- **Single Instance and re-entrant safe driver**
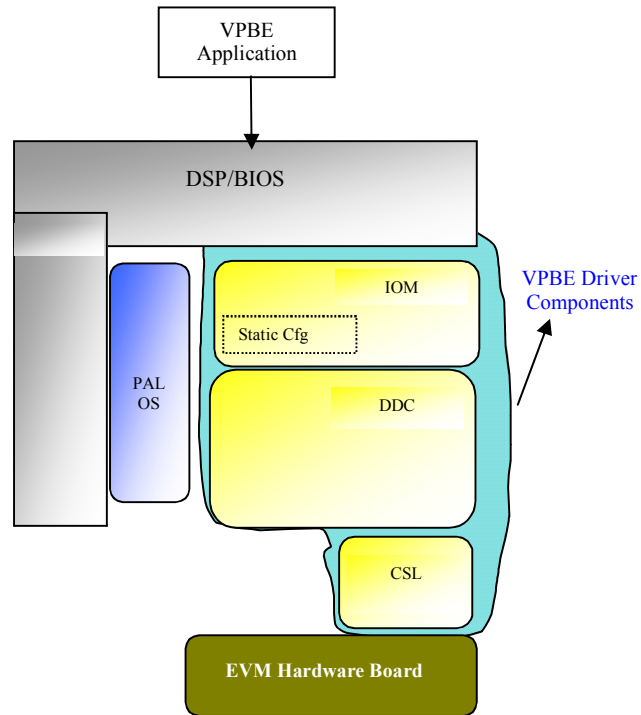- **Operates in Interrupt modes.**
- **Support individual channels for VIDEO/OSD/CURSOR and VENC.**
- **Supports Application Callbacks.**
- **Supports flipping of multiple frame buffers for seamless capture and display video.**
- **Easy to maintain &re-target to new platforms.**

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Description

Details about the tools and the BIOS version that the driver is compatible with can be found in the system Release Notes..

Capabilities

The VPBE BIOS device driver adopts a scalable architecture that eases customization/extension

- Isolates H/W and OS Accesses
- Easy to maintain & re-target to new platforms.

The driver is constituted of following sub components:

- VPBE IOM –OS Specific Adaptation of VPBE Device Driver
- VPBE DDC – OS Independent part of VPBE Driver Core. This also includes LLC.
- System components – BIOS: BIOS Abstraction.

The following table gives a quick overview of the supported API services. For help on interfaces refer to the VPBE Driver Help File:

|	
GIO_create	Call PSP_ VPBECreate, Creates the channel for the data transfer by setting up VPBE hardware params
GIO_Delete	Call PSP_ VPBEClose, which will Delete a given VPBE driver (channel).
GIO_submit	Call the PSP_ VPBESubmitRequest for Queuing and Dequeuing the Frame buffers for Video/OSD/Cursor and Venc
GIO_control	Call PSP_ VPBEIoctl that will do Ioctl interface. Ioctl's Supported are: Refer User guide document

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Driver Performance Characteristics

VPBE DEVICE DRIVER SUB-COMPONENT	PROGRAM MEMORY (IN BYTES)	DATA MEMORY (IN BYTES)		
		MEMORY TYPE		TOTAL
		INITIALIZED	UN INITIALIZED	
< VPBE /IOM>	3584	136	256	3976
< VPBE /DDC>	10720	75	1228	12087
< VPBE /LLC>	9408	224	12	9644
Total	**23712**	**435**	**1496**	25643

- VPBE System Components Total Memory (Code & Data): **25643** Bytes

Note: The Driver Performance Characteristics can be included once testing is done on DM6437 SOC.

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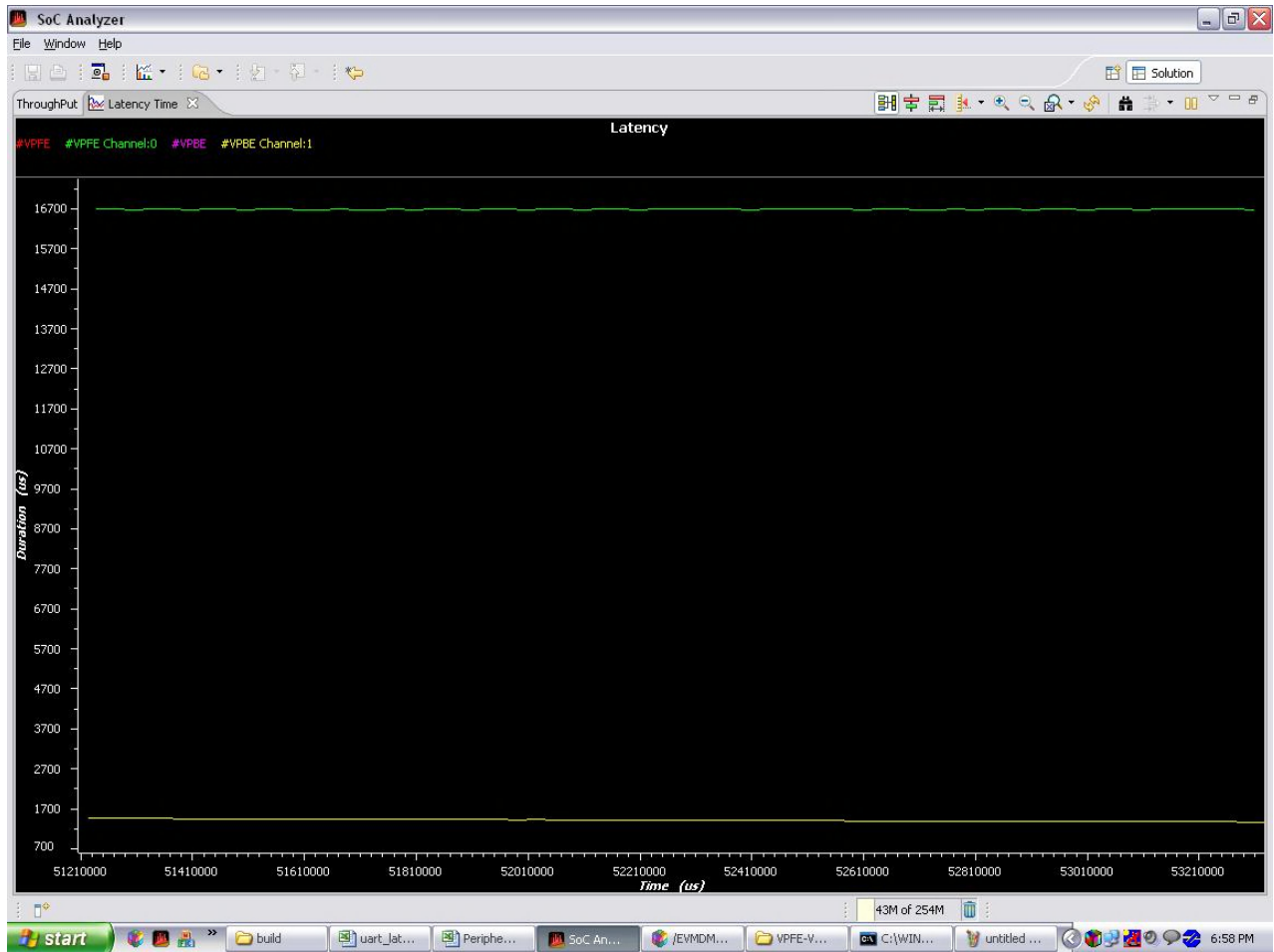
- Latency graph for VPFE/VPBE driver

References

[1] VPSS Module Hardware Specifications

[2] BIOS Documentation from TI

[3] VPBE Device Driver Documentation

Glossary

IOM	TI Terminology, Input/Output Mini Driver.
DDA	TI Terminology, Device Driver Adaptation that is OS dependent
DDC	TI Terminology, Device Driver Core that is OS independent
LLC	TI Terminology, Device Driver Core that is hardware dependent

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