A Beam Image Server For TTF2

L.Catani PCaPAC 2002

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(why we keep on using LabVIEW)

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 evolution of the Optical Diagnostic Control System (ODCS) from TTF to TTF2

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- software porting to different platforms
- integration of new functionalities as the development software (LabVIEW[™]) provides new features

TTF Layout with OTR Stations



OTR Station @ TTF



TV Camera + lenses + filters all of them with remote control

previous experience with LabVIEW in a Control System
we used it as GUI and to develop high-level applications

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• it has a powerful Image Analysis Library and Frame Grabbers drivers (available only for the Mac, that time)

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• some analysis software already developed







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Solution:

- Server and Operator Console on a Macs
- VME shared memory for communication
- Low-level C-library for LabVIEW (labVIEW doesn't provide pointer variables)

Example of Measurement applications



ODCS Client Desktop



ODCS Client Desktop

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ODCS v.2

1999 (see PCaPAC200)



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Limitation:

• no Image Analysis Lib on Unix (basic functions developed in C)



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✓ VI Server and Data Socket from LabVIEW

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☺ LabVIEW provide built-in HTTP server

 \odot



























Time needed for a loop of the Beam Image server:

- 1. Data Socket off, display update on
- 2. Data Socket off, display update off
- 3. Data Socket on, display update on
- 4. Data Socket on, display update off

Timing Diagram





LabVIEW Panel for the Consoles



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WebBrowser interface for remote operations and web publishing



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LabVIEW Panel for the Consoles

	Web Publishing Tool	
Document Title		Sample Image (not updated)
BeamImage		Document Title
Text 1		Text that is going to be displayed
VI Name BeamImage.vi Text 2 Fext that is going to be displayed after	re the image of the VI Panel. ✓ Embedded Snapshot Monitor the image of the VI Panel.	before the image of the VI panel.
		Preview in Browser Save to Disk
Start Web Server	Help	

WebBrowser interface for remote operations and web publishing



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- our application has been "traveling" from one platform to another without loss of performances
- evolution of PC software and development systems allows to EASELY add network capabilities to our applications
- several protocols and communication solutions can be implemented at the same time with limited programming efforts