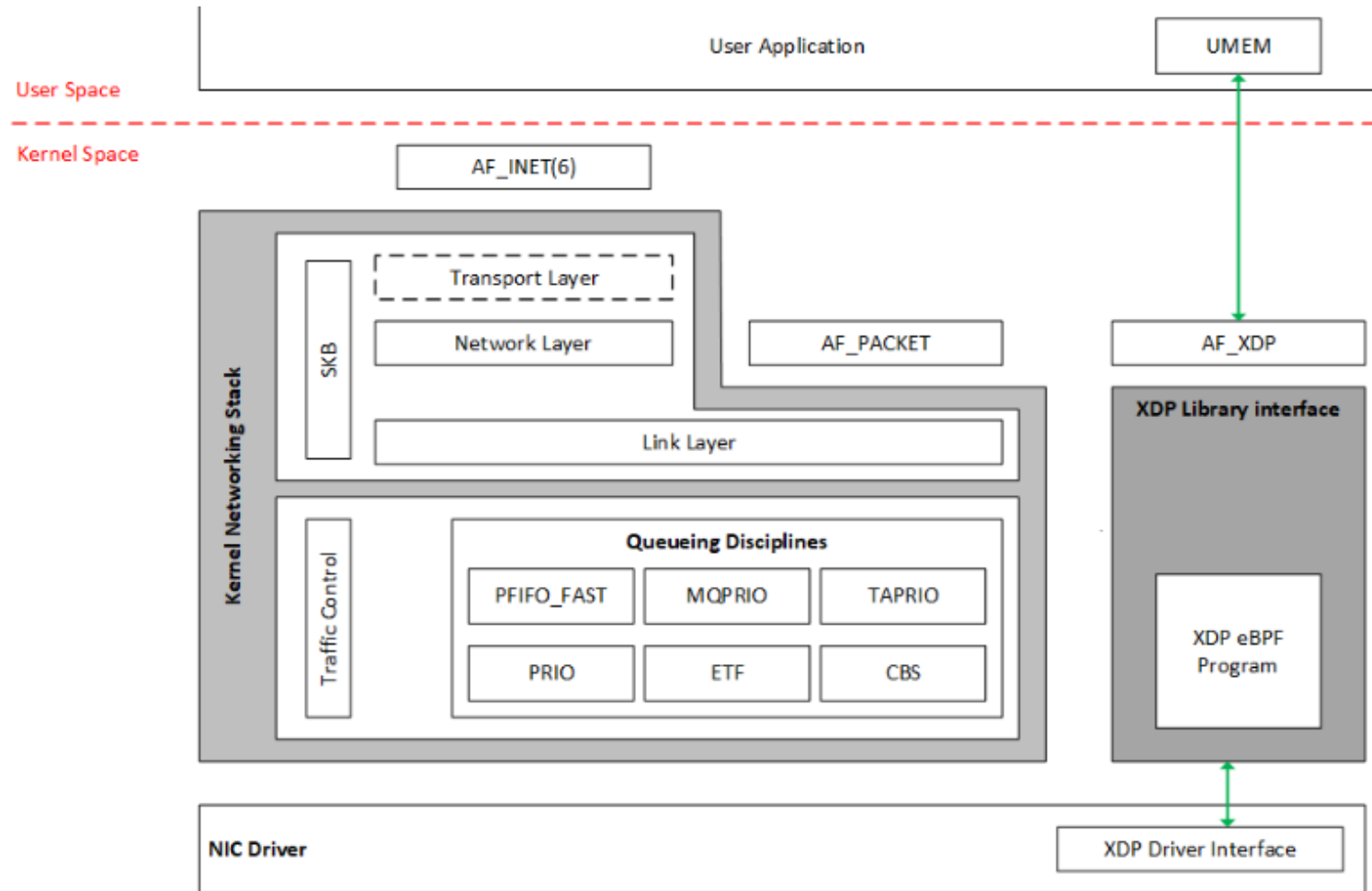
Improvements

- **SysTimeRTC: new interface to retrieve time zone information**
- **File transfer: performance improvement of file transfer on download**
 - Update on SP20 necessary
- **CmpLog: set filter by PLC shell command**
 - Can be used to manage these log filters online
 - „logsetfilter [<CmpName>...] <FilterValue>“
 - „loggetfilter [<CmpName>...]“
- **OpenSSL update from 1.1.1 to 3.1.4**
 - 1.0.x: EOL, no device user management support
 - 1.1.1: EOL
 - 3.x: best choice

User management connected to PAM



SysEthernetLinux: eXpress Data Path Prototype



SysEthernetLinux: eXpress Data Path Prototype

The screenshot displays the CODESYS Runtime Toolkit interface, showing two variable declaration tables for different PLC programs. The top window shows the 'Trace' window with a 'Configuration' button. Below it, two windows are open: 'PLC_PRG_eno1' and 'PLC_PRG_erp2s0'. Each window contains a table of variables with their types and values.

PLC_PRG_eno1 Variables:

Expression	Type	Value	Prepared
test	MeasureEtherCAT		
stAdapter	WSTRING	"eno1"	
xEtherCATFrame	BOOL	TRUE	
_iState	INT	1	
_Handle	POINTER TO BYTE	16#00000000...	
starttime	ULINT	531916514	
endtime	ULINT	531916516	
starttimeAll	ULINT	531916511	
endtimeAll	ULINT	531916516	
_dwSendEthFrame	DWORD	3	
_dwSendEthFrameMax	DWORD	14	
_dwGetEthFrame	DWORD	2	
_dwGetEthFrameMax	DWORD	16	
_dwSendAndReceive	DWORD	5	
_dwSendAndReceiveMax	DWORD	16	

PLC_PRG_erp2s0 Variables:

Expression	Type	Value	Prepared
test	MeasureEtherCAT		
stAdapter	WSTRING	"erp2s0"	
xEtherCATFrame	BOOL	TRUE	
_iState	INT	1	
_Handle	POINTER TO BYTE	16#00000000...	
starttime	ULINT	531916504	
endtime	ULINT	531916504	
starttimeAll	ULINT	531916502	
endtimeAll	ULINT	531916506	
_dwSendEthFrame	DWORD	2	
_dwSendEthFrameMax	DWORD	9	
_dwGetEthFrame	DWORD	0	
_dwGetEthFrameMax	DWORD	12	
_dwSendAndReceive	DWORD	4	
_dwSendAndReceiveMax	DWORD	12	

At the bottom, a timeline shows a 10s interval and a 40s interval, with a 10s sub-interval marked.

Independent Release: Concept

- Runtime system defines its own release cycle
- Bug and security fixes on latest version only
- High quality through many automated tests
- Release every 2-3 months

Independent Release: Milestones

- **Pre-project in 2023**
- **Milestone 1**
 - New source structure in Git
 - CODESYS add-on for runtime related libraries
 - CODESYS add-on for runtime system
- **Milestone 2**
 - Development with feature branches
- **Milestone 3**
 - Release of V4.0.0.0 in parallel with CODESYS V3.5 SP21



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